AMENDMENT #1
FOR
REGULATORY COMPLIANCE SUPPORT SERVICES FOR OC WASTE & RECYCLING

This AMENDMENT is made and entered into as of the date fully executed by and between the County of Orange, a political subdivision of the State of California, (hereinafter referred to as "County") and Geosyntec Consultants, Inc., a State of California corporation, (hereinafter referred to as "A/E"), with County and A/E sometimes individually referred to as ("Party"), or collectively referred to as ("Parties").

RECITALS

WHEREAS, County and A/E entered into AGREEMENT MA-299-15010787 for Architect-Engineer (A-E) Services for Regulatory Compliance Support Services for OC Waste & Recycling, (hereinafter referred to as "AGREEMENT") effective November 25, 2014 through November 24, 2017 in the amount of $2,000,000; and

WHEREAS, both Parties now desire to renew the term of the AGREEMENT for two (2) years and increase the AGREEMENT amount by $1,260,000; and,

NOW, THEREFORE, the Parties mutually agree as follows:

ARTICLES

1. This AMENDMENT shall become effective upon Board of Supervisor's approval.

2. Section 4(c) "Contract Maximum" shall be amended and shall read in its entirety as follows:

   c. Contract Maximum

   The total AGREEMENT amount shall not exceed $3,260,000, including reimbursable and other direct costs. The total not-to-exceed compensation will be broken down into individual tasks that have yet to be determined. The amounts allocated for each task may be transferred and adjusted within these tasks with the written approval of the Director. It will be the sole responsibility of the PM to monitor, track, amend, and with Director's approval, allocate the task dollars within the not-to-exceed budget of the total AGREEMENT amount.

3. Section 5 "Term of AGREEMENT " shall be amended and shall read in its entirety as follows:

   5. Term of AGREEMENT

   The term of this AGREEMENT shall be renewed for a period of two (2) years effective November 25, 2017 through November 24, 2019, unless earlier terminated as provided for herein. All Task Orders must be issued and completed within the AGREEMENT duration.

4. Exhibit A, "Scope of Work" will be amended and is attached here to as Attachment A, incorporated by this reference.

5. Exhibit C, "Schedule of Fees" will be amended and is attached here to as Attachment B, incorporated by this reference.

6. All other terms and conditions in this AGREEMENT shall remain unchanged and with full force and effect.

IN WITNESS WHEREOF, the PARTIES hereto have executed this CONTRACT on the dates opposite their respective signatures:

Geosyntec Consultants, Inc.,
a *California Corporation,*

Date: 9 May 2017

By: _____
Signature

BERT PALMER, Vice President
Print Name & Title

(If a corporation, the document must be signed by two corporate officers. The 1st must be either Chairman of the Board, President or any Vice President.)

Date: 5/8/17

By: _____
Signature

Mark Grivetti, Secretary
Print Name & Title

(If a corporation, the 2nd signature must be either the Secretary, an Assistant Secretary, the Chief Financial Officer, or any Assistant Treasurer)

COUNTY OF ORANGE,
a political subdivision of the State of California

Date: _____

By: _____

Print
Name: _____

Title: _____

APPROVED AS TO FORM
Office of the County Counsel
Orange County, California

By: _____
Deputy

ATTACHMENT A

SCOPE OF SERVICES
FOR
REGULATORY COMPLIANCE SUPPORT SERVICES
(Routine Tasks)

The A-E shall provide OC Waste & Recycling with regulatory compliance support services. The routine services provided by the firm, or team of firms, shall include preparation of regulatory compliance reports (i.e., National Pollutant Discharge Elimination System (NPDES) reports, annual mandatory Spill Prevention Control and Countermeasure (SPCC) training and SPCC Plan updates; semiannual and annual water quality monitoring reports); photogrammetry; landfill flare source testing; and general support related to these tasks. The anticipated deadlines for completing the tasks are as follows:

Task 1: Regulatory Compliance Reports

- **Subtask 1A:** Annual Storm water NPDES Monitoring Reports for Olinda, FRB, and Prima covering fiscal years 2017/18 and 2018/19.

- **Subtask 1B:** Annual SPCC Training and SPCC Plan Updates for Olinda, FRB, and Prima covering calendar years 2018 and 2019.

- **Subtask 1C:** Semiannual and Annual Water Quality Monitoring Reports for Olinda, FRB, Prima, Santiago, and Coyote from November 2017 through November 2019.

Task 2: Photogrammetry Services (Up to 22 landfills)

- **Subtask 2A:** Annual Photogrammetry Services for three mandatory landfill sites (Olinda, FRB, and Prima) covering calendar years 2018 and 2019.

- **Subtask 2B:** Annual Photogrammetry Services for up to 19 optional landfill sites covering calendar years 2018 and 2019.

Task 3: Flare Source Testing Services

- **Subtask 3A:** Annual Flare Testing for Santiago covering calendar years 2018 and 2019.

- **Subtask 3B:** Annual Flare Testing for Villa Park covering calendar years 2018 and 2019.

- **Subtask 3C:** Flare Testing for Prima covering calendar years 2018 and 2019.

- **Subtask 3D**: Flare Testing for Coyote covering calendar years 2018 and 2019.

Specific details for each of the tasks/subtasks are further described below.

TASK 1: REGULATORY COMPLIANCE REPORTS

Subtask 1A: Annual Stormwater NPDES Monitoring and Reporting (Olinda, FRB, and Prima)

The scope of Subtask 1A involves routine activities related to: 1) NPDES regulatory issues; 2) Document review and annual update; and 3) Annual site inspection and report preparation, as described below, for compliance with the NPDES Industrial General Permit (IGP) for the three subject active landfill sites. The scope of this subtask does not include non-routine activities related to compliance with the Municipal General Permit (MGP) or the Construction General Permit.

1) NPDES Regulatory Issues

The A-E shall assist OC Waste & Recycling with addressing and responding to stormwater NPDES regulatory issues that may arise at the three subject sites on an as-needed basis. The A-E shall provide technical assistance to OC Waste & Recycling on an as-needed basis, and shall prepare and conduct two presentation/training sessions on an annual basis for OC Waste & Recycling personnel.

