

AGENDA

**ENGINEERING COMMITTEE MEETING
LEUCADIA WASTEWATER DISTRICT**
Wednesday, June 5, 2019 – 8:30 a.m.
1960 La Costa Avenue, Carlsbad, CA 92009

1. **Call to Order**
2. **Roll Call**
3. **Public Comment**
4. **New Business**
 - A. Authorize the General Manager to execute an Agreement with Charles King Company for construction services to complete the Batiquitos (B3) Force Main Discharge Section Replacement Project in an amount not to exceed \$444,660. (Pages 2 to 7)
 - B. Authorize the General Manager to execute a two-year procurement agreement with Evoqua Water Technologies LLC to furnish and deliver Ferrous Chloride in an amount not to exceed \$322,000. (Pages 8 to 11)
 - C. Adopt the 2019 update of the District's Sanitary Sewer Management Plan (SSMP) completed by Dexter Wilson Engineering, Incorporated. (Pages 12 to 14)
5. **Information Items**

None.
6. **Directors' Comments**
7. **General Manager's Comments**
8. **Adjournment**

MEMORANDUM

DATE: May 30, 2019
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager 
SUBJECT: Batiquitos (B3) Force Main Discharge Section Replacement Project - Construction

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Authorize the General Manager to execute an Agreement with Charles King Company for construction services to complete the Batiquitos (B3) Force Main Discharge Section Replacement Project in an amount not to exceed \$444,660.
2. Discuss and take other action as appropriate.

BACKGROUND:**Tactical Goal: Infrastructure and Technology / B3 FM Discharge Section Replacement**

In February 2019 a Task Order was issued to Infrastructure Engineering Corporation (IEC) to design the replacement of the discharge section of the Batiquitos (B3) Force Main. The objective of the project is to replace the discharge end of the force main or approximately 720 feet of ductile iron pipe (DIP) with polyvinyl chloride (PVC) pipe. Staff elected to replace the discharge section because two previous force main replacement projects provided evidence that this section is highly susceptible to internal corrosion. This internal corrosion is due to the high probability that air enters the force main where it discharges to gravity flow. This condition was observed in the following projects:

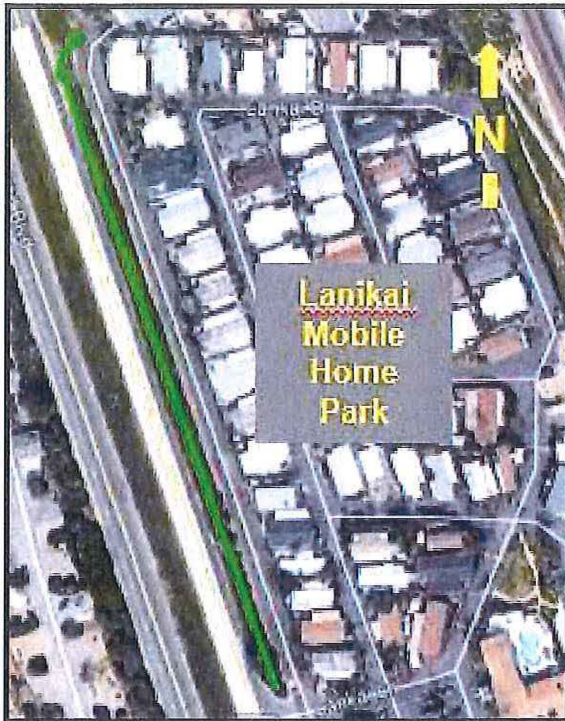
1. In February 2013 the discharge end of the Batiquitos (B2) Force Main ruptured while initiating bypass operations into the Secondary Effluent (B1) Force Main for the Lanikai Trunk Sewer Lining Project. The rupture resulted from internal corrosion of a force main section adjacent to the bypass connection and caused a 22,000 gallon sewer spill. To repair B2 approximately 80 feet of the discharge section was replaced. As a result, the bypass was dismantled and the Lanikai Trunk Sewer Lining Project was canceled. The B2 Replacement Project resulted from the incident.
2. In 2015 the west section of Leucadia (L1) Force Main was replaced, including the discharge section west of the La Costa Avenue Railroad Bridge. When that section was removed, severe internal corrosion was found where it transitioned to gravity flow.

