



# Hidden Valley Lake Community Services District

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Hidden Valley Lake, CA 95467  
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[www.hvicsd.org](http://www.hvicsd.org)

## Hidden Valley Lake Community Services District Finance Committee Meeting

**DATE:** November 20, 2017

**TIME:** 12:00 noon

**PLACE:** Hidden Valley Lake CSD  
Administration Office, Boardroom  
19400 Hartmann Road  
Hidden Valley Lake, CA

- 1) CALL TO ORDER
- 2) PLEDGE OF ALLEGIANCE
- 3) ROLL CALL
- 4) APPROVAL OF AGENDA
- 5) REVIEW AND DISCUSS A RECOMMENDATION TO THE BOARD FOR SEWER SYSTEM FLOW METER EXPENDITURES FOR THE I&I STUDY
- 6) REVIEW AND DISCUSS BEST ACCOUNTING PRACTICES
- 7) REVIEW AND DISCUSS PROPOSAL TO THE BOARD OF DIRECTORS FOR MAKING RECONCILIATION REVIEW A PART OF THE FINANCE COMMITTEE DUTIES
- 8) PUBLIC COMMENT
- 9) ADJOURNMENT

Public records are available upon request. Board packets are posted on our website at [www.hvicsd.org/meeting](http://www.hvicsd.org/meeting).

In compliance with the Americans with Disabilities Act, if you need special accommodations to participate in or attend the meeting, please contact the District Office at 707-987-9201 at least 48 hours prior to the scheduled meeting.

Public shall be given the opportunity to comment on each agenda item before the Governing Board acts on that item, G.C. 54953.3. All other comments will be taken under Public Comment

**ACTION OF  
HIDDEN VALLEY LAKE COMMUNITY SERVICES DISTRICT**

**DATE:** 11/20/2017

**AGENDA ITEM:** Review and Discuss a recommendation to the Board for sewer system flow meter expenditures.

**RECOMMENDATIONS:** Develop a board recommendation for the most cost-effective flow metering solution.

**FINANCIAL IMPACT:**

V & A Full service install, rental and report:	\$34,850.00
Telstar rental only:	\$34,400.00
Rain for Rent install & rental:	\$18,438.50
Clipper Controls rental only:	\$12,063.00 (3 months)

**BACKGROUND:** In the RWQCB’s most recent NOV letter (7/11/17), the District was asked to have an I/I Workplan developed and delivered to the RWQCB by 10/1/2017. This workplan was delivered on time, and addressed 8 separate tasks identified in the NOV letter. Section 2.5.3, pg. 8 of the I/I Workplan specifically discusses flow monitoring activities;

*“Flow monitoring is planned for the 2017/2018 wet weather season. This effort can also set the performance baseline for I/I removed by improvement projects. Flow monitoring is planned to be conducted after the ground is saturated to provide a better correlation between measured flows and synthesized design storm hydrographs. This effort is intended to quantify the peak flow and total volume of flow from various sub-basins within the collection system associated with a design storm event. For example, flow monitoring will be scheduled to overlap with anticipated rainfall events. The flow meter data will then be evaluated to scale the measured flows to a 10-year, 24hour duration design storm hydrograph.”*

APPROVED  
AS RECOMMENDED

OTHER  
(SEE BELOW)

Modification to recommendation and/or other actions:

I, Kirk Cloyd, Secretary to the Board, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular board meeting thereof held on November 20, 2017 by the following vote:

- Ayes:
- Noes:
- Abstain:
- Absent:

Secretary to the Board



RECEIVED  
JUL 13 2017



EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**Central Valley Regional Water Quality Control Board**

11 July 2017

Rodney Wood  
Hidden Valley Lake Association  
18174 Hidden Valley Road  
Middletown, CA 95461

Kirk Cloyd  
Hidden Valley Lake  
Community Services District  
19400 Hartman Road  
Middletown, CA 95461

**REVIEW OF RESPONSE TO 12 APRIL 2017 NOTICE OF VIOLATION, HIDDEN VALLEY LAKE WATER RECLAMATION FACILITY, LAKE COUNTY**

Hidden Valley Lake Water Reclamation Facility is owned and operated by Hidden Valley Lake Community Services District and Hidden Valley Lake Association (Dischargers). The facility is regulated by the Central Valley Regional Water Board under Waste Discharge Requirements (WDRs) Order 5-00-019 and revised Monitoring and Reporting Program (MRP) 5-00-019.

Board staff has reviewed your 31 May 2017 response to Board staff's 12 April 2017 Notice of Violation (NOV) and has the following comments.

- The water balance included in the report indicates that based on 100-year annual precipitation values and using 2016/2017 flow data that the Wastewater Treatment Plant is appropriately sized. However, because the water balance is based only on flow data for six months (November through April), the water balance is incomplete. Therefore, a revised water balance needs to be submitted based on influent flow data for the period of 1 October 2016 through 30 September 2017. Board understands that at the time of your 31 May 2017 submittal that influent flow data after April 2017 was not available.
- The water balance was based on flow data calculated using pump run times, but the revised MRP states that the process wastewater flow monitoring shall be conducted continuously using a flow meter. Therefore, an influent flow meter needs to be installed to accurately measure flows to the treatment plant.
- The water balance used a flow of 0.68 million gallons per day (mgd) based on the treatment plant operator's experience. However, the WDRs state that the maximum wet weather discharge from the treatment plant shall not exceed 0.894 mgd, which is the design peak wet weather flow. Therefore, revised water balances using flows of 0.68 mgd and 0.894 mgd need to be prepared to ensure adequate storage capacity to comply with the WDRs.

- The report indicates that in addition to inflow/infiltration (I/I) into the collection system that the Equalization (EQ) Basin overflow into the wastewater storage reservoir was caused by high sludge blankets in the clarifier resulting in excess wastewater backing up at the EQ Basin. To prevent re-occurrence, the report indicates that the Standard Operation Procedures (SOPs) for the WWTF will be reviewed, and that a minimum sludge blanket at the treatment plant be maintained. As part of your review, please provide specific written changes to the SOPs that will be implemented at the treatment plant to ensure that future overflows from the EQ Basin do not occur.
- The report provides general recommendations to address the high levels of I/I in the collection system which include:
  - Modifying or replacing cleanouts and manhole lids susceptible to inflow so they cannot be removed by the residents.
  - Conducting a wet weather study to identify peak flows within the collection system. This would include comparing previous video sewer inspection results to current results.
  - Conducting flow monitoring in known or suspected areas with high I/I rates, and identifying and addressing sources of I/I. This work is to be completed by the 2017/2018 wet weather season.
  - Conducting post construction flow monitoring to measure the success of the I/I reductions. This work is to be completed during the 2017/18 wet weather season.
  - Updating relevant sections in the Sewer System Management Plan regarding hydraulic capacity and wet weather flows. This is to be completed by June 2019.
  - Completing the update to the District's workplan and timeline to account for flow monitoring and planned growth. This is to be completed by June 2020.

The report also states that following completion of the I/I improvements and the post construction flow monitoring that the volume of the EQ Basin will be re-evaluated to determine if it needs to be increased.

Because the report only provides general recommendations regarding I/I issues, an *I/I Assessment Workplan* needs to be prepared. The workplan shall provide specific tasks necessary to evaluate the I/I issues within the collection system, and include a schedule to complete the work to reduce the I/I, and prevent future spills.

### **Submittal Request**

To address the above comments, please submit the following information:

- **By 1 September 2017**, a report certifying that the flow meter located after the EQ Basin has been repaired and calibrated.

- By **1 September 2017**, a copy of the Standard Operation Procedures that includes measures being implemented to ensure that the treatment facility is being operated such that a minimum sludge blanket is maintained to accommodate peak wastewater flows.
- By **1 October 2017**, an *I/I Assessment Workplan* that includes the following: (1) measures to identify and quantify the I/I sources using information pertaining to the overflows from the collection system, (2) an evaluation of cost effective measures to reduce the I/I, (3) a description of how identified repairs and any sewer line replacements will be implemented and the timing for the work, and (4) an identification of the types of repairs that should be done in the field without further evaluation. The workplan shall also (5) describe methods (i.e., smoke testing, video surveying, manhole surveying, etc.) that will be used to provide an assessment of those segments of the collection system known to exhibit significant I/I, (6) describe those portions of the collection system that are in need of immediate repair, (7) include a proposed schedule for completing the necessary repairs and submitting an *Inflow and Infiltration Assessment Report* that describes results of the I/I evaluation of the collection system, and (8) describes the repairs that were completed to reduce I/I.
- By **1 November 2017**, a report showing that an influent flow meter has been installed at Lift Station 1, and has been calibrated.
- By **1 November 2017**, a revised *Water Balance Report* using influent flows for the period of 1 October 2016 through 30 September 2017, and wet weather discharge flows from the treatment plant of 0.68 mgd and 0.894 mgd. The revised *Water Balance Report* shall also include the information described in Attachment A.