2) Document Review and Annual Update

A revised IGP, which went into effect July 1, 2015, shall change the current monitoring and sampling frequency as well as the monitoring parameters. The A-E shall review and update existing NPDES documents for compliance with each of the three subject landfills' IGP programs. The A-E shall review and update each facility's Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), Monitoring Plan (MP), and other documents, as necessary. These documents shall be updated for compliance with current regulations, appropriateness of monitoring locations, analyte lists, sampling frequencies, and sampling procedures, and to reflect changing site conditions.

3) Annual NPDES Site Inspection and NPDES Report Preparation

The NPDES monitoring and reporting shall include stormwater and non-stormwater data compilation and analysis for each of the three subject landfills. Visual observation data collected by OC Waste & Recycling at these sites and transmitted to the A-E shall be compiled. In addition, site personnel from the three listed active landfills shall collect stormwater samples and submit the samples for laboratory testing according to the approved monitoring plan. The A-E shall compile and evaluate the analytical data.

In addition, the A-E shall conduct one annual site inspection to assess on-site conditions at each of the three landfill sites (½ day per site). The intent of the annual site inspections shall be to:

a) Evaluate areas currently designated as contributing to stormwater discharges and identify additional sources of concern; and

b) Review monitoring and sampling locations and sampling equipment installations; and

c) Evaluate whether the best management practices (BMPs) identified in the Storm Water Pollution Prevention Plan (SWPPP) are adequate.

Subsequent to the site inspections, the A-E shall recommend revisions and/or additions to the SWPPP, Monitoring Parameters (MP), and BMPs where appropriate for each of the three subject

landfill sites, draft annual NPDES reports presenting the results of the monitoring activities shall be prepared (in a format consistent with previous submittals to the Regional Water Quality Control Boards (RWQCBs)) and transmitted to OC Waste & Recycling in electronic format for review. Following review, the site-specific annual reports shall be finalized to incorporate OC Waste & Recycling comments and certifications, and submitted electronically for transmittal by OC Waste & Recycling to the RWQCBs. During the term of this contract, the A-E shall prepare up to two site-specific annual NPDES reports for each of the three subject landfills (due July 1, 2018 and July 1, 2019). These reports shall be stamped by the A-E and submitted to OC Waste & Recycling in both electronic format and hardcopy by 10:30 am the day before the due dates to allow OC Waste & Recycling to sign the reports and deliver the reports to the appropriate RWQCB office.

Cost Estimates

The A-E shall perform the scope of services described above for Subtask 1A on a lump sum basis, based on the following assumptions for each annual NPDES report:

a) Samples for the NPDES program shall be collected by OC Waste & Recycling personnel. Laboratory testing shall be performed by a certified laboratory contracted directly by OC Waste & Recycling (the A-E shall not be responsible for sampling, monitoring, and laboratory costs).

b) The A-E shall allow sufficient time (one week) for OC Waste & Recycling to review the electronic draft reports before final changes are made to the reports. The A-E shall also submit the stamped final reports electronically to OC Waste & Recycling by 10:30 a.m. the day before their due dates to allow OC Waste & Recycling to sign and deliver the reports to the appropriate RWQCB office.

c) Draft and final reports shall be delivered in electronic format and two hardcopies per final report. The electronic format shall be suitable for uploading to the RWQCB GeoTracker database and also available in optical character recognition (OCR) format. The A-E shall be responsible for uploading all required reports and data into the GeoTracker Database (and any of its successor uploading database systems).

Subtask 1B: Annual SPCC Training and SPCC Plan Update (Olinda, FRB, and Prima)

Under 40 CFR 112 and the Aboveground Petroleum Storage Act (APSA), each of OC Waste & Recycling's three active landfills (Olinda, FRB, and Prima) is required to conduct annual SPCC training for all of its staff that have contact with any of its above-ground petroleum storage tanks, as well as those who are involved with the California Unified Program Agency (CUPA) regulations and reporting. The scope of services for this order is to comply with the annual training requirement in calendar years 2018 and 2019 (two separate annual training events) and update the SPCC Plan for two of the three subject sites during the term of this contract (one SPCC Plan update in 2018 and one SPCC Plan update in 2019). The scope of services of Subtask 1B is described below:

1) Preparation and Training

The A-E shall review the monthly SPCC inspection reports (completed by OC Waste & Recycling personnel during the previous year and submitted to CUPA for all three active landfills), as well as review any new and/or pending legislation that may impact future CUPA requirements. The A-E shall submit a draft of the training presentation to OC Waste & Recycling

for review prior to each of the training sessions. The A-E shall give three annual SPCC training presentations each summer (a total of six separate training sessions), no later than the 31st of August of 2018 and 2019. Each training shall consist of no less than a PowerPoint presentation, designed to last 60-90 minutes in length, which covers, at a minimum:

a) Applicable Regulations and Applicability of SPCC Regulations

b) SPCC Plan Review and Components of SPCC Plan

c) Failure Analysis

d) Prevention Measures

e) Testing and Inspections

f) Record Keeping and Documentation

g) Response Planning

h) Minimum Training Required

i) Plan Implementation

j) Discharge Prevention and Spill Response

k) Regulatory Oversight and Inspections

If the annual training is scheduled at one of the three subject landfill sites, the A-E may include a tour of pertinent areas of that landfill site as part of the training session. As part of the training or within a month following the training, the A-E shall present to OC Waste & Recycling a list of suggestions for each landfill as to how they can improve regulatory compliance with SPCC requirements. The suggestions may include, but are not limited to: tips on better housekeeping near the petroleum tanks, common errors found in the monthly inspection reports, and/or errors found in incident reports.

2) SPCC Plan Update

The A-E shall review, update, and stamp in calendar years 2018 and 2019 the SPCC Plan for two of the three subject landfill sites (an SPCC Plan update for one landfill site each year). Draft and final updated SPCC Plans shall be submitted electronically along with two (2) hardcopies of each final plan.

