Annex to 2010 Association of Bay Area Governments Local Hazard Mitigation Plan

Taming Natural Disasters

City of Fremont

Table of Contents

Introduction

Located on the southeast side of the San Francisco Bay, Fremont is a city of over 213,000 people with an area of 92-square miles, making it the fourth most populous city in the Bay Area, the second largest in Alameda County, and California's fifth largest city.

According to the most recent census, the City had a population of just over 203,413 in the year 2010[1]. The City's budget in FY 2010/11 was $134.59M and the total number of employees, represented as full-time equivalent positions, was 849. The City provides both local police and fire services.

The Regional Planning Process

This process of preparing this plan was familiar to the City of Fremont. The City has a Safety Element to its General Plan that includes a discussion of fire, earthquake, flooding, and landslide hazards. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, have required mitigation for identified natural hazards. The City's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

The City of Fremont has participated with ABAG in preparing the multi-jurisdictional Local Hazard Mitigation Plan by:

- Attending one (1) workshop held in Alameda County (at the MetroCenter in Oakland) to discuss regional mitigation strategies and priorities; and
- Providing oral comments on the written portion of that plan, particularly related to the discussion on flooding.

In addition, the City provided comments on the 2005 version of this plan. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

For more information on these meetings and for rosters of attendees, please see Appendix A and H in the ABAG Multi-Jurisdictional Local Hazard Mitigation Plan 2010 (MJ-LHMP).

The Local Planning Process

Key City staff met to identify and prioritize mitigation strategies appropriate for the City. Staff involved in these meetings included the Planning Director, Building Official, City Engineer, Risk Manager, Management Analyst, and the Fire Division Chief in charge of emergency operations.

[1] For complete Census information, see http://www.bayareacensus.ca.gov/.

At the meeting, staff reviewed the City's general priorities, taking into account the priorities identified in 2005 and the 2010 regional priorities. In addition, staff identified appropriate departments for implementation of strategies, preliminary budgets and potential funding sources for strategies designed as "Existing Under-Funded" and "High" priority.

Typically, each person at the meeting was responsible for communicating existing efforts and thoughts on appropriate future action in their area of expertise. For example, the Building Official and City Engineer were most familiar with the needed mitigation actions for key critical facilities, as well as the status of the requirements for soft-story buildings and unreinforced masonry buildings.

Review and Incorporation of Existing Information

This process involved consideration of both the hazard and risk information developed by ABAG and discussed in the overall multi-jurisdictional Local Hazard Mitigation Plan, as well as the assessments of the age and construction type of structures owned by the City and described on pages 4 through 10. These meetings also discussed the Fremont General Plan - Safety Element, the Capital Improvement Plan, and the Emergency Response Plan already in place at the City, as well how these plans could be best integrated.

Process for Updating Plan Sections

The City of Fremont participated in the 2005 multi-jurisdictional Local Hazard Mitigation Plan, and this Annex is an update of the Annex prepared for the 2005 plan. The lead in updating this Annex was taken by the Management Analyst and the Fire Chief, based on feedback obtained from the staff who participated in the mitigation priority setting process.

The Planning Process section has been prepared to reflect the updated Annex. However, the process of assigning priorities was simplified because priorities had already been assigned in 2005.

The Hazard and Risk Assessment section has been updated to incorporate the new mapping compiled by ABAG for the overall multi-jurisdictional Local Hazard Mitigation Plan. The specific information for Fremont has also been updated to reflect additional mitigation activities that have occurred in the past five years.

The Mitigation Goals and Priorities section has been expanded to take a more comprehensive approach to mitigation.

The Plan Maintenance and Update section is essentially the same as the 2005 Annex, with the addition of some ideas for improving public participation in the process.

Public Meetings

The City provided two opportunities for the public to comment on the DRAFT mitigation strategies selected by City staff:

1. During public comment at the December 15, 2009, City Council meeting. The agenda can be found at http://fremont.gov/archives/35/121509%20CC-WS%20Agenda-WEBSITE.pdf. For an excerpt, see Exhibit B.
2. The draft mitigation strategies were also published for public viewing on the City's website at **http://fremont.gov**/.

No public comments were received from either the meeting or the internet posting.

The Fremont City Council will adopt the plan in a public meeting via an official Resolution upon pre-approval by FEMA. The mitigation strategies will become an implementation appendix of the Safety Element of the Fremont General Plan.

The District is committed to improving public participation when this plan is updated in five years. To improve this process, the District will consider writing letters to the editor of local newspapers in its service area to promote wider public knowledge of the process or working with local business and advocacy groups to conduct joint meetings.

Hazards Assessment

The ABAG Multi-Jurisdictional Local Hazard Mitigation Plan, to which this is an annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). Maps of these hazards and risks are shown on the ABAG website at http://quake.abag.ca.gov/mitigation/.

As applicants submit development projects for City review and approval, project-specific hazard mapping may be required. In some cases, the City requires specific mitigation measures to eliminate or mitigate impacts from these hazards. This information has been incorporated into the strategies matrix submitted to ABAG and FEMA.

In general, however, the City of Fremont does not face any natural disasters not listed in the ABAG multi-jurisdictional plan and new hazards have been identified by the City of Fremont since the original development of this plan in 2005.

While the City of Fremont has undertaken a number of general hazard mapping activities since the first Safety Element was prepared by the City of Fremont, all of these maps are less detailed and are not as current as those shown on the ABAG website at http://quake.abag.ca.gov/mitigation/.

The City of Fremont has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking), flooding (including dam failure), wildfire, and landslides (including unstable earth) pose a significant risk for potential loss.

Past Occurrences of Disasters (natural and human-induced)

The City had a notable large landslide in 1998 on the east side of the City near Mission Peak. The landslide did not damage any homes. However, a landslide assessment of the general area in the vicinity of the toe of this landslide, covering approximately 1250 parcels, identified 97 parcels that were potentially relatively more at risk from future recurring landslide hazards. The City Council consequently revised the entire hillside ordinance to cover all 11,000 hill parcels. The ordinance now requires additional appropriate geotechnical peer review for landslide hazard when development or permit activity occurs in this area.

The Loma Prieta Earthquake of 1989 is another example of the kind of large scale disaster which can strike the Bay Area. It killed 63 persons, injured 3,757, and displaced over 12,000 persons. With over 20,000 homes and businesses damaged and over 1,100 destroyed, this quake caused approximately $6 Billion of damage. Reconstruction continues some two decades later as the replacement for Oakland-Bay Bridge is still several years from completion.

More information on State and Federally declared disasters in City of Fremont can be found at http://quake.abag.ca.gov/wp-content/documents/ThePlan-D-2011.pdf.

Risk Assessment

Urban Land Exposure

The City of Fremont examined the hazard exposure of City of Fremont urban land based on information in ABAG's website at **http://quake.abag.ca.gov/mitigation/pickdbh2.html**. The "*2005 Existing Land Use with 2009 Mapping*" file was used for this evaluation (in the existing plan, the file used was "*Existing Land Use in 2000*").

In general, the hazard exposure of the City of Fremont is increasing over time as the amount of urban land increases. In the last 5 years, 1,625 acres of land has become urban. The City of Fremont actually reduced the acres of urban land in the flood zone over the last 5 years due to changes in the new FEMA flood maps. The following table described the exposure of urban land within the City to the various hazards.