The *I/I Assessment Workplan* and revised *Water Balance Report* must be prepared by, and signed/stamped by, a California Professional Engineer.

The requested submittals shall be converted to a searchable Portable Document Format (PDF) and e-mailed to [centralvalleysacramento@waterboards.ca.gov](mailto:centralvalleysacramento@waterboards.ca.gov). The e-mail shall contain the following: (a) Hidden Valley Lake Community Services District, (b) Hidden Valley Lake Water Reclamation Facility, (c) Title and Date of the Report, and (d) CIWQS Place ID No. 230282. Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to our office, attention "ECM Mailroom.

If you have questions, please contact me at (916) 464-4648 or at [guy.childs@waterboards.ca.gov](mailto:guy.childs@waterboards.ca.gov).



GUY CHILDS, P.G.  
Engineering Geologist  
WDRs Compliance and Enforcement Unit

Encl and cc: see next page

Encl: Attachment A - Requirements for Water Balance Update and Calibration

cc: Ray Ruminski, Lake County Environmental Health Department, Lakeport

gjc: 11 July-17



# **Hidden Valley Lake Community Services District**

## **Infiltration and Inflow Assessment Work Plan**

**GHD** | 2235 Mercury Way Suite 150 Santa Rosa California 95407  
11136993 | September 2017







# Infiltration and Inflow Assessment Work Plan

Hidden Valley Lake Community Services District

Project No. 11136993

**Prepared for:**

Hidden Valley Lake C.S.D.  
19400 Hartmann Rd  
Hidden Valley Lake, CA 95467

**Prepared by:**

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Luke Philbert, E.I.T.  
Project Engineer

**Reviewed by:**

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Matt Winkelman, P.E.  
Senior Project Manager, Associate



2235 Mercury Way, Suite 150  
Santa Rosa, CA 95407  
(707) 523-1010

September 2017



*This Infiltration and Inflow Assessment Work Plan (“report”) has been prepared by GHD for the Hidden Valley Lake Community Services District (the District) and may only be copied to, used by, or relied on by the District for the purpose agreed upon between GHD and the District.*

*GHD otherwise expressly disclaims responsibility to any person other than the District arising from or in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered, information reviewed, and assumptions made by GHD at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions, and any recommendations in this report are based on assumptions made by GHD described in this report. GHD expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with any of the Assumptions being incorrect.*

*GHD has prepared this report on the basis of information provided by the District and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.*

*GHD has prepared the preliminary opinions of probable project costs using information reasonably available to the GHD.*



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# Appendices

Appendix A – Infiltration and Inflow Targets Map

Appendix B – CCTV Records



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# 1. Introduction

The following provides an Infiltration and Inflow Assessment Work Plan (I/I Work Plan) in response to events beginning on January 8 and 10, 2017, when the Central Valley Regional Water Quality Control Board (CVRWQCB; Water Board) staff was notified of three raw sewage spills (OES Control Nos. 17-0159, 17-0160, and 17-0297) from the Hidden Valley Lake Community Services District (HVLCS D; District). In follow-up to the notifications, the District submitted a spill response report on January 19, 2017 and an update to the report on March 29, 2017.

The Water Board submitted a **Notice of Violation for Sewage Spills** letter dated April 12, 2017 (April 2017 NOV) for HVLCS D. To comply with requirements set in the April 2017 NOV, the District prepared a report that included an evaluation of the potential expansion of the Equalization (EQ) Basin at the wastewater treatment plant (WWTP) to provide additional capacity that would accommodate the following: WWTP influent flows from the 2016/17 wet weather season; 100-year annual precipitation data; and other contributions such as inflow and infiltration (I/I) from the sewer collection system. This report was submitted on May 31, 2017.

The Water Board submitted a **Review of Response to April 12, 2017 Notice of Violation** letter dated July 11, 2017 for HVLCS D. The Water Board requested specific tasks necessary to evaluate known or suspected I/I issues within the collection system, with eight points of discussion as part of an I/I Work Plan. The purpose of evaluating I/I issues is to characterize the opportunities and challenges within the sewer collection to reduce the quantity of I/I that resulted in the January 2017 raw sewage spills. This document provides a response to these eight points in compliance with requirements set by the April 2017 Review of Response. The eight requirements are discussed in Sections 2.1 – 2.8.

# 2. I/I Assessment Work Plan

This section provides a summary of the activities associated with addressing the eight points noted in the July 2017 CVRWQCB letter. The section is organized around the presentation of these points, and as such, there is some overlap in I/I Work Plan activities between the different subsections. In general, the focus of the I/I Workplan is to define investigation and renewal and replacement (R&R) activities that would reduce I/I through planned projects during the 2017/18 wet weather season and 2018 construction season. Subsequent to those activities, and dependent on the availability of funding, the District would either conduct post-construction investigation activities during the 2018/19 wet weather season or continue R&R activities into the 2019 construction season and delay the post-construction activities by one year.

Investigation and R&R activities noted in this I/I Workplan are based on information that is currently available and are subject to change depending on the results of the 2017/18 wet weather season investigation activities (i.e., prioritization of projects and funding availability).



## 2.1 Measures to identify and quantify the I/I Sources using information pertaining to the overflows from the collection system.

Currently, HVLCSD has run hours for the pump stations, and can generally compare pumped flows in wet years to dry years based on calculating flow from pump curves. To further pinpoint where I/I occurs in the sewer collection system, HVLCSD will measure flow at key locations and times. This is planned to occur using methods described in Section 2.5, including flow monitoring and nighttime I/I reconnaissance activities. Information pertaining to sanitary sewer overflows (SSOs) from the sewer collection system is as follows.

### 2.1.1 Miksis Exploratory Work

On February 9, 2017, HVLCSD contracted with Miksis Services Inc. (Miksis) to clean, televise (CCTV), and locate multiple runs of various diameter sewer mains and laterals experiencing high levels of I/I (i.e., “hot” areas within the sewer collection system), including: the sewer line between Hawks Hill Road and Kentwood Place, Green Ridge Road, and Deer Hill Road. HVLCSD staff will use the CCTV records during the 2017/18 wet weather season investigation to further pinpoint areas of high I/I.

### 2.1.2 Hauled Wastewater during the Winter 2016/17 Storm Events

In an effort to prevent a wet weather SSO within the sewer collection system during the January 8 to 10, 2017 storm event, the District utilized pumper trucks to extract water from the sewer collection system and transport it into the WWTP at the EQ Basin. This volume was reported to be approximately 700,000 gallons from vendor costs. The wastewater was pumped out of the sewer collection system at Lift Station 5 and Lift Station 1 and nearby manholes, and hauled to the EQ Basin. HVLCSD does not have documentation regarding the amount taken out at each location.

From January 10 to February 23, 2017, pumper trucks took approximately 2.8 million gallons of wastewater out of the EQ Basin, hauling to a treatment plant in Clear Lake, approximately 20 minutes away.

### 2.1.3 Information from Waste Discharge Requirements

The following information comes from the HVLCSD spill response report on January 19, 2017. It is important to note that the substantial rains during the 2016/17 wet weather season resulted in the first SSOs within the HVLCSD sewer collection system in several years. Due to proactive operation and maintenance (O&M) activities and existing capacity within the sewer collection system, SSOs are not common for HVLCSD.

- From 1/7/17 – 1/11/17, a storm event deposited 13.59” of rain that compounded with runoff from Valley Fire burn scars at higher elevations. During this time, two manholes and two private lateral cleanouts overflowed.
- Manhole Overflow
  - Manhole #1 – at 18805 North Shore Drive
  - Manhole #2 – at corner of 18550 Brookfield Road and North Shore Drive
  - Manholes 1 and 2 had an estimated 16,155 gallons of overflow on 1/8/2017. Time of Spill – 7:59 AM. Contained at 2:30 PM. Time of overflow is 4.52 hrs. Calculated overflow is 60 gpm.