Cost Estimates
The A-E shall perform the scope of services described above for Subtask 1B on a lump sum basis.

Subtask 1C: Semiannual and Annual Water Quality Monitoring Reports (Olinda, FRB, Prima, Santiago and Coyote)

Each of OC Waste & Recycling's three active landfills (FRB, Olinda and Prima) and two of its closed landfills (Santiago and Coyote) operate under Waste Discharge Requirements (WDRs) and Monitoring & Reporting Programs (M&RPs) issued by the RWQCBs in accordance with Federal and

State Standards. For each of these five landfill sites, the M&RPs require the preparation and submittal of Semiannual Water Quality Monitoring Reports (in April and September of each year) and Annual Summary Reports (in April of each year). The scope of services for Subtask 1C is to comply with the applicable requirements of each of the five sites' M&RPs for water quality monitoring data compilation, evaluation and compliance report preparation and submittal. The A-E shall prepare the compliance reports (semiannual and annual summary) in a format similar to those compliance reports previously prepared.

The A-E shall compile and review water quality monitoring data, collected by OC Waste & Recycling and/or contractors to OC Waste & Recycling, for the fourth quarter of 2017 through the third quarter of 2019 (November 2017 through November 2019) for the five subject landfill sites. The monitoring data to be compiled and reviewed by the A-E shall include: site-specific groundwater depth measurements; laboratory chemical results of liquid samples (i.e., groundwater, surface water, condensate, and leachate) and landfill gas samples; volumes of liquids extracted, collected, treated, and/or disposed; and waste monitoring data.

As applicable to each of the five subject landfills, the monitoring data shall be analyzed by the A-E as follows:

a) Groundwater depth measurements shall be used to calculate groundwater elevations and evaluate groundwater flow direction and velocity.

b) Laboratory chemical results of organic compounds in groundwater and surface water samples shall be analyzed using the non-statistical analysis method specified in the M&RP to evaluate if a release of organic constituents has occurred in the groundwater and/or surface water.

c) Laboratory chemical results of inorganic constituents (metals surrogates) shall be analyzed using the Shewart-CUSUM or other intra-well statistical analysis methods (using Sanitas® software) to evaluate changes in inorganic groundwater quality. The results of other inorganic constituents (metals and general minerals) shall be plotted on time-series charts and compared to applicable concentration limits.

d) If a tentative release is indicated, the A-E shall recommend additional sampling, if needed, for confirmation of the results.

e) The laboratory chemical results of gas probe samples shall be analyzed to evaluate whether landfill gas has impacted the vadose zone and the groundwater.

f) The laboratory chemical results of leachate and landfill gas samples shall be analyzed to update the list of monitoring parameters or the COC.

g) The volumes of liquids extracted, collected, treated, and/or disposed shall be reviewed to document the operation of extraction, collection, treatment, and/or disposal systems.

h) The waste monitoring data shall be documented to evaluate the types and quantities of wastes received at each site and the waste disposal location(s) at each site.

Site-specific semiannual water quality monitoring reports and annual summary reports shall be submitted electronically in draft format to OC Waste & Recycling for review. Following OC Waste & Recycling's review, the reports shall be finalized/stamped by the A-E and CDs (in OCR format) plus two (2) hardcopies of each final report shall be submitted to OC Waste & Recycling by 10:30 am

the working day before their due dates for transmittal to the RWQCBs. The monitoring data shall be uploaded onto GeoTracker within one month after the final reports are submitted on CD.

Final Report CD Deliverables (for each of the five subject landfill sites):

a) Four semiannual water quality monitoring reports (due April 30, 2018; October 31, 2018; April 30, 2019; and October 31, 2019); and

b) Two annual summary reports (due April 30, 2018 and April 30, 2019).

Cost Estimates

The A-E shall perform the scope of services described above for Subtask 1C on a lump sum basis, based on the following assumptions:

a) Monitoring and sampling shall be performed by OC Waste & Recycling personnel. Laboratory testing shall be performed by a certified laboratory contracted directly by OC Waste & Recycling (the A-E shall not be responsible for monitoring, sampling, and laboratory costs).

b) The A-E shall allow sufficient time (one week) for OC Waste & Recycling to review the electronic draft reports before final changes are made to the reports. The A-E shall also submit the stamped final reports electronically to OC Waste & Recycling by 10:30 am the day before their due dates to allow OC Waste & Recycling to sign the reports and deliver the reports to the appropriate RWQCB office.

c) Draft and final reports shall be delivered in electronic format along with two (2) hardcopies of each final report. The electronic format shall be suitable for uploading to the RWQCB GeoTracker database and also available in optical character recognition (OCR) format. The A-E shall be responsible for uploading all required reports and data onto the GeoTracker Database (and any of its successor uploading database systems).

TASK 2: PHOTOGRAMMETRY SERVICES

The A-E shall provide annual Digital Aerial Photogrammetric services in calendar years 2018 and 2019, as requested by OC Waste & Recycling and further described in this scope of services for up to twenty-two (22) landfill sites, including:

Subtask 2A: Three (3) mandatory landfill sites (FRB, Olinda, and Prima); and

Subtask 2B: Up to nineteen (19) optional landfill sites.

OC Waste & Recycling requires 100-scale, 2-ft. contour interval, digital topographic mapping, color aerial photography, and the corrected digital color images (orthophotos). The topographical maps are required to satisfy regulatory requirements for topographical information for design, and to determine remaining landfill capacities. The scope of services shall consist of furnishing all photogrammetric mapping necessary for the project sites under the preliminary specifications described herein. The work shall include, but not be limited to, planning, development of flight

plans, aerial photography, aero triangulation, digital map compilation, drafting, surveying and reproductions for any of the mandatory and optional landfill sites specified.

