Sanitary Sewer Management Plan (SSMP)

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Appendix A

1. Introduction

Nibley City was incorporated in 1935, as a public entity, under Utah State Code, and provides sewage collection within its municipal boundaries. This Sewer System Management Plan (SSMP), has been established to plan and schedule proper management operation and maintenance of all parts of the sewer collection system, in order to reduce and prevent sanitary sewer overflows (SSOs), as well as minimize impacts of any SSOs that do occur. Ciy management recognizes the responsibility it has to operate the sewer system in an environmentally and fiscally responsible manner. As such, this plan will cover aspects of the collection system program necessary to provide such an operation. This plan may refer to other programs or ordinances and by reference may incorporate these programs into this plan.

2. Definitions

The following definitions are to be used in conjunction with those found in Utah Administrative Code R317. The following terms have the meaning as set forth in this document:

A. "BMP" means "best management practice".
B. "CCTV" means "closed circuit television.
C. "CIP" means a "Capital Improvement Plan".
D. "DWQ" means "the Utah Division of Water Quality".
E. "FOG" means "fats, oils and grease". This is also referred to as a Grease Oil and Sand Program(GOSI).
F. "I/I" means "infiltration and inflow".
G. "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, municipalities, counties, districts, and other political subdivisions of the state are interconnected, each shall be considered a separate Permittee.
H. "SECAP" means "System Evaluation and Capacity Assurance Plan".
I. "Sewer Collection System" means a system for the collection and conveyance of wastewaters or sewage from 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 stormwater exclusively.

J. “SORP” means “Sewer Overflow Response Plan”
K. "SSMP" means "Sewer System Management Plan".
L. "SSO" means "sanitary sewer overflow", the escape of wastewater or pollutants from, or beyond the intended or designed containment of a sewer collection system.
M. "Class 1 SSO" (Significant SSO) means a SSO or backup that is not caused by a private lateral obstruction or problem which:
    i. affects five or more private structures;
    ii. affects one or more public, commercial or industrial structure(s);
    iii. may result in a public health risk to the general public;
    iv. has a spill volume exceeding 5,000 gallons, excludingSSOs in single private structures; or
    v. discharges to Waters of the State of Utah.
N. "Class 2 SSO" (Non Significant SSO) means an SSO or backup not caused by a private lateral obstruction or problem that does not meet the Class 1 SSO criteria.
O. "USMP" means the "Utah Sewer Management Program".

3. General SSO Requirements

The following general requirements for SSOs are stipulated in R317-801 and are included here as general information.

A. The permittee shall take all feasible steps to eliminate SSOs to include:
    i. Properly managing, operating, and maintaining all parts of the sewer collection system;
    ii. training system operators;
    iii. allocating adequate resources for the operation, maintenance, and repair of its sewer collection system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures in accordance with generally acceptable accounting practices; and,
    iv. providing adequate capacity to convey base flows and peak flows, including flows related to normal wet weather events. Capacity shall meet or exceed the design criteria of R317-3.
B. SSOs shall be reported in accordance with the requirements below.
C. When an SSO occurs, the permittee shall take all feasible steps to:
    i. control, contain, or limit the volume of untreated or partially treated wastewater discharged;
    ii. terminate the discharge;

iii. recover as much of the wastewater discharged as possible for proper disposal, including any wash down water; and,
iv. mitigate the impacts of the SSO.

4. SSO Reporting Requirements

R317-801 stipulates when and how SSOs are reported. The reporting requirements in effect as of April 23, 2012 are:

A. SSO REPORTING. SSOs shall be reported as follows:
   i. A Class 1 SSO shall be reported orally within 24 hrs and with a written report submitted to the DWQ within five calendar days. Class 1 SSOs shall be included in the annual USMP report.
   ii. Class 2 SSOs shall be reported on an annual basis in the USMP annual report.

B. ANNUAL REPORT. A permittee shall submit to DWQ a USMP annual operating report covering information for the previous calendar year by April 15 of the following year.

5. Sewer Use Ordinance

The Nibley City Council has adopted a sewer use ordinance, which contains the following items as stipulated by Utah State Code R317-801:

A. Prohibition on unauthorized discharges;
B. Requirement that sewers be constructed and maintained in accordance with R317-3;
C. Ensures access or easements for maintenance, inspections and repairs;
D. Has the ability to limit debris which obstruct or inhibit the flow in sewers such as foreign objects or grease and oil;
E. Requires compliance with pretreatment program;
F. Allows for the inspection of industrial users; and
G. Provides for enforcement of for ordinance or rules violations.

