

MONTECITO FIRE PROTECTION DISTRICT  
AGENDA FOR THE STRATEGIC PLANNING COMMITTEE MEETING

Montecito Fire Protection District Headquarters

595 San Ysidro Road

Santa Barbara, California

August 27, 2013 at 1:00 p.m.

Agenda Items May Be Taken Out Of The Order Shown

1. Public comment: Any person may address the Committee at this time on any non-agenda matter that is within the subject matter jurisdiction of the Montecito Fire Protection District; 30 minutes total time is allotted for this discussion.

Time Certain Matter (1:00 p.m.)

2. Interview with Diamonte Partners, LLC to provide a Standards of Cover Study with an enhanced Risk Analysis Component.

Time Certain Matter (2:30 p.m.)

3. Interview with Tetra Tech, Inc. to provide a Standards of Cover Study with an enhanced Risk Analysis Component.

Time Certain Matter (4:00 p.m.)

4. Interview with Integrated Solutions Consulting to provide a Standards of Cover Study with an enhanced Risk Analysis Component.

Adjournment

This agenda is posted pursuant to the provisions of the Government Code commencing at Section 54950. The date of the posting is August 22, 2013.

MONTECITO FIRE PROTECTION DISTRICT

By  \_\_\_\_\_  
Chip Hickman, Fire Chief



# Agenda

## Item #2



# PROJECT APPROACH AND METHODOLOGY

## Project Summary

Diamante Partners, LLC understands that California Fire Protection Districts are tasked significant roles and responsibilities to provide comprehensive fire and life safety services to their community. Diamante has assembled a team of experienced and professional California Fire District experts with over 50 years of California Fire District experience to concurrently develop both a Community Risk Analysis (CRA) and comprehensive Standards of Cover (SOC) study for the District Board of Directors consideration. These planning tools will assist the Fire District and its community with risks specific to the Montecito Fire Protection District (MFPD), providing a snapshot of 2013 capabilities and where the organization can improve its service to the community. This work will lay the foundation for strategic planning.

Diamante will achieve the goal of developing the CRA and SC through a series of concurrent and consecutive actions that will include:

- Ongoing interaction and communication with the MFPD Project Manager;
- Scheduled face-to-face data gathering and planning meetings with stakeholders such as homeowner associations, labor groups, District Board of Directors, staff members, County of Santa Barbara counterparts, identified fire and EMS departments and agencies and other selected members of the respective communities;
- Scheduled conference call meetings with stakeholders, identified fire and EMS departments and agencies to continue collaboration and information sharing; and,
- An integrated use of information technology at several levels to promote and facilitate collaboration among Diamante and project stakeholders, seek feedback and other critical data from identified parties and to facilitate management of the project.

Diamante would first meet with the Montecito Fire Chief to address expectations, establish a baseline of operation and develop a Task Management Plan (TMP). The TMP is designed to provide the MFPD with a description of activities, deliverables, schedule for completion of activities, roles and responsibilities of the client and Diamante team members, and agreed upon benchmarks to meet the expressed scope of work. Diamante would then schedule meetings with representatives of the identified fire departments, local governments and EMS agencies to begin the independent review of current operating agreements and interview fire agency representatives and elected officials.

At a minimum the following agencies would be interviewed:

- County of Santa Barbara Fire
- City of Santa Barbara
- U.S.D.A. Forest Service
- Carpinteria/Summerland Fire District
- Santa Barbara County Sheriff's Dispatch
- American Medical Response (AMR)
- MERRAG
- Montecito Association
- Montecito Trails Foundation
- Montecito Foundation

- Montecito Planning Commission
- Montecito Board of Architectural Review
- Homeowner Associations as identified by the MFPD

Working with the various stakeholders, we will identify existing planning documents and procedures that already exist within the respective departments and in Santa Barbara County, as well as best practices and benchmarks that will support fire and EMS service assessment and delivery. We will utilize all applicable standards, ordinances and guidelines including the provisions of the Health and Safety Code, State of California, Fire Protection District Law of 1987, the National Fire Protection Association (NFPA), the International Code Council (ICC) and current fire and life safety ordinances, the Insurance Service Office (ISO), Commission of Fire Accreditation International, and others to conduct and/or support our comprehensive analysis, findings and recommendations. Once relevant material/data is collected, we will assemble a draft report and then reconnect with both MFPD and selected stakeholders to confirm and/or clarify findings as well proposed recommendations.

Finally, all of the operational analysis, financial review and Response Coverage study planning documents will be used to develop a comprehensive CRA and SOC that can be used for both MFPD's strategic planning and for presentation to elected officials.

## **Methodology**

The CRA will cover three (3) major areas:

- *Fire Flow*- plays a critical role in unprotected structures that pose a risk to the community. We shall identify structures with fire flow requirements greater than the existing water supply and on duty resources.
- *Life Hazard*- plays a huge role in the community risk analysis. We shall determine areas within the District that significant incidents could result in life hazard risks,
- *Community Consequences*- consequences change the community in many ways including loss of tax base, interruption of the life style of the community, isolation of the community and disruptive factors such as a school being destroyed and hence the need to move students while the structure is rebuilt or rehabilitated.

The SOC will be organized into five (5) focus task areas or “Themes” to ensure the all sections of the Project Scope will be addressed. Diamante Team Members will be integrally involved in each theme area infusing both their experience and contemporary best practices into a synthesized set of recommendations that will cover:

- Fire suppression/operations;
- Fire prevention;
- Emergency medical services;
- Disaster preparedness/mitigation
- Administration/Management and Governance.

As part of this evaluation and subsequent recommendations, the current financial structure, additional options and their financial impacts will be identified. Most importantly, Diamante recognizes the importance of melding improved performance with the community's desire of maintaining its local identity and philosophy. Continued engagement of the surrounding communities, local, regional and state stakeholders, federal organizations and the private sector (where and when applicable) will be a

corner stone to the success of this effort. Diamante will engage target stakeholder groups and solicit feedback through several face-to-face meetings or briefings and conference calls. Diamante will also utilize well-established web-based conferencing tools to regularly host meetings with project team members and interested parties. These tools will allow the project team to engage large numbers of participants – who log into an internet site from their offices or the comfort of their home – who can be presented with materials and who can make immediate comment in real time. This will be particularly useful to solicit public participation and comment and provide the opportunity for the public to share opinions and participate in the planning effort. We will also use audio conferencing and utilize an electronic newsletter for regular project updates and for outreach to stakeholder groups.

Lastly, we will provide an internet site that will provide for an integrated project workspace that will promote effective collaboration and allow the project team to virtually partner with stakeholders, publish documents, maintain task lists, implement workflows, and share information through the use of wikis and blogs. We will accomplish this by deploying two Microsoft software products – Sharepoint and/or Groove. We believe that the use of this technology will ensure the most productive outcome and minimize the financial impact to MFPD.

Diamante will identify and assess the significant risks, rank or evaluate those risks and propose suitable mitigation measures which will include, but may not be limited to:

- Wildland fire Hazards
- Flood/Costal Surge
- Earthquake
- Tsunami
- Landslide/Costal Erosion
- Hazardous Materials
- Terrorism/ Weapons of Mass Destruction
- Significant Emergency Medical Events

Diamante shall also evaluate current MFPD capabilities and review past experiences which may include a post-incident analysis of major or unusual incidents, review of the standardized evolution programs including fire, EMS, special operations and review of mutual aid/auto aid response capabilities. Please note that Diamante **will not utilize** the RHAVE (Risk, Hazard and Value Evaluation program) computer model for the study. We have utilized this tool in the past and find that it is both cost prohibitive and labor intensive. Additionally, local firefighters have a much more accurate source of pertinent information based on pre-incident planning, historical knowledge and training scenarios.

In the end, MFPD Fire and EMS capabilities will be fully evaluated during the SOC process based upon the CRA. Diamante shall make conclusions about the unprotected risks and offer solutions for the community that could involve improvements to the fire agency, code changes, infrastructure modifications, improved relationships within the governmental agencies serving the community all in an effort to reach an acceptable risk.

## **SPECIFIC TASKS, DELIVERABLES AND TIMELINES**

The following tasks, deliverables and timelines are provided below as Diamante's work strategy for developing, executing and finalizing the CRA and SOC:

**Task 1a and 1b**  
**(1a) Perform analysis of current operations**  
**and**  
**(1b) Review appropriate standards (benchmarks) for community**  
**fire operations and Fire based emergency response**

This task will be comprised of two (2) sub-tasks and will include a review of current operations and existing conditions, contracts and deployment of MFPD to include the organizational structure from the field operation, management, governing body and key interrelationships and interactions. In addition, a review of appropriate standards (benchmarks) for community fire operations and fire-based emergency response will be conducted.

**Task 1a-** Information to be collected during a series of working session, virtual surveys and/or during follow-up stakeholder meetings includes, but will not be limited to:

- Essential Functions, including personnel, equipment, systems, records, communications systems and facilities
- Facility locations, requirements, and alternate sites
- Department specific threat and vulnerability assessments
- IT and vital records maintenance
- Current understanding of activation, notification and control parameters
- Existing land use and community development
- General Plan and population trends
- Mutual Aid and Auto Aid Agreements
- Current coverage and response times
- Current staffing levels
- Current equipment inventory and equipment levels
- Facilities
- Current financial resources available
- Current fire and life safety codes and ordinances
- Current dispatch agreements and structure
- AMR (ambulance service) contract and coverage service delivery interface

From the data collected, we will organize our analysis around the following themes:

**Organizational Structure**

This component will review the organizational structure of the fire district from the field operation through the management and elected body. This review will include:

- Structure of response areas, equipment and personnel assigned
- Response time and performance aspects
- Frequency and type of service calls
- Current dispatch agreements and structure
- AMR contract and coverage service
- Governance structure



### **Community Research and Design**

This component will review the current relationship between the district and its immediate governmental neighbors and the residents within. It will also consider current legislative requirements with organizational options and potential changes.

