

**“ATTACHMENT A”
SCOPE OF WORK
for
PS#11-1831-RJ CONTINUING WATER QUALITY CONSULTANT
SERVICES**

Project Description: Lake Tohopekaliga Nutrient Reduction Plan

I. Purpose

In November 2010, Osceola County (the COUNTY) requested that Camp Dresser & McKee, Inc. (the CONSULTANT) provide assistance with assessing the nutrient impairment listing for Lake Tohopekaliga (Toho), water body identification unit (WBID) 3173A, included on the adopted verified list of impaired waters released by Florida Department of Environmental Protection (FDEP). FDEP has granted an extension of time until the end of 2011 to file a petition for an administrative hearing. This extension of time will allow time for the development of a long-term nutrient reduction plan through a collaborative process with other affected stakeholders and state agencies. The COUNTY has requested the CONSULTANT to assist them with this process as well as develop a nutrient reduction plan for the participating Stakeholders within the Lake Toho watershed (see Figure 1). A number of entities have committed to participating in the development of a nutrient reduction plan including the Florida Farm Bureau, Florida Department of Transportation (FDOT), City of Orlando, the City of Kissimmee, the City of St. Cloud, South Florida Water Management District (SFWMD), Florida Fish and Wildlife Conservation Commission (FWCC), and Florida Department of Agricultural and Consumer Services (FDACS). These will be collectively referred to as the STAKEHOLDERS (including the COUNTY).

II. CONSULTANT'S Services

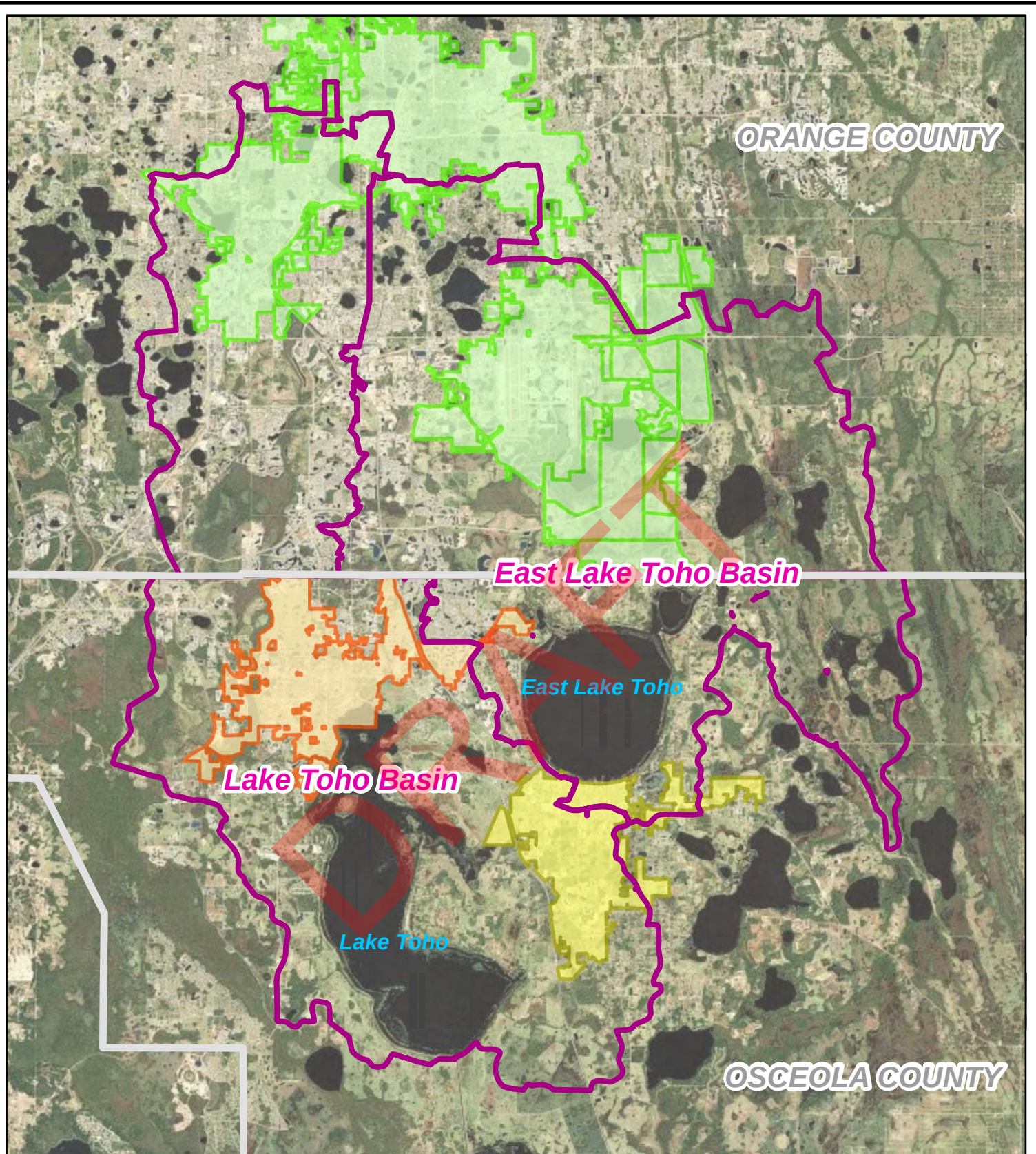
The CONSULTANT shall assist the STAKEHOLDERS with development of the nutrient reduction plan (NRP) as well as collaboration with other stakeholders and state agencies. The tasks associated with this assignment are defined below.

