

**City and County of Honolulu**

# **2010 Wastewater Consent Decree**

**Civil No. 94-00765 DAE-KSC**

## **Nine and One-Half Year Report**

**December 31, 2019**



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The Department of Environmental Services

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## City and County of Honolulu – Wastewater Consent Decree – Nine and One-Half Year Report

### Introduction

On December 17, 2010 the Consent Decree, subsequently amended on March 27, 2012, was entered among the City and County of Honolulu (CCH), the United States Environmental Protection Agency, State of Hawaii Department of Health and several non-governmental organizations. The consent decree (CD) outlines a program of improvements to the wastewater collection and treatment systems owned by CCH.

CCH has prepared this Nine and One-Half Year Report pursuant to Paragraph 99.a of the First Amended CD to describe the status of CCH's compliance with the CD Wastewater Collection System requirements.

This Nine and One-Half Year Report is available on CCH's web site at:

<http://www.honolulu.gov/cms-env-menu/site-env-sitearticles/801-consent-decree.html>

Per Paragraph 99.a of the CD, the intent of this Nine and One-Half Year Report is to certify the following items:

- i. that CCH has met the interim compliance milestones in Paragraph 11.c. (Force Main Spill Contingency Planning), and obtained approval of the spill contingency plans required therein;
- ii. that CCH has completed work required in the follow-up action plans to be completed by no later than June 30, 2020, as required by Paragraph 12;
- iii. that CCH has Completed Construction of the Force Main Projects required by Paragraphs 13.d., 14.a, 15.a., and 16, and has both Completed Construction of the Kaneohe/Kailua Sewer Tunnel Project required by Paragraph 17.a. and completed the initial two-year operation period set forth in Paragraph 17.c., or, if applicable, has Completed Construction of the new Kaneohe/Kailua Force Main project provided for by Paragraph 17.d.;
- iv. that CCH is maintaining backup force mains in good operating condition as required by Paragraphs 14.b., 15.b., 16, and, if applicable, 17.d.;
- v. that CCH has Completed Construction of the 1999 Final Sewer I/I Plan projects required to be constructed by June 30, 2020, pursuant to Paragraph 18;
- vi. that CCH has incorporated into its Capital Improvement Plan the projects that CCH had determined appropriate to program as a result of analysis or development pursuant to the Wet Weather I/I Assessment Update in Paragraph 18.g.x.;
- vii. that CCH has inspected and assessed the number of miles of gravity sewers required pursuant to Paragraph 19, and;
- viii. that CCH has repaired, rehabilitated or replaced the number of miles of gravity sewers required pursuant to Paragraph 20; and
- ix. whether there are any outstanding stipulated penalty assessments or pending dispute resolution proceedings with regard to CCH's Wastewater Collection System pursuant to the Consent Decree.
- x. If any of requirements in subparagraphs i. through viii. have not been completed, the Nine and One-Half Year Report shall discuss CCH's plans to complete them by the end of Year Ten.

Force Mains

CCH is required by the CD to reduce and minimize to the maximum extent practicable the releases of wastewater in the event of force main failure. CCH has performed the necessary activities as follows:

- Performed spill contingency planning with the production of spill contingency plans for the small and large force mains;
- Submitted flow diversion plans for the small and large force mains; and
- Developed written follow up actions procedures and completed necessary flow diversion work improvements based on the recommendation of the flow diversion reports

A. Force Main Spill Contingency Planning

Paragraph 99.a.i requires CCH to certify that it has met the interim compliance milestones in Paragraph 11.c (Force Main Spill Contingency Planning), and obtained approval of the spill contingency plans (SCPs) required therein.

Paragraph 11.c of the CD requires CCH to develop contingency plans for the CCH's Wastewater Pump station force mains and submit them to the State Department of Health (DOH) and to the Environmental Protection Agency (EPA) for review and approval. The contingency plans provided procedures, equipment and other related action items to divert wastewater overflows in case the normally operating force main has to be removed from service which includes when there is a SSO event. There are two basic CD SCP development requirements: 1) develop a SCP document that addresses the small force mains and 2) develop individual spill contingency or site specific plans for the larger force mains. The larger force mains were further subdivided into two sub-categories that identifies 1) eight (8) force mains and 2) six (6) force mains in pursuant to the 2007 Stipulated Order

The small force mains identified in Paragraph 11.c.i include twenty-five (25) from the Windward, nine (9) from the Metro and eighteen (18) from the Leeward tributaries. CD milestone is to submit the programmatic SCP for the small force mains no later than one-year after the effective date of the CD. CCH submitted the small force main contingency plan on December 16, 2011. EPA and DOH approved the Plan on January 30, 2012.

The eight large force mains identified in Paragraph 11.c.ii are: Ewa Beach, Halawa, Kamehameha Highway, Lualualei, Kailua Heights, Kailua Road, Ahuimanu and Niu Valley. The following table presents the CD submittal due dates for these eight site specific SCPs, their submittal and approval status; and the status to update the SCPs due to changed conditions that materially affect the execution of the SCPs to respond to and mitigate a spill incident.

**Table 1 Large Force Main Spill Contingency Planning Requirements**

CD Requirement	CD Due Date	CCH's Status
Submit a SCP for the Ewa Beach Force Main for review and approval.	12/17/2011	CCH submitted the force main SCP on 12/16/2011. EPA and DOH approved the plan on 1/30/2012. The approved SCP will be updated after the improvements to replace the ductile iron pipe portion of the force main and to construct valving and valve vaults are completed. The CD requires these follow up actions to be