- Manhole 1 – at 18805 North Shore Drive – approximately 1,500 gallons on 1/10/17. Time of Spill – 5:30 PM. Contained at 6:00 PM. Time of overflow is .5 hrs. Calculated overflow is 50 gpm.
- Cleanout Overflow
  - Cleanout 1 – 19666 Mountain Meadow South
  - Cleanout 2 – 19683 Mountain Meadow South
  - Cleanout 1 & 2 totaled 39,990 gallons on 1/8/2017. Time of Spill – 9:45 AM. Contained at 3:30 PM. Time of overflow is 5.75 hrs. Overflow is 116 gpm.

#### 2.1.4 Calculations from Mainline Cleanout Flows

As mentioned in Section 2.4.1, there were two mainline cleanout lids pulled during the 2016/17 rain events. The flow rates can also be calculated by the amount of ponded water that can physically flow through a 6 inch pipe. The District will use ponding depths from the CCTV documentation to calculate flow rates and volumes.

## 2.2 An evaluation of cost effective measures to reduce the I/I

HVLCSD does not have a capacity-based history of SSOs. HVLCSD conducts grease monitoring and mitigation every week and does routine root monitoring. HVLCSD will especially act on monitoring before predicted storms.

Targeting inflow over infiltration is typically more cost-effective and efficient in reducing peak flows into the sewer collection system. HVLCSD pointed out areas of known inflow due to residents pulling caps to sewer cleanouts in order to drain flooded areas. These specific known areas are discussed in detail in Section 2.4.

If further repairs are needed to reduce infiltration, HVLCSD staff was impressed with work done by Miksis at North Shore Road, and would like to have Miksis conduct additional CCTV inspections and complete repairs in areas of known I/I. Unless there is rehabilitation of pipelines, whether it is cracks, offset joints, etc., there may not be impact on infiltration reduction.

## 2.3 A description of how identified repairs and any sewer line replacements will be implemented and timing for the work.

A schedule is given in Section 2.7.

The following is a priority list that can be used for discussion with the Water Board as the budget is updated during the 2017/18 fiscal year and beyond.

- 1) Inflow Repairs (See Section 2.4.1) will be implemented as soon as possible.
- 2) Infiltration Repairs in known areas (See Section 2.4.2) will occur after inflow repairs and depending on information gathered from methods of I/I monitoring (See Section 2.5).
- 3) R&R projects may need to occur if cost effective repairs have been implemented, and there are still I/I issues that need to be addressed. Possible work includes trenchless rehabilitation of mains, laterals (public and/or private), and/or manholes; and/or open cut replacement.

HVLCSD will need to focus the majority of its current sewer budget on the I/I Assessment Report for Fiscal Year 2017/18, and will use the information from the report to justify an increase in funds for R&R projects.



## 2.4 An identification of the types of repairs that should be done in the field without further evaluation.

### 2.4.1 Inflow

HVLCSD mentioned the following areas where District-owned mainline cleanout lids were opened by residents in order to drain their flooded property:

- 1) Fishhook Road – 6” mainline cleanout
- 2) Gold Flat Court – 6” mainline cleanout

HVLCSD also noted the following areas where residents used their own sewer cleanouts as drains:

- 1) Mountain Meadow South – 2 pulled plugs (lateral cleanouts)
- 2) Spyglass Road – A resident was pumping flooded water from their basement into the sewer cleanout
- 3) Fishhook Road – a couple of lateral cleanouts
- 4) Deerhill Road – a couple of lateral cleanouts
- 5) Gold Flat Court – a few laterals

HVLCSD has expressed that immediate modifications can be made to sewer cleanouts to restrict surface water inflow. They plan to seal the caps immediately. This will have the largest effect on the system at the lowest cost, and an inspection and maintenance schedule is important to insure that they are not removed again. The District may consider an enforcement ordinance to act as a deterrent. Even so, resealing the caps will be at a low cost.

HVLCSD owns the mainline cleanouts and owns laterals up to ten feet from the property line of private property. HVLCSD does not need a right of entry (ROE) for residential cleanouts because of 10-foot utility easements.

If residential cleanouts are sealed off, there are potential drainage issues during the next big storm event. Though Lake County is officially responsible for drainage, the homeowners association have also taken responsibility. Since HVLCSD will be preventing stormwater from entering the sewer, they will need to let the homeowners association know in order to provide solutions to potential drainage issues and prevent further uncapping of sewer cleanouts.

HVLCSD can also disconnect known storm drain connections into the system (i.e., area drains, roof downspouts). This can be found through smoke testing (see Section 2.5.4).

### 2.4.2 Infiltration

Pipe segments known by HVLCSD to have I/I are as follows:

- Between Meadowview Drive and Deer Hill Road (See Appendix A). HVLCSD estimates wet weather flow through this section at 50 gpm.
- Between Hawks Hill and Kentwood Place (See Appendix A). HVLCSD estimates the wet weather flow at 70-80 gpm.

Further areas will be targeted based on information provided by I/I monitoring methods described in Section 2.5. It is important to note that there may be laterals on homeowner properties with





high infiltration. The District may spend money rehabilitating the main, the manhole, and even the connection to the lateral, and still may only get rid of half the I/I because of the segment on the homeowner's property (prediction for I/I reduction based on current industry data and experience).

## 2.5 Describe methods (i.e., smoke testing, video surveying, manhole surveying, etc.) that will be used to provide an assessment of those segments of the collection system known to exhibit significant I/I.

### 2.5.1 Closed Circuit Television Inspection (CCTV)

CCTV inspection occurred in the Spring of 2011. HVLCS D is currently in possession of this archive. This work was conducted during the wet weather season when groundwater was high, and the system experienced wet weather effects. The District contracted at that time with Coastland Engineering to develop an inventory of prioritized sections in June 2015. A repair code and legend identifies a number code for each segment, categorizing approximate costs for the following factors.

- 1) Reconstruct line
- 2) Root Cut &/or line
- 3) Point repair
- 4) Manhole repair
- 5) Cleanout repair
- 6) Clean pipe
- 7) Unable to video / re-video
- 8) No repair needed

Street names, upstream and downstream manhole numbers, pipe lengths, number of laterals, location stations, repair lengths, approximate costs, and general notes are included in this inventory (See Appendix B). It is assumed that the segments have experienced further I/I issues since Spring 2011. HVLCS D mentioned they would review the video archive and inventory to identify the segments that could be added to infiltration repairs on the priority list.

### 2.5.2 Daytime or Nighttime Field Reconnaissance

HVLCS D plans to conduct field reconnaissance to identify clear water flow in the sewer collection system. The time of day of field reconnaissance should be during a low point on the diurnal curve so that base flow is minimal. Nighttime reconnaissance is ideal for this effort; however, District staffing resources will need to be considered to balance this effort compared to other wet weather season activities. This work should be conducted during the wet season following at least a moderate rain event. It is good practice to do the work the following day, in order to view the sustained flows of infiltration rather than the peak flows from inflow.

For field reconnaissance, staff will typically go out when residential and commercial sewer flow is minimal. They will look inside the manholes to visualize not only infiltration at the manholes, but also the pipes where flow is coming through, and with knowledge of the amount of sewer line upstream, HVLCS D can make judgements about unusually high flow coming through sewer sub-basins. Staff can also approximate flow based on how much flow depth there is. If the manholes are too deep for visual depths from the surface, there are companies that will drop into the manhole and do an instantaneous measurement of depth, either with an inflated plug with a weir



or a flow meter. It will be important to correlate field reconnaissance data with the flow meter data monitored after the 2017/18 storm events. Engagement of an outside contractor for confined space entry and direct measurement of clear water flows is not planned for the 2017/18 wet weather season, but may be incorporated into the 2018/19 wet weather season activities to further characterize the location and quantity of I/I within the sewer collection system.