III. General Scope of Services

The CONSULTANT's General Consulting Services shall include the following tasks:

Task 1 – Pollutant Load Analysis

The CONSULTANT will develop a pollutant load analysis of the nutrient loading to Lake Toho. The loading analysis will account for the loads within the entire Lake Toho watershed in order to establish baseline conditions as required by the NRP.



0 2 4 8 Miles

Lake Toho
Nutrient Reduction Plan

LEGEND

- | | |
|----------------|-------------------|
| Osceola County | Orlando |
| ORANGE | City of Kissimmee |
| Basins | City of St. Cloud |

Subtask 1.1 – Data Collection and Analysis The STAKEHOLDERS will be responsible for providing the following data:

- Existing land use data;
- Drainage basin boundaries;
- Parcel data; and,
- Discharge Monitoring Reports (DMRs) for any wastewater facility discharges into surface waters within the Lake Toho Basin.

The CONSULTANT will compile the above-referenced data from each of the STAKEHOLDERS. In addition, the CONSULTANT will be responsible for compiling the following data items:

- Historical rainfall data;
- Soils information; and,
- Digital aerial photography.

Subtask 1.2 – BMP Tributary Area Identification The CONSULTANT will estimate tributary areas served by existing best management practices (BMPs) and digitize these using Geographic Information Systems (GIS) software. Due to time and budget constraints, the CONSULTANT will rely mostly on review of high-resolution aerial photography, parcel data, subdivision layers and available stormwater GIS inventory data. Once a preliminary BMP tributary layer is developed, the CONSULTANT will distribute the map to the STAKEHOLDERS for review and comment. For additional BMPs not visible on high-resolution aerial imagery (and were therefore not included in the preliminary layer), the STAKEHOLDERS will be responsible for identifying those BMPs and providing supplemental information or feedback that the CONSULTANT is readily able to incorporate into the GIS layer. The CONSULTANT will address the STAKEHOLDERS' comments and provide a revised final map. The CONSULTANT will then calculate the quantity and types of land uses served by existing BMPs within the Lake Toho drainage basin.

Subtask 1.3 – Existing Land Use Refinement (OPTIONAL TASK) The CONSULTANT will rely on the SFWMD's 2004-05 landcover/landuse map and will perform limited checks against aerial photography representing the agreed upon year for analysis. Where there are significant discrepancies (areas greater than 1 acre), the CONSULTANT will make adjustments to the 2004-05 landcover/landuse GIS layer so that it is reasonably consistent with the digital aerial photography. The CONSULTANT will also provide checks between

how the residential land uses are defined by SFWMD. This will be based on a dwelling unit per acre basis. Where there are discrepancies between how residential land uses are defined in the data and how they are defined by local jurisdictions, the CONSULTANT will confer with the STAKEHOLDERS to agree on how to adjust the existing land use representation accordingly so that it reflects actual conditions. Agricultural lands will also need to be identified through the existing land use review and will need to be defined as active or inactive. The STAKEHOLDERS will provide information on agricultural exemptions from the local Property Appraiser's database that can be used by the CONSULTANT to determine whether agricultural properties are active or inactive. The CONSULTANT will provide a copy of the revised GIS existing land use layer to the STAKEHOLDERS to review. The CONSULTANT will adjust the GIS layer to incorporate the STAKEHOLDERS' review comments.