Exposure (acres of urban land)			
Hazard	**2005**	**2010**	**Change**
Total Acres of Urban Land	*23,472*	*25,097*	***+1,625***
Earthquake Faulting (within CGS zone)	1,350	1,435	+85
Earthquake Shaking (within highest two shaking categories)[1]	23,371	24,986	+1,615
Earthquake-Induced Landslides (within CGS study zone)[2]	1,437	1,423	-14
Liquefaction (within moderate, high, or very high liquefaction susceptibility	11,145	20,650	+9,505
Flooding (within 100 year floodplain)	1,180	1,377	-197
Flooding (within 500 year floodplain)	1,354	2,283	+929
Landslides (within areas of existing landslides)	238	416	+178
Wildfire (subject to high, very high, or extreme wildfire threat)[3]	940	1,014	+74
Wildland-Urban Interface Fire Threat	11,068	11,834	+766
Dam Inundation (within inundation zone)	14,203	15,540	+1,337
Sea Level Rise[4]	not applicable		
Tsunamis[5] (within inundation area)	not applicable		
Drought[6]	Not fully assessed	Not fully assessed	n/a

[1] In large part because the Hayward fault runs through the eastern portion of the City, per ABAG.
[2] The California Geological Survey continues to map Alameda County and added the Livermore-Altamont area in late 2009. Though some areas of the County have not yet been completely mapped, the densely populated areas in Alameda County are mostly done.
[3] Due to the vast open space on the eastern portion of the City.
[4] The sea level rise map is not a hazard map. It is not appropriate to assess infrastructure exposure to sea level rise.
[5] Although tsunami evacuation planning maps were made available inside the San Francisco Bay in 2009, acres of exposed land are not an appropriate analysis for this hazard. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.
[6] Not fully assessed.

Infrastructure Exposure

The City of Fremont also examined the hazard exposure of infrastructure within the jurisdiction based on the information on ABAG's website at: **http://quake.abag.ca.gov/mitigation/pickdbh2.html**. Of the 784 miles of roadway in the City of Fremont, the following are exposed to the various hazards analyzed.

Exposure (miles of infrastructure)						
Hazard	**Roadway**		**Transit**		**Rail**	
	2005	**2010**	**2005**	**2010**	**2005**	**2010**
Total miles of Infrastructure	*717*	*784*	*2*	*22*	*49*	*51*
Earthquake Shaking (within highest two shaking categories)	710	781	2	22	49	51
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility	337	678	2	19	30	47
Liquefaction Hazard (within CGS study zone)[1]	356	459	0	12	29	30
Earthquake-Induced Landslides (within CGS study zone)[2]	29	16	1	1	2	3
Earthquake Faulting (within CGS zone)	35	48	0	1	2	2
Flooding (within 100 year floodplain)	35	37	0	7	10	10
Flooding (within 500 year floodplain)	32	66	0	0	3	6
Landslides (within areas of existing landslides)	15	10	0	0	1	1
Wildfires (subject to high, very high, or extreme wildfire threat)	36	19	0	0	3	3
Wildland-Urban Interface Fire Threat	330	364	2	10	26	26
Dam Inundation (within inundation zone)	454	517	2	19	29	32
Sea Level Rise[3]	not applicable					
Tsunamis[4]	not applicable					
Drought[5]	not applicable					

[1] 326 miles of roadway, 10 miles of transit, and 21 miles of rail are outside the area that has been evaluated by CGS for this hazard

[2] 768 miles of roadway, 20 miles of transit, and 49 miles of rail are outside the area that has been evaluated by CGS for this hazard

[3] The sea level rise map is not a hazard map. It is not appropriate to assess infrastructure exposure to sea level rise.

[4] Although tsunami evacuation planning maps were made available inside the San Francisco Bay in 2009, acres of exposed land are not an appropriate analysis for this hazard. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

[5] Drought is not a hazard for roadways.

Exposure of City-Owned Buildings, Plus Critical Healthcare Facilities and Schools

Finally, the City examined the hazard exposure of critical health care facilities and schools located within the City of Fremont, and City-owned buildings based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickcrit2010.html**. The City of Fremont provided a list of the critical facilities it owns to ABAG. ABAG provided a detailed assessment of the hazard exposure of each of its facilities. The following number of facilities is exposed to the various hazards analyzed.

Exposure (number of facility types)								
Hazard	**Health Care Facilities**		**Schools**		**Locally owned critical facilities**		**Locally owned bridges and interchanges**	
	2005	**2010**	**2005**	**2010**	**2005**	**2010**	**2005**	**2010**
Total Number of Facilities	*26*	*31*	*54*	*61*	*37*	*71*	*20*	*21*
Earthquake Shaking (within highest two shaking categories)	26	31	54	61	37	71	20	71
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility	13	30	24	57	13	63	18	20
Liquefaction Hazard (within CGS study zone)[1]	5	5	32	39	13	31	14	15
Earthquake-Induced Landslides (within CGS study zone)[2]	0	0	0	0	0	0	0	0
Earthquake Faulting (within CGS zone)	2	1	2	2	6	18	0	0
Flooding (within 100 year floodplain)	0	0	0	2	0	1	1	4
Flooding (within 500 year floodplain)	1	3	2	5	1	7	2	2
Landslides (within areas of existing landslides)	0	0	0	0	0	0	0	0
Wildfires (subject to high, very high, or extreme wildfire threat)	0	0	0	0	0	1	0	0
Wildland-Urban Interface Fire Threat	13	15	20	23	29	53	6	9
Dam Inundation	25	29	40	46	27	53	18	19

[1] For 2005, all facilities. For 2010, 26 health care facilities, 22 schools, 40 locally owned critical facilities, and 6 locally owned bridges and interchanges are outside the area that has been evaluated by CGS for this hazard.
[2] The California Geological Survey continues to map Alameda County and added the Livermore-Altamont area in late 2009. Though some areas of the County have not yet been completely mapped, the densely populated areas in Alameda County are mostly done. For 2005, all facilities are outside the area that has been evaluated by CGS for this hazard. For 2010, 31 health care facilities, 61 schools, 1270 locally owned critical facilities, and 21 locally owned bridges and interchanges are outside the area that has been evaluated by CGS for this hazard.

Exposure (number of facility types)								
Hazard	**Health Care Facilities**		**Schools**		**Locally owned critical facilities**		**Locally owned bridges and interchanges**	
	2005	**2010**	**2005**	**2010**	**2005**	**2010**	**2005**	**2010**
Sea Level Rise (exposed to 16in sea level rise)[3]	-	0	-	0	-	0	-	0
Sea Level Rise (exposed to 55in sea level rise)[4]	-	0	-	0	-	1	-	2
Tsunamis[5] (within inundation area)	-	30	-	61	-	127	-	21
Drought[6]	-	-	-	-	-	-	-	-

[3] Sea level rise data was not available in 2005
[4] Sea level rise data was not available in 2005
[5] Tsunami data was not available in 2005.
[6] Drought will not affect locally owned facilities directly.

Repetitive Loss Properties

In spite of the areas of the City located in flood-prone areas, there are no repetitive loss properties in the City based on the information at http://quake.abag.ca.gov/mitigation/pickflood.html. In 2004 the City had no repetitive loss property that was outside the flood plain.

Other risks

The City plans to continue to work with ABAG to improve the risk assessment information being compiled by ABAG, including developing ways to assess how many soft-story buildings are located in the unincorporated areas of the County.

In 1999, the City passed the Soft-Story Apartment Earthquake Retrofit Ordinance (Ordinance No. 2363), a voluntary ordinance developed to address earthquake hazards of apartments with tuck-under parking that were not specifically designed to consider the effect of reduced stiffness of the building at the ground level due to the parking garage opening. Under this ordinance, the City has identified about 823 units (20 apartment sites) that need retrofitting. So far, approximately 96 have been retrofitted. The City will likely adopt a mandatory program to ensure the retrofitting of the remaining buildings.

In 1995, the City passed the Unreinforced Masonry Building Earthquake Retrofit Ordinance (Ordinance No. 2104), a mandatory ordinance developed to address the earthquake hazards of unreinforced masonry construction. With one exception, all unreinforced masonry buildings in the City of Fremont have been retrofitted. The single exception has an unreinforced masonry veneer and is vacant and fenced. In 2000, the City passed the Tilt-up Building Earthquake Retrofit Ordinance (Ordinance No. 2405), a mandatory ordinance developed to address the earthquake hazards of tilt-up construction. Under this ordinance, the City has identified about 171 sites that need retrofitting. Construction work for the earthquake retrofit of 65 buildings has

been completed, and construction on ten buildings is in progress. An additional 13 buildings are currently permitted and pending commencement of construction.

The City plans to work with ABAG to develop specific information about the kind and level of damage to buildings, infrastructure, and critical facilities which might result from any of the hazards previously noted.

National Flood Insurance Program

The City of Fremont has been a participant in the National Flood Insurance Program (NFIP) since 1983. The City also participates in the Community Rating System and is currently a Class 7.

