



RESOLUTION AUTHORIZING 2010  
WATER REVENUE DEBT OBLIGATIONS  
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Enterprise. The water revenue obligations will be issued by means of a competitive sale method, limited negotiated sale or private placement, whichever produces the lowest overall cost of borrowing.

At this time, it is anticipated that the debt would be structured to provide level debt service payments through the financing period. Preliminary analysis by the Financial Advisor indicates that the debt would be issued as uninsured, fixed rate certificates of participation (COPs) with a debt service reserve fund sized at the lesser of maximum annual debt service, 10 percent of the par amount of the COPs or 125 percent of the average annual debt service requirement. In today's market, it is anticipated that the 20-year COPs could be issued at a net interest cost of approximately 5 percent or less. The Financial Advisor will assist staff in assessing the California COPs market conditions at the time of the COPs sale to determine the appropriateness of the interest rates and other terms of offers received. February 24, 2010, is the target closing date.

Given the current low interest rate and the general economic environment, it is worthwhile for the City to assemble and retain the required financing team as quickly as possible in order to be prepared to issue the COPs under the best sales conditions and before interest rates start to rise. An authorizing Resolution of the City Council has been prepared which authorizes the assembling of a financing team that includes a Financial Advisor, Bond Counsel, Disclosure Counsel, Fiscal Agent, Trustee, Verification Agent, and when necessary, an Underwriter required to prepare, market and actually sell the debt. Staff deems the following actions appropriate and necessary under the circumstance with respect to each team member.

Financial Advisor

Staff has been working with Bill Reynolds, of Sequoia Financial Group, LLC, as the Financial Advisor to research and assemble this COPs financing under the same fee terms as the City has paid for such services in the past. The Financial Advisor has agreed to accept the fee terms, and continue to provide services as indicated in Attachment B. With these terms in place, staff would continue to use Sequoia Financial Group, as the Financial Advisor for this revenue obligation and other assignments as required.

Bond Counsel

Staff intends to use the Law Offices of Stradling Yocca Carlson & Rauth, as the Bond Counsel for this assignment. The law firm has an existing agreement with the Agency for Community Development and has worked with the City on previous bond and COPs issuances. The fee structure for this assignment would be the same as was agreed in prior bond deals.

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Disclosure Counsel

The law firm of Jones Hall also has been engaged to act as disclosure counsel for the 2010 Certificates on substantially the terms on file with the City for prior bond deals.

Underwriter

Staff is planning to leave the underwriting options open at this point in time. A targeted competitive method of sale may work best for this transaction. As stated earlier, the City would pursue the method of sale that will yield the lowest overall cost of borrowing. In any case, the water revenue obligations will be issued either by means of a competitive sale method, limited negotiated sale or private placement, whichever produces the lowest overall cost of borrowing.

Other Team Members and Facilitators

Staff will work with the Financial Advisor and Counsel to solicit scope of service and price quotes, and select a fiscal agent, trustee, verification agent, and others necessary to complete this debt issuance.

Upon completion of all the necessary groundwork (e.g., legal documentations, debt structuring and marketing, etc.) leading up to the actual sale of the revenue obligations, a resolution to consummate the bond deal would be brought to the City Council for final approval.

FINANCIAL IMPACT

Issuance of the revenue obligation would yield construction funds of about \$16.5 million, the first tranche of the required \$32 million approved to execute the Water Enterprise capital program.

It is important to note that the continued success of the Plan is dependent on the continued implementation of the approved rate adjustments of five percent over these next two years. Furthermore, our original assumption based on discussions over three years ago with Metropolitan Water District (MWD) that costs for imported water would increase by five percent on an annual basis has been supplanted by new information from MWD. The Council recently considered and approved the requisite adjustments to rates to accommodate the wholesale water cost pass-through.

Based on the current interest rate environment, it is expected that the revenue obligations would be issued at a net interest cost of approximately five percent or less. Underwriter's discount is projected to be about .50 percent or \$5.00 per \$1,000 of COPs. The estimated total cost of issuance of this debt is projected at under \$200

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thousand, which would go to compensate the various financing team members including the Financial Advisor, Bond Counsel, Disclosure Counsel, Fiscal Agent, and Verification agent, etc.

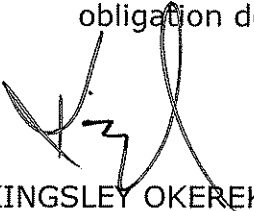
COMMUNITY VISION IMPLEMENTATION

Approval of this bond resolution is consistent with the community vision of "A Well Maintained Community" and advances the Strategic goal of maintaining and upgrading the water system to ensure maximum protection of public health and the environment.

RECOMMENDATION

It is recommended that the City Council take the following actions:

1. Adopt the resolution authorizing the issuance of Water Revenue Obligation in an amount not to exceed \$32 million in net water project funds;
2. Direct the City Manager to execute a three year contract with Sequoia Financial Group LLC, and appoint same as the City's Financial Advisor for this assignment, as described herein;
3. Direct the City Manager to appoint Stradling, Yocca, Carlson & Rauth as the Bond Counsel for this assignment, as described herein;
4. Direct the City Manager to appoint Jones Hall Law Firm as the Disclosure Bond Counsel for this assignment, as described herein; and
5. Authorize the City Manager or his designee to enter into all other necessary agreements to assemble the financing team including Underwriter, Trustee, Fiscal Agent, etc., to effectively ready the issuance of the 2010 water revenue obligation debt.

  
KINGSLEY OKEREKE  
Finance Officer

**Recommended for Approval**

  
**Matthew Ferial**  
City Manager

Attachments:

- Attachment A – CIP/Water Master Plan
- Attachment B – Financial Advisor Doc
- Attachment C – Resolution

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**CAPITAL IMPROVEMENT PROGRAM**

This chapter presents the recommended capital improvement program (CIP) for the City of Garden Grove (City) water distribution system. The CIP summarizes the recommended improvements, phasing, cost estimates, and the allocation of project cost for the recommended water system improvements. The purpose of this CIP is to provide the City with a guideline for the planning and budgeting of future improvements to its water system. The CIP is based on the evaluation of the City's water distribution system, and on the recommended projects described in previous chapters.

**10.1 CAPITAL IMPROVEMENT PROJECT COSTS**

Cost estimates presented in this master plan are based on the current Engineering and News Record (ENR) cost index for the Los Angeles metropolitan area of 9266 published in June 2008. In this report, the costs presented as Total Project Costs are present worth costs at this ENR number. Costs labeled Escalated Capital Costs are escalated using an annual Consumer Price Index of 4 percent to the mid-year of each five-year phasing period.

Total Project Cost estimates include estimated costs for construction, construction cost contingency, engineering, design, construction management, and miscellaneous cost, such as environmental fees. The cost estimates presented in this study for construction are opinions developed from bid tabulations, cost curves, information obtained from previous studies, and Carollo Engineers, P.C. (Carollo) experience on other projects.

**10.1.1 Cost Estimating Accuracy**

The cost estimates presented in the CIP have been prepared for general master planning purposes and for guidance in project evaluation and implementation. The actual costs of a project will depend on actual labor and material costs, competitive market conditions, final project scope, implementation schedule, and other variable factors such as: preliminary alignment generation, detailed utility surveys, and environmental and local considerations.

The Association for the Advancement of Cost Engineering (AACE) defines an order of magnitude estimate for master plan studies as an approximate estimate made without detailed engineering data. It is normally expected that an estimate of this type would be accurate within +50 percent to -30 percent. This section presents the assumptions used in developing order of magnitude cost estimates for recommended facilities.

At the City's request, a factor of 60 percent of the estimated construction cost is included in the project cost estimates. Half of this factor accounts for construction cost contingency and half accounts for the estimated costs of engineering design and construction management. Factors for administration and legal counsel are not included in this estimate. These cost assumptions are listed in Table 10.1.

Table 10.1 General Cost Estimating Assumptions Water Master Plan City of Garden Grove	
Description	Value
Construction Cost Contingency	30% of the construction cost (CC) <sup>(1)</sup>
Engineering, Design, and Construction Management	30% of the construction cost (CC) <sup>(1)</sup>
Total Project Cost <sup>(2)</sup>	160% of the CC
<b>Notes:</b>	
(1) Construction cost includes direct construction cost, and materials and labor contingency cost.	
(2) Total Project Cost includes the construction cost, contingency, engineering, and construction management cost.	

The cost estimates are based on current perceptions of conditions at the project locations. These estimates reflect Carollo's professional opinion of costs at this time and are subject to change as the project details are defined. Carollo has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding, or market conditions, practices, or bidding strategies. Carollo cannot, and does not, warrant or guarantee that proposals, bids, or actual construction costs will not vary for the costs presented herein.

### 10.1.2 Unit Construction Cost

The construction cost estimates presented in this report are based on the unit construction costs listed in Table 10.2. Construction costs for distribution system pipelines include pipe material, valves, appurtenances, excavation, installation, bedding material, backfill material, transport, and paving where applicable. While no pipe material is specified in the unit construction costs, pipe materials used in comparable bid tabs for diameters through 12 inches were PVC and DIP is assumed for larger pipelines. The costs of acquiring easements for pipeline construction are not included in this estimate, although most distribution pipeline routings are within existing City street right-of-way.

Within Table 10.2, markups have been included for special construction considerations. A 150 percent markup is included for jack and bore construction, to be considered for improvements crossing the freeway or a railroad. A markup is also included for construction in arterial streets, such as Harbor Blvd., to account for the increased costs of temporary traffic control, reduced construction hours, and alternate construction phasing associated with working on arterial streets.

For groundwater wells, three separate unit costs are included. Costs for drilling a new well include the cost of drilling and the casing. The cost of equipping a well is intended to include costs of the pump and motor or engine, as well as any site piping, housing, control, and electrical equipment. The cost of fully equipping a new well is the sum of the costs for drilling and equipping. A separate unit cost is included for site modifications and control systems to place a well on SCADA. This is intended to automate existing manually operated wells and connect to the SCADA system, including costs of adding piping to connect the flush lines of the wells to storm drain.

For booster pumping stations, three unit costs are included based on the size of pump. Unit costs are estimated per horsepower of design size.

For emergency interconnections, a unit cost is included assuming the connection consists of a simple valve and meter connecting the two distribution systems. No automation is assumed.

For pressure reducing stations, a unit cost is included for stations requiring two valves and stations requiring three valves. Unit costs assume construction of an underground vault and connection to SCADA. Valve size not assumed to be a significant factor in these unit costs, so they may not be applicable for larger sized pressure reducing valves.