6. SSMP – General Information

This plan is intended to be a guiding document and not a regulatory requirement. As such, failure to strictly comply with documentation requirements is, in and of itself, not a failure of the program's effectiveness.

Documentation failures are intended to be identified during system self-audits and will be addressed as training opportunities. Significant system failures will be followed up

with corrective action plans. This corrective action process will be implemented by all individuals involved in the SSMP program. Not all Nibley City employees will be involved in the collection system operations, so not all will receive program training. Finally, although not a part of this SSMP program, Nibley is an active participant in the Blue Stakes of Utah utility notification system. This system, regulated under title 54-8A of the Utah State Code, stipulates notification of all underground utility operators when excavation takes place. The intent of this regulation is to minimize damage to underground facilities. Nibley City has a responsibility to mark their underground sewer facilities when notified an excavation is going to take place. Participation in the Blue Stakes program further enhances the protection of the collection system and reduces SSOs.

The responsible representatives, position and phone number for Nibley City with regard to this SSMP are:

Public Works Director - Justin Maughan, P.E., (435) 770-0727

This individual is responsible for overall management of the sanitary sewer collection system. Responsibilities include working with governance to assure sufficient budget is allocated to implement the SSMP, maintenance of the SSMP documentation, development of a capital improvement program, design standards and general supervision of all staff.

Sewer Division Manager - Justin Pope, (435) 760-3777

This individual is responsible for daily SSMP implementation. This includes maintenance activities, compliance with SORP requirements, and monitoring as well as measurement reporting requirements.

City Engineer - JUB Engineers, (435) 713-9514

This individual is responsible for the development and maintenance of collection system mapping as well as maintenance of the SECAP program.

7. Operations and Maintenance Program

Nibley City has established this sanitary sewer system operations and maintenance program to ensure proper system operations, to minimize any basement backups or SSOs, and to provide for replacement, refurbishment, or repair of damaged or

deteriorated piping systems. The combined maintenance program should ensure protection of the environment and public health at a reasonable cost for the end users. To this end, the following areas are described and included in this maintenance program:

A. System Mapping
B. System Cleaning
C. System CCTV Inspection
D. Pump Station/Pressure Lines Inspection
E. Force Mainline Inspection
F. Manhole Inspection
G. Defect Reporting
H. Damage Identification
I. Damage Response

A. System Mapping

An up to date map is essential for effective system operations. Nibley City has assigned the mapping responsibility to the City Engineer who will prepare and maintain current mapping for the entire sanitary sewer system. Mapping is maintained on a graphical information system (GIS). Mapping is available at the following location:

JUB Engineers
1047 South 100 West
Logan, UT 84321

Should any employee identify an error in the mapping, they should document the error on a defect report and give it to the engineer.

B. System Cleaning

Nibley City has established a goal to clean the entire system every three years. This frequency significantly reduces the number of basement backups, controls grease problems and flushes any bellies in the system. In addition Nibley City has a listing of identified “hot spots”, which are maintained at a higher frequency.

Nibley City has identified 3 “hot spots”:

i. 1200 West 3150 South
ii. 450 West 3650 South
iii. 3090 South HWY165 (In front of Maverik)

Cleaning records are maintained at the Nibley City Public Works Office. When contractors are employed to inspect the sanitary sewer system, they will be required to submit records for their work. Should the cleaning process identify a serious defect, the problem should be reported on a Defect Report Form. The Sewer Division Manger should be given the defect reports for further action. The defect report should be specific as to problem location and type. A copy of the Defect Report Form is included in Appendix A. A summary of cleaning activities shall be prepared annually by the Sewer Division Manger, and reviewed by the Public Works Director.

C. System CCTV Inspection

Closed Circuit TV inspections of the sanitary sewer system are used to:

i. Assess pipe condition
ii. Identify problems
iii. Possible future failures
iv. Sources of I&I.

CCTV will also be employed when the systems operation or capacity is questioned or when a Class 1 or Class 2 SSO occurs. Any defects identified during the CCTV process should be reported on a Defect Report Form and the form should be given to the Sewer Division Manger for possible repairs. Generally, Nibley City will conduct CCTV inspection with a contractor, and has established a goal to inspect the entire system every 9 years. During the inspection process, the contractor will be required to submit records of their work. These records and other documentation of CCTV activities will be maintained at Nibley City Public Works Office. The Sewer Division Manger will prepare an annual summary of CCTV completed for each calendar year.