Subtask 1.4 – WMM Model Development Using the data from Subtasks 1.1, 1.2 and 1.3, the CONSULTANT will use the CDM Watershed Management Model (WMM) to estimate the existing annual stormwater-related pollutant loads generated within the Lake Toho drainage basin (**Figure 1**). WMM will be used to identify the baseline nutrient loading that is generated within the Lake Toho watershed. This baseline loading is required as part of the NRP and represents the anthropogenic loads generated from the land surface. It does not account for septic tank loading or baseflow. WMM will also be used to estimate the portions of loading generated by agricultural lands. WMM will be used to conceptually evaluate and screen the changes in pollutant loadings due to existing land use conditions and BMPs planned by the STAKEHOLDERS for nutrient reduction purposes (Subtask 1.4).

The CONSULTANT will recommend event mean concentrations (EMC) values to the STAKEHOLDERS to be used for this effort. If EMC values used in other efforts for the Kissimmee River Basin TMDL modeling are available, the CONSULTANT will use these values for consistency. BMP removal efficiencies will be based upon best available published information.

The CONSULTANT will set up and apply the WMM using nonpoint source loading factors for model input such as runoff coefficients and EMCs, based on available data. The WMM will be set up so that pollutant loads are estimated for the Lake Toho drainage basin. The CONSULTANT will use WMM results to conceptually evaluate relative annual stormwater pollutant loadings generated for total phosphorus (TP) and total nitrogen (TN), the pollutants of concern. The CONSULTANT will include point sources from any applicable wastewater treatment facilities. Tables and bar charts will be used to present the results.

Subtask 1.4 – Planned Projects Analysis The STAKEHOLDERS will be responsible for providing information on planned or recently completed projects and/or activities that reduce nutrients to Lake Toho. The CONSULTANT will incorporate the planned structural projects proposed

by the STAKEHOLDERS into the WMM model to estimate the potential nutrient load reduction. The STAKEHOLDERS will be responsible for providing the locations of the projects, the type of project as well as the estimated tributary treatment area. If BMPs are such that published removal efficiencies are not available, CDM will estimate removal efficiencies based on experience. CDM will coordinate with FDEP prior to estimating load reductions so that accepted removal rates are used prior to performing the calculations. Tables and bar charts will be used to present the results. For non-structural BMPs (e.g., street weeping), the CONSULTANT will use best available published information to estimate load reductions associated with such activities.

Task 2 – Nutrient Reduction Plan

The CONSULTANT will develop a nutrient reduction plan (NRP) that will summarize the STAKEHOLDERS's proposed actions for reducing nutrient loads to Lake Toho.

Subtask 2.1 Monitoring Plan Development The STAKEHOLDERS will make available existing monitoring location and sampling information within the basin including locations, frequency of sampling, and parameters sampled for. The STAKEHOLDERS will also provide current standard operating procedures (SOPs) and quality assurance procedures for sample collection, analysis and reporting. The CONSULTANT will compile this information and develop a map of existing sampling stations and prepare a summary table of stations, parameters sampled for and frequency. Based on review of the summary, STAKEHOLDERS will provide input on additional sampling locations, parameters and sampling frequency to meet the intent of the NRP. The CONSULTANT will add this information to the map and summary. This information will be used to develop the monitoring plan element of the NRP (Subtask 2.2).

Subtask 2.2 Nutrient Reduction Plan Development The CONSULTANT will develop an NRP document using information collected and developed from the previous subtasks. The CONSULTANT will be responsible for developing the following sections (or sub-sections) of the NRP document:

1. Nutrient Reduction Plan Approach
2. Uniqueness of Lake Toho
3. Plan, Purpose and Scope
4. Potential Nutrient Sources
5. Stakeholder Involvement

6. Baseline Loading
7. Development of Management Actions
8. Assessment of Future Growth and New Sources
9. Research Priorities
10. Water Quality Monitoring Plan
11. Monitoring Network
12. Adaptive Management Measures
13. Tracking Implementation
14. Commitment to Plan Implementation