Table 10.2 Unit Construction Cost Water Master Plan City of Garden Grove	
Category	Unit Construction Cost
<b>Pipelines</b>	<b>\$/lineal ft.</b>
6-inch diameter	\$66
8-inch diameter	\$88
10-inch diameter	\$110
12-inch diameter	\$126
14-inch diameter	\$147
16-inch diameter	\$168
18-inch diameter	\$189
20-inch diameter	\$210
24-inch diameter	\$240
30-inch diameter	\$285
36-inch diameter	\$323
<b>Special Pipeline Construction</b>	<b>Markup (%)</b>
Arterial Street	150% of standard unit cost
Jack-and-Bore Crossings	150% of standard unit cost

Table 10.2 Unit Construction Cost Water Master Plan City of Garden Grove	
Category	Unit Construction Cost
<b>Groundwater Well Construction</b>	<b>\$/well site</b>
Drilling of New Wells	\$800,000
Equipping Well	\$700,000
Site Modifications to Place on SCADA	\$100,000
<b>Booster Pumping Stations</b>	<b>\$/hp</b>
<100 hp	\$6,000
100-500 hp	\$4,750
600-1,000 hp	\$4,000
<b>Miscellaneous</b>	<b>\$/item</b>
Emergency Interconnections	\$100,000

## 10.2 SUMMARY OF SYSTEM RECOMMENDATIONS

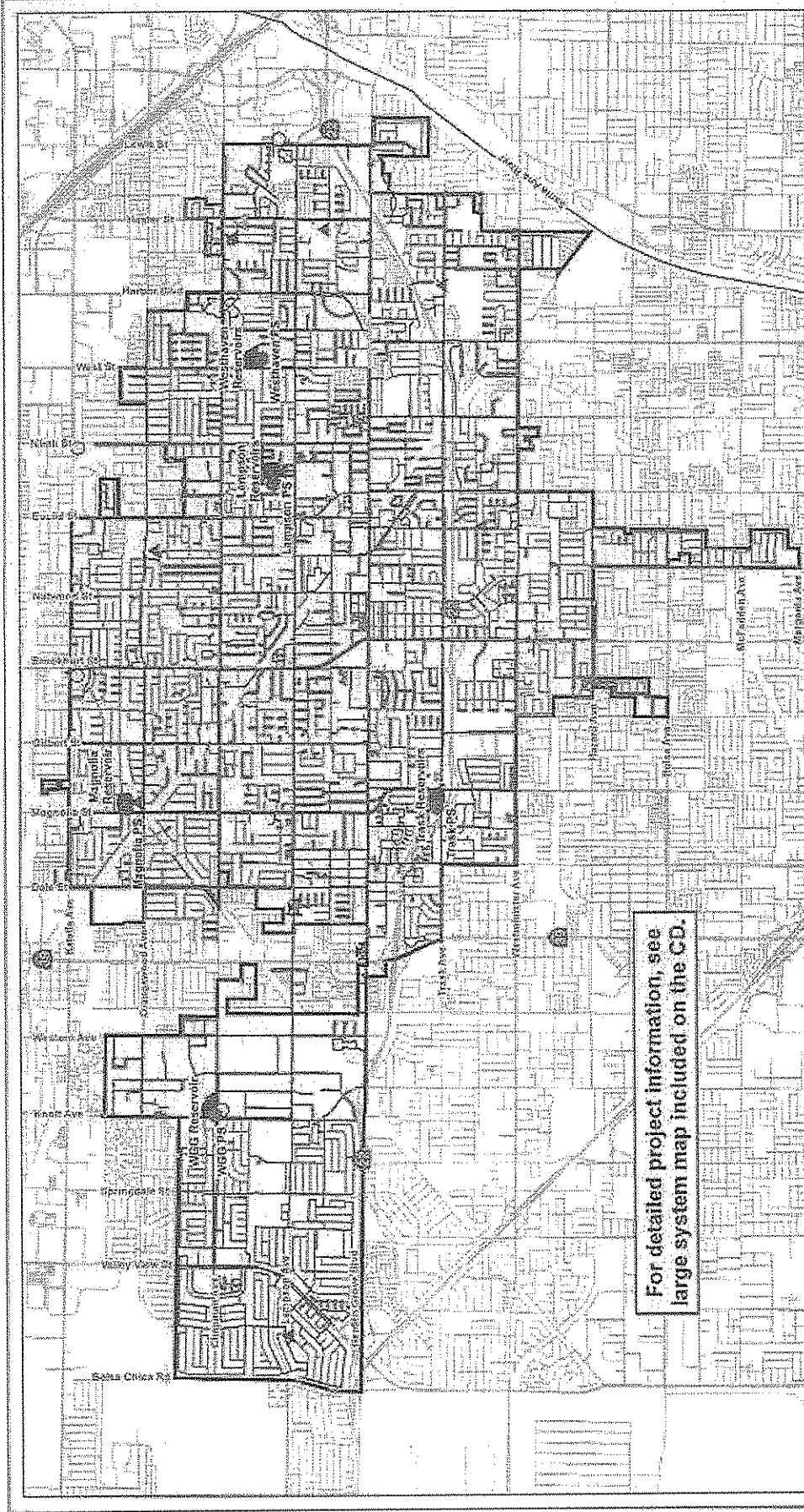
The City's potable water system and water supply facilities were evaluated using the criteria discussed in Chapter 5. The evaluation was conducted for the existing conditions (with 2007 demands and the 2007 water facilities in place), as well as the future conditions with the demands projected for year 2027.

Based on the evaluations the recommendations are divided into three categories:

1. Near-Term Improvements (NTI): These are projects that are currently under construction or design, or already planned for the near future in the City's CIP (see Appendix H);
2. Existing System Improvements (ESI): These are water system improvements that address deficiencies in the 2007 water network; and
3. Future System Improvements (FSI): These are improvements necessary to meet the projected demand in 2027 with the near-term improvements and existing system improvements in place.

Each improvement project is listed with a Map ID, which identifies the project on Figure 10.1, Capital Improvement Program. The Map ID also corresponds with the Term of the project: NTI Map IDs start with the designation "N", ESI with "X", and FSI with "F".





For detailed project information, see large system map included on the CD.

**FIGURE W-1**  
**CAPITAL IMPROVEMENT PROGRAM**  
**WATER MASTER PLAN**  
**CITY OF GARDEN GROVE**

**Legend**

- Reservoirs
- Pumps
- Manholes
- Wells
- Existing System Improvements
- Pipes by Diameter
  - 6" dia. Smaller
  - 8" - 10"
  - 12" and Larger
- Streets
- Scale 400 Feet
- City Limits

0 0.5 1 Miles

**City of Garden Grove**

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### 10.2.1 Near-Term Improvements

The near-term improvements listed in Table 10.3 include a variety of projects already planned by the City as a part of its 10-year CIP within the 2007 Water Rate Study. The full 10-year CIP from the 2007 Water Rate Study is located in Appendix H. Projects in the design or construction phase as of December 2007, or brought online during this master plan are also included in the near-term improvements category. The near-term improvements are identified on Figure 10.1, Capital Improvement Program (enclosed with this report) by the Map ID listed in Table 10.3.

Category	Description	Anticipated Year	Map ID
Supply	Well 30	2008	N_GW_30
Other	Replace Misc. Distribution System Appurtenances (BO, ARV, Vac)	2008-2017	N_RPL_01
Other	Service Line Replacements	2008-2017	N_RPL_02
Other	Fire Hydrant Replacements	2008-2017	N_RPL_03
Other	Meter Replacements	2008-2017	N_RPL_04
Other	Gate Valve Replacements	2008-2017	N_RPL_05
Supply	Well 19 Rehabilitation	2011	N_GW_RPL_01
Supply	Well 21 Rehabilitation	2009	N_GW_RPL_02
Supply	Well 25 Rehabilitation	2013	N_GW_RPL_03
Supply	Well 16 Replacement	2014	N_GW_RPL_04
Water Facilities	Booster Pump Replacement - Westhaven	2008-2017	N_RPL_06
Water Facilities	Booster Pump Replacement - Lampson	2008-2017	N_RPL_07
Water Facilities	Booster Pump Replacement - Magnolia	2008-2017	N_RPL_08
Water Facilities	Booster Pump Replacement - Trask	2008-2017	N_RPL_09
Water Facilities	Booster Pump Replacement - West GG	2008-2017	N_RPL_10
Water Facilities	Natural Gas Engine Replacement - West GG	2010	N_RPL_11
Water Facilities	Natural Gas Engine Replacement - Westhaven	2013	N_RPL_12
Water Facilities	Natural Gas Engine Replacement - Lampson	2015	N_RPL_13
Water Facilities	Natural Gas Engine Replacement - Magnolia	2017	N_RPL_14
Water Facilities	Exhaust Stack Corrections	2009	N_MISC_01
Water Facilities	West GG Sumps	2009	N_MISC_02
Water Facilities	Cathodic Protection	2009	N_MISC_03
Water Facilities	Westhaven Reservoir Roof Cracks	2017	N_MISC_04
Notes:			
Source: 2007 Water Rate Study 10-Year CIP, See Appendix H			

With the exception of Well 30, financing of these projects is established as a part of the water rate study. The original capital improvement program, as taken from the water rate study, is presented in Appendix H excluding items budgeted for FY07-08. Costs for Well 30 are not included, as this well has already been financed.

Several NTI projects are anticipated to be on going. These include replacement of appurtenances in the distribution network such as blow-offs and air release valves, as well as pump rehabilitation. For the last two planning periods, these projects were continued as existing system improvements, assuming annual costs equivalent to the average of the initially budgeted 10-year near term CIP.

### 10.2.2 Existing System Improvements

The existing system improvements listed in Table 10.4 were identified to address deficiencies under 2007 demand conditions. The justification for these improvements is discussed in detail in Chapter 8 or following Table 10.4. The Map ID listed in Table 10.4 identifies these improvements shown on Figure 10.1. Improvement projects similar in nature have been grouped due to the total number of recommended improvements (e.g., fire flow improvements are not listed individually in Table 10.4).

A detailed breakdown of the Capital Improvement Program can be found in Table 10.9 at the end of this chapter with projects listed individually.

Table 10.4 Existing System Improvements Summary Water Master Plan City of Garden Grove				
Category	Description	Number of Projects	Total Length	Map ID <sup>(1)</sup>
Pipelines	Fire Flow Improvements	107	25 miles	X_FF_###
	Small Diameter Pipeline Replacement Program (not dead-end pipelines) <sup>(2)</sup>	3	24 miles	X_4D_RP_#
	Small Diameter Pipeline Replacement Program (dead-end pipelines) <sup>(2)</sup>	1	14 miles	X_4D_NC
	Aged Pipeline Replacement Program <sup>(3)</sup>	Ongoing	8 miles/yr	
Facilities	Portable Generator Trailers	1	-	-
	Aged Groundwater Well Replacement Program	2	-	-
<b>Notes:</b>				
(1) The text "###" represents the project number as detailed in Table 10.9.				
(2) Portions of this replacement program may be required to fully resolve fire flow deficiencies as predicted by the model.				
(3) Exact program details to be determined by asset management program.				

While the majority of the improvements are addressed in detail in Chapter 8, Existing System Analysis, projects are included for three items not explicitly stated in the Existing System Analysis.

- An asset management program was recommended as the most cost-effective way to evaluate replacement pipelines within the City's aging distribution network. The City's current water rates do not provide budget for a pre-emptive pipeline replacement program, and these rates are set through 2012 (with a current CIP set through 2017). It is assumed that the asset management program, budgeted in the first planning phase, will recommend at least some pipelines to be replaced on a continual basis starting in 2017, when it is assumed that budget can be made available through a re-evaluation of water rates.
- The City has indicated it is planning on gradually switching its natural gas engines to electric motors. City staff has indicated it will maintain or exceed its backup power capabilities under the future system. It was assumed that the City will require purchase of three portable backup power units to maintain backup capabilities.
- Although the existing system analysis did not recommend explicit replacement of specific wells, it is recommended that the City plan for at least some of its aged wells to require replacement within the planning horizon. Based on the City's evaluation of well casings, two wells are included in the CIP for replacement within the planning horizon.

Details concerning recommendations of the remaining existing system improvements can be found in Chapter 8.