Preliminary Specifications

Each year, the specifications for mapping shall be discussed between the A-E's mapping contractor and OC Waste & Recycling. The final specifications shall be determined by OC Waste & Recycling. In general, the preliminary specifications shall be as follows:

Preliminary Specifications for Orthophoto Work for 2018 and 2019

Site Name	Flying Height (ft)	Resolution of Enlargement	Pixel Size (ft)
Olinda Alpha (approx. 20”x 24”)	9,817	240	1.00
Olinda Alpha (approx. 40”x 40”)	9,817	475	1.00
La Veta/Yorba	3,584	320	0.50
Villa Park	3,095	350	0.40
Cerro Villa	3,664	240	0.50
Frank R. Bowerman (approx. 20”x 24”)	11,075	375	2.00
Frank R. Bowerman (approx. 40”x 40”)	9,817	750	1.00
Cannery Street	1,867	500	0.25
Gothard Street	2,200	365	0.40
Silverado Canyon	3,578	235	1.00
Santiago Canyon	11,058	362	2.00
Prima Deshecha (approx. 20”x 24”)	12,240	335	2.00
Prima Deshecha (approx. 40”x 40”)	12,240	450	2.00
Del Obispo	1,743	220	0.25
Coyote Canyon	9,834	353	1.50
Forster Canyon	4,453	525	0.40
San Joaquin	6,097	375	0.40
Lane Road	5,992	250	1.00
Newport Avenue	TBD		
La Habra	TBD		
San Joaquin	TBD		
Longston Pit	TBD		
Reeve Pit	TBD		
Stanton	TBD		
Canal Street	TBD		
Yorba	TBD		
Sparkes-Rains	2,153	440	0.25

1) Field Surveys and Pre-marking

The 2018 and 2019 photogrammetry ground control survey and pre-marking are required for the three mandatory landfills and selected optional sites. The A-E shall identify and provide to OC Waste & Recycling staff the number and location of horizontal and vertical aerial ground controls based on the landfill limits to be mapped. The task to set all the ground control points to be mapped shall be performed by OC Waste & Recycling. The pre-marked aerial targets shall be constructed by OC Waste & Recycling using durable material or painted where appropriate, and shall be configured in an "X," having 3' legs, or an overall dimension of 6' and one-foot wide for a 100-scale map.

2) Photo Mission and Aerial Mapping

a) Flight Height and Photographic Scale

The nominal photography scale to be used for mapping shall be between l" = 500' and l" = 600'.

The flight height above average terrain shall be 3000' to 3600' for 100-scale mapping. Flight heights above average terrain shall not exceed six times the relief range for the flight line. Any deviation in the flight from these specifications must be approved in advance by OC Waste & Recycling.

b) Flight Tolerances

Flight tolerances shall be as follows:

Coverage - Mapping limits and the control for the flight shall fall within the central seven inches of the photography.

Forward Overlap - Forward overlap shall not exceed 65% or be less than 55% and shall average 60%.

Crab - Crabbing measured from the line of the flight through the principal points shall not exceed 5 degrees between any two consecutive photographs and shall not average more than 3 degrees for any single-flight line.

Tilt - Tilt defined as the departure of the optical axis of the camera from a plumb line shall not exceed 3 degrees on a single photograph and shall not average more than one degree for a single flight line. Relative tilt between two successive exposures shall not exceed 4 degrees.

Time of Photography - Photography shall be taken between September 15 and October 15 of each year, when the ground is not obscured by haze, smoke, dust, clouds or shadows, or snow. Photography shall be taken only when the sun angle is greater than 30 degrees above the horizon, and between the hours of 10:30 a.m. and 2:00 p.m.

3) Aero Triangulation

a) Image Residuals

b) The standard deviation of "unit-weight" shall not exceed +/- 12 microns.

c) Horizontal Control Residuals

d) The root-mean-square-error of xy vector shall not exceed +/- 0.085 foot and no single point shall deviate more than 0.36 feet.

e) Vertical Control Residuals

f) The root-mean-square-error of z shall not exceed +/- 0.15 foot and no single point shall deviate more than 0.36 feet.

g) Residual Listings

h) A compiled listing of resultant residuals for the final aero triangulation shall be furnished.

4) Aerial Photography

a) Cameras

Aerial photography shall be taken with one of the following types of cameras or equivalent, and must be fitted with FMC correction:

1. Wild RC-20 or RC-30 with a 6-inch Aviogon lens
2. Zeiss RMK 15/23 with a Pleogon lens
3. Zeiss LMK 15/2323 with a Pleogon lens

b) Camera Calibration

A calibration test shall be conducted and a report shall be provided for the camera used upon request by OC Waste & Recycling. The report shall be prepared by the United States Geological Survey or the camera manufacturer within the last two years.

5) Map Compilation

a) Mapping Limits
Mapping limits shall be marked on one set of the contact prints or previous mapping exhibit by OC Waste & Recycling.

b) Contour Interval
The contour intervals shall be two (2) feet for l00-scale mapping area.

c) Map Contents
Map content, symbols, grid system, title block, and editing style shall conform to the standard set by OC Waste & Recycling.

d) Stereo-Plotters
Only analytical photogrammetric plotters shall be used for map compilation.

6) Map Accuracy

a) Map Grids
The position of all grid ticks and all monuments shall not vary more than 0.01 inch from their coordinate position.

b) Planimetry
At least 90% of all well-defined planimetric features shall be within 0.025 inches of their true position, and all shall be within 0.050 inches of their true ground position, as determined on the map.

7) Contours and Spot Elevations

At least 90% of all contours shall be within one-half (½) contour interval of true elevation, and all contours shall be within one contour interval of true elevation, except as follows:

a) In densely wooded areas where the ground is obscured by dense brush or tree cover, contours shall be plotted as accurately as possible while making maximum use of spot elevations obtained from the stereoscopic model in places where spot elevations can be obtained photogrammetrically. At least 90% of all such contours shall be within one contour interval or one half the average height of the ground cover, whichever is greater, of true elevation. All contours shall be within two contour intervals or the average height of the ground cover; whichever is the greater, of true elevation. Contours in such areas shall be shown with dashed lines.

b) Orchards, vineyards, and other areas devoted to crops shall be considered as open areas and are therefore not subject to larger tolerances in vertical accuracy.

c) Contours shall reflect the crown or cross slope of all paved areas including paved ditches and the accuracy tolerance allowed for contours shall not affect this requirement.