This review will include:

- Focus groups for residents, business leadership and elected officials to include outcome expectations
- Applicable codes and ordinances
- General Plan and population trends
- Standards of coverage for present services delivered and any recommendations provided with this report

### **Infrastructure Evaluation**

This component will review the current status of the local infrastructure to include fire stations, apparatus and related facilities and equipment. This review will include:

- Site visits
- Review of current budgetary commitment
- Previous infrastructure analysis
- Future needs
- Options (if any) for outside funding

**Task 1b-** Review appropriate standards (benchmarks) for community fire operations and fire-based emergency response, to include but not limited to:

- Coverage area
- Response times
- Staffing needs
- Equipment needs
- Facility needs, additional stations, recommended construction, dates and locations
- Dispatch
- Response, staffing and equipment specific to the wildland fire interface throughout the County
- County wide hazardous fuels reduction program

**DELIVERABLE: 1a: Comprehensive analysis of county-wide fire operations, organizational management structures and interrelationships and interactions of stakeholders.**

**DELIVERABLE 1b: Comprehensive analysis of current community benchmarks to be used for developing Standard of Cover recommendations and plan for future growth and service delivery demands.**

**Task 2  
Conduct Community Risk Analysis (CRA) &  
Standards of Cover (SOC) Deployment Analysis**

A CRA allows fire agencies to be responsive to its community in a cost effective and efficient manner. It also allows organizations to look at its fire and emergency response problems in a holistic and systematic approach. Conducting the CRA includes identification and in-depth analysis of target or critical hazards. SOC are those written procedures that determine the distribution and concentration of the fixed and mobile resources of a fire and EMS organization. This task will include the development of both a CRA and a SOC for the MFPD. National Fire Protection Association (NFPA), Insurance Services Organization (ISO), fire and life safety codes and Occupational Safety and Health Agency (OSHA) standards will be reviewed and incorporated and/or will serve as the guidelines by which District decisions about distribution, concentration, and staffing of line companies. Population, certain special hazards, and other factors were also considered.

Diamante's approach would be to tap into the experience of the Chief and Company officers within the MFPD. This approach encourages members of the organization to be on the same page while enabling training opportunities for the MFPD moving forward. The result would be identifying risks, providing standardized solutions and offering the opportunity for public officials as well as community members the ability to make substantive changes or agree upon acceptable hazards.

Diamante will apply nationally recognized standards in developing a comprehensive standards of response coverage while at the same time incorporating the needs and input of the local agencies, locally elected officials and the public. Diamante will also utilize a survey tool to gather input from the community on their expectations of service delivery given different variables or scenarios. This is a valuable tool for public officials to help them determine priorities for the future. Diamante would incorporate current funding levels versus overall need as identified by the solicited input in contrast to what is current today. Diamante would also provide several alternatives for the consideration of the elected officials and fire professionals who serve the region to assist in making an informed decision.

As part of the process the review would include, but not be limited to the following:

- Current station locations and staffing versus the standards as identified in nationally accepted processes.
- Staffing of Fire companies
- Historical measures of emergency workloads in the MFPD.
- Computer mapping and recording tools to analyze the impact of fire station locations

In addition, Diamante will provide a road map for the future based upon the SOC to assist in determining future station locations or relocations. To accomplish this task, Diamante will apply a transparent approach allowing all interested and affected parties to provide input via a website we will establish for the project along with stakeholder meetings and meetings with labor, management and elected officials and follow up meetings prior to final draft to ensure we captured the input from all stakeholders.

**DELIVRABLE: Draft Data for CRA and SOC Deployment Study for MFPD**

### Task 3

#### Develop financial analysis of costs related to addressing critical deficiencies and Consider, evaluate and recommend financing mechanisms

This component will review identified deficiencies and current status of the finances of the MFPD. We will analyze the potential costs savings if any with a consolidation or merger along with estimated the saving potential with economies of scale under various scenarios of service delivery, growth and development along with national, state and local service delivery trends. This will culminate with a series related recommendations.

- Review of MFPD expenses and revenue
- Identify current financial health and/or unmet needs
- Options for enhancing revenue
- Financial impact or cost for any and all recommendation as provided with this report

**DELIVERABLE: Written analysis of costs related to addressing critical deficiencies and associated recommendations.**

### Task 4

#### Develop and Complete Final Report/Recommendations

Once all materials have been received, Diamante will create a working draft CRA and SOC study. This initial draft report will be reviewed by Montecito Fire and selected stakeholders before final delivery to MFPD.

- Diamante will coordinate all input, findings, written analysis and recommendations to ensure all aspects the project have been met.
- Diamante will meet and/or hold conference calls with all affected and interested stakeholders to ensure we have allowed for inclusion in the process and for any final input.

**DELIVERABLE: A professionally-prepared comprehensive report and analysis that will provide the road map for future planning for the MFPD.**

### Task 5

#### Provide formal presentation of the project

Once the working draft has been completed and the selected MFPD review team has commented, the Final Draft will be prepared and delivered to the Board of Directors for its approval. Upon approval, Diamante will deliver a formal presentation to the Board of Directors on the analysis process, findings and final set of recommendations.

**DELIVERABLE: Final Draft of the Community Risk Analysis and the Standards of Cover Document and presentation to the MFPD Board of Directors.**

# COMMUNITY RISK ANALYSIS CONCURRENT WITH SOC STUDY

## Project Timeline- 6 Months (estimated)

### PROJECT START-UP

Estimated Project Duration- October 1, 2013 to March 31, 2014

Task 1: Perform analysis of current operations and review appropriate standards (benchmarks) for community fire operations and fire-based emergency response.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Weeks 1-8



**Stakeholders shall be thoroughly engaged throughout all tasks**

Task 2: Conduct Concurrent Community Risk Analysis and SOC Study. Surveys and web-based tools to be utilized.

Weeks 8-18



Task 3: Develop financial analysis of costs related to addressing critical deficiencies and consider, evaluate and recommend financing mechanisms.

Weeks 12-18



**Drafting Community Risk Analysis and SOC Study**

Task 4: Develop and Complete Community Risk Analysis and SOC Study and Recommendations.

Weeks 18-22



**Presentation of Draft Analysis and SOC Study to MFPD and incorporation of updates**

Weeks 20-23



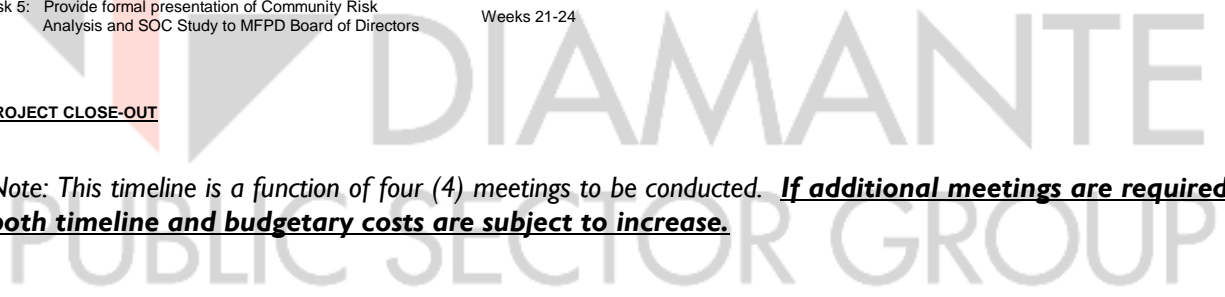
Task 5: Provide formal presentation of Community Risk Analysis and SOC Study to MFPD Board of Directors

Weeks 21-24



### PROJECT CLOSE-OUT

**Note: This timeline is a function of four (4) meetings to be conducted. If additional meetings are required, both timeline and budgetary costs are subject to increase.**



Agenda

Item #3





Montecito Fire Protection District  
Attention: Chief Chip Hickman  
595 San Ysidro Rd.  
Santa Barbara, CA 93108

August 16, 2013

**Subject: Scoping Document for the Comprehensive Community Risk Analysis Study and Standard of Coverage Study**

Dear Mr. Hickman,

Tetra Tech, Inc. (Tetra Tech) has prepared the enclosed six hard copies of the Scoping Document in response to the request received on July 26, 2013 from Fire Chief Chip Hickman.

Upon award of the contract, Tetra Tech is available to immediately begin the work. Any questions on this submittal should be directed to me at:

Michelle Bates  
Principal Scientist  
5383 Hollister Ave., Suite 130  
Santa Barbara, CA 93111  
Telephone: 805-895-2054  
FAX: 805-681-3108  
Email: [michelle.bates@tetrattech.com](mailto:michelle.bates@tetrattech.com)

I have the authority to bind Tetra Tech to provide the proposed services.

Tetra Tech appreciates the opportunity to work with the Montecito Fire Protection District.

Sincerely,

**TETRA TECH, INC.**

A handwritten signature in cursive script that reads 'Michelle Bates'.

Michelle Bates  
Principal Scientist

cc: Amy Noddings (Tetra Tech)  
Rob Flaner (Tetra Tech)  
Jason Geneau (Tetra Tech)



# **Scoping Document for the Comprehensive Community Risk Analysis Study and Standard of Coverage Study, Montecito Fire Protection District**

**August 16, 2013**

*Submitted to:*

Montecito Fire Protection District  
Attention: Chief Chip Hickman  
595 San Ysidro Rd.  
Santa Barbara, CA 93108

*Prepared by:*

Tetra Tech, Inc.  
5383 Hollister Ave, Suite 130  
Santa Barbara, California 93111



## INTRODUCTION

For this effort, Tetra Tech, Inc. (Tetra Tech) offers a unique integration of emergency response, emergency management, and regulatory compliance services and experience. The following sections of this scoping document outline the advantages and distinctive benefits we offer the Montecito Fire Protection District (MFPD) for this project. The first section summarizes our technical approach for the Comprehensive Community Risk Analysis Study, and the second section summarizes our technical approach for the Standard of Coverage Study.

## BUSINESS IDENTIFICATION

As one of the largest technical consulting firms in the country, Tetra Tech’s more than 13,000 staff members bring a track record of successfully managing over \$2.6 billion in client programs annually. For more than two decades, governments at the local, state, and federal levels have turned to Tetra Tech to evaluate response capacity and capabilities. When combined with experience designing and managing all aspects of emergency response programs including the current capabilities of the response teams and capabilities defined in the United States Department of Homeland Security’s (DHS) Core Capabilities, Target Capabilities List (TCL) and National Fire Protection Association (NFPA) standards, Tetra Tech brings the ideal skillset to this project.

Our ability to evaluate fire and EMS programs comes from more than simply reading guidance manuals. Our expertise comes from real-world experience working on a wide array of disaster management initiatives at the federal, state, and local levels while responding to real-world disasters. Tetra Tech is a recognized industry leader in emergency management and response.

Tetra Tech is also recognized nationally for its subject matter expertise in the field of hazard mitigation planning (HMP) pursuant to the Federal legislation. The experience our team has gained from our many engagements has allowed us to stay on the forefront of developing and delivering innovative approaches and solutions to our client’s challenges in the scope of work areas. Tetra Tech’s deep portfolio of experience in hazard mitigation planning gives our team the highest degree of capability to not only meet, but exceed the district’s expectations for this project.