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CD Requirement	CD Due Date	CCH's Status
		completed by June 30, 2020. The project status of follow up actions for these two items are covered in Table 9. When revised, a copy of the SCP will be submitted to DOH and EPA as required by Appendix C of the CD.
Submit a SCP for the Halawa Force Main for review and approval.	12/17/2011	CCH submitted the force main SCP on 12/16/2011. EPA and DOH approved the plan on 1/30/2012. The approved SCP will be updated to include the improvements to the portion of the force main between the Halawa WWPS and the top vertical bend on the force main, including the Venturi flow tube box that were replaced on 9/20/18. This plan will be updated and reported in the Ten Year Report. When revised, a copy of the SCP will be submitted to DOH and EPA as required by Appendix C of the CD.
Submit a SCP for the Kamehameha Highway Force Main Spill for review and approval.	12/17/2011	CCH submitted the force main SCP on 12/16/2011. EPA and DOH approved the plan on 1/30/2012. Subsequent to the final submission and approval of the SCP by EPA and DOH, an alternative evaluation report produced in October 2016 provided two alternatives, 1) segmented rehabilitation and 2) new HDD Pipe. Alternative 2 was chosen by CCH because the new force main will have a longer design life and will have a greater hydraulic capacity. The SCP will be updated after the construction of the new force main is completed. The CD construction deadline is 6/30/2020. A copy of the revised SCP will be submitted to EPA and DOH as required by Appendix C of the CD.
Submit a SCP for the Lualualei Force Main for review and approval.	12/17/2011	CCH submitted the force main SCP on 12/16/2011. EPA and DOH approved the plan on 1/30/2012. The SCP will be updated to include the construction of a new dry and parallel force main that was completed on 11/29/13. A revision of the plan will be completed and reported in the Ten Year Report. A copy of the revised SCP will be submitted to EPA and DOH as required by Appendix C of the CD.
Submit a SCP for the Kailua Heights Force Main for review and approval.	6/17/2012	CCH submitted the force main SCP on 6/17/2012. EPA and DOH approved the plan on 1/9/2013.

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<b>CD Requirement</b>	<b>CD Due Date</b>	<b>CCH's Status</b>
Submit a SCP for the Kailua Road Force Main for review and approval.	6/17/2012	CCH submitted the force main SCP on 6/17/2012. EPA and DOH approved the plan on 1/9/2013. The SCP requires a minor update to show that the unjacketed portion of the force main was replaced. This work was completed on 6/20/18. The updated SCP will be completed and reported in the Ten Year Report and a copy will be submitted to DOH and EPA as required by Appendix C of the CD.
Submit a SCP for the Ahuimanu Force Main for review and approval.	12/17/2012	CCH submitted the force main SCP on 12/7/2012. EPA and DOH approved the plan on 1/9/2013. CCH diverted the force main flow at the crossing of Haiku Road and Kahekili Highway to a vortex drop and into a new gravity line that runs along Haiku Road. The diversion was completed on 12/20/18. The SCP was updated to reflect the aforementioned change to the force main. This draft version, dated 7/2019, will be finalized and submitted to EPA and DOH as required by Appendix C of the CD, and reported in the Ten Year Report.
Submit a SCP for the Nui Valley Force Main for review and approval.	12/17/2012	CCH submitted the force main SCP on 12/7/2012. EPA and DOH approved the plan on 1/9/2013.

The force mains from the 2007 Stipulated Order identified in Paragraph 11c.iii are: Ala Moana (FM #2), Beachwalk, Hart Street, Kahala, Kaneohe/Kailua and Waimalu. The following table presents the CD submittal due dates for the various SCPs, their submittal and approval status, and the status of updating the SCPs due to changed conditions that materially affect the execution of the SCPs to respond to and mitigate a spill incident:

**Table 2 SCPs Required by 2007 Stipulated Order**

<b>CD Requirement</b>	<b>CD Due Date</b>	<b>CCH Status</b>
Submit a SCP for the Ala Moana Force Main No. 2 for review and approval.	No CD due date	CCH submitted a revised force main SCP on 8/31/2011. EPA and DOH approved the Plan on 1/30/2012. The SCP will be updated to reflect the construction of two new force mains, designated as force mains No. 3 and No. 4, which were completed on 8/10/15. The plan will be updated and reported in the Ten Year Report. A copy of the revised SCP will be submitted to EPA and DOH as required by Appendix C of the CD.
Submit a SCP for the Beachwalk Force Main for review and approval.	No CD due date	CCH submitted a revised force main SCP on 8/31/2011. EPA and DOH approved the Plan on 1/30/2012.

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CD Requirement	CD Due Date	CCH Status
		The SCP will be updated to reflect the construction of a new force main, which was completed on 3/28/2013. The plan will be updated and reported in the Ten Year Report. A copy of the revised SCP will be submitted to EPA and DOH as required by Appendix C of the CD.
Submit a SCP for the Hart Street Force Main for review and approval.	No CD due date	CCH submitted a revised force main SCP on 8/31/2011. EPA and DOH approved the Plan on 1/30/2012. The SCP will be updated to reflect the installation of valving, completed on 12/27/2013, which allowed CCH to switch flows quicker between the new and back up force main. A copy of the revised SCP will be submitted to EPA and DOH as required by Appendix C of the CD.
Submit a SCP for the Kahala Force Main for review and approval.	No CD due date	CCH submitted a revised force main SCP on 8/31/2011. EPA and DOH approved the Plan on 1/30/2012.
Submit a SCP for the Kaneohe/Kailua Force Main for review and approval.	No CD due date	CCH submitted a revised force main SCP on 8/31/2011. EPA and DOH approved the Plan on 1/30/2012. The Kaneohe/Kailua tunnel was completed and placed in service on 6/12/2018, and will transport flows from the Kaneohe tributary to the Kailua Regional WWTP.
Submit a SCP for the Waimalu Force Main for review and approval.	No CD due date	CCH submitted a revised force main SCP on 8/31/2011. EPA and DOH approved the Plan on 1/30/2012. The SCP will be updated to include the construction of a new back up force main that was completed on 11/09/2016. The plan will be updated and reported in the Ten Year Report. A copy of the revised SCP will be submitted to EPA and DOH as required by Appendix C of the CD.

B. Force Main Interim Compliance Milestones

Under Paragraph 11.c.iv, the CD provides a list of interim compliance milestones that are listed below:

- In Years One through Ten, conduct at least one drill per year of an approved Spill Contingency Plan listed in subparagraphs c.ii. and iii. ;
- Conduct a drill of all approved Spill Contingency Plans listed in subparagraph c.iii. by the end of Year Six;

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- Conduct a drill of all approved Spill Contingency Plans listed in subparagraphs c.ii. and iii. by the end of Year Ten; and
- Review its Spill Contingency Plans as required by Appendix C on an annual basis and revise its Plans as necessary to address any pertinent changed conditions and to ensure the functionality of the Plans.