As a participant of the NFIP, the City of Fremont enforces floodplain management regulations and ensures that new buildings or substantially improved buildings are protected from flood damage. To measure the City's compliance with the NFIP, the Community Assistance Program (a state support service), monitors the City's floodplain management.

Like any projects, time and resources are needed to implement an effective NFIP. Funding and staff time on a project can be a hurdle for a community who is at the initial phases of implementing the program. Time and resources includes coordination effort among the different departments to ensure the City meets or exceeds the program requirements.

In addition to being a participant in the NFIP, the City is also part of the Community Rating System (CRS) program since 2001. Currently, the City of Fremont is rated at a Class 7, which provides a 15% reduction in premiums for high-risk policies. To maintain this class rating, the City participates in several CRS activities annually. The City has been given credit for the following activities:

Activity 310 – Elevation Certificates: The Engineering Department maintains elevation certificates for new and substantially improved buildings. Copies of elevation certificates are made available upon request. Elevation Certificates are also kept for post-FIRM and listed on the community's website. Elevation Certificates, plans, regulations and other records are maintained in a secure location away from the permit office.

Activity 320 – Map Information Service: Credit is provided for furnishing inquirers with flood zone information from the community's latest Flood Insurance Rate Map (FIRM), publicizing the service annually and maintaining records.

Activity 330 – Outreach Projects: An outreach brochure is mailed annually to all properties in the community's Special Flood Hazard Area (SFHA). The community also provides flood information through displays at public buildings.

Activity 340 – Hazard Disclosure: Credit is provided for state regulations requiring disclosure of flood hazards.

Activity 350 – Flood Protection Information: Documents relating to floodplain management are available in the reference section of the Alameda County Library.
Credit is also provided for floodplain information displayed on the community's website.

Activity 360 – Flood Protection Assistance: The community provides material on how to select a contractor.

Activity 410 – Additional Flood Data: Credit is provided for conducting and adopting flood studies for areas not included on the flood insurance rate maps and that exceed minimum mapping standards.

Activity 420 – Open Space Preservation: Credit is provided for preserving approximately 1137 acres in the SFHA as open space.

Activity 430 – Higher Regulatory Standards: Credit is provided for enforcing state mandated regulatory standards, for a BCEGS Classification of 3/3 and for the adoption of the International Building Codes.

Activity 440 – Flood Data Maintenance: Credit is provided for maintaining and using digitized maps in the day to day management of the floodplain. Credit is also provided for maintaining copies of all previous FIRMs and Flood Insurance Study Reports.

Activity 450 – Stormwater Management: The community enforces regulations for stormwater management, freeboard in non-SFHA zones, soil and erosion control, and water quality.

Section 502 - Repetitive Loss Category: The City of Fremont is a Category A community for CRS purposes and no action is required.

Activity 540 – Drainage System Maintenance: A portion of the community's drainage system is inspected regularly throughout the year and maintenance is performed as needed by the Alameda County Water District. Records are being maintained for both inspections and required maintenance. The community also enforces a regulation prohibiting dumping in the drainage system.

Activity 630 – Dam Safety: All California communities currently receive CRS credit for the state's dam safety program.

Mitigation Goals and Objectives

The goal of the ABAG MJ-LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. This goal is unchanged from the 2005 plan and continues to be the goal of the City of Fremont in designing its mitigation program.

Additional, the City has the specific objective of reducing the number of public and private buildings within the County that are vulnerable to the effects of earthquakes.

As a participant in the ABAG multi-jurisdictional planning process, City of Fremont staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The mitigation strategies list was reviewed by several City staff including the Engineering Division, Fire department, Community Development Department, and the Civic Facilities Division. The tentative decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, several of the strategies are existing City programs.

These draft priorities were submitted to the City Manager for review. The draft priorities were then provided to the City Council on December 15, 2009. The public was provided with an opportunity to comment on the DRAFT priorities at the City Council meeting in December and through the City's website. The final strategies (as shown in the attached Table) may become an Implementation Appendix to the City's Safety Element.

Mitigation Activities and Priorities

Evaluation of Progress from 2007 Plan

In 2007, mitigation actions and priorities were identified. In particular, the following two strategies are significant.

GOVT-a-2 - Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.

Responsible Agency – Fremont Engineering Division and Fire Departments
Action – Complete retrofit or reconstruction of all fire stations to essential services standards
Status – Action is in progress with an expected completion date of 2011. Fire Station #1 was completed in 2008. Fire Station #3 is scheduled for completion in mid-2011. Fuel facility for Fire Station #5 was renovated in 2008. New Fire Station #11 was completed in 2009.

Action – Complete retrofit or reconstruction of additional facilities critical for community recovery.
Status – New fire-resistant asphalt shingles were installed on the Warm Springs Community Center in 2010 and on the Community Food Bank in 2009. The Niles Freight Depot and Niles Passenger Train Depot were retrofitted in 2009.

INFR-g-5 - Facilitate and/or coordinate the distribution of emergency preparedness or mitigation materials that are prepared by others, such as by making the use of the internet or other electronic means, or placing materials on community access channels or in city or utility newsletters, as appropriate..

Responsible Agency – Fremont Fire Department
Action – On-going, CERT website created
Status – In progress; managed by CERT volunteers

Future Mitigation Actions and Priorities

As a participant in the 2010 ABAG multi-jurisdictional planning process, the staff of City of Fremont helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The decision on priority for the City was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

Representatives from multiple departments then met on a regular basis to review progress on the City of Fremont's 2005 strategies, to identify and prioritize additional mitigation strategies to update the list.

These draft priorities were submitted to City Manager's Office for review. The draft priorities will be provided to the City Council for adoption pending pre-approval of this LHMP by FEMA.

The City planning team also prioritized specific mitigation tasks for the next 5 years. This list includes implementation process, funding strategy, responsible agency, and approximate time frame.

Based on the hazard exposure information described above, the principal effort for the next five years will be associated with retrofitting and replacing key critical facilities, as well as with encouraging the retrofit of privately-owned hazardous buildings, and fall under mitigation strategy GOVT-a-2 with a priority of "Existing Program" Specifically, the following activities have been identified:

GOVT-a-2 - Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.

Responsible Agency – Fremont Engineering Division and Fire Departments
Action – Complete retrofit or reconstruction of Development Services Center (Engineering, Construction, Communications, Building Dept., Planning, Permits)
Comments – This 1983 tilt-up concrete building is irregular in plan view and has a central atrium. A FEMA 356 structural assessment was completed in 2003.
Status – Partial retrofit with roof wall anchors 2008; Additional structural reinforcement planned for spring 2012 including HVAC replacement, roof replacement, and exterior brick repairs.

GOVT-a-2 - Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.

Responsible Agency – Fremont Engineering Division and Fire Departments

Action – Complete retrofit or reconstruction of Police Building (Field Operations Center Police / Office / First Response)

Comments – This 1996 steel moment-resisting frame building is irregular in plan view and has a central atrium. A FEMA 351 structural assessment was completed in 2009.

Status – Currently, this building is planned for a seismic retrofit.

GOVT-a-2 - Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.

Responsible Agency – Fremont Engineering Division and Fire Departments

Action – Replace and upgrade fire alarm system on Centerville Community Center, Los Cerritos Community Center, and the City Museum. Replace roof with fire-resistant roof on Irvington Community Center.

Status – Currently, these improvements are scheduled for completion by 2012.

Existing and Existing-Underfunded Mitigation Strategy Programs

The City has many on-going mitigation programs that help create a more disaster-resistant region. The following list highlights those programs identified as *Existing Programs* in the mitigation strategy spreadsheet.

Economy

- Require engineered plan sets for voluntary or mandatory soft-story seismic retrofits by private owners until a standard plan set and construction details become available. (ECON-b-1) - City of Fremont Building and Safety Division
- Conduct an inventory of privately-owned existing or suspected soft-story commercial or industrial structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings. (ECON-b-4) - City of Fremont Building and Safety Division. NOTE: only apartment buildings have been inventoried
- Explore development of State regulations or legislation to require or encourage private owners of soft-story structures to strengthen them. (ECON-b-8) - City of Fremont Building and Safety Division. NOTE: Soft Story Ordinance for apartment buildings 10-2007 and say we have not yet considered other commercial or industrial buildings.
- Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform private property owners that they own this type of hazardous structure. (ECON-c-1) - City of Fremont Building and Safety Division. NOTE: All unreinforced masonry buildings have already been retrofitted.
- Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally vulnerable buildings. (ECON-d-1) - City of Fremont Building and Safety Division. NOTE: The City has a mandatory tilt-up ordinance in effect (Ord. No. 2405). There is no program for non-ductile concrete.

- Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings. (ECON-d-2) - City of Fremont Building and Safety Division
- Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned seismically vulnerable commercial and industrial buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use (such as parking requirement waivers) and procedural incentives, or (f) technical assistance. (ECON-d-3) - City of Fremont Building and Safety Division
- Increase efforts to reduce hazards in existing private development in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies. (ECON-e-1) - City of Fremont Planning, Engineering, and Building and Safety Divisions
- Require that new privately-owned business and office buildings in high fire hazard areas be constructed of fire-resistant building materials and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability. (ECON-e-3) - City of Fremont Planning and Building and Safety Divisions
- Adopt and amend as needed updated versions of the *California Building* and *Fire Codes* so that optimal fire-protection standards are used in construction and renovation projects of private buildings (ECON-e-4) - City of Fremont Planning and Building and Safety Divisions
- Create a mechanism to enforce provisions of the *California Building* and *Fire Codes* and other local codes that require the installation of smoke detectors and fire-extinguishing systems on existing privately-owned buildings by making installation a condition of (a) finalizing a permit for any work valued at over a fixed amount and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property. (ECON-e-5) - City of Fremont Planning and Building and Safety Divisions
- To reduce flood risk, thereby reducing the cost of flood insurance to private property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program. (ECON-f-1) - City of Fremont Engineering Division
- Balance the needs for private commercial and industrial development against the risk from potential flood-related hazards. (ECON-f-2) - City of Fremont Engineering Division
- Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities. (ECON-f-3) - City of Fremont Engineering Division
- Provide sandbags and plastic sheeting to private businesses in anticipation of rainstorms, and deliver those materials to vulnerable populations upon request. (ECON-f-4) - City of Fremont Maintenance Division
- Provide information to private business on locations for obtaining sandbags and deliver those sandbags to those various locations throughout a city and/or county. (ECON-f-5) - City of Fremont Maintenance Division

- Apply floodplain management regulations for private development in the floodplain and floodway. (ECON-f-6) - City of Fremont Engineering Division
- Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards for private property, such as those appearing in the California Building Code, California Geological Survey *Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California*, American Society of Civil Engineers (ASCE) report *Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California*, and the California Board for Geologists and Geophysicists *Guidelines for Engineering Geologic Reports*. Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance. (ECON-g-1) - City of Fremont Engineer and Building and Safety Divisions
- Continue to require that all new privately-owned commercial and industrial buildings be constructed in compliance with requirements of the most recently adopted version of the *California Building Code*. (ECON-h-1) - City of Fremont Planning and Building and Safety Divisions
- Conduct appropriate employee training and support continued education to ensure enforcement of construction standards for private development. (ECON-h-2) - City of Fremont Building and Safety Division
- Institute a program to encourage owners of private buildings to participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). This program permits owners of private buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. (ECON-i-1) - City of Fremont Building and Safety Division
- Allow private building owners to participate in a BORP-type program as described above, but not actively encourage them to do so. (ECON-i-4) - City of Fremont Building and Safety Division
- Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and reconstruction ordinance should apply to all public and private buildings, and also apply to repair of all damage, regardless of cause. See http://quake.abag.ca.gov/recovery/info-repair-ord.html. (ECON-i-5) - City of Fremont Building and Safety Division

Education

- Assess the vulnerability of critical public education facilities to damage in natural disasters and make recommendations for appropriate mitigation. (EDUC-a-1) - City of Fremont -- citywide efforts. NOTE: In cooperation with school districts
- Develop plans, in conjunction with fire jurisdictions, for evacuation or sheltering in place of school children during periods of high fire danger, thereby recognizing that overloading of streets near schools by parents attempting to pick up their children during

these periods can restrict access by fire personnel and equipment. (EDUC-c-2) - City of Fremont Fire Department. NOTE: In cooperation with school districts

Environment

- Continue to enforce State-mandated requirements, such as the *California Environmental Quality Act*, to ensure that mitigation activities for hazards, such as seismic retrofits and vegetation clearance programs for fire threat, are conducted in a way that reduces environmental degradation such as air quality impacts, noise during construction, and loss of sensitive habitats and species, while respecting the community value of historic preservation. (ENVI-a-1) - City of Fremont Environmental Services and Planning Divisions
- Encourage regulatory agencies to work collaboratively with safety professionals to develop creative mitigation strategies that effectively balance environmental and safety needs, particularly to meet critical wildfire, flood, and earthquake safety levels. (ENVI-a-2) - City of Fremont--citywide efforts
- Continue to enforce and/or comply with State-mandated requirements, such as the *California Environmental Quality Act* and environmental regulations to ensure that urban development is conducted in a way to minimize air pollution. For example, air pollution levels can lead to global warming, and then to drought, increased vegetation susceptibility to disease (such as pine bark beetle infestations), and associated increased fire hazard. (ENVI-a-3) - City of Fremont--citywide efforts
- Comply with applicable performance standards of any *National Pollutant Discharge Elimination System* municipal stormwater permit that seeks to manage increases in stormwater run-off flows from new development and redevelopment construction projects. (ENVI-a-6) - City of Fremont Environmental Services Division
- Enforce and/or comply with the grading, erosion, and sedimentation requirements by prohibiting the discharge of concentrated stormwater flows by other than approved methods that seek to minimize associated pollution. (ENVI-a-7) - City of Fremont Environmental Services and Engineering Divisions
- Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA). (ENVI-a-9) - City of Fremont Fire Department
- Provide information on hazardous waste disposal and/or drop off locations. (ENVI-a-10) - City of Fremont Fire Department and Environmental Services Division
- When remodeling existing government and infrastructure buildings and facilities, remove asbestos to speed up clean up of buildings so that they can be reoccupied more quickly. (ENVI-a-11) - City of Fremont Civic Facilities Division
- Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices. (ENVI-a-13) - City of Fremont Environmental Services and Planning Divisions
- Inventory global warming emissions in your own local government's operations and in the community, set reduction targets and create an action plan. (ENVI-b-2) - City of Fremont's Environmental Services Division

- Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities. (ENVI-b-3) - City of Fremont Planning Division
- Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit. (ENVI-b-4) - City of Fremont Planning Division, Transportation and Operations Department
- Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money. (ENVI-b-6) - City of Fremont Community Development Department and Transportation and Operations Department
- Purchase only Energy Star equipment and appliances for local government use. (ENVI-b-7) - City of Fremont Finance Department
- Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system. (ENVI-b-8) - City of Fremont Community Development Department
- Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel. (ENVI-b-9) - City of Fremont's Transportation and Operations Department
- Increase recycling rates in local government operations and in the community. (ENVI-b-11) - City of Fremont's Environmental Services Division
- Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO2. (ENVI-b-12) – City of Fremont – multiple departments
- Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution. (ENVI-b-13) – City of Fremont – multiple departments

Government

- Assess the vulnerability of critical facilities (such as city halls, fire stations, operations and communications headquarters, community service centers, seaports, and airports) to damage in natural disasters and make recommendations for appropriate mitigation. (GOVT-a-1) - City of Fremont--citywide efforts
- Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters. (GOVT-a-2) - City of Fremont Fire Department and Engineering Division
- Coordinate with the State Division of Safety of Dams to ensure that cities and counties are aware of the timeline for the maintenance and inspection of dams whose failure would impact their jurisdiction. (GOVT-a-8) - City of Fremont Fire Department coordinates with dam owners.
- Ensure that new government-owned facilities comply with and are subject to the same or more stringent regulations as imposed on privately-owned development. (GOVT-a-10) - City of Fremont Engineering and Building and Safety Divisions
- Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling government-owned facilities. (GOVT-a-11) - City of Fremont Engineering and Building and Safety Divisions