Note: For areas not obscured by grass, weeds, or brush, at least 90% of all spot elevations shall be within 0.25 contour interval of true elevation and all shall be within 0.50 contour interval of true elevation. All spot elevations must be a point block with elevations.

Any contour, which can be brought within the specific vertical tolerance by shifting its position 0.025 inch, shall be accepted as correctly compiled. When there is any question as to the planimetry, topography, or any other feature of the map, it shall be the A-E's responsibility to perform such field edits as are necessary to correctly map what is on the ground.

8) Digital File Format

The A-E shall use AutoCAD layering specified by OC Waste & Recycling as shown below. The information below shows the layer identification name, the assigned layer color, the specified line type, and the layer description to be implemented and adhered to for all photogrammetric and topographic digital files. No other layers shall be permitted.

OC Waste & Recycling Standard Layers -Drainage System

Layer	Color	Line Type	Description

EX-DS-CH	8	DASHEDX2	Existing Drainage System Channel
EX-DS-CU	8	DASHED	Existing Drainage System Culvert
EX-DS-PI	15	PHANTOM	Existing Drainage System Pipe
EX-DS-STR	8	CONTINUOUS	Existing Drainage System Structures
EX-DS-TX	6	CONTINUOUS	Existing Drainage System Text
EX-DS-VD	8	PHANTOM2	Existing Drainage System V-Ditch

OC Waste & Recycling Standard Layers –Gas Utilities

Layer	Color	Line Type	Description
EX-GS-CV	8	CONTINUOUS	Existing Gas Utilities Control Valve
EX-GS-EL	8	CONTINUOUS	Existing Gas Utilities Electrical
EX-GS-HC	15	DASHDOT2	Existing Gas Utilities Horiz. Collector
EX-GS-HL	15	DASHDOT2	Existing Gas Utilities Header Line
EX-GS-IN	8	CONTINUOUS	Existing Gas Utilities Inlet
EX-GS-ME	8	CONTINUOUS	Existing Gas Utilities Mechanical
EX-GS-PB	8	CONTINUOUS	Existing Gas Utilities Probes
ES-GS-TK	8	CONTINUOUS	Existing Gas Utilities Tank
ES-GS-TX	6	CONTINUOUS	Existing Gas Utilities Text
ES-GS-VW	8	CONTINUOUS	Existing Gas Utilities Vertical Wells

OC Waste & Recycling Standard Layers –Ground Water

Layer	Color	Line Type	Description
EX-GW-CO	8	CONTINUOUS	Existing Ground Water Cleanout
EX-GW-LA	15	CONTINUOUS	Existing Ground Water Lateral
EX-GW-MW	8	CONTINUOUS	Existing Ground Water Monitoring Well
EX-GW-STR	8	CONTINUOUS	Existing Ground Water Structures
EX-GW-TK	8	CONTINUOUS	Existing Ground Water Tank
EX-GW-TL	15	CONTINUOUS	Existing Ground Water Trunk Line
EX-GW-TX	6	CONTINUOUS	Existing Ground Water Text

OC Waste & Recycling Standard Layers –Leachate

Layer	Color	Line Type	Description
EX-LS-CO	8	CONTINUOUS	Existing Leachate Cleanout
EX-LS-LA	15	CONTINUOUS	Existing Leachate Lateral
EX-LS-MW	8	CONTINUOUS	Existing Leachate Monitoring Well
EX-LS-SD	15	DIVIDE2	Existing Leachate Subdrain
EX-LS-STR	8	CONTINUOUS	Existing Leachate Structures
EX-LS-TD	8	DOT2	Existing Leachate Toe Drain
EX-LS-TK	8	CONTINUOUS	Existing Leachate Tank
EX-LS-TL	15	CONTINUOUS	Existing Leachate Trunk Line
EX-LS-TX	6	CONTINUOUS	Existing Leachate Text

OC Waste & Recycling Standard Layers –Miscellaneous

Layer	Color	Line Type	Description

MS-SH-BR	13	CONTINUOUS	Miscellaneous Sheet Border
MS-SH-CE	6	DASHED	Miscellaneous Sheet Cutting Edge
MS-SH-DE	7	CONTINUOUS	Miscellaneous Sheet Details
MS-SH-DM	4	CONTINUOUS	Miscellaneous Sheet Dimensions
MS-SH-NT	7	CONTINUOUS	Miscellaneous Sheet Notes
MS-SH-RV	7	CONTINUOUS	Miscellaneous Sheet Revisions
MS-SH-TB	12	CONTINUOUS	Miscellaneous Sheet Title Block

OC Waste & Recycling Standard Layers –Roadway

Layer	Color	Line Type	Description
EX-RD-DR	8	DASHED2	Existing Roadway Dirt
EX-RD-EP	8	CONTINUOUS	Existing Roadway Edge of Pavement
EX-RD-GVL	174	DASHED	Existing Roadway Edge of Gravel
EX-RD-TX	6	CONTINUOUS	Existing Roadway Text