During both the B2 and L1 West Section Force Main Replacement Projects it was observed that except for the discharge sections, the rest of the DIP force mains were in excellent condition and showed no indication of internal or external corrosion. Construction of the B2 and L1 projects cost \$2.38 million and \$1.46 million, respectively. Therefore, staff believes a prudent and cost conscience approach to force main maintenance and rehabilitation is to replace the force main discharge section.

DISCUSSION:

In April 2019, IEC finalized the plans and specifications for the Batiquitos (B3) Force Main Discharge Section Replacement Project (Project). The Project includes the replacement of approximately 720 feet

of DIP and the rehabilitation of three manholes at the end of the force main. Please refer to the diagrams below. The B3 Force Main and associated manholes are in green.



The project was advertised for bids on April 15th with bids due on May 14th. Four bids were received with the following results:

<u>Construction Firm</u>	<u>Bid Submitted</u>
Charles King Company	\$ 444,660
Mike Prlich & Sons	\$ 451,500
Burtech Pipeline	\$ 525,000
Piperin Corporation	\$ 644,000

The bids were reviewed by Jamie Fagnant at IEC. The bid review memorandum is attached for your review. Based on the required documents submitted with their bid, Charles King Company (CKC) has the requisite knowledge and experience to perform the work on the project. The bid submitted by CKC was 8% lower than the Engineer's Estimate of \$485,000.

As a result of their evaluation, IEC recommends that CKC be awarded the contract as the lowest responsive and responsible bidder. Staff concurs with IEC's assessment and recommends that the Board award the construction contract for the Batiquios (B3) Force Main Discharge Section Replacement Project to Charles King Company in an amount not to exceed \$444,660.

FISCAL IMPACT:

There is sufficient funds in the FY 19 Budget to cover the construction costs at project start up. The FY 20 Budget appropriation is sufficient to cover the remaining cost of construction.

rym:PJB

Attachment



BID REVIEW MEMORANDUM

Date: May 16, 2019

Subject: **Batiquitos (B3) Force Main Discharge Section Replacement Project**

Prepared By: Sheila McAtee

Reviewed By: Jamie Fagnant, P.E.

PURPOSE

This memorandum provides a summary of our evaluation of bid results and the responsiveness of the submitted bids for the subject project.

BID RESULTS

Four bids were received and opened on May 14, 2019. The bids are summarized on Table I - Bid Summary (see attached) and characteristics of the bids are as follows:

Low Bid:	\$444,660
High Bid:	\$644,000
Engineer's Opinion of Probable Cost:	\$485,000

Review of bid amounts and individual bid items is discussed further below.

REVIEW OF LOW BIDDER

Charles King Company (Charles King) submitted the apparent low bid. IEC has determined Charles King Company to be responsive to the bid requirements and recommends that the District award the project to Charles King Company. The following reviews have been completed.

Contractor's License: The Contractor holds the required Class A License (No. 738236). The license is current and active.

Bid Bond: A bid bond in the amount of ten percent (10%) of the bid amount was submitted with North American Specialty Insurance Company as surety. North American Specialty Insurance Company has a Best's Key Rating of A+, XV.

Signatures: Debra King, the Contractor's President, Secretary, and Treasurer, signed the Closing Statement, Bidder's Bond, Non-Collusion Affidavit, California All-Purpose Acknowledgement, and Local Preference Certification.

Project Manager's Experience: The Contractor has identified Scott King as the project manager. IEC has reviewed his resume and found his experience suitable to manage the 2019 B3 Sewer Force Main Replacement Project.

Worker's Compensation Insurance: Policy # T10180030 is in affect through 6-2-2019.

Experience Requirements: The bid documents require the Contractor to submit:



(a) three project references where the Contractor installed at least 1000 linear feet of 24-inch or greater AWWA C905 PVC pipe in each project, and (b) three project references where the Contractor installed a total of 30 cured-in-place manhole liners (CIPML) into sewer manholes. Although they did not report experience installing 24 inch PVC pipe, Charles King's submitted experience records show experience installing 12 inch diameter PVC pipe, with lengths totaling over 4000 linear feet. The submitted experience shows more than adequate experience installing PVC pipe, and IEC is confident in their ability to install 24 inch pipe. Although they did not report experience installing cured-in-place manhole linings (CIPML), the subcontractor they listed hold the required experience.

