

PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT is made this _____ day of _____, 2018, by the **CITY OF GARDEN GROVE**, a municipal corporation, ("CITY") and **Foster Morrison Consulting, Ltd.**, herein after referred to as "CONSULTANT".

RECITALS

The following recitals are a substantive part of this Agreement:

1. This Agreement is entered into pursuant to Garden Grove COUNCIL AUTHORIZATION, DATED _____.
2. CITY desires to utilize the services of CONSULTANT to Develop a Local Hazard Mitigation Plan for the City of Garden Grove per RFP S-1240.
3. CONSULTANT is qualified by virtue of experience, training, education and expertise to accomplish services.

AGREEMENT

THE PARTIES MUTUALLY AGREE AS FOLLOWS:

1. **Term and Termination** The term of the agreement shall from full execution of the agreement through August 1, 2020. This agreement may be terminated by the CITY without cause. In such event, the CITY will compensate CONSULTANT for work performed to date in accordance with Scope of Work which is attached as Attachment A and is hereby incorporated by reference. Consultant is required to present evidence to support performed work.
2. **Services to be Provided**. The services to be performed by CONSULTANT shall consist of tasks as set forth in the Scope of Work. The Scope of Work is attached as Attachment A, and is incorporated herein by reference. The Scope of Work and this Agreement do not guarantee any specific amount of work.
3. **Compensation**. CONSULTANT shall be compensated as follows:
 - 3.1 **AMOUNT**. Total Compensation under this agreement shall not exceed (NTE) amount of Seventy Four Thousand Four Hundred Dollars (\$74,400.00), payable in arrears and in accordance with Proposal Pricing which is incorporated as Attachment "B".
 - 3.2 **Payment**. For work under this Agreement, payment shall be made per invoice for work completed. For extra work not a part of this Agreement, a written authorization by CITY will be required, and payment shall be based on schedule included in Proposal Pricing as Attachment "B".

- 3.3 Records of Expenses. CONSULTANT shall keep complete and accurate records of all costs and expenses incidental to services covered by this Agreement. These records will be made available at reasonable times to CITY.
- 3.4 Termination. CITY and CONSULTANT shall have the right to terminate this agreement, without cause, by giving thirty (30) days written notice of termination. If the Agreement is terminated by CITY, then the provisions of paragraph 3 would apply to that portion of the work completed.

4. Insurance requirements.

- 4.1 COMMENCEMENT OF WORK. CONSULTANT shall not commence work under this Agreement until all certificates and endorsements have been received and approved by the CITY. All insurance required by this Agreement shall contain a Statement of Obligation on the part of the carrier to notify the CITY of any material change, cancellation, or termination at least thirty (30) days in advance.
- 4.2 WORKERS COMPENSATION INSURANCE. During the duration of this Agreement, CONSULTANT and all subcontractors shall maintain Workers Compensation Insurance in the amount and type required by law, if applicable.
- 4.3 INSURANCE AMOUNTS. CONSULTANT shall maintain the following insurance for the duration of this Agreement:
- (a) Commercial general liability in an amount of \$1,000,000.00 per occurrence (**claims made and modified occurrence policies are not acceptable**); Insurance companies must be acceptable to CITY and have a Best's Guide Rating of A-Class VII or better, as approved by the CITY.
 - (b) Automobile liability in an amount of \$1,000,000.00 combined single limit (**claims made and modified occurrence policies are not acceptable**); Insurance companies must be acceptable to CITY and have a Best's Guide Rating of A-, Class VII or better, as approved by the CITY.
 - (c) Professional liability in an amount not less than \$1,000,000. Insurance companies must be admitted and licensed In California and have a Best's Guide Rating of A-Class VII or better, as approved by the City. If the policy is written on a "claims made" basis, the policy shall be continued in full force and effect at all times during the term of the agreement, and for a period of three (3) years from the date of the completion of services provided. In the event

of termination, cancellation, or material change in the policy, professional/consultant shall obtain continuing insurance coverage for the prior acts or omissions of professional/consultant during the course of performing services under the term of the agreement. The coverage shall be evidenced either by a new policy evidencing no gap in coverage, or by obtaining separate extended "tail" coverage with the present or new carrier.

An **On-Going and Completed Operations Additional Insured Endorsement** for the policy under section 4.3 (a) shall designate CITY, it's officers, officials, employees, agents, and volunteers as additional insureds for liability arising out of work or operations performed by or on behalf of the CONSULTANT. CONSULTANT shall provide to CITY proof of insurance and endorsement forms that conform to CITY's requirements, as approved by the CITY.

An Additional Insured Endorsement for the policy under section 4.3 (b) shall designate CITY, it's officers, officials, employees, agents, and volunteers as additional insureds for automobiles, owned, leased, hired, or borrowed by the CONSULTANT. CONSULTANT shall provide to CITY proof of insurance and endorsement forms that conform to CITY's requirements, as approved by the CITY.

For any claims related to this Agreement, CONSULTANT's insurance coverage shall be primary insurance as respects CITY, it's officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by the CITY, it's officers, officials, employees, agents, and volunteers shall be excess of the CONSULTANT's insurance and shall not contribute with it.

If CONSULTANT maintains higher insurance limits than the minimums shown above, CONSULTANT shall provide coverage for the higher insurance limits otherwise maintained by the CONSULTANT.

5. **Non-Liability of Officials and Employees of the CITY.** No official or employee of CITY shall be personally liable to CONSULTANT in the event of any default or breach by CITY, or for any amount which may become due to CONSULTANT.
6. **Non-Discrimination.** CONSULTANT covenants there shall be no discrimination against any person or group due to race, color, creed, religion, sex, marital status, age, handicap, national origin, or ancestry, in any activity pursuant to this Agreement.
7. **Independent Contractor.** It is agreed to that CONSULTANT shall act and be an independent contractor and not an agent or employee of the CITY, and shall obtain no rights to any benefits which accrue to CITY'S employees.

8. **Compliance with Law.** CONSULTANT shall comply with all applicable laws, ordinances, codes, and regulations of the federal, state, and local government. CONSULTANT shall comply with, and shall be responsible for causing all contractors and subcontractors performing any of the work pursuant to this Agreement to comply with, all applicable federal and state labor standards, including, to the extent applicable, the prevailing wage requirements promulgated by the Director of Industrial Relations of the State of California Department of Labor. The City makes no warranty or representation concerning whether any of the work performed pursuant to this Agreement constitutes public works subject to the prevailing wage requirements.
9. **Notices.** All notices shall be personally delivered or mailed to the below listed address, or to such other addresses as may be designated by written notice. These addresses shall be used for delivery of service of process.
- a. (Consultant)
Foster Morrison Consulting, Ltd.
Attention: Jeanine Foster, Principal/Project Manager
5628 W Long Place
Littleton, CO 80123
- b. (Address of CITY) (with a copy to):
City of Garden Grove Garden Grove City Attorney
11222 Acacia Parkway 11222 Acacia Parkway
Garden Grove, CA 92840 Garden Grove, CA 92840
10. **CONSULTANT'S PROPOSAL.** This Agreement shall include CONSULTANT'S proposal or bid which shall be incorporated herein by reference. In the event of any inconsistency between the terms of the proposal and this Agreement, this Agreement shall govern.
11. **Licenses, Permits, and Fees.** At its sole expense, CONSULTANT shall obtain a Garden Grove Business License, all permits, and licenses as may be required by this Agreement.
12. **Familiarity with Work.** By executing this Agreement, CONSULTANT warrants that: (1) it has investigated the work to be performed; (2) it has investigated the site of the work and is aware of all conditions there; and (3) it understands the facilities, difficulties, and restrictions of the work under this Agreement. Should Consultant discover any latent or unknown conditions materially differing from those inherent in the work or as represented by CITY, it shall immediately inform CITY of this and shall not proceed, except at CONSULTANT'S risk, until written instructions are received from CITY.
13. **Time of Essence.** Time is of the essence in the performance of this Agreement.

14. **Limitations Upon Subcontracting and Assignment.** The experience, knowledge, capability, and reputation of CONSULTANT, its principals and employees were a substantial inducement for CITY to enter into this Agreement. CONSULTANT shall not contract with any other entity to perform the services required without written approval of the CITY. This Agreement may not be assigned voluntarily or by operation of law, without the prior written approval of CITY. If CONSULTANT is permitted to subcontract any part of this Agreement, CONSULTANT shall be responsible to CITY for the acts and omissions of its subcontractor as it is for persons directly employed. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and CITY. All persons engaged in the work will be considered employees of CONSULTANT. CITY will deal directly with and will make all payments to CONSULTANT.

15. **Authority to Execute.** The persons executing this Agreement on behalf of the parties warrant that they are duly authorized to execute this Agreement and that by executing this Agreement, the parties are formally bound.