OC Waste & Recycling Standard Layers –Topography

Layer	Color	Line Type	Description
EX-TP-AS	6	HIDDENX2	Existing Topography Asphalt Surface
EX-TP-BD	4	CONTINUOUS	Existing Topography Building
EX-TP-BS	10	CONTINUOUS	Existing Topography Brush
EX-TP-CP	7	CONTINUOUS	Existing Topography Control Point
EX-TP-CS	8	HIDDEN2	Existing Topography Concrete Surface
EX-TP-DP	91	CONTINUOUS	Existing Topography Depression Marks
EX-TP-DR	6	HIDDEN	Existing Topography Dirt
EX-TP-DS	174	CONTINUOUS	Existing Topography Drainage
EX-TP-FL	4	DIVIDE	Existing Topography Flow Line
EX-TP-FN	1	CONTINUOUS	Existing Topography Fence
EX-TP-GD	1	CONTINUOUS	Existing Topography Grid
EX-TP-LG	5	CONTINUOUS	Existing Topography Legend
EX-TP-IDX	21	CONTINUOUS	Existing Topography Index Contour
EX-TP-INT	121	CONTINUOUS	Existing Topography Interim Contour
EX-TP-MP	7	CONTINUOUS	Existing Topography Monument Points
EX-TP-MS	141	CONTINUOUS	Existing Topography Miscellaneous
EX-TP-PL	170	PHANTOM2	Existing Topography Property Line
EX-TP-PP	1	CONTINUOUS	Existing Topography Power Pole
EX-TP-PR	4	CONTINUOUS	Existing Topography Paved Road
EX-TP-SE	7	CONTINUOUS	Existing Topography Spot Elevations
EX-TP-TP	11	HIDDEN2	Existing Topography Top of Slope
EX-TP-TR	91	CONTINUOUS	Existing Topography Tree
EX-TP-TS	11	HIDDEN2	Existing Topography Toe of Slope
EX-TP-TT	6	CONTINUOUS	Existing Topography Trans. Tower/Line
EX-TP-TX	7	CONTINUOUS	Existing Topography Text
EX-TP-WA	11	CONTINUOUS	Existing Topography Wall

OC Waste & Recycling Standard Layers –Water System

Layer	Color	Line Type	Description

EX-WS-FM	15	CONTINUOUS	Existing Water System Force Main
EX-WS-PI	8	PHANTOM	Existing Water System Pipe
EX-WS-STR	8	CONTINUOUS	Existing Water System Structures
EX-WS-TK	8	CONTINUOUS	Existing Water System Tank
EX-WS-TX	6	CONTINUOUS	Existing Water System Text

Submit a file for use with AutoCAD Civil 3D 2013 or as specified by OC Waste & Recycling the following format:

PD_17_TP.DWG 2017 Prima Final Topo Map
PD_17_TP_Prelim.DWG 2017 Prima Preliminary Topo Map
OA_17.TIFF - TIFF Image
OA_17.TFW - TIFF Image
SC_17.JPEG - JPEG Image
CS_17.JFW - JPEG Image

FILING SYSTEM FOR DIGITAL FILES:

NA	Newport Avenue Landfill (#1)
LV	La Veta/Yorba Landfill (#2/12)
DO	Del Obispo Landfill (#3)
CNL	Canal Street Landfill (#4)
CV	Cerro Villa Landfill (#7)
ST	Stanton Landfill (#8)
GS	Gothard Street Landfill (#10)
LH	La Habra Landfill (#11)
SJ	San Joaquin Landfill (#13)
LP	Longsdon Pit Landfill (#15)
CNY	Cannery Street Landfill (#16)
FC	Forster Canyon Landfill (#17)
SP	Sparkes Pit Landfill (#18)
RP	Reeves Pit Landfill (#19)
LR	Lane Road Landfill (#21)
VP	Villa Park Landfill (#22)
OA	Olinda Alpha Landfill (#20/23)
CC	Coyote Canyon Landfill (#24)
SC	Santiago Canyon Landfill (#25)
PD	Prima Deshecha Landfill (#26)
FRB	FRB Landfill (#27)
YB	Yorba Landfill (#12)
SS	Santiago Silverado

9) Quality Control

The A-E shall develop, implement, and maintain quality control procedures during the preparation for photography, mapping, and digital information related to the project. This shall be developed and submitted to OC Waste & Recycling for approval, upon request.

10) Deliverables

a) The A-E shall provide detailed flight plans as needed to OC Waste & Recycling for

review and comments.

b) After the photo mission, two sets of contact prints of the aerial photographs shall be provided to OC Waste & Recycling, including negatives.

c) The aerial photographs shall exhibit true and accurate color, hue, and saturation. Contrast shalt be adequate without under or over exposure and shall be free from fading.

d) Upon successful completion of the aerial triangulation calculations; digital compilation shall be performed to encompass the project limits. Subsequently, the A-E shall deliver the final mapping in digital format in AutoCAD 2013 (AutoCAD version to be confirmed each year) drawing (.DWG) format.

e) The A-E shall produce one set of final draft topographic maps on MYLAR with two-foot contour intervals for the complete project area oriented to a single sheet format. When necessary, intermediate contours may be omitted in order to improve visual quality. The entire text on final active site drawings plotted at scale l" = 300' and on final closed sites at scale l" = 100' shall be entirely legible.

f) The digital mapping shall be placed on CD-ROM utilizing a .DWG file format for use in AutoCAD Civil3D 2013 (or higher version).

g) Contour data to be supplemented by spot elevation data in all flat areas.

h) Upon review and approval of the aerial photography by OC Waste & Recycling, the A-E shall proceed with the Aerial Triangulation.

i) The A-E shall submit, if needed, an Aerial Triangulation report and sheet layout to OC Waste & Recycling for approval.

j) Upon receipt of approval from OC Waste & Recycling, the A-E shall start compilation by collecting data from stereo models, and digital data parameters shall be set-up in accordance with the OC Waste & Recycling library.

k) The first sheet and digital data shall be submitted as a draft for pre-approval by OC Waste & Recycling before the A-E proceeds any further.

l) Place depression contours accordingly onto index and intermediate contour layer; and leave depression marks on depression layer.

m) Provide consistent symbols on map and in legend (scale).

n) Provide consistent labeling scale (contour labels much larger then spot elevations).

o) All below mentioned topographic objects should be on a separate layer. Please refer to OC Waste & Recycling Standard Layers Listing.

p) Provide consistent boundary symbol on map and in legend.

q) Use different symbols for treeline and brushline.

r) Use different symbols for water wells, gas probes, and lysimeters.

s) Show all downdrains and gas lines.

t) Label all shown downdrains and gas lines.

u) Show and label all monitoring wells.

v) Show guardrail symbol.

w) Provide description of all shown objects including:
-Landfill gas condensate pumping station
-Landfill gas flare station
-Landfill gas header pipes
-Perimeter monitoring probes
-Groundwater monitoring wells
-Leachate collection and recovery system (LCRS) pumping station
-Leachate sump
-Landfill gas condensate storage tank
-Groundwater and leachate storage tanks
-Groundwater pumping station
-Toe drains

x) One vertical color spot shot to cover entire landfill (typically min 500' or max 1000' beyond landfill property). Show property line.

y) The A-E shall submit to OC Waste & Recycling Digital Aerial Orthophoto (a geo-referenced vertical-shot) of all active and closed landfills as listed on the Fee Schedule, in TIF/TFW and JPG/JGW file formats.

z) Digital orthophoto must be in NAD83 Datum, State Plane Zone 6, U.S. Survey feet to be usable.

