Exhibit A
Cottonwood Improvement District
Sanitary Sewer Management Plan

Section I: **Introduction**

Cottonwood Improvement District (the District) is a Utah special district established on May 24, 1957 that operates under Utah Code Ann. § 17B-1-101, *et seq*. The District provides sewage collection for the citizens and businesses that reside within the boundaries of the District and treatment of the sewage collected through its participation in the Central Valley Water Reclamation. The District currently serves over 25,000 connections with an estimated population in the District of over 125,000. Wastewater from Big and Little Cottonwood Canyons also flows through the District's system, although these areas are not within the boundaries of the District. The District currently maintains approximately 320 miles of collection and trunk lines ranging in size from six inches to forty eight inches, and about 8,000 manholes.

This Sewer System Management Plan (SSMP) has been established in accordance with the requirements of the District's Utah Sanitary Sewer Management Program General Permit No. UTG 580000 and Utah Administrative Rule R317-801-5. The primary objectives of the SSMP are to (1) establish procedures to maintain the sewer collection system and provide uninterrupted service to the District's customers; (2) reduce the possibility of a sanitary sewer overflow (SSO) by implementing the District's established maintenance program; and (3) ensure that employees are properly trained and certified and are able to quickly and efficiently respond to an SSO.

Section II: **Definitions**

The following definitions are to be used in conjunction with those found in Utah Administrative Code R317-1-1.

1. **"BMP"** means "best management practice"

2. **"CCTV"** means "closed circuit television"

3. **"CIP"** means "Capital Improvement Plan"

4. "**District"** means Cottonwood Improvement District

5. **"DWQ"** means "the Utah Division of Water Quality"

6. **"FOG"** means "fats, oils and grease"

7. **"I/I"** means "infiltration and inflow"

8. "**Permittee**" means a federal or state agency, municipality, county, district, and other political subdivision, of the state, that owns or operates a sewer collection system or who is in direct responsible charge for operation and maintenance of the sewer collection system. When two separate federal or state agencies, municipality, county, district, and other political subdivision of the state are interconnected, each shall be considered a separate Permittee.

9. "**SECAP**" means "System Evaluation and Capacity Assurance Plan"

10. "**Sewer Collection System**" means a system for the collection and conveyance of wastewater or sewage form domestic, industrial and commercial sources. The sewer Collection System does not include sewer laterals under the ownership and control of an owner of real property, private sewer systems owned and operated by an owner of real property, and systems that collect and convey storm water exclusively.

11. "**SORP**" means "Sewer Overflow Response Plan"

12. "**SSMP**" means "Sewer System Management Plan"

13. "**SSO**" means "sanitary sewer overflow", the escape of wastewater or pollutants from, or beyond the intended or designed containment of a sanitary sewer collection system.

14. "**Class 1 SSO**" (Significant SSO) means SSO or backup that is not caused by a private lateral obstruction or problem that:

    a. affects more than five private structures

b. affects one or more public, commercial or industrial structure(s);

c. may result in a public health risk to the general public;

d. has a spill volume that exceeds 5,000 gallons, excluding those in single private structures; or

e. discharges to Waters of the State of Utah

15. "**Class 2 SSO**" (Non-Significant SSO) means a SSO or backup that is not caused by a private lateral obstruction or problem that does not meet the Class 1 SSO criteria

16. "**USMP**" means the "Utah Sewer Management Program".

Section III: **Organization Information**

1. District Authorized Representative:

Gregory B. Neff
General Manger
Phone: 801-943-7671

2. The following management, administrative and maintenance positions are responsible for implementing specific measures in this SSMP:

Gregory B. Neff	General Manger	801-943-7671
Jonathan Gubler	Operations Supervisor	801-943-7671

The following Organizational Chart identifies the line of authority of the District:

Cottonwood Improvement District
July 15, 2023
Board of Trustees
Kim Galbraith - Chair
Wesly Fisher - Central Valley Rep.
Mark Katter
Outside Legal Counsel
Jeremy Cook
Independent Auditors
Keddington & Christensen
General Manager
District Engineer
Central Valley Board Alternate
Gregory B. Neff
Inspections Supervisor
Main Lines Inspector
Pre-Treatment Coordinator
Christopher Brown
Inspections Staff
John Marteliz - Inspections and surveying
Jeff Murphy - Blue Stakes Specialist
Maintenance and Construction Supervisor
Steve Desmarais
Maintenance Staff
Daniel Watts - Maintenance Specialist Lift Stations
Tony Hale - Mechanic
Don Meunrath - Maintenance and Contruction
Gavin Thurnau - Maintenance and Construction
Morgan Gaarder - Maintenance and Construction
Water Truck Operator
Safety Officer
CDL Training
Permits Officer
Bill Patterson
Operations Supervisor
Purchasing Manager
Board Treasurer
Jonathon Gubler
Equipment / Flusher Operators
Aaron Rugg
Dalton Morris
Josh Adderly
Timothy Johnson
Kasey Simpson
Terry Riley
CCTV Operators
Todd Smart
Scott Brown
Kert Spor
John Lewis
Chief Financial Officer
Assitant Manager
Human Resource Manager
Board Clerk
Spencer Evans
Office Staff
Esther Strickland - Accounts Specialist
Jami Phillips - Administrative Assistant, Elections Clerk, Board Secretary, Records Officer
Elizabeth Ahrend - Secretary Receptionist

3. SSO Reporting Requirements.

(1) Any employee who receives a report of complaint of a SSO or becomes aware of a SSO or potential SSO, shall immediately report the SSO to their supervisor. The supervisor shall immediately report any Class 1 SSO to the General Manager or Assistant General Manager.

(2) In accordance with R317-801-4, the District manager or authorized designee shall orally report any Class 1 SSO to the DWQ within 24 hours and shall submit a written report to the DWQ within five calendar days. The District manager our authorized designee shall also be responsible for informing the public and any governmental entities (if necessary).

(3) On or before April 15 or each calendar year, the District Manager shall submit to DWQ, a USMP annual operating report covering all SSOs for the previous calendar year.

Section IV: **Ordinances and Enforcement**

The Cottonwood Improvement District's Wastewater Control Rules and Regulations restrict the discharge of any storm water, surface drainage, groundwater, roof runoff, cooling water or other water into any sanitary sewer. Specifically, the following sections of the District's Rules and Regulations address such items:

Section 2.2.2 Discharge of Sewage

No person shall discharge any sewage from any premises within the POTW into and upon any public highway, stream, water course, or public place, or into any drain, cesspool, storm or private sewer, except as provided for hereafter.

Section 2.2.3 Prohibited Discharge

No person shall cause to be discharged or make a connection, which would allow any storm water, surface drainage, groundwater, roof runoff, cooling water or other water into any sanitary sewer. No person shall cause any of

the above-mentioned water to be mixed with that person's sewage in order to dilute said sewage.

Section 2.2.4 Prohibited Discharge - Storm Sewers

Storm water, surface drainage, groundwater, roof runoff, cooling water or unpolluted water may be admitted to specifically designated storm sewers which have adequate capacity for the accommodations of said waters. No person shall connect to and/or use sanitary sewers for the above purposes without having first obtained the written consent of the POTW Manager.

Section 3.3 Design and Construction

The size, slope, alignment, materials of construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing, and backfilling of the trench shall all conform to the requirements of the building and plumbing code or other applicable laws, rules and regulations of federal, state, and local entities, and POTW Construction Standards.

An inspector from the District must be present for all installations to insure compliance.

Section 3.6 Connection Requirement

The applicant for the building sewer permit shall notify the public owned treatment works (POTW) Manager when the building sewer is ready for inspection and connection to the POTW sewer. The connection shall be made under the supervision of the said POTW Manager or his representative. The connection of the building sewer to the POTW sewer shall conform to the requirements of the building and plumbing code or other applicable laws, rules and regulations of federal, state and local entities. All such connections shall be made tight.