The CONSULTANT will prepare one hard copy and one electronic copy of the NRP for each STAKEHOLDER to review. Based on current STAKEHOLDER participation, the CONSULTANT has budgeted to produce ten (10) hard copies of the draft NRP. Once the STAKEHOLDERS have reviewed the draft NRP, the CONSULTANT and the STAKEHOLDERS will meet to discuss the review comments. The CONSULTANT will then incorporate the STAKEHOLDERS review comments and prepare three (3) hard copies of the revised draft NRP. The three (3) copies will be provided to FDEP for review and electronic copies of the revised draft will be provided to the STAKEHOLDERS. Once FDEP has provided review comments, the CONSULTANT and the STAKEHOLDERS will meet to discuss the comments and approach for addressing them in the NRP. The CONSULTANT will incorporate the mutually agreed comments into the final NRP and prepare a letter to FDEP describing how each of the review comments were addressed.

Task 3 – Meetings and Coordination

It is anticipated that extensive collaboration with the STAKEHOLDERS will be required throughout the development of the NRP. In addition to the other meetings described in the previous tasks, the CONSULTANT has budgeted for six stakeholder meetings and coordination required outside of meetings.

IV. Deliverables

The CONSULTANT will provide the following deliverables to the STAKEHOLDERS:

1. Preliminary BMP tributary area map (Task 1);

2. One (1) meeting to discuss the preliminary BMP tributary area map (Task 1);
3. One (1) map of the adjusted existing land use GIS layer;
4. Tables and bar charts to present the WMM results (Task 1);
5. Draft and final report section summarizing proposed monitoring plan (Task 2);
6. One (1) meeting to discuss the proposed monitoring plan (Task 2);
7. Ten (10) hard copies of the draft NRP (Task 3);
8. Three (3) hard copies of the Final Draft NRP (Task 3);
9. Ten (10) hard copies of the Final NRP (Task 3);
10. One (1) comment response letter to FDEP; and
11. Ten (10) CDs containing the NRP in pdf format.

V. Project Schedule

The completion of Task 1 will be completed within 3 months of issuance of the notice to proceed by the COUNTY. Tasks 2 and 3 will be completed no later than December 31, 2011.

VI. Compensation

Payment will be in accordance with the Osceola County Professional Continuing Services Agreement for Continuing Water Quality Consultant Services (AGREEMENT) with CDM dated March, 2011. Total compensation for services, materials, supplies, and other items or requirements necessary to complete the work will be based on a lump sum method as shown in **Table 1**. A breakdown of cost by STAKEHOLDER is provided in **Table 2**. The CONSULTANT will submit monthly invoices based upon services performed and completed by the CONSULTANT.

The above is agreed upon by:

Camp Dresser & McKee, Inc.

Date

Osceola County Project Manager

Date

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Table 1a
Osceola County
Lake Tohopekaliga Nutrient Reduction Plan
Summary of Costs
July 2011

Task No.	Description									Total Hours Hrs	Total Labor \$	ODC's \$	Outside Professional \$	Task Totals \$
		Officer Director \$250	Principal Associate \$200	Senior Prof./ Proj. Manager \$145	Project Eng. III \$136	Project Eng. II \$116	Staff Eng. I \$100	GIS Tech. \$80	Clerical \$55					
		(hours)	(hours)	(hours)	(hours)	Hrs	Hrs	Hrs	Hrs					
1	Pollutant Load Analysis										\$ -	\$ -	\$ -	\$ -
1.1	Data Collection and Analysis	0	2	6	0	12	20	8	4	52	\$ 5,522	\$ 276	\$ -	\$ 5,798
1.2	BMP Tributary Area Identification	2	4	8	0	12	100	16	4	146	\$ 15,352	\$ 768	\$ 25,000	\$ 41,120
1.3	Existing Land Use Refinement (OPTIONAL TASK)	0	4	8	0	0	24	16	2	54	\$ 5,750	\$ 288	\$ -	\$ 6,038
1.4	WMM Model Development	4	8	24	32	36	24	16	8	152	\$ 18,728	\$ 936		\$ 19,664
1.5	Planned Project Analysis	4	8	16	44	24	20	16	4	136	\$ 17,188	\$ 859	\$ -	\$ 18,047
2	Nutrient Reduction Plan													
2.1	Monitoring Plan Development	4	6	8	12	14	0	8	4	56	\$ 7,476	\$ 374		\$ 7,850
2.2	NRP Development	4	8	24	36	40	8	16	24	160	\$ 19,016	\$ 951		\$ 19,967
3	Meetings and Coordination	8	12	32	24	18	14	12	8	128	\$ 17,192	\$ 860	\$ -	\$ 18,052
Totals		26	52	126	148	156	210	108	58	884	\$ 106,224	\$ 5,311	\$ 25,000	\$ 136,535