Our experience in all phases of emergency management and response is constantly melded with the latest guidance from trade organizations, DHS, and the Federal Emergency Management Agency (FEMA). Tetra Tech’s ability to successfully complete this project will stem from our deep understanding of community-based fire and EMS operations.

## QUALIFICATIONS

Tetra Tech’s team is comprised of key leaders and support personnel with the credentials needed to provide the technical support being sought by the MFPD. All team members are employees of Tetra Tech; we will not be using any subcontractors on this project. Our team experience working

**Keys to Successful Project Completion**

1. **People** – Tetra Tech offers a multidisciplinary team of personnel familiar with fire and EMS response and planning.
2. **Methodology** – Time tested project management methodologies ensure the project will be on-time and on-budget.
3. **Experience** – Tetra Tech has demonstrated success in fire and EMS planning and program management spanning three decades.

within the State of California will provide continuity and leadership assuring a smooth and efficient planning process. Our experience working directly with FEMA Region IX at a programmatic level ensures familiarity with the technical and regulatory requirements to shepherd a planning effort. Our experience completing 8 multi- and single-jurisdiction plans in California provide us with a great deal of subject-matter expertise relevant to California. Tetra Tech's proposed technical leads and supporting personnel are introduced below.

***Rob Flaner, Study Manager/Technical Lead for the Comprehensive Community Risk Analysis Study, Certified Floodplain Manager (CFM).*** Mr. Flaner will be responsible for planning and executing all tasks of the Comprehensive Community Risk Analysis Study through to the project's completion. Mr. Flaner will manage the multidisciplinary project team and will serve as the Lead Project Planner for this project to ensure plan compliance with FEMA requirements. Mr. Flaner has 22 years of experience in floodplain management as well as hazard mitigation through FEMA programs. He developed a comprehensive background in all aspects of floodplain management administering the Community Rating System (CRS) under contract with FEMA. Mr. Flaner was responsible for implementing the CRS program in nine western states covering three FEMA Regional offices, including FEMA Region IX. He was able to take this vast experience and apply this knowledge to planning for the impacts of natural hazards in response to federal mandates under the Disaster Mitigation Act of 2000 (DMA). Mr. Flaner is very familiar with the federal requirements of the DMA, and has been trained and certified by FEMA as a Disaster Assistance Employee (DAE) to review hazard mitigations plans for DMA compliance. He has an extensive resume of hazard mitigation projects that he has managed including the following California planning efforts: City of Roseville, Contra Costa County, Humboldt County, Del Norte County, Siskiyou County, and Tehama County. As the Study manager and technical lead for this project, Mr. Flaner will be responsible for and involved in the completion of 100 percent of the scope of work as outlined in the following section.

***Ed Whitford, Risk Assessment/Senior Geospatial Analyst/HAZUS Team Leader, CFM.*** Mr. Whitford is our team's Senior Geospatial Analyst and will be the lead for the Risk Assessment, including compiling relevant GIS layers and profiling hazards in HAZUS-MH. Mr. Whitford is an advanced user of HAZUS for risk assessments, estimating losses for earthquake and flood events. He brings exceptional cartographic skills, as demonstrated by his publication of two maps in the ESRI Map Book (Volume 20) and his award for outstanding cartographic production in a Hewlett Packard international competition. His specialty is in distilling tabular data generated in HAZUS-MH to meaningful information for local hazard mitigation plans. Mr. Whitford is a FEMA-certified "Practitioner" for all applications of HAZUS and his expertise in risk modeling excellence was recognized in 2011 by FEMA when he was named "HAZUS User of the Year." His work will be regularly seen during the planning process through the maps and graphs used to visually depict model results at planning committee meetings and at public workshops. Mr. Whitford will regularly interact with GIS staff and will report directly to the Technical Lead, Rob Flaner.

***Jason Geneau, Study Manager/Technical Lead for the Standard of Coverage Study.*** Mr. Geneau will be responsible for planning and executing all tasks of the Standard of Coverage Study through to the project's completion. Mr. Geneau is a veteran of the emergency management community specializing in HazMat planning and program management. As the Weapons of Mass Destruction Planning Coordinator, Mr. Geneau was charged with managing the HazMat program for the City of Philadelphia's Office of Emergency Management. This role included managing HazMat funding streams, related grants, cost recovery, Tier II management and regulatory compliance. In addition, Mr. Geneau was the vice-Chairman of the Philadelphia LEPC where he oversaw a successful reorganization and revision of the bylaws. Mr. Geneau was the lead planner in charge of writing the Massachusetts state HazMat Annex and revising the local & regional HazMat response templates. Mr. Geneau started his career in EMS before transitioning into emergency management as an Oil & Gas Emergency Services Planner in Santa

Barbara, California. In this role he responded to releases and oversaw the writing, revision and exercising of Facility Response Plans (FRP) for more than a dozen large scale HazMat facilities annually. Mr. Geneau is a graduate of Rutgers Law School and is currently pursuing Master's Degrees in Public Administration and Homeland Security.

***Eric Deselich, Standard of Coverage Analyst.*** Mr. Deselich will be the lead for the Standard of Coverage Study. Mr. Deselich is a Fire Department management specialist that provides technical support as a planner and exercise design specialist for clients in the local, state, and federal government sectors. Project support includes project and task management; technical reporting, emergency planning, and grant writing; training/exercise program development and implementation; and client communication. Mr. Deselich is a retired Kansas City Missouri Fire Department Company Officer with 23 years emergency response experience. He was responsible for supervising daily on-scene emergency operations for fire, technical rescue, EMS, and hazardous materials response. From 2002 to 2010, Mr. Deselich was assigned to the Hazardous Materials Division where he provided numerous trainings and acted as Team Chemist during emergency responses across Kansas City.

***Amy Noddings, Local Liaison.*** Ms. Noddings works in the Tetra Tech Santa Barbara office and will be the local liaison between the MFPD and the Tetra Tech study managers, Rob Flaner and Jason Geneau. In addition, she will assist in the coordination of local meetings and interviews. Ms. Noddings has over 5 years of experience and is currently managing the completion of a Vegetation Mapping project at MCAS Miramar and a Prescribed Burn Pilot Study at Vandenberg AFB. Ms. Noddings has led and conducted general biological and botanical field surveys and authored a variety of documents. The Burned Area Emergency Response project for the Highway Incident Fire on Vandenberg AFB required the assessment and mapping of invasive plant species, on-going treatment of invasive plant species, completion of surveys and monitoring for special-status species, installation and monitoring of erosion and sediment controls, and reporting. Ms. Noddings contributed to all aspects of the project. Ms. Noddings authored the update to the Wildland Fire and Fuels Management Plan (WFFMP) on Vandenberg AFB. Ms. Noddings attended interdisciplinary meetings, performed a field verification of fuels on Base, and researched fire ecology, vegetation types for fuels management, and fuel models. The project resulted in a WFFMP that incorporates natural resources concerns with fire management priorities. Detailed analysis was also conducted using base GIS data.

***Michelle Bates, Senior Quality Assurance Analyst.*** Ms. Bates will serve as the Quality Assurance/Quality Control reviewer for this project. Ms. Bates has substantial project management experience with over 14 years of experience in planning and natural resources management. Ms. Bates is the Program Manager for Tetra Tech's existing Environmental Conservation Support Services Contract at Vandenberg AFB. Ms. Bates has been involved in each of the 32 task orders awarded to date. She has a diversity of responsibilities under this contract, including technical lead, Project Manager, and quality assurance/quality control (QA/QC) reviewer. Ms. Bates managed the update to the WFFMP on Vandenberg AFB. For this project, a 10-year plan was developed, which selected 10 projects for implementation over the next 10 years. The project required coordination with various departments on base, including base fire personnel. The project resulted in a WFFMP that incorporates natural resources concerns with fire management priorities. Ms. Bates has extensive experience managing conservation projects. Ms. Bates managed the Burned Area Emergency Response project for the Highway Incident Fire on Vandenberg AFB. The project required the assessment and mapping of invasive plant species, on-going treatment of invasive plant species, completion of surveys and monitoring for special-status species, botanical sampling, completion of a hydrogeological analysis, installation and monitoring of erosion and sediment controls, rain event monitoring, and reporting. Ms. Bates will perform quality control reviews throughout the completion of this project.

**SECTION 1**  
**COMPREHENSIVE COMMUNITY RISK ANALYSIS STUDY**

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## TECHNICAL APPROACH

Tetra Tech has been on the cutting edge of risk analysis, capability assessment, and hazard mitigation planning (HMP) efforts pursuant to the Disaster Mitigation Act of 2000 (Public Law 106-390) since its inception. Tetra Tech is recognized nationally for its subject matter expertise in the field of HMP pursuant to the Federal legislation. Collectively, the experience our team has gained from our many engagements has allowed us to stay on the forefront of developing and delivering innovative approaches and solutions to our client's challenges in the scope of work areas.

We have reviewed the scope of work outlined by the RFQ and feel that Tetra Tech's preferred methodology for risk assessment will not only meet, but exceed the District's expectations. For the Comprehensive Community Risk Analysis Study component of this project, we propose a technical approach that is broken into the following phases:

- Phase 1: Project Initiation and Scoping
- Phase 2: Data Acquisition and Gap Analysis
- Phase 3: Risk Assessment
- Phase 4: Hazard Risk Ranking
- Phase 5: Mitigation Alternatives Analysis
- Phase 6: Final Report preparation

The specific tasks to be completed under each phase are discussed below.

### PHASE I: PROJECT INITIATION AND SCOPING

Tetra Tech will initiate the planning phase by scheduling a project kickoff meeting with the Montecito Fire Protection District (MFPD) immediately upon notice to proceed. Tetra Tech will use this meeting to introduce the Tetra Tech Project Manager and key staff to representatives from the MFPD as well as additional fire and EMS stakeholders. An overview will be provided and expectations will be set for the development and conduct of the assessment. Most importantly at this initial meeting, Tetra Tech will further outline our project plan, describing our methods for evaluating results and seek approval for the course ahead.

Tetra Tech realizes that preliminary information received in the RFQ regarding the MFPD's requirements must be further detailed and augmented to guide this project. Effective coordination between the MFPD and Tetra Tech is imperative for the successful completion of this project. During the kickoff meeting, we will establish the appropriate lines of communications and attempt to obtain contact information for all project stakeholders. The meeting will provide an overview of roles and responsibilities and clarify the project purpose, goals, and objectives. Additional time will be used make logistical arrangements. Tetra Tech will also request any tactical, operational or strategic documents the MFPD deem relevant to the project

Following the meeting, Tetra Tech will provide the MFPD a work plan that details a timeline of actions and deliverables corresponding to the project. Tetra Tech will submit the work plan for review and comment and will subsequently modify the work plan according to the MFPD's recommendations in order to accomplish project objectives. Once adopted, the work plan will serve as Tetra Tech's roadmap throughout the project.