### 2.5.3 Flow Monitoring in Known or Suspected Problem Areas

Flow monitoring is planned for the 2017/2018 wet weather season. This effort can also set the performance baseline for I/I removed by improvement projects. Flow monitoring is planned to be conducted after the ground is saturated to provide a better correlation between measured flows and synthesized design storm hydrographs. This effort is intended to quantify the peak flow and total volume of flow from various sub-basins within the collection system associated with a design storm event. For example, flow monitoring will be scheduled to overlap with anticipated rainfall events. The flow meter data will then be evaluated to scale the measured flows to a 10-year, 24-hour duration design storm hydrograph.

Locations for Suspected Problem Areas are as follows, and can be seen on the map (See Appendix A).

- 1) Upstream of Lift Station 3, to compare before and after flows with planned upgrades at Fishhook Road and Spyglass. (See Section 2.4.1)
- 2) Upstream of Lift Station 2, to compare before and after flows with planned upgrades at Mountain Meadow South and Gold Flat Court. (See Section 2.4.1)
- 3) Upstream of Lift Station 6, to compare before and after flows with planned upgrades between Meadowview Drive and Deer Hill Road. (See Section 2.4.2)
- 4) Upstream of Lift Station 5. to compare before and after flows with planned upgrades between Hawks Hill and Kentwood Place. (See Section 2.4.2)

Temporary flow monitoring has become more common than installing permanent meters. Buying the equipment, operating and maintaining can be a burden for the agency. Companies can install flow meters for as little as a week to as long as a few months, monitoring during wet weather conditions to compare rainfall to sewer flow. Results would be compared to a design storm event (likely a 10 year event at 4-5 inches of rain). Flow monitoring for all sub-basins with the District sewer collection system is not cost-practical, so the District plans to target the sub-basins with the highest known or suspected I/I contributions. Evaluation of flow monitoring results will be compared to measured flows at LS 1 to approximate flows from the portions of the sewer collection system that are not directly measured. Note – the District plans to complete the installation of a Parshall Flume for measuring flows directly upstream of the headworks ahead of the 2017/18 wet weather season.

### 2.5.4 Smoke Testing

Smoke testing would be conducted ideally during the dry season (late summer is preferable) to identify sources of inflow. During the 2016/17 winter storms, HVLCS staff looked through the sewer collection system to see where unusually high flows were occurring. It seemed to HVLCS staff that there may have been residents tapping into the collection system from rain gutters. Smoke testing may be effective in targeting connections into the sewer system from a storm drain or a roof leader. Smoke testing will not help target cleanouts drained during flooding. The District



will make the determination if smoke testing will be an effective means to identify sources of inflow following field work activities during the 2017/18 wet weather season.

## 2.6 Describe those portions of the collection system that are in need of immediate repair.

Section 2.4 describes inflow repairs that should be complete before the 2016/17 rain season. Section 2.4 also describes infiltration repairs that can occur when budget allows.

## 2.7 Include a proposed schedule for completing the necessary repairs and submitting an Infiltration and Inflow Assessment Report that describes results of the I/I evaluation of the collection system.

HVLCSD currently has a capital improvement plan for the 2017/18 fiscal year, as well as a repair and replacement program. The following schedule will be used for discussion with the Water Board as the budget is updated during the 2017/18 fiscal year and beyond. HVLCSD will have an organized library of information on services done for I/I, which will be useful in staying on track with their priority list.

### **Proposed Schedule**

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- Wet weather field assessments (See Section 2.5) will be performed during the 2017/2018 wet weather season.
- As soon as practical, HVLCSD will modify or replace cleanouts and manhole lids susceptible to inflow as a high priority. This is an inflow source with anticipated low cost to repair relative to reduction in I/I. HVLCSD will begin at known problem areas.
- HVLCSD currently has a template of an updated SSMP, and expects the updated SSMP to be finalized or adopted by Spring 2018.
- **An I/I Report at the completion of the wet weather field assessment will be implemented.** HVLCSD currently has ArcGIS resources and can update their mapping system to show sewer sub-basins and areas susceptible to I/I. Hydraulic modeling of a portion of the collection system may be appropriate to quantify wet weather impacts on the collection system and to determine R&R strategy. The model could also be used to quantify reduction in I/I resulting from completed projects, with comparison between pre- and post-construction flow monitoring results.
- Based on the I/I Report, design and implementation of the initial sewer collection system's R&R project(s) is anticipated to occur in 2018. Depending on the scope of the project(s), design should commence in early 2018 in order to facilitate summer/fall 2018 construction. This will depend on available funding, and may have to commence in July once the fiscal year begins, or be partially deferred to the 2019 dry weather season.
- Post construction flow monitoring and reporting should occur after construction, and though this will ideally occur during the 2018/19 wet weather season, it is dependent on the timing of projects, which is subject to funding (note: the NOV letter requires the post construction work to be completed in 2017/18, which appears to be in error).



## 2.8 Describes the repairs that were completed to reduce I/I.

After the January 2017 storm events, HVLCSD staff contracted with Miksis to rehabilitate 404-LF of 6-inch sanitary sewer by fold and form pipe rehabilitation (FFP) for approximately \$41,000. This was located between North Shore Drive and Deer Hill Road (See Appendix A). HVLCSD staff mentioned they saw approximately 200 gpm through the segment before repairs. After repairs, HVLCSD staff saw around 40 gpm. HVLCSD reported that an upstream natural spring drains into the lake through a drainage channel over the sewer line, and speculates that spring water may have fed into the sewer line due to cracks in this channel in conjunction with a separation in the sewer pipe. HVLCSD also mentioned that the lift station run hours diminished after repair work was done. Since this work was completed in 2017, the reduction in I/I cannot be directly measured during the planned flow monitoring effort during the 2017/18 wet weather season.

During the winter storms of 2016/17, the area near Little Beach at Lift Station 5 experienced I/I issues. There was still overland water flow, with a sewer manhole nearby at Deer Hollow, with an open pickhole that experienced inflow. Both the lift station leaks and manhole leaks were repaired by Miksis with gel grout and water plugs. Similar to the FFP repairs noted above, I/I reduction from this work cannot be directly measured since it is already completed.

Other repairs in February 2017 included repairing leaks at Lift Station 8, also known as the Hardesters Lift Station, and repairing leaks at a manhole at 18270 Spyglass, upstream of Lift Station 3. Both the lift station leaks and manhole leaks were repaired by Miksis with gel grout and water plugs.

HVLCSD is also currently installing a Parshall flume upstream of the headworks. This will monitor flow coming through the entire collection system, and will be connected through SCADA. The monitored flow can be compared to results from the 2017/18 field assessments.



