

**CHEMICAL SUPPLIER AGREEMENT**  
**Purchase of Liquid Cationic Polymer**  
**Specification No. C-2019-1087BD**

**THIS AGREEMENT** is made and entered into as of the date fully executed below, by and between Orange County Sanitation District, with a principal place of business at 10844 Ellis Avenue, Fountain Valley, CA 92708 (hereinafter referred to as "OCSD") and Polydyne, Inc. with a principal place of business at 1 Chemical Plant Road, Riceboro, GA 31323 (hereinafter referred to as "Supplier") collectively referred to as the "Parties".

**WITNESSETH**

**WHEREAS**, OCSD desires to temporarily engage Supplier to provide Cationic Polymer as described in Exhibit "A"; and

**WHEREAS**, Supplier submitted its Bid dated October 3, 2019; and

**WHEREAS**, on December 18, 2019, the Board of Directors of OCSD, by minute order, authorized execution of this Agreement between OCSD and Supplier; and

**WHEREAS**, OCSD has chosen Supplier to provide Cationic Polymer in accordance with Ordinance No. OCSD-52; and

**NOW, THEREFORE**, in consideration of the mutual promises and mutual benefits exchanged between the Parties, the Parties mutually agreed as follows:

**1. Introduction**

1.1 This Agreement and all exhibits hereto (called the "Agreement") is made by OCSD and the Supplier. The terms and conditions herein exclusively govern the purchase of Cationic Polymer as described in Exhibit "A".

1.2 Exhibits to this Agreement are incorporated by reference and made a part of this Agreement as though fully set forth at length herein.

Exhibit "A" Scope of Work  
Exhibit "B" Bid  
Exhibit "C" Acknowledgement of Insurance Requirements  
Exhibit "D" OCSD Safety Standards  
Exhibit "E" Human Resources Policies  
Exhibit "F" Not Used

1.3 In the event of any conflict or inconsistency between the provisions of this Agreement and any of the provisions of the exhibits hereto, the provisions of this Agreement shall in all respects govern and control.

1.4 This Agreement may not be modified, changed, or supplemented, nor may any obligations hereunder be waived or extensions of time for performance granted, except by written instrument signed by both Parties.

1.5 The various headings in this Agreement are inserted for convenience only and shall not affect the meaning or interpretation of this Agreement or any section or provision hereof.

- 1.6 The term “days”, when used in the Agreement, shall mean calendar days, unless otherwise noted as workdays.
- 1.7 The term “workday”. Workdays are defined as all days that are not Saturday, Sunday, or OCSD observed holidays. Meetings with OCSD staff shall be scheduled from Monday through Thursday between the hours of 8 a.m. and 4 p.m. (exception is Operations staff who maintain plant operations 24 hours per day 7 days per week and work a rotated 12-hour shift) and shall conform to OCSD work schedules.
- 1.8 OCSD holidays (non-working days) are as follows: New Year’s Day, Lincoln’s Birthday, Presidents Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve, and Christmas Day.
- 1.9 Work Hours: The work required under this Agreement may include normal business hours, evenings, and weekends.
- 1.10 Supplier shall provide OCSD with all required premiums and/or overtime work at no charge beyond the total amount of the Agreement.
- 1.11 Except as expressly provided otherwise, OCSD accepts no liability for any expenses, losses, or action incurred or undertaken by Supplier as a result of work performed in anticipation of purchases of said services by OCSD.

**2. Delivery**

- 2.1 **LOCATIONS:** Deliveries shall be made in accordance with the Scope of Work, Exhibit “A”.
- 2.2 OCSD will pay only for the actual quantity of Cationic Polymer delivered, based upon certified tare weight and net weight. The quantity invoiced by Supplier and payable by OCSD will be for the total net weight of Cationic Polymer delivered (loaded gross weight minus the tare weight). Tare weight shall be determined immediately after each delivery and prior to cleaning, emptying, or clearing the delivery tank.
- 2.3 A bill of lading shall accompany all shipments in accordance with Exhibit “A”.

3. **Possession** Ownership and control of all Cationic Polymer delivered pursuant to this Agreement shall remain solely and exclusively with Supplier, until complete transfer of possession by delivery to OCSD at the designated locations is made by Supplier.

**4. Quantity**

- 4.1 OCSD makes no guarantee to actual use or quantity of Cationic Polymer purchased. Use may be sporadic based on the wastewater treatment requirements unique to each treatment plant.
- 4.2 OCSD will, through the term of this Agreement, purchase Cationic Polymer from Supplier exclusively, except when OCSD determines Supplier cannot make delivery within the time specified, with the quality and quantity specified, at the Agreement price, the level of Service is inadequate, OCSD unapproved increase in active dry pound rate or for any other default or breach of this Agreement. In such event, OCSD may purchase Cationic Polymer elsewhere and charge Supplier any difference in the delivered price to OCSD from that provided in this Agreement, or alternatively, OCSD may terminate the Agreement based on said breach or failure to deliver the specified product. Quality control tests will be performed

by OCSD on the delivered Cationic Polymer to ensure it is consistent with the requirements specified in Exhibit "A".