References: IEC contacted Charles King's listed references to perform an assessment of the Contractor's prior work. In all cases, Charles King Company was recommended as a good contractor with no record of claims.

Registration with the Department of Industrial Relations (DIR):

Contractors and their subcontractors are required to be registered with the DIR prior to bidding a public works project. The table below demonstrates that Charles King Company and each of its subcontractors have met this requirement.

Contractor Legal Name	Registration Number	Registration Date	Expiration Date
Charles King Co.	1000001537	06/07/2018	06/30/2019
Sancon Engineering, Inc.	1000003923	06/14/2018	06/30/2019

Source: <https://efiling.dir.ca.gov/PWCR/Search>

List of Subcontractors:

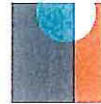
Contractor	Licence #	Location of Business	Portion of Work
Sancon Engineering, Inc	731797	Huntington Beach, CA	Rehabilitate Sewer Manholes

Bid Item/Cost Review:

Charles King's bid was approximately 8.3% below the engineer's opinion of probable cost. Although the bid cost is lower than the engineer's opinion of probable construction cost, it is our opinion that the bid costs reflect the current market conditions and reasonably stringent installation guidelines and do not constitute grounds to reject the received bids.

Charles King's cost for Bid Item 1, Mobilization, was listed as \$11,200, or 2.5% of the total bid. Contract documents limit the mobilization cost to 5% of the total project cost. IEC does not consider the proposed mobilization cost to be excessive.

Claims Filed: Charles King has not filed any claims in the last five (5) years but had one claim filed against them which they outlined in their bid documents. The claim was in reference to a subcontractor hired to perform cured in place pipe lining via a means and



methods that was contended to be not constructible. Ultimately, the claim was settled in mediation and the owner proceeded with the work under a different contractor using different products and installation procedures than originally specified. IEC reviewed the claim details as provided in the bid documents and found no cause to reject Charles King's bid as a result of the information provide therein.

Addenda: Charles King acknowledged receiving Addenda 1.

Liner Material: The District/IEC received an e-mail from a bidder questioning whether the apparent low bidder was proposing to use an approved manhole liner material. Although this was not an official bid protest, IEC did look into the proposed liner material and found the product proposed for use is the same material as had been proposed in the specifications, but that the company manufacturing it had been purchased and the material renamed. IEC takes no exception to the proposed material and does not feel the proposed material is grounds to reject the lowest apparent bid.

At this time, IEC has no concern regarding Charles King's ability to complete the work for the cost given.

RECOMMENDATION

IEC recommends award of the contract to Charles King Company based on their knowledge and experience record and responsiveness to the bidding requirements.

Attachments

Table 1 – Bid Summary

**Leucadia Wastewater District
Batiquitos (B3) Sewer Force Main Discharge Section Replacement Project
Bid Summary**

Bid Item	Quantity	Unit	Article	Engineer's Estimate	Charles King	Mike Prlich	Burtech Pipeline	Piperin
1	1	LS	Mobilization, Bonds, Permits, Cleanup and Demobilization	\$26,400	\$11,200	\$30,000	\$35,000	\$30,000
2	1	LS	SWPPP	\$6,000	\$21,900	\$2,000	\$10,000	\$15,000
3	1	LS	Sheeting, Shoring and Bracing	\$12,000	\$10,700	\$10,000	\$12,000	\$20,000
4	750	LF	24" B3 Sewer Force Main	\$360,000	\$308,060	\$297,750	\$365,000	\$438,000
5	1	LS	Dewater 24" Sewer Force Main	\$6,000	\$12,500	\$20,000	\$8,500	\$20,000
6	1	LS	Traffic Control	\$10,560	\$4,300	\$18,000	\$15,000	\$30,000
7	1	LS	Pothole Utilities	\$7,920	\$11,300	\$10,000	\$12,000	\$20,000
8	3	EA	Install Cured-In-Place Manhole Liner (CIPML)	\$36,000	\$38,700	\$48,750	\$37,500	\$51,000
9	1	LS	Restore Existing Landscaping	\$18,000	\$26,000	\$15,000	\$30,000	\$20,000
Total				\$482,880	\$444,660	\$451,500	\$525,000	\$644,000

