

Section 20: Mitigation Actions

Port Isabel – Action #12	
Proposed Action:	Adopt NFIP model ordinance with higher floodplain standards
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce the risk to life and property
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on new/existing buildings:	Reduce risk to new structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Building Inspection
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Floodplain Ordinance

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 4

Section 20: Mitigation Actions

Port Isabel – Action #13	
Proposed Action:	Construct “safe haven” canopies over city parking lots including at municipal buildings and parks to be utilized by public
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents, protect property
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail; Extreme Heat
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$200,000
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan; Emergency Management Plan

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 4

Section 20: Mitigation Actions

Port Isabel – Action #14	
Proposed Action:	Require roofing products with UL 2218 Hail Resistant Listing for new development
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce damages caused by hail through stronger construction practices
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail
Effect on new/existing buildings:	Reduce risk on new and existing structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$500
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Building Inspector
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Building Codes

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #15	
Proposed Action:	Educate citizens about procedures for evacuation and shelter in place in the event of a hazardous materials release
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property through education and awareness
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hazardous Materials
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$500
Potential Funding Sources:	General Funds; Other Grants
Lead Agency/Department Responsible:	Fire Marshal
Implementation Schedule:	Within 36 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Response Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #16	
Proposed Action:	Purchase SCBAs, personal protective equipment, monitors and other hazmat equipment for Port Isabel Fire Department
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property through education and awareness
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hazardous Materials
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250,000
Potential Funding Sources:	General Funds; Other Grants
Lead Agency/Department Responsible:	Fire Marshal
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Response Plan

COMMENTS:
The city contains numerous industrial facilities, as well as shipping facilities, that contain hazardous materials.
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Port Isabel – Action #17	
Proposed Action:	Purchase fire boat for Port Isabel Fire Department
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property through education and awareness
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hazardous Materials
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,000,000
Potential Funding Sources:	General Funds; Other Grants
Lead Agency/Department Responsible:	Fire Marshal
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Response Plan

COMMENTS:
The City contains numerous industrial facilities, as well as shipping facilities, that contain hazardous materials. Currently, the City lacks the means to adequately fight fires or address hazmat incidents on vessels in the harbors, or along its wharves.
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Port Isabel – Action #18	
Proposed Action:	Purchase drone for pre- and post-disaster rescue, recovery and loss evaluation
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce disaster response time of emergency personnel; reduction of response time may result in protection of lives and property
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood; Hurricane; Extreme Wind; Hazardous Material; Terrorism
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$5,000
Potential Funding Sources:	HMGP; General Fund
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	Within 36 months of plan adoption pending funding
Incorporation into Existing Plans:	FD SOPs; Recovery, Direction and Control; Firefighting; Law Enforcement; Emergency Response Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #19	
Proposed Action:	Elevate and widen coastal roads as well as evacuation routes to reduce risk of flood damages and maintain emergency access
BACKGROUND INFORMATION	
Site and Location:	North Shore Drive extending from 1 st to 4 th street and Highway 100 extending from Island Avenue to 4 th Street
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents; improve emergency response access
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail; Extreme Wind; Hurricane; Flood
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000,000
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Evacuation Plan; Comprehensive Plan

COMMENTS:
Port Isabel and South Padre Island share a single evacuation route (SH 100). Increasing populations of residents and visitors make it difficult to evacuate the area in the time frame allowed in the Evacuation Plan.
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 4; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 4

Section 20: Mitigation Actions

Port Isabel – Action #20	
Proposed Action:	Retrofit municipal structures for flood protection and wind protection by improving drainage systems, dry flood proofing, adding hurricane shutters, etc.
BACKGROUND INFORMATION	
Site and Location:	Municipal Buildings
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce property damage and allow continuity of local government during disaster; The approximate replacement value of the buildings is \$6,500,000; the operation of the buildings allows the city to preserve life and property
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail; Extreme Wind; Hurricane; Flood; Tornado
Effect on new/existing buildings:	Reduce risk to existing structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,500,000
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Building Maintenance
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Public Works, Direction and Control, Recovery; Emergency Management Plan