# Appendices



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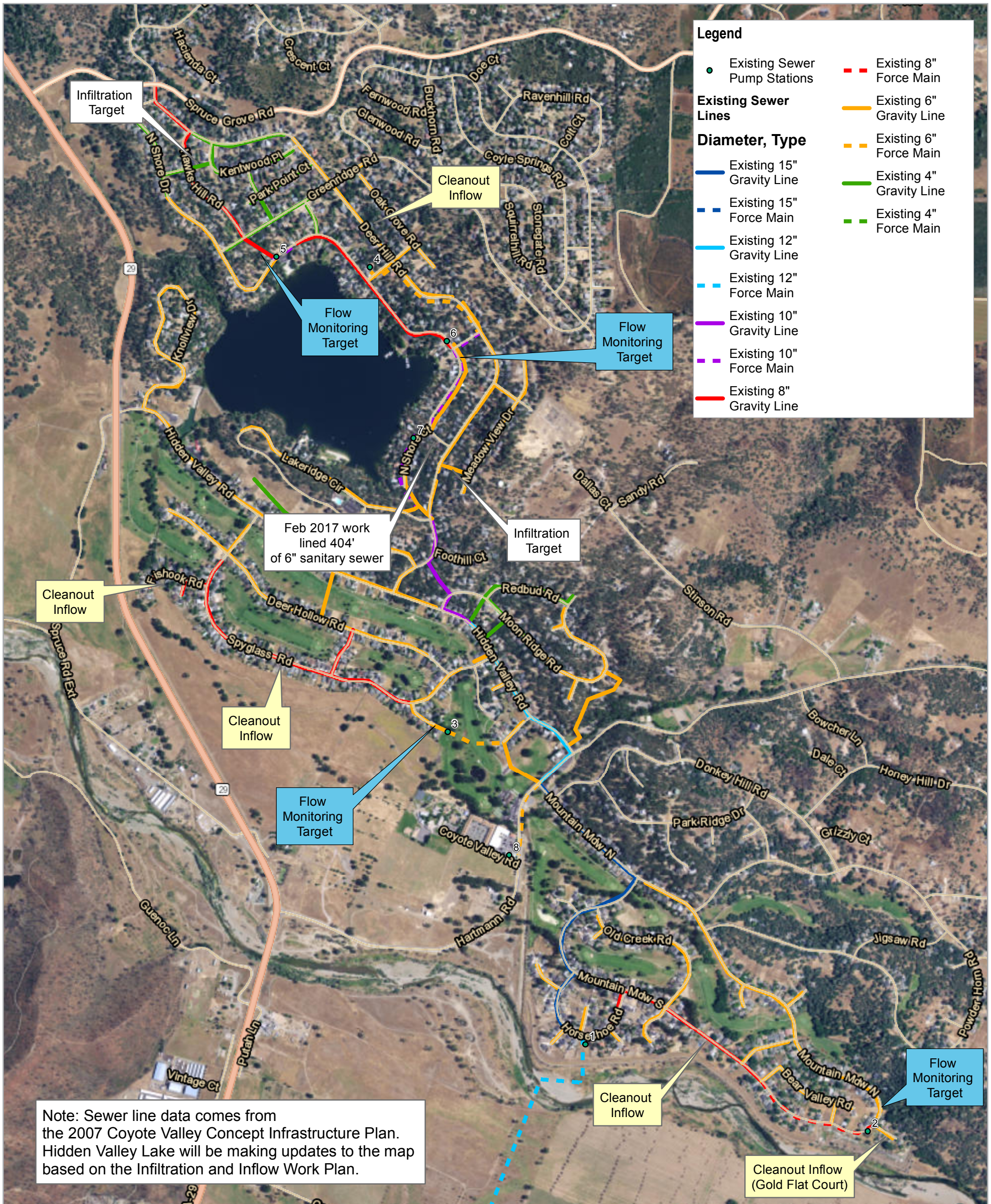


# Appendix A – Infiltration and Inflow Targets Map

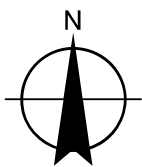
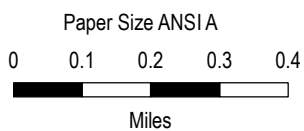


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Note: Sewer line data comes from the 2007 Coyote Valley Concept Infrastructure Plan. Hidden Valley Lake will be making updates to the map based on the Infiltration and Inflow Work Plan.



HIDDEN VALLEY LAKE C.S.D  
INFILTRATION AND INFLOW WORK PLAN

Project No. 11136993  
Revision No. -  
Date 09/26/2017

Map Projection: Mercator Auxiliary Sphere  
Horizontal Datum: WGS 1984  
Grid: WGS 1984 Web Mercator Auxiliary Sphere

INFILTRATION AND INFLOW TARGETS  
As funding is available



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## Appendix B – CCTV Records



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**Hidden Valley Lake Community Services District  
SEWER REPAIR INVENTORY - Prepared by Coastland Civil Engineering  
June 2015**

**Repair Code & Legend:**

- 1 - reconstruct line
- 2 - root cut &/or line
- 3 - point repair
- 4 - manhole repair
- 5 - cleanout repair
- 6 - clean pipe
- 7 - unable to video/re-video
- 8 - no repair needed
- \* = lower priority

Street	US Manhole	DS Manhole	Pipe Dia. (in.)	Pipe Length (ft.)	Existing Pipe Material	No. of Laterals	Location* Station	Repair* Code	Repair Length (ft)	Approx. Cost (\$)	Notes
MEADOW VIEW DR	C10-3	C10-2		335		9	116	3		\$ 4,000.00	JOINT OFFSET
							156	3		\$ 4,000.00	ROOTS 1%
MEADOW VIEW DR	C7-2	C7-1		393		9	63	3		\$ 4,000.00	ROOTS 10%
							139	3		\$ 4,000.00	ROOTS 5%
							185	3		\$ 4,000.00	ROOTS 90% IN LATERAL
MEADOW VIEW DR	C7-1	DEER		Est. 375		3	28	1	375	\$103,125.00	<b>COLLAPSED LINE, NO PASS, ROUGH TERRAIN @\$275/LF</b>
							126	3		\$ 4,000.00	HOLE IN PIPE, ROOTS
							139	3		\$ 4,000.00	JOINT CHIPPED EDGE
							104?	3		\$ 4,000.00	JOINT CHIPPED EDGE
							146	3		\$ 4,000.00	ROOTS 1%
							222	3		\$ 4,000.00	ROOTS 80%
							247	3		\$ 4,000.00	ROOTS 20%
							256	3		\$ 4,000.00	ROOTS 1%
							292	3		\$ 4,000.00	<b>ROOTS 60% NO PASS</b>
FIDDLERS DR	C10-1	C10		365		5	120	3		\$ 4,000.00	ROOTS 2%
DEER HILL RD	18649	MARINE		521		698	302	4		\$ 4,000.00	<b>MANHOLE PAVED OVER</b>
DEER HILL RD	C5	C4		247		6	66	3		\$ 4,000.00	HOLE IN PIPE, PATCHED
							209	3		\$ 4,000.00	ROOTS 40% IN LATERAL
							243	3		\$ 4,000.00	ROOTS 20% AT JOINT
							237	3		\$ 4,000.00	ROOTS 50%, STOPPED
DEER HILL RD	C7	C8		338		8	57	3		\$ 4,000.00	ROOTS 100% IN LATERAL
							62	3		\$ 4,000.00	ROOTS 40% IN LATERAL
							194	3		\$ 4,000.00	ROOTS 100% IN LATERAL
DEER HILL RD	C11	C10		403+		9	403	6		\$ 4,000.00	<b>GRAVEL - NO PASS</b>
DEER HILL RD	C12	C11		354		8	39	3		\$ 4,000.00	ROOTS 40% IN LATERAL
							54-70	1	16	\$ 1,600.00	<b>BELLY 60%</b>
							344	1	100	\$ 10,000.00	<b>BELLY 100%</b>
EAST RIDGE	C1	A15		261		3	119	3		\$ 4,000.00	ROOTS 20% AT JOINT
EAST RIDGE	A15	A14		217		1	0 - 122	1	122	\$ 12,200.00	<b>BELLY, UNDER WATER</b>
NORTH SHORE	A3	A2		490		13	VARIOUS	1	250	\$ 25,000.00	<b>BELLY 10% TO 50%</b>
NORTH SHORE	A4	A3		271		6	18	3		\$ 4,000.00	ROOTS 10%
							46	3		\$ 4,000.00	HOLE AT LATERAL
NORTH SHORE	A8	A7		302		3	VARIOUS	1	302	\$ 30,200.00	<b>BELLY 5% TO 100%</b>
NORTH SHORE	A9	A8		323		7	47	3		\$ 4,000.00	ROOTS 80% IN LATERAL
NORTH SHORE	A11	A10		179		5	20	3		\$ 4,000.00	ROOTS 80% IN LATERAL
							178	3		\$ 4,000.00	ROOTS 1% NEAR MH
NORTH SHORE	A16	A15		399		9	130 - 150	1	20	\$ 2,000.00	<b>BELLY 60%</b>
							392	3		\$ 4,000.00	HOLE
NORTH SHORE	A17	A16		292		6	19-130	1	111	\$ 11,100.00	<b>BELLY 80%</b>
NORTH SHORE	A18	A17		177		2	49 - 176	1	127	\$ 12,700.00	<b>BELLY 100%</b>
NORTH SHORE	A19	A18		116		2	37 - 45	1	8	\$ 800.00	<b>BELLY 40%</b>
							72 - 81	1	9	\$ 900.00	<b>BELLY 10%</b>
OAK GROVE	N+1	N+2		354		7	314	3		\$ 4,000.00	JOINT OFFSET
BROOKFIELD	GREEN	A18		309+		7	282	3		\$ 4,000.00	ROOTS 1%
GREENRIDGE	17664	HAWKS		423		8	249 - 362	1	113	\$ 11,300.00	<b>BELLY 50%</b>
NORTH SHORE	A23	A22		275		6	3	3		\$ 4,000.00	ROOTS 40%

\$356,925.00

- 1 - reconstruct (lf) 100
- 3 - point repair 4000
- 4 - mh repair 1000

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[www.ghd.com](http://www.ghd.com)





1000 Broadway  
Suite 320  
Oakland, CA 94607

510.903.6600 Tel  
510.903.6601 Fax  
vaengineering.com

V&A Project No. 17-0284

October 24, 2017

Matt Winkelman P.E.  
Senior Civil Engineer  
GHD  
2235 Mercury Way  
Santa Rosa, CA 95407

**Subject:** Hidden Valley Lake Community Services District: 2017/18 Wet Weather Open Channel Flow Monitoring Services, 4 Sites for 2 Months

Dear Mr. Winkelman,

It is our understanding that GHD is requesting V&A's services to perform flow monitoring at 4 sites for Hidden Valley Lake Community Services District (District) for two months. The purpose of this work is to provide wet weather flow monitoring data with capacity and inflow/infiltration analysis. The following is our detailed scope of work for the subject services.