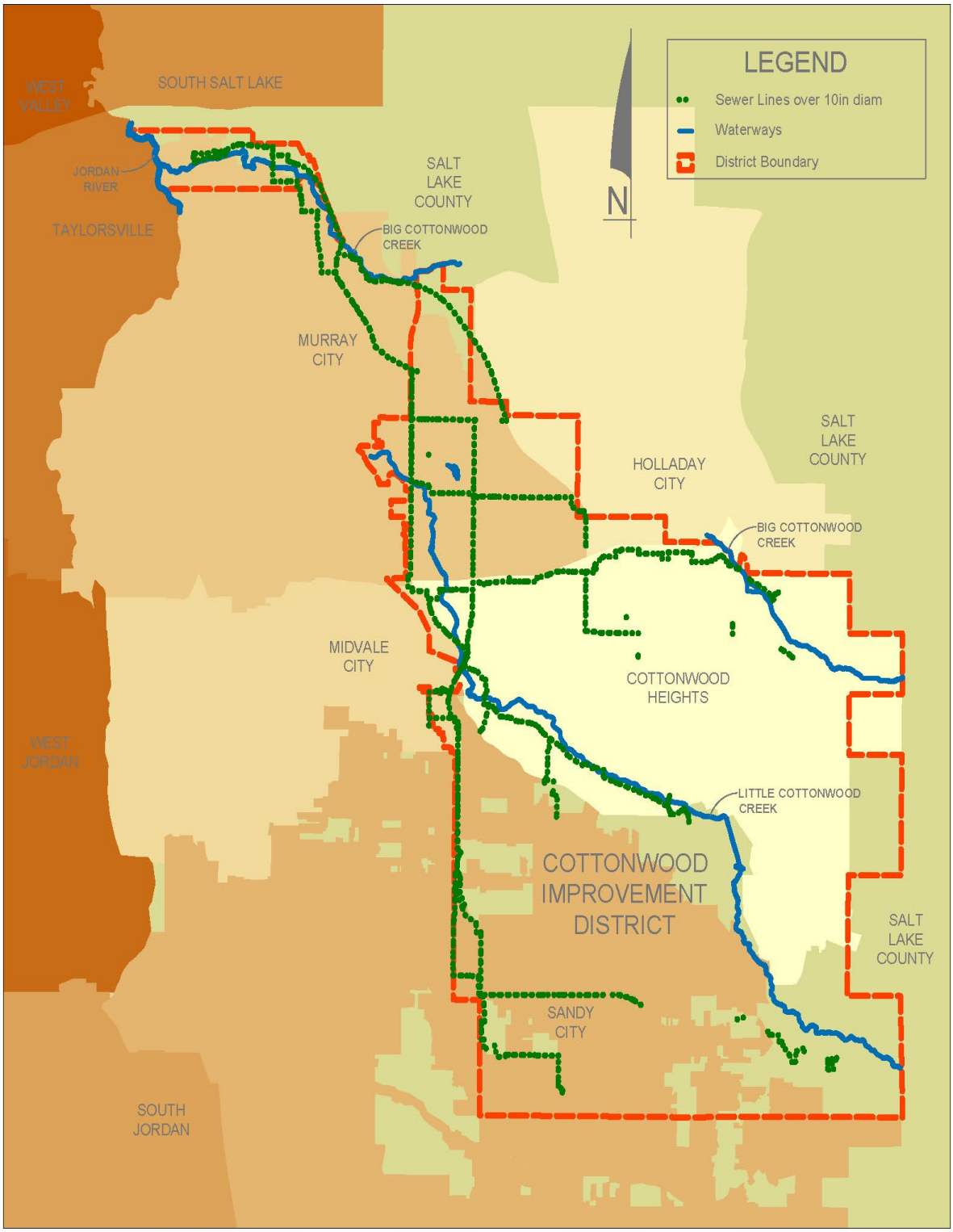
Section 7.10 Legal Action Authorized

If any user discharges into the POTW contrary to the provisions hereof, federal or state Pretreatment Requirements or any order of the POTW, the POTW attorney may commence an action for appropriate legal and/or equitable relief, including injunctive relief.

Section 7.11 Criminal Penalty and Fines

A violation of the pretreatment and discharge standards, which are defined in these rules and regulations, is a felony subject to prosecution under the Utah Water Pollution Control Act, Title 26, Chapter 11, Section 16, (2)(c) Utah Code Annotated.

Section V: **Sewer System Mapping**



COTTONWOOD IMPROVEMENT DISTRICT

DISTRICT BOUNDARY, WATERWAYS AND SEWER PIPELINES
GREATER THAN 10" IN DIAMETER
September 26, 2012

The District also maintains a computer base mapping system that contains a graphical representation of the sewer lines in the District. The District map shows pipelines and manholes and identifies them as District-owned or privately-owned. Line size, pipe type, invert elevation, slope and date of installation are available for most pipelines shown on the map. Additional information, such as cleaning history or TV inspection, is available and linked to the pipelines shown. Approximate rim elevations are available for most manholes as well as record drawings and manhole pictures. County ownership parcels and addresses are shown on the map. Account information and lateral installation cards or location cards are linked to the parcels. Location cards are available for most parcels and are made available to home owners or excavators. Location cards give only approximate locations. Laterals or service lines are considered private lines and are not marked as part of the Districts "Blue Stakes" program. An aerial photograph is part of the map and can be turned on or off as needed.