16. **Indemnification.** To the fullest extent permitted by law, CONSULTANT shall defend, and hold harmless CITY and its elective or appointive boards, officers, agents, and employees from any and all claims, liabilities, expenses, or damages of any nature, including attorneys' fees, for injury or death of any person, or damages of any nature, including interference with use of property, arising out of, or in any way connected with the negligence, recklessness and/or intentional wrongful conduct of CONSULTANT, CONSULTANT'S agents, officers, employees, subcontractors, or independent contractors hired by CONSULTANT in the performance of the Agreement. The only exception to CONSULTANT'S responsibility to protect, defend, and hold harmless CITY, is due to the sole negligence, recklessness and/or wrongful conduct of CITY, or any of its elective or appointive boards, officers, agents, or employees.

This hold harmless agreement shall apply to all liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation upon the amount of indemnification to be provided by CONSULTANT.

17. **Appropriations.** This Agreement is subject to and contingent upon funds being appropriated therefor by the Garden Grove City Council for each fiscal year covered by the term of this Agreement. If such appropriations are not made, this Agreement shall automatically terminate without penalty to the CITY.

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(Agreement Signature Block on Next Page)

IN WITNESS THEREOF, these parties have executed this Agreement on the day and year shown below.

Date: _____

"CITY"
CITY OF GARDEN GROVE

By: _____
City Manager

ATTESTED:

City Clerk

Date: _____

"CONSULTANT"
Foster Morrison Consulting, Ltd.

By: _____

Name: _____

Title: _____

Date: _____

Tax ID No. _____

Consultant's License: _____

Expiration Date: _____

If CONSULTANT is a corporation, a Corporate Resolution and/or Corporate Seal is required. If a partnership, Statement of Partnership must be submitted to CITY.

APPROVED AS TO FORM:

Garden Grove City Attorney

Date

Attachment "A"

ORIGINAL



City of Garden Grove

RFP No. S-1240 for a Local Hazard Mitigation Plan

Technical Proposal – October 1, 2018



Prepared for:
City of Garden Grove
11222 Acacia Parkway, Room 220
Garden Grove, CA 92840

Prepared by:
Foster Morrison Consulting
5628 W Long Pl
Littleton, CO 80123

In Coordination With:
Howell Consulting
12820 Rimfire Dr.
Wilton, CA 95693



4. Foster Morrison Team's Qualifications and Experience

This section provides an overview of the qualifications and experience of the proposed Foster Morrison team comprised of Foster Morrison Consulting (Prime Consultant) and Howell Consulting (Subconsultant). Foster Morrison and Howell Consulting have teamed to provide City of Garden Grove with the expertise, experience, locale, and customer service necessary to successfully execute the proposed scope of services for a FEMA-approved LHMP.

Foster Morrison Consulting, Ltd.

Foster Morrison Consulting, Ltd. (Foster Morrison) is an emergency management consulting firm with staff expertise and experience encompassing all aspects of FEMA programs - from disaster preparedness to mitigation and grant applications to post-disaster response and recovery. Specializing in Hazard Mitigation Planning, Foster Morrison develops Hazard Mitigation Plans and Plan Updates that meet the requirements of the Disaster Mitigation Act (DMA) of 2000 as well as the planning requirements of the Flood Mitigation Assistance (FMA) program and the National Flood Insurance Program's (NFIP) Community Rating System (CRS). Our focus is developing FEMA-approved, customized mitigation plans for communities that enable participating jurisdictions to be eligible for FEMA mitigation funds and



includes comprehensive mitigation strategies designed to reduce hazard-related losses, enhance community capabilities, and make a community better able to respond and recover when disasters occur. Foster Morrison staff have been working together as a planning team for the last twelve years developing hazard mitigation plans for clients around the country. Key geographic areas of expertise include California, Colorado, and Mississippi. Formed in 2014, Foster Morrison, a limited liability corporation, is registered and licensed to do business in the State of California and is also registered and in good standing with the Federal Procurement System for Award Management (SAM).

Hazard Mitigation Experience

Hazard mitigation and mitigation planning is a primary focus area of Foster Morrison. Foster Morrison staff experience and expertise in hazard mitigation planning dates back to 2003 shortly after DMA 2000 (Public Law 106-390) amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and tribal entities to closely coordinate mitigation planning and implementation efforts. DMA 2000 established a requirement for local governments to have a FEMA-approved, DMA-compliant plan in place by November 2004 in order to maintain eligibility for certain pre- and post- disaster grant funding.

In addition to developing mitigation plans for numerous local jurisdictions throughout California, Foster Morrison staff have significant experience working with clients in all aspects of mitigation. This includes identifying and developing mitigation projects based on community risks and vulnerability; developing grant applications and securing funding for identified projects; conducting Benefit-Cost Analyses (BCAs) and workshops to support competitive grant applications; supporting Environmental and Historic Preservation (EHP) project clearances; and providing project management and grant administration services for project implementation.

Hazard Mitigation Planning

Foster Morrison's experience and qualifications for providing the City of Garden Grove with a FEMA-approved, DMA-compliant LHMP is unequalled. Foster Morrison staff have developed hazard mitigation plans for clients in 15 states and 7 FEMA Regions, including Region IX, providing coverage for 100's of

jurisdictions. Foster Morrison proposed staff for this LHMP project have been working with nearby California communities developing their hazard mitigation plans and plan updates since 2003. These DMA planning efforts have included two DMA planning cycles for multiple California communities, and three DMA planning cycles for two large California counties (Sacramento and Placer Counties) providing FEMA-approved plans and coverage for numerous participating jurisdictions. Whether a single or multijurisdictional effort or a rural or urban environment, each of these plans were customized to meet the individual needs of each participating community while ensuring Cal OES and FEMA approval.

Similar and Recent Project Experience

This section provides a summary of Foster Morrison staff LHMP and LHMP Update projects in California, both completed and ongoing, within the last five years. The following projects were managed and performed by the key staff identified in primary roles for the development of this City of Garden Grove LHMP. This list includes five recent LHMP projects working with Howell Consulting: Los Angeles Unified School District, City of Piedmont, Nevada County, Lake County, and Colusa County.

All of the California projects detailed in Table 1 were completed in accordance with DMA, FMA and CRS planning process requirements and guidance which incorporates a 10-step process into four phases: 1) LHMP Planning/Development Process, 2) Risk Assessment, 3) Mitigation Strategy, and 4) Plan Implementation and Maintenance. Execution of the 10-step process for each of these mitigation planning projects resulted in FEMA-approved plans customized to meet the needs of each community. The plan development process and resulting plans include: data-driven risk assessments; previous mitigation projects and successes; comprehensive mitigation strategies; development and coordination of public outreach and stakeholder engagement programs; facilitation of planning team and public meetings; and a thorough, systematic, and fully documented planning process. All of the completed plans were reviewed and approved by the state and FEMA with no or minimal request for revisions. Other identified plans are either in-development or in Cal OES or FEMA review. Table 1 details Foster Morrison completed and in-process California LHMP and LHMP Updates within the last five years.

Table 1 Foster Morrison Staff Hazard Mitigation California Planning Experience since 2013

Project Name	City of Piedmont Local Hazard Mitigation Plan Update – In Process
Organization	City of Piedmont Planning Department
Contact Information	Chris Yeager – Assistant Planner, (510) 420-3067, cyeager@piedmont.ca.gov
Type of Plan	Single-jurisdictional DMA Plan
Project Name	Colusa County, CA Local Hazard Mitigation Plan Update – Near End of Process
Organization	Colusa County Sheriff’s Office, Office of Emergency Services
Contact Information	Janice Bell – OES Technician; (530) 458-0218; jbell@colusasheriff.com
Type of Plan	Multi-jurisdictional DMA Plan; County and 2 incorporated communities
Project Name	Los Angeles Unified School District, CA Local Hazard Mitigation Plan Update – In Cal OES/FEMA Review
Organization	Los Angeles Unified School District, Office of Environmental Health and Safety
Contact Information	Bill Piazza - Environmental Assessment Coordinator; (213) 241-2576; bill.piazza@lausd.net
Type of Plan	Single-jurisdictional DMA Plan
Project Name	Lake County, CA Local Hazard Mitigation Plan Update– FEMA Approved (2018)
Organization	Lake County Office of Emergency Services
Contact Information	Dale Carnathan – Emergency Services Manager; 707-263-3450; dale.carnathan@lakecountycyca.gov
Type of Plan	Single-jurisdictional DMA Plan
Project Name	City of Azusa, CA Local Hazard Mitigation Plan – Near End of Process
Organization	City of Azusa Planning Division