**5. Pricing and Invoicing**

- 5.1 Supplier will invoice for Cationic Polymer delivered in accordance with Exhibit "A", and in accordance with the unit price(s) listed in Exhibit "B". Prices shall include all cartage and taxes except California State Sales Tax. The sales tax will be paid by OCSD.
- 5.2 OCSD shall pay, net thirty (30) days, upon receipt and approval by OCSD of itemized invoices, submitted in a form acceptable to OCSD to enable audit of the charges thereon. Supplier shall email invoices to OCSD Accounts Payable at [APStaff@OCSD.com](mailto:APStaff@OCSD.com) and "INVOICE" with the Purchase Order Number and Cationic Polymer shall be referenced in the subject line. All invoices shall include a description of the delivery location, the delivery date and the unit price(s).

**6. Modifications**

- 6.1 This Agreement may be modified or changed only by written instrument in the form of an amendment to this Agreement signed by both Parties.
- 6.2 Pricing modifications: The prices established in this Agreement shall remain firm for the one-year Agreement term. Quarterly pricing will not be accepted. Any adjustments made will allow for increases or decreases in the manufactured cost of the Cationic Polymer and will be based upon OCSD validated information furnished by Supplier and OCSD sources. Adjustments will only be reviewed on an annual basis. OCSD reserves the right to agree with or reject the proposed unit price increase or decrease.
- 6.3 Price changes may be made through the OCSD Purchase Order Process.

- 7. **Agreement Term** The Services provided under this Agreement shall be for the period of one (1) year commencing on February 1, 2020 and continuing through January 31, 2021.

**8. Renewals**

- 8.1 OCSD may exercise the option to renew the Agreement for up to four (4) one-year periods based upon the criteria set forth in Exhibit "A", if mutually acceptable terms can be negotiated. OCSD shall make no obligation to renew nor give reason if it elects not to renew.
  - 8.1.1 Renewals may be made through the OCSD Purchase Order Process.
- 8.2 The prices established in the original Agreement may be adjusted. The adjustment will allow for any increase or decrease in the manufactured cost of the Cationic Polymer and will be based upon OCSD validated information furnished by Supplier and OCSD sources. Adjustments will only be reviewed on an annual basis. OCSD reserves the right to agree with or reject the proposed unit price increase or decrease.
  - 8.2.1 Price adjustments shall be made through the Amendment process.

**9. Termination**

- 9.1 OCSD reserves the right to terminate this Agreement for its convenience, with or without cause, in whole or in part, at any time, by written notice from OCSD. Upon receipt of a termination notice, Supplier shall immediately discontinue all work under this Agreement (unless the notice directs otherwise). OCSD shall thereafter, within thirty (30) days, pay Supplier for work performed (cost and fee) to the date of termination. Supplier expressly

waives any claim to receive anticipated profits to be earned during the uncompleted portion of this Agreement. Such notice of termination shall terminate this Agreement and release OCSD from any further fee, cost or claim hereunder by Supplier other than for work performed to the date of termination.

9.2 OCSD reserves the right to terminate this Agreement immediately upon OCSD's determination that Supplier is not meeting specification requirements for delivery of quantities needed, the level of service is inadequate, for poor quality of product, for OCSD unapproved increase in unit price(s), or any other default or breach of this Agreement.

9.3 OCSD may also immediately terminate for default of this Agreement in whole or in part by written notice to Supplier:

- if Supplier becomes insolvent or files a petition under the Bankruptcy Act; or
- if Supplier sells its business; or
- if Supplier breaches any of the terms of this Agreement; or
- if total amount of compensation exceeds the amount authorized under this Agreement.

9.4 All OCSD property in the possession or control of Supplier shall be returned by Supplier to OCSD upon demand, or at the termination of this Agreement, whichever occurs first.

**10. Indemnification and Hold Harmless** Supplier shall assume all responsibility for damages to property and/or injuries to persons, including accidental death, which may arise out of or be caused by Supplier's services under this Agreement, or by its subcontractor or by anyone directly or indirectly employed by Supplier, and whether such damage or injury shall accrue or be discovered before or after the termination of the Agreement. Except as to the sole active negligence of or willful misconduct of OCSD, Supplier shall indemnify, protect, defend and hold harmless OCSD, its elected and appointed officials, officers, agents and employees, from and against any and all claims, liabilities, damages or expenses of any nature, including attorneys' fees: (a) for injury to or death of any person or damage to property or interference with the use of property, arising out of or in connection with Supplier's performance under this Agreement, and/or (b) on account of any goods and services provided under this Agreement. This indemnification provision shall apply to any acts or omissions, willful misconduct, or negligent misconduct, whether active or passive, on the part of Supplier or anyone employed by or working under Supplier. To the maximum extent permitted by law, Supplier's duty to defend shall apply whether or not such claims, allegations, lawsuits, or proceedings have merit or are meritless, or which involve claims or allegations that any of the parties to be defended were actively, passively, or concurrently negligent, or which otherwise assert that the parties to be defended are responsible, in whole or in part, for any loss, damage, or injury. Supplier agrees to provide this defense immediately upon written notice from OCSD, and with well qualified, adequately insured, and experienced legal counsel acceptable to OCSD. This section shall survive the expiration or early termination of the Agreement.

**11. Insurance** Supplier shall purchase and maintain, throughout the life of this Agreement and any periods of warranty or extensions, insurance in amounts equal to the requirements set forth in the signed Acknowledgement of Insurance Requirements, Exhibit "C". Supplier shall not commence work under this Agreement until all required insurance is obtained in a form acceptable to OCSD, nor shall Supplier allow any subcontractor to commence service pursuant to a subcontract until all insurance required of the subcontractor has been obtained. Failure to maintain required insurance coverage shall result in termination of this

Agreement.