Manhole covers are located with GPS where possible to an accuracy of approximately 2 to 3 inches. Where covers can't be measured using GPS, manholes are placed on the map using record information. Parcel locations shown on map are often not accurate and based solely on information provided by Salt Lake County. Maps are updated as new facilities are added to the system or as inaccuracies are found and corrected. Maps are available to operators on mobile devices.

Section VI: **Operations and Maintenance Plan**

The District has established this sanitary sewer system operations and maintenance program to insure proper system operation, minimize basement backups and SSO's and provide for replacement and repair of damaged or worn pipes. The combined maintenance and collection programs help insure that the environment and health of the public are protected at reasonable cost. The following areas are described and included in this program:

- TV Inspection
- Manhole Inspection
- Cleaning Sewer Lines
- Pump Station Inspection and Maintenance

- Blue Stakes
- Mainline Inspections
- Grease Trap Inspection (section (IX)
- Manhole raising procedures
- Manhole Rehabilitation

TV Inspection

The District utilizes closed circuit TV inspection truck(s). Each truck has two operators. Their responsibility is to inspect the wastewater line for defects or problems including roots and blockages. Defects identified during the CCTV process are reported on a Manhole and Line Inspection form.[1] The form and inspection report are reviewed by management and, if necessary, the defect is scheduled for repair. The goal of the TV inspection program is to inspect the entire system every 3 years.

Manhole Inspection

The inspection of a manhole in the District is conducted every time a manhole cover is removed by an employee. Manhole inspection involves the identification of foreign objects, surcharging, infiltration and structural defects. The District's goal is to inspect each manhole once per year. Most manholes are inspected in connection with normal cleaning operations. If the employee finds a problem during the inspection of a manhole, a work order is created and a supervisor notified. If a repair is needed, the appropriate crew(s) are scheduled to correct the problem.

Cleaning Sewer Lines

Cleaning generally starts at the uppermost parts of the collection system and proceeds downstream toward the treatment plant (Central Valley Water Reclamation Facility). Each cleaning crew is made up of two (2) operators and a combination cleaner truck. Each crew is responsible for the wastewater lines in a drainage. Cleaned lines are recorded on a mobile device which is synchronized to a central database. Operators can see in real time which lines have been cleaned and plan their work accordingly. If there is a problem with a particular line, it is easy to determine when the line was last cleaned.

[1] An example of the form can be found at the end of the manual. See Appendices 1.

Lines which require special attention such as those with root intrusion or sags, or heavy grease are indicated on the map. Crews check for these conditions in their assigned area and load the appropriate equipment for the day on their truck. Operators clean a section until there is no visible debris coming back to be vacuumed. Operators have a variety of nozzles available and use the one appropriate for conditions.

After the line has been cleaned and any debris vacuumed, one of the operators sprays down the manhole, cleans off the shelf and vacuums any remaining debris. While one operator is doing this, the other operator is checking the condition of the manhole. If attention is needed for repairs, an operator fills out a "Manhole and Line Inspection" form.

Safety is very important during cleaning operations. Cleaning operations are conducted to minimize impact on traffic. Operators are trained in traffic control and wear the required high-visibility clothing. Permits to work in the roadway are obtained as required.

The District's goal is to clean its entire system each year.

Pump Station Inspection and Maintenance

The District has four (4) lift stations. They are located at:

- Erikson off of Vine Street
- Dimple Dell off of Dimple Dell Road
- 5th West and 4300 South
- 10150 South 1300 East

At least once a week, an employee visually inspects all the lift stations within the District's boundaries. This is done by turning on the pumps and listening to be sure that the pumps are operating properly and that there is no unusual noise that would indicate a problem such as cavitation. Lift stations are monitored remotely and in case of a problem, will notify an on-call personnel, and the on-call person will respond.

The District has two portable generators to power lift stations in the event of an extended power outage.

Blue Stakes

The District is a member of Blue Stakes of Utah and receives notifications and locate-requests. An employee is assigned to monitor and respond to all locate requests located within the District service area. A third party service is used to track locate requests and responses.

District facilities within the dig site are marked according to State law. Private sewer facilities (those not owned or maintained by the District) and service lines or house sewers, lines typically less than 8 inches in diameter, are not marked. Maps showing approximate locations of private sewers and house sewers are made available upon request. Maps of private sewers and house sewers are approximate only and do not exist for all locations.

Inspections

The District inspects all sewer line installations, public or private, which are located in the District's service area or which will be connected to the District's collection system. The purpose of inspections is to make sure construction conforms to District and State of Utah minimum standards and to help ensure a long-lasting, high performing system. In addition to visual inspections by the District inspector, an air test and a CCTV inspection of lines 8 inches in diameter and larger are performed.