D. Pump Station

Staff visually inspects each pump station weekly for correct operations. Operators inspecting the pump stations will complete the Pump Station Inspection Form. Should a problem be encountered that cannot be corrected during the inspection, a Defect Report Form should be completed and the form given to the Sewer Division Manager. If the defect has the potential to cause a sanitary sewer overflow, immediate action should be taken to ensure no overflow occurs. In addition to visual inspections, the Hansen and Scott Farm pump stations are monitored remotely via a Supervisory Control and Data Acquisition (SCADA) system. This system monitors operations 24 hours a day 7 days a week, and will alarm operators if it senses problems with the pump station. In addition to regular inspections, the wet wells of lift stations shall be cleaned a minimum of every

two months.

E. Pressure Force Main Line Inspection

The alignment of pressure force main lines are inspected every two months. During the inspection of the pressure sewer alignment, operators should be looking for unusual puddles. If a potential leak is identified, a Defect Report should be completed and given to the Sewer Division Manager for further action. An evaluation will be made to determine if there is an actual leak and appropriate action taken. In addition, air relief valves and associated vaults shall be inspected to ensure they are functioning properly.

F. Manhole Inspection

Nibley City schedules annual inspections of the sanitary sewer manholes (M/H) in the system. The M/H inspection involves the identification of foreign objects,surcharging and any identifiable I&I issues that may be present. When a potential defect or I&I is identified, the manhole should be flagged. Flagged manholes should be checked and evaluated by the Sewer Division Manager within three days to determine further action. If, during the inspection process, it appears that a problem is imminent, the Public Works Director should be immediately informed of the problem. A cleaning crew should be dispatched immediately to ensure correct system operations. All inspection records should be retained for documentation of work performed.

G. Defect Reporting

Defect Reports generated through any of the above mentioned inspection programs will be prioritized for correction by the Sewer Division Manager and Public Works Director. Any defects which have the potential for catastrophic failure and thus create a Class 1 or Class 2 SSO should be evaluated immediately and discussed with the Public Works Director for repair. Repair methods may include:

i. Spot Excavation Repairs
ii. Spot Band Repairs
iii. Segment Excavation Replacements
iv. Segment Lining
v. Manhole Rehabilitation

When a defect is not flagged for immediate repair, it should be considered for placement on the “hot spot” list. This will allow for vigilant maintenance to avoid failure and a subsequent SSO. Defect reports should be used in the budget process to determine what financial allocation should be made in the next budget year. The Sewer

Division Manager should include outstanding defects in the annual report.

8. Damage Identification

The identification of system damage which may result in an SSO or basement backup is important to prevent harm to the environment, public health or economy. Identification of damage may be from either internal activities or external activities.

Internal activities which may result in the identification of damage and generation of a Defect Report include the following:

1. Collections Maintenance Activities
2. CCTV Inspection Activities
3. Manhole Inspection Activities

External activities which identify damages include:

1. Contractor Notification of Damage
2. Directional Drilling Notification of Damage
3. Public Damage Complaints

All three of these notifications generally require immediate response. Staff should respond and evaluate the seriousness of the damage and the effect on the environment. Damages which include a release to the environment should be handled in accordance with the SORP. Damages which cause a basement backup should trigger the Basement Backup program. Damages which remain in the trench should be de minimus and do not require more action than the repair of the damage.

Whatever the cause of collection system damage, the response should be expeditious to prevent environmental or economic harm. Staff should consider all damages an emergency until it is shown by inspection to be a lower priority.

9. Damage Response

When damages occur in the collection system, the following actions help define the path staff should take. These action plans are not inclusive of all options available but are indicative of the types of response that may be taken.

1. Stable Damage

Inspection activities may show system damage which has been there for an extended period of time. Such damage may not require immediate

action but may be postponed for a period of time. When stable damage is identified, a defect report should be prepared. An example of stable damage could be a crack in a pipeline or a severely misaligned lateral connection where infiltration is occurring.