12. **Equipment Loss** OCSD will be responsible for any loss or damage to Supplier-owned equipment, when OCSD determines OCSD is at fault, only to the extent of OCSD's fault, and will reimburse Supplier for such loss or damage upon receipt of invoices, minus a deduction for any amount determined to be the fault of Supplier or its subcontractor or a third party.
13. **Conflict of Interest and Reporting** Supplier shall at all times avoid conflict of interest or appearance of conflict of interest in performance of this Agreement.
14. **Supplier's Relationship to OCSD** Supplier's relationship to OCSD in the performance of this Agreement is that of an independent contractor. The personnel performing Services under this Agreement shall, at all times, be under Supplier's exclusive direction and control, and shall be employees of Supplier and not employees of OCSD. Supplier shall pay all wages, salaries and other amounts due its employees in connection with this Agreement, and shall be responsible for all legal reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, worker's compensation and similar matters.
15. **OCSD Safety Standards**
  - 15.1 In addition to the requirements set forth in Exhibit "A", Supplier shall meet with personnel from OCSD'S Risk Management Division prior to providing Services to OCSD to review safety and accident prevention policies and procedures. All subcontractors should be present at this meeting. Supplier is responsible to inform all subcontractors of the items discussed at this meeting. Supplier shall not be permitted to provide Services to OCSD prior to this meeting.
  - 15.2 OCSD requires Supplier and its subcontractor(s) to follow and ensure their employees follow all Federal, State, and local regulations as well as OCSD Safety Standards while working at OCSD locations. If during the course of the Agreement it is discovered that OCSD Safety Standards do not comply with Federal, State, or local regulations, then the Supplier is required to follow the most stringent regulatory requirement at no additional cost to OCSD. Supplier and all of its employees and subcontractors, shall adhere to all applicable OCSD Safety Standards attached hereto in Exhibit "D" and the Human Resources Policies attached hereto in Exhibit "E".
16. **Drug-Free Workplace** All employees of Supplier who will perform work under this Agreement must adhere to the California Drug-Free Workplace Act, Government Code Sections 8350 through 8357.
17. **Assignments** Neither this Agreement nor any interest herein or any claim hereunder may be assigned by Supplier either voluntarily or by operation of law, nor may all or substantially all of this Agreement be further subcontracted by Supplier without the prior written consent of OCSD.
18. **Attorney's Fees** If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs and necessary disbursements, in addition to any other relief to which it may be entitled.

19. **Permits, Ordinances and Regulations** Any and all fees required by Federal, State, County, City and/or municipal laws, codes and/or tariffs that pertain to work performed under the terms of this Agreement shall be paid by Supplier. Fees demanded for obtaining certificates, including associated inspection fees and expenses of regulatory inspectors shall be paid by Supplier.
20. **Training Certification** When required by regulation, certificates of training shall be maintained on-site for the duration of the activity that requires an employee of Supplier to be certified. Certificates shall be current. Lack of certificates when required will be cause for removal of offending personnel from the site, termination of the Agreement, or both.
21. **Compliance with Law** Supplier warrants that under the performance of this Agreement, it shall comply with all applicable Federal, State and local laws, and all lawful orders rules and regulations thereunder. In connection with the execution of this Agreement, Supplier shall not discriminate against employees or an applicant for employment because of race, religion, color, sex or national origin. Supplier shall take affirmative action to ensure that applicants are employed and employees are treated during their employment without regard to their race, religion, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; lay-off or termination; rate of pay, or other forms of compensation; and selection for training, including apprenticeship.
22. **Disputes**
- 22.1 This Agreement shall be governed by and interpreted under the laws of the State of California and the Parties submit to jurisdiction in Orange County, in the event any action is brought in connection with this Agreement or the performance thereof. Pending final resolution of a dispute hereunder, Supplier shall proceed diligently with the performance of this Agreement and in accordance with OCSD'S decision.
- 22.2 In the event of a dispute as to the construction or interpretation of this Agreement, or any rights or obligations hereunder, the Parties shall first attempt, in good faith, to resolve the dispute by mediation. The Parties shall mutually select a mediator to facilitate the resolution of the dispute. If the Parties are unable to agree on a mediator, the mediation shall be conducted in accordance with the Commercial Mediation Rules of the American Arbitration Agreement, through the alternate dispute resolution procedures of Judicial Arbitration through Mediation Services of Orange County ("JAMS"), or any similar organization or entity conducting an alternate dispute resolution process.
- 22.3 In the event the Parties are unable to timely resolve the dispute through mediation, the issues in dispute shall be submitted to arbitration pursuant to California Code of Civil Procedure, Part 3, Title 9, Sections 1280 et seq. For such purpose, an agreed arbitrator shall be selected, or in the absence of Agreement, each party shall select an arbitrator, and those two (2) arbitrators shall select a third. Discovery may be conducted in connection with the arbitration proceeding pursuant to California Code of Civil Procedure Section 1283.05. The arbitrator, or three (3) arbitrators acting as a board, shall take such evidence and make such investigation as deemed appropriate and shall render a written decision on the matter in question. The arbitrator shall decide each and every dispute in accordance with the laws of the State of California. The arbitrator's decision and award shall be subject to review for errors of fact or law in the Superior Court for the County of Orange, with a right of appeal from any judgment issued therein.