COMMENTS:
Municipal infrastructure within the city is exposed to damage by Hurricanes, flooding and other hazards associated with severe weathering. Critical facilities will be hardened in accordance with FEMA 543.
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 4; Legal = 5; Economically Sound = 4; and Environmentally Sound = 4

Section 20: Mitigation Actions

Port Isabel – Action #21	
Proposed Action:	Use the internet and social media to warn citizens of disasters and extreme weather on a regular basis as well as how to prepare for such events and mitigate damages
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduces risk for citizens and property damage in residential areas
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Flood; Extreme Heat; Drought; Tornado; Hail; Wildfire; Expansive Soils; Hazardous Materials; Terrorism; Pipeline Failure
Effect on New/Existing Buildings:	Reduce risk to existing structures through education and early warning
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	HMPG; General Funds
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Public Information Annex

COMMENTS
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Port Isabel – Action #22	
Proposed Action:	Build breakwater or similar shoreline protection for harbor
BACKGROUND INFORMATION	
Site and Location:	Entrance of Modern Venice Harbor
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents and vessels docking in Modern Venice harbor for storm protection; reduce risk of silting of harbor; the approximate value of vessels sheltered in the harbor is \$20,000,000; the value of the harbor dredging is approximately \$6,000,000
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Natural Systems Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood; Hurricane; Extreme Wind
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$6,000,000
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS
<p>The Port Isabel Harbor at Modern Venice is a designated safe harbor. The harbor and entrance are maintained by the City of Port Isabel. This harbor is used by local and transient vessels to shelter from severe weather. During certain storms, strong currents entering the harbor disturb vessels and carry sediment into the harbor and the channel, making the harbor entrance impassable. The breakwater would shield the harbor entrance from these currents, helping to protect the vessels within the harbor, as well as protect the public infrastructure (the dredged harbor and channel) from damage due to sedimentation.</p>
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 4</p>

Section 20: Mitigation Actions

Port Isabel – Action #23	
Proposed Action:	Install security/surveillance cameras in all municipal buildings and key points in the City
BACKGROUND INFORMATION	
Site and Location:	City-wide (base of causeway, harbor entrances, main highway through city)
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents through monitoring
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Terrorism
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$400,000
Potential Funding Sources:	General Funds; Other Grants
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Within 36 months of plan adoption pending funding
Incorporation into Existing Plans:	Warning Annex; Law Enforcement Annex

COMMENTS
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 4; Legal = 4; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #24	
Proposed Action:	Conduct public education campaign to “See Something, Say Something” by distributing flyers and putting up signs
BACKGROUND INFORMATION	
Site and Location:	City-wide (base of causeway, harbor entrances, main highway through City)
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents through education and awareness
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Terrorism
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$500
Potential Funding Sources:	General Funds
Lead Agency/Department Responsible:	Police
Implementation Schedule:	Within 36 months of plan adoption pending funding
Incorporation into Existing Plans:	Warning Annex; Law Enforcement Annex

COMMENTS
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #25	
Proposed Action:	Implement early warning system for residents to notify of natural disasters; three warning sirens would be installed
BACKGROUND INFORMATION	
Site and Location:	City-Wide; Fire Department, Derry Elementary, Laguna Heights
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents; preserve life and property through early warning
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Tornado; Extreme Wind; Hurricane; Hail; Flood; Extreme Heat; Wildfire; Hazardous Materials; Terrorism; Pipeline Failure
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$100,000
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Police, Fire, Emergency Management
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS
The City of Port Isabel historically had a public warning system, however it is no longer operable and the development of the City has expanded beyond the original range. A new warning system would allow the public to be warned prior to the onset of natural and technological hazards, and would also facilitate communications with emergency personnel in circumstances where radio and telephone communications did not work
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5

Section 20: Mitigation Actions

Port Isabel – Action #26	
Proposed Action:	Upgrade building codes to require anchors, tie-downs and increased windstorm resistance
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduces risk to residents; preserve life and property
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Tornado; Hurricane; Extreme Wind
Effect on New/Existing Buildings:	Reduce risk to new and existing structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$500
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Building Inspector
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Building Codes