Fixed Costs
 Fixed costs but equally benefits all stakeholders

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Table 1b
Osceola County
Lake Tohopekaliga Nutrient Reduction Plan¹
Summary of Costs
July 2011

Task No.	Description									Total Hours Hrs	Total Labor \$	ODC's \$	Outside Professional \$	Task Totals \$
		Officer Director \$250	Principal Associate \$200	Senior Prof./ Proj. Manager \$145	Project Eng. III \$136	Project Eng. II \$116	Staff Eng. I \$100	GIS Tech. \$80	Clerical \$55					
		(hours)	(hours)	(hours)	(hours)	Hrs	Hrs	Hrs	Hrs					
1	Pollutant Load Analysis										\$ -	\$ -	\$ -	\$ -
1.1	Data Collection and Analysis	0	2	6	0	12	20	8	4	52	\$ 5,522	\$ 276	\$ -	\$ 5,798
1.2	BMP Tributary Area Identification	2	4	8	0	10	50	12	4	90	\$ 9,800	\$ 490	\$ 12,000	\$ 22,290
1.3	Existing Land Use Refinement (OPTIONAL TASK)	0	4	6	0	0	16	12	2	40	\$ 4,340	\$ 217	\$ -	\$ 4,557
1.4	WMM Model Development	4	8	16	24	32	20	16	8	128	\$ 15,616	\$ 781		\$ 16,397
1.5	Planned Project Analysis	4	8	12	30	24	16	12	4	110	\$ 13,984	\$ 699	\$ -	\$ 14,683
2	Nutrient Reduction Plan													
2.1	Monitoring Plan Development	2	4	6	12	8	0	8	4	44	\$ 5,590	\$ 280		\$ 5,870
2.2	NRP Development	4	8	24	36	40	8	16	24	160	\$ 19,016	\$ 951		\$ 19,967
3	Meetings and Coordination	8	12	32	24	18	14	12	8	128	\$ 17,192	\$ 860	\$ -	\$ 18,052
Totals		24	50	110	126	144	144	96	58	752	\$ 91,060	\$ 4,553	\$ 12,000	\$ 107,613

Fixed Costs

Fixed costs but equally benefits all stakeholders

1 Excludes the East Lake Toho Basin

Table 2
Osceola County
Lake Tohopekaliga Nutrient Reduction Plan
Breakdown of Costs by Stakeholder¹ Benefit
July 2011

Stakeholders:	Lake Toho & E.Lake Toho Watershed Area (ac)	% Area	Cost
City of Orlando	33,363	11.7%	\$17,164
Orange County	93,881	32.9%	\$36,413
Osceola County	120,231	42.2%	\$44,794
City of Kissimmee	13,481	4.7%	\$10,840
City of St. Cloud	9,990	3.5%	\$9,730
GOAA	13,111	4.6%	\$10,723
FDOT ¹	1,000	0.4%	\$6,871
Totals:³	285,056	100.0%	\$136,535

1 - Assumes full participation by all municipal stakeholders, GOAA and FDOT.

2 - Assumed FDOT area

3 - Task 1 is weighted by basin area. Tasks 2 and 3 are equally divided amongst the number of stakeholders as these tasks are providing equal benefit.

Table 3
Osceola County
Lake Tohopekaliga Nutrient Reduction Plan
Breakdown of Costs by Stakeholder¹ Benefit
July 2011

Stakeholders:	Lake Toho Toho Watershed⁴ Area (ac)	% Area	Cost
City of Orlando	14,027	9.3%	\$13,259
Orange County	37,141	24.7%	\$23,055
Osceola County	77,236	51.4%	\$40,048
City of Kissimmee	13,109	8.7%	\$12,870
City of St. Cloud	8,349	5.6%	\$10,853
GOAA	--		--
FDOT ¹	500	0.3%	\$7,527
Totals:³	150,363	100.0%	\$107,613

1 - Assumes full participation by all municipal stakeholders, GOAA and FDOT.

2 - Assumed FDOT area

3 - Task 1 is weighted by basin area. Tasks 2 and 3 are equally divided amongst the number of stakeholders as these tasks are providing equal benefit.

4 - Excludes the East Lake Toho Basin