### 10.2.3 Future System Improvements

The future system improvements listed in Table 10.5 were identified to address future deficiencies under 2027 demand conditions with near term and existing system improvements in place. The justification for these improvements is discussed in detail in Chapter 9. The future system improvements are identified on Figure 10.1 by the Map ID listed in Table 10.5.

Table 10.5 Future System Improvements Summary Water Master Plan City of Garden Grove				
Category	Description	Quantity	Unit	Map ID
Pipelines	Future System Fire Flow Project 001	400	feet	F_FF_001
	Future System Fire Flow Project 002	100	feet	F_FF_002
	International West Specific Plan Development <sup>(1)</sup>	4,200	feet	F_RDV_IW
Supply	West Zone Groundwater Well	1	well	F_GW_A
	OC-22 Transmission Main	8,000	feet	F_SP_1
<b>Notes:</b>				
(1) Pipeline sizing recommendations for International West Specific Plan are based on estimates of actual land use type and not on specific fire flow requirements calculated for building size and construction materials. Fire flow requirements should be evaluated based on specific building requirements for new construction.				

The West Zone Groundwater Well is recommended in Chapter 8, Existing System Analysis, but is included as a Future System Improvement since it will accommodate future growth in demand. Details concerning recommendations of the future system improvements can be found in Chapter 9.

### 10.3 DISTRIBUTION OF CAPITAL COST

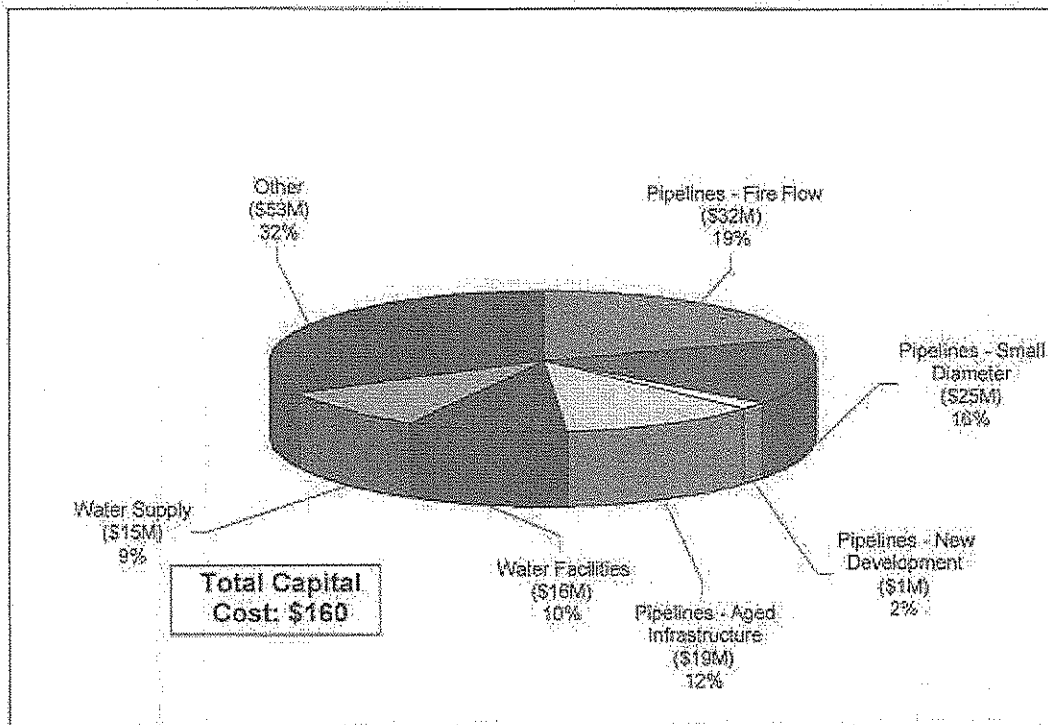
The estimated capital costs for the recommended existing and future system improvements are summarized in Table 10.6, while the distribution of capital costs by category is shown on Figure 10.2. These categories are defined following the figure.

Category	Near Term Improvements (\$ million)	Existing System Improvements (\$ million <sup>(1)</sup> )	Future System Improvements (\$ million <sup>(1)</sup> )	Total <sup>(6)</sup> (\$ million <sup>(1)</sup> )
Pipelines - Fire Flow	\$0.0	\$31.7	\$0.2	\$31.8
Pipelines - Small Diameter	\$0.0	\$25.2	\$0.0	\$25.2
Pipelines - New Development	\$0.0	\$0.0	\$0.9	\$0.9
Pipelines - Aged Infrastructure <sup>(2)</sup>	\$0.0	\$18.7	\$0.0	\$18.7
Water Facilities <sup>(4)</sup>	\$9.8	\$5.6	\$0.0	\$15.5
Water Supply <sup>(3)</sup>	\$3.9	\$4.8	\$6.4	\$15.2
Other Projects <sup>(5)</sup>	\$26.4	\$26.4	\$0.0	\$52.9
<b>Total<sup>(6)</sup></b>	<b>\$40.2</b>	<b>\$112.5</b>	<b>\$7.5</b>	<b>\$160.2</b>

**Notes:**

- (1) All project cost estimates were based on the unit construction costs listed in Table 10.2 and the mark-ups listed in Table 10.1. ENR = 9266. Capital costs are present worth costs at this ENR number. Costs are not escalated.
- (2) Pipeline replacements of aging infrastructure will need to be determined by asset management program.
- (3) Water Supply includes improvements to imported water connections, groundwater wells, and pipelines exclusively required to conduct supply flows.
- (4) Water Facilities include improvements to reservoirs and booster pumping stations, as well as pressure reducing stations.
- (5) "Other" includes replacement of misc. appurtenances including hydrants, meters, services, laterals, gate valves, ARVs and blow offs.
- (6) Totals may vary from sum of values due to rounding.

Figure 10.2 Distribution of Capital Cost



As shown in Table 10.6, the total estimated capital cost is \$160.2 million, of which \$7.5 million or approximately 5 percent is associated with improvements required to accommodate future growth.

- Fire Flow Recommendations consist generally of pipeline projects and facilities to resolve fire-flow deficiencies.
- Small Diameter Replacements include pipelines to be replaced due to small diameter. The City has indicated plans for replacement of all small diameter pipelines. While some smaller diameter pipelines exist within the distribution system GIS database, for the purposes of this study it is anticipated that the 4-inch diameter pipelines are the only small diameter pipelines to be replaced as a part of the small diameter pipeline replacement program.
- New Development Pipelines include pipelines added to accommodate future growth or to serve specific developments.
- Aged Pipeline Replacements are intended to replace the City's aging infrastructure. While it is difficult to establish an exact age of replacement for pipelines within the distribution system, it is known that the distribution system will not last indefinitely. Within Chapter 8, Existing System Analysis, the recommendation was made that the City begin an asset management program to fully evaluate the condition of its current distribution system and establish an appropriate replacement rate. This asset



management program has been included in the CIP as a line item to be completed within the first planning period in order to establish a program of pipeline replacement. For the purpose of this master plan it is assumed that the City will start replacing aging pipelines at a rate of 8 miles per year after the completion of all fire flow and small diameter pipeline replacements. This rate would allow the City to replace the entire distribution system approximately every 75 years.

- Water Facilities consist of non-pipeline improvements affecting the entire system or pressure zone. This category includes water storage reservoirs, booster pumping stations, and pressure reducing stations.
- Water Supply consists of facilities pertaining to water supply. This includes groundwater wells, well collection pipelines, raw water pipelines, water treatment, imported water connections, and transmission mains required for additional flow from MWDSC connections.
- Other Projects include replacement of miscellaneous appurtenances including hydrants, meters, services laterals, gate valves, air relief valves, and blow off valves. Annual costs provided by the City were used for the projects in this category.

#### 10.4 PHASING OF CAPITAL COST

The recommended improvements are primarily made to resolve deficiencies found in the existing system. Projects addressing existing system deficiencies are phased over the next 20 years using the following five-year planning periods:

- FY 08-12: Fiscal Year 2008/2009 through Fiscal Year 2012/2013
- FY 13-17: Fiscal Year 2013/2014 through Fiscal Year 2017/2018
- FY 18-22: Fiscal Year 2018/2019 through Fiscal Year 2022/2023
- FY 23-27: Fiscal Year 2023/2024 through Fiscal Year 2027/2028

The cost for each of the phasing period is summarized in Table 10.7.

As shown, the period of FY 08-12 and FY 13-17 are reduced in comparison to the remaining CIP. This is due to limitations set by the City's existing 10-Year CIP established in the 2007 Water Rate Study (Included in Appendix H). Remaining projects are pushed out or deferred to later phases FY 18-22 and FY 23-27. Since many of these projects resolve existing system deficiencies and are required in the existing system, it would be preferred to implement many of the projects scheduled for the last two phases earlier if possible. The phasing of specific projects for each project type is discussed in detail following Table 10.7.



Improvement Category	System Improvements (\$ million) <sup>(1)</sup>				
	FY 2008-2012	FY 2013-2017	FY 2018-2022	FY 2023-2027	Total <sup>(2)</sup>
Pipelines - Fire Flow	\$4.6	\$5.0	\$20.4	\$1.8	\$31.8
Pipelines - Small Diameter	\$0.0	\$0.0	\$16.7	\$8.6	\$25.2
Pipelines - New Development	\$0.0	\$0.9	\$0.0	\$0.0	\$0.9
Pipelines - Aged Infrastructure	\$0.3	\$0.0	\$0.0	\$18.5	\$18.7
Water Facilities	\$5.6	\$5.9	\$2.1	\$1.8	\$15.5
Water Supply	\$0.6	\$3.3	\$4.8	\$6.4	\$15.2
Other Projects	\$13.2	\$13.2	\$13.2	\$13.2	\$52.9
<b>Total<sup>(2)</sup></b>	<b>\$24.3</b>	<b>\$28.4</b>	<b>\$57.2</b>	<b>\$50.3</b>	<b>\$160.2</b>
<b>Percentage</b>	<b>15%</b>	<b>18%</b>	<b>36%</b>	<b>31%</b>	<b>100%</b>

**Note:**

(1) ENR = 9266. Capital costs are present worth costs at this ENR number. Costs are not escalated.

(2) Totals may vary from sum of values due to rounding.

#### 10.4.1 Fire Flow Recommendations

As discussed in the existing system analysis in Chapter 8, fire flow improvement phasing is based primarily on criticality of facilities followed by level of deficiency being resolved.

To accomplish this, recommendations are initially prioritized based on the lowest ratio of available flow (under existing conditions) to required flow at each deficient hydrant that the fire flow recommendation resolves.

Deficiencies at hospitals and schools were elevated separately in priority. The single hospital improvement is prioritized first, with the high school improvements prioritized next, in order of the level of deficiency resolved. These fire flow recommendations include Fire Flow Recommendations 9, 1, 15, 22, 41, and 64.

The remaining recommendations were prioritized into four categories of priority, based on the level of deficiency:

1. The first priority includes fire flow recommendations that were for a hydrant not feeding a school which was predicted to be more than 50 percent deficient (meaning the ratio of available flow to required flow was less than 0.5; for an industrial flow of 4,000 gpm, this would mean the fire flow predicted to be available at the location would be less than 2,000 gpm) or for a hydrant feeding a school that was predicted to be able to supply less than 3,500 gpm under existing conditions (12.5% deficient). This priority includes Fire Flow Recommendations 3 through 45.