- Prior to acquisition of property to be used as a critical facility, conduct a study to ensure the absence of significant structural hazards and hazards associated with the building site. (GOVT-a-12) - City of Fremont Engineering and Planning Divisions
- Ensure that any regulations imposed on private-owned businesses related to repair and reconstruction (see Economy Section) are enforced and imposed on local government's own buildings and structures. (GOVT-a-13) - City of Fremont Engineering and Building and Safety Divisions
- Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees. (GOVT-b-1) - City of Fremont--citywide efforts
- Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning (such as with continuity of operations plans). (GOVT-b-2) - City of Fremont--citywide efforts
- Establish a goal for the resumption of local government services that may vary from function to function. (GOVT-b-3) - City of Fremont--citywide efforts
- Encourage your employees to have a family disaster plan. (GOVT-c-2) - City of Fremont Fire Department
- Periodically assess the need for new or relocated fire or police stations and other emergency facilities. (GOVT-c-4) - City of Fremont Fire and Police Departments
- Periodically assess the need for changes in staffing levels, as well as for additional or updated supplies, equipment, technologies, and in-service training classes. (GOVT-c-5) - City of Fremont Fire and Police Departments
- Ensure that fire, police, and other emergency personnel have adequate radios, breathing apparatuses, protective gear, and other equipment to respond to a major disaster. (GOVT-c-6) - City of Fremont Fire and Police Departments
- Participate in developing and maintaining a system of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies. (GOVT-c-7) - City of Fremont, Alameda County Sheriff's Office of Emergency Services
- Harden emergency response communications, including, for example, building redundant capacity into public safety alerting and/or answering points, replacing or hardening microwave and simulcast systems, adding digital encryption for programmable radios, and ensuring a plug-and-play capability for amateur radio. (GOVT-c-8) - City of Fremont – multiple departments
- Purchase command vehicles for use as mobile command/EOC vehicles if current vehicles are unsuitable or inadequate. (GOVT-c-9) - City of Fremont Fire and Police Departments
- Maintain the local government’s emergency operations center in a fully functional state of readiness. (GOVT-c-10) - City of Fremont Fire Department
- Maintain and update as necessary the local government’s Standardized Emergency Management System (SEMS) Plan and the National Incident Management System (NIMS) Plan, and submit an appropriate NIMSCAST report. (GOVT-c-12) - City of Fremont Fire Department

- Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters. (GOVT-c-13) - City of Fremont Fire Department
- Install alert and warning systems for rapid evacuation or shelter-in-place. Such systems include outdoor sirens and/or reverse-911 calling systems. (GOVT-c-14) - City of Fremont Police and Information Technology Systems Departments
- Conduct periodic tests of the alerting and warning system. (GOVT-c-15) - City of Fremont Regulate and enforce the location and design of street-address numbers on buildings and minimize the naming of short streets (that are actually driveways) to single homes. (GOVT-c-16) - City of Fremont Fire Department and Building and Safety Division
- Monitor weather during times of high fire risk using, for example, weather stations tied into police and fire dispatch centers. (GOVT-c-17) - City of Fremont Fire and Police Departments
- Establish regional protocols on how to respond to the NOAA Monterey weather forecasts, such as the identifying types of closures, limits on work that could cause ignitions, and prepositioning of suppression forces. A multi-agency coordination of response also helps provide unified messages to the public about how they should respond to these periods of increased fire danger. Response should also be modified based on knowledge of local micro-climates. Local agencies with less risk then may be available for mutual aid. (GOVT-c-18) - City of Fremont Fire and Police Departments
- Support and encourage planning and identification of facilities for the coordination of distribution of water, food, blankets, and other supplies, coordinating this effort with the American Red Cross. (GOVT-c-25) - City of Fremont Fire Department
- Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities. (GOVT-d-1) - City of Fremont Fire Department
- Recognize that a multi-agency approach is needed to mitigate flooding by having flood control districts, cities, counties, and utilities meet at least annually to jointly discuss their capital improvement programs for most effectively reducing the threat of flooding. Work toward making this process more formal to insure that flooding is considered at existing joint-agency meetings. (GOVT-d-3) - City of Fremont – multiple departments
- As new flood-control projects are completed, request that FEMA revise its flood-insurance rate maps and digital Geographic Information System (GIS) data to reflect flood risks as accurately as possible. (GOVT-d-4) - City of Fremont Engineering Division
- Participate in FEMA's National Flood Insurance Program. (GOVT-d-5) - City of Fremont Engineering Division
- Work with major employers and agencies that handle hazardous materials to coordinate mitigation efforts for the possible release of these materials due to a natural disaster such as an earthquake, flood, fire, or landslide. (GOVT-d-7) - City of Fremont Fire Department
- Encourage staff to participate in efforts by professional organizations to mitigate earthquake and landslide disaster losses, such as the efforts of the Northern California Chapter of the Earthquake Engineering Research Institute, the East Bay-Peninsula Chapter of the International Code Council, the Structural Engineers Association of

Northern California, and the American Society of Grading Officials. (GOVT-d-8) - City of Fremont – multiple departments

- Cooperate with researchers working on government-funded projects to refine information on hazards, for example, by expediting the permit and approval process for installation of seismic arrays, gravity survey instruments, borehole drilling, fault trenching, landslide mapping, flood modeling, and/or damage data collection. (GOVT-d-10) - City of Fremont – multiple departments

Housing

- Develop a plan for short-term sheltering of residents of your community in conjunction with the American Red Cross. (HSNG-a-3) - City of Fremont, Alameda County Sheriff's Office of Emergency Services
- Utilize or recommend adoption of a retrofit standard that includes standard plan sets and construction details for voluntary bolting of homes to their foundations and bracing of outside walls of crawl spaces ("cripple" walls), such as Plan Set A developed by a committee representing the East Bay-Peninsula-Monterey Chapters of the International Code Council (ICC), California Building Officials (CALBO), the Structural Engineers Association of Northern California (SEAONC), the Northern California Chapter of the Earthquake Engineering Research Institute (EERI-NC), and ABAG's Earthquake Program. (HSNG-b-1) - City of Fremont Building and Safety Division
- Require engineered plan sets for seismic retrofitting of heavy two-story homes with living areas over garages, as well as for split level homes (that is, homes not covered by Plan Set A), until standard plan sets and construction details become available. (HSNG-b-2) - City of Fremont Building and Safety Division
- Require engineered plan sets for seismic retrofitting of homes on steep hillsides (because these homes are not covered by Plan Set A). (HSNG-b-3) - City of Fremont Building and Safety Division
- Encourage local government building inspectors to take classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes, including application of Plan Set A. (HSNG-b-4) - City of Fremont Building and Safety Division
- Require engineered plan sets for voluntary or mandatory soft-story seismic retrofits by private owners until a standard plan set and construction details become available. (HSNG-c-1) - City of Fremont Building and Safety Division
- Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEAOC for the 2012 IEBC. (HSNG-c-2) - City of Fremont Building and Safety Division
- Work to educate building owners, local government staff, engineers, and contractors on privately-owned soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see http://quake.abag.ca.gov/eqhouse.html.) (HSNG-c-3) - City of Fremont Building and Safety Division

- Conduct an inventory of privately-owned existing or suspected soft-story residential structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings. (HSNG-c-4) - City of Fremont Building and Safety Division
- Use the soft-story inventory to require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they may live in this type of building. (HSNG-c-5) - City of Fremont Building and Safety Division
- Provide technical assistance in seismically strengthening privately-owned soft-story structures. (HSNG-c-9) - City of Fremont Building and Safety Division
- Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform private property owners that they own this type of hazardous structure. (HSNG-d-1) - City of Fremont Building and Safety Division. With one exception consisting of a commercial building that had a nonconforming residential use, all unreinforced masonry buildings in Fremont have been retrofitted.
- Inventory non-ductile concrete, tilt-up concrete (such as converted lofts), and other privately-owned potentially structurally vulnerable residential buildings. (HSNG-e-2) - City of Fremont Building and Safety Division. The City has a mandatory tilt-up ordinance in effect (Ord. No. 2405). There is no program for non-ductile concrete.
- Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings. (HSNG-e-3) - City of Fremont Building and Safety Division
- Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned seismically vulnerable residential buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use (such as parking requirement waivers) and procedural incentives, or (f) technical assistance. (HSNG-e-4) - City of Fremont Building and Safety Division
- Continue to require that all new housing be constructed in compliance with requirements of the most recently adopted version of the *California Building Code*. (HSNG-f-1) - City of Fremont Building and Safety Division
- Conduct appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing and recommended improvements. (HSNG-f-2) - City of Fremont Building and Safety Division
- Increase efforts to reduce hazards in existing private development in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies. (HSNG-g-1) - City of Fremont Fire Department and Building and Safety Division. The City has a special construction requirement in fire hazard zones.
- Require that new homes in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat be constructed of fire-resistant building materials (including roofing and exterior walls) and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability. Note - See Structural Fire Prevention Field Guide for Mitigation of Wildfires at http://osfm.fire.ca.gov/structural.html. (HSNG-g-3) -

City of Fremont Building and Safety Division. The City has a special construction requirement in fire hazard zones.