Contact Information	Edson Ibanez – Assistant Planner; (626) 812-5289; eibanez@ci.azusa.ca.us
Type of Plan	Single-jurisdictional DMA Plan
Project Name	Madera County, CA Local Hazard Mitigation Plan Update– FEMA Approved (2018)
Organization	Madera County Office of Sheriff
Contact Information	(559) 675-7770; jwilder@co.madera.ca.gov
Type of Plan	Multi-jurisdictional DMA Plan; County, 2 incorporated communities and 1 Tribe
Project Name	Nevada County, CA Local Hazard Mitigation Plan Update– FEMA Approved (2018)
Organization	Nevada County Office of Emergency Services
Contact Information	John Gulserian – Program Manager; (530) 265-1515; John.Gulserian@co.nevada.ca.us
Type of Plan	Multi-jurisdictional DMA Plan; County, 3 incorporated communities and 3 special districts
Project Name	City of San Rafael, CA Local Hazard Mitigation Plan – FEMA Approved (2017)
Organization	City of San Rafael Fire Department
Contact Information	Robert Sinnott – Deputy Chief; (415) 485-3304, Robert.Sinnott@cityofsanrafael.org David Catalinotto - Environmental Management Coordinator; (415) 485-3309, David.Catalinotto@cityofsanrafael.org
Type of Plan	Single- jurisdictional DMA Plan
Project Name	Modoc County, CA Local Hazard Mitigation Plan – FEMA Approved (2016)
Organization	Modoc County Office of Emergency Services
Contact Information	A.J. McQuarrie - Deputy Director; (530)233-4416; ajm@modocsheriff.us
Type of Plan	Multi-jurisdictional DMA Plan; County and 1 incorporated community
Project Name	Sacramento County, CA Local Hazard Mitigation Plan – Original Plan and 2 Plan Updates - FEMA Approved (2005, 2011, 2016)
Organization	Sacramento County Department of Water Resources, City of Sacramento Public Works
Contact Information	George Booth –Manager of Sacramento County Drainage Development, Hydrology and Floodplain Management Department (916) 874-6484; boothg@SacCounty.net Kelly Sherfey – City of Sacramento Department of Utilities; (916) 808-2539, ksherfey@cityofSacramento.org
Type of Plan	Multi-jurisdictional DMA/CRS Plan; County, 7 incorporated communities, and 20 special districts
Project Name	Placer County, CA Local Hazard Mitigation Plan – Original Plan and 2 Plan Updates - FEMA Approved (2005, 2010, 2016)
Organization	Placer County Office of Emergency Services
Contact	Rod Rodriguez, Senior Emergency Services Specialist; (530) 886-5300, yrodrigu@placer.ca.gov
Type of Plan	Multi-jurisdictional DMA/CRS Plan; County, 5 incorporated communities, and 15 special districts
Project Name	Calaveras County, CA, Local Hazard Mitigation Plan – Original Plan and Plan Update - FEMA Approved (2010, 2015)
Organization	Calaveras County Sheriff's Office
Contact Information	Sherri Munson, Sheriff Services Technician III, Financial Services/OES; (209) 754-2888, SMunson@co.calaveras.ca.us
Type of Plan	Multi-jurisdictional DMA Plan; County and one incorporated community
Project Name	Sutter County, CA Local Hazard Mitigation Plan – Original Plan and Plan Update - FEMA Approved (2007, 2014)
Organization	Sutter County Office of Emergency Management
Contact Information	John DeBeaux, Jr., Emergency Services Officer; (530) 822-7400 x204, jedebeaux@co.sutter.ca.us
Type of Plan	Multi-jurisdictional DMA Plan; County, 2 incorporated communities, and 6 special districts
Project Name	Butte County, CA Local Hazard Mitigation Plan – Plan Update - FEMA Approved (2014)
Organization	Butte County Office of Emergency Management
Contact Information	Cindy Dunsmoor, Office of Emergency Management; (530) 538-7373, cdunsmoor@buttecounty.net

Type of Plan	Multi-jurisdictional DMA Plan; County, 5 incorporated communities, and 2 special districts
Project Name	Amador County, CA, Local Hazard Mitigation Plan – Original Plan and Plan Update - FEMA Approved (2006, 2014)
Organization	Amador County Office of Emergency Services
Contact Information	Sgt. John Silva, Sheriff's Office of Emergency Services; (209) 223-6384, jsilva@amador.gov
Type of Plan	Multi-jurisdictional DMA Plan; County, 5 incorporated communities, and 3 special districts

Floodplain Management/NFIP's Community Rating System (CRS)

Historically, people have been attracted to developing in and around waterways for a variety of reasons. Sound floodplain management practices implemented at the local level are a key factor in reducing flood-related losses in a community in these flood-prone areas. The NFIP is a federal program created to mitigate future flood losses through community-enforced building and zoning ordinances and to provide protection for property owners against potential losses through flood insurance. The NFIP's CRS is a voluntary program that recognizes community floodplain management activities that exceed the minimum NFIP requirements. The incentive behind the CRS program is to provide discounted insurance premiums to community residents as a result of implementing a floodplain management program that encourages a comprehensive approach to reduce flood losses. Foster Morrison staff provide floodplain management and CRS expertise to clients to assist in enhancing their floodplain management programs, including developing hazard mitigation plans that maximize CRS credit points. The end result is helping clients achieve a lower CRS class which ultimately reduces the cost of flood insurance to community residents, both within and outside of designated Special Flood Hazard Areas (SFHAs). Most recently this has included helping flood-prone communities in California, Colorado, and Mississippi maximize their CRS credits under CRS Activity 510 in accordance with the 2013 (now 2017) CRS Coordinator's Manual. In fact, several recent plans developed by Foster Morrison staff have developed DMA/CRS compliant plans to the current CRS schedule, scoring among the highest CRS credits in the nation for this activity.



Other FEMA Programs

Hazard mitigation planning is the foundation for identifying and developing sound hazard mitigation projects for implementation by communities. Hazard mitigation projects are essential for ensuring that at-risk community assets are stronger and more resilient for the next severe storm event or natural disaster. FEMA provides mitigation funding support primarily through four pre- and post-disaster programs: the Pre-Disaster Mitigation (PDM) program, Public Assistance (PA) Section 406 Mitigation, the Hazard Mitigation Grant Program (HMGP), and the Flood Mitigation Assistance (FMA) program. Foster Morrison can provide the full-range of mitigation services, in addition to planning, from grant applications and Benefit-Cost Analysis (BCAs), to project implementation and grants management for communities following a disaster as part of Section 406 Mitigation and as part of FEMA's PDM, HMGP, and FMA Programs.

Risk Assessment and DFIRM Experience

Foster Morrison staff have conducted risk assessments as part of state, local, and tribal hazard mitigation planning. The risk assessment is the fundamental basis of mitigation and mitigation planning. It is the process that documents the problems that are unique to each participating jurisdiction. There are three interrelated portions to the approach Foster Morrison takes when developing a risk assessment: (1) hazard identification, (2) vulnerability assessment, and (3) capability assessment.

Together, the hazard identification and vulnerability assessment paint the picture of the hazards that could occur in a jurisdiction, and then assesses each hazard's historic impacts and potential future impacts on populations, property, and critical facilities and infrastructure. The capability assessment then measures this vulnerability against programs, policies, procedures, and plans that are already in place in the jurisdiction that can reduce the effects of these hazards. The end result of this analysis is the identification of additional mitigation strategies that build upon the community's existing capabilities.

Foster Morrison staff experience with state, local, and tribal risk assessments includes:

- Creating and analyzing GIS-based risk assessments for dam failure, flood, earthquake, landslide, wildfire, and other natural and man-made hazards
- Developing vulnerability analysis methods using GIS: centroid method, proportionate division, Access queries, raster analysis, and annualized loss calculations to support detailed damage/loss estimates by jurisdiction
- Experience with Level 1 and 2 Hazus (FEMA's loss estimation software) analysis, FEMA's GIS-based loss-estimation tool, for earthquake and flood hazards, including DFIRM integration for Hazus flood analysis
- Creating accurate flood loss estimations by applying FEMA's NFIP depth-damage relationship curves, as used in FEMA's benefit cost software modules
- Conducting detailed inventories of community assets, including an inventory of natural, historic, and cultural resources and key critical and public facilities and infrastructure
- Developing high quality maps and tables for displaying hazards, vulnerabilities, and loss estimates by jurisdiction
- Conducting exhaustive research in each jurisdiction to inventory and document all existing capabilities to mitigate and reduce the impacts of identified hazards.

Sub-consultant: Howell Consulting, Inc.

Foster Morrison is teaming with Howell Consulting as a sub-consultant to this effort. Howell Consulting will be taking the lead on the QA/QC efforts associated with LHMP development. Howell Consulting will also support other tasks, as needed, to meet client requirements and project deadlines. A brief overview of Howell Consulting is provided below.

Howell Consulting: The Company

Howell Consulting, Inc. (Howell Consulting) is an S-Corporation, founded in 2007 and based in Wilton, California. Brenna Howell is the owner and primary employee of the firm and is supported by several contract staff. Full and contracted part-time staff have more than 50 years of experience in the emergency management field that comprises over 20 years at the State level, 15 years at the County level, and many years working at the city level combined. Howell Consulting offers a full range of planning, mitigation, preparedness; response and recovery consulting services to better prepare organizations before and after disaster strikes. Howell offers both pre- and post-disaster services including the review and updating of emergency response plans, business continuity and hazard mitigation plans, risk analysis, hazards and vulnerabilities identification, and emergency communications plans. Howell Consulting also provides on-site staffing and assistance during actual disasters or emergency situations. Finally, Howell Consulting is able to assess needs and prescribe appropriate emergency management trends such as the latest planning grant requirements and planning guidance.