The following table provides the status of the spill drills, which are performed in accordance with the force main SCPs.

**Table 3 Requirements for SCP Drills**

<b>Requirement</b>	<b>CD Due Date</b>	<b>Status</b>
Kaneohe/Kailua Force Main SCP Drill	6/30/2016	CCH performed a drill of the SCP on the Kaneohe/Kailua force main on 9/16/2010. CCH prepared a summary report and submitted it to EPA and DOH on 3/30/2011. Considering the timing of the conditional approval of the original six SCPs, and that the Kaneohe/Kailua Force Main SCP was approved subject to one minor condition, EPA and DOH agreed to accept this drill in satisfaction of the Year One requirement.
Ala Moana Force Main No. 2 SCP Drill	6/30/2016	CCH performed a drill of the SCP on the Ala Moana No. 2 force main on 6/19/2014.
Beachwalk Force Main SCP Drill	6/30/2016	CCH performed a drill of the SCP on the Beachwalk force main on 6/29/2015.
Hart Street Force Main SCP Drill	6/30/2016	CCH performed a drill of the SCP on the Hart Street force main on 6/5/2013.
Kahala Force Main SCP Drill	6/30/2016	CCH performed a drill of the SCP on the Kahala force main on 6/21/2012.
Waimalu Force Main SCP Drill	6/30/2016	CCH performed a drill of the SCP on the Waimalu force main on 6/24/2016.
Ewa Beach Force Main SCP Drill	6/30/2020	CCH will schedule the spill drill to be completed by 6/30/2020.
Halawa Force Main SCP Drill	6/30/2020	CCH performed a drill of the SCP on the Halawa force main on 6/18/2019.
Kamehameha Highway Force Main SCP	6/30/2020	CCH will schedule the spill drill to be completed by 6/30/2020.
Lualualei Force Main SCP	6/30/2020	CCH performed a drill of the SCP on the Lualualei force main on 6/16/2017.
Kailua Heights Force Main SCP	6/30/2020	CCH performed a drill of the SCP on the Kailua Heights force main on 6/21/2018.
Kailua Road Force Main SCP	6/30/2020	CCH performed a drill of the SCP on the Kailua Road force main on 6/20/2019.
Ahuimanu Force Main SCP	6/30/2020	CCH performed a drill of the SCP on the Ahuimanu force main on 6/21/2018.
Niu Valley Force Main SCP	6/30/2020	CCH performed a drill of the SCP on the Niu Valley force main on 6/7/2018.

CCH is certifying that it has complied to date with the provisions of the Force Main Spill Contingency Planning of Paragraph 11.c. CCH will schedule and perform spill drills for the Kamehameha Highway and Ewa Beach force mains by June 30, 2020.

CCH has been reviewing the SCPs annually as part of the spill drill process. Eight (8) SCPs that were previously submitted and approved by EPA and DOH will require an update due to changed conditions that materially affect the execution of the SCPs to respond to and mitigate a spill incident. SCPs for the force mains for Halawa, Kailua Road, Lualualei, Ala Moana FM #2, Beachwalk and Waimalu WWPS will be updated and reported in the Ten Year Report.

Improvements to the force mains for Kamehameha Highway and Ewa Beach WWPS are currently in progress, and will be completed by 6/30/20 and the SCPs will be appropriately updated thereafter. Work to divert the Ahuimanu WWPS force main flow to a gravity line along Haiku Road was completed on December 20, 2018. A draft updated SCP has been prepared and will be finalized and submitted to EPA and DOH, and reported in the Ten Year Report.

**C. Force Main Condition Assessments and Follow-Up Action Plans**

Paragraph 99.a.ii requires CCH to certify that it has completed work required in the follow-up action plans to be completed by no later than June 30, 2020, as required by Paragraph 12.

Per Paragraph 12.a of the CD, the approved follow-up action plans for the Force Main Condition Assessment submitted pursuant to the 2007 Stipulated Order are incorporated into the CD. These force mains are the Beachwalk Force Main, the Ala Moana Force Main No. 2, the Hart Street Force Main, the Kaneohe/Kailua Force Main, the Waimalu Force Main, and the Kahala Force Main. The following tables provide the design interim compliance milestones and construction compliance milestones and the status of completing the follow up actions that were identified. The listings only include action items that are required to be completed no later than June 30, 2020.

**Table 4 Ala Moana Force Main No. 2 Repairs, Rehabilitation and Improvements**

<b>Requirement</b>	<b>Compliance Milestone</b>	<b>Status</b>
New Pressure manhole (PMH) at WWPS	Complete Construction: 12/31/2008	Construction completed 4/15/2008.
Horizontal bend at Station 23+00 (Bend #1) interim repair	Complete Construction: 09/30/2009	Construction completed 8/9/2009.
Horizontal bend at Station 23+00 (Bend #1) permanent repair	Design NTP: 08/03/2009; Complete Construction: 09/30/2012	Repair completed 8/14/2012.
Cathodic protection system - replace rectifier and anode bed	Complete Construction: 6/17/2014	Time extension submitted (11/15/2013) and approved by EPA/DOH (1/13/2014) for Complete Construction by 6/17/2014. This requirement is also addressed in CD Paragraph 13.c. Construction completed 6/16/2014.
PS#2 Surge Control Improvements	Design NTP: 12/31/2015; Complete	Design NTP issued on 12/31/2015. Design Completed. Construction bid opened on 1/9/2019

Requirement	Compliance Milestone	Status
		Construction NTP issued 3/25/2019. Construction in progress. The non CD construction completion date is projected to be 12/31/2020.