## PHASE II: DATA ACQUISITION AND GAP ANALYSIS

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The key to the success of this risk assessment will be the type and availability of data to support this analysis. The model that will be utilized for this assessment require data sets that set parameters in the models. This phase will be dedicated to data acquisition required for the risk assessment model. The first step under this phase will be to identify what data exists. This data can be segregated into 2 categories: data on the hazards and data on the assets exposed to the hazards. The risk assessment personnel will coordinate with MFPD personnel to identify what data is available and the sources of this data. The desired data to acquire include:

- GIS shapefiles data on the extent, location, severity and magnitude of the 6 hazards of concern identified in the RFQ.
- Historic data or scientific data to support the assignment of a probability of occurrence to each of the hazards of concern.
- List of identified critical facilities.
- Data on general building stock that includes; occupancy, date of construction, square footage, number of stories, foundation type and footprint.
- A digital elevation model for the planning area.

Any of the above data that is not available will be considered a data gap. If data is lacking, the models have to make assumptions that decrease the accuracy of the model. It is important to remember that the model is not stating what is going to happen, but rather it is stating what could possibly happen. There is always a level of uncertainty with any risk assessment model. If a key deliverable under this phase will be a gap analysis report that identifies the data gaps (if they exist) and what, if any, impact this gap will have on the risk assessment results. It should be noted that addressing a data gap in a risk assessment is considered to be a viable mitigation action.

## PHASE III: RISK ASSESSMENT

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Once Phase II is complete, the risk assessment analysts will perform the risk assessment. Tetra Tech will perform a thorough assessment of each hazard and the vulnerability of the planning area to each hazard identified using tools such as GIS/HAZUS, benefit-cost analysis tools, and historical/local knowledge of past occurrences. At a minimum, we will prepare a map delineating each hazard area, a description of each hazard (including potential depths, velocities, magnitudes, frequencies, etc.), and a discussion of past events. Also under each hazard, we will perform a vulnerability analysis that will include (1) an inventory of the number and type of structures at risk; (2) the impact on life, safety, and health and the need and procedures for warning and evacuation; (3) the identification of critical facilities and the impact of the hazard on those facilities; and (4) a review of the development/redevelopment trends projected for the future in each identified hazard area. The tasks to be completed under this phase are described in more detail below.

### Task 3A: Update of Critical Facilities and HAZUS General Building Stock Inventories

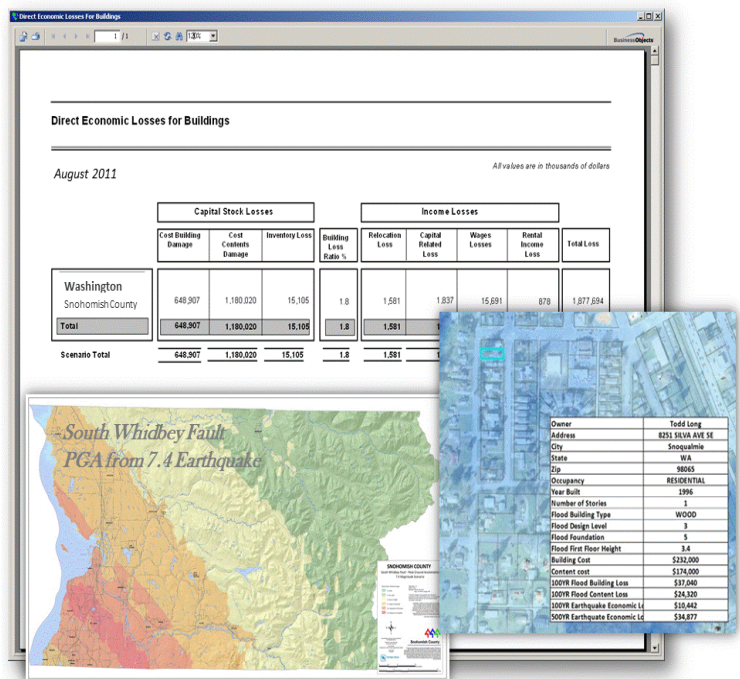
HAZUS-MH Version 2.1 will be the principal tool used in preparing the natural hazard risk assessment. HAZUS has been set up to assess the impacts from seismic, flood, and tsunami-related hazards and can be used as a base model for other natural hazards of concern as well. This task will be dedicated to updating the default level inventories with data on general building stock and critical facilities utilizing the data acquired under Phase II of this scope of work. These updates will be completed using the Comprehensive Data Management System (CDMS), an extension to HAZUS. This process will bolster and regionalize the risk assessment results as they pertain to critical facilities and infrastructure as defined by MFPD. Tetra Tech, working with resources identified under Phase II, will

begin the interface to capture required data to enhance the HAZUS outputs. This data will be combined from several sources and loaded into HAZUS.

**Task 3B: HAZUS-MH Analysis**

Under this task, Tetra Tech will develop HAZUS runs for the entire planning area. A Level 2 analysis of the flood, earthquake, and Tsunami hazards will be conducted. The flood analysis will incorporate the County’s current DFIRM, as well as the best available digital elevation model (DEM) for the planning area. For the earthquake analysis, both earthquake soils and liquefaction data will be combined with available earthquake scenario data. The graphic below demonstrates our use of HAZUS modeling on a HMP project for Snohomish County, illustrating some of the information generated using HAZUS. The HAZUS model will be populated with updated GIS (CDMS) data obtained under Phase II. The available HAZUS outputs to be analyzed include but are not limited to:

- Dollar loss estimation to general building stock
- Functionality of identified critical facilities
- Debris accumulation
- Displaced households
- Short term shelter needs
- Vehicle damage



The HAZUS results will be segregated by planning partner so that each partner will be able to evaluate and rank risk individually as it applies to its jurisdiction. Additionally under this task, we will perform a land use analysis on the HAZUS hazards outside of the HAZUS model. This analysis will focus on existing land uses within each hazard area to identify those lands that are buildable in the future to gauge the potential for the increase in risk due to future development. This is often referred to as a “buildable lands analysis.”

**Task 3C: Risk Assessment for non-HAZUS Natural Hazards**

The planning team will perform a risk assessment of the non-HAZUS natural hazards of concern [Wildland Fire, Landslide/Coastal Erosion and Agricultural (pests and disease)]. It should be noted that this task has been separated from the other hazards because no models have been created that are nationally accepted that include damage functions for these hazards. This task will include a GIS exercise designed to analyze building exposure and subjective potential. All outputs generated from these analyses will model those outputs generated by the HAZUS analysis for consistency within the final plan document. This includes dollar loss estimates to general building stock and identified critical facilities and the buildable lands analysis.

**Task 3D: Mapping/Cartography**

Mapping the extent and location of the hazards of concern will be a large component of this phase. Maps are not only necessary for the analyses to be conducted in this risk assessment, but they are also an important tool in public education. Maps help the public to visualize the extent of the hazard and how it can impact them and their assets.

This task will be dedicated to generating maps that will be used in the planning process as well as the final risk assessment. Maps that illustrate the extent and location of each hazard of concern will be generated at both the regional scale and the jurisdictional scale.

#### PHASE IV: HAZARD RISK RANKING

This phase will be dedicated to quantitatively comparing the impacts of one hazard to the other. It should be noted that “risk ranking” is a standard product in all Tetra Tech Hazard Mitigation Plans. We have devised a methodology of risk ranking that is not only accepted nationally, but is considered by FEMA to be the preferred approach to comparing the impacts on one hazard versus another. Our methodology is built upon utilizing the results of the risk assessment. This is very important in that local governments need to understand that the risk assessment is a tool that builds capacity, and is not just a planning component. Our risk ranking methodology defines risk as probability x impact, where impact is the sum of the impacts on people, property and economy of the planning area. Every hazard gets assigned a score, using the results of the risk assessment that makes it easy to compare one hazard to another. This risk ranking will be confirmed and validated by MFPD prior to inclusion into the final risk assessment report.

#### PHASE V: MITIGATION ALTERNATIVES ANALYSIS

Once Phases I through IV are complete, the Tetra Tech planning team will facilitate a review of mitigation alternatives for each of the identified hazards of concern. This will be accomplished through a facilitated session with key MFPD personnel that look at the results of the risk assessment and identify strengths, weaknesses, obstacles and opportunities (SWOO) within the planning area. The principal output of this SWOO session will be a catalog of mitigation alternatives that will break down possible actions by scale (personal, corporate and government) as well as type (manipulation of the hazard, reduction of exposure, reduction of vulnerability, and increasing capability).

#### PHASE VI: FINAL REPORT PREPARATION

This final phase will be dedicated to the assembly of a risk assessment report. This report will be laid out so that it meets the risk assessment requirements specified under section 201.6 44CFR under the Disaster Mitigation Act (DMA). This will provide MFPD a key component of a Hazard Mitigation Plan should the district ever decide to develop a DMA complaint plan. This report will provide the following for each hazard of concern:

- A profile of the hazard
  - Past events
  - Location
  - Frequency
  - Severity
  - Warning Time
- Secondary Hazards
- Climate Change Impacts
- Exposure
  - Population
  - Property
  - Critical Facilities/Infrastructure
  - Environment
- Vulnerability
  - Population



- Property
- Critical Facilities/Infrastructure
- Environment
- Future trends in development
- Scenario
- Issues

In addition, this report will provide discussion on risk ranking as well as the alternatives review process and outcomes. Delivery of the final risk assessment report will be within 120 days of contract award date. Assuming timely review of the draft document, Tetra Tech will deliver a final report within 120 days of project initiation. The final report will be delivered on a CD-ROM disk with a protected copy of the final report in PDF format and an unprotected version of the final report in Microsoft Word format. In addition, hard copies of the final report will be delivered as requested.

**SECTION 2**  
**STANDARDS OF COVER STUDY**

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## TECHNICAL APPROACH

As an experienced provider of public safety capability assessments, Tetra Tech understands that the process of developing answers to seemingly easy questions is incredibly complex. Political currents, public sentiment, union arrangements, historical issues, and vocal stakeholders may all present challenges for the unprepared or naïve. With this in mind, experience has shown that the most effective way to incorporate these elements as assets rather than roadblocks is to maintain transparency at all times and fully engage the interested parties. This begins with a carefully thought out technical approach.