2. Unstable Damage

Unstable damage is damage which has a high likelihood that failure will occur in the near future. Such damage may be a broken pipe with exposed soil or a line which has complete crown corrosion. In these cases, action should be taken as soon as the necessary resources are available. When such unstable damage is identified, if possible, consideration should be given to trench-less repairs which may be able to be completed quicker than standard excavation. Immediately after identification the Public Works Director should be contacted to review and take care of budget considerations.

3. Immediate Damage

When a contractor or others damage a collection line such that the line is no longer capable of functioning as a sewer, this immediate damage must be handled expeditiously. Such damage allows untreated waste water to pool in the excavation site, spill into the environment or possibly backup into a basement. Under such conditions priority should be given to an immediate repair. Since excavation damage may be the result of either contractor negligence or failure of Nibley City to adequately protect the line by appropriately following the Damages to Underground Utilities Statute 54-8A, priority should be given to effecting a repair and not to determining the eventual responsible party.

As can be determined from the above action plans, priority should always be preventing SSOs and attendant environmental damage, to prevent basement backups and financial impacts, and to prevent public health issues.

8. Sewer Overflow Response Plan

In the event that an SSO is reported in the Nibley City Sewer System, the following procedures shall be followed.

A. Response Activities
B. General Notification

C. Agency Notification and Reporting Requirments
D. Public Notification
E. Overflow Clean Up
F. Corrective Action

A. Response Activities

There are specific steps that should be followed once a notification is received that an SSO may be occurring. The following table outlines actions that will be taken when Nibley City receives notice that a possible SSO has or is occurring.

Basement Backup	● Notify responsible position ● Make determination of whether the problem is in the main or the lateral ● Remove blockage if in main ● Provide residence with policy
SSO to Environment	● Notify responsible position ● Remove blockage ● Notify appropriate regulatory authorities based on class of overflow ● Initiate cleanup ● Determine long term corrective action if need

B. General Notification

When a Class 1 SSO occurs specific notification requirement are needed. In such cases the following Notification procedure should be followed and documented. Failure to comply with notification requirements is a violation of R317-801.

C. Agency Notification and Reporting Requirements

Both the State of Utah Division of Water Quality and the local health department should be immediately notified when an overflow is occurring. Others that should be notified are affected property owners and the Utah Division of Emergency Response and Remediation (if hazardous materials are involved). The initial notification must be given within 24 hours. However, attempts should be made to notify the agencies as soon as possible so they can observe the

extent of the issue while the problem is happening. A notification form is provided in Apendix A.

Whenever sanitary sewage leave the confines of the piping system, immediate action is necessary to prevent environmental, public health or financial damage from occurring. In addition, quick action is normally needed to mitigate damage which may have already occurred. For the purpose of this section, the following are part of the emergency action plan.

1. Basement backups
2. Sanitary sewer overflows
3. Sanitary sewer breaks which remain in the trench
4. Sewer lateral backups

Class 1 SSOs, caused by Items 1 & 2 (Basement backups and SSOs) above should be reported. Class 2 SSOs caused by items 1 & 2 above should be documented and reported in the annual SSMP report and included in the Municipal Waste Water Planning Program submitted to the State.

Item 3 (breaks in trench) may be reported if, in the opinion of the responsible staff member, there is potential for a public health issue. An example of where a public health issue may be present is when an excavator breaks both a sewer and a water line in the same trench. In such cases, the local health department representatives should be contacted and the situation explained. If the health representative requests further action on the part of Nibley City, staff should try and comply. If, in the opinion of the responsible staff member, the health department request is unreasonable, the Public Works Director should be immediately notified. Care should always be taken to err on the side of protecting public health over financial considerations.

Staff member responding to an SSO caused by item 4 (lateral backup) above, should follow the Basement Backup Program procedures, established by Nibley City. Lateral backups, while the responsibility of the property owner, should also be treated as serious problems.

After an SSO has taken place and the cleanup has been completed, a written report of the event should be submitted to the State DEQ within five days, unless waived. This report should be specific and should be inclusive of all

work completed. If possible the report should also include a description of follow-up actions such as modeling or problem corrections that have or will take place.

D. Public Notification

When an SSO occurs and the extent of the overflow is significant and the damage cannot be contained, the public shall be notified through proper communication channels. Normally the local health department will coordinate such notification. Should Nibley City need to provide notification it could include utilizing the Cloud Speaker system, press releases to ocal news agencies, publication in an area paper, and leaflets delivered to home owners or citizens in the area of the SSO. Notification should be sufficient to ensure that the public health is protected. When and if Federal laws are passed concerning notification requirements, these legal requirements are incorporated by reference in this document. In general, notification requirements should increase as the extent of the overflow increases.