**23. Right to Review Services, Facilities, and Records**

- 23.1 OCSD reserves the right to review any portion of the Services performed by Supplier under this Agreement, and Supplier agrees to cooperate to the fullest extent possible. Supplier shall furnish to OCSD such reports, statistical data, and other information pertaining to Supplier's Services as shall be reasonably required by OCSD to carry out its rights and responsibilities under its agreements with its bondholders or noteholders in connection with the issuance of its official statements and other prospectuses with respect to the offering, sale, and issuance of its bond and other obligations.
- 23.2 The right of OCSD to review or approve specifications, procedures, instructions, reports, test results, calculations, schedules, or other data that are developed by Supplier shall not relieve Supplier of any obligation set forth herein.

**24. Incorporated Documents**

- 24.1 The Scope of Work, Bid, Acknowledgement of Insurance Requirements, OCSD Safety Standards, and Human Resources Policies are hereby incorporated into and made a part of this Agreement, and unless modified or changed hereinabove, are controlling for all matters pertaining to the supply of Cationic Polymer and the manner of performance thereof.
- 24.2 In the event of any conflict or inconsistency between the provisions of this Agreement and any of the provisions of the other incorporated documents, the provisions of this Agreement shall in all respects govern and control.

**25. Severability** Any provision of this Agreement which is found to be invalid or unenforceable shall be ineffective to the extent of such invalidity or unenforceability, and the invalidity or unenforceability of such provision shall not affect the validity or enforceability of the remaining provisions hereof.

**26. Waiver** The waiver of either party of any breach or violation of, or default under, any provision of this Agreement, shall not be deemed a continuing waiver by such party of any other provision or of any subsequent breach or violation of this Agreement or default thereunder.

**27. Breach** Any breach by Supplier to which OCSD does not object shall not operate as a waiver of OCSD to seek remedies available to it for any subsequent breach.

**28. Public Contracts Law** OCSD is subject to the provisions listed in the prevailing wage determination made by the Director of the Department of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1. It is agreed that all provisions of law applicable to public contracts are part of this Agreement to the same extent as though set forth herein and will be complied with by Supplier. Supplier shall not pay less than the prevailing wage.

**29. South Coast Air Quality Management District's (SCAQMD) Requirements** It is Supplier's responsibility that all equipment furnished and installed be in accordance with the latest rules and regulations of the South Coast Air Quality Management District (SCAQMD). All work practices, which may have associated emissions such as sandblasting, open field spray painting or demolition of asbestos containing components or structures, shall comply with the appropriate rules and regulations of the SCAQMD.

**30. Performance** Time is of the essence in the performance of the provisions hereof.

31. **Familiarity with Work** By executing this Agreement, Supplier warrants that: 1) it has investigated the work to be performed; 2) it has investigated the site of the work and is aware of all conditions there; and 3) it understands the facilities, difficulties and restrictions of the work under this Agreement. Should Supplier discover any latent or unknown conditions materially differing from those inherent in the work or as represented by OCSD, it shall immediately inform OCSD of this and shall not proceed, except at Supplier's risk, until written instructions are received from OCSD.
32. **Damage to OCSD'S Property** Any OCSD property damaged by Supplier, its subcontractor(s), or by the personnel of either will be subject to repair or replacement by Supplier at no cost to OCSD.
33. **Third Party Rights** Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than OCSD and Supplier.
34. **Authority to Execute** The persons executing this Agreement on behalf of the Parties warrant that they are duly authorized to execute this Agreement and that by executing this Agreement, the Parties are formally bound.
35. **Read and Understood** By signing this Agreement, Supplier represents that it has read and understood the terms and conditions of the Agreement.
36. **Entire Agreement** This Agreement constitutes the entire agreement of the Parties and supersedes all prior written or oral and all contemporaneous oral agreements, understandings, and negotiations between the Parties with respect to the subject matter hereof.
37. **Notices** All notices under this Agreement must be in writing. Written notice shall be sent by registered or certified mail, postage prepaid, return receipt requested, or by any other overnight delivery service which delivers to the noticed destination and provides proof of delivery to the sender. Any facsimile notice must be followed within three (3) days by written notice. All notices shall be effective when first received at the following addresses:

OCSD: Jackie Lagade  
Senior Buyer  
Orange County Sanitation District  
10844 Ellis Avenue  
Fountain Valley, CA 92708

Supplier: Boyd Stanley  
Vice President  
Polydyne, Inc.  
1 Chemical Plant Road  
Riceboro, GA 31323



**IN WITNESS WHEREOF**, intending to be legally bound, the Parties hereto have caused this Agreement to be signed by the duly authorized representatives.