COMMENTS
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #27	
Proposed Action:	Purchase improved firefighting equipment, including ladder truck, additional SCBAs and cascade system, and additional tanker truck
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property caused by disruption in response
Type of Action: <i>(Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)</i>	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	Reduce risk to existing structures through increased response capabilities
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500,000
Potential Funding Sources:	HGMP; General Funds; AFG
Lead Agency/Department Responsible:	Fire Marshal
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Response Plan

COMMENTS
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Port Isabel – Action #28	
Proposed Action:	Conduct an education program on fire safety
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property through education and awareness
Type of Action: <i>(Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)</i>	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	Reduce risk to existing structures through education and awareness
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	HMGP; General Funds
Lead Agency/Department Responsible:	Fire Marshal
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	N/A

COMMENTS
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Port Isabel – Action #29	
Proposed Action:	Remove dead and downed trees to decrease fire fuels in Wildland Urban Interface (WUI) areas
BACKGROUND INFORMATION	
Site and Location:	City-wide; WUI
Risk Reduction Benefit (Current Cost/Losses Avoided):	Natural landform protection and reduced risk of loss of property due to wildfire
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Natural Systems Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	Reduce risk to new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$25,000
Potential Funding Sources:	HMGPP; General Funds
Lead Agency/Department Responsible:	Fire Marshal
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	CWPP

COMMENTS
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera

Primera – Action #1	
Proposed Action:	Amend subdivision ordinances to require retention or detention ponds in any new subdivision
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce flood risk to new development and prevent additional runoff for neighboring developments
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	Reduce risk to new and existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Local Funds
Lead Agency/Department Responsible:	City of Primera / Permitting Department
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Primera – Action #2	
Proposed Action:	Construct a large retention/detention pond in the northwest part of town to hold water during heavy rain events
BACKGROUND INFORMATION	
Site and Location:	Northwest Primera
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce flood risk to surrounding and downstream developments
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on new/existing buildings:	Reduce risk to new and existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500,000
Potential Funding Sources:	Local Funds; HMGP; Cameron County Drainage District
Lead Agency/Department Responsible:	City of Primera / Public Works; Cameron County Drainage District
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan; Drainage Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 4; Administratively Possible = 5; Politically Acceptable = 5; Legal = 4; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #3	
Proposed Action:	Construct a new water treatment plan supplied by groundwater for a redundant water source during extreme drought
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Secondary water supply during drought
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on new/existing buildings:	Reduce risk to new and existing structures by providing reliable water source
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$2,000,000
Potential Funding Sources:	Local Funds; HMGP; Other Grants
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #4	
Proposed Action:	Develop educational materials for residents on methods of water conservation; provide materials on community website and include link to materials on water bills
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce water consumption by educating residents on appropriate conservation measures to take during times of drought
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on new/existing buildings:	Reduce risk to new and existing structures by providing water conservation education
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Local Funds; HMGP
Lead Agency/Department Responsible:	City of Primera / Water Department
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Primera – Action #5	
Proposed Action:	Designate the City’s community center as a cooling area during the months of June through September for vulnerable residents during extreme heat periods
BACKGROUND INFORMATION	
Site and Location:	City Community Center
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to vulnerable residents by providing a cool refuge during extreme heat
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Heat
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	Local Funds
Lead Agency/Department Responsible:	City of Primera / Administration
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Response Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #6	
Proposed Action:	Retrofit non-energy efficient homes to be energy efficient homes
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to vulnerable residents by reducing energy costs at older homes
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Heat
Effect on new/existing buildings:	Reduce effects to existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$500,000
Potential Funding Sources:	HMGP; CDBG
Lead Agency/Department Responsible:	City of Primera / Economic Development
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 4; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #7	
Proposed Action:	Develop educational materials for residents on extreme weather events; provide guidance on how to protect property and lives; provide materials on community website and include link to materials on water bills or other appropriate method/location
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property through early preparation and education
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Flood; Tornado; Hail; Wildfire
Effect on new/existing buildings:	Reduce risk to existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Local Funds; HMGP
Lead Agency/Department Responsible:	City of Primera / Emergency Management
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #8	
Proposed Action:	Implement early warning system to new areas of the jurisdiction to alert residents of impending severe weather
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to life and property through early warning
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Flood; Tornado; Hail; Wildfire
Effect on new/existing buildings:	Reduce risk to existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$75,000
Potential Funding Sources:	Local Funds; HMGP
Lead Agency/Department Responsible:	City of Primera / Emergency Management
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #9	
Proposed Action:	Adopt standards from International Code Council (ICC)-600 Standard for Residential Construction in High-Wind Regions
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (<i>Current Cost/Losses Avoided</i>):	Reduce risk to structures through wind resistant construction
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Tornado
Effect on new/existing buildings:	Reduce risk to new or substantially improved structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$10,000
Potential Funding Sources:	Local Funds; HMPG
Lead Agency/Department Responsible:	City of Primera / Permitting Department
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #10	
Proposed Action:	Adopt higher floodplain standards such as freeboard and cumulative substantial damage
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to new and substantially improved structures in the floodplain
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hurricane; Flood
Effect on new/existing buildings:	Reduce risk to new or substantially improved structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$5,000
Potential Funding Sources:	Local Funds; HMGP
Lead Agency/Department Responsible:	City of Primera / Permitting Department
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Flood Damage Prevention Ordinance