2. The second priority includes fire flow recommendations that were for a hydrant not feeding a school which was predicted to be between 33 percent and 50 percent deficient (meaning the ratio of available flow to required flow was less than 0.67; for an industrial flow of 4,000 gpm, this would mean the fire flow predicted to be available at the location would be less than 2,700 gpm) or for a hydrant feeding a school that was predicted to be able to supply above 3,500 gpm but less than 4,000 gpm under existing conditions. This priority includes Fire Flow Recommendations 46 through 65.
3. The third priority includes all remaining fire flow recommendations for infrastructure not to be abandoned as a part of the International West specific plan. This priority includes Fire Flow Recommendations 66 through 106.
4. The fourth priority includes recommendations for infrastructure that is planned to be abandoned as a part of the International West specific plan, namely Fire Flow Recommendations 107 and 108. These two fire flow improvements located within the International West specific plan area are required under the existing system but will be unnecessary and abandoned if the International West specific plan replaces the parcels being served by these hydrants according to the scheduled timeline assumed by this report.

Future system fire flow improvements consisted of two recommendations and did not fall near any particular development, and no specific future developer could be identified as causing the deficiencies. It was therefore concluded that the future densification is responsible for the future fire flow deficiencies. As these future system fire flow recommendations only require minor upsizing of existing system fire flow recommendations, these projects are also allocated to existing rate payers.

#### 10.4.2 Small Diameter Pipeline Replacements

Budgeting for small diameter pipeline replacement within the near term CIP has been superseded by more critical fire flow improvements (based on available fire flow), deferring the small diameter pipeline replacement program to the third planning period. It should be noted, however, that the small diameter replacement program itself was used as a fire flow improvement project in the existing system fire flow analysis and as such is phased in parallel with the remaining fire flow improvements.

The small diameter pipelines are separated into four phases, based primarily on criticality. It should be noted that due to the number of pipelines, pipeline segments were not examined individually, but rather categorized by geospatial selection, and some adjacent sections of small diameter pipeline may fall into different phases. Such cases should be examined at the design level, as mobilization will most likely make it more cost effective to replace adjacent pipelines within the same project. The four phases are detailed as follows, with Projects 1 through 3 phased in 2018-2022 and Project 4 phased in 2023-2027.

#### **Small Diameter Replacement Program Category 1**

The first small diameter replacement category includes small diameter pipeline segments feeding fire flow hydrants where a deficiency is predicted. Pipelines falling in this category do not include dead-end pipelines past the last hydrant (as might be seen in a cul-de-sac). It should be noted that if the pipeline feeding a hydrant is segmented, only the closest segment may fall into this category and all segments feeding the deficient hydrant should be replaced to resolve the fire flow deficiency.

#### **Small Diameter Replacement Program Categories 2 and 3**

The second and third small diameter replacement category includes small diameter pipeline segments which are connecting loops in the distribution system but are not connected to a fire flow hydrant where a deficiency is predicted. Projects 2 and 3 are divided geographically, with Project 2 including pipelines to the east of Brookhurst Street and Project 3 to the west of Brookhurst Street.

#### **Small Diameter Replacement Program Category 4**

The fourth small diameter replacement category includes dead-end small diameter pipeline segments. These projects have been phased last among the small diameter improvements. However, it should be noted that hydrant locations were established from the City's GIS and does not necessarily include private hydrants. If hydrants did not appear in the City's GIS, they were not evaluated and may still represent deficiencies in the distribution system.

#### **10.4.3 New Development Pipelines**

For demand projection purposes, demand was assumed to increase linearly between the existing system and build out. However, the largest growth within the future system is actually planned to take place in special planning areas. As discussed in Chapter 2, information provided by the City Planning Department suggests that the International West development area will be the first of the special planning areas to be developed within the planning horizon. The International West development was phased in the second planning period (in FY 13-17).

#### **10.4.4 Aged Pipeline Replacements**

The City's current water rates do not provide budget for a pre-emptive pipeline replacement program, and these rates are set through 2012 (with a CIP set through 2017). It is assumed that the asset management program will recommend at least some pipeline replacements on a continual basis starting in 2017, when funds can be made available from revised water rates. For the purpose of this master plan it is assumed that the City will start replacing aging pipelines at a rate of 8 miles per year after the completion of all fire flow and small diameter pipeline replacements. This rate would allow the City to replace the entire distribution system approximately every 75 years. Pipe replacements based on age have been added to the final two phases of the CIP, subtracting pipeline installation done for

other recommendations (fire flow or small diameter) in each of these phases. For the third planning period, this results in no replacement, since the total amount of pipeline installed in this phase is greater than 8 miles per year. For the fourth planning period, this results in 25 miles of replacements, since the total amount of pipeline installed in this phase is 15 miles. It is anticipated these line items in Table 10.9 will be revised by the recommendations of the asset management program once that study has been completed. Budget for the asset management study has been included within the first planning period of the CIP.

#### **10.4.5 Water Facility Recommendations**

##### **Portable Generators/Backup Power**

Since City staff has indicated it is planning on gradually switching its natural gas engines to electric motors in the near future, it was assumed that the City would purchase three portable backup power units within the first planning period of this CIP.

#### **10.4.6 Water Supply Recommendations**

##### **Well Replacement Program**

In addition to the well upgrades for Wells 19, 21, 25, and the replacement of Well 16 as listed in the City's 10-Year CIP from the 2007 Water Rate Study, it is recommended that the City replace two additional wells within the planning horizon of this master plan.

Five wells will be 50 years or older by 2027 and are therefore candidate for replacement. As the exact condition of these wells is unknown at this time and because some wells last up to 100 years, it is assumed that at least two of these five wells would need to be replaced. One well was phased for replacement in each of the last two planning periods, 2018-2022 and 2023-2027.

##### **OC-22 Transmission Main**

To meet build-out demands during summer conditions, it is anticipated that the City will need to utilize imported water connection OC-22. City staff indicated that localized pressure effects from the lack of transmission main from this site to the remainder of the water distribution network prevent the City from fully utilizing OC-22 at this time. A transmission main along Ninth Street connecting OC-22 to the transmission main network of the water distribution system is therefore recommended. The phasing of this improvement is established using the expected projections of maximum day demands to find when more significant use of the imported water connection becomes necessary. Assuming the estimated basin pumping percentage in 2010 remains constant at 60 percent and full utilization of OC-05 and OC-50, over 25 percent of the capacity of OC-22 will be needed in approximately 2025. Based on this, it is anticipated that the transmission main be added to the fourth planning period, between 2023 and 2027. Since the increased demand is primarily due to growth in future demands, this is classified as a future system project.

### Wells Being Placed on SCADA

In Chapter 8, the existing system fire flow analysis was conducted under maximum day demand conditions. This assumes operation of a number of wells that may not be active during other conditions. Several of the City's older wells are manually operated and thus require physical presence of City staff to turn them on. Wells 16 and 19 will need to have flush lines that are not connected to the storm drain network. It is recommended as fire flow improvements that Wells 16, 19, and 25 be added to SCADA with the capability for each well to be brought online remotely through SCADA in case of a pressure drop (such as a fire flow) in the distribution network. In addition, the flush lines of Wells 16 and 19 be connected to the storm drain system to allow automatic operation. It would also be necessary to alter the configuration of each of these wells to add control valves for automated startup.

#### 10.4.7 Other Projects

Within the NTI projects, the City budgeted for replacement of miscellaneous appurtenances including hydrants, meters, services laterals, gate valves, air relief valves, and blow off valves. It is anticipated that replacement of these appurtenances will be an ongoing cost. Annual costs provided by the City were continued through the final two planning periods.

### 10.5 CAPITAL IMPROVEMENT PROGRAM

The total estimated costs by planning period are summarized in Table 10.8, while a detailed list of projects is listed in Table 10.9. Projects including pipelines of multiple diameters are listed on multiple rows.

Figure 10.3 presents the total costs by planning period from Table 10.7. Each category of improvement is shown within the stacked bar of the planning period. All improvement projects not explicitly budgeted within the City's 2007 Water Rate Study CIP were phased following 2017, when the water rates established in the 2007 study expire. This is the reason for the significant increase in improvements within the third planning period. In Carollo's estimation, the phasing for these projects should be earlier. These projects are phased in this period only because this is the first year in which the budget is not already set.

The total cost presented in Tables 10.6, 10.7, and 10.9 represent present day costs. If escalation is considered in establishment of water rates, the budgeted amounts should remain in balance relative to the capital costs over the planning period. However, if escalation is not considered when establishing water rates, the increased cost of improvements will exceed the future budget. This will result in many of the projects being pushed back to subsequent planning phases. Table 10.8 presents the total CIP capital cost by phase, escalated from 2008 to the mid-point of each planning period using a Consumer

Price Index of 4 percent. These escalated rates are also shown in Figure 10.3 as the red line above each total.

Figure 10.3 Phasing of Capital Cost

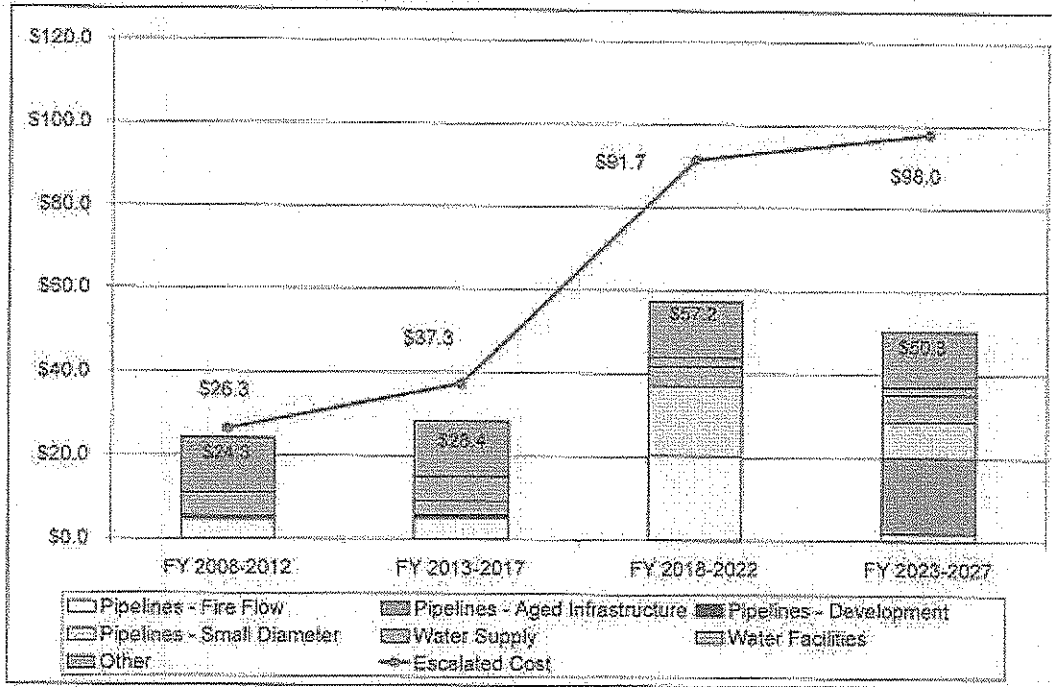


Table 10.8 Escalated Capital Costs by Planning Period  
Water Master Plan  
City of Garden Grove

Planning Period	Total Present Day Capital Cost <sup>(1)</sup>	Escalated Capital Cost <sup>(2)</sup>
FY 2008-2012	\$24.3	\$26.3
FY 2013-2017	\$28.4	\$37.3
FY 2018-2022	\$57.2	\$91.7
FY 2023-2027	\$50.3	\$98.0
<b>Total</b>	<b>\$160.2</b>	<b>\$253.3</b>

Notes:

- (1) ENR = 9266. Total Present Day Capital Costs are present worth costs at this ENR number.
- (2) Escalated Capital Costs are escalated from 2008 through the mid-year of each planning period using a CPI of 4%.