**Table 5 Ala Moana Force Main No. 2 Future Assessments**

Requirement	Due Date	Status
Inspect remaining segments of FM No. 2	9/30/2009	Inspection of Force Main No. 2 from Pressure Manhole #2A to the Ala Moana WWPS No. 2 was completed 8/18/2009. Inspection of 800-ft segment of Force Main No. 2 on Sand Island from Pressure Manhole #2C to Pressure Manhole #2E was completed 9/22/2009.
Settlement Monitoring Plan	9/30/2009	Settlement monitoring plan completed 8/27/2009 and updated 12/29/2009.
PS #2 Venturi meter UT testing	12/31/2012	Venturi meter UT testing completed 6/29/2011.
Ala Moana Force Main No. 2 Additional Condition Assessment of Problem Areas	6/30/2011	CCH submitted the Additional Condition Assessment of Problem Areas on 6/29/2011. EPA and DOH approved the Report on 2/13/2012.

**Table 6 Ala Moana Force Main No. 2 Operation and Maintenance Elements**

Requirement	Frequency	Status
Clean grease at Sand Island Headworks entrance 78" FM	One-time	Grease removal completed on 7/11/2012.

**Table 7 Beachwalk Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Rehabilitate and/or replace three existing air bleeder assemblies, at approximate locations Stations 17+95, 37+60 and 558+62.	Complete Construction: 12/31/2011	Completed on 8/26/2011.

**Table 8 Beachwalk Force Main Future Assessments**

Requirement	Due Date	Status
Valve vault condition assessment	9/30/2012	Beachwalk valve vault condition assessment report was completed on 8/24/2012.
Force main condition assessment report	9/30/2017	Field work completed on 06/23/2017.

Requirement	Due Date	Status
		Condition Assessment Report submitted on 09/29/2017.

**Table 9 Ewa Beach FM Condition Assessment Follow-up Action Plan Implement**

Requirement	Compliance Milestone	Status
Replace ductile iron pipe portion of FM. Construct valving and vaults to allow for a 2 <sup>nd</sup> FM connection.	Design NTP: 6/30/2017, Construction Completion: 6/30/2020	Design NTP issued 12/9/2015. Design Completed. Construction bid opened on 4/20/18. Construction NTP issued 11/1/18. Construction in progress. The contractor encountered additional work due to unforeseen conditions and the delivery of the valves has taken longer than expected. The unforeseen work was completed and the valves are expected to arrive in January 2020. After the valves arrive, the contractor anticipates completion of the project by May 2020. Currently the project is 60% complete.

**Table 10 Hart Street Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Coat interior of Reinforced concrete pipe/High Density Polyethylene transition flange coupling adaptor near Sand Island WWTP	Design NTP: 12/31/2011; Complete Construction: 12/31/2014	NTP for construction issued 7/10/2013 as part of project 11-0035, Phase 2. Construction completed on 9/15/2014.
Install internal pipe seals at approximate locations Station 47+87, 31+23, 31+07, and 30+91.	Design NTP: 12/31/2011; Complete Construction: 12/31/2014	NTP for construction issued 7/10/2013 as part of project 11-0035, Phase 2. Construction completed on 9/15/2014.
Install pressure manhole vaults and air bleeders at approximate locations Station 18+15, 28+80, and 43+87.	Design NTP: 12/31/2012; Complete Construction: 12/31/2016	NTP for construction issued 7/10/2013 as part of Project 11-0035, Phase 2. Construction completed on 9/15/2014.
Connect new WWPS to old FM	Design NTP: 12/31/2011; Complete Construction: 12/31/2013	Planning and Design NTP issued 12/31/2010 as part of project 10-0090, Phase 1. Construction completed on 12/27/2013.

**Table 11 Hart Street Force Main Future Assessments**

Requirement	Due Date	Status
Follow-up internal inspection of the FM	12/31/2019	Field Work Completed. Report to be submitted by 12/31/2019.
Inspect external FM appurtenances	12/31/2019	Field Work Completed. Report to be submitted by 12/31/2019

**Table 12 Kahala Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Install PVC liner in discharge manhole	Complete Construction: 03/31/2012	Completed on 1/25/2012.
Remove air injection piping connection and pressure grout surrounding soil	Complete Construction: 12/31/2012	Completed on 8/31/2010.
Re-coat pipe under Kahala Avenue Bridge	Complete Construction: 12/31/2012	Completed on 8/7/2012.

**Table 13 Kahala Force Main Future Assessments**

Requirement	Due Date	Status
24" diameter FM condition assessment report	9/30/2018	Completed on 9/27/2018.

**Table 14 Kaneohe/Kailua Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Recoat above-ground piping at Kaneohe EPS discharge pipe	Complete Construction: 12/31/2015	Recoating completed on 8/7/2012.

**Table 15 Kaneohe/Kailua Force Main Future Assessments**

Requirement	Due Date	Status
Air Relief Valve (ARV) study	6/30/2012	ARV Study was completed on 6/28/2012.

**Table 16 Waimalu Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Rehabilitate and/or replace air bleeder assembly at Station 388+50	Complete Construction: 12/31/2016	On 5/16/2013, CCH submitted to EPA/DOH a written Request to Modify the Waimalu Force Main Condition Assessment Follow Up Action Items to have this requirement extended in light of the planned construction of a new

Requirement	Compliance Milestone	Status
		second force main. EPA and DOH approved the extension on 1/13/2014. Construction completed on 12/29/2016.

**Table 17 Waimalu Force Main Future Assessments**

Requirement	Due Date	Status
Valve vault condition assessment	9/30/2012	Waimalu valve vault condition assessment report was completed on 8/24/2012.
Cast iron condition assessment report	9/30/2013	On 5/16/2013, CCH submitted to EPA/DOH a written Request to Modify the Waimalu Force Main Condition Assessment Follow Up Action Items to have this requirement eliminated in light of the planned construction of a new second force main. Modification approved by EPA and DOH on 1/13/2014.
Force Main CCTV from discharge manhole at time of air bleeder appurtenance replacement	12/31/2016	On 5/16/2013, CCH submitted to EPA/DOH a written Request to Modify the Waimalu Force Main Condition Assessment Follow Up Action Items to have this requirement extended in light of the planned construction of a new second force main. EPA and DOH approved the extension on 1/13/2014. Field work completed. Inspection report completed 12/29/2016.
Force main condition assessment report	9/30/2018	Completed on 9/26/2018.