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #11	
Proposed Action:	Increasing tree plantings around public buildings to share parking lots and along public ROWs to provide shade and reduce temperatures
BACKGROUND INFORMATION	
Site and Location:	City-wide public buildings
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce the effects of extreme heat on public buildings and common areas
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Heat
Effect on new/existing buildings:	Reduce risk to existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$10,000 per site
Potential Funding Sources:	Local Funds; HMGP
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #12	
Proposed Action:	Develop and implement a schedule for regularly checking water supply system for leaks to minimize water supply loss
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce loss of water during drought
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$10,000 annually
Potential Funding Sources:	Local Funds
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Primera – Action #13	
Proposed Action:	Retrofit critical facilities to minimize hail damage including but not limited to hail resistant roofing materials and shatter proof glass
BACKGROUND INFORMATION	
Site and Location:	City-wide critical facilities
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce or eliminate hail damage at critical facilities
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail
Effect on new/existing buildings:	Reduce damages to existing critical facilities
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$500,000
Potential Funding Sources:	Local Funds; HMGP
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5

Section 20: Mitigation Actions

Primera – Action #14	
Proposed Action:	Require the use of non-combustible materials for new construction in wildfire hazard areas
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce wildfire risk for new development through better construction practices
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on new/existing buildings:	Reduce damages on new structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$5,000
Potential Funding Sources:	Local Funds
Lead Agency/Department Responsible:	City of Primera / Permitting Department
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan; Subdivision Ordinance

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 4; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #15	
Proposed Action:	Implement a fuels reduction program in the Wildland Urban Interface (WUI) areas
BACKGROUND INFORMATION	
Site and Location:	City-wide WUI
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce wildfire risk for structures in or near the WUI
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Natural Systems Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on new/existing buildings:	Reduce damages to new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$25,000
Potential Funding Sources:	Local Funds; Texas Forest Service
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	CWPP

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Primera – Action #16	
Proposed Action:	Install sprinkler systems at all public buildings and common areas and implement watering schedule
BACKGROUND INFORMATION	
Site and Location:	City public buildings and common areas
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk of foundation damage and sidewalk/pavement cracking
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Expansive Soils
Effect on new/existing buildings:	Reduce damages to new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$10,000 per site
Potential Funding Sources:	Local Funds; CDBG; HMGP
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 4; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 4; and Environmentally Sound = 4</p>