Table 10.9 Capital Improvement Program by Project  
City of Garden Grove

Project ID	Priority / Ranking	Project	Improvement Type	Team	CLIS	Phasing Period	Pressure Zone	Start Capacity	Unit	Length	Unit	Additional Cost Considerations	Percent Paid For	Unit Cost	Unit	Construction Cost	Contingency (%)	Engineering Design, Construction and Misc. Markups (%)	Total Capital Cost	2008-2012	2013-2017	2018-2022	2023-2027
N.P.R.	0	Wald 30	Supply	NTI	NT-SP	2008-2017	Est	2,500	gpm	-	-	None	100%	N/A	N/A	497,000	-	-	497,000	218,600	218,600	-	-
N.P.R._01	0	Regulator Hoses, Distribution System Apparatuses (80, 44V, Vals)	Other	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	\$4,650	\$ annual	\$ 497,000	-	-	\$ 497,000	\$ -	\$ -	\$ -	\$ -
N.P.R._02	0	Service Line Replacements	Other	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	1,349,500	\$ annual	\$ 1,349,500	-	-	\$ 1,349,500	\$ -	\$ -	\$ -	\$ -
N.P.R._03	0	Fire Hydrant Replacements	Other	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	356,325	\$ annual	\$ 356,325	-	-	\$ 356,325	\$ -	\$ -	\$ -	\$ -
N.P.R._04	0	Water Replacements	Other	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	891,625	\$ annual	\$ 891,625	-	-	\$ 891,625	\$ -	\$ -	\$ -	\$ -
N.P.R._05	0	Gas Water Replacements	Other	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	551,300	\$ annual	\$ 551,300	-	-	\$ 551,300	\$ -	\$ -	\$ -	\$ -
N.G.W._P.R._01	0	Wald 19 Rehabilitation	Supply	NTI	N.P.R.	2011	Est	-	-	-	-	None	0%	-	\$	226,626	-	-	\$ 226,626	\$ -	\$ -	\$ -	\$ -
N.G.W._P.R._02	0	Wald 21 Rehabilitation	Supply	NTI	N.P.R.	2011	Est	-	-	-	-	None	0%	-	\$	156,250	-	-	\$ 156,250	\$ -	\$ -	\$ -	\$ -
N.G.W._P.R._03	0	Wald 25 Rehabilitation	Supply	NTI	N.P.R.	2013	Est	-	-	-	-	None	0%	-	\$	324,638	-	-	\$ 324,638	\$ -	\$ -	\$ -	\$ -
N.G.W._P.R._04	0	Wald 16 Replacement	Supply	NTI	N.P.R.	2014	Est	-	-	-	-	None	0%	-	\$	1,737,075	-	-	\$ 1,737,075	\$ -	\$ -	\$ -	\$ -
N.P.R._05	0	Booster Pump Replacement - Westview	Water Facilities	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	781,422	\$	781,422	-	-	\$ 781,422	\$ -	\$ -	\$ -	\$ -
N.P.R._06	0	Booster Pump Replacement - Langson	Water Facilities	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	1,083,932	\$	1,083,932	-	-	\$ 1,083,932	\$ -	\$ -	\$ -	\$ -
N.P.R._07	0	Booster Pump Replacement - Magolda	Water Facilities	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	263,832	\$	263,832	-	-	\$ 263,832	\$ -	\$ -	\$ -	\$ -
N.P.R._08	0	Booster Pump Replacement - Trask	Water Facilities	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	964,632	\$	964,632	-	-	\$ 964,632	\$ -	\$ -	\$ -	\$ -
N.P.R._09	0	Booster Pump Replacement - Wald 05	Water Facilities	NTI	N.P.R.	2008-2017	Est	-	-	-	-	None	0%	564,900	\$	564,900	-	-	\$ 564,900	\$ -	\$ -	\$ -	\$ -
N.P.R._10	0	Natural Gas Engine Pvc - Wald 05	Water Facilities	NTI	N.P.R.	2010	Est	-	-	-	-	None	0%	-	\$	1,250,000	-	-	\$ 1,250,000	\$ -	\$ -	\$ -	\$ -
N.P.R._11	0	Natural Gas Engine Pvc - Westview	Water Facilities	NTI	N.P.R.	2010	Est	-	-	-	-	None	0%	-	\$	1,019,685	-	-	\$ 1,019,685	\$ -	\$ -	\$ -	\$ -
N.P.R._12	0	Natural Gas Engine Pvc - Westview	Water Facilities	NTI	N.P.R.	2013	Est	-	-	-	-	None	0%	-	\$	544,500	-	-	\$ 544,500	\$ -	\$ -	\$ -	\$ -
N.P.R._13	0	Natural Gas Engine Pvc - Langson	Water Facilities	NTI	N.P.R.	2015	Est	-	-	-	-	None	0%	-	\$	220,438	-	-	\$ 220,438	\$ -	\$ -	\$ -	\$ -
N.P.R._14	0	Natural Gas Engine Pvc - Magolda	Water Facilities	NTI	N.P.R.	2015	Est	-	-	-	-	None	0%	-	\$	10,665	-	-	\$ 10,665	\$ -	\$ -	\$ -	\$ -
N.MISC_01	0	Estimate Sheet Corrections	Water Facilities	NTI	N.MISC	2009	Est	-	-	-	-	None	0%	-	\$	244,312	-	-	\$ 244,312	\$ -	\$ -	\$ -	\$ -
N.MISC_02	0	West CG Sample	Water Facilities	NTI	N.MISC	2009	Est	-	-	-	-	None	0%	-	\$	62,968	-	-	\$ 62,968	\$ -	\$ -	\$ -	\$ -
N.MISC_03	0	Chemical Protection	Water Facilities	NTI	N.MISC	2009	Est	-	-	-	-	None	0%	-	\$	457,875	-	-	\$ 457,875	\$ -	\$ -	\$ -	\$ -
N.MISC_04	0	Weather Resistant Roof Checks	Water Facilities	NTI	N.MISC	2017	Est	-	-	-	-	None	0%	-	\$	450,000	-	-	\$ 450,000	\$ -	\$ -	\$ -	\$ -
X.F.F._001	1	Existing System Fire Flow Project 001	Fire Flow	ESI	EX-F	2008-2012	Est	12	inches	3,400	R	Atteral	0%	89	\$/linear ft	\$ 709,000	-	-	\$ 709,000	\$ 110,000	\$ 110,000	\$ -	\$ -
X.F.F._002	2	Existing System Fire Flow Project 002	Fire Flow	ESI	EX-F	2008-2012	Est	12	inches	2,200	R	Atteral	0%	126	\$/linear ft	\$ 350,000	-	-	\$ 350,000	\$ 105,000	\$ 105,000	\$ -	\$ -
X.F.F._003	3	Existing System Fire Flow Project 003	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	700	R	Atteral	0%	88	\$/linear ft	\$ 100,000	-	-	\$ 100,000	\$ 30,000	\$ 30,000	\$ -	\$ -
X.F.F._004	4	Existing System Fire Flow Project 004	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	200	R	Atteral	0%	88	\$/linear ft	\$ 20,000	-	-	\$ 20,000	\$ 10,000	\$ 10,000	\$ -	\$ -
X.F.F._005	5	Existing System Fire Flow Project 005	Fire Flow	ESI	EX-F	2008-2012	Est	12	inches	700	R	Atteral	0%	126	\$/linear ft	\$ 110,000	-	-	\$ 110,000	\$ 35,000	\$ 35,000	\$ -	\$ -
X.F.F._006	6	Existing System Fire Flow Project 006	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,500	R	Atteral	0%	88	\$/linear ft	\$ 250,000	-	-	\$ 250,000	\$ 80,000	\$ 80,000	\$ -	\$ -
X.F.F._007	7	Existing System Fire Flow Project 007	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	3,100	R	Atteral	0%	88	\$/linear ft	\$ 410,000	-	-	\$ 410,000	\$ 123,000	\$ 123,000	\$ -	\$ -
X.F.F._008	8	Existing System Fire Flow Project 008	Fire Flow	ESI	EX-F	2008-2012	Est	12	inches	1,100	R	Atteral	0%	126	\$/linear ft	\$ 210,000	-	-	\$ 210,000	\$ 63,000	\$ 63,000	\$ -	\$ -
X.F.F._009	9	Existing System Fire Flow Project 009	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._010	10	Existing System Fire Flow Project 010	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._011	11	Existing System Fire Flow Project 011	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._012	12	Existing System Fire Flow Project 012	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._013	13	Existing System Fire Flow Project 013	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._014	14	Existing System Fire Flow Project 014	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._015	15	Existing System Fire Flow Project 015	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._016	16	Existing System Fire Flow Project 016	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._017	17	Existing System Fire Flow Project 017	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._018	18	Existing System Fire Flow Project 018	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
X.F.F._019	19	Existing System Fire Flow Project 019	Fire Flow	ESI	EX-F	2008-2012	Est	8	inches	2,200	R	Atteral	0%	88	\$/linear ft	\$ 220,000	-	-	\$ 220,000	\$ 70,000	\$ 70,000	\$ -	\$ -
F._G.W._A	19	Groundwater Yield in Wald Pressure Zone	Supply	FSI	FS-SP	2018-2022	Wald	2500	gpm	-	-	None	0%	N/A	\$/linear ft	\$ 1,500,000	-	-	\$ 1,500,000	\$ 450,000	\$ 450,000	\$ -	\$ -





Table 10.9 Capital Improvement Program by Project  
Water Master Plan  
City of Garden Grove