Based on the statuses presented above, CCH certifies that it has completed all of the work as required by the follow-up action plans to be completed by no later than June 30, 2020

Paragraph 12.b of the CD requires CCH to submit the force main condition assessments including the follow-up action plans by the following dates:

- By December 31, 2010 for the Ahuimanu, Aliamanu #1, Aliamanu #2, and Lualualei force mains;
- By December 31, 2013 for the Awa Street, Kaneohe Bay #3, Kunia, and Kailua Road force mains; and
- By December 31, 2014 for the Ewa Beach and Halawa force mains.

The following table demonstrates CCH submitted all of the force main condition assessments and received either an approval or conditional approval from EPA and DOH. In the event EPA and DOH granted a conditional approval, a revision of the condition assessment was made according to the EPA and DOH comments and incorporated into the Final report.

**Table 18 Submittal of the force main condition plans**

<b>Requirement</b>	<b>Due Date</b>	<b>Status</b>
Ahuimanu Force Main Condition Assessment Report	12/31/2010	EPA and DOH approved the Report on 1/30/2012.
Aliamanu No. 1 and 2 Force Main Condition Assessment Report	12/31/2010	EPA and DOH approved the Report on 1/30/2012.
Lualualei Force Main Condition Assessment Report	12/31/2010	EPA and DOH approved the Report on 1/30/2012.
Awa Street Force Main Condition Assessment Report	12/31/2013	Report submitted to EPA and DOH on 12/30/2013. EPA and DOH conditionally approved the plan with comments on 9/24/2014. CCH addressed the comments, revised the document and submitted a complete “Final” report on 12/23/2014.
Kailua Road Force Main Condition Assessment Report	12/31/2013	Report submitted to EPA and DOH on 12/30/2013. EPA and DOH conditionally approved the plan with comments on 10/28/2014. CCH addressed the comments, revised the document and submitted a complete “Final” report on 1/27/2015.
Kaneohe Bay No. 3 Force Main Condition Assessment Report	12/31/2013	Report submitted to EPA and DOH on 12/30/2013. EPA and DOH conditionally approved the plan with comments on 8/14/2014. CCH addressed the comments, revised the document and submitted a complete “Final” report on 9/26/2014.
Kunia Force Main Condition Assessment Report	12/31/2013	Report submitted to EPA and DOH on 12/30/2013. EPA and DOH conditionally approved the plan with comments on 10/28/2014. CCH addressed the comments, revised the document and submitted a complete “Final” report on 1/27/2015.
Ewa Beach Force Main Condition Assessment Report	12/31/2014	Report submitted to EPA and DOH on 12/31/2014. EPA and DOH approved the plan on 1/22/2016.
Halawa Force Main Condition Assessment Report	12/31/2014	Report submitted to EPA and DOH on 12/31/2014. EPA and DOH conditionally approved the plan with comments on 5/5/2015. CCH addressed the comments, revised the document and submitted a complete “Final” report on 7/6/2015.

Follow-up action plans were developed for Ahuimanu, Aliamanu # 1 and #2, Kaneohe Bay #3, Kunia, Kailua Road, Ewa Beach and Halawa force mains. No follow up actions were needed for the Awa Street and Lualualei force mains because the condition assessments did not identify conditions constituting a material risk of failure.

The following tables provide the CD requirement, milestone and a status of the follow up actions for the various force mains:

**Table 19 Ahuimanu Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Manhole Rehabilitation	Complete Construction: 12/31/2014	Rehabilitation completed on 4/11/2012.
Pipe Repair Corrosion	Complete Construction: 12/31/2015	Completed on 12/15/2015.
Pipe Repair Liner* Haiku Bypass Road.	Complete Construction: 12/31/2018	Design completed. Construction bid opened on 4/6/2017. Construction in progress. Construction completed 12/20/2018.

\*CCH diverted the force main flow at the crossing of Haiku Road and Kahekili Highway to a vortex drop and into a new gravity line that runs along Haiku Road. The diversion was completed on 12/20/18.

**Table 20 Ahuimanu Force Main Future Assessments**

Requirement	Due Date	Status
ARV Valve Study	4/30/2013	Ahuimanu Force Main Air Study & Ultrasonic Thickness Testing (Final) report was completed on 4/30/2013.
Future Assessment of Excavation Pit	12/31/2013	Ahuimanu Force Main Air Study & Ultrasonic Thickness Testing (Final) report was completed on 4/30/2013.

**Table 21 Aliamanu No. 1 and 2 Force Main Future Assessments**

Requirement	Compliance Milestone	Status
Future Assessment	12/31/2015	Completed on 10/30/2015.

**Table 22 Halawa Force Main Condition Assessment Follow-up Implementation**

Requirement	Compliance Milestone	Status
Replace force main between the WWPS and the top vertical bend including the venturi flow tube box.	Design NTP 12/31/2016 Construction Completion 12/31/2019	Design NTP issued on 4/10/2015. Design Completed. Construction bid opened on 4/20/2017. Construction NTP issued on 9/11/2017. Construction completed 9/20/2018.
Pre-fabricate discharge setup. This setup will be stored either at the Halawa	Complete Construction 12/31/2019	Construction completed 9/20/2018.

Requirement	Compliance Milestone	Status
WWPS or at the Halawa baseyard.		

**Table 23 Kailua Road Force Main Repairs, Rehabilitation and Improvements**

Requirement	Compliance Milestone	Status
Replace the unjacketed cast iron section of FM.	Design NTP 12/31/2015 Construction Completion 6/30/2018	Design NTP issued on 4/10/2015. Design completed. Construction bid opened on 3/14/2017. Completed on 6/20/2018.

**Table 24 Kaneohe Bay No. 3 Force Main Repairs, Rehab and Improvements**

Requirement	Compliance Milestone	Status
Replace pipe section with interior longitudinal fracture, 41 feet upstream from discharge manhole	12/31/2014	Completed on 10/27/2014.

**Table 25 Kunia Force Main Future Assessments**

Requirement	Compliance Milestone	Status
Additional Condition Assessment	6/30/2016	Completed on 6/15/2016.