Section 20: Mitigation Actions

Primera – Action #17	
Proposed Action:	Educate the general public on benefits of utilizing sprinkler system or watering around foundation and sidewalks to prevent expansive soils from cracking concrete
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk of foundation damage to residential structures
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Expansive Soils; Wildfire
Effect on new/existing buildings:	Reduce damages to new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$5,000
Potential Funding Sources:	Local Funds; CDBG; HMGP
Lead Agency/Department Responsible:	City of Primera / Public Works
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	N/A

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Rancho Viejo

Rancho Viejo – Action #1	
Proposed Action:	Education outreach program to educate residents on water conservation methods including turning water off during cleaning activities, checking for plumbing leaks or dripping faucets, and installing rain capturing devices for irrigation
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Save water and reduce the impact of drought
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on New/Existing Buildings:	Reduce impact on existing structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,000
Potential Funding Sources:	HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	N/A

COMMENTS
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5

Section 20: Mitigation Actions

Rancho Viejo – Action #2	
Proposed Action:	Determining how the community and its water sources have been impacted by drought in the past through identifying local drought indicators, such as precipitation, temperature, surface water levels, soil moisture; develop a drought emergency plan; adopt an ordinance to restrict the use of public water resources for non-essential usage, such as landscaping, washing cars, filling pools, and require low flow fixtures in new public buildings, etc.
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce vulnerability to drought
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on new/existing buildings:	Reduce impact of drought on existing buildings
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$20,000
Potential Funding Sources:	HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Local Ordinance

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #3	
Proposed Action:	Adopt the International Building Code (IBC) and International Residential Code (IRC); revise and update regulatory floodplain maps; adopt higher standards in floodplain ordinances including freeboard, no-rise in the floodplain, cumulative substantial damage, etc.
BACKGROUND INFORMATION,	
Site and Location:	City-wide/V-MUD location
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce wind/flood and foundation damage
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Tornado; Expansive Soils; Flood
Effect on new/existing buildings:	Reduce risk to new or substantially improved structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	HMGP; Local Funds
Lead Agency/Department Responsible:	City / Valley MUD
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan; Drainage Plan; Floodplain Ordinance

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #4	
Proposed Action:	Establish program for all utilities for regular scheduled tree pruning around lines; inspect utility poles to ensure they meet specifications and are wind resistant
BACKGROUND INFORMATION	
Site and Location:	City-wide / V-MUD location
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce wind damage; limit power outages
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Planning and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Hail
Effect on new/existing buildings:	Limit power outage and damages at existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$20,000
Potential Funding Sources:	HMGP; Local Funds; Utility Fees
Lead Agency/Department Responsible:	City/Valley MUD
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5

Section 20: Mitigation Actions

Rancho Viejo – Action #5	
Proposed Action:	Bury power lines to provide uninterrupted power after hazard events, considering both maintenance and repair issues
BACKGROUND INFORMATION	
Site and Location:	City-wide / V-MUD location
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce number and length of power outages
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure Project

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Tornado; Hurricane; Hail
Effect on new/existing buildings:	Reduce power outage and damages to existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000,000
Potential Funding Sources:	HMGP; Local Funds; Utility Fee
Lead Agency/Department Responsible:	City / Valley MUD
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #6	
Proposed Action:	Educate property owners on how to properly install temporary window coverings before a storm; educate design professionals to include wind mitigation during building design
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce wind damage through education and awareness
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Wind; Hurricane; Tornado; Hail
Effect on new/existing buildings:	Reduce damage to existing and new structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Response Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #7	
Proposed Action:	Educate citizens regarding the dangers of extreme heat and the steps they can take to protect themselves from injury or illness when extreme temperatures occur
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce heat affects through education and awareness
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Heat
Effect on new/existing buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,000
Potential Funding Sources:	HMGP; Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	N/A