Project ID	Priority/ Ranking	Project	Improvement Type	Team <sup>(1)</sup>	CLS	Phase Period	Pressure Zone	Size/ Capacity	Unit	Length Unit	Additional Cost Considerations	Percent Paid	Unit Cost	Unit	Construction Cost	Contingency (3%)	Engineering, Design, Construction and Misc. Fees (8%)	Total Capital Cost	2018-2012	2013-2017	2018-2022	2023-2027
X_FF_035	64	Existing System Fire Flow Project 035	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	120	ft	0%	88	\$/linear ft	120,000	\$ 40,000	10,000	\$ 200,000	\$ -	\$ -	\$ 200,000	\$ -
X_FF_036	65	Existing System Fire Flow Project 036	Fire Flow	ESI	EX-FE	2018-2022	East	12	inches	100	ft	0%	126	\$/linear ft	200,000	\$ 10,000	20,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_037	66	Existing System Fire Flow Project 037	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	509	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_038	67	Existing System Fire Flow Project 038	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_039	68	Existing System Fire Flow Project 039	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	200	ft	0%	88	\$/linear ft	30,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_040	69	Existing System Fire Flow Project 040	Fire Flow	ESI	EX-FE	2018-2022	East	16	inches	1,500	ft	0%	158	\$/linear ft	250,000	\$ 80,000	80,000	\$ 420,000	\$ -	\$ -	\$ 420,000	\$ -
X_FF_041	70	Existing System Fire Flow Project 041	Fire Flow	ESI	EX-FE	2018-2022	West	12	inches	1,200	ft	0%	126	\$/linear ft	200,000	\$ 70,000	70,000	\$ 370,000	\$ -	\$ -	\$ 370,000	\$ -
X_FF_042	71	Existing System Fire Flow Project 042	Fire Flow	ESI	EX-FE	2018-2022	West	12	inches	100	ft	0%	126	\$/linear ft	200,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_043	72	Existing System Fire Flow Project 043	Fire Flow	ESI	EX-FE	2018-2022	West	8	inches	900	ft	0%	88	\$/linear ft	80,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_044	73	Existing System Fire Flow Project 044	Fire Flow	ESI	EX-FE	2018-2022	East	12	inches	2,600	ft	0%	126	\$/linear ft	430,000	\$ 130,000	130,000	\$ 690,000	\$ -	\$ -	\$ 690,000	\$ -
X_FF_045	74	Existing System Fire Flow Project 045	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	650	ft	0%	88	\$/linear ft	80,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_046	75	Existing System Fire Flow Project 046	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	389	ft	0%	88	\$/linear ft	40,000	\$ 15,000	15,000	\$ 200,000	\$ -	\$ -	\$ 200,000	\$ -
X_FF_047	76	Existing System Fire Flow Project 047	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	100	ft	0%	88	\$/linear ft	10,000	\$ 5,000	5,000	\$ 200,000	\$ -	\$ -	\$ 200,000	\$ -
X_FF_048	77	Existing System Fire Flow Project 048	Fire Flow	ESI	EX-FE	2018-2022	West	12	inches	300	ft	0%	126	\$/linear ft	60,000	\$ 20,000	20,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_049	78	Existing System Fire Flow Project 049	Fire Flow	ESI	EX-FE	2018-2022	West	8	inches	300	ft	0%	88	\$/linear ft	30,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_050	79	Existing System Fire Flow Project 050	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	200	ft	0%	88	\$/linear ft	20,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_051	80	Existing System Fire Flow Project 051	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	100	ft	0%	88	\$/linear ft	20,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_052	81	Existing System Fire Flow Project 052	Fire Flow	ESI	EX-FE	2018-2022	East	12	inches	100	ft	0%	126	\$/linear ft	20,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_053	82	Existing System Fire Flow Project 053	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	400	ft	0%	88	\$/linear ft	60,000	\$ 20,000	20,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_054	83	Existing System Fire Flow Project 054	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	700	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_055	84	Existing System Fire Flow Project 055	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	1,500	ft	0%	88	\$/linear ft	200,000	\$ 60,000	60,000	\$ 320,000	\$ -	\$ -	\$ 320,000	\$ -
X_FF_056	85	Existing System Fire Flow Project 056	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_057	86	Existing System Fire Flow Project 057	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_058	87	Existing System Fire Flow Project 058	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_059	88	Existing System Fire Flow Project 059	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	100	ft	0%	88	\$/linear ft	20,000	\$ 10,000	10,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_060	89	Existing System Fire Flow Project 060	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	2,500	ft	0%	88	\$/linear ft	140,000	\$ 45,000	45,000	\$ 230,000	\$ -	\$ -	\$ 230,000	\$ -
X_FF_061	90	Existing System Fire Flow Project 061	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	900	ft	0%	88	\$/linear ft	210,000	\$ 65,000	65,000	\$ 340,000	\$ -	\$ -	\$ 340,000	\$ -
X_FF_062	91	Existing System Fire Flow Project 062	Fire Flow	ESI	EX-FE	2018-2022	East	12	inches	1,400	ft	0%	126	\$/linear ft	120,000	\$ 40,000	40,000	\$ 200,000	\$ -	\$ -	\$ 200,000	\$ -
X_FF_063	92	Existing System Fire Flow Project 063	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	50,000	\$ 15,000	15,000	\$ 80,000	\$ -	\$ -	\$ 80,000	\$ -
X_FF_064	93	Existing System Fire Flow Project 064	Fire Flow	ESI	EX-FE	2018-2022	East	16	inches	2,500	ft	0%	138	\$/linear ft	60,000	\$ 18,000	18,000	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -
X_FF_065	94	Existing System Fire Flow Project 065	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	1,100	ft	0%	88	\$/linear ft	110,000	\$ 35,000	35,000	\$ 180,000	\$ -	\$ -	\$ 180,000	\$ -
X_FF_066	95	Existing System Fire Flow Project 066	Fire Flow	ESI	EX-FE	2018-2022	West	12	inches	1,800	ft	0%	126	\$/linear ft	290,000	\$ 90,000	90,000	\$ 470,000	\$ -	\$ -	\$ 470,000	\$ -
X_FF_067	96	Existing System Fire Flow Project 067	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	300	ft	0%	88	\$/linear ft	40,000	\$ 15,000	15,000	\$ 70,000	\$ -	\$ -	\$ 70,000	\$ -
X_FF_068	97	Existing System Fire Flow Project 068	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	400	ft	0%	88	\$/linear ft	40,000	\$ 15,000	15,000	\$ 70,000	\$ -	\$ -	\$ 70,000	\$ -
X_FF_069	98	Existing System Fire Flow Project 069	Fire Flow	ESI	EX-FE	2018-2022	East	12	inches	200	ft	0%	126	\$/linear ft	40,000	\$ 15,000	15,000	\$ 70,000	\$ -	\$ -	\$ 70,000	\$ -
X_FF_070	99	Existing System Fire Flow Project 070	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	300	ft	0%	88	\$/linear ft	40,000	\$ 15,000	15,000	\$ 70,000	\$ -	\$ -	\$ 70,000	\$ -
X_FF_071	100	Existing System Fire Flow Project 071	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	100	ft	0%	88	\$/linear ft	20,000	\$ 10,000	10,000	\$ 40,000	\$ -	\$ -	\$ 40,000	\$ -
X_FF_072	101	Existing System Fire Flow Project 072	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	200	ft	0%	88	\$/linear ft	20,000	\$ 10,000	10,000	\$ 40,000	\$ -	\$ -	\$ 40,000	\$ -
X_FF_073	102	Existing System Fire Flow Project 073	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	100	ft	0%	88	\$/linear ft	20,000	\$ 10,000	10,000	\$ 40,000	\$ -	\$ -	\$ 40,000	\$ -
X_FF_074	103	Existing System Fire Flow Project 074	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	400	ft	0%	88	\$/linear ft	60,000	\$ 20,000	20,000	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -
X_FF_075	104	Existing System Fire Flow Project 075	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	700	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 120,000	\$ -	\$ -	\$ 120,000	\$ -
X_FF_076	105	Existing System Fire Flow Project 076	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	1,500	ft	0%	88	\$/linear ft	200,000	\$ 60,000	60,000	\$ 320,000	\$ -	\$ -	\$ 320,000	\$ -
X_FF_077	106	Existing System Fire Flow Project 077	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_078	107	Existing System Fire Flow Project 078	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	70,000	\$ 25,000	25,000	\$ 400,000	\$ -	\$ -	\$ 400,000	\$ -
X_FF_079	108	Existing System Fire Flow Project 079	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	1,400	ft	0%	88	\$/linear ft	140,000	\$ 45,000	45,000	\$ 230,000	\$ -	\$ -	\$ 230,000	\$ -
X_FF_080	109	Existing System Fire Flow Project 080	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	2,500	ft	0%	88	\$/linear ft	210,000	\$ 65,000	65,000	\$ 340,000	\$ -	\$ -	\$ 340,000	\$ -
X_FF_081	110	Existing System Fire Flow Project 081	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	900	ft	0%	88	\$/linear ft	210,000	\$ 65,000	65,000	\$ 340,000	\$ -	\$ -	\$ 340,000	\$ -
X_FF_082	111	Existing System Fire Flow Project 082	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	50,000	\$ 15,000	15,000	\$ 80,000	\$ -	\$ -	\$ 80,000	\$ -
X_FF_083	112	Existing System Fire Flow Project 083	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	500	ft	0%	88	\$/linear ft	50,000	\$ 15,000	15,000	\$ 80,000	\$ -	\$ -	\$ 80,000	\$ -
X_FF_084	113	Existing System Fire Flow Project 084	Fire Flow	ESI	EX-FE	2018-2022	East	16	inches	2,500	ft	0%	138	\$/linear ft	60,000	\$ 18,000	18,000	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -
X_FF_085	114	Existing System Fire Flow Project 085	Fire Flow	ESI	EX-FE	2018-2022	East	8	inches	1,100	ft	0%	88	\$/linear ft	110,000	\$ 35,000	35,000	\$ 180,000	\$ -	\$ -	\$ 180,000	\$ -
X_FF_086	115	Existing System Fire Flow Project 086	Fire Flow	ESI	EX-FE	2018-2022	West	12	inches	1,800	ft	0%	126	\$/linear ft	290,000	\$ 90,000	90,000	\$ 470,000	\$ -	\$ -	\$ 470,000	\$ -
X_FF_087	116	Existing System Fire Flow Project 087	Fire Flow	ESI	EX-FE	2018-2022	East	8														

Table 10.9 Capital Improvement Program by Project  
Water Master Plan  
City of Garden Grove