MEMORANDUM

DATE: May 30, 2019
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager 
SUBJECT: Agreement with Evoqua Water Technologies LLC to Furnish and Deliver Ferrous Chloride

RECOMMENDATION:

Staff requests that the Board of Directors:

1. Authorize the General Manager to execute a two-year procurement agreement with Evoqua Water Technologies LLC to furnish and deliver Ferrous Chloride in an amount not to exceed \$322,000.
2. Discuss and take other action as appropriate.

DISCUSSION:

In 2006, the Leucadia Wastewater District (District) partnered with Evoqua Water Technologies LLC (EWT), formally known as U.S. Filter Davis Products, to provide Bioxide to help prevent and control the formation of hydrogen sulfide (H₂S) in the Leucadia Pump Station Force Mains (LPSFM). Control of H₂S is critical because it is a lethal gas, creates odors, and causes internal corrosion of metal pipes. As staff continued to monitor the H₂S level at the discharge of the LPSFM, it became apparent over time that Bioxide was not as effective as it was at initial use. Due to the high cost of Bioxide and community implementation of water conservation, the District decided to evaluate other alternatives to Bioxide.

Working collaboratively with the District Engineer, staff identified Ferrous Chloride (Ferrous) as an alternative to Bioxide for H₂S control. Staff reached out to EWT and received confirmation that EWT was able to supply Ferrous.

In March 2018, the District began a 120-day field trial with EWT to inject Ferrous into the LPSFM. At the end of the 120-day trial period, the results demonstrated that Ferrous was more effective at reducing H₂S levels than Bioxide and at a lower cost.

Based on the price during the trial period, staff estimated that the cost over a two year period for Ferrous would exceed \$60,000. In accordance with Section 8, Formal Procurements for Goods and Other Services (\$60,000.01 and over), of the District's Procurement Policy, staff is required to conduct a Formal Request for Sealed Bids (RFB). This procedure includes the publication of a Public Notice Inviting Bids in a newspaper of general circulation at least ten (10) days prior to the bid opening date.

On April 29, 2019 the District sent out the RFB to six (6) know suppliers to furnish and deliver Ferrous. Additionally, the RFB was published on May 3, 2019 in the San Diego Union-Tribune. Bids were due on May 15, 2019. Two Bids were received as follows:

	Cost per dry pound	Cost per gallon	Yearly Costs
Evoqua Water (EWT)	\$ 993	\$ 1.80	\$ 161,000
USP Technologies	\$ 1,135	\$ 2.07	\$ 185,000

EWT submitted the lowest Bid. The Bids were reviewed by staff. As a result of the evaluation, staff determined EWT to be responsive to the bid requirements and recommends the award of the agreement to EWT. Attached is a copy of the Scope of Work to furnish and deliver Ferrous for your review.

Therefore, Staff recommends that the Board of Directors award the agreement to furnish and delivery Ferrous to Evoqua Water Technologies LLC as the lowest responsive and responsible bidder in an amount not to exceed \$322,000 over a two year period.

FISCAL IMPACT:

Sufficient funds have been appropriated in the Fiscal Year 2020 Operating Budget to cover the costs associated with this agreement. Sufficient funds will be appropriated in the succeeding fiscal year.

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ATTACHMENT A

SCOPE OF WORK FOR FURNISHING AND DELIVERING FERROUS CHLORIDE

1. SCOPE OF GOODS AND SERVICES

A. GENERAL

Contractor shall furnish and deliver Ferrous Chloride to the Leucadia Wastewater District located at 1960 La Costa Ave, Carlsbad, CA 92009 ("LWD"), for the time period from July 1, 2019 to June 30, 2021, unless renewed pursuant to the terms of the Agreement.

It is estimated that the LWD will require an annual quantity of approximately 115 dry tons of Ferrous Chloride. However, no representation is made as to the total quantity that will be used by the LWD during this period. This product will be used to chemically enhance the reduction of Hydrogen Sulfides in the force mains utilized by the LPS. Present projections indicate that liquid Ferrous Chloride will be required on a fairly uniform basis throughout the supply period, but no assurances for this are given.