Howell Consulting has over 20 years of experience providing emergency management services to numerous California counties and cities. Howell Consulting has also been working with Foster Morrison in the development of several California LHMPs and LHMP Updates: City of Piedmont, Nevada County, Lake County, Colusa County, and the Los Angeles Unified School District. Other LHMPs and LHMP Updates developed by Howell Consulting include Merced County, Kings County, Yolo County, Yuba County, and the City of West Sacramento.

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6. Project Understanding, Approach and Scope of Work

The City of Garden Grove is requesting the services of a consultant to assist the City in assessing hazards and risks that pose a threat to the City, its residents and businesses; determining the City's vulnerability to identified hazards, identifying strategies to mitigate the effects of these hazards within the City; and developing a Cal OES and FEMA-approved City of Garden Grove single jurisdiction LHMP in alignment with the goals and objectives of the 2018 State of California's Hazard Mitigation Plan and the Orange County Hazard Mitigation Plan adopted in 2015. Foster Morrison and Howell Consulting have combined staff to provide the City of Garden Grove with an LHMP that is tailored to the unique needs of the City. This section includes our project understanding, approach, and scope of work designed to meet and exceed all of the City of Garden Grove's expectations to provide the City with a FEMA-approved LHMP.

Project Understanding

Garden Grove is a city in northern Orange County. It is located 34 miles southeast of the City of Los Angeles. It is bordered by Anaheim, Cypress, and Stanton to the north, Orange to the east, Santa Ana and Westminster to the south, and Los Alamitos and Seal Beach to the west. State Route 22, also known as the Garden Grove Freeway, passes through the City in an east-west direction. Founded in the late 1800s and incorporated in 1956, Garden Grove has experienced growth curves that mirror those of centrally located Orange and Los Angeles county communities. The 2000 Census indicated that the City had attained a population of 165,196. The 2010 Census estimated the City population to be 170,883. The California Department of Finance 2018 estimate for the City population was 176,896. The General Plan Land Use Element noted that the City of Garden Grove is a mature and fully built out urbanized city. Most of the land within the City has been developed (over 99 percent) and redevelopment is occurring throughout the City.

The City lies on the coastal plain of the Los Angeles Basin. The City of Garden Grove climate is usually hot and dry in the summer and has mild winters. Data from the Western Regional Climate Center, from 1906 to 2016, shows the record maximum temperatures were a high of 112°F (on June 14, 1917) and a low of 22°F (on December 31, 1918). Average summer highs range from the lower to upper 80s. Average winter lows range from the lower to upper 40s. Garden Grove averages 25 days each year with temperatures exceeding 90°F. Annual precipitation averages just over 13 inches in the Garden Grove vicinity; more than 50 percent of the annual precipitation normally occurs from December through February. Record 24-hour rainfalls for the City was 4.69 inches on February 16, 1927. The highest annual precipitation for the City occurred in 1941, when over 32 inches of rain fell in the City.

Given the geography and climate of the area, the City is vulnerable to numerous hazards as identified in the 2015 Orange County LHMP and the 2030 Garden Grove General Plan Safety Element. Those plans stated that the City is subject to drought, earthquake, flooding (dam failure, localized, and 100/500-year flooding), hazardous materials, severe weather, and wildfire. There have been 33 federal disaster declarations (most of them related to the hazards above) for Orange County since 1953, making it one of the more disaster-prone counties in California. Recently, the City of Garden Grove was in the midst of a severe to extreme drought as defined by the U.S. Drought Monitor. Preliminary data shows that 2013 was the driest year in California since 1878, and 2012 also was a dry year. In January of 2014, Governor Brown declared a State of Emergency due to the drought. The drought persisted through 2016; however, due to El Nino storms in late 2016 and 2017 the drought had abated. In 2018, drought conditions have begun to return.

Due to the increased stress on forested and grassland areas due to the drought and increased tree mortality, wildfire risk in the County had increased. This is exemplified by the 2017 fires that struck Orange County. In the months of September and October of 2017, Orange County suffered multiple separate devastating wildfires. In response, multiple federal disaster declaration was declared (DR-4344 and two Fire Management Assistance Grants – FM-5213 and FM-5223). The Canyon and Canyon 2 fires stuck in nearby Anaheim. That first Canyon

Fire burned approximately 2,600 acres but did not cause any property damage. Apparently, the embers from the first fire and the strong winds most likely caused the Canyon 2 Fire. The fast-moving brush fire broke out on October 9, 2017 near the 91 Freeway and Gypsum Canyon Road. It leaped over the Route 241 toll road, raced up a ridge, and set fire to several homes. In total, about 16,570 had been ordered to evacuate their homes in Anaheim, Orange, and Tustin but returned when the evacuation order was lifted on October 12. 25 structures destroyed and another 55 damaged. While no damages occurred to the City from these fires, wildfire is a hazard of significance to Garden Grove and Orange County as a whole. The strong winds, dry weather, and drought conditions cause fires to spread quickly which may impact the City's heavily dense industrial areas on Knott Avenue, which extends out close to the 22 freeway and could lead to major transportation issues.

Although there is a countywide system of flood control facilities, the majority of these are inadequate for conveying runoff from major storms, such as the Standard Project Flood or the 100-year flood. The City has in the past been subjected to extensive street flooding and occasional property damage. While the current drought had led to a lack of flooding in recent years, the threat of flooding in the City remains. In fact, due to drought conditions, the likelihood of flooding due to heavy rains may have actually increased. Extreme droughts reduce the soil's ability to absorb water quickly. Should a heavy rain occur, the parched ground is likely to absorb a small amount of precipitation, with the remainder becoming runoff. This can cause localized flooding, as well as quickly increase stream flows, causing flash flooding. This happened in many areas of California in January of 2017. While the heavy rains filled reservoirs and effectively stopped a three-year drought, damages from flooding occurred and continue to occur in multiple communities, including those in Orange County. A federal disaster declaration (DR-4305) was issued on March 16, 2017. The Preliminary FIS noted that the City was at risk from flooding from the Santa Ana River, as well as the Anaheim-Barber City Channel, East Garden Grove Wintersburg Channel, Ocean View Channel, and Wintersburg Channel. There are areas of the City in the A zones (areas of 1% annual chance flooding). In addition to 1% annual chance flooding, the City of Garden Grove is also susceptible to stormwater and localized flooding. The City is also subject to potential flooding from several local dams and reservoirs. This includes Prado Dam, Santiago Dam, and Villa Park Reservoir, all northeast of the City.

The earthquake hazard (and subsequent liquefaction and settlement) is also a significant hazard of concern for Garden Grove. The City is located on or near the Norwalk, Puente Hills, Whittier/Elsinore, Newport/Inglewood, Sierra Madre/San Fernando/Santa Susana, Palos Verdes, San Jacinto, and San Andreas faults. Given the proximity to these fault lines, the earthquake hazard must be considered carefully for safe future growth and development within the City. The City's public and private utility systems are generally designed to withstand some disaster damage and function at least at partial capacity. However, major quake-caused structural damage to under/above ground utilities would have a serious impact on response to and recovery from a major disaster. In addition, the hazard of liquefaction, where a buried saturated sand layer liquefies during an earthquake, is present in a majority of the City due to the shallow groundwater table and strong earthquake shaking potential. With respect to dynamic settlement, the City has areas of moderate and high dynamic settlement potential. The areas of moderate potential are located in the northwest and eastern portions of the City, while the areas of high potential are located in the central portion of the City, generally near Euclid Street. Structural vulnerabilities in older buildings that are less earthquake resistant are most likely to contribute to the largest source of injury and economic loss as a result of an earthquake.

Hazardous material incidents is one of the most significant threats facing the City today, mainly because of the large quantities used and transported by businesses within City limits on a daily basis. There is an increasing number and variety of hazardous materials generated, stored and transported by the City's businesses. The City also has a number of underground product lines that run through the City. There are currently four oil lines, one natural gas line and two gasoline lines. All of these run parallel along Knott Avenue, except the natural gas line, which runs along Lampson Ave. A number of freight trains travel near the northeast border of the City transporting various types of hazardous materials. If hazardous materials are being transported, both freeways

and railway incidents can escalate in severity due to the threat of toxic materials being released into the environment.

In addition, the State of California has put an increased emphasis on climate change and its effects on natural hazards. Climate change can exacerbate other hazards like drought, extreme weather, flood, and wildfire. The adaptation to these new vulnerabilities places the City in a potential situation where it has to deal with more complex and intense events occurring in locations that were not previously at risk.