CCH certifies that it has completed work required on all of the follow-up action plans with the exception of Ewa Beach WWPS force main. The two remaining tasks are to 1) replace a ductile iron pipe section of the force main, and; 2) install pipe valves and vaults are on schedule to be completed by June 30, 2020.

**D. Force Main Construction Projects**

Paragraph 99.a.iii of the Consent Decree requires CCH to certify, in part, that it has completed construction of the Force Main Projects required by Paragraphs 13.d., 14.a., 15.a., and 16.

Paragraph 13.d of the CD requires CCH to design and complete the construction of a new Kaneohe Bay WWPS #2 force main to replace the existing force main by December 31, 2016. The two interim compliance milestone dates were 1) execute a design contract and issue a Notice to Proceed (NTP) to design by December 31, 2013 and 2) execute a construction contract and issue an NTP by December 31, 2015. The construction status of the new Kaneohe Bay WWPS #2 force main is summarized in the following Table.

**Table 26 Paragraph 13.d. Construction Project**

<b>Requirement</b>	<b>Compliance Milestone</b>	<b>Status</b>
Kaneohe Bay WWPS #2 Force Main Construction	Design NTP by 12/31/2013 Construction NTP by 12/31/2015	Design NTP issued on 12/19/2013.  Construction NTP issued on 8/28/2015  Construction Complete on December 28, 2016

Paragraph 14.a of the CD requires CCH to design and Complete Construction of a new permanent Beachwalk force main. The initial construction completion date of December 31, 2012 was modified by the Second Joint Agreement to Modify the First Amended Consent Decree signed on January 24, 2013. This document provided a new construction completion date of April 12, 2013. The construction status of the new permanent Beachwalk force main is summarized in the following Table.

**Table 27 Paragraph 14.a. Construction Project**

<b>Requirement</b>	<b>Compliance Milestone</b>	<b>Status</b>
Beachwalk Force Main Construction	Construction Complete by 04/12/2013	Construction Complete on 03/28/2013

Paragraph 15.a requires CCH to design and Complete Construction of a new Ala Moana Force Main No. 3 by December 31, 2014. Additionally, CCH shall execute a construction contract and issue a notice to proceed for construction by July 31, 2012.

On December 29, 2014, with additional information provided on January 30, 2015, CCH requested an extension to August 12, 2015 for construction completion due to the complexities of subsurface construction beneath a harbor channel that resulted in limited access to specialized equipment, as well as gaining access to property. On June 12, 2015 EPA and DOH approved the extension request. The new force main was completed on August 10, 2015. The construction status of the new Ala Moana Force Main No. 3 is summarized in the following Table.

**Table 28 Paragraph 15.a. Construction Project**

<b>Requirement</b>	<b>Compliance Milestone</b>	<b>Status</b>
Ala Moana Force Main No.3 Construction	Issue Construction NTP by 7/31/2012  Complete Construction by 8/12/2015	Construction NTP issued on 11/28/2011  Construction Complete on 8/10/2015

CCH certifies that it has Completed Construction of the Force Main Projects required by Paragraphs 13.d, 14.a, 15.a, and 16.

E. Kaneohe/Kailua Sewer Tunnel Project

The remainder of Paragraph 99.a.iii of the Consent Decree requires CCH to certify that it has both Completed Construction of the Kaneohe/Kailua Sewer Tunnel Project required by Paragraph 17.a and completed the initial two-year operation period set forth in Paragraph 17.c., or, if applicable, has Completed Construction of the new Kaneohe/Kailua Force Main project provided for by Paragraph 17.d.

Paragraph 17.a of the Consent Decree provided for the construction of a Kaneohe-Kailua gravity tunnel and an associated influent pump station in lieu of a new force main and storage projects in Kaneohe and Kailua. The tunnel was completed on June 12, 2018.

Paragraph 17.c of the CD requires CCH to continue to maintain the Kaneohe Pretreatment Facility Effluent Pump Station and Kaneohe/Kailua Force Main in good operating condition to be able to divert the flow to the existing force main if needed for a period of two years which started on June 12, 2018, which coincides with the commenced operation of the Kaneohe-Kailua gravity tunnel. The two year period will cease on June 11, 2020.

Based on the above, CCH certifies that it has complied with Paragraph 17.a. and is complying with 17.c. of the CD.

F. Backup Force Mains

Paragraph 99.a.iv of the Consent Decree requires CCH to certify that it is maintaining backup force mains in good operating condition as required by Paragraphs 14.b, 15.b, 16, and, if applicable, 17.d.

Paragraph 14.b pertains to the Beachwalk WWPs Force Main, Paragraph 15.b to Ala Moana WWPS Force Main #2, and Paragraph 16 to the Old Hart Street Force Main. Paragraphs 14.b and 15.b were modified by the Third Joint Agreement to Modify First Amended Consent Decree, entered on September 15, 2015 (“Third Joint Agreement to Modify”).

Paragraph 17.d provides requirements if the Kaneohe / Kailua Tunnel Project proves infeasible, but since the project is complete, the requirement of this paragraph do not apply.

Paragraph 14 of the First Amended Consent Decree, which was modified by the Third Joint Agreement to Modify, requires CCH to design and Complete Construction of a new and permanent Beachwalk Force Main by the compliance milestone of April 12, 2013. Paragraph 14.b requires CCH to connect and maintain the new force main in good operating condition for use as a backup force main while the existing Beachwalk force main would be used as the lead force main. CCH may reverse the lead and backup designations as part of force main operations and maintenance. CCH certifies that it has maintained the new force main as a backup in good operating condition.

Paragraph 15 of the First Amended Consent Decree, which was modified by the Third Joint Agreement to Modify, requires CCH to design and Complete Construction of a new Ala Moana Force Main No. 3 by the compliance milestone of August 12, 2015. Paragraph 15.b allows CCH to

interchangeably use the three force mains #2, #3 and #4 as part of force main operations and maintenance. CCH certifies that it has maintained all three force mains in good operating condition.