## Scope of Work

### Task | Description

- 1. Document Review and Equipment Preparation:** V&A will review existing sanitary sewer plans and documentation in preparation for flow monitoring. V&A will provide desktop analysis (GIS, sewer plans, Google Earth, etc.) in order to verify suitability of primary and alternative manholes for installation of a flow meter. V&A will recommend the appropriate metering technology for the flow characteristics and hydraulic conditions. V&A will prepare flow monitoring equipment with associated personnel necessary for installing and removing the flow meters.
- 2. Flow Monitoring:** A V&A crew with a field truck and the necessary confined space, simple traffic control, and flow monitoring equipment will install, calibrate, and remove the flow meters. V&A shall be responsible for installation, calibration, and removal of the equipment for this project. Malfunction of meter operation will be documented and reported as soon as it is observed. V&A shall be prepared to extend or retract the duration of the flow monitoring period as required and directed by GHD and the District. For this project, 4 flow meters and 1 rain gauges will be installed for a period of 2 months.
- 3. Flow Monitoring Deliverable:** Following the flow monitoring activities, V&A will prepare a report documenting the flow monitoring results. V&A shall download and reduce flow monitoring data in 15-minute intervals into Excel format for data analysis and report preparation. The summary report will be in hardcopy and electronic format and will include the following information:
  - A summary of the flow monitoring equipment used
  - Location map with address, pipe size, manhole identifier number, flow channel condition, site schematics and photographs
  - Flow monitoring data with tabular outputs of depth, velocity and flow rate and hydrographs of depth, velocity and flow rates for the flow meter
  - Electronic copy of monitoring data provided in 15-minute time intervals
  - I/I Analysis: Average dry weather flow curves will be determined and rain dependent infiltration and inflow (RDI/I) response will be isolated during wet weather rainfall events. I/I analysis will include developing synthetic I&I hydrographs for each flow monitoring site and applying the synthetic hydrographs to a 10-year, 24-hour design storm.



V&A proposes to complete this work on a lump sum per unit cost basis, shown as follows:

Item	Cost
Flow monitoring at 4 sites for 2 months	\$34,850

If County or City permit fees are required (encroachment permit fees, traffic control plan permits, etc.), the cost of permits will be in addition to the stated costs for the flow monitoring. V&A assumes only simple traffic control set-ups (truck mounted light board and cones) will be required for this project. If complex traffic control set-ups requiring a traffic control contractor are deemed necessary, the costs of the traffic control contractor will be in addition to the stated costs for the flow monitoring.

Terms are Net 60 days. This fee is valid for 90 days from the date of this proposal. The scope of work was developed as a result of our discussion and represents our mutual understanding.

If unforeseen circumstances should arise which indicate that more work or more meters are required, we would provide a written estimate of additional cost. We will not proceed with work beyond the not to exceed figure without a written authorization from your office.

In the event of legislative actions by any level of government that impose any taxes, fees, or costs on V&A's services or other costs in connection with Work hereunder or compensation, such new taxes, fees, or costs shall be invoiced to and paid by the Client as a Reimbursable Expense. Should such taxes, fees, or costs be imposed, they shall be in addition to V&A's estimated total expenses.

We request that you carefully review this proposal to assure that we fully understand the scope of the work. We are prepared to begin work on your project upon receiving written approval, a Notice-to-Proceed, or purchase order.

On behalf of our staff and myself I would like to thank you for the opportunity to be of service to you, GHD and Hidden Valley Lake Community Services District. We look forward to working with you.

Sincerely,

**V&A Consulting Engineers, Inc.**



Oliver Pohl, P.E.  
Project Manager

Accepted: \_\_\_\_\_

GHD

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



**CONTROL SYSTEM INTEGRATION • INSTRUMENTATION SALES & SERVICE  
SCADA • PLC/HMI • Telemetry • Calibration • Maintenance**

November 30, 2017

Hidden Valley  
**Sent via email to: agordon@hvlcsd.org**

Attn: Alyssa Gordon  
Subj: Temporary Flow Monitoring Equipment  
Ref: Telstar Quote No. 31983

Dear Alyssa:

Telstar is pleased to provide a quote for the above referenced project:

- a. Provide and install temporary flow monitoring equipment to be placed within the five manholes (locations determined by the District). This equipment will include a data logger to survey and record flow monitoring at the sites.
- b. One lot miscellaneous installation materials
- c. One lot travel, on site labor and confined space gear
- d. Telstar understands there are 5 locations and we estimate we can install 2-3 per day.

**Note: This quote is an estimate only. If the District can provide confined space certified personnel to assist with this work, Telstar will provide a savings to the District.**

The price for the rental of the equipment is ..... \$1,075/week/per site  
The daily installation labor rate and rental of confined space equipment is .....\$5,205/day

**Terms and Conditions: For your convenience, we now accept all major credit cards.** We can commence with this at your direction. This quote is valid for thirty days. This quote is based on information provided to Telstar and may or may not be correct or complete. Please review this proposal for compliance with the complete and final specifications and drawings before acceptance. Our terms are due and payable 30 days from date of invoice. Payments must be made on a minimum of a monthly basis. If payment is not received by the 30th day, a .05% daily service charge (18-3/4% per annum) will be charged on all accounts past due. Rates quoted herein will automatically be increased for overhead, and cost of living at a minimum of every year, or at contract renewal, which ever is less. Attorney's fees, court costs and costs of collection will be paid to prevailing party. Our standard insurance applies unless otherwise, agreed to in writing by Telstar. We accept no responsibility for consequential damages and our standard warranty applies. Telstar does not warranty OEM equipment, the standard manufacturers warranty applies. Any labor performed by Telstar due to equipment warranty claims, is due and payable as an extra and/or additional charge to the quote noted herein. Please reference the above stated quote number in all correspondence and purchase orders. Unless otherwise noted, this quote is based on standard straight time hours and does not include any prevailing wage rates unless agreed in writing by Telstar. Vehicle expense will be in addition to the price quote, unless specifically included within the body of this quote. The price quoted herein is for the labor and materials specifically listed within the body of this quote. Service calls and time and materials rates carry a 4-hour minimum per person, any time over 4 hours is charged as 8 hours. Cancellation charges apply including engineering, labor, materials, quote and estimating time, markup, % of profit, return goods fees, etc. at the time of written cancellation notice to Telstar.

1717 Solano Way, Unit 34 • Concord, CA 94520 • 925-671-2888 • Fax 925-671-9507  
202 South Douty Street • Hanford, CA 93230 • 559-584-7116 • Fax 559-584-8028  
4017 Vista Park Court • Sacramento, CA 95834 • 916-646-1999 • Fax 916-646-1096

We look forward to working on this project. If you have any questions please do not hesitate to contact me at 925-671-2888.

Sincerely,

John Gardiner  
Vice President

10-032-749038

## Quotation Developed Especially for:

Alyssa Gordon  
Hidden Valley Lake Csd  
19400 Hartmann Road  
Hidden Valley Lake, CA 95467  
Phone: (707) 987-9201

Prepared on 11/8/2017 by:

Larry White  
Cell: 530-379-3380  
390 W Kentucky Ave  
Woodland, CA 95695  
Phone: 530-662-1024  
Fax: 530-662-1030

[www.rainforrent.com](http://www.rainforrent.com)





Rental Quotation

Woodland

www.rainforrent.com

390 W Kentucky Ave
Woodland, CA 95695
Phone: 530-662-1024
Fax: 530-662-1030

Quotation Number: 10-032-749038

Job Description:

Prepared By: Larry White

Rental of 4 Mag Flow Meters for Waste Water/Sewage.