- Consider fire safety, evacuation, and emergency vehicle access when reviewing proposals to add secondary units or additional residential units in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat. (HSNG-g-5) - City of Fremont Fire Department
- Adopt and amend as needed updated versions of the *California Building* and *Fire Codes* so that optimal fire-protection standards are used in construction and renovation projects of private buildings. (HSNG-g-6) - City of Fremont Building and Safety Division
- Create a mechanism to enforce provisions of the *California Building* and *Fire Codes* and other local codes that require the installation of smoke detectors and fire-extinguishing systems on existing residential buildings by making installation a condition of (a) finalizing a permit for any work valued at over a fixed amount and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property. (HSNG-g-7) - City of Fremont Building and Safety Division. The City has a stringent fire sprinkler ordinance (Ord. No. 2485)
- Require fire sprinklers in new homes located more than 1.5 miles or a 5-minute response time from a fire station or in an identified high hazard wildland-urban-interface wildfire area. (HSNG-g-12) - City of Fremont Fire Department and Building and Safety Division - Ord. No. 32.2007
- Require fire sprinklers in all new or substantially remodeled multifamily housing, regardless of distance from a fire station. (HSNG-g-13) - City of Fremont Fire Department and Building and Safety Division - Ord. No. 32.2007
- Require sprinklers in all mixed use development to protect residential uses from fires started in non-residential areas. (HSNG-g-14) - City of Fremont Fire Department and Building and Safety Division - Ord. No. 32.2007
- To reduce flood risk, thereby reducing the cost of flood insurance to private property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program. (HSNG-h-1) - City of Fremont Engineering Division
- Balance the housing needs of residents against the risk from potential flood-related hazards. (HSNG-h-2) - City of Fremont Engineering Division
- Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities. (HSNG-h-3) - City of Fremont Engineering Division
- Provide sandbags and plastic sheeting to residents in anticipation of rainstorms, and deliver those materials to vulnerable populations upon request. (HSNG-h-4) - City of Fremont Maintenance Division
- Provide public information on locations for obtaining sandbags and/or deliver those sandbags to those various locations throughout a city and/or county prior to and/or during the rainy season. (HSNG-h-5) - City of Fremont Maintenance Division
- Apply floodplain management regulations for private development in the floodplain and floodway. (HSNG-h-6) - City of Fremont Engineering Division
- Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way be laid out for the provision of approved sewer and

drainage facilities, providing on-site detention facilities whenever practicable. (HSNG-h-7) - City of Fremont Engineering & Planning Divisions

- Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards for private property, such as those appearing in the California Building Code, California Geological Survey *Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California*, American Society of Civil Engineers (ASCE) report *Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California*, and the California Board for Geologists and Geophysicists *Guidelines for Engineering Geologic Reports.* Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance. (HSNG-i-1) - City of Fremont Building and Safety and Engineering Divisions
- Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and reconstruction ordinance should apply to all public and private buildings, and also apply to repair of all damage, regardless of cause. See http://quake.abag.ca.gov/recovery/info-repair-ord.html. (HSNG-j-1) - City of Fremont Building and Safety DivisionOrd. No. 2182
- Sponsor the formation and training of Community Emergency Response Teams (CERT) for residents in your community. (HSNG-k-6) - City of Fremont Fire Department
- Institute the neighborhood watch block captain and team programs outlined in the Citizen Corps program guide. (HSNG-k-8) - City of Fremont Police Department

Infrastructure

- Assess the vulnerability of critical facilities owned by infrastructure operators subject to damage in natural disasters or security threats, including fuel tanks and facilities owned outside of the Bay Area that can impact service delivery within the region (INFR-a-1) - City of Fremont Fire Department and Engineering Division, PG&E, BART, CalTrans, ACWD, USD, SFPUC, UPRR, AC Transit, Kinder Morgan, State Water
- Encourage the cooperation of utility system providers and cities, counties, and special districts, and PG&E to develop strong and effective mitigation strategies for infrastructure systems and facilities. (INFR-a-3) - City of Fremont Fire Department, Tri-City Emergency Services Association Mutual Aid Agreement
- Retrofit or replace critical lifeline infrastructure facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters. (INFR-a-4) - City of Fremont Fire Department & Civic Facilities Division
- Support and encourage efforts of other (lifeline infrastructure) agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies. (For example, a city might pass a resolution in support of a transit agency's retrofit program.) (INFR-a-5) - City of Fremont Fire Department, Alameda County Sheriff's Office of Emergency Services
- Pre-position emergency power generation capacity (or have rental/lease agreements for these generators) in critical buildings of cities, counties, and special districts to maintain

continuity of government and services. (INFR-a-8) - City of Fremont Maintenance Division

- Ensure that critical intersection traffic lights function following loss of power by installing battery back-ups, emergency generators, or lights powered by alternative energy sources such as solar. Proper functioning of these lights is essential for rapid evacuation, such as with hazmat releases resulting from natural disasters. (INFR-a-9) - City of Fremont Traffic Engineering Division
- Minimize the likelihood that power interruptions will adversely impact lifeline utility systems or critical facilities by ensuring that they have adequate back-up power. (INFR-a-11) - City of Fremont Civic Facilities Division
- Encourage replacing above ground electric and phone wires and other structures with underground facilities, and use the planning-approval process to ensure that all new phone and electrical utility lines are installed underground. (INFR-a-12) - City of Fremont Planning Division
- Ensure that transit operators, private ambulance companies, cities, and/or counties have mechanisms in place for medical transport during and after disasters that take into consideration the potential for reduced capabilities of roads following these same disasters. (INFR-a-15) - City of Fremont Fire Department, Alameda County Sheriff's Office of Emergency Services
- Establish plans for delivery of fuel to critical infrastructure providers. (INFR-a-20) - City of Fremont Maintenance Division
- As an infrastructure operator, designate a back-up Emergency Operations Center with redundant communications systems. (INFR-a-21) - City of Fremont Fire Department
- Expedite the funding and retrofit of seismically-deficient city- and county-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies. (INFR-b-1) - City of Fremont Engineering Division
- Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling infrastructure facilities. (INFR-b-8) - City of Fremont Engineering & Civic Facilities Divisions
- Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake. (INFR-b-9) - City of Fremont Engineering, Building, Fire
- Ensure a reliable source of water for fire suppression (meeting acceptable standards for minimum volume and duration of flow) for existing and new development. (INFR-c-1) - City of Fremont Fire Department
- For new development, ensure all dead-end segments of public roads in high hazard areas have at least a “T” intersection turn-around sufficient for typical wildland fire equipment. (INFR-c-4) - City of Fremont Fire Department
- Require that development in high fire hazard areas provide adequate access roads (with width and vertical clearance that meet the minimum standards of the *Fire Code* or relevant local ordinance), onsite fire protection systems, evacuation signage, and fire breaks. (INFR-c-6) - City of Fremont Fire Department and interdepartmental team (Technical Coordinating Committee)