Contractors performing work in the District are required to be bonded and insured. Before starting a construction project the contractor must provide proof of insurance. A pre-construction meeting is also held for main-line projects. A developer agreement for all developer financed projects is required. The agreement obligates the Developer to adhere to all District standards and warranty the project for a period of three years.

Projects are not accepted and approved for service until all inspections are complete and an accurate record drawing of the sewer installation is submitted. Any deviations from this procedure due to extenuating circumstances must be approved by the District Engineer and General Manager.

Manhole Raising Procedures

It is important to keep the District's manhole covers and sewer access points open and at grade. A list of manholes to be raised is created by monitoring City, County and State road construction projects within the District. District crews use the following procedure when raising manholes:

The location and type of work to be done on the manhole will determine if the use of advanced traffic warning signs are needed. The District follows all state and local requirements.

While working on a manhole, all precautions are taken, including setting inside the manhole an umbrella device to catch debris and prevent it from going down the line.

After the manhole height has been adjusted, the crew cleans out the bottom of the manhole and makes sure all other materials are swept up off of the road.

The manhole crews have asphalt recyclers. After removing the asphalt around the manhole, it is inserted into the recycler to heat it for reuse and then placed back around the manhole sealing the hole in the road. A tamper is then used to pack the asphalt back around the manhole ring. Concrete collars are used in limited locations where required by the owner of the roadway.

If it is necessary to call out for additional help, such as televising or cleaning, etc., a supervisor is contacted for approval.

If other televising or cleaning crews recognize a problem with a manhole and it can be scheduled for repaired at a later time, they fill out a Manhole and Line Inspection Form and turn it into their supervisor.

Manhole Rehabilitation

When manholes are inspected, they are inspected for hydrogen sulfide corrosion, delaminated concrete, exposed surface rebar, water infiltration and root growth. This is done to find and address structural problems early and prevent catastrophic manhole failure.

The District employs several manhole rehabilitation methods including grout injection to stop root growth and infiltration and epoxy coating to stop acid corrosion.

Schedule for Employee Training

The District provides the following training opportunities:

1. Monthly safety meetings for operators and supervisors.
2. On-the-job training and mentoring for operators.
3. Annual operator cross-training.
4. Certification classes such as flagger training, trench safety and traffic control for operators.
5. Trade shows and conferences such as the Water Environment Association of Utah annual conference and the Association of Special Districts annual meeting – primarily for supervisors.
6. Participation in operator's challenge teams.
7. Training as needed for staff and supervisors on computer software.
8. Training for supervisors on changes in the law affecting local districts and the operation of wastewater collection facilities.

Equipment and Replacement Parts Inventories

The District maintains following types of inventory:

1. A limited amount of pipe and couplers in the most common sizes for emergency repair.
2. Manhole grade rings in various sizes.
3. Waste asphalt for manhole operations.
4. Fluids and filters for vehicle maintenance.

Section VII: **Design and Performance Standards**

Design Standards

The District requires that all new sewer collection systems conform to State of Utah standards as defined in R317-3 and the most current revision of Cottonwood Improvement District's standard details and specifications. The most current version of the District's standard details and specifications is available in print at the District office and online at www.cottonwoodimprovement.gov.

Procedures and Standards for Inspecting and Testing

Procedures and standards for inspections and testing are made part of the District standard details and specifications and are available as noted above.

Section VIII: **Sewer Overflow Response Plan (SORP)**

Whenever the sanitary sewer leaves the confines of the piping system, immediate action is necessary to minimize environmental damage and financial losses and protect public health.

The following emergency policies and procedures are followed by all employees responding to an emergency.

1. Initial Response: After being called, all sewer problems are treated as an emergency and will be investigated thoroughly. A field report is filled-out on all calls. The field report typically includes the following information: Name, address, date, time, conditions found and actions taken.

2. District Facilities: District employees have the responsibility to relieve the mainline backup. They also have the responsibility to determine why and how the backup occurred. Extra precaution is taken to determine the cause of the backup. Material found which is foreign to the sewer such as rocks, sticks, rebar, rags, etc. is noted. The evidence found is collected and retained for liability and insurance purposes.

3. Notification of Public: Public directly affected by a sewer overflow are notified in-person by District employees. If the property owner can't be contacted in-person, or by telephone, a door hanger with contact information is left. SSO's will also be reported as previously described in Section III.