The technical approach outlined by the RFP and summarized below is consistent with Tetra Tech's preferred methodology and in simplified terms asks the following basic questions:

- ✓ What are the current needs?
- ✓ What are the current resources?
- ✓ What are our goals?
- ✓ How do we measure successfully meeting our goals?
- ✓ How do we successfully meet our goals with current or additional resources?

## PHASE I: PROJECT INITIATION

### *Project Initiation & Development of Work Plan*

Tetra Tech will initiate the planning phase by scheduling a project kickoff meeting with the Montecito Fire Protection District (MFPD) immediately upon receipt of notice to proceed. Tetra Tech will use the meeting to introduce the Tetra Tech Project Manager and key staff to representatives from the MFPD as well as additional fire and Emergency Medical Services (EMS) stakeholders. An overview will be provided and expectations will be set for the development and conduct of the assessment. Most importantly at this initial meeting, Tetra Tech will further outline our project plan, describing our methods for evaluating results and seek approval for the course ahead.

Tetra Tech fully realizes that preliminary information received in the Request For Qualifications regarding the MFPD's requirements must be further detailed and augmented to guide actual work for this project. Effective coordination between the MFPD and Tetra Tech is imperative for the successful completion of this project. During the kickoff meeting, we will establish the appropriate lines of communications and attempt to obtain contact information for all project stakeholders. The meeting will provide an overview of roles and responsibilities and clarify the project purpose, goals, and objectives. Additional time will be used make logistical arrangements. Tetra Tech will also request any tactical, operational or strategic documents the MFPD deems relevant to the project

Following the meeting, Tetra Tech will provide the MFPD a work plan that details a timeline of actions and deliverables corresponding to the project. Tetra Tech will submit the work plan for review and comment and will subsequently modify the work plan according to the MFPD's recommendations in order to accomplish project objectives. Once adopted, the work plan will serve as Tetra Tech's roadmap throughout the project.

## PHASE II: EVALUATION OF CURRENT CONDITIONS

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Tetra Tech analysts will define the current community, identify services provided, evaluate community perceptions of current fire and EMS services, and define the risk. Tetra Tech fully recognizes Montecito's unique population demographics and the premium its residents place on timely and effective emergency response and services. The goal of this phase is not to revise operational or tactical procedures, but rather to evaluate the current and future use and arrangement of available resources within the context of interoperability, response times, risk, and history.

### *Component A: Description of Community Served*

Tetra Tech will gather and compile a description and profile of Montecito, utilizing available public and city data such as the 2010 U.S. census and any internal data available. This task will be facilitated by Tetra Tech's in-depth knowledge of the area and which will supplement the hard numbers of the community profile with an understanding of the political and social currents that currently exist within the community. While the profile will reflect data such as population, geography, topography, demographics, and political/administrative structure, the emphasis will be on fire and EMS. Specifically, Tetra Tech will look to describe Montecito's:

- ✓ History, formation and general description
- ✓ Governance and Lines of Authority
- ✓ Organizational Design
- ✓ Operating budget, funding, fees, taxation, and financial resources
- ✓ Description of the current service delivery infrastructure

### *Component B: Review of Services Provided*

As a closely related but more detailed task, Tetra Tech will closely examine the Montecito's current fire and EMS response system. The services review component will be designed to meet the following objectives:

- ✓ Collect data describing Montecito's fire and EMS services' current capabilities by reference to national standards, including analysis of team responsibilities.
- ✓ Identify areas of redundant response capability that may exist among stations.
- ✓ Determine needs for additional trained personnel and response resources while identifying areas where an over-capacity of personnel, equipment, or other assets may exist based on response needs.
- ✓ Identify specific gaps in planning, equipment, training, and exercise; and provide plausible solutions for addressing deficiencies.
- ✓ Define the existing structure, coverage area, response times, and recommend alternative structures and coverage options to include cost benefits, gained efficiencies, and/or risks associated with such recommendations.
- ✓ Provide a historical and risk-based assessment of fire and EMS incidents in Montecito, and identify appropriate resources and training requirements to effectively manage this risk.
- ✓ Recommend additional training sources for first responders.
- ✓ Identify program and policy issues that require further planning.
- ✓ Identify and recommend alternative funding sources and funding methodologies to support the provision and sustenance of fire and EMS services.

Review of the existing service provided will result in the identification of tables, charts, databases, maps, GIS data, and other information that must be gathered and assembled for the service review. Once identified, Tetra Tech staff will gather, track and catalogue all required data to provide a complete reference guide for future plan updates.

Depending upon the availability of required data, Tetra Tech may use a proven web-based survey instrument to collect and compile information on department personnel, training, equipment, exercise participation, and planning statistics. This tool has proven highly successful for other projects, including the development of the Los Angeles/Long Strategic Plan, and allows project stakeholders who otherwise would have been unavailable or inconvenienced by providing information in a traditional format to complete an online survey according to their own schedule and at their discretion. By collecting the bulk of information in this manner Tetra Tech can identify individuals that require further follow-up and telephonic or in person interviews can be shortened by eliminating the need to duplicate questions already answered in the online survey.

### **STAFFING**

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The most essential requirement for a successful response is availability of fire and EMS responders (operational staffing levels) with the knowledge and training to anticipate problems, make effective decisions, and execute tasks efficiently. Therefore, it is imperative that stations maintain the appropriate response personnel (Firefighter/EMS) and administrative support (trainers, executive, etc.) required to meet operational requirements. Departments maintaining strong support staffs are better suited to expand response capabilities by providing training, technical expertise, and administrative assistance to their personnel.

### **FACILITIES**

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Tetra Tech will examine the current and anticipated facilities currently used by the Montecito's fire and EMS resources and the space required to meet operational requirements. This includes more than just the number of bays as space is also needed to address housing, storage, training, and other operational needs. Tetra Tech will review and make recommendations regarding existing facilities, renovations or upgrades needed to comply with current standards. Tetra Tech understands that the addition or reduction of facilities, especially Fire stations, are highly affected by political and fiscal issues and will evaluate current plans in light of these considerations.

### **TRAINING**

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When a fire or EMS call occurs, first responders are aware of responsibilities assigned to them and respond appropriately based on the incident and their levels of training. Responder training levels and certifications serve as reliable indicators of how prepared personnel are to respond to an incident. Department of Homeland Security (DHS) and National Fire Protection Association (NFPA) identify the various levels of training. Thus, for the purposes of assessing training, Tetra Tech will consider both industry standards and best management practices.

### **SERVICE DELIVERY**

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Response time to incidents is an essential consideration in the effort to achieve effective resource deployment and successful incident outcomes. Emergency planners and service providers acknowledge the importance of timely response to any potentially life-threatening call. However, simply having personnel arrive to a scene within a certain timeframe does not fully indicate effective service. Available capabilities and the ability to safely conduct needed operations by adhering to procedures such as 2-in-2-out must be considered when identifying adequate service delivery thresholds. These considerations for identified fire and EMS needs will be used to make recommendations

on a staffing, apparatus, and distribution/deployment strategies. In addition, Tetra Tech recognizes the high expectations of Montecito residents in relation to the services available to them. Tetra Tech will discuss national standards with MFPD and determine if these standards are sufficient for Montecito or if more stringent standards should be utilized for this study.

## APPARATUS

While the capabilities of primary response vehicles are robust and varied, successful responses often require the utilization of specialized equipment and apparatus. Technical rescue, swift water rescue, HazMat response and air operations are all elements of a full service response organization with hazards typical to Montecito. While the MFPD appears to have access to many pieces of specialized apparatus, either within the department or through mutual aid, these resources are of limited value if they cannot be deployed in a timely manner. With this in mind, Tetra Tech will review and make recommendations regarding the current availability of apparatus and equipment.

Once again, the unique nature of Montecito and the expectations of its residents must be taken into consideration during this evaluation. Whereas the protection of life and health is the primary goal of all emergency response agencies, the public's attenuation to the secondary and tertiary goals of preventing damage to property and protecting the environment are more highly developed in Montecito. The prevalence of high value homes with artistic or historical significance along with expensive furnishings means that the utilization of apparatus and equipment with lower impact options, such as foam delivery, are much more desired than in many other departments. Concurrently, Montecito's pristine setting and historical desire for ecological preservation ensure that environmental impacts and protection are high visibility issues and when possible should also be taken into consideration.

### *Component C: Community Expectations and Performance Goals*

Tetra Tech's public outreach strategy will actively seek out and capture input from the diverse stakeholder groups (general public, business owners, civic organizations, neighborhood organizations, and local industry) interested in or potentially impacted by fire and EMS services. Meetings will be scheduled to accommodate the business sector (between 9-5) and afterhours to allow access for the general public. To that end, Tetra Tech will work with the MFPD to identify and organize resources, solicit project input, and prepare the format for meetings, as described further below.

- ✓ Four (4) general public meetings/workshops will be held within the community to gather input on expectations, customer service, and how these opinions are shaped
- ✓ In light of evolving case law and in the context of the Americans with Disabilities Act (ADA), targeted outreach will be done to ensure that comments are collected from people with disabilities and their advocates as well as those with functional or access needs
- ✓ An e-mail address and contact information will be created and publicized to collect stakeholder feedback from those unable to attend the public meetings
- ✓ An additional meeting will be held with the government stakeholders to gather local input on the expectations, customer service goals, and past performance metrics.

Prior to beginning the outreach process, Tetra Tech will meet with Montecito to design and develop materials for all project meetings. Our expectation is that both the MFPD and Tetra Tech staff will present at the meetings. Copies of all media press releases and other media techniques will be preserved to document the planning process. Input from

these planning entities as to new hazards, revised goals and objectives and service metrics will be captured for inclusion service review.

#### *Component D: Community Risk Assessment*

Before Tetra Tech can determine response deficiencies and develop alignment recommendations, Tetra Tech will conduct an analysis of community fire protection risks, growth projections and land uses, and interpret their impact on emergency service planning and delivery. Tetra Tech will evaluate the community features and key resources (hospitals, schools, etc.), zoning classifications, parcel data, International Organisation for Standardization (ISO) fire flow data, economic value, building footprint densities, occupancy data, and demographic information to identify areas with the highest risk of exposure. When available, GIS will be used to synchronize spatial relationships and their impacts on staffing and resource needs. Tetra Tech will leverage its expertise in HAZUS, the FEMA risk model containing information on building and population density based on census tract data to facilitate this task. Once all the planning factors have been reviewed and the required planning elements have been accounted for, Tetra Tech will be better prepared to recommend deployment strategies based upon the developed performance goals.