**ORANGE COUNTY SANITATION DISTRICT**

Dated: \_\_\_\_\_

By: \_\_\_\_\_

David John Shawver  
Board Chairman

Dated: \_\_\_\_\_

By: \_\_\_\_\_

Kelly A. Lore  
Clerk of the Board

Dated: \_\_\_\_\_

By: \_\_\_\_\_

Ruth Zintzun  
Purchasing and Contracts Manager

**POLYDYNE, INC.**

Dated: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Print Name and Title of Officer

\_\_\_\_\_  
IRS Employer's I.D. Number

**Exhibit A**  
**SCOPE OF WORK**  
**For**  
**Purchase of Liquid Cationic Polymer**

**EXHIBIT A  
SCOPE OF WORK  
PURCHASE OF LIQUID CATIONIC POLYMER  
Specification No. C-2019-1087BD**

**1. General**

The purpose of this Scope of Work is to identify the criteria to provide cationic polymer (polymer) to the Orange County Sanitation District's (OCSD) wastewater treatment facilities at Plant 1, located at 10844 Ellis Avenue, Fountain Valley, California 92708 and Plant 2, located at 22212 Brookhurst Street, Huntington Beach, California 92646. The polymer will be used to dewater anaerobically digested sludge in dewatering centrifuges (DWC). The polymer will be also used in the thickening centrifuges (THC) at Plant 1 to thicken the sludge mixture from primary sludge, trickling filter sludge, surface wasting and secondary waste activated sludge (WAS). In addition to chemical supply, the Supplier shall remotely monitor and manage the polymer bulk inventory at both Plant 1 and Plant 2 by installing a telemetering system.

In thickening, blended sludge from the primary and secondary clarifiers, and trickling filters is pumped to the thickening centrifuges at a concentration of 3~4% total solids (TS) and thickened to 7% TS. In dewatering, digested sludge overflow is pumped to dewatering centrifuges at an average TS concentration of 3~4% and produce biosolids cake at an average 28% TS content.

Table 1 below identifies the criteria, including minimum performance targets, that polymers shall meet in the digested sludge dewatering unit.

Table 1. Cationic Polymers for Dewatering Processes at OCSD

<b>Dewatering Unit</b>	<b>Cake %TS</b>	<b>TSS % Capture</b>	<b>Polymer Type</b>	<b>Polymer Usage* (active lbs./year)</b>	<b>Minimum % Active</b>	<b>Current % Active</b>
Plant 1 Centrifuge	24%	95%	Emulsion	790,000	35%	42.0%
Plant 2 Centrifuge	28%	95%	Emulsion	300,000	35%	42.0%

\* Estimated quantity. OCSD makes no guarantee to the actual quantity used or quantity of polymer purchased.

Table 2 below provides the criteria, including minimum performance targets, for polymers to meet in sludge thickening unit.

Table 2. Cationic Polymers for Thickening Processes at OCSD

<b>Thickening Unit</b>	<b>Thickened %TS</b>	<b>TSS % Capture</b>	<b>Polymer Type</b>	<b>Polymer Usage* (active lbs/year)</b>	<b>Minimum % Active</b>	<b>Current % Active</b>
Plant 2 DAFT	5%	95%	Emulsion	32,000	35%	42.0%
Plant 1 Centrifuge	7%	95%	Emulsion	250,000	35%	42.0%

\* Estimated quantity. OCSD makes no guarantee to the actual quantity used or quantity of polymer purchased.

If during the term of the Agreement OCSD determines that the polymers do not meet any of the minimum performance requirements above, the Supplier will be given one (1) month to optimize the system to meet the requirements. If after one (1) month of Supplier field testing the polymer still does not meet the minimum performance requirements, OCSD may, at its sole discretion, terminate the Agreement.

## **2. Polymer**

The polymers will be used in digested sludge dewatering and sludge thickening.

### **2.1 Plant 1 Dewatering**

Emulsion polymer is currently being used at Plant 1 Dewatering Centrifuge process to condition sludge for the dewatering centrifuges. In process, neat emulsion polymer is diluted down to a concentration of 0.5% active polymer concentration (5,000 mg/L) and injected into digested sludge through a static mixer, an upstream of the dewatering centrifuges.

The estimated polymer dosage rate is 25 active lb. polymer per ton of dry solids (lb/dt). The centrifuge is designed to handle a varied polymer dosage that can range from 20 active lb. polymer per ton of dry solids (lb/dt) to 30 lb/dt. The Supplier field testing is expected during the start-up period for chemical optimization. If the emulsion polymer used for the centrifuge does not meet minimum performance requirements within the estimated dosage rate, the Supplier must provide another polymer at the same polymer bid price.

Emulsion polymers submitted with a minimum % active concentration less than 35% will not be accepted. Polymers submitted for the Plant 1 dewatering must be accepted by OCSD. Polymers may be rejected if excessive nitrosodimethylamine (NDMA) is detected in the submitted sample.

### **2.2 Plant 2 Dewatering**

Emulsion polymer is currently being used at Plant 2 Dewatering Centrifuge process to condition sludge for the dewatering centrifuges. In this process, neat emulsion polymer is diluted through a makedown unit to a concentration of 0.5% active polymer, and then further diluted down to a concentration of 0.10% - 0.25% before being fed to the centrifuges.

The estimated polymer dosage rate is 25 active lb. polymer per ton of dry solids (lb/dt). The centrifuge is designed to handle a varied polymer dosage that can range from 20 active lb. polymer per ton of dry solids (lb/dt) to 30 lb/dt. The Supplier field testing is expected during the start-up period for chemical optimization. If the emulsion polymer used for the centrifuge does not meet minimum performance requirements within the estimated dosage rate, the Supplier must provide another polymer at the same polymer Bid price.

Emulsion polymers submitted with a minimum % active concentration less than 35% will not be accepted. Polymers submitted for the Plant 2 dewatering must be accepted by OCSD. Polymers may be rejected if excessive NDMA is detected in the submitted sample.