4. Inspection of Private Damage: In the event there is property damage because of a main line backup, a supervisor is notified immediately. The supervisor inspects all damages, takes pictures, and inventories damaged items. A report is filled out specifying how and what was affected for each room.

- Under no circumstances does a District employee enter on private property without a fellow employee as a witness.

- No District employees assist in the cleaning of any private property that has been flooded. District employees are not bonded or insured for this work. If required by the District's insurance carrier, a list of preferred clean-up contractors is provided.

5. Follow-Up: Generally, after the initial investigation of the overflow, no follow-up is required.

6. Training: The District provides overflow response training, including backup simulation.

Section IX: **Fats Oils Grease (FOG) Control Plan**

1. Residential and Commercial Education and Outreach Plan: The District maintains a website with helpful information about District operations and responsible use of the sewer system. On-hold messages are provided on the Districts phone system.

2. Plan for Disposal of FOG: Pumped grease trap waste can be disposed of at Central Valley Water Reclamation.

3. Requirements for Grease Traps: Section 2.13 of the District's Wastewater Control Rules and Regulations requires the following:

> Grease, oil and sand interceptors, as described by the Utah Plumbing Code, shall be required of any user when, in the opinion of the POTW Manager, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand and other harmful ingredients; except that such interceptors shall not be required for dwelling units. All interceptors shall be of a type and capacity approved by the POTW Manager according to plans on file in the POTW's office and shall be located as to be readily accessible for cleaning by user and inspection by POTW employees.

4. Grease Trap Inspections. The District maintains a list of all connections with a grease trap. An employee inspects and rates the cleanliness of every grease trap on the list as often as required. No grease trap will be inspected less than once per year. Most grease traps will be inspected no less than once per quarter.

The inspector fills out a "Grease Trap/Sampling Manhole Inspection Report" indicating the condition of the grease trap and obtains a signature from someone on-site verifying the inspection. A copy of the report is left with a responsible person on-site. The information from the report is then entered into the database by office staff. If a trap needs immediate attention, the property owner or responsible party is made aware and the trap is re-inspected to insure it has been cleaned.

Section X: **System Evaluation and Capacity Assurance Plan (SECAP)**

The District's SECAP includes a dynamic model of critical facilities. The model is run and calibrated for existing conditions. The model is also run using future anticipated flows. Inputs to the model are scaled to account for differences between average daily, dry weather flows and daily flows for a "peak day" such as Thanksgiving day or a wet weather day. The ratio between average daily flow and peak average daily flow is determined by examining existing flow data for the entire District and comparing daily average flow to the highest daily flows.

The District level of service to determine system deficiencies is described below:

Sewer Main Level of Service
For pipes 12 inch in diameter and smaller the peak flow in the pipe must be less than 50 percent of the full flow pipe capacity. For pipes 15 inch in diameter and larger, the peak flow in the pipe must be less than 75 percent of the full flow pipe capacity.

Force Main Level of Service
Lift station force mains will not exceed a peak flow velocity of 7 feet per second.

Lift Station Level of Service
Peak flow to lift stations will not exceed 85% of the lift station's hydraulic pumping capacity.

If the model of future conditions shows the level of service will not be met, the model is re-checked. If there is no error found, a capital improvement project is proposed which will bring facilities into compliance with the standard level of service.

Prioritization of capital improvements depends primarily on residential and commercial development. The effect of a proposed development can be estimated using the District's model. If a development will likely cause the level of service ratio to be exceeded, a capital improvement project will have to be completed before the proposed development is connected to the sewer.

The District's existing conditions model is updated from time to time as significant changes to flow occur. Significant changes to existing zoning or redevelopment may create the need to update anticipated future flows and re-run the model.

1. Existing System Capacity.

   The District's current flow model measures the existing system capacity as described above.

2. System Deficiencies.

   The District's current model shows no deficiencies for current conditions. Projected, future flows will cause system deficiencies.

3. Capital Improvement Plan (CIP).

   The District's current CIP shows projects that will be required as development and redevelopment occur and system flows increase. The most current version of the District's CIP is available online and on file in the District offices. The CIP will be updated as required. Conditions that warrant updating of the plan are:

   Significant changes in anticipated flows
   Significant changes in the cost of sewer pipeline construction

4. CIP Financing.

   District cash reserves are held to finance capital improvement projects. Impact fees collected are added to cash reserves and spent on capital

improvement projects. The District's current cash reserves are sufficient to meet anticipated near-term capital improvement projects. The District's cash reserves are not sufficient to meet all capital improvements in the CIP.