#### *Component E: Review of Historical System Performance*

Building upon Component A and Component B, Tetra Tech will analyze and review the current Fire and EMS deployment and command system to identify strengths, weaknesses, redundancies and efficiency in relation to current standards of response as well as new response goals as developed within this project. Specifically Tetra Tech will look at current:

- ✓ Distribution – facility, apparatus and personnel geographic deployment as it pertains to the service area as a whole as well as targeted hazard or high volume call areas;
- ✓ Concentration – colocation or concentration of sufficient resources, including specialized apparatus and response teams, such that a fully effective response can be achieved within acceptable time parameters;
- ✓ Reliability – Review and analysis of unit specific utilization in contrast to in-service availability, response time, recovery time, and frequency of concurrent use scenarios;
- ✓ Mutual Aid – The ability to supplement existing resources or operational gaps with the use of existing mutual or automatic aid resources.

Tetra Tech will utilize modern GIS practices to develop its analysis of the existing system. In addition, and to the extent that data is available, Tetra Tech will review and incorporate historical response records including response times and relevant maintenance issues.

### **PHASE III: ESTABLISHMENT OF PERFORMANCE OBJECTIVES**

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#### *Component F: Performance Objectives and Measures*

Drawing heavily upon the community risk assessment and stakeholder input, Tetra Tech will work with MFPD to develop performance objectives and associated measures upon which to gauge effective future performance. These Performance Objectives will allow Tetra Tech to make recommendations concerning the distribution and concentration of Montecito's resources as outlined in Component E.

### Component G: Overview of Compliance Methodology

Tetra Tech will work with MFPD to develop an ongoing assessment strategy, incorporating the objectives and performance measures/metrics from Component F and ensuring that ongoing performance can be monitored to allow future adjustments to the deployment strategy.

## PHASE IV: DEVELOPMENT, REVIEW, AND DELIVERY OF STANDARDS OF COVER REPORT

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### Component H: Overall Evaluation, Conclusions, and Recommendations to Policy Makers

Thorough comprehension of current capabilities and collective response capacity will allow the Board to evaluate the current and future response solutions for Montecito. Through this program review, comprehensive information and possible operational models will become available for completing objectives related to: (1) determining equipment needs and procurement strategies, (2) maintaining appropriate training and exercise opportunities for emergency response personnel, and (3) developing comprehensive coverage areas.

As a result, Montecito will be able to confirm existing strategies and/or target deficiencies and ascertain which expenditures would more fully enhance the fire and EMS services abilities to respond. Ultimately, the services review will serve as a long-range strategy reference for MFPD representatives tasked with decision-making to collectively advance Montecito's preparedness and capability to respond at the most efficient cost.

### Component I: Development and Review of Draft Project Report

Combining the efforts of all previous Components, Tetra Tech will develop and produce a draft written report for review by MFPD and other stakeholders. Digital copies and hard copies will be provided to ensure adequate opportunity is provided for review and discussion of the draft report prior to finalization. The report shall include:

- ✓ Executive Summary – succinctly describes the nature, scope, methodology, primary findings and critical recommendations from the report
- ✓ Narrative Analysis – details each component task with easy to understand descriptions tailored for public access and review
- ✓ Recommendations – organized and keyed to relevant project components including suggested timelines
- ✓ Visual Aids – charts, graphs, diagrams, etc.
- ✓ Maps – GIS resources and other visually depicted geographic data
- ✓ Appendices – as needed

### Component J: Delivery of Final Standards of Cover Document Completion of study will be within 120 days of contract award date.

Assuming timely review of the draft document, Tetra Tech will deliver a final report within 120 days of project initiation. The final report will be delivered on a CD-ROM disk with a protected copy of the final report in PDF format and an unprotected version of the final report in Microsoft Word format. In addition, hard copies of the final report will be delivered as requested.



Agenda

Item #4



**Proactive Solutions For Tomorrow**



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# Montecito

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**COMMUNITY RISK ANALYSIS METHODOLOGY**



**INTEGRATED SOLUTIONS**  
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August 16, 2013

Montecito Fire Protection District  
595 San Ysidro Road  
Santa Barbara, CA 93108  
Attn: Chip Hickman, Fire Chief

Dear Chip Hickman:

As the individual authorized to contractually obligate and negotiate and as the primary contact for Integrated Solutions Consulting (ISC), I am pleased to present our enhanced methodology to the Montecito Fire Protection District (MFPD).

We truly appreciate the opportunity to be considered for this important project, and look forward to the interview later this month.

Sincerely,



Daniel Martin, Ph.D., CEM, CFM  
Managing Principal, Integrated Solutions Consulting, Inc.  
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Edwardsville, IL 62025  
Phone: 618.307.5111  
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# EXECUTIVE SUMMARY

The following document provides an explanation of Integrated Solution Consulting's (**ISC**) risk analysis philosophy, which provides justification to why we have embraced a complex community risk assessment methodology that is supported by practical experience, empirical evidence, and a thorough review and integration of peer-reviewed research on assessing and analyzing risk.

Because the proposal submitted in response to Montecito's RFQ (issued April 4, 2013) provides an explanation of our project management and stakeholder participation strategy, this document will focus exclusively on explaining, in greater detail, our overall community risk analysis approach and methodology. This document is meant to complement the proposal submitted in May 2013 by **ISC**.

Further, we have also included our approach to completing the Montecito Standards of Cover study, which will be completed in concert with the Community Risk Analysis..

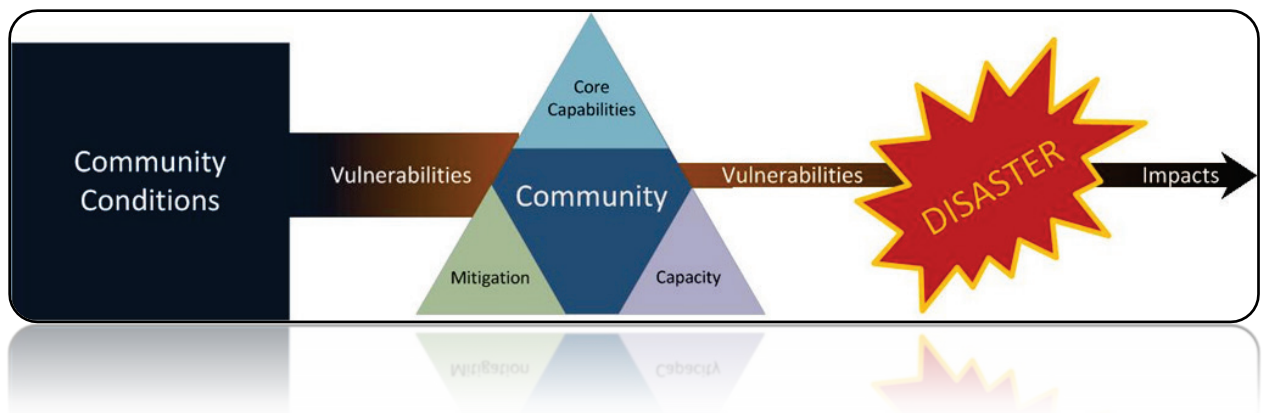
The final output of both endeavors will result in a single Standards of Cover Study for Montecito with an enhanced comprehensive risk assessment. The two tasks will be interdependent and complementary to each other, and the comprehensive risk assessment will serve to identify, justify, and further inform the planning considerations and key components of the Standards of Cover Study.

# PART I. OUR RISK ANALYSIS & PLANNING PHILOSOPHY

Even as technological advances are made, and humankind’s ability to better understand disasters becomes more sophisticated, the likelihood that the impact of disasters will decline in the future is very unlikely. Today, there is greater emphasis on addressing these seemingly unending cycles of repeated damages and reconstruction needs in the wake of natural, manmade, and even technological disasters.

Past disaster events, both natural and manmade, seem to indicate that disasters are not problems that can be viewed or solved as isolated instances. In other words, the rising number of disasters and the resulting damages and human losses are more or less “symptoms of broader and more basic problems”. These problems stem from the complexity of disasters and the intricate relationships society shares with both its natural and constructed environments. According to disaster researcher Dennis S. Mileti:

Many disaster losses – rather than stemming from unexpected events – are the predictable result of interactions among three major systems: the physical environment, which includes hazardous events; the social and demographic characteristics of the communities that experience them; and the buildings, roads, bridges, and other components of the constructed environment.



These destructive events, then, must be understood and studied from a holistic point of view, and current and future solutions for mitigating damages and human losses must acknowledge that disasters occur at these intersections. While the escalating losses from disasters will continue to result in part from the continuing expansion of the many communities that make up our great nation, it can also be attributed to the fact that all these systems – and their interactions – are becoming more complex with each passing year.

One way to better understand and manage existing and emerging threats, is to more accurately understand those factors that contribute to these destructive events. Because we recognize these needs, Integrated Solutions Consulting (ISC) has invested significant time and resources to develop proactive solutions,

tools, and methodologies to assist communities like Montecito in better assessing their vulnerabilities and hazards. The culmination of our research and our passion is a dynamic methodology that analyzes these major components, and is something we hope to offer to the Montecito Fire Protection District. This unique and dedicated focus on understanding Montecito’s risks will ultimately allow the Standards of Cover Study to be more in-depth, be community-specific, and offer realistic performance measures and recommendations for future actions.

Disasters are symptoms of broader and more basic problems. Many disaster losses – rather than stemming from unexpected events – are the predictable result of interactions among three major systems: the physical environment, which includes hazardous events; the social and demographic characteristics of the communities that experience them; and the buildings, roads, bridges, and other components of the constructed environment.  
(Mileti, 1999).

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## WHAT MAKES ISC’S APPROACH UNIQUE?

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Conducting a risk assessment is the process of identifying hazards, profiling hazard events, inventorying assets, and estimating losses; and also includes, in a more general sense, the process of quantifying and characterizing the threats to humans, property, and the environment. The reason risk assessments are critical to emergency preparedness/response organizations like the Montecito Fire Protection District is that it allows communities to measure and better understand the potential impact of disasters as it relates specifically to damage to property, critical infrastructure, economic loss, casualty, and fatalities. More importantly, by identifying the potential impact of likely disasters, it allows emergency preparedness and community leaders to develop much-needed strategies and to prioritize resource needs to address operational activities and to ultimately help Montecito become more resilient.