Note:
A scanning rate of 15 microns yields a file size of 690 MB.
A scanning rate of 20 microns yields a file size of 390 MB.

11) Deliverable Schedule (for calendar years 2018 and 2019)

The A-E shall agree to the following established time frame deliverable schedule. Prior to releasing a copy of topographic maps and photographs to a third party, A-E shall obtain approval from OC Waste & Recycling in writing.

a) Aerial Targets – The A-E shall inform OC Waste & Recycling of the required number of ground control survey markings and locations by August 31 each year. OC Waste & Recycling shall set the ground controls survey marking for all sites by September 15 each year.

b) Photography shall be performed between September 15 and October 15 each year when the ground is not obscured by haze, smoke, dust, clouds or shadows, or snow. Photography shall be performed only when the sun angle is greater than 30 degrees above the horizon,

and between the hours of 10:30 a.m. to 2:00 p.m.

c) Preliminary topographies for the 3 mandatory landfills (FRB, Olinda, and Prima) (and optional sites Coyote Canyon and Santiago Canyon, if requested) shall be delivered to OC Waste & Recycling for review and comment by November 5 each year.

d) Preliminary topographies for all other optional sites shall be delivered to OC Waste & Recycling for review and comment by December 20 each year.

e) Digital orthophotos for all requested sites shall be delivered to OC Waste & Recycling by November 12 each year.

f) Final Topographies for the 3 mandatory landfills (and optional sites Coyote Canyon and Santiago Canyon, if requested) shall be delivered to OC Waste & Recycling by December 1 each year.

g) Final Topographies for all other requested sites shall be delivered to OC Waste & Recycling by January 31 each year.

h) All enlargements of each site at a size of 20" x 24" and 40" x 40" (if applicable) and mounted on ¼" gatorboard foam shall be delivered to OC Waste & Recycling by November 12 each year. Each enlargement shall have a label on the back with the following information: A-E Information, Site Name, Photography Date, and Approx. Scale.

i) Vertical photography shall be obtained during the photo mission. The flight crew shall obtain a minimum of one (1) exposure for each site looking North. The color photography shall be presented to OC Waste & Recycling in a 9-inch format for review.

j) A list of sites requiring topographic map preparation, number and sizes of mounted photographs and digital orthophotos shall be provided by OC Waste & Recycling in August of each year.

Cost Estimates

The A-E shall provide the cost proposal to perform digital aerial photogrammetric services as described above in calendar years 2018 and 2019 for Task 2 (Subtasks 2A and 2B). The County shall issue a task order after approving the cost proposal. No work shall be performed without the task order.

TASK 3: FLARE SOURCE TESTING

Scope of Services

OC Waste & Recycling operates a number of flares as a means to effectively combust landfill gas collected through a series of extraction wells and associated piping. For purposes of this scope of services, the flare source testing services shall cover the flares at Santiago (Subtask 3A), Villa Park (Subtask 3B), Prima (Subtask 3C), and Coyote (Subtask 3D). The Villa Park flare, Prima flare, one of the three Coyote flares, and one of the three Santiago flares have to be tested every year.

Subtask 3A: Two (2) annual flare testing events at Santiago in calendar years 2018 and 2019;
Subtask 3B: Two (2) annual flare testing events at Villa Park in calendar years 2018 and 2019;
Subtask 3C: Two (2) annual flare testing events at Prima in calendar years 2018 and 2019;
Subtask 3D: Two (2) annual flare testing events at Coyote in calendar years 2018 and 2019.

The flare testing shall be performed at the four subject landfills, as requested by the OC Waste & Recycling, in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1150.1 to comply with each landfill site's current Permit to Construct/Operate (PTC/PTO). The flare testing program may be conducted by a subconsultant who shall be responsible for inspecting and tuning the flares; the actual source test shall be conducted by an SCAQMD-approved flare testing subcontractor, as follows:

1) The A-E or subconsultant shall visually inspect the flare (pre-test inspection) approximately 6 weeks prior to the test date, and shall provide inspection recommendations via e-mail to OC Waste & Recycling (inspection photos and a list of maintenance, tune-up, and repair needs) approximately 4 weeks prior to the test date. These recommendations shall be carried out by OC Waste & Recycling and the landfill gas flare operator(s), who shall be present on-site during the pre-test flare inspection and the subsequent flare tune-up/testing.

2) Following completion of maintenance and repairs by OC Waste & Recycling and the flare operator(s), the A-E or subconsultant shall be responsible for tuning the flare to comply with the flare permit conditions and for optimum flare performance, in coordination with the flare operator(s) and SCAQMD approved flare testing subcontractor. The pre-test tuning shall be performed the day before the actual source test to ensure the flare shall meet the permit conditions and emissions requirements during the official test. Flare test sampling and laboratory testing shall be performed and coordinated by the flare testing subcontractor in accordance with each site's current PTC/PTO.

3) Approximately 4 weeks following the flare tune-up testing, the flare testing subcontractor shall prepare and submit via e-mail, for review, an electronic draft flare test report for each of the three subject landfills. Within one week, review comments shall be returned to the flare testing subcontractor, who shall address/incorporate the review comments and submit via e-mail the electronic final flare test report, plus two (2) hardcopy final reports, to OC Waste & Recycling in accordance with the preliminary schedule included below.

Schedule

Below is a preliminary schedule to perform the scope of services described above for Task 3 at Santiago (Subtask 3A), Villa Park (Subtask 3B), Prima (Subtask 3C), and Coyote (Subtask 3D).