E. Overflow Cleanup

When an overflow happens, care should be taken to clean up the environment to the extent feasible based on technology, good science and financial capabilities. The responsible staff member, in conjunction with the State DEQ, the local health department and the owner of real property, should direct activities in such a manner that they are all satisfied with the overall outcomes. If, during the cleaning process, the responsible staff member believes the State or the County is requesting excessive actions, the Public Works Director should be contacted.

F. Corrective Action

All SSOs should be followed up with an analysis as to cause and possible corrective actions. An SSO which is the result of grease or root plug may be placed on the preventative maintenance list for more frequent cleaning. Serious or repetitive plugging problems may require reconstruction of the sewer lines. An overflow resulting from inadequate capacity should be followed by additional system modeling and either flow reduction or capacity increase. If a significant or unusual weather condition caused flooding which was incorrectly introduced to the sanitary sewer system, the corrective action may include working with other agencies to try and rectify the cross connection from the storm sewer to the sanitary sewer or from home drainage systems and sump

pumps to the sainitary sewer. Finally, should a problem be such that it is not anticipated to reoccur, no further action may be needed.

9. Sewer Design Standards

Incorporated by reference in this section are the sanitary sewer design standards for Nibley City. These design standards are intended to be used in conjunction with Utah Administrative Code R317-3. Where a conflict exists between these two standards, the Administrative Code shall prevail.

10. Grease, Oil and Sand Management Program

Nibley City waste water is treated by Logan City. Per the current treatment agreement with Logan City, industrial and commercial users are required to allow random, unannounced on-site inspections of pre-treatment facilities, conducted by Logan City staff. Nibley informs Logan City once every month of any new industries, businesses and other commercial entities that could discharge materials subject to pre-treatment standards. All commercial and industrial entities that could discharge materials subject to pre-treatment permits from Logan City, shall obtain such permit from the Logan City Environmental Division before Nibley will issue building permits and licenses to do business in Nibley. The Pre-Treatment program is not administered by the Wastewater Division, but is administered by the Logan City Environmental Department. More information concerning the program can be found by clicking on the following link(Pre-Treatment) or on their website at:
http://www.loganutah.org/Environmental/Waste%20Waste%20Treatment/

11. System Evaluation and Capacity Assurance Plan (SECAP)

Nibley City believes that one of the keys to preventing sanitary sewer overflows is to evaluate system capacity and to monitor flows throughout the system in order to ensure that capacities are not exceeded. Should a collection sub-system exceed the capacity of the pipes, the system will be immediately re-evaluated and corrective action taken. The following elements are all part of Nibley City SECAP program.

A. Initial Capacity Modeling and Master Planning
B. Flow Monitoring
C. Surcharge Flow Analysis
D. Re-evaluation Modeling and Analysis
E. Capacity Increase Evaluation and Implementation

F. System Improvement Prioritization
G. Capital Improvement Plan

A. Initial Capacity Evaluation

Nibley City performed an analysis and modeling of each critical subsystem contained within its collection system in 2015. Subsystems are segregated based on the branching of the collection system. Trunk lines and collector lines are evaluated until the system reaches a point where less than 400 residential dwelling unit equivalents (RE) are upstream of that point in the system. The 400 RE point was chosen based on the minimum slope requirements of the State of Utah. An 8-inch pipe constructed on minimum slope will carry the flow from 400 RE based on 3.2 persons per dwelling unit, 75 gpcd and a peaking factor of 4. The RE equivalent is based typical Utah information and assumes the peaking factor will account for a reasonable amount of inflow and infiltration. If an area is known to have, or flow metering identifies, a significant amount of inflow and infiltration, additional evaluation will be needed. In these areas the capacity of an 8-inch pipe system may be significantly reduced below 400 RE.

B. Flow Monitoring

Flows are continuously monitored at the Hansen Lift Station, which is the end of the Nibley City Collection System. Flow monitoring at this location will play a key role in identifying the scale of I&I issue. This can be accomplished by observing and periodically comparing the current nighttime flows to historical nighttime flows. An increase in the night time flow from the historical flows indicates that more I&I is occurring. Through inspection and maintenance of the system, Nibley City will work to maintain and reduce if possible the current levels of nighttime flow, limiting, to the extent possible, I&I, maximizing the capacity of existing system pipes, and minimizing the power costs to pump waste water.