Whereas determining and assessing risks has traditionally been associated with hazard mitigation planning, there is growing recognition that this step should be included in all phases of planning (i.e. Standards of Cover). For example, CPG-101 vs.2 strongly recommends the incorporation of risk assessments in the Emergency Operations Plan development process. Moreover, the 2011 HSGP requires the establishment of a Threat and Hazard Identification and Risk Assessment (THIRA). When utilized correctly, risk assessments can be a foundational piece to a jurisdiction’s emergency preparedness program, and will influence all emergency related activities during the prepare, respond, recover, and mitigate phases. Ultimately, this is why the ISC team is committed and dedicated to developing a comprehensive risk analysis that will serve as a strategic guide for existing and future plans, such as the Standards of Cover.

***“Whereas determining and assessing risks has traditionally been associated with hazard mitigation planning, there is growing recognition that this step should be included in all plans”***



While many strategic and operational level planning initiatives are all-hazards in design, communities must not ignore or undermine the importance of determining what hazards require special attention, which will be especially important in the design and development of the Standards of Cover study. In general, recognizing the potential hazards, identifying the types of impacts a community may encounter, and determining the level of risk, will largely influence the operations and capabilities needed to meet the needs of the community for that specific hazard. For this project, it will inform and possibly validate the capabilities and resources of the fire district, reassess policies, and re-evaluate operation-specific procedures and protocols that will be necessary to adequately and efficiently prepare for, mitigate against, respond to, or recover from a potential hazard. Also, if done correctly, conducting a thorough and comprehensive risk assessment and vulnerability analysis will help guide these activities and decision points in the Standards of Cover study; and, in the future, serve to justify much-needed funding by validating the need to address any potential gaps or issues that may arise from this comprehensive evaluation.

In essence, the quintessential purpose of conducting a risk assessment is to ensure decision-making is not done in a vacuum. Instead, it makes certain decisions are made with the best available knowledge that is based on the most accurate and up-to-date information concerning the potential hazards and their likely impacts and consequences.

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## **THE MISSING LINK – COMMUNITY VULNERABILITY**

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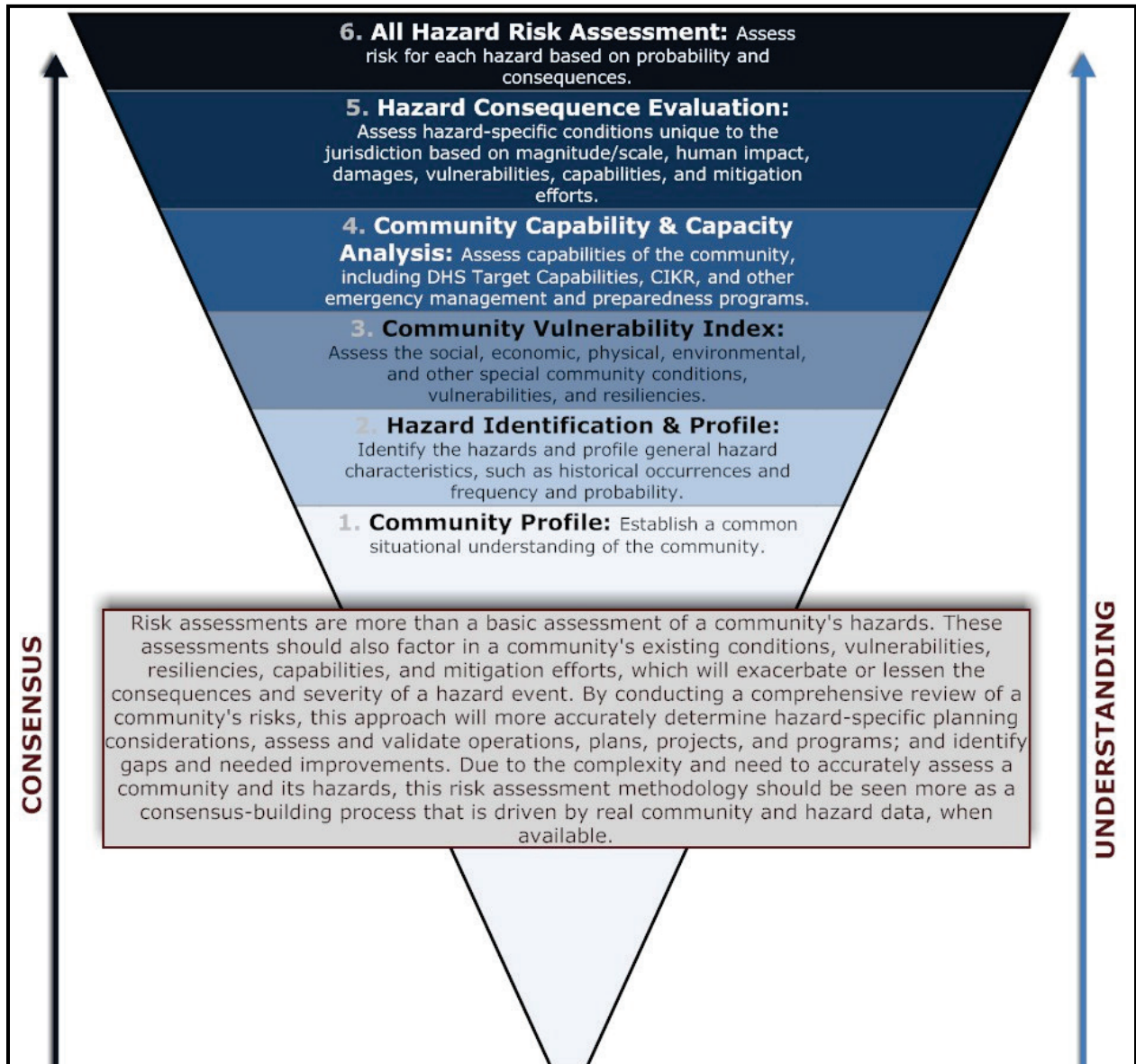
While many risk assessment methodologies focus mostly on the hazard itself, and vaguely address factors related to a community's vulnerability and capacity, exposure alone to a hazard is not enough to result in loss of life and property. For losses to occur, we argue that the force of the hazard must exceed the ability of structures or people to withstand them. In other words, for losses to occur, exposed assets, including humans, must be vulnerable to the forces exerted on them by that particular event. Nevertheless, the vulnerability of a specific locale or edifice can be reduced if adjustments are made to recognize and cope with that hazard prior to the event, which is the impetus for comprehensive emergency management and conducting a thorough risk analysis.

To ensure success, as well as the reliability, and the accuracy of a Comprehensive Risk Assessment and Vulnerability Analysis, ISC feels it is imperative to not only thoroughly understand the methodological challenges of conducting hazard risk assessments, but also have

- a thorough understanding of analyzing community vulnerability,
- access to the latest scientific findings and growing body of knowledge of this emerging science, and
- the ability to articulate these complexities, challenges, and solutions in a clear, concise and consistent manner.

A comprehensive risk assessment approach should utilize specific inputs in order to get a more reliable and realistic assessment of risks in Montecito. The impacts that each hazard might have on Montecito will be assessed according to the characteristics of the hazard and its trends, vulnerabilities of the community, the capabilities and capacities of the fire district, and mitigation efforts.

# PART II. OUR RISK ANALYSIS METHODOLOGY



Please note that the proposed Risk Assessment Methodology is actually a process that will consist of a number of key interdependent assessments: the Vulnerability Index Assessment, Capability Assessment, and Hazard Consequence Evaluation. The culmination of these assessments will result in an overall risk summary.

## **STEP 1: Conduct a Community Profile**

The first step is to develop a Community Profile of Montecito, which includes basic demographic, historical, cultural, environmental, future development and growth, and other relevant community data. The purpose of including a Community Profile is to ensure that the Risk Assessment (and ultimately the Standards of Cover Study) is based on a common situational understanding of the community, including recent trends or changes. Step 1 provides basic community knowledge necessary to accurately complete and inform portions of the Vulnerability and Capability Assessments.

## **STEP 2: Identify Hazards and Complete Hazard Profiles**

The second step is to identify real and potential hazards that may impact the community. Due to DHS's emphasis on terrorism, both natural and manmade hazards and threats should be included in this assessment (if selected, ISC and MFPD can reassess the hazard list below). In Step 2, the Risk Assessment provides a profile of the hazards and any relevant data, when available. This includes data pertaining to historical occurrences and trends, frequency/probability, magnitude, scale, and damages. Step 2 provides the data and hazard knowledge necessary to accurately complete and inform portions of the Hazard Assessment & Consequence Evaluation, which will be completed in the final stages of the Risk Assessment in Step 5. The hazards that will be addressed will be:

- I. Wildland Fires
- II. Flood/Coastal Surge
- III. Earthquake
- IV. Tsunami
- V. Landslide/Coastal Erosion
- VI. Agricultural (Pests and Disease)
- VII. Hazardous Materials

In order to visually depict the hazards, and provide a baseline analysis of certain hazards, the ISC team will use GIS and HAZUS (where appropriate) to provide further analysis of key hazards. Additional steps will include:

**(1) Research of historical documents and data:** by accessing newspapers, historical societies, database searches, etc, the ISC team will gather records that may contain dates, magnitude of the events, damage, and further evidence of the past natural disasters in the community.

**(2) Review of existing plans and reports:** To ensure MFPD is covering all of the possible hazards, our team will collect and review plans and documents that may have information on risk analysis. Transportation, environmental, or public works reports or plans are examples of documents that may contain relevant information. These documents will be reviewed to identify a list of disasters and potential issues that have occurred in the past. Because this risk assessment will be foundational to the Standards of Cover study, added emphasis will be placed on ensuring

hazards relevant to this study are included. In addition, local comprehensive plans, land use plans, capital improvement plans, as well as building codes, land development regulations, and flood ordinances will be reviewed to identify hazard provisions that indicate the presence of local hazards.

### **STEP 3: Conduct Analysis**

To ensure accuracy and reliability of Montecito’s risk assessment, ISC’s community risk planning tool uses an innovative technology to uniformly assess vulnerability, capability, and hazard risk; control the influence of bias and risk perception, provide a methodological foundation that can be utilized in other preparedness efforts, and a framework that can be easily maintained and updated. The Community, Vulnerability, Risk & Resiliency (CVR2) Model serves as a dynamic planning tool that utilizes proven hazard analysis strategies and processes to build partner consensus, ensure uniformity, and provide results that are operationally significant. CVR2 operates by utilizing a number of input parameters consisting of hazard profiles, economic, social, and physical community vulnerabilities and other special community concerns. These inputs are assessed and evaluated to determine the risk to the community from a specific or multiple hazard threat(s). The output of the CVR2 Model is a prioritized indication of planning risk considerations that can be incorporated into the community’s comprehensive preparedness efforts, providing a foundation that will increase programmatic efficiency, operational effectiveness, and a unified common operational picture. The CVR2 Model is a culmination of over a decade of research by several of the nation’s premier disaster researchers.