PRELIMINARY SCHEDULE FLARE TESTING FOR CALENDAR YEARS 2018 & 2019					
Activity	Estimated Duration (each site)	Santiago Canyon (Subtask 3A) Annual Testing	Villa Park (Subtask 3B) Annual Testing	Prima Deshecha (Subtask 3C) Annual Testing	Coyote Canyon (Subtask 3D) Annual Testing
Pre-Test Flare Inspection	1 day	Week of June 4, 2018 & 2019	Week of June 4, 2018 & 2019	Week of Sept. 16, 2018 & 2019	Week of May 16, 2018 & 2019
Inspection Recommen-dations	1 week	By June 15, 2018 & 2019	By June 15, 2018 & 2019	By Sept. 23, 2018 & 2019	By May 23, 2018 & 2019
Repairs (by others)	4 weeks	By July 13, 2018 & 2019	By July 13, 2018 & 2019	By October 21, 2018 & 2019	By June 23, 2018 & 2019
Pre-Test Flare Tuning	1 day	Week of July 16, 2018 & 2019	Week of July 16, 2018 & 2019	Week of October 28, 2018 & 2019	Week of June 25, 2018 & 2019
Flare Test	1-2 days	Week of July 16, 2018 & 2019	Week of July 16, 2018 & 2019	Week of October 28, 2018 & 2019	Week of June 25, 2018 & 2019
Draft Report Preparation	1 month	By August 31, 2018 & 2019	By August 31, 2018 & 2019	By Nov. 30, 2018 & 2019	By July 31, 2018 & 2019
Draft Report Review	1 week	By September 7, 2018 & 2019	By September 7, 2018 & 2019	By December 7, 2018 & 2019	By August 7, 2018 & 2019
Final Report Preparation	1 week	By Sept. 14, 2018 & 2019	By Sept. 14, 2018 & 2019	By Dec. 14, 2018 & 2019	By Sept. 7, 2018 & 2019

Note: Annual flare testing at Coyote, Prima, Santiago and Villa Park is required in general accordance with this preliminary schedule.

Cost Estimate

The A-E shall perform the scope of services as described above for Task 3 (Subtask 3A for Santiago, Subtask 3B for Villa Park, Subtask 3C for Prima, and Subtask 3D for Coyote) in calendar years 2018 and 2019 on a lump sum basis.

The lump sum unit rate is based on the following assumptions:

- The current PTC/PTO shall remain unchanged during the term of this contract, and no additional sampling, monitoring, and laboratory testing shall be required;
- No additional mobilization/demobilization or stand-by time outside the control of the A-E, subconsultant, and subcontractor shall be incurred;
- Draft and final report deliverables shall be e-mailed or delivered in electronic (pdf) format or CD (2 hardcopy prints for each final report).

ATTACHMENT B
SCHEDULE OF FEES
GEOSYNTEC CONSULTANTS

Standard Rates for T&M Tasks

(Effective December 1, 2017 through November 30, 2019)

Engineer/Scientist [1]	Hourly Rate
Staff Professional	$115.15
Senior Staff Professional	$132.87
Professional	$149.43
Project Professional	$170.93
Project Manager	$181.36
Senior Professional	$203.18
Associate	$213.93
Principal/Technical Expert	$219.30

Field Services [1]	
Technician	$ 70.86
Senior Technician	$ 79.72
Field Manager	$ 90.79
Site Manager	$109.65

Design and Graphical Services [1]	
Designer	$121.80
Senior CADD/GIS Operator	$107.40
CADD/GIS Operator	$ 90.79
Technical Word Processor	$ 70.86

Subconsultants/Subcontractors

Team Subconsultants At Cost
Non-Team Subconsultants/Subcontractors (e.g. driller, laboratory) Cost plus 10%

Project Expenses

Notes: (1) Labor Rates on this page are Geosyntec standard rates for T&M tasks.

ATTACHMENT B
SCHEDULE OF FEES

SCS ENGINEERS

(Effective December 1, 2017 through November 30, 2019)

	Rate/Hour
Principal	$215
Project Director	214
Senior Project/Technical Manager	200
Project Manager	178
Certified Industrial Hygienist	178
Assistant Project Manager	162
Senior Project Professional	146
Project Professional	123
Construction Superintendent	141
Staff Professional	103
Project Administrator	103
Senior Engineering Technician	86
Designer/Drafter	86
Administrative/Secretarial	70
Technician	72

ATTACHMENT B
SCHEDULE OF FEES

SCEC

HOURLY RATES ($)

LEVEL	REGULATORY	SOURCE TESTING
Principal/Expert Witness	180	180
Technical Director, VP	155	155
Senior Program Manager	145	145
Program Manager	140	140
Senior Project Manager	135	130
Project Manager	125	110
Senior Scientist/Engineer	115	-
Staff Scientist/Engineer	90	-
Senior Technician *	-	90
Technician*	-	70
Word Processor/Clerical	60	60

*Base Rate/Overtime Rate billed on all weekend labor hours and weekday (M-F) labor hours greater than 10 hours in a day.

OTHER CHARGES

TYPE	REGULATORY	SOURCE TESTING
Mobile Laboratory (Test Van)	-	CEMS - $1,020/day, THC - $25/hour, Truck - $100/day
Direct Expenses	Cost + 12% Refer to Proposal	Cost + 10%
Per Diem (In California)		$195/person
Per Diem (Outside California)	Refer to Proposal	Refer to Proposal

ATTACHMENT B
SCHEDULE OF FEES

Rick Engineering Company

Hourly Billing Rate Schedule
Effective December 1, 2017

POSITION	RATE
Principal Photogrammetrist	$127.00
Principal Surveyor	$146.00
General Manager	$146.00
Project Manager	$146.00
2-Person Survey Crew	$244.00
3-Person Survey Crew	$301.00
Analytical Stereoplotter Operator	$127.00
Senior Workstation Editor	$105.00
Workstation Editor	$ 80.00
Draftsperson	$ 65.00
Project Accounting	$ 61.00