Project ID	Priority / Ranking	Project	Improvement Type	Team <sup>(1)</sup>	CLS	Planning Period	Pressure Zone	Shed Capacity	Unit	Length	Unit	Additional Cost Considerations	Percent Paid	Unit Cost	Unit	Construction Cost	Contingency (3%)	Engineering Design, Construction Management, and Misc. Materials (3%)	Total Capital Cost	2008-2012	2013-2017	2018-2022	2023-2027		
X_FF_103	111	Existing System Fire Flow Project 103	Fire Flow	ESI	EX-FF	2018-2022	East	8	inches	300	ft	Arterial	0%	88	\$/linear ft	40,000	\$ (5,000)	15,000	70,000						
X_FF_104	112	Existing System Fire Flow Project 104	Fire Flow	ESI	EX-FF	2018-2022	East	8	inches	100	ft	Arterial	0%	88	\$/linear ft	20,000	\$ (2,000)	10,000	40,000						
X_FF_105	113	Existing System Fire Flow Project 105	Fire Flow	ESI	EX-FF	2018-2022	East	8	inches	700	ft	None	0%	88	\$/linear ft	70,000	\$ (7,000)	25,000	120,000						
X_FF_106	114	Existing System Fire Flow Project 106	Fire Flow	ESI	EX-FF	2018-2022	East	8	inches	100	ft	Arterial	0%	88	\$/linear ft	20,000	\$ (2,000)	10,000	40,000						
X_GW_PPL_C_A	115	Agged Groundwater Well Replacement	Supply	ESI	EX-SP	2018-2022	Both	-	-	-	-	Arterial	0%	1,500,000	\$/well	1,500,000	\$ (45,000)	450,000	2,400,000						
X_RL_INC	116	Agged Emergency Interconnections to Neighboring Water Distribution Systems	Water Facilities	ESI	EX-RL	2018-2022	West	2	connections	-	-	None	0%	100,000	\$/well	200,000	\$ (60,000)	60,000	320,000						
X_PPL_01	117	Replace Misc. Distribution System Apparatuses (80, ARV, Vae)	Other	ESI	X-PPL	2018-2027	Both	-	-	-	-	None	0%	54,650	\$/annually	437,200	\$ -	-	437,200						
X_PPL_02	118	Service Line Replacements	Other	ESI	X-PPL	2018-2027	Both	-	-	-	-	None	0%	1,340,500	\$/annually	10,755,000	\$ -	-	10,755,000						
X_PPL_03	119	Fire Hydrant Replacements	Other	ESI	X-PPL	2018-2027	Both	-	-	-	-	None	0%	350,325	\$/annually	2,850,600	\$ -	-	2,850,600						
X_PPL_04	120	Water Replacements	Other	ESI	X-PPL	2018-2027	Both	-	-	-	-	None	0%	961,025	\$/annually	7,688,000	\$ -	-	7,688,000						
X_PPL_05	121	Gate Valve Replacements	Other	ESI	X-PPL	2018-2027	Both	-	-	-	-	None	0%	551,300	\$/annually	4,490,400	\$ -	-	4,490,400						
X_PPL_06	122	Booster Pump Replacement - Westview	Water Facilities	ESI	X-PPL	2018-2027	East	-	-	-	-	None	0%	-	\$	761,432	\$ -	-	761,432						
X_PPL_07	123	Booster Pump Replacement - Langston	Water Facilities	ESI	X-PPL	2018-2027	East	-	-	-	-	None	0%	-	\$	1,093,932	\$ -	-	1,093,932						
X_PPL_08	124	Booster Pump Replacement - Magnolia	Water Facilities	ESI	X-PPL	2018-2027	East	-	-	-	-	None	0%	-	\$	253,832	\$ -	-	253,832						
X_PPL_09	125	Booster Pump Replacement - Trask	Water Facilities	ESI	X-PPL	2018-2027	West	-	-	-	-	None	0%	-	\$	894,652	\$ -	-	894,652						
X_PPL_10	126	Booster Pump Replacement - West GC	Water Facilities	ESI	X-PPL	2018-2027	West	-	-	-	-	None	0%	-	\$	594,490	\$ -	-	594,490						
F_FF_002	127	Future System Fire Flow Project 002	Fire Flow	ESI	FF-FF	2023-2027	East	8	inches	100	ft	Arterial	0%	88	\$/linear ft	20,000	\$ (2,000)	10,000	40,000						
F_FF_002	128	Agged Pipeline Replacement - Planning Period 4	Agged	ESI	EX-FF	2023-2027	Both	8	inches	131,317	ft	None	0%	88	\$/linear ft	11,555,912	\$ (347,000)	347,000	11,902,912						
F_SP_1	129	Add Transmission Mains to Enable Full Utilization of CC-22	Supply	ESI	FT-RL	2023-2027	East	20	inches	6,000	ft	Arterial	0%	210	\$/linear ft	2,520,000	\$ (750,000)	750,000	3,270,000						
X_40_NC	130	Distribution Piping - Dead-End 4-inch Diameter Pipelines Not Connected to Hydrants	Small Diameter	ESI	EX-SD	2023-2027	Both	6	inches	71,783	ft	None	0%	65	\$/linear ft	4,710,000	\$ (1,425,000)	1,425,000	6,135,000						
X_FF_107	131	Existing System Fire Flow Project 107	Fire Flow	ESI	EX-FF	2023-2027	East	12	inches	6,000	ft	Arterial	0%	126	\$/linear ft	960,000	\$ (250,000)	250,000	1,210,000						
X_FF_108	132	Existing System Fire Flow Project 108	Fire Flow	ESI	EX-FF	2023-2027	East	8	inches	500	ft	Arterial	0%	88	\$/linear ft	70,000	\$ (20,000)	20,000	90,000						
X_FF_109	133	Existing System Fire Flow Project 109	Fire Flow	ESI	EX-FF	2023-2027	East	12	inches	300	ft	Arterial	0%	126	\$/linear ft	60,000	\$ (20,000)	20,000	80,000						
X_GW_PPL_C_B	133	Agged Groundwater Well Replacement	Supply	ESI	EX-SP	2023-2027	Both	-	-	-	-	None	0%	1,500,000	\$/well	1,500,000	\$ (450,000)	450,000	2,400,000						
														Totals											
														Existing System Improvements		\$ 19,027,463		\$ 19,027,463		\$ 19,027,463		\$ 19,027,463		\$ 19,027,463	
														Improvements to Accommodate Future Growth		\$ 118,382,918		\$ 17,317,463		\$ 135,017,568		\$ 150,017,568		\$ 24,272,628	
														Budget Under Current Water Rate Study		\$ 5,650,000		\$ 1,710,000		\$ 7,360,000		\$ 9,070,000		\$ 23,959,851	

Notes: (1) NFI = Near Term Improvement ESI = Existing System Improvement FSI = Future System Improvement  
(2) Total capital cost includes construction cost, 30% for contingency, and 30% for engineering, construction management, and other materials. Costs based on unit costs rounded to nearest \$10,000.

# Draft

**Attachment B**

## **CONSULTANT AGREEMENT**

THIS AGREEMENT, entered into this \_\_\_ day of December, 2009, by and between CITY OF GARDEN GROVE, a municipal corporation (hereinafter referred to as "City"), and SEQUOIA FINANCIAL GROUP LLC (a California limited liability company) whose address is 21300 Victory Blvd., Suite 1180, Woodland Hills, CA 91367, hereinafter referred to as "Consultant"), is made with reference to the following:

### **RECITALS:**

A. City is a municipal corporation duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California and the Charter of the City.

B. Consultant is specially trained, experienced and competent to perform the special services which will be required by this Agreement; and

C. Consultant possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement according to the terms and conditions described herein.

D. City and Consultant desire to enter into an agreement for Financial Advisory Services according to the terms and conditions set forth herein.

NOW, THEREFORE, it is mutually agreed by and between the undersigned parties as follows:

#### **1. TERM:**

The term of this Agreement shall commence on the 1<sup>st</sup> day of January, 2010 and shall terminate on the 31<sup>st</sup> day of December, 2013, unless terminated earlier as set forth herein. The contract may with the consent of both parties be renewed for an additional three-year term.

#### **2. SERVICES TO BE PERFORMED:**

Consultant shall perform each and every service set forth in Exhibit "A," which is attached hereto and incorporated herein by this reference.

#### **3. COMPENSATION TO CONSULTANT:**

Consultant shall be compensated for services performed pursuant to this Agreement in the amount set forth in Exhibit "B," which is attached hereto and incorporated herein by this reference. Payment shall be made by checks drawn on the treasury of the City, to be taken from the General Fund or other funds, as appropriate.

#### **4. TIME IS OF THE ESSENCE:**

Consultant and City agree that time is of the essence regarding the performance of this Agreement.

It is agreed that in case the work called for under the Agreement is not finished and completed in all parts and requirements within the time specified as agreed between the City and Consultant, the City shall have the right to extend the time for completion or not, as may seem best to serve the interest of the City; and if it decides to extend the time limit for the completion of the Agreement, it shall further have the right to charge the Consultant, his or her heirs, assigns, or sureties, and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual costs and overhead expenses which are directly chargeable to the Agreement, and which accrue during the period of such extensions.

#### **5. STANDARD OF CARE:**

Consultant agrees to perform all services hereunder in a manner commensurate with the prevailing standards of like professionals in the State of California and agrees that all services shall be performed by qualified and experienced personnel who are not employed by the City nor have any contractual relationship with the City.

#### **6. INDEPENDENT PARTIES:**

City and Consultant intend that the relationship between them created by this Agreement is that of employer-independent contractor. The manner and means of conducting the work are under the control of Consultant, except to the extent they are limited by statute, rule or regulation and the express terms of this Agreement. No civil service status or other right of employment will be acquired by virtue of Consultant's services. None of the benefits provided by City to its employees, including but not limited to, unemployment insurance, workers' compensation plans, vacation and sick leave are available from City to Consultant, its employees or agents. Deductions shall not be made for any state or federal taxes, FICA payments, PERS payments, or other purposes normally associated with an employer-employee relationship from any fees due Consultant. Payments of the above items, if required, are the responsibility of Consultant.

#### **7. IMMIGRATION REFORM AND CONTROL ACT (IRCA):**

Consultant assumes any and all responsibility for verifying the identity and employment authorization of all of its employees performing work hereunder, pursuant to all applicable IRCA or other federal, or state rules and regulations. Consultant shall indemnify and hold City harmless from and against any loss, damage, liability, costs or expenses arising from any noncompliance of this provision by Consultant.

#### **8. NON- DISCRIMINATION:**

Consistent with City's policy that harassment and discrimination are unacceptable employer/employee conduct, Consultant agrees that harassment or discrimination directed toward a job applicant, a City employee, or a citizen by Consultant or Consultant's employee or subcontractor on the basis of race, religious creed, color, national origin, ancestry, handicap, disability, marital status, pregnancy, sex, age, or sexual orientation will not be tolerated. Consultant agrees that any and all violations of this provision shall constitute a material breach of this Agreement.

## **9. HOLD HARMLESS:**

Except for loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees, caused solely by the negligence of the City, its City Council, boards and commissions, officers and employees, Consultant shall indemnify, defend and hold harmless City, its City Council, boards and commissions, officers and employees from and against any and all loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees, regardless of the merits or outcome of any such claim or suit arising from or in any manner connected to Consultant's negligent act or omission regarding performance of services or work conducted or performed pursuant to this Agreement. Except for loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees, caused solely by the negligence of the City, its City Council, boards and commissions, officers and employees, Consultant shall indemnify, defend and hold harmless City, its City Council, boards and commissions, officers and employees from and against any and all loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees, accruing or resulting to any and all persons, firms or corporations furnishing or supplying work, services, materials, equipment or supplies arising from or in any manner connected to the Consultant's negligent act or omission regarding performance of services or work conducted or performed pursuant to this Agreement.

## **10. INSURANCE:**

On or before the commencement of the term of this Agreement, Consultant shall furnish City with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of insurance coverage in compliance with paragraphs 10A, B, C, D and E. Such certificates, which do not limit Consultant's indemnification, shall also contain substantially the following statement: "Should any of the above insurance covered by this certificate be canceled or coverage reduced before the expiration date thereof, the insurer affording coverage shall provide thirty (30) days' advance written notice to the City of Garden Grove by certified mail, Attention: Risk Manager." It is agreed that Consultant shall maintain in force at all times during the performance of this Agreement all appropriate coverage of insurance required by this Agreement with an insurance company that is acceptable to City and licensed to do insurance business in the State of California. Endorsements naming the City as additional insured shall be submitted with the insurance certificates.

### **A. COVERAGE:**

Consultant shall maintain the following insurance coverage:

#### **(1) Workers' Compensation:**

Statutory coverage as required by the State of California.

#### **(2) Liability:**

Commercial general liability coverage in the following minimum

Bodily Injury: \$500,000 each occurrence, \$1,000,000 aggregate - all other

Property Damage: \$100,000 each occurrence, \$250,000 aggregate

If submitted, combined single limit policy with aggregate limits in the amounts of \$1,000,000 will be considered equivalent to the required minimum limits shown above.

#### **(3) Automotive:**

Comprehensive automotive liability coverage in the following minimum limits:

Bodily Injury: \$500,000 each occurrence

Property Damage: \$100,000 each occurrence

or

Combined Single Limit: \$500,000 each occurrence

**(4) Professional Liability:**

Professional liability insurance which includes coverage for the professional acts, errors and omissions of Consultant in the amount of at least \$2,000,000.