Monitoring system locations other than the Hansen Lift Station, will require Nibley City to rent the equipment and/or contract with an outside entity to conduct the flow monitoring.

C. Surcharge or SSO Condition

Evaluation of a surcharge or SSO may result in multiple conclusions, some of which may require further action. Possible conclusions and their further action are listed below. This list is not inclusive nor does it require the specific action detailed. These are given as possible examples and will be used by the Public Works

Director to determine correct future action.

i. Flow Reduction Evaluation

Should excessive flows be identified during the surcharge analysis, the solution may be to proceed with an inflow and infiltration study with the ultimate goal of reducing flows. These flow reductions may be achieved by reconstruction of specific areas, internal spot repairs, removing illegal storm water or sump pump connections from homes or storm water systems, and system grouting. Tools used in flow reduction may include extensive in line camera inspection, dye testing, and increased inspection or flow monitoring.

ii. Foreign Objects or Obstructions

There are multiple foreign objects which may be found in sewers. These may include objects knocked into sewers during construction, objects illegally placed in sewer manholes, roots, grease and soaps, bellies in piping systems, etc. Each of these problems should be found during the investigation of a surcharge condition or SSO and a plan developed to ensure the problem does not reoccur. Types of action may include increased cleaning frequency, spot repairs, greater pretreatment activity, lining of pipes, and other corrective actions which resolve the problem.

iii. Allowable Surcharging

Some piping systems may be able to accept surcharges without creating problems. Such systems may be deep and surcharging occurs below the level of basements or manhole rims, or they may be in areas where there are no connections. In such cases the resolution of the observed surcharge may just be additional monitoring.

D. Revised System Modeling

Where piping system problems cannot be resolved in a less expensive way, the system may be further modeled to determine upgrade needs. Modeling should include known flow information and future projections. Since the system has been shown to have problems, further modeling should be more conservative in flow projections. Revised modeling should follow the guides given next.

E. Re-evaluation Modeling and Analysis

Nibley City sewer system modeling will be conducted by the City Engineer.

Modeling will be comprehensive and include all potential flow sources. While the current area zoning and land use planning should be used in the model development, care should be taken to discuss possible changes with appropriate officials. Where possible zoning changes appear likely, the model should be re-run with the revised zoning alternatives. Once a resolution has been selected, the resulting project should be placed on the capital improvement plan (CIP).

F. Capacity Increase Evaluation and Implementation

When the system requires additional capacity, the project will be engineered for expansion by qualified staff or engineering consultants. Project design should be based on acceptable engineering standards and should comply with State of Utah regulations found in R317-3. Easements should be obtained, where needed and the design should include an analysis of other utilities in the vicinity. Design review should be done by the applicable regulatory agency, as appropriate. A design report should be prepared for each project. Where appropriate, the subsystem modeling may be substituted for the design report.

Finalized projects should be placed on the CIP.

G. System Improvement Prioritization

The priority for improvement should follow the following general guidelines:

i. High Priority Projects

When there is significant potential for sanitary sewer overflows, or frequent basement backups, the improvement should be considered a high priority and any available budget should be allocated to the project.

ii. Medium Priority Projects

Where the problem is infrequent and the possibility exists that it may not repeat in the near future, the priority for correction is medium. Medium priority projects may be delayed until appropriate budget is available or the priority is adjusted to high priority. Should an SSO or basement backup repeat in the same area, the priority should be immediately revised.

iii. Low Priority Projects

If the observed problem is infrequent, there is possibility that it may not repeat in the near future and the possibility that increased flow in the subsystem is

low, the correct priority is low. Low priority projects will be placed in the budget process and evaluated against other needs. These projects will eventually be completed, but the work is not prioritized above plant and equipment needs.

H. Capital Improvement Plan

The CIP is part of Nibley City's budgeting process to ensure sufficient revenue to address identified weaknesses in the sanitary sewer system. Items which have been identified as needing a structural fix are placed on the CIP list and the cost for each estimated. Sources of funding should be identified for all high priority projects so that SSOs or other failures do not re-occur. Forecasts of available funding for medium and low priority projects should be made to facilitate future revenue needs.