- Ensure adequate fire equipment road or fire road access to developed and open space areas. (INFR-c-7) - City of Fremont Fire Department and interdepartmental team (Technical Coordinating Committee)
- Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system. (INFR-d-1) – Lead is Alameda County Public Works & FEMA
- Develop procedures for performing a watershed analysis to examine the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects. (INFR-d-2) – Lead is Alameda County Public Works & FEMA
- Assist, support, and/or encourage the U.S. Army Corp of Engineers, various Flood Control and Water Conservation Districts, and other responsible agencies to locate and maintain funding for the development of flood control projects that have high cost-benefit ratios (such as through the writing of letters of support and/or passing resolutions in support of these efforts). (INFR-d-4) - City of Fremont Engineering Department
- Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their design capacity in handling water flows as part of regular maintenance activities. (This strategy has the secondary benefit of addressing fuel, chemical, and cleaning product issues.) (INFR-d-6) - City of Fremont Maintenance Division
- Continue maintenance efforts to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate) to allow for the free flow of water. (INFR-d-7) - City of Fremont Maintenance Division. NOTE: The City maintains storm drains, but Alameda County Flood Control maintains the channels.
- Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices. (INFR-d-8) - City of Fremont Engineering & Environmental Services Divisions
- Ensure that utility systems in new developments are constructed in ways that reduce or eliminate flood damage. (INFR-d-13) - City of Fremont Planning & Engineering Divisions
- Work for better cooperation among the patchwork of agencies managing flood control issues. (INFR-d-16) - City of Fremont Engineering Division & Alameda County Public Works
- Establish requirements in zoning ordinances to address hillside development constraints in areas of steep slopes that are likely to lead to excessive road maintenance or where roads will be difficult to maintain during winter storms due to landsliding. (INFR-e-2) - City of Fremont Planning Division (Zoning Ordinance)
- Ensure that critical buildings owned or leased by special districts or private utility companies participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). The BORP program permits owners of buildings to hire qualified engineers to create facility-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. This program allows rapid reoccupancy of the buildings. (INFR-f-1) - City of Fremont Building and Safety Division

Land Use

- Enforce and/or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones, and restrict the placement of structures for human occupancy. (LAND-a-1) - City of Fremont Engineering and Building and Safety Divisions
- Require preparation of site-specific geologic or geotechnical reports for development and redevelopment proposals in areas subject to earthquake-induced landslides or liquefaction as mandated by the State Seismic Hazard Mapping Act in selected portions of the Bay Area where these maps have been completed, and condition project approval on the incorporation of necessary mitigation measures related to site remediation, structure and foundation design, and/or avoidance. (LAND-a-2) - City of Fremont Engineering and Building and Safety Divisions
- Recognizing that some faults may be a hazard for surface rupture, even though they do not meet the strict criteria imposed by the Alquist-Priolo Earthquake Fault Zoning Act, identify and require geologic reports in areas adjacent to locally-significant faults. (LAND-a-3) - City of Fremont Engineering Division
- Ensure that development proposed near faults with a history of complex surface rupture (multiple traces, warping, thrusting, etc.) has larger setbacks than the minimum fifty feet. (LAND-a-4) - City of Fremont Engineering Division
- Recognizing that the California Geological Survey has not completed earthquake-induced landslide and liquefaction mapping for much of the Bay Area, identify and require geologic reports in areas mapped by others as having significant liquefaction or landslide hazards. (LAND-a-6) - City of Fremont The City's mapping has been completed.
- Require that local government reviews of geologic and engineering studies are conducted by appropriately trained and credentialed personnel. (LAND-a-8) - City of Fremont Engineering & Building and Safety Divisions
- Review new development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions for occupant evacuation and access by emergency response personnel and equipment. (LAND-b-1) - City of Fremont Fire Department and Building and Safety Division
- Establish and enforce requirements for new development so that site-specific designs and source-control techniques are used to manage peak stormwater runoff flows and impacts from increased runoff volumes. (LAND-c-1) - City of Fremont Engineering Division
- Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards. (LAND-c-2) - City of Fremont Engineering Division
- Provide an institutional mechanism to ensure that development proposals adjacent to floodways and in floodplains are referred to flood control districts and wastewater agencies for review and comment (consistent with the NPDES program). (LAND-c-3) - City of Fremont Engineering Division
- Establish and enforce regulations concerning new construction (and major improvements to existing structures) within flood zones in order to be in compliance with federal requirements and, thus, be a participant in the Community Rating System of the *National Flood Insurance Program* (LAND-c-4) - City of Fremont Engineering Division

- Encourage new development near floodways to incorporate a buffer zone or setback from that floodway to allow for changes in stormwater flows in the watershed over time. (LAND-c-5) - City of Fremont Engineering Division & Alameda County Public Works
- Establish and enforce provisions (under subdivision ordinances or other means) that geotechnical and soil-hazard investigations be conducted and filed to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken prior to development approval. (LAND-d-1) - City of Fremont Engineering and Building and Safety Divisions
- Require that local government reviews of these investigations are conducted by appropriately trained and credentialed personnel. (LAND-d-2) - City of Fremont Engineering and Building and Safety Divisions
- Establish and enforce grading, erosion, and sedimentation ordinances by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation prior to development approval. (LAND-d-3) - City of Fremont Engineering Division
- Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation. (LAND-d-4) - City of Fremont Engineering Division
- Establish requirements in zoning ordinances to address hillside development constraints, especially in areas of existing landslides. (LAND-d-5) - City of Fremont Engineering, Planning, and Building and Safety Divisions
- For new development, require a buffer zone between residential properties and landslide or wildfire hazard areas. (LAND-e-)1 - City of Fremont Engineering, Planning, and Building and Safety Divisions
- Discourage, add additional mitigation strategies, or prevent new construction or major remodels on slopes greater than a set percentage, such as 15%, due to landslide or wildfire hazard concerns. (LAND-e-2) - City of Fremont Planning Division. In 2002, Fremont's voters passed Measure T, a citizens' initiative that limits building in the hills.
- Work to retrofit older downtown areas and redevelopment districts to protect architectural diversity and promote disaster-resistance. (LAND-f-3) - City of Fremont Engineering, Planning, and Building and Safety Divisions
- Work with non-profits and through other mechanisms to protect as open space those areas susceptible to extreme hazards (such as through land acquisition, zoning, and designation as priority conservation areas). (LAND-f-4) - City of Fremont--citywide effort
- Strive to provide and preserve existing buffers between development and existing users of large amounts of hazardous materials, such as major industry, due to the potential for catastrophic releases or fires due to an earthquake, accident, or terrorism. (Flooding might also result in release or spread of these materials; however, it is unlikely.) In areas where buffers do not exist or cannot be created, provide alternative mitigation. (LAND-f-5) - City of Fremont Planning Division

The following are on-going programs that are currently underfunded or partially funded by other agencies. It is the City's priority to search for, and find, additional funding to sustain these on-going programs over time.

Economy

- Conduct periodic fire-safety inspections of all privately-owned commercial and industrial buildings. (ECON-e-10) – City of Fremont – multiple departments
- Assist private businesses in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat. (ECON-j-5) - City of Fremont Fire Department

Education

- Work cooperatively with the American Red Cross, cities, counties, and non-profits to set up memoranda of understanding for use of education facilities as emergency shelters following disasters. (EDUC-b-1) - City of Fremont--citywide efforts

Government

- Offer CERT/NERT-type training to your employees. (GOVT-c-3) - City of Fremont Fire Department
- Expand or participate in expanding traditional disaster exercises involving city and county emergency personnel to include airport and port personnel, transit and infrastructure providers, hospitals, schools, park districts, and major employers (GOVT-c-11) - City of Fremont Fire and Police Departments
- Increase local patrolling during periods of high fire weather. (GOVT-c-19) - City of Fremont Fire Department
- Recognize that emergency services is more than the coordination of police and fire response; it also includes planning activities with providers of water, food, energy, transportation, financial, information, and public health services. (GOVT-d-2) - City of Fremont – multiple departments

Health

- Encourage hospitals in your community to work with OSHPD to formalize arrangements with structural engineers to report to the hospital, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. OSHPD, rather than city/county building departments, has the authority and responsibility for the structural integrity of hospital structures. (HEAL-c-2) - City of Fremont Fire Department
- Ensure health care facilities are adequately prepared to care for victims with respiratory problems related to smoke and/or particulate matter inhalation. (HEAL-c-3) - City of Fremont Fire Department (with Alameda County, ACHD and hospitals)