Customer: Hidden Valley Lake Csd

Location:

Customer ID: 26458f
Address: 19400 Hartmann Road
City/State: Hidden Valley Lake, CA 95467
Contact: Alyssa Gordon
Office: (707) 987-9201
Fax:

Hidden Valley Lake, CA..

Rental Sub Total: \$16,045.12

Sub Total: \$16,045.12

Table with 2 columns: Item Description and Amount. Includes Recommended Optional Items - Rental (\$13,347.60), Recommended Optional Items - Sales (\$0.00), Est. Delivery Hauling (\$949.19), Est. Pick-up Hauling (\$949.19), Est. Install Labor (\$127.00), Est. Removal Labor (\$127.00), Est. Services (\$0.00), Est. Air Quality Fee (\$0.00), Est. Rev Air Quality Fee (-\$0.00), Est. Enviro Recovery Fee (\$241.00), Est. Rev Enviro Recovery Fee (-\$0.00).

( Does Not Include Sales Tax )

Grand Total: \$18,438.50

Date Prepared: 11/8/2017

Valid Until: 12/08/2017

Customer

Date

By signing this quotation, customer represents that he/she has read and agreed to both the Statement of Work and Scope of Agreement sections, and is also agreeing to the grand total amount listed above, plus any recommended optional items if checked and initialed.

Rental Protection Plan

I have received and reviewed the Rental Protection Plan Agreement incorporated as the last page of this estimate. By initialing this paragraph, I understand that I am agreeing to enter into and be bound by the terms of the Rental Protection Plan Program Agreement and that I am authorized to enter into this Agreement on behalf of Customer.

Initial here: \_\_\_\_\_



# Rental Quotation

Woodland

www.rainforrent.com

390 W Kentucky Ave  
Woodland, CA 95695  
Phone: 530-662-1024  
Fax: 530-662-1030

Quotation Number: 10-032-749038

\*Rain for Rent Cycle = 28 Days.

This quotation has not been flagged as PREVAILING WAGE.

## Rental Items

Qty	Unit	Duration	Item	Description	Day	Week	*Cycle	Extension
4	Each	2 *Cycle	+638140	Flowmeter Ultrasonic Flexim	\$0.00	\$0.00	\$2,005.64	\$16,045.12

Rental Sub Total: \$16,045.12

Sub Total: \$16,045.12



Rental Quotation

Woodland

www.rainforrent.com

390 W Kentucky Ave  
Woodland, CA 95695  
Phone: 530-662-1024  
Fax: 530-662-1030

Quotation Number: 10-032-749038

OPTIONAL PRODUCTS

Optional Rental Items

Qty	Unit	Duration	Item	Description	Day	Week	*Cycle	Extension
4	Each	2 *Cycle	+638115	Flowmeter Magnetic Skid 8"	\$0.00	\$0.00	\$918.45	\$7,347.60
4	Each	2 *Cycle	BE00018	FLOWMETER 6" MAGNETIC	\$0.00	\$0.00	\$750.00	\$6,000.00

Rental Sub Total: \$13,347.60

Optional Total: \$13,347.60



Woodland

Rental Quotation

www.rainforrent.com

390 W Kentucky Ave  
Woodland, CA 95695  
Phone: 530-662-1024  
Fax: 530-662-1030

Quotation Number: 10-032-749038

## Statement of Work

### **Background:**

### **Scope:**

Rain for Rent will deliver, install, remove and pick up the items requested by customer.

### **References Materials:**

See attached product specification sheet(s).

### **Operating Parameters:**

Rain for Rent has provided this proposal for equipment as requested and without design criteria or requirements.

### **Estimated Duration:**

For the quoted items, Rain for Rent requires a signed quote not less than 5 days prior to delivery.

### **Rain for Rent Responsibilities:**

Rain for Rent will provide labor and equipment necessary to perform one (1) unimpeded delivery, install, removal & return trip per load to site.

### **Customer Responsibilities:**

- Provide all needed unloading, installation, testing, operations and maintenance, removal, cleaning and reloading of provided equipment.
- Ensure that the application of this system does not damage nearby structures or cause negative impacts to the environment either directly or indirectly.
- Provide dedicated equipment with operator and fuel to perform unloading activities. Equipment must be capable of lifting 15,000 lbs.

### **Rain for Rent Exclusions:**

- All design input and services. This system is provided as per customer provided information.
- Compliance with unknown discharge requirements.

### **Additional Information:**





## Rental Quotation

Woodland

www.rainforrent.com

390 W Kentucky Ave  
Woodland, CA 95695  
Phone: 530-662-1024  
Fax: 530-662-1030

Quotation Number: 10-032-749038

### Scope of Agreement

If Customer has entered into a Master Service Agreement with Rain for Rent and there is a conflict between the terms and conditions of this Scope of Agreement and the Customer's Master Service Agreement, then the terms and conditions in the Customer's Master Service Agreement signed by Rain for Rent will prevail.

Availability of products and services is subject to change without notice.

The rental period begins the day the equipment is delivered and continues until returned to originating Rain for Rent facility unless agreed to in writing before the rental period begins. A cycle is defined as 4 weeks, which is 28 days. The weekly price is one third of the cycle price, and the daily price is one third of the weekly price. Payment terms are net 30 days from invoice date. Interest at the rate of 18% per year shall be charged on any past due invoice.

A Fuel Surcharge will be calculated and invoiced based on the diesel fuel price as published by the Department of Energy on <http://tonto.eia.doe.gov/oog/info/wohdp/diesel.asp>

A 1.5% Environmental Recovery Fee shall apply to all rental charges invoiced pursuant to this Quote/Estimate to help offset direct and indirect costs associated with regulatory compliance, obtaining permits, and obtaining licenses.

Customer is prohibited from deducting retention from Rain for Rent invoices and charging Rain for Rent liquidated damages.

Customer is responsible for flushing and cleaning tanks, roll off boxes, pipelines, pumps, filters and other Rain for Rent equipment prior to return unless specifically agreed to by both parties in writing.

The Terms and Conditions of the Rain For Rent Rental and Acute Hazardous Waste Agreements, Credit Application/Master Rental & Sales Agreement, Invoice and this Quotation (also known as the Rain for Rent Rental/Sale Estimate as may be referenced in any Master Service Agreement, Blanket Purchase Order, or any other contractual document executed between the parties) contain the complete and final agreement between Rain For Rent and Customer and no other agreement in any way modifying or adding to any of said Terms and Conditions will be binding upon Rain For Rent unless made in writing and signed by a Rain For Rent Corporate Officer.

The Customer cannot alter the equipment without Rain for Rent's prior written approval. Customer is responsible for equipment, repairs, maintenance and damage, excluding normal wear and tear or damage caused by Rain for Rent. All returned equipment is subject to inspection by Rain for Rent personnel. Damages and accrued rent will be invoiced to Customer while equipment is out of service for repairs. The Customer is responsible for damage caused by reactive, corrosive or abrasive material; including, but not limited to sand, sodium hydroxide, chlorine, and acids. Customer must notify Rain for Rent immediately of any spill so that any necessary repairs to the system can be made and to minimize service interruption. The Customer assumes all risks of loss due to operation and use of the equipment. Customer will provide "all risk" property insurance for rented equipment.

Customer shall pay Rain For Rent additional expenses caused by unforeseen or changing conditions, including, but not limited to, soil, underground conditions, rock formations, environmental conditions, weather events, regulations or restrictions, hard pan, boulders, cesspools, gas lines, water lines, drain pipes, underground electrical conduits or other above ground or underground obstructions.

All equipment rented or used products sold are provided "AS IS, WHERE IS" in their present condition. Rain for Rent makes no warranties, expressed or implied of any kind whatsoever with respect to the equipment or products. Customer agrees that customer is renting equipment or purchasing used products based on their judgment and evaluation, without reliance upon any statements of representations by Rain for Rent, and that Rain for Rent is not responsible for any defects in their operation or for any repairs, parts or services, unless otherwise noted.