As part of the Scope of Goods and Services, the successful bidder will also be required to provide a safety seminar at the LWD and instructional materials on applications and safe handling of Ferrous Chloride. This training will be completed within ninety (90) days of issuance of the Notice of Award.

Contractor will provide the following services:

1. Technical Services

- a. Contractor will provide and set-up the necessary Ferrous Chloride storage tank. This tank shall be a double containment tank and Contractor's standard dual pump feed system with the appropriate piping arrangements.
- b. Contractor will start-up and optimize the dose of the feed system.
- c. Contractor will provide technical assistance to the District as needed concerning feed rate adjustment, equipment maintenance, testing and troubleshooting.
- d. Contractor will be available and help survey any odor situations that may arise throughout the District.
- e. Contractor will provide scheduled bimonthly maintenance visits at the feed station (LPS).
- f. Contractor will maintain a full-time service technician in Southern California to respond promptly to odor problems, equipment problems, and emergency odor related situations.
- g. Contractor agrees to provide all applicable advances in the Ferrous Chloride technology as part of this agreement. Advances in the product

delivery equipment for better feed optimization, such as a PLC control system, will be provided as part of the contract at no added expense.

LWD reserves the right to purchase from companies other than the low evaluated bidder, if it is deemed to be in the best interest of the District. LWD reserves the right to reject all bids received.

B. PERFORMANCE

All Ferrous Chloride shall be delivered in quantities of 3,500 to 4,000 gallons as a liquid solution varying in concentration from 32% to 35%.

LWD reserves the right to cancel this agreement and either re-bid or purchase on the open market if the selected Ferrous Chloride does not perform to LWD's satisfaction.

The Contractor will be responsible for the removal, disposal, cleaning, transportation, labor and other costs associated with the delivery of liquid Ferrous Chloride that does not meet acceptable performance criteria as determined by LWD.

C. DELIVERY

Deliveries shall be made to the LPS at 1960 La Costa Ave, Carlsbad, California. Deliveries can be accepted Monday through Friday between the hours of 7:00 AM and 2:00 PM.

Ferrous Chloride deliveries shall be made only by a tanker truck that discharges to the Contractor supplied storage tank. All transportation equipment shall be thoroughly cleaned, and free from scale and other foreign matter. All discharge piping and valves shall be inspected before shipment and shall be in proper operating condition upon delivery. Defective tank trucks, from which Ferrous Chloride cannot be withdrawn, will be rejected and returned at the manufacturer's expense.

All Ferrous Chloride shall be delivered within five (5) calendar days of the request. If the supplier is unable to deliver a requested quantity within the terms stated above, LWD may purchase on the open market additional Ferrous Chloride necessary for LPS operation. If the unit cost of the product procured through the open market results in increased operating costs, the successful Ferrous Chloride supplier shall be responsible for the difference in costs.

Each shipment of Ferrous Chloride delivered shall have a certified weight and analysis statement included with the delivery.

D. HOUSEKEEPING AND SPILLS

The Contractor shall be responsible to clean up and remove all trash, grease, oil and debris as a result of the specified work.

The Contractor will promptly clean up any spills or discharge of materials within the facility resulting from the Contractor's operation. If the cleanup results in the need for material disposal, the Contractor will assume all financial costs and responsibility for containment, freight and disposal. The Contractor will also conform to all federal, state and local material transport and disposal requirements..

MEMORANDUM

Ref: 19-6678

DATE: May 30, 2019
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager 
SUBJECT: 2019 Update of the District's Sanitary Sewer Management Plan (SSMP)

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Adopt the 2019 update of the District's Sanitary Sewer Management Plan (SSMP) completed by Dexter Wilson Engineering, Incorporated.
2. Discuss and take other action as appropriate.

DISCUSSION:

The Statewide Sanitary Sewer Systems Waste Discharge Requirements (Statewide WDR), issued by the state in May 2006, imposed regulations on all California agencies that operate Sewage Collection Systems. The Statewide WDR required sewer agencies to develop and implement a system specific Sewer System Management Plan (SSMP). The District complied with all prescribed provisions and adopted its initial SSMP in June 2009. The Statewide WDR requires the SSMP to be updated every five years. Therefore, in July 2014 the District adopted its current SSMP. With the passing of another five year period, an update of the SSMP is necessary to comply with the Statewide WDR requirement.