Project Approach

The primary purpose of this LHMP planning project is to reduce long-term risk and loss to people and property from identified hazards and to make the City of Garden Grove more disaster resistant and better able to recover when a disaster does occur. This LHMP will address all hazards of significance to the City and will be developed pursuant to the requirements of Disaster Mitigation Act (DMA) of 2000, published at 44 CFR 201.6 and associated guidance, and the National Flood Insurance Program (NFIP)'s Community Rating System (CRS) program. The Foster Morrison team will conduct all work necessary to provide the City of Garden Grove with a Cal OES/FEMA-approved LHMP.

A FEMA-approved LHMP will make the City eligible for FEMA pre- and post-disaster funding. In addition, this LHMP will be compliant with the requirements of AB 2140 (General Plan Safety Element), AB 1000 (Environmental Justice), and SB 379 (Climate Adaptation) and will be consistent with the goals and objectives outlined in the 2018 State of California and 2015 Orange County Hazard Mitigation Plans. The City of Garden Grove LHMP will be prepared utilizing the process shown in Table 2.

Table 2 Hazard Mitigation Planning Process

Disaster Mitigation Act Planning Regulations (44 CFR 201.6)	CRS/FMA Planning Steps
Phase I: Planning Process	
201.6(c)(1)	1. Organize Resources
201.6(b)(1)	2. Involve the Public
201.6(b)(2) & (3)	3. Coordinate with Others
Phase II: Risk Assessment	
201.6(c)(2)(i)	4. Assess the Hazard
201.6(c)(2)(ii) & (iii)	5. Assess the Problem
Cal OES/FEMA requirement	Assess the Capabilities
Phase III: Mitigation Strategy	
201.6(c)(3)(i)	6. Set Goals
201.6(c)(3)(ii)	7. Review Possible Activities
201.6(c)(3)(iii)	8. Draft an Action Plan
Phase IV: Plan Maintenance	
201.6(c)(5)	9. Adopt the Plan
201.6(c)(4)	10. Implement, evaluate, revise

Assembly Bill 2140

The City of Garden Grove LHMP will be written in compliance with Assembly Bill 2140. Passed in October 2006, AB 2140 allows a local jurisdiction to adopt their current, FEMA-approved local hazard mitigation plan into the Safety Element of their General Plan. This adoption makes the jurisdiction eligible for consideration for part or all of its local costs on eligible public assistance to be provided by state share funding through the

California Disaster Assistance Act (CDAA). The CDAA allows the state to pay a portion of the non-federal share that would otherwise fall upon the local agency to pay for Public Assistance and Hazard Mitigation projects. This is on condition that the local agency has a current, FEMA-approved LHMP that has been adopted into the Safety Element of their General Plan.

Senate Bill 379

The City of Garden Grove LHMP will be written to accommodate Senate Bill 379. California SB 379 requires all cities and counties to include climate adaptation and resiliency strategies in the safety elements of their general plans upon the next revision beginning January 1, 2017. The bill requires the climate adaptation update to include a set of goals, policies, and objectives for their communities based on the vulnerability assessment, as well as implementation measures, including the conservation and implementation of natural infrastructure that may be used in adaptation projects. Specifically, the bill requires that upon the next revision of a general plan or local hazard mitigation plan, the safety element is to be updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county.

Senate Bill 1000

The City of Garden Grove LHMP will be written to accommodate Senate Bill 1000. SB 1000 adds to the required elements of the general plan an environmental justice element, or related goals, policies, and objectives integrated in other elements, that identifies disadvantaged communities, as defined, within the area covered by the general plan of the city, county, or city and county, if the city, county, or city and county has a disadvantaged community. The bill also requires the environmental justice element, or related environmental justice goals, policies, and objectives integrated in other elements, to identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities, as specified, identify objectives and policies to promote civil engagement in the public decision-making process, and identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities. The bill requires the environmental justice element, or the environmental justice goals, policies, and objectives in other elements, to be adopted or reviewed upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018.

Project Goals and Benefits

The Foster Morrison team will provide the City with a FEMA-approved LHMP designed to meet and exceed all their planning goals. This LHMP will be developed to achieve the following project goals and benefits:

- Develop a FEMA-approved, DMA-compliant LHMP Update for the City of Garden Grove
- Ensure continued compliance with the NFIP as required by updated DMA planning guidance
- Align the LHMP with the goals and objectives of the 2018 State of California and 2015 Orange County Hazard Mitigation Plans and incorporate regional and corresponding strategies as appropriate
- Build partnerships with diverse stakeholders and increase opportunities to leverage data and resources
- Ensure that the City of Garden Grove achieves AB 2140, AB 1000, and SB 379 compliance
- Improve public safety and local resistance to damage from identified hazards, thus reducing the impact and cost of disasters to the City and taxpayers
- Position the City to compete more effectively for pre- and post-disaster mitigation and recovery funding
- Increase public awareness and understanding of hazards, vulnerabilities, and support for Mitigation Actions to reduce future hazard-related losses
- Speed community recovery when disasters occur

Scope of Work

Foster Morrison puts forth the following Scope of Work for an LHMP for the City of Garden Grove and represent that we are capable of providing and performing quality work to execute the Scope of Work as described below and to achieve all requirements set forth in the RFP and to achieve all City goals. The scope will involve completion of background and technical work to support a comprehensive hazard risk assessment; conducting public outreach and facilitating the planning process; formulating and facilitating the mitigation strategy; and providing all deliverables necessary to comply with state and federal mitigation planning regulations and guidance resulting in a Cal OES compliant and FEMA-approved LHMP. The resulting LHMP will be a clear, action-oriented document which will serve the City and identify actions which can be taken to reduce local risk and disaster-related losses from future hazard events. The details of the planning process and how the City of Garden Grove will meet the goals of this LHMP project are outlined further below in this Scope of Work.

Project Management

Foster Morrison fully meets the requirements for providing the City of Garden Grove with a FEMA-approved LHMP. Our team has a proven track record in providing clients with responsive and timely service to meet project schedules and changing work needs. We are committed to managing this LHMP to meet the project scope, schedule, and budget. Jeanine Foster, the proposed project manager for this project, will provide the project management and project administration for this LHMP. This will include coordination meetings, communications, and monthly progress reports pertaining to the work, budget, and schedule. Regular communication and close coordination with the City of Garden Grove will be paramount to the successful and timely completion of this LHMP.

Phase I: Planning Process

The City of Garden Grove is the lead agency overseeing the planning process and development of the LHMP. The Foster Morrison team will work closely with the City to further define project goals and to clarify the mission and vision of the plan and its resulting mitigation activities.

Task 1: Organize Resources (Develop a Community Engagement Strategy)

Following a Notice to Proceed (NTP) and as part of organizing resources and pre-planning for this project, the City of Garden Grove and Foster Morrison will hold a conference call to review the project scope and schedule; discuss planning team participation and coordination; identify initial data sources and contacts; and plan the project kickoff meeting. Foster Morrison will work with the City to identify key community planning participants; will develop all meeting materials; and will facilitate all planning team and public meetings for this project.

Local Mitigation Planning Team (Planning Team)

A coordinated, engaged Planning Team comprised of key City and community stakeholders is critical to a successful mitigation planning process and resulting LHMP. Representatives from the City, other agencies, neighboring communities, and public and private stakeholders with an interest in hazard mitigation activities in the City of Garden Grove will be invited to participate in the LHMP development process through membership on the Planning Team. In addition, an LHMP Advisory Task Force (Task Force) will be developed to support the Planning Team and may include City residents, community leaders, government officials, local utilities, and business owners to provide for a representative cross-section of the community. It will be important to identify and engage key stakeholders in development of the LHMP through participation on the City Planning Team or Task force. Key stakeholders will include Fire and Police Departments, School Districts, the Chamber of Commerce, Hospitals, Red Cross, and representatives from local utilities, community-based organizations, state representatives, and others.

The intent of the Planning Team and Task Force is to be all-inclusive to ensure all governmental and non-governmental entities and public and private stakeholders have input into the plan development process. Foster Morrison will facilitate the work of these committees with leadership and support provided by the City.

Jurisdictional (City) Participation

The City of Garden Grove, requesting development of a FEMA-approved LHMP, is required to participate in the LHMP planning process as set forth by DMA regulations and guidance. For this LHMP, it is assumed that the City of Garden Grove will be the single participating jurisdiction required to comply with the following participation elements to receive FEMA plan approval:

- Provide input and local contacts for the makeup of the Planning Team and Task Force
- Provide representation on the Planning Team, attend meetings, and participate in planning process
- Assist in providing data and identifying hazards, risks and how the risk differs across the City planning area
- Identify, prioritize, and develop mitigation actions/projects for the City
- Distribute, review, and provide timely comments on the draft plan(s)
- Coordinate the public outreach process, attend public meetings to solicit input from community stakeholders
- Formally adopt the LHMP
- Manage the implementation of the resulting mitigation plan

All other jurisdictions and public and private stakeholders will be asked to support the planning process through representation on the City Planning Team and Task Force, providing data and input for the risk assessment and mitigation strategy; and reviewing and providing input on plan drafts prior to finalization and submittal to Cal OES and FEMA.