12. SSMP Monitoring and Measurement Plan

The purpose of a SSMP Monitoring and Measurement Plan is to provide appropriate monitoring and measurement of the effectiveness of the SSMP in its entirety.

Nibley City intends to maintain appropriate records of operations and maintenance of the sanitary sewer system to validate compliance with this SSMP. However, failure to meet standards set by State DWQ or other regulatory agencies during an inspection does not constitute a violation of the SSMP. Rather, deficiencies identified during inspections should be viewed as an opportunity for improvement.

Operations records that should be maintained include the following:

1. Cleaning
2. CCTV inspection
3. Manhole inspection
4. "Hot spot" maintenance
5. Spot repairs
6. Major repairs
7. System capacity information
8. SSO or basement backup records
9. Notification of agencies
10. Capital Improvement Plan

Records will be maintained by the Sewer Division Manager in a central location. Records may be maintained either on an electronic record or as a paper record. The extent of the record should be sufficient to demonstrate the activity recorded was completed appropriately.

Periodically, but not less than annually, Nibley City should assess and audit the effectiveness of the elements of this SSMP. All elements should be reviewed for effectiveness as well as all records should be reviewed for completeness. An internal audit report should be prepared preferably annually but no less than once every five years which comments on the following:

1. Success of the operations and maintenance program
2. Success of other SSMP elements
3. Adequacy of the SECAP evaluations
4. Discussion of SSOs and the effectiveness of the response to the event including corrective action
5. Review of Defect reports and adequacy of response to eliminate such defects
6. Opportunities for improvement in the SSMP or in SSO response and remediation

The annual audit report need not be extensive or long. It should, however be sufficient to document compliance with the standards set in the SSMP. The audit reports should be maintained in accordance with the Nibley City's records retention schedule.

When a plan deficiency is identified though an audit, inspection or plan review, and the deficiency requires an SSMP update, the plan may be updated at the discretion of the Sewer Division Manager. SSMP updates should be recorded in a revision index maintained by the Sewer Division Manager.

At least annually in the internal audit and more frequently as needed, Nibley City will evaluate SSO trends based on frequency, location and volume. Trend evaluation will be empirical unless a large number occur sufficient to make a statistical analysis viable. If a trend is identified, a corrective action may be appropriate.

Nibley City will reach out to the public about the development, implementation and performance of the SSMP. This communication may be accomplished by any of the following methods:

1. Public hearings
2. Public meetings
3. Newsletters
4. Direct mailing
5. Leaflets
6. Other effective methods

Nibley City will accept comments, either written or verbal and will review such comments for applicability. Public interest may be difficult to generate, but should be sought, nonetheless.

13. Sanitary Sewer System Mapping

Mapping is done in a Geographical Information System (GIS) and is maintained by the City Engineer. Upon completion of a subdivision by a developer, or a project by the City, the City Engineer will incorporate the infrastructure constructed into the GIS.

14. Basement Backup Program

Basement backups are a serious impact on a home or business owner. As such, all reasonable efforts should be taken to prevent such backups from occurring. Sewer system backups are the result of several system problems. Such problems include any one or a combination of the following:

1. Laterals serving real properties are owned by the property owner and lateral maintenance is their responsibility. Roots, low points, structural failure, and grease are primary problems lateral owners face.

2. Backups caused by main line plugs are usually caused by roots, grease, low points, foreign objects and contractor negligence.

3. Piping system structural damage may cause basement backups. Such structural problems include age or deterioration damage, installation damage, excavation damage and trench-less technology damage.

4. Excess flow problems may surcharge a piping system and cause backups into homes. Excess flows usually occur when major storm waters inflow into sanitary sewers. Sanitary sewers are not designed for such flow. In addition, some homeowners may illegally connect foundation drains and

sump pumps to the sanitary sewer system.

Basement Backup Response

When Nibley City is notified about a basement backup, staff will log the complaint in the City work order system, and dispatch a crew to investigate immediately. All backup complaints shall be investigated by staff. Upstream and downstream manholes will be inspected to determine if the backup is occurring in the mainline. Then, if possible, the City inspect the mainline via CCTV. If the investigation determines that the case of the backup is only in the lateral, staff will inform the property owner of their findings. However, per City policy, personnel are not allowed to advise individuals or entities on cleanup or repair of their facilities. The individual should seek out restoration service companies on their own.