#### **STEP 3A: COMPLETE COMMUNITY VULNERABILITY INDEX**

In Step 3, each major category and sector-specific area is assessed for their overall vulnerabilities. Each of the indicators of the Community Vulnerability Index is evaluated based on a variety of metrics which prior research has indicated as important measurements of community vulnerability. Although the specific metrics of measurement will depend on the indicator being evaluated, these measurements are organized into broad categories. Some of the major categories and key indicators that will be analyzed include, but are not limited to:

##### **a) Social Vulnerability Analysis:**

While many definitions of social vulnerability exist, this concept can be broadly viewed as the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recovery from the impact of a hazard or threat. Social vulnerability can also be looked at as the susceptibility of social groups to the impacts of hazards, as well as their resiliency or ability to adequately recover from them. It should be noted that susceptibility is not only a function of demographic characteristics, but also more complex factors such as health care provision, social capital, and access to lifelines. The community social vulnerability tool evaluates the hazard risk exposure of special population types, socio-economic conditions, and cultural conditions using over 40 indicators and 120 measurements of open-source data. While Montecito is highly affluent, this analysis will provide a unique understanding of the social vulnerability and resiliency characteristics of the community.

<b>Social Vulnerability Index</b>	<b>Number of Index Indicators</b>	48
	<b>Methods of Measurement</b>	128
	<b>Sample of Indicators</b>	
	<b>SPECIAL POPULATIONS</b> Children Disabled Non-English Speaking Single Parents <b>CULTURAL CONDITIONS</b> Population by Race Household Types Level of Education Literacy <b>SOCIO-ECONOMIC CONDITIONS</b> Income Poverty	

### b) Community Conditions Vulnerability Analysis:

Community-level indicators are measures of conditions within a community that allow Montecito to better understand how the community and its vulnerabilities may be impacted during a hazard event. A community is a complex system of many interconnected components. This assessment is not meant to capture this system in its entirety, but rather to focus on specific categories of indicators. The Community Conditions Vulnerability Analysis focuses specifically on seven (7) broad categories which are comprised of over 40 indicators of community vulnerability and 150 measurements.

<b>Community Conditions Vulnerability Index</b>	<b>Number of Index Indicators</b>	43
	<b>Methods of Measurement</b>	152
	<b>Sample of Indicators</b>	
	<b>ECONOMIC CONDITIONS</b> Revenue Labor Force Unemployment <b>SOCIAL CONDITIONS</b> Social Capital Pets and Animals <b>ENVIRONMENTAL CONDITIONS</b> Preserved Areas, if applicable Coastal <b>GOVERNMENTAL CONDITIONS</b> Organizational Autonomy Resource Availability <b>SPECIAL PROPERTIES/HISTORICAL</b>	

### c) Physical Vulnerability Analysis:

The physical vulnerabilities of a community consist of the tangible assets, or built environment, that residents depend upon to provide shelter, facilitate connectivity of the community, and the provision of goods and resources. The built environment provides the setting for human activity, ranging in scale from personal residential structures and buildings to neighborhoods and the community’s supporting infrastructure, such as transportation networks, energy or water systems. The physical vulnerability analysis tool evaluates the community’s critical infrastructure, key resource assets, and building stock’s risk exposure to hazard using over 60 indicators and 180 measurements. Examples include:

- Essential Facilities
- Transportation Systems
- Lifeline Utility Systems
- High Potential Loss Facilities (financial institutions, government buildings, etc.)
- Hazardous Waste/Materials Facilities

<b>Physical Vulnerability Index</b>	<b>Number of Index Indicators</b>	62
	<b>Methods of Measurement</b>	188
	<b>Sample of Indicators</b>	
	<b>CRITICAL INFRASTRUCTURE</b> Energy Water/Wastewater Treatment Transportation Landfill & Recycling Communications <b>KEY RESOURCES</b> Schools Emergency Services Healthcare Facilities <b>BUILDING STOCK</b> Public Buildings Housing Stock	

The Physical Vulnerability Index is consistent with programs such as DHS’ National Infrastructure Protection Plan (NIPP) and the Stafford Act’s disaster assistance programs FEMA’s Public Assistance. The programmatic consistency of the physical vulnerability index will allow for easy integration and import/export of open source datasets into DHS’s Automated Critical Asset Management System (ACAMS), FEMA’s Hazard-US (HAZUS), and other GIS-friendly tools and products. Additionally, the physical vulnerability analysis can easily be expanded to incorporate a more detailed assessment of CI|KR at the asset, system, cluster, or sector level.

### STEP 3B: COMPLETE CAPABILITY AND CAPACITY ANALYSIS

In Step 3b, a community-level capability and capacity assessment is conducted. Here, the assigned response/rating to each category/indicator will be driven by local expertise and knowledge if actual data is not readily available for any given indicator.

<b>Capability &amp; Capacity Index</b>	<b>Number of Index Indicators</b>	62
	<b>Methods of Measurement</b>	188
	<b>Sample of Indicators</b>	
	<p><b>DISASTER EXPERIENCE</b></p> <p><b>LEVEL OF PREPAREDNESS</b>          Administration, Plans, and Evaluation          Program Coordination          Advisory Committee          Program Elements          Planning          Incident Management          Training          Exercise, Evaluation, and Corrective Actions</p> <p><b>POLITICAL CAPACITY</b>          Political Support          Emergency Authorities</p> <p><b>COORDINATION CAPACITY</b>          Coordination with various levels of government          Coordination with private sector          MOUs</p> <p><b>STAFFING CAPACITY</b>          Staff Levels          Staff Experience</p> <p><b>FINANCE &amp; ADMIN CAPACITY</b>          Fiscal Resources &amp; Sources          Grants</p>	

### STEP 3C: HAZARD ASSESSMENT & CONSEQUENCE ANALYSIS

Step 3c represents the culmination of the previous steps in assessing **each specific hazard** based on the following criteria: Frequency/Probability, Magnitude and Scale, Human Impact (i.e. injuries and fatalities), Damages, Vulnerability, Capabilities/Capacities, and Mitigation. When possible, hazard data from recognized data sources is used to inform this assessment, as indicated

in Step 2. Data sets are also categorized to represent the “last 5 years” in order to support FEMA’s mitigation directive to update the plan every 5 years. In addition to providing local data, the assessment also includes state and national data, when feasible, in order to provide a comparative mechanism.

Also, as part of the assessment for each individual hazard, scores from the previous sections (i.e. vulnerability and capability/capacity) serve as the **baseline score** for each hazard during this phase of the assessment process in determining the **hazard-specific** vulnerabilities and capabilities.

## **STEP 4: All-Hazard Risk Assessment Summary**

At the most fundamental level, both DHS and FEMA recognize that Risk is equal to Frequency and/or Probability X Consequence ( $R = F \times C$ ). More specifically, risk is based on the premise that in order to have a certain level of risk, there must be a probability or likelihood for that event to occur. Likewise, if the event does occur, but there is no impact or consequence, the level of risk is negated or substantially reduced.

Whereas measuring frequency/probability of a hazard is straightforward, defining and measuring "consequence" is more complex. At the most basic level, "consequence" is an assessment of the potential impact(s) if the hazard event actually does occur. In this assessment, the consequence of an event (or the impact) will be interdependent on the following factors: vulnerabilities (i.e. social, physical, and community conditions), capabilities and capacities, mitigation, and the characteristics (i.e. magnitude, scale, etc.) of the hazard event itself. Again, the frequency/probability of the hazard is not included in assessing the “consequence” because without the event, there is no consequence or impact.

The All Hazard Risk Assessment Summary section is simply a summary of Montecito’s risks and the factors that contributed to the overall risk score for each hazard based on the above framework. Each of the previous sections contribute to the total scores for each category.



# PART III. STANDARDS OF COVER STUDY – PLAN INTEGRATION

As stated in the Executive Summary, the final deliverable will result in a single Standards of Cover (SOC) Study for Montecito with an enhanced comprehensive risk assessment. The two tasks will be interdependent and complementary to each other, and the comprehensive risk assessment will serve to identify, justify, and further inform the planning considerations and key components of the Standards of Cover Study.

This study will measure distribution and concentration of key MFPD resources and capabilities in Montecito, among other key analytics. Specifically, this study will also incorporate GIS mapping and analysis. Because the risk analysis will inform the planning process, the study will likely be completed **after** (or near the completion) of the comprehensive risk analysis.

The following components will be included in this SOC below. Please note that the risk analysis will also be incorporated into this document. For example, the community profile, which addresses future developments, demographics, key historical sites, etc. will be included in addition to the items below.

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## STANDARDS OF COVER METHODOLOGY

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- 1. Existing facilities and historical analysis:** This section will identify key MFPD facilities and discuss the historical reasons for their establishment.
- 2. Staffing Capacity, Training and Qualifications, etc.:** This section will provide an overview and description of current certifications and qualifications, including personnel.
- 3. Services and Capabilities:** This section will analyze services and capabilities in relation to their primary coverage areas and historical data for past incidents
- 4. Community Expectations:** Measuring and assessing community perceptions and expectations will be especially important for this study. The proposal (submitted in May 2013) discusses ISC's public outreach strategy. Establishing community expectations will be critical in determining performance measures, and will present MFPD an opportunity to educate residents and key stakeholders of the department's capabilities and limitations.
- 5. Establish Risk Levels:** This part of the study will integrate and utilize information derived from the risk analysis to determine risk categories and levels. More importantly, the integration of the risk analysis will enable our team to determine hazard-specific considerations, which will likely differ by hazard.
- 6. Critical Task Analysis –** Depending on input from MFPD, the Critical Task Analysis could be scenario-specific (based on the most prevalent and applicable hazards). The output of this analysis will result in hazard and task specific considerations.

**7. System and/or Deployment Analysis** will include the following:

- a. Distribution of fixed and mobile resources (what and where): this analysis will assess the current distribution of key MFPD assets in relation to need (based on past deployments, future development and growth, CIKR, community expectations, etc.)
- b. Concentration of fixed and mobile resources (how much): Similarly, analysis of concentration will focus on whether or not MFPD (as presently located) will be able to meet the expected/anticipated need.

*NOTE: As previously mentioned, the risk analysis will be integral in informing both the critical task and deployment analyses.*

**8. Establish consensus on performance measures based on findings**

**9. Establish consensus on key recommendations and changes based on findings**

**10. Conform to CFAI Standards of Cover guidelines** and others, as applicable



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