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #8	
Proposed Action:	Create and implement program to increase tree plantings around buildings to shade parking lots and along public ROWs to reduce temperatures and provide shaded areas for residents
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce heat effect
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Heat
Effect on new/existing buildings:	Reduce effects at existing buildings
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #9	
Proposed Action:	Mail safety brochures with mitigation measures residents can take to reduce hail damages; upload brochure to local website with links for additional information including StormReady data and links
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce hail damage
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail
Effect on new/existing buildings:	Reduce hail damage at existing structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$3,000
Potential Funding Sources:	HMGP; Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #10	
Proposed Action:	Update, review, and enforce ordinances, as appropriate, related to building materials (requiring hail resistant roofing and glass on all new public buildings) and continue to adopt current construction codes
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce hail damage
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail
Effect on new/existing buildings:	Reduce hail damage at existing and new structures
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$5,000
Potential Funding Sources:	HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 24 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #11	
Proposed Action:	Update website with maps and information including StormReady data and links; Mail educational brochures to residents in hazard-prone areas on mitigation measures to reduce damages
BACKGROUND INFORMATION	
Site and Location:	City-wide/V-MUD location
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk to residents, reduce ongoing repair costs to homes, roads, etc.
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood; Extreme Wind; Hurricane
Effect on new/existing buildings:	Reduce flood/wind damage to existing structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	HMGP; Local Funds
Lead Agency/Department Responsible:	City Administration/Valley MUD
Implementation Schedule:	Within 12 months of plan adoption pending funding
Incorporation into Existing Plans:	Drainage Plan; Comprehensive Plan

COMMENTS:
The educational brochures would encourage home owners to install backflow valves to prevent reverse-flow flood damages; educate the public about securing debris, yard items, and to store objects that may otherwise be swept away, damaged, or pose a hazard if picked up and washed away by floodwaters or wind; and ask residents to help keep storm drains clear of debris during storms.
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 3

Section 20: Mitigation Actions

Rancho Viejo – Action #12	
Proposed Action:	Revise landscape ordinance to include plants more resistant to fire at public building and new residential developments
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce the spread of fire; reduce the risk of loss of property due to wildfire
Type of Action: (<i>Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness</i>)	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on new/existing buildings:	Reduce fire risk to new/existing buildings
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$1,000
Potential Funding Sources:	Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Local Ordinance; Comprehensive Plan

COMMENTS:
Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 5; Politically Acceptable = 5; Legal = 5; Economically Sound = 5; and Environmentally Sound = 5

Section 20: Mitigation Actions

Rancho Viejo – Action #13	
Proposed Action:	Create and Implement program to remove dead and downed trees to decrease fire fuels in Wildland Urban Interface (WUI) areas
BACKGROUND INFORMATION	
Site and Location:	City-wide WUI
Risk Reduction Benefit (Current Cost/Losses Avoided):	Natural landform protection and reduce risk of loss of property due wildfire
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Natural Systems Projection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on new/existing buildings:	Reduce fire risk to new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$25,000
Potential Funding Sources:	Texas Forest Service; FireWise; HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	CWPP

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #14	
Proposed Action:	Educate the general public on benefits of utilizing sprinkler system or watering soil around foundation and sidewalks to prevent expansive soils from cracking concrete
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce chances of concrete cracking thus saving money and damage to structures
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Expansive Soils; Wildfire
Effect on new/existing buildings:	Reduce risk to new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$1,000
Potential Funding Sources:	HMGP; Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	N/A

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>

Section 20: Mitigation Actions

Rancho Viejo – Action #15	
Proposed Action:	Install sprinkler systems at all public buildings and common areas and implement watering schedule
BACKGROUND INFORMATION	
Site and Location:	City-wide
Risk Reduction Benefit (Current Cost/Losses Avoided):	Reduce risk of foundation shifts and cracks
Type of Action: (Local Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, or Education and Awareness)	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Expansive Soils; Wildfire
Effect on new/existing buildings:	Reduce risk on new and existing structures
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$10,000 per location
Potential Funding Sources:	HMGP; CDBG; Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Within 48 months of plan adoption pending funding
Incorporation into Existing Plans:	Comprehensive Plan

COMMENTS:
<p>Additional Considerations: The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies) Socially Acceptable = 5; Technically Feasible = 5; Administratively Possible = 3; Politically Acceptable = 5; Legal = 3; Economically Sound = 3; and Environmentally Sound = 5</p>