The significant changes to the District's SSMP incorporated into this 2019 update are:

1. Incorporating updates from the District's Asset Management Plan (updated in May 2018) and Standard Specifications (updated in May 2019).
2. Updating the District's spill history and spill trends.
3. The addition of appendices per State Board guidelines to better track SSMP updates and revisions.
4. Updating contact list, standard operating procedures and preventative maintenance activities.

In 2009 Dexter Wilson Engineering, Incorporated (DWEI) worked closely with staff to develop the initial SSMP. Subsequently, in 2014 DWEI assisted in the first 5 year SSMP Update. Additionally, DWEI has conducted the District's annual SSMP audits for Fiscal Years 2010 to 2018. Due to their thorough knowledge of the SSMP and District operations, staff requested that DWEI conduct the 2019 SSMP Update.

The executive summary is attached for your review. A copy of the 2019 SSMP Update is available upon request.

Steven Henderson of DWEI will present an overview of the 2019 SSMP Update at the meeting.

jms:PJB

Attachment

Executive Summary

The purpose of this Sewer System Management Plan (SSMP) is to document and publicly present in a central document the programs and activities utilized by the Leucadia Wastewater District (the District or LWD, system ID: 9SSO11210) in effectively managing its wastewater collection system.

Regulatory Background

On May 2, 2006, in an effort to reduce the occurrences of sanitary sewer overflows (SSOs) within California, a Statewide General Waste Discharge Requirement (Statewide WDR) was adopted that imposed several new requirements on all agencies that operate sewage collection systems. To date, the District has complied with all provisions prescribed in the Statewide WDR, including enrollment in electronic spill reporting, the establishment of its legal authority to enforce sewer ordinances, certification of the complete initial SSMP implementation on June 8, 2009 by the General Manager, and subsequent audits of all SSMPs.

On July 30, 2013, revisions to the Monitoring and Reporting Program for the Statewide WDR were adopted. The adoption included revisions of spill category definitions; revisions to notification, reporting, and record keeping requirements; and enhancement of water quality monitoring requirements.

This 2019 SSMP is the 5-year update to the 2014 SSMP (as required by the Statewide WDR), will be re-certified by the Board of Directors and reported to the State Board.

SSMP Development

Dexter Wilson Engineering, Inc., a consulting engineering firm, was tasked to assist the District in completing its SSMP. Prior to drafting this SSMP, every aspect of the District's activities and programs to prevent SSOs and to assure the proper system operation and maintenance were carefully reviewed and validated by the District. This included checks of: staff training, programs, operating procedures, historic data, and planning documents like the LWD Standard Specifications, the Asset Management Plan, and the Financial Plan Update. This review determined that the programs, procedures, plans, and management practices required for the Statewide WDR have been in place at the District for many years and are the basis for its outstanding record of environmental protection and regulatory compliance.

As an over-arching document, the SSMP strives to integrate programs and activities from the staff level to the Board level to insure that all components of District are connected and effective in preventing SSOs. Dexter Wilson Engineering, Inc. completed annual audits of the District's 2009 and 2014 SSMP and guided the District in the development of this 2019 version. The annual audit exceeds the WDR requirement of biennial audits and reflects the District's commitment to a proactive approach toward preventing SSOs.

SSMP Future Activities

The performance evaluations and audits of the 2014 SSMP are incorporated into this document. Similarly, performance evaluations and audits of this 2019 SSMP are included by reference and shall be incorporated in the future 2024 update.

Definitions

ASM	Administrative Services Manager
CIP	Capital Improvement Project
CWMS	Computerized Work Management System
DE	District Engineer
EDU	Equivalent Dwelling Units
EWA	Encina Wastewater Authority
FOG	Fats, Oil, and Grease
FSS	Field Services Superintendent
gpd	gallons per day
GM	General Manager
LRO	Legal Responsible Officer
LWD	Leucadia Wastewater District
MGD	million gallons per day
PM	Project Manager
SMA	Special Maintenance Area
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
TSM	Technical Services Manager
WDR	Waste Discharge Requirement