Kickoff Meeting

At the beginning of the process, a kickoff meeting of the City Planning Team and Task Force (Planning Meeting #1) will be held to present information on the hazard mitigation planning regulations and guidance, participation requirements, and project scope and schedule. Agency and stakeholder coordination and an initial strategy for public information and outreach will also be considered during this kickoff meeting.

Task 2: Public Involvement

Foster Morrison will work together with the City Planning Team to define a public information outreach strategy to ensure an effective public involvement process. Public outreach and community engagement efforts will be designed to educate the public on risks and vulnerability to identified hazards and the hazard mitigation planning process. This process will focus on soliciting input from the public to better inform the LHMP throughout the planning process and prior to submittal to Cal OES/FEMA.

Community engagement activities will leverage existing City outreach mechanisms where available and may include: inviting public stakeholders to serve on the Planning Team or Task Force; publicizing the activities of the LHMP development process through the City's website and social media; issuing press releases to local media outlets; hosting public meetings; and other outreach efforts to maximize engagement by all stakeholders. All outreach and coordination efforts and resulting input will be documented in a separate planning process appendix to establish a record for future efforts and to facilitate review and approval of the LHMP by Cal OES and FEMA.

Two sets of public meetings will be held as part of the public involvement process. These public meetings will be held separate from the Planning Team meetings and properly advertised. An early public meeting/hearing will be designed to provide an introduction to hazard mitigation planning and the LHMP development process. The second set of public meetings/hearings (two separate meetings) will be held to solicit public comments on the draft plan and to obtain feedback on the proposed mitigation strategies prior to finalization and submittal to Cal OES/FEMA.

Task 3: Coordinate with Other Agencies

DMA regulations require that the mitigation planning process include other organizations, agencies, neighboring communities, and key stakeholders. Representatives from local, state, and federal agencies and organizations with significant interests in the community, local land use development, natural and man-made hazards, and/or mitigation may be invited to join the Planning Team or Task Force or to provide other input into this LHMP planning process. This will include soliciting input regarding hazards, the prioritization of hazards, and the development of best practice mitigation approaches for each identified hazard of concern.

Data Collection and Review

Foster Morrison staff will work closely with the City Planning Team and Task Force to identify key resources and data to support the LHMP. In accordance with DMA standards, the LHMP will utilize best available data pertaining to identified hazards of concerns, risks, vulnerabilities, community assets and critical facilities, and existing community mitigation capabilities. The most current GIS datasets and local assessor data will also be collected to support the risk assessment analysis.

Coordination with Other Planning Efforts

Also integral to the DMA planning process is the coordination and integration with other community planning mechanisms as well as with other data and information from stakeholders and agencies. Foster Morrison will work with the City Planning Team and Task Force to identify and review City and other agency regulations and existing plans, programs, and policies from general plans, emergency operations plans, drought plans, floodplain management plans, watershed plans, stormwater master plans, capital improvement program planning and budgeting, and other relevant documents. These plans will be evaluated and integrated into this LHMP as appropriate. Foster Morrison will also work to ensure that the LHMP is aligned with the goals, objectives, and priorities of the 2018 State of California and 2015 Orange County Hazard Mitigation Plans.

Phase II: Risk Assessment

Foster Morrison will work with the City Planning Team and Task Force to develop the hazard risk assessment. This multi-hazard risk assessment will include all hazards of concern to the City and will use best available data to evaluate the risk and vulnerability from identified hazards. Where hazards and risks vary across the planning area, the differences will be noted. The risk assessment will assist the City in understanding and quantifying its risks and vulnerability to identified hazards and will form the basis of the mitigation strategy designed to reduce or eliminate risks and to reduce losses from future hazard events. As prescribed by DMA requirements, the risk assessment includes three primary components: 1) hazard identification and profiles; 2) vulnerability assessment; and 3) capability assessment.

Task 4: Assess the Hazard – Hazard Identification and Profiles

The first step in assessing the hazard is to identify and profile hazards as they affect the City of Garden Grove. This will include an evaluation of the hazard history and potential for both the City and region to be affected by various hazards. Hazards identified in existing plans, studies, and data available from local, state, and federal sources will be consulted. The 2018 State of California Hazard Mitigation Plan, the 2015 Orange County Hazard Mitigation Plan, the City of Garden Grove Public Safety Element from the General Plan, and the City's Emergency Operations Plan (EOP), will be reviewed for their current list of hazards. Hazards to be evaluated for inclusion in this LHMP include: flood-related hazards, earthquake hazards, wildfire hazards, severe weather-related hazards, drought, climate change hazards, man-made and technological, and other hazards identified by the City Planning Team and Task Force. The end result will be a finalized list of hazards of concern to the City.

For each identified hazard, hazard profiles will be developed to include a description of hazards that have or may occur within the City. This profile will include: a description of the hazard and its location and extent; severity and magnitude of the hazard; potential impacts; previous occurrences; hazard frequency, duration, speed of onset,

and recurrence interval (probability of future events). The hazards will be mapped and analyzed using GIS (as described further below) and/or other data and methodologies to identify and analyze areas within the City that are at risk and vulnerable to identified hazards. In addition, as mandated by the State, climate change issues will be considered and addressed to the extent they affect or exacerbate identified hazards.

Initial Prioritization

Utilizing the hazard identification and profiles, an initial prioritization of hazards will be conducted for the City to rank the relative importance of each hazard for further consideration in the plan development process. Based on input from the City Planning Team and Task Force, each hazard will be ranked into categories based on high, moderate, and low risk factors.

Task 5: Assess the Problem: Vulnerability Assessment

The next step of the risk assessment phase is to conduct a vulnerability assessment to determine the vulnerability of the City to identified priority hazards. The Foster Morrison team will evaluate available data and resources to determine the best approach and methodologies for analyzing community vulnerability to identified hazards of concern. Selected methodologies may include utilizing various loss estimation tools such as GIS mapping and analysis and Hazus (FEMA's loss estimation software) runs to assist in quantifying and portraying the risk from identified hazards to support mitigation strategy development and future community planning decisions.

Identify and Inventory Assets

The vulnerability assessment is designed to evaluate and quantify, where possible, potential hazard-related losses to the City. Critical to this analysis is conducting an inventory of key community assets. Federal, state, local, and community GIS resources, Orange County Assessor's data, and other best available data will be used to develop a comprehensive inventory of assets specific to the City and located in identified hazard areas which will be displayed in area maps and tables as data permits. It is important to note the goal of using best available existing data where feasible and to supplement as appropriate and necessary. Foster Morrison will work with the City Planning Team and Task Force to identify existing City and regional data and analyses. To the extent supported by available data, the following elements will be addressed:

- Number, types (by property use), and values of existing parcels and buildings in the City of Garden Grove and in mapped hazard areas, based on GIS and County Assessor data
- Identification of at risk populations and special populations, including access and functional needs populations
- Critical facilities, infrastructure, utilities, and services
- Transportation-related assets
- Communication systems
- Estimates of potential dollar losses per hazard utilizing Hazus or GIS
- Economic impact of potential losses
- Natural, cultural, and historic resources at risk, including natural and beneficial functions
- Land use, development trends, and future development areas in the City and in identified hazard areas

Estimate Potential Losses

Once the hazards and assets have been identified, profiled, and located, Foster Morrison will utilize established loss modeling techniques to estimate potential losses for priority hazards. For common hazards, such as earthquake and flood, Foster Morrison can make use of methods from past work, from GIS overlays of hazard and parcel/assessor data, and from FEMA publications and models, specifically Hazus and other recognized methodologies. For hazards with insufficient data or tools for identifying vulnerable assets and estimating losses, other methods will be used to identify those geographical areas and assets most at risk. A comprehensive database and corresponding maps will be developed that detail the structure, contents, and functions of any

potential losses that could occur as a result of a potential hazard. The end result will be a detailed analysis of the potential financial impact associated with identified losses.

Analyze Development Trends

DMA planning requires an analysis of the existing built environment and future development relative to potential hazard impacts. Understanding the current land use, zoning, development trends, and future development plans within a community is a key component of the risk assessment. This will include identification and mapping of existing and proposed land uses and areas identified for future development. Also included will be a detailed accounting of development densities in the identified hazard areas and along the perimeters of the City of Garden Grove as well as documentation of anticipated future changes in the City's land use or development. The results of this assessment will provide the City with critical information for developing a sound, forward-thinking mitigation strategy as well as determining where and how to grow in the future.

Capability Assessment

The capability assessment is the final step of the risk assessment. Foster Morrison will conduct a capability assessment to identify existing technical, financial, and other mitigation capabilities of the City of Garden Grove. By collecting information about existing capabilities, the City Planning Team and Task Force can assess those activities and measures already in place that mitigate risk and vulnerability to identified hazards and to support the development of effective mitigation strategies.