- Ensure these health care facilities have the capacity to shut off outside air and be self-contained. (HEAL-c-4) - City of Fremont Fire Department (with Alameda County, ACHD and hospitals)

Housing

- Conduct periodic fire-safety inspections of all multi-family buildings, as required by State law. (HSNG-g-16) - City of Fremont Fire Department
- Use disaster anniversaries, such as April (the 1906 earthquake), September (9/11), and October (Loma Prieta earthquake and Oakland Hills fire), to remind the public of safety and security mitigation activities. (HSNG-k-5) - Citywide effort
- Train homeowners to locate and shut off gas valves if they smell or hear gas leaking (HSNG-k-10) - City of Fremont Fire Department
- Develop a program to provide at-cost NOAA weather radios to residents of flood hazard areas that request them, with priority to neighborhood watch captains and others trained in their use. (HSNG-k-11) - Fremont Building and Safety Division

Infrastructure

- Maintain fire roads and/or public right-of-way roads and keep them passable at all times. (INFR-c-8) - City of Fremont Fire Department and Maintenance Division
- Sponsor the formation and training of Community Emergency Response Teams (CERT) for the employees of your agency. (INFR-g-6) - City of Fremont Fire Department

Incorporation into Existing Planning Mechanisms

The City has several planning mechanisms which include:

- General Plan Safety element
- Capital Improvements Plan
- Alameda County Community Climate Action Plan http://acgov.org/cda/planning/landuseprojects/climateaction/index.htm
- Alameda County Climate Action Plan http://acgov.org/sustain/next/plan.htm
- Alameda County Strategic Vision http://acgov.org/strategic.htm

The City has a Safety Element in its General Plan that includes a discussion of fire, earthquake, flooding, and landslide hazards. This plan was adopted as an implementation appendix to the Safety Element. In addition, the City enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. The City has used these pre-existing programs as a basis for identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Implementation measures identified by the City as a high priority will be incorporated into the City's Capital Planning process. This will be dependent on securing funding for projects and programs, as the City is currently facing serious financial stress. However, the City's Capital Improvement Program routinely includes public improvements which address public health and safety. The Local Annex will be used during the preparation of the CIP to ensure that to the extent practicable the matrix is implemented.

The Local Annex will be adopted as part of the Safety Element and effectively becomes integrated into the General Plan. The matrix will require minimal changes to the General Plan. However, as the City considers revising its General Plan, the recommendations in the Local Annex may affect the policies in the body of the General Plan.

Plan Update Process

As required Disaster Mitigation Act of 2000, the City of Fremont will update this plan annex at least once every five years, by participating in a multi-agency effort with ABAG and other agencies to develop a multi-jurisdictional plan.

The City Manager's Office will ensure that *monitoring* of this Annex will occur. The plan will be monitored on an on-going basis. However, the major disasters affecting our City , legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. For example, if a structural engineering evaluation shows that a major risk exists at more or more facilities based on data collected from a future earthquake, the priority associated with upgrading those facilities will be re-evaluated. Finally, the Annex will be a discussion item on the agenda of the meeting of Department leaders at least once a year in April. At that meeting, the department heads will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. The Department leaders will be responsible for determining if the plan should be updated.

During the 2005-2010 period, monitoring of this Annex and mitigation safety goals occurred by the Fire Department. In addition, the goals of this plan were supplemented and leveraged by the Building Division and Fire Departments.

The City is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City Manager or his designee will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the County again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

The City of Fremont is committed to public participation. All City Council meetings are open to the public and the public is invited to comment on items on the Council Agenda. The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the County will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics. The City is committed to improving public participation in the update process over the next five years. To improve this process, the City will consider writing letters to the editor of local newspapers in its service area to promote wider public knowledge of the issues related to disaster mitigation and the planning process.

Mitigation Plan Point of Contact

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Exhibit A – Jurisdiction Boundary Map

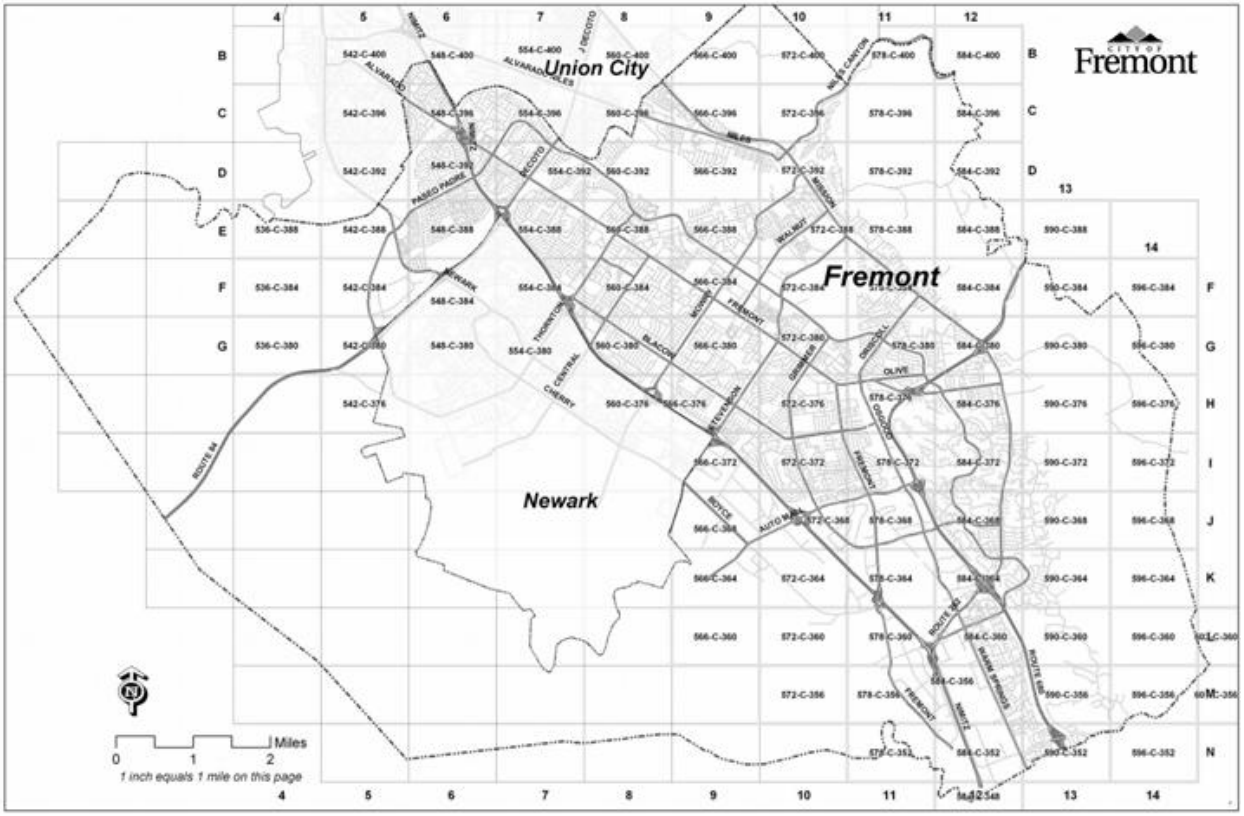

Exhibit B - Public Meeting Agenda at City Council Meeting

AGENDA
FREMONT CITY COUNCIL WORK SESSION
DECEMBER 15, 2009
COUNCIL CHAMBERS, 3300 CAPITOL AVE., BUILDING A
5:30 P.M.
(Please note time change.)

Excerpt:

8.5 LOCAL HAZARD MITIGATION PLAN
ABAG Multi-Jurisdictional Local Hazard Mitigation Planning

Contact Person:

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Full Agenda available at:
http://fremont.gov/archives/35/121509%20CC-WS%20Agenda-WEBSITE.pdf.

Exhibit C – City of Fremont 2010 Mitigation Strategy Spreadsheet

[Available on LHMP CD or at http://www.abag.ca.gov/bayarea/eqmaps/mitigation/strategy.html]