### **2.3 Plant 1 Thickening**

Emulsion polymer is currently being used at Plant 1 Thickening Centrifuge process to thicken blended primary and secondary WAS. In this process, neat emulsion polymer is fed through a makedown unit at 0.5% active polymer concentration and injected into the blended primary sludge and WAS through a static mixer, an upstream of the dewatering centrifuges.

The estimated polymer dosage rate is 10 active lb. polymer per ton of dry solids (lb/dt), and the centrifuge shall be designed to handle a varied polymer dosage that can range from 5 active lb. polymer per ton of dry solids (lb./dt) to 15 lb/dt. The Supplier field testing is expected during the start-up period for chemical optimization. If the emulsion polymer used for the centrifuge does not meet minimum performance requirements within the estimated dosage rate, the Supplier must provide another polymer at the same polymer bid price.

Emulsion polymers submitted with a minimum % active concentration less than 35% will not be accepted. Polymers submitted for the Plant 1 thickening process must be accepted by OCSD. Polymers may be rejected if excessive NDMA is detected in the submitted sample.

### **2.4 Plant 2 Thickening**

Emulsion polymer is currently used at the Plant 2 thickening process to thicken WAS and Waste Secondary Sludge (WSS) for the Dissolved Air Floatation Thickener (DAFT). No other type of polymer will be accepted for this process unit. Neat emulsion polymer is diluted in a mix tank to a concentration of 0.2% to 0.4% before the polymer is fed to the WAS at the influent to the DAFT.

Emulsion polymers submitted with a minimum % active concentration less than 35% will not be accepted. Polymers submitted for the Plant 2 thickening process must be accepted by OCSD. Polymers may be rejected if excessive NDMA is detected in the submitted sample.

## **3. Quality Control**

A 250mL sample will accompany every polymer delivery with the following data printed clearly on the label:

- The minimum % total solids to be delivered
- The % volatile solids
- The % active polymer
- The viscosity (cp) range
- The molecular weight
- The charge density

The above analysis information must be accompanied by a reference test procedure. The analysis procedure must be in accordance with Standard Methods and be acceptable to OCSD. The minimum % total solids, as stated above, will be the minimum specification to be used for billing and product quality determinations.

Failure to provide any of the above requested information may cause OCSD to reject the load. the disqualification of that polymer from bench tests and bidding.

4. **Quantity**

OCSD estimates annual polymer usage as follows:

Plant 1 Centrifuge = 250,000 active pounds of emulsion cationic polymer  
Plant 2 DAFT = 32,000 active pounds of emulsion cationic polymer

Plant 1 Centrifuge = 790,000 active pounds of emulsion cationic polymer  
Plant 2 Centrifuge = 300,000 active pounds of emulsion cationic polymer

The net quantity of each Supplier's polymer may vary due to the difference in performance as determined by OCSD. OCSD makes no guarantee to the actual quantity used or quantity of polymer purchased. Use may be sporadic and is based on treatment requirements unique to each plant.

5. **Delivery Requirements**

- a. Chemical delivery Procedures can be found in Appendix A-1. It is the responsibility of the Supplier to view the document and understand it.
- b. OCSD reserves the right to request polymer on a schedule convenient to the needs of the treatment plants. Deliveries shall typically be made within three (3) days of request and only received Monday through Friday between the hours of 7:00 a.m. to 4:00 p.m. OCSD also reserves the right to request twenty-four (24) hour deliveries in case of plant emergencies. Such expedited deliveries will be provided at no additional cost to OCSD. Supplier will follow chemical delivery procedures described in Appendix A-1.
- c. Periodic quality control tests will be performed by OCSD on the delivered polymer to assure that minimum specifications are attained, and that supplier-reported quality is accurate. All billings will be for no more than the actual polymer delivered. Polymer will be paid for on a corrected weight basis. All polymer delivered under the minimum product specifications shall be discounted proportionately. A discount formula as shown shall be utilized.

**Cost per Active Pound \* Active Pounds Delivered = Delivered Cost**

- d. **Bills of Lading** must be labeled with the information listed below in order to be accepted:
  - Approved name/number of product
  - Specify "Cationic"
  - For Dewatering/WAS Thickening
  - Deliver and place into Cationic Tank

If the above information is not on the Bill of Lading, off-loading will not take place without confirmation from OCSD's supervision and/or Supplier that it is the product ordered.

- e. OCSD will not accept what might be considered typographical errors. Supplier may have many products with similar product numbers.
- f. A sample is required with each load. An OCSD operator will smell the sample and look at it for color, consistency, and odor. If the sample indicates that the selected cationic polymer has not been supplied, Do Not Off-Load the Product.
- g. The cationic polymer connections will be 4-inch flange PVC connections with eight (8) bolts. Suppliers must adjust delivery hoses to fit OCSD connections. All connections are to be made by the truck driver with unloading in accordance with these instructions.
- h. The chemical delivery shall conform to the following requirements:


- i. OCSD staff shall notify Supplier when to provide the delivery. A method of communication for subsequent deliveries shall be clarified.
- j. Supplier shall deliver the product to either Plant 1 or Plant 2 as ordered.
- k. At time of delivery, supplier shall provide all necessary, fully trained and qualified personnel to be in continuous attendance during the transfer of product.
- l. Supplier shall allow a two (2) to three (3) hours unloading time for each delivery. Chemical shall not be off-loaded at a rate greater than 30 gpm. Supplier's personnel shall provide one (1) copy of the delivery statement and product sample to OCSD's operator prior to connection. Supplier shall provide all necessary safety equipment required by OCSD.
- m. Supplier shall provide a 24-hour phone number where qualified personnel can be contacted in the event of an emergency. It will be Supplier's responsibility to update any changes or phone numbers.
- n. OCSD's plant gates are equipped with intercoms for the purpose of announcing arrivals. Please follow instructions – DO NOT USE HORNS.
- o. Supplier shall provide OCSD with the name of the product hauling company and safety related provisions set forth between the Supplier and the hauling company. OCSD requires personal protective equipment be worn on plant premises. Refer to this Scope of Work for additional safety requirements. Supplier shall provide OCSD with written procedures concerning compliance with these rules and prior to commencement of the Agreement by OCSD.
- p. Chemical delivery drivers must sign in at the Control Center at Plant 1 or at the Operations Center at Plant 2.
- q. Each delivery of polymer requires a written certified analysis of the % total solids and % active polymer for that shipment. A certified analysis is defined as a statement signed by Supplier's representative declaring the analysis information is true and accurate.
- r. Chemical deliveries will be refused for the following:
  - i. Incorrect chemical sample color, appearance or smell.
  - ii. Incorrect documentation
  - iii. Unsafe delivery vehicle off-loading equipment
- s. The driver is responsible for clean-up of spilled material. Clean-up must be in conformance with OCSD's safety procedures, EPA, regional and local regulations and ordinances, and the product manufacturer's recommended clean-up procedures. OCSD only has plant water available for use by the driver. Solvents, special equipment, or chemicals required for clean-up must be provided by Supplier.

6. **Rejection of Shipment** – OCSD may reject any delivery of polymer which does not meet this Scope of Work. Supplier shall remove the rejected material immediately following telephone notification. Supplier shall replace the volume of removed material immediately. OCSD may purchase polymer from other sources in an emergency caused by Supplier. Supplier will pay any additional costs.

Supplier shall maintain OCSD's operation by providing, if necessary, temporary facilities in the event any Supplier's polymer is rejected by OCSD. Temporary facilities include polymer storage tankage, pumps, piping, and miscellaneous appurtenances. Costs for removal and replacement of rejected polymer and temporary facilities shall be the responsibility of Supplier.

**Appendix A-1**  
**CHEMICAL DELIVERY PROCEDURES**  
**For**  
**Purchase of Liquid Cationic Polymer**



 <p style="text-align: center;"><b>Orange County Sanitation District</b></p>	<p><b>Chemical SOP Number: CHEM SOP-001-P1-P2</b></p>
	<p><b>Rev. 4 Final Plant 1 and Plant 2 Chemical Delivery Procedures</b></p>
<p><b>Subject: Plant No.1 and No.2 Chemical Delivery Procedures for Contract Drivers</b></p>	<p><b>Effective Date: June 10, 2015</b></p>

## POLICY

Orange County Sanitation District (OCSD) Operations Division 830/840 has outlined their standard operating procedure (SOP) for delivery of designated bulk chemicals delivered to the Fountain Valley and Huntington Beach treatment plants. Chemical drivers are permitted to connect and disconnect their deliveries without OCSD operator assistance for all bleach, ferric, bisulfite, anionic polymer, and cationic polymer deliveries.

This unloading procedure has a built in safeguard which eliminates the chance of deliveries being offloaded into incorrect chemical bulk tanks. All Chemical delivery lines will have a lock on each cam-lock cap to ensure the chemical is being delivered to the correct chemical tank. Each lock will be keyed differently which will eliminate the possibility of the chemical driver mistakenly hooking up to the wrong tank in the field.

- A phone is available at or near the chemical containment area for the drivers. Emergency contact numbers will be provided for the driver by the OCSD Operator.
- All chemical tanks and delivery lines are clearly marked.

### **Chemical Drivers' Responsibilities:**

- Under this procedure, all drivers shall review this "Bulk Chemical SOP for Contract Drivers" and sign, print, and date the acknowledgment of training sheet prior to completing their initial delivery. An OCSD representative shall accompany each driver for his/her initial delivery.
  - **NOTE:** OCSD has the discretion to require additional assistance for subsequent deliveries, if warranted, and it will be noted on the acknowledgement sheet if it is necessary.
- All drivers shall comply with the above requirements and must provide a contact phone number to the Control Center or Operations Center Operator which will be recorded on the signature acknowledgement sheet.
- The driver must sign in the visitors log book and obtain pre-delivery signatures from the control center operator located in the Control Center or Operations Center. The driver must also receive clear instructions as to which tank is to receive the delivery.