All new products sold are provided without warranty beyond the terms of such warranty offered by the manufacturer, if any. Customer must comply with all original manufacturer's terms and conditions for any warranty claims that may arise. Neither Rain for Rent nor the manufacturer warrants the product if it has failed due to corrosion, misuse or damage; (2) it has been altered, repaired or modified in any way that would adversely affect its operation; or (3) it was installed or operated other than in accordance with manufacturer's operating instructions. Products supplied by Rain for Rent are warranted to be free from any defect in workmanship and material under conditions of normal use and service. Rain for Rent's obligation under this warranty is limited to replacing or repairing at the designated manufacturer's or Rain for Rent facility any part or parts returned to it with transportation charges prepaid, which Rain for Rent determines in its sole discretion to be defective.

This Quotation excludes any additional costs to Rain for Rent associated with Owner Controlled Insurance (OCIP) or WRAP insurance programs that will be added to Rain For Rent's prices.

De-watering, Roll-off, Vacuum boxes and similar equipment are not liquid tight. Rentee accepts full responsibility for all losses, damages and costs caused by or arising out of spills, leakage or discharge from this equipment. Rain for Rent will not be held liable for any structural or soils subsidence.

This Quotation is valid for 30 days and is subject to credit approval.

## RENTAL PROTECTION PLAN PROGRAM AGREEMENT

**If you elect to maintain All Risk Property Insurance coverage, and the certificate of insurance You provide to Rain for Rent to evidence Your insurance coverage expires or is cancelled for any reason, You agree Rain for Rent may charge RPP for Your rentals until such time as You provide an acceptable and valid certificate of insurance to Rain for Rent.**

This Rental Protection Plan Program Agreement (this "RPP Agreement") is entered into between the undersigned Rentor and Rentee in relation to the Master Rental and Sales Agreement (MRSA) between Rentor and Rentee. If Rentee has checked or initialed, as applicable, the Rental Protection Plan Program (the "RPP Program") box on the quote, then Rentee has opted-in to the RPP Program and this RPP Agreement shall supplement the MSRA whether or not executed by Rentee. Rentee understands and agrees that the RPP Program is not insurance and that the RPP Program provides only limited coverage, as described below.

1. Cost; Deductible; Maximum Coverage; Rentee shall pay a fee equal to 14 percent (14%) of the rental charge for each covered item, which fee shall be listed on each invoice during which period Rentee has opted to participate in the RPP Program. In the event of a Covered Occurrence, as defined below, Rentee shall further be responsible for the lesser of \$500 or 10 percent (10%) of the total loss, as a deductible. The maximum coverage available under the RPP Program is \$150,000 per Covered Occurrence, whether or not there is more than one piece of equipment involved in the occurrence.

2. Coverage; The RPP Program provides coverage only for losses involving Covered Equipment, as defined below, in the following instances: fire that was not caused by Rentee's gross negligence or willful misconduct; theft for which a police report was filed, and that occurred despite Rentee's reasonable precautions to protect and secure the covered equipment; and vandalism for which a police report was filed (individually, "Covered Occurrence," and collectively, "Covered Occurrence"). The RPP Program provides coverage only for the following types of equipment: pumps, tanks, generators, light towers, filtration, boxes, heaters, pipe, and fittings ("Covered Equipment"). Coverage does not extend to any equipment not owned by Rentor such as re-rented equipment.

3. Exclusions; The RPP program does not cover any equipment or event of loss that is not specifically described in Section 2. Without limiting the foregoing, the RPP Program does not provide coverage for the following: misuse of equipment; willful abuse of equipment; failure to maintain equipment; failure to secure items from theft (including but not limited to failing to store items in a fenced, locked area or failing to maintain personnel on site); damage or theft while in transit to or from a jobsite; corrosion from any source; any damage caused by named storm events; any instance that occurs while the account is not in good standing, such as a default as defined in the MRSA or upon written notice of non-payment; and any occurrence not reported to Rentor within 24 hours after the occurrence. The RPP program does not provide coverage for: spillguards, hoses, electronic equipment (controls, instrumentation, and wiring), sprinklers, wheel wash systems, Freezesentry items, tires, or electric submersible pumps.

4. Claims; All claims must be submitted within 24 hours of the Covered Occurrence. Rentor's mechanic will inspect the equipment following any claim. The mechanic's findings as to the cause of the damage and cost of repair will be final. In the event of a theft or vandalism, Rentee must also provide supporting evidence that the site was secured at the time of loss.



# QUOTATION Teledyne ISCO

<b>Quote To</b>		<b>Please Issue PO To</b>		<b>Quote #</b>	CCIQ18992
Hidden Valley Lake Community Serv.		<b>Teledyne Instruments, Inc.</b>		<b>Date</b>	2017.11.13
Alyssa Gordon		<b>dba Teledyne ISCO</b>		<b>Valid</b>	30 Days
19400 Hartmann Road		PO Box 82531		<b>Delivery</b>	See notes
Hidden Valley CA 95467		Lincoln, NE 68501		<b>Terms</b>	NET 30 OAC
<b>Project</b>		T (415) 808-AHOY F (415) 808-2470		<b>Shipping</b>	Pre-Paid & Added
Flowmeter lease for 3 months		AHOY@ClipperControls.com		<b>FOB</b>	Factory
				<b>Rep</b>	Marty Hyland

Item	Qty	Description	Unit Price	Ext Price
1	32	2150 Flow Module with 2191 Battery Module - LEASE 4 flowmeter sets for 8 weeks Part Number: 682050002 LEASE Manufacturer: Teledyne ISCO Includes A/V Sensor and 25' sensor cable. . Requires Flowlink software and computer connect cable Rate per week is based on lease duration of 8 to 11 weeks and varies with other durations. (\$900/month for 3 month period)	\$248.00	\$7,936.00
2	32	Spring Ring for 6 inch diameter pipe LEASE Part Number: 683200007 LEASE 4 rings for 8 weeks Manufacturer: Teledyne ISCO price/week for 8-11 week period (\$18/month for 3 month period) Note: Rings are also available for 8", 10", 12" & 15" pipes at same price per week or month. Larger pipes require scissors rings.	\$5.00	\$160.00
3	8	USB Communication Cable, LEASE 1 cable for 8 weeks Part Number: 602004507 Manufacturer: Teledyne ISCO Connects 2100 Series Module top connector to PC with USB connector. 10 ft. (3 m) long price/week for 8-11 week period (\$47/month for 3 month period)	\$13.00	\$104.00
4	8	Flowlink 5.1 Software Lease, two user licenses for lease customers. 1 cable for 8 weeks Part Number: 682540203 Used to set up modules, retrieve measurement data, manage the sites and analyze the data. Price/week based on lease period 8-11 weeks (\$374/month for 3 month period)	\$103.00	\$824.00

Item	Qty	Description	Unit Price	Ext Price
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NOTES:

1. Four flowmeters being considered for 8 week (2 month) period for temporary flow measurement in manholes.
2. Rates per week or per month vary for period length.
3. Spring rings for 6" pipes are quoted as an example. Advise size(s) and quantities required.
4. Quoted rings require entry into manhole for installation. Also available are street level mounting rings and an installation tool which allows the installation of the sensor and ring from outside the manhole.
5. Subject to equipment in stock not out for other leases. Advise when use is anticipated.

<b>Total</b>	<b>\$9,024.00</b>
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**Quotation Notes (unless specified otherwise above)**

1. Sales Tax is not included unless specifically listed.
2. Shipping Charges are not included unless expressly stated otherwise.
3. Prices are applicable only to quantities shown.
4. Teledyne terms & conditions of sale apply.  
[http://isco.com/orderinfo/Teledyne Isco Terms and Conditions of Sale.pdf](http://isco.com/orderinfo/Teledyne%20Isco%20Terms%20and%20Conditions%20of%20Sale.pdf)
5. Fees charged for cancelled or returned orders.
6. Sale is subject to compliance with US Export Control laws

Thank you for this opportunity, and we look forward to supplying you with these quality products.

***Dan Bosque***

*Sales Engineer*

Clipper Controls Inc.  
1700 Montgomery St Ste 101  
San Francisco CA 94111  
T (415) 808-AHOY