Multi-Jurisdictional Risk Assessment

In accordance with DMA requirements, the risk and vulnerability assessment will include an analysis of the risk and vulnerability of the City to identified hazards and will illustrate through updated maps, tables and other methods how the risk and vulnerability varies across the planning area and specific to the diverse communities of the City. This will include an assessment of risks that may be specific or unique to the City's special needs areas.

Final Hazard Prioritization

Following completion of the risk assessment, Foster Morrison will work with the City Planning Team and Task Force to prioritize hazards of significance based on high, medium, and low risk factors. This final prioritization process is an important element in plan development as it allows the City to focus resources on significant hazards to the community, resulting in a more focused, achievable mitigation strategy for the plan. The results of the risk assessment will be presented at Planning Team Meeting #2.

Phase III: Develop Mitigation Strategy (Plan)

The mitigation strategy is ultimately the most important part of the plan. While the risk assessment defines the risks and vulnerability of a planning area, the mitigation strategy contains the mitigation action items and projects that will be implemented over the five-year life of this LHMP to reduce hazard-related losses, make the community more disaster resistant, and to better recover when disasters do occur.

During the mitigation strategy development phase of this LHMP, Foster Morrison will develop a complete plan draft that will: document the mitigation planning process; document the results of the risk assessment; detail plan goals and objectives; and identify and prioritize mitigation actions designed to minimize the effects of hazards on the City of Garden Grove.

Task 6: Set Goals

Using the results of the risk assessment, Foster Morrison will work with the City Planning Team and Task Force to develop hazard mitigation and adaptation goals and objectives for the LHMP. The goals and objectives will reflect the community's long-term vision to reduce the risk to people and property within the City and will focus on enhancing overall mitigation capabilities.

Goals and objectives from other City plans and policies (e.g., General Plan, Emergency Operations Plan, watershed/stormwater plans, climate plans), as well as state plans and policies (such as the 2018 California and 2015 Orange County Hazard Mitigation Plans), will be compiled and analyzed to ensure consistency with existing programs and other plan goals and objectives. Plan goals and objectives will be developed during Planning Team Meeting #3.

Task 7: Review Possible Activities

Once plan goals and objectives have been developed for the City of Garden Grove, Foster Morrison will work with the City Planning Team and Task Force to identify, analyze, and prioritize a comprehensive range of mitigation actions and projects.

Utilizing the risk assessment and considering other ongoing community mitigation programs policies and plans, mitigation actions will be developed with input from the City Planning Team and Task Force. The review and assessment of mitigation actions and projects will occur at Planning Team Meeting #4, where a comprehensive range of potential mitigation actions will be identified for each priority hazard designed to reduce hazard impacts and disaster losses and to meet the LHMP goals and objectives. Identified mitigation projects will address the effects of hazards on future development and new structures as well as on existing buildings and infrastructure. In developing mitigation alternatives, this plan will adhere to the model of mitigation activities promoted by DMA and CRS, which classifies mitigation measures into the following six categories: Prevention, Property Protection, Emergency Services, Structural Projects, Natural Resource Protection, and Public Information Programs.

The mitigation actions will be reviewed to ensure best practices and to identify mitigation partnerships where feasible. The end result of this mitigation planning process will be a list of prioritized hazard mitigation action items that best meet the City of Garden Grove's needs for hazard damage reduction.

Task 8: Draft an Action Plan: Mitigation Implementation Strategy

Upon finalization of goals and objectives and mitigation actions and projects, the Planning Team and Task Force will develop priority actions for inclusion in the mitigation strategy portion of the plan. A comprehensive, prioritized mitigation strategy is paramount in focusing community resources to reduce City vulnerability to the destructive consequences of hazards and to promote efficient recovery and reconstruction when disasters do occur.

This process will involve using a set of criteria, a "scoring" system, for prioritizing potential mitigation actions and projects to ensure that they: are reasonable and achievable; reflect the priorities of the City and are based on the risk assessment. Fundamental to the prioritization process for mitigation measures are key factors such as life, property, health, and safety protection, as well as qualitative cost benefit considerations and the availability of FEMA or other funding sources for any given project. The STAPLEE approach promoted by FEMA will be used as a framework for developing additional prioritization criteria. The STAPLEE approach analyzes the Social, Technical, Aministrative, Political, Legal, Economic, and Environmental feasibility of proposed mitigation actions.

Foster Morrison, will work with the City Planning Team and Task Force to develop an implementation strategy plan for each identified mitigation project that will provide information on project implementation, including a description of the project details, risk reduction goals, alternative actions considered, benefit-cost considerations, possible funding sources, project schedule, and responsible agency. The end result will be a mitigation action strategy of prioritized projects for the City of Garden Grove.

Task 8a: Draft Plan

Using state and federal guidance to ensure that all DMA requirements are being met, a complete first draft of the LHMP will be prepared for review by the City Planning Team and Task Force. This will result in a

comprehensive LHMP that presents all relevant data and includes a community profile/demographics, planning process, risk assessment, mitigation strategy implementation plan, and procedures for plan maintenance.

Document the Mitigation Planning Process

The plan development process will be thoroughly documented, including the evaluation of risks and vulnerability of hazards to the City and the process used to identify, analyze, and prioritize the mitigation strategy. A separate planning process chapter will be developed to document the plan development process, which will include establishing a record of meetings and participation. This chapter will also detail coordination with other agencies and integration with other planning mechanisms as well as the process that will be used to implement and maintain the LHMP. A detailed description of the public outreach and education strategies implemented for this LHMP will be included and thoroughly documented.

Plan Review and Finalization Process

A complete first draft of the LHMP will be provided to the City Planning Team and Task Force for review and comment. The City Planning Team and Task Force's comments and revisions will be incorporated into a second public review draft and distributed to the stakeholders and the public for review and comment via the City website. All public and private stakeholders will have an opportunity to provide input to the plan, both during the drafting stage and prior to submittal to Cal OES/FEMA. Two public meetings will be held to solicit comments on the draft plan and proposed mitigation strategies prior to submittal to Cal OES/FEMA as described in Task 2 of this Scope. One (or both) of these final meetings will include a targeted presentation to City Council on the draft plan to facilitate later adoption of the plan by the City. A final Planning Team Meeting #5, will be held to discuss any public comments and final input into the plan document.

Phase IV: Plan Maintenance Process

Task 9: Final Plan Submittal and Adoption

Based on feedback from the public meeting and final input during Planning Team Meeting #5, a final draft in both digital and hard copy will be developed for submittal to Cal OES and FEMA for preliminary review and approval. Based on this review, requested changes to the draft LHMP will be made and a master electronic and hard copy of the LHMP will be developed to assist with City adoption. Foster Morrison will make all revisions and will work with Cal OES and FEMA to ensure that the LHMP receives approval from Cal OES and FEMA for formal adoption by the City.

Task 10: Develop Procedures to Implement, Monitor, and Update the Plan

Foster Morrison will work with the City to determine procedures and a schedule for implementing, monitoring, evaluating, and updating the City of Garden Grove LHMP. The plan maintenance requirements will be developed to ensure the plan is a living document updated annually to reflect new and changing hazards, conditions, and new state and federal requirements. This will include:

- A method and schedule of monitoring, evaluating, and updating the plan, which includes criteria used, responsible office, and process for annual reviews and a formal five-year update.
- A process by which the plan will be incorporated into other existing planning mechanisms and requirements such as the City EOP, General Plan, ordinances, fiscal budgets, and other related planning mechanisms.
- A discussion of how the City will continue to involve the public in the plan maintenance and update process and documentation of all public involvement activities.

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7. Project Schedule

Generally, the LHMP development process takes 12 to 18 months, or longer, from project kickoff to plan submittal and approval by Cal OES and FEMA. Foster Morrison can initiate this project immediately with an executed agreement with the City. Currently the City is proposing a plan development process of 20 months in duration. With an agreement signed and a project start by October 15, 2018, Foster Morrison is prepared to conduct all plan development activities and submit the completed LHMP to Cal OES/FEMA in December of 2019 (a 15 month duration). It is recommended that a shortened schedule (from that included in the City's RFP) be implemented so that the City can best capitalize on the benefits of having a FEMA approved plan including an earlier opportunity to pursue FEMA mitigation grant funds. A proposed schedule is shown in Table 3.

Once submitted, plan adoption and final plan submittal to the City is subject to timely reviews by Cal OES and FEMA. Foster Morrison will make requested changes from Cal OES and FEMA to obtain a FEMA-approved LHMP for the City.

Upon contract award, identified timeframes and overall schedule can be modified and/or expedited to better reflect the needs of the City of Garden Grove.