- If required, chemical samples may be left on the designated chemical containment wall or handed to the OCSD operations staff prior to off loading their delivery.
- The driver must wear the appropriate personal protective equipment while on site at OCSD. OCSD requires all personnel who enter our process areas to wear hard hats, safety glasses, Class 2 Safety Vest, and steel toed shoes at a minimum while in the process areas.
- At the chemical tank, prior to offloading the delivery the driver will need to remove cam-lock caps with the key provided.
- For added safety, the driver agrees to use a safety strap on all cam-lock connections during the transfer of chemicals. The safety strap must be applied at the tank connection and the truck connection. **NOTE: Chemical suppliers are responsible to supply their drivers with safety straps.**
- The Driver is permitted to use OCSD plant air to offload their delivery. If OCSD plant air is not available, the driver is responsible to supply their own. (Driver will ensure air hose is neatly coiled after use).
- Prior to opening delivery valves, the driver shall verify correct tank and tank level, and ensure that cam-lock safety straps are secured on all cam-lock connections.
- Driver must report all spills larger than a quart to the Control Center before they leave the facility. If a large spill (greater than 5 gallons) is occurring during their delivery, the driver shall immediately call the Control Center and report the spill.
- In the event of an **emergency**, immediately call the Control Center or Operations Center for assistance at the following numbers:

If using the OCSD phone call extension 2222

If using a cell phone call: Plant 1: 714-593-7133  
Plant 2: 714-593-7677

- If non-emergency assistance is needed at Plant 1, call extension 7025 using an OCSD phone. If at Plant 2, call extension 7625 using an OCSD phone.
- After the delivery is complete, the driver shall ensure the delivery valve is closed and the cam-lock cap and lock have been re-connected.
- The driver shall then return to the Control Center or Operations Center and receive post-delivery signatures on all documents pertaining to the delivery and return the key to the Control Center Operator.

**Example of how the procedure is designed to work:**

1. Chemical driver checks into either Plant 1 Control Center or Plant 2 Operations Center and signs the visitor log book.
2. At that time the Control Center or Operations Center Operator will assign the driver a chemical tank and give the driver a key for that specific tank.
3. Pre-delivery paperwork will be signed by OCSD and the start tank level will be recorded.
4. Chemical driver will drive to assigned chemical tank, unlock cam-lock cap for assigned tank, hook up his hose, apply cam-lock safety straps to all cam-lock connections, open the delivery valve for the assigned tank, and unload chemical.
5. Once the driver has finished unloading he/she will close the delivery valve, put the cam-lock cap back on delivery fitting, and lock it.
6. Driver will return to the Control Center or Operations Center to return the key, report any problems encountered during their delivery, receive post-delivery signatures, and sign out on the visitor log book.
7. Operations staff will be responsible to record start and stop tank levels.

**Chemical SOP**  
**Number: CHEM SOP-001-P1-P2**  
**(Acknowledgement Signatures)**

Driver's  
Signature: \_\_\_\_\_

Driver's Printed  
Name: \_\_\_\_\_

Driver's Contact  
Number: \_\_\_\_\_

Date: \_\_\_\_\_

Operations Division Representative

Name/Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**EXHIBIT B  
 BID PRICE FORM  
 PURCHASE OF CATIONIC POLYMER  
 SPECIFICATION NO. C-2019-1087BD**

**PLANT NO. 2**

**Area: DAFT Process**

PRODUCT NAME: Clarifloc	PRODUCT NUMBER: WE-1233
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Unit Price per Active LB.	Active LBs Required (for the product to be bid on)	Freight	Total Cost Delivered
\$ <u>2.548/Act. Lb.</u>	x <u>320,000 Active Lbs.</u>	+ \$ <u>121,920.00</u>	= \$ <u>937,280.00</u>

**Area: Dewatering Process**

PRODUCT NAME: Clarifloc	PRODUCT NUMBER: WE-1233
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Unit Price per Active LB	Active LBs Required (for the product to be bid on)	Freight	Total Cost Delivered
\$ <u>2.548/Act. Lb.</u>	x <u>40,000 Active Lbs.</u>	+ \$ <u>15,240.00</u>	= \$ <u>117,160.00</u>

Polydyne Inc.  
 \_\_\_\_\_  
 Name of Firm

Boyd Stanley, Vice-President  
 \_\_\_\_\_  
 Authorized Agent

  
 \_\_\_\_\_  
 Signature



**EXHIBIT B  
BID PRICE FORM  
PURCHASE OF CATIONIC POLYMER  
SPECIFICATION NO. C-2019-1087BD**

**Due Date for Online Bid Submittal: October 3, 2019 at 2:00 P.M. PST.**

The undersigned does hereby propose to provide goods or services in accordance with all provisions of the Notice Inviting Bid and the Scope of Work for the following price. Incomplete submittal of requested information as called out in the bid specification requirements may deem the bid as non-responsive. Submit total amount as follows:

**PLANT NO. 1**

**Area: Thickener Process**

<b>PRODUCT NAME:</b> Clarifloc	<b>PRODUCT NUMBER:</b> WE-1233
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Unit Price per Active LB	Active LBs Required (for the product to be bid on)	Freight	Total Cost Delivered
\$ <u>2.548/Act. Lb.</u>	X <u>650,000 Active Lbs.</u>	+ \$ <u>247,650.00</u>	= \$ <u>1,903,850.00</u>

**Area: Dewatering Process**

<b>PRODUCT NAME:</b> Clarifloc	<b>PRODUCT NUMBER:</b> WE-1233
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Unit Price per Active LB	Active LBs Required (for the product to be bid on)	Freight	Total Cost Delivered
\$ <u>2.548/Act. Lb.</u>	X <u>310,000 Active Lbs.</u>	+ \$ <u>118,110.00</u>	= \$ <u>907,990.00</u>

Polydyne Inc.  
Name of Firm

Boyd Stanley, Vice-President  
Authorized Agent

Signature