**B. SUBROGATION WAIVER:**

Consultant agrees that in the event of loss due to any of the perils for which he/she has agreed to provide comprehensive general and automotive liability insurance, Consultant shall look solely to its insurance for recovery. Consultant hereby grants to City, on behalf of any insurer providing comprehensive general and automotive liability insurance to either Consultant or City with respect to the services of Consultant herein, a waiver of any right to subrogation which any such insurer of said Consultant may acquire against City by virtue of the payment of any loss under such insurance.

**C. FAILURE TO SECURE:**

If Consultant at any time during the term hereof should fail to secure or maintain the foregoing insurance, City shall be permitted to obtain such insurance in the Consultant's name or as an agent of the Consultant and shall be compensated by the Consultant for the costs of the insurance premiums at the maximum rate permitted by law and computed from the date written notice is received that the premiums have not been paid.

**D. ADDITIONAL INSURED:**

City, its City Council, boards and commissions, officers, and employees shall be named as an additional insured under all insurance coverages, except any professional liability insurance, required by this Agreement. The naming of an additional insured shall not affect any recovery to which such additional insured would be entitled under this policy if not named as such additional insured. An additional insured named herein shall not be held liable for any premium, deductible portion of any loss, or expense of any nature on this policy or any extension thereof. Any other insurance held by an additional insured shall not be required to contribute anything toward any loss or expense covered by the insurance provided by this policy.

**E. SUFFICIENCY OF INSURANCE:**

The insurance limits required by City are not represented as being sufficient to protect Consultant. Consultant is advised to confer with Consultant's insurance broker to determine adequate coverage for Consultant.

**11. CONFLICT OF INTEREST:**

Consultant warrants that it is not a conflict of interest for Consultant to perform the services required by this Agreement. Consultant may be required to fill out a conflict of interest form if the services provided under this Agreement require Consultant to make certain governmental decisions or serve in a staff capacity as defined in Title 2, Division 6, Section 18700 of the California Code of Regulations.

**12. PROHIBITION AGAINST TRANSFERS:**

Consultant shall not assign, sublease, hypothecate, or transfer this Agreement, or any interest therein,



directly or indirectly, by operation of law or otherwise, without prior written consent of City. Any attempt to do so without said consent shall be null and void, and any assignee, sublessee, hypothecate or transferee shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer. However, claims for money by Consultant from City under this Agreement may be assigned to a bank, trust company or other financial institution without prior written consent. Written notice of such assignment shall be promptly furnished to City by Consultant.

The sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Consultant, or of the interest of any general partner or joint venture or syndicate member or cotenant, if Consultant is a partnership or joint venture or syndicate or cotenancy, which shall result in changing the control of Consultant, shall be construed as an assignment of this Agreement. Control means fifty percent (50%) or more of the voting power of the corporation.

**13. SUBCONTRACTOR APPROVAL:**

In the event that Consultant employs subcontractors, such subcontractors shall be required to furnish proof of workers' compensation insurance and shall also be required to carry general, automobile and professional liability insurance in reasonable conformity to the insurance carried by Consultant. In addition, any work or services subcontracted hereunder shall be subject to each provision of this Agreement.

**14. PERMITS AND LICENSES:**

Consultant, at its sole expense, shall obtain and maintain during the term of this Agreement, all appropriate permits, certificates and licenses including, but not limited to, a City Business License, that may be required in connection with the performance of services hereunder.

**15. REPORTS:**

A. Each and every report, draft, work product, map, record and other document, hereinafter collectively referred to as "Report", reproduced, prepared or caused to be prepared by Consultant pursuant to or in connection with this Agreement, shall be the exclusive property of City. Consultant shall not copyright any Report required by this Agreement and shall execute appropriate documents to assign to City the copyright to Reports created pursuant to this Agreement. Any Report, information and data acquired or required by this Agreement shall become the property of City, and all publication rights are reserved to City.



B. All Reports prepared by Consultant may be used by City in execution or implementation of:

- (1) The original Project for which Consultant was hired;
- (2) Completion of the original Project by others;
- (3) Subsequent additions to the original project; and/or
- (4) Other City projects as appropriate.

C. Consultant shall, at such time and in such form as City may require, furnish reports concerning the status of services required under this Agreement.

D. No Report, information or other data given to or prepared or assembled by Consultant pursuant to this Agreement shall be made available to any individual or organization by Consultant without prior approval by City.

**16. RECORDS:**

Consultant shall maintain complete and accurate records with respect to sales, costs, expenses, receipts and other such information required by City that relate to the performance of services under this Agreement. Consultant shall maintain adequate records of services provided in sufficient detail to permit an evaluation of services. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. Consultant shall provide free access to such books and records to the representatives of City or its designees at all proper times, and gives City the right to examine and audit same, and to make transcripts therefrom as necessary, and to allow inspection of all work, data, documents, proceedings and activities related to this Agreement. Such records, together with supporting documents, shall be kept separate from other documents and records and shall be maintained for a period of three (3) years after receipt of final payment.

If supplemental examination or audit of the records is necessary due to concerns raised by City's preliminary examination or audit of records, and the City's supplemental examination or audit of the records discloses a failure to adhere to appropriate internal financial controls, or other breach of contract or failure to get in good faith, then Consultant shall reimburse City for all reasonable costs and expenses associated with the supplemental examination or audit.

**17. NOTICES:**

All notices, demands, requests or approvals to be given under this Agreement shall be given in writing and conclusively shall be deemed served when delivered personally or on the second business day after the deposit thereof in the United States Mail, postage prepaid, registered or certified, addressed as hereinafter provided.

All notices, demands, requests, or approvals from Consultant to City shall be addressed to City at:

City of Garden Grove  
11222 Acacia Parkway  
P.O. Box 3070  
Garden Grove, CA 92842  
Attention: Kingsley Okereke, Finance Director

All notices, demands, requests, or approvals from City to Consultant shall be addressed to Consultant at:

Sequoia Financial Group LLC  
21300 Victory Blvd., Suite 1180  
Woodland Hills, CA 91367

**18. TERMINATION:**

In the event Consultant fails or refuses to perform any of the provisions hereof at the time and in the manner required hereunder, Consultant shall be deemed in default in the performance of this Agreement. If such default is not cured within a period of two (2) days after receipt by Consultant from City of written notice of default, specifying the nature of such default and the steps necessary to cure such default, City may terminate the Agreement forthwith by giving to the Consultant written notice thereof.

City shall have the option, at its sole discretion and without cause, of terminating this Agreement by giving seven (7) days' prior written notice to Consultant as provided herein. Upon termination of this Agreement, each party shall pay to the other party that portion of compensation specified in this Agreement that is earned and unpaid prior to the effective date of termination.

**19. COMPLIANCES:**

Consultant shall comply with all state or federal laws and all ordinances, rules and regulations enacted or issued by City.

**20. CONFLICT OF LAW:**

This Agreement shall be interpreted under, and enforced by the laws of the State of California excepting any choice of law rules which may direct the application of laws of another jurisdiction. The Agreement and obligations of the parties are subject to all valid laws, orders, rules, and regulations of the authorities having jurisdiction over this Agreement (or the successors of those authorities.)

Any suits brought pursuant to this Agreement shall be filed with the courts of the County of Orange, State of California.

**21. ADVERTISEMENT:**

Consultant shall not post, exhibit, display or allow to be posted, exhibited, displayed any signs, advertising, show bills, lithographs, posters or cards of any kind pertaining to the services performed under this Agreement unless prior written approval has been secured from City to do otherwise.

**22. WAIVER:**

A waiver by City of any breach of any term, covenant, or condition contained herein shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

**23. INTEGRATED CONTRACT:**

This Agreement represents the full and complete understanding of every kind or nature whatsoever between the parties hereto, and all preliminary negotiations and agreements of whatsoever kind or nature are merged herein. No verbal agreement or implied covenant shall be held to vary the provisions hereof. Any modification of this Agreement will be effective only by written execution signed by both City and Consultant.

**24. INSERTED PROVISIONS:**

Each provision and clause required by law to be inserted into the Agreement shall be deemed to be enacted herein, and the Agreement shall be read and enforced as though each were included herein. If through mistake or otherwise, any such provision is not inserted or is not correctly inserted, the Agreement shall be amended to make such insertion on application by either party.

**25. CAPTIONS:**

The captions in this Agreement are for convenience only, are not a part of the Agreement and in no way affect, limit or amplify the terms or provisions of this Agreement.

IN WITNESS WHEREOF, the parties have caused the Agreement to be executed on the day and year first above written.

CONSULTANT  
Sequoia Financial Group LLC  
A Limited Liability Company

CITY OF GARDEN GROVE  
A Municipal Corporation

By \_\_\_\_\_  
William Reynolds  
Principal

By \_\_\_\_\_  
Kingsley Okereke  
Finance Director

## FINANCIAL ADVISORY SERVICES

Sequoia Financial Group LLC

Attachment A

### Scope of Services

Generally, the firm will provide advice in the areas of financial planning and management, assistance with rating agencies, debt issuance, and other tasks associated with management of the City of Garden Grove debt capacities which include the City's enterprises, agencies and authorities.

The specific services may include but are not limited to review of the outstanding debt, recommendations for refinancing or refunding issues, and structuring and pricing of bond issues and presentations to various stakeholders including legislative bodies. Project scopes, total fees and timelines will be developed on a project by project basis.

The co-engagement managers will be Mr. William Reynolds and Ms. Angela Kukoda, both Principal of the Sequoia Financial Group LLC. During the term of the engagement, the firm will continue to monitor its activities for potential conflicts of interest with this engagement.

FINANCIAL ADVISORY SERVICES

Sequoia Financial Group LLC

Attachment B

Fees

The following hourly rates apply for consulting projects, analyses, studies and other unique services requested by the City that are not intended to directly result in a financing transaction.

Principal/Managing Director	\$275.00
Associate Director	\$225.00
Senior Associate	\$185.00
Analyst	\$135.00
Clerical/Administrative	\$ 60.00

Direct expenses for airfare are reimbursable at coach rates for travel specifically requested by the City. Any other expenses incurred on behalf of the City of Garden Grove shall be regarded to be subsumed within the hourly rates for services set forth above. Requests for unusual or for additional services shall receive prior approval from the Finance Director. In no case shall such expenses, not otherwise granted prior written approval, be reimbursed by the City of Garden Grove.

Fees for assignments that are intended to result in a debt financing are contingent upon the closing of the transaction. Not-to-exceed fees for such transactions including, but not limited to, revenue bonds, certificates of participation, lease revenue bonds, tax allocation bonds and general obligation bonds are charged as follows:

<b>Stand-Alone Issue Size</b>	<b>Competitive Sale</b>	<b>Negotiated Sale</b>
Under \$25,000,000	\$ 40,000	\$ 35,000
\$25,000,001 to \$50,000,000	\$ 55,000	\$ 50,000
\$50,000,001 to \$75,000,000	\$ 70,000	\$ 65,000
\$75,000,001 to \$100,000,000	\$ 90,000	\$ 85,000

Transaction fees on a not to exceed basis contingent upon closing the debt transaction for land-secured financings such as Special Tax Bonds and Assessment District Bonds are charged at 1.5 times the above schedule.

Direct Expenses that may on occasion be granted reimbursable status include but are not limited to, airfare at coach rates, lodging and meals at reimbursement rates not to exceed those in Internal Revenue Service Publication 1542 for the San Francisco area, overnight courier, conference calls and transaction related expenses. If such direct expenses are incurred in the provision of the aforementioned services, they may be reimbursable with prior approval of the Chief Financial Officer, and may be billed in addition to the above transaction fees. Said expenses shall not exceed \$25,000 within a fiscal year.