Paragraph 16 of the CD requires CCH to retain, connect, and maintain the old Hart Street Force Main in good operating condition for use as a backup force main to handle emergency flows to the extent possible. The old Hart Street Force Main is currently not in service, as normal operations have used the new Hart Street Force Main, FM #2, as the primary force main since it was installed in 2004. However, the old Hart Street Force Main is connected to the Hart Street WWPS and can be operated as needed by reconfiguring the valves and pumps at the WWPS. As discussed in Section D above, this connection was completed on December 27, 2013. Subsequently, an internal condition assessment of the old Hart Street Force Main was conducted in May 2019 and did not identify any material risks of failure. However, CCTV inspection identified an infiltration leak that will require installation of a Weko seal. CCH executed an emergency procurement in November 2019 to repair the leak expeditiously, and expects to award the repair contract in the first quarter of 2020 with construction to be completed by June 30, 2020.

### Gravity Sewers

Paragraph 99.a.v requires CCH to certify that it has Completed Construction of the 1999 Final Sewer I/I Plan projects required to be constructed by June 30, 2020, pursuant to Paragraph 18.

Paragraph 18 of the CD requires CCH to complete construction of certain 1999 Sewer Inflow and Infiltration (I/I) projects, perform comprehensive inspection and assessment of selected gravity mains, and undertake a ten-year gravity main rehabilitation and replacement program. These activities are intended to address deficiencies in the system, reduce the risk of SSOs, and lead to a long-term sustainable renewal of CCH infrastructure.

#### A. 1999 Sewer I/I Plan Projects Completed – Paragraph 18

The projects listed below were conceptually developed in the 1999 Final Sewer I/I Plan and some of these projects were further developed during the planning and design phases. Sub paragraphs b, c, d and e organize the projects into 4 groups and specify compliance milestone dates of Complete Construction for each group by the end of 2011, 2013, 2014 and 2016. The following Tables organize the projects by the compliance milestone date and detail current project status.

**Table 29 Paragraph 18.b Requirements (Complete Const. by Dec. 31, 2011)**

Requirement	DDC Serial Number	Status
SI-CS-05 Kalihi Valley Reconstructed Sewer (aka Kalihi Valley Relief Sewer)	05-0284	This included one pipe segment, Sewer ID 250497. That sewer segment has been completed as part of project 08-0329. Construction completed on 4/1/2011.
SI-CS-36 Kalihi/Nuuanu Area Sewer Rehabilitation (aka Lanakila Ave. Relief Sewer), portion	08-0285	This included two sewer segments, Sewer ID 278874 and 280867. The sewer segments were completed as part of the IDIQ2 Project; see Appendix H. Construction completed on 9/19/2008.
SI-CS-63A Sand Island Basin Misc. Sewer Rehabilitation (aka Sand	05-0284	This included one pipe segment, Sewer ID 294754. That sewer segment has been completed as part of project 02-1301. Construction completed on 12/31/2008.

Requirement	DDC Serial Number	Status
Island Structural Rehabilitation-Phase 1)		

**Table 30 Paragraph 18.c Requirements (Complete Const. Dec. 31, 2013)**

Requirement	DDC Serial Number	Status
HN-CS-10B Waimalu Sewer Rehabilitation/Reconstruction Phase II - 7D01C (aka Honouliuli Sewer Rehabilitation - 7D01C)	09-0149	Construction completed on 9/9/2011.
HN-CS-13 Waimalu Sewer Rehabilitation/Reconstruction Phase I - 7D01C (aka Waimalu Sewer Replacement)	09-0149	Construction completed on 9/9/2011.
HN-TP-01 Honouliuli WWTP Upgrade	03-0417	Construction completed on 7/31/2010.
KK-PS-01 Enchanted Lakes Wastewater Pump Station Upgrade	02-1305	Construction completed on 12/27/2013.
SI-CS-51A Sewer Manhole and Pipe Rehabilitation at Various Locations (aka Republican St.-Nimitz Hwy-Awa Structural Rehabilitation - Phase 1)	02-1304	Construction completed on 2/9/2012.
SI-CS-53 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Auahi St. Structural Rehabilitation)	05-0653	A portion of this work was completed on 10/17/1997. Per the Third Joint Agreement to Modify, SI-CS-53 Complete Construction compliance milestone was extended to June 30, 2014. However the contractor had elected to accelerate the work and thus the 6' x 6' Box portion of this project was construction completed on 12/31/2013 under DDC serial number 11-0136.
SI-CS-53 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Auahi St. Structural Rehabilitation 6' x 6' Box)	05-0271	The 14-inch structural rehabilitation portion of this project was Construction completed on 6/27/2011 under DDC serial number 11-0429.
SI-CS-54 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Ala Moana Blvd.-24 Structural Rehabilitation)	05-0271	The remaining 24-inch sewer along Ala Moana Blvd was Construction completed on 5/16/2011 under DDC serial number 11-0113.
SI-CS-55 Ala Moana Blvd./Auahi St. Sewer	05-0271	The grouting portion of this project was Construction completed on 8/26/2014 under

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<b>Requirement</b>	<b>DDC Serial Number</b>	<b>Status</b>
Rehabilitation (aka Ala Moana Blvd.-36 Structural Rehabilitation)		DDC serial number 11-0136. Abandonment of 36-inch sewer was completed on 6/9/2012, after service was transferred to other lines in accordance with EPA approval on 5/8/2012.
SI-CS-57 Ala Moana Blvd. Sewer Reconstruction (aka Ala Moana Blvd.-16 Structural Rehabilitation)	03-0412	Construction completed on 4/4/2011.
SI-CS-59 Waikiki Sewer Rehabilitation/Reconstruction	04-1159	Construction completed on 6/19/2013.
SI-PS-14 Kuliouou Sewer Rehabilitation and WWPS Modification (aka Kuliouou WWPS Modification)	08-0098	Construction completed on 4/7/2010.
WH-TP-01 Wahiawa Wastewater Treatment Plant Influent Pump Station Upgrade and Equalization Facility (aka Modify IPS and New Storage at Wahiawa WWTP)	02-1306	Construction completed on 1/2/2013.
WM-CS-02 Waimanalo Sewer Rehabilitation	06-0354	Construction completed on 11/5/2013.