When it is determined that the basement backup is the result of a mainline problem, Nibley City will follow the policy approved by its governing authority, which is that personnel are prohibited from giving advice concerning the problem. Personnel can give a copy of Nibley's document entitled "Sewer backed Up? Here's What to Do" included in Apendix A. Nibley City does not accept liability nor does it waive its governmental immunity. If the owner feels that they need to make a claim against the City, they may file their claim at City Hall.

Backup Prevention Design Standard

Nibley City promotes system designs which minimize backups and ensure proper operations. To this end Nibley City has a design standard for all system construction. In addition, Nibley City complies with state design standards contained in R317-3.

16. Policy on the Installation of Back Flow Valves

Reference Regulatory Documents:

The following regulations are referenced in the establishment of this policy:

- Utah Code Title 15A-2-103(c). This code section adopts the 2009 edition of the International Plumbing Code.
- The 2009 International Plumbing Code, section 715 Sewage Backflow.

Nibley City Policy:

- The State of Utah has adopted the International Plumbing Code(IPC) as its plumbing building standard;
- Nibley City use the IPC as their statute for plumbing construction and installation;
- And the IPC requires the installation of a sewage backwater valve “where the overflow rim of the lowest plumbing fixtures are below the next upstream manhole in the public sewer.”

Therefore, for new construction, Nibley City requires the installation of backwater valves as stipulated by the IPC already propagated for all new construction.

Appendix A

1. SSO Notification Form
2. Sewer Defect Report Form
3. Lift Station Inspection Form
4. Sewer Backed Up? Here's what to do

SSO Notification Form

Location of SSO:_____ Date:_____

Agency	Phone Number	Contact Made Yes/No	Time	Remarks
Utah DWQ	801-536-4300 or 801-231-1769			
Bear River Health Dept.	435-792-6500			
Utah DERR	801-536-4123			
Local Police Department	435-753-7555			
Local Fire Agency	435-755-1670			
US EPA Region VIII	Consult with DWQ			

Other Contacts:

Contact Made With	Phone Number	Contact Made Yes/No	Time	Remarks

_____

Sewer Division Manager Date

Sewer Defect Report Form

Location of SSO:_____ Date:_____

Identified By:_____

Description:

Urgency of Needed Corrective Action:

- ❑ Immediate Action Required
- ❑ Repair or Correct Soon
- ❑ Problem Stable
- ❑ No Immediate Action Needed

Recommended Remedial Action:

_____

Sewer Division Manager Date

Hansen Lift Station Inspection

Inspector:_____ Date:_____

Inspector:_____

Flow Total:_____

Wet Well Room

- Retractable leash in proper working order
- Harness safety inspection
- Wet well washed down
- No excessive grease build up
- No large objects

Control Room:

General:

- Floors swept and clean
- No garbage
- No excessive dust
- No alarm lights

Generator:

- Proper Oil Level
- No excessive oil leaks
- Fuel lines in good condition
- Fuel level above 1/2
- Check run times to ensure

Sewer Backed Up? Here's what to do:

If a Backup Occurs:

First take action to protect people and valuable property. Call Nibley City at 752-0431 and as a service we will check the main sewer line. Any blockages found in the main lines will be promptly cleared. If the main line is not blocked, we recommend that you call a plumbing or sewer contractor to check your lateral line. Maintenance and repair of the lateral serving the home is the owners responsibility. Regardless of the location of the blockage, clean up of the home should be done as soon as possible to minimize damage and possible negative health effects. There are qualified local businesses that specialize in this type of clean up.

Backup Prevention:

Taking notice of what is flushed down toilets and sinks can prevent most backups. DO NOT flush the following materials (or similar items) down toilets/drains. These items can plug the main and cause damage to you and other property owners connected to the sewer.

- Large quantities of toilet paper
- Paper towels
- Feminine napkins (plastic applicators)
- Disposable diapers
- Clothing - socks, underwear, etc.…
- Plastic, metal, wood etc.…
- Large quantities of cereals or grains (they can swell with water)
- Live seeds, beans and peas (they may sprout)
- Grease, fats or oils
- Sand
- Fibrous materials (cotton balls, q-tips, baby wipes, hair rags, cigarette butts, etc.…)
- Sponges, scouring pads or shop rags.

Insurance:

Many homeowners' policies exclude sewer back ups but, this coverage often can be added. You should contact your insurance agent for details.