Table 3 City of Garden Grove – LHMP Schedule (2018-2019)

Phase/Task	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Phase I: LHMP Planning/Development Process															
Task 1: Organize Resources															
Planning Team #1 - Kickoff/Public Mtg #1															
Task 2: Public Involvement															
Task 3: Coordinate with Other Agencies															
Phase II: Risk Assessment															
Task 4: Assess the Hazard															
Task 5: Assess the Problem															
Capability Assessment															
Planning Team #2															
Phase III: Mitigation Strategy															
Task 6: Set Goals															
Task 7: Review Possible Activities															
Planning Team #3 and #4															
Task 8: Draft an Action Plan															
Task 8a: Draft Plan															
Mitigation Action Worksheets due from Planning Team															
Draft Plan to City Planning Team/Task Force															
Planning Team/Task Force Review and Comments to FM															
Public Review Draft to City															
Planning Team #5/Public Mtg. #2															
Public Review and Comments															
Phase IV: Plan Maintenance Process															
Task 9: Final Plan Submittal and Adoption*															
Plan Submittal to Cal OES/FEMA															
Task 10: Procedures to Implement, Monitor and Update Plan															

City of Garden Grove LHMP Proposal Pricing

Foster Morrison will execute the proposed Scope of Work for a not-to-exceed, fixed price fee of \$74,400 as detailed below. Execution of the Scope of Work within the proposed fee will meet the City of Garden Grove's expectations to provide the City with a DMA-compliant, FEMA-approved LHMP.

Table 1, LHMP Proposal Pricing Summary, provides a summary of our fees broken out by project phase and includes all labor and direct costs. Table 2 is a detailed breakout of costs further delineated by task and broken out by labor and direct costs as described in our Scope of Work and as requested in the RFP. This table includes a schedule of hourly rates for all proposed staff and the amount of time each person will be devoted to this project. Direct costs include all reimbursable expenses such as travel and materials. Assumptions used in development of project costs are also identified.

Table 1 City of Garden Grove LHMP Proposal Pricing Summary

Description (by Project Phase and Task)	Labor Costs	Direct Costs	Total Costs
Phase I LHMP Planning/Development Process			
Task 1: Organize Resources	\$4,880.00	\$1,234.00	\$6,114.00
Task 2: Public Involvement	\$4,880.00	\$0.00	\$4,880.00
Task 3: Coordinate with Other Agencies	\$4,880.00	\$0.00	\$4,880.00
Total Phase I	\$14,640.00	\$1,234.00	\$15,874.00
Phase II Risk Assessment			
Task 4: Assess the Hazard	\$8,240.00	\$0.00	\$8,240.00
Task 5: Assess the Problem	\$14,960.00	\$0.00	\$14,960.00
Capability Assessment	\$4,720.00	\$1,476.00	\$6,196.00
Total Phase II	\$27,920.00	\$1,476.00	\$29,396.00
Phase III Mitigation Strategy			
Task 6: Set Goals	\$4,880.00	\$1,526.00	\$6,406.00
Task 7: Review Possible Activities	\$6,080.00	\$75.00	\$6,155.00
Task 8: Draft an Action Plan	\$5,680.00	\$1,239.00	\$6,919.00
Total Phase III	\$16,640.00	\$2,840.00	\$19,480.00
Phase IV Plan Maintenance Process			
Task 9: Adopt the Plan	\$4,720.00	\$250.00	\$4,970.00
Tasks 10: Implement, Evaluate & Revise	\$4,680.00	\$0.00	\$4,680.00
Total Phase IV	\$9,400.00	\$250.00	\$9,650.00
LHMP Update: Total Estimated Costs	\$68,600.00	\$5,800.00	\$74,400.00

Table 2 City of Garden Grove LHMP Proposal Pricing Detail

Item	Phase I: LHMP Planning Development Process				Phase II: Risk Assessment				Phase III: Mitigation Strategy				Phase IV: Plan Maintenance Process										
	Task 1: Organize Resources (HMP; Mfg #1; Pub Mfg #1)	Task 2: Public Involvement	Task 3: Coordinate with Other Agencies	Task 4: Assess the Hazard	Task 5: Assess the Problem	Capability Assessment (HMP; Mfg #2)	Task 6: Set Goals (HMP; Mfg #3)	Task 7: Review Possible Activities (HMP; Mfg #4)	Task 8 & 9: Develop an Action Plan/ Draft Plans (HMP; Mfg #5; Pub. Mfg #2)	Task 9: Final Plan Submission & Additional City Council Mfg	Task 10: Implement, Monitor & Update the Plan	Total Estimated Costs											
	Hours	Rate	City	Chief	Hours	Rate	City	Chief	Hours	Rate	City	Chief	Hours	Rate	City	Chief	Hours	Rate	City	Chief			
PROFESSIONAL SERVICES																							
Howell GAGC Specialist	\$ 100.00	4.5	400.00	4.5	400.00	4.5	400.00	4.5	400.00	8.0	500.00	8.0	500.00	12.0	1,200.00	4.5	400.00	4.5	400.00	4.5	400.00	56.5	5,600.00
Foster PMS/Senior Planner	\$ 120.00	24.0	2,880.00	24.0	2,880.00	16.5	1,920.00	16.5	1,920.00	24.0	2,880.00	24.0	2,880.00	24.0	2,880.00	16.5	1,920.00	24.0	2,880.00	24.0	2,880.00	240.5	28,800.00
Morrison Lead Planner/Technical Editor	\$ 100.00	16.5	1,600.00	16.5	1,600.00	16.5	1,600.00	16.5	1,600.00	40.5	4,000.00	24.0	2,400.00	16.5	1,600.00	24.0	2,400.00	14.5	1,400.00	24.0	2,400.00	246.5	24,600.00
Gutierrez GIS/Risk Assessment	\$ 80.00	5.0	400.00	5.0	400.00	5.0	400.00	5.0	400.00	96.5	7,680.00	5.0	400.00	5.0	400.00	5.0	400.00	5.0	400.00	5.0	400.00	120.5	9,600.00
TOTAL PROFESSIONAL SERVICES			\$ 6,114.00	\$ 4,800.00	\$ 6,114.00	\$ 6,114.00	\$ 4,800.00	\$ 6,114.00	\$ 6,114.00	\$ 14,980.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 74,400.00	
DIRECT EXPENSES																							
Air Travel	\$425	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	1.0	425.00	4.0	1,700.00
Car Rental	\$200	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	1.0	200.00	3.0	600.00
Per diem	\$237	2.0	474.00	2.0	474.00	2.0	474.00	2.0	474.00	3.0	711.00	3.0	711.00	2.0	474.00	2.0	474.00	2.0	474.00	2.0	474.00	10.0	2,370.00
Parking/Baggage/Meat	\$65	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	1.0	65.00	4.0	260.00
Priority Mail and Shipping	\$45	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00	5.0	225.00
Photocopying, Color Printing	\$25	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00	5.0	125.00
TOTAL LABOR AND DIRECT COSTS			\$ 6,114.00	\$ 4,800.00	\$ 6,114.00	\$ 6,114.00	\$ 4,800.00	\$ 6,114.00	\$ 6,114.00	\$ 14,980.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 6,114.00	\$ 74,400.00	
Breakout by Phase																							
Phase I Planning Process	Total Hours	132	Total Hours	292	Total Hours	152	Total Hours	182	Total Hours	162	Total Hours	162	Total Hours	162	Total Hours	162	Total Hours	162	Total Hours	162	Total Hours	162	
Phase II Risk Assessment	Total Hours	14,610.00	Total Hours	2,840.00	Total Hours	27,920.00	Total Hours	16,840.00	Total Hours	86	Total Hours	86	Total Hours	86	Total Hours	86	Total Hours	86	Total Hours	86	Total Hours	86	
Phase III Mitigation Strategy	Total Hours	15,874.00	Total Hours	1,476.00	Total Hours	20,390.00	Total Hours	19,460.00	Total Hours	0.00	Total Hours	0.00	Total Hours	0.00	Total Hours	0.00	Total Hours	0.00	Total Hours	0.00	Total Hours	0.00	
Phase IV Plan Maintenance	Total Hours	9,400.00	Total Hours	250.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	Total Hours	9,650.00	

LHMP Cost Assumptions

The following is a summary of cost assumptions to the development of the LHMP:

- Monies associated with labor and direct expense costs will be interchangeable as needed, between labor and direct costs and between project phases and tasks, to complete project requirements.
- The City of Garden Grove will be the single participating jurisdiction seeking FEMA approval of the plan.
- Four trips total are planned by the Foster Morrison planning team to accommodate the five Planning Team Meetings and two sets of Public Meetings.
- City staff will assist with coordinating and advertising public meetings.
- This cost assumes one color copy of the plan to be provided to Cal OES and FEMA for the formal submittal and one hard and electronic color copies of the final plan document to be provided to the client to support plan adoption and for final plan submittal. All other interim plan submittals to the client and Planning Team will be done electronically.
- City staff will coordinate and facilitate the plan's adoption. City will support the DMA planning process requirements as previously described in a timely manner in order to meet the schedule within the proposed budget.
- In accordance with DMA guidelines, only existing best available data will be used during this planning process, no new source data will be created.
- This cost estimate remains valid for 120 days.