**Table 31 Compliance Milestone: Complete Const. 12/31/2014 (Para. 18.d)**

<b>Requirement</b>	<b>DDC Serial Number</b>	<b>Status</b>
HN-TP-02 Mililani WWPTF Storage and Headworks Upgrade (aka Mililani WWPTF Upgrade)	00-0564	Construction completed on 11/24/2014.
SI-CS-09 Kahanu St., School St., and Umi St. Relief Sewers (aka School St. Relief Sewer)	04-1147	Construction completed on 8/2/2011.
SI-CS-18 Kalaniana'ole Highway Sewer	04-1454	Construction completed on 9/16/2011
SI-CS-37 Kahanu St., School St., and Umi St. Relief Sewers (aka Umi St. Relief Sewer)	04-1147	Construction completed on 8/2/2011.
SI-CS-37 Kahanu St., School St., and Umi St. Relief Sewers (aka Umi St. Relief Sewer)	10-0037	Construction completed on 8/20/2011.
SI-CS-38 Kahanu St., School St., and Umi St.	04-1147	Construction completed on 8/2/2011.

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Requirement	DDC Serial Number	Status
Relief Sewers (aka Kahanu St. Relief Sewer)		
SI-CS-38 Kahanu St., School St., and Umi St. Relief Sewers (aka Kahanu St. Relief Sewer)	08-0890	Construction completed on 3/26/2011.
SI-CS-62 Kalaniana'ole Highway Sewer (aka Kalaniana'ole Hwy Structural Rehabilitation)	04-1454	Construction completed on 9/16/2011.
SI-PS-16 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 1 WWPS Upgrade - Phase 1)	08-0729	Construction completed on 3/30/2012.
SI-PS-17 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 2 WWPS Upgrade - Phase 1)	08-0729	Construction completed on 3/30/2012.

**Table 32 Compliance Milestone: Complete Const. 12/31/2016 (Para. 18.e)**

Requirement	DDC Serial Number	Status
HN-CS-04 Renton Road Sewer and Manhole Rehabilitation (portion: Eastern/Makakilo trunk)	pvt	Lower portion was completed by a private developer. CCH completed upper portion. Construction NTP issued for upper portion of trunk on 6/19/2015. Upper portion completed on 3/9/2016. Lower portion completed on 12/16/2016.
HN-CS-05B Leeward Area Sewer and Manhole Rehabilitation (aka Waipahu Manhole and Pipe Rehabilitation)	06-0090	Construction completed on 12/27/2012.
HN-CS-05C Leeward Area Sewer and Manhole Rehabilitation (aka Ewa Manhole Rehabilitation)	06-0090	Construction completed on 12/27/2012.
HN-CS-10A Wai'anae Area Sewer Rehabilitation/Reconstruction (aka Honouliuli Sewer Rehabilitation - 7D01A)	06-0664	This project was broken into two construction projects. DDC serial number 06-0664 construction completed 9/27/2013. DDC serial number 13-0110 construction completed on 11/9/2016.
HN-CS-10C Foster Village Sewer Rehabilitation/Reconstruction	05-0275	Construction completed on 7/22/2011.

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Requirement	DDC Serial Number	Status
(aka Honouliuli Sewer Rehabilitation - 7F05)		
KK-CS-04 Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Oneawa St. Structural Rehabilitation)	05-0281	Construction completed on 2/22/2011.
KK-CS-06 Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kailua Beach Park Structural Rehabilitation)	05-0281	Construction completed on 2/22/2011.
KK-CS-09 Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kaneohe Bay Drive Structural Rehabilitation)	08-0222	This work was completed under DDC serial number 05-0281. Construction completed on 2/22/2011.
KK-CS-12B Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kailua/Kaneohe Manhole and Pipe Structural Rehabilitation - Phase 2)	05-0281	Construction completed on 2/22/2011.
KK-CS-12B Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kailua/Kaneohe Manhole and Pipe Structural Rehabilitation - Phase 2)	08-0455	Construction completed on 5/22/2015.
SI-CS-30 Moiliili-Kapahulu Sewer Rehabilitation/Reconstruction (aka Date St. Relief Sewer)	06-0092	Construction completed on 4/11/2014.
SI-CS-43 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka North King St. Relief Sewer)	06-0636	Scope moved to Paragraph 18.f, SI-PS-04 Awa Street WWPS Upgrade. The work was evaluated and recommendations were made. Necessary replacement/relief sewers were constructed under the Peterson Lane and Pua Lane Sewer Rehabilitation project, which was completed on 9/28/2010. Hydraulic capacity was re-evaluated using the City's current hydraulic flow model, and was determined to be sufficient.
SI-CS-50 Airport Sewer Rehabilitation/Reconstruction (aka Airport Structural Rehabilitation)	09-0464	Construction completed on 12/31/2014.
SI-CS-50 Airport Sewer Rehabilitation/Reconstruction	06-0063	Construction completed on 10/18/2011.

Requirement	DDC Serial Number	Status
(aka Airport Structural Rehabilitation)		
SI-CS-51B Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction & Kalihi/Nuuanu Area Sewer Rehabilitation (aka Republican St.-Nimitz Hwy-Awa Structural Rehabilitation-Phase 2)	05-0284	The new DDC Serial No. is 10-0220. DDC 05-0284 is the parent job no. for the basin study. Multiple projects were created from the study and given new DDC Project Nos. This scope of work includes SMH repair under the recently created Kalihi Nuuanu Phase 1K project (DDC 10-0220). Construction completed on 10/27/2015.
SI-CS-58 Moiliili-Kapahulu Sewer Rehabilitation/Reconstruction (aka Moiliili-Kapahulu Structural Rehabilitation)	06-0092	Construction completed on 4/11/2014.
SI-CS-60 Old Sewer Tunnel Rehabilitation (aka Old Tunnel Structural Rehabilitation)	08-0107	Construction completed on 8/25/2016.

CCH certifies that it has complied with the requirements of Paragraphs 18.b through 18.e by completing the projects as described in the preceding tables.

**B. Projects Requiring Further Study (Paragraph 18.f)**

CCH conducted evaluations and developed recommendations for the projects in Paragraph 18.f. and submitted a report to EPA and DOH on December 17, 2014 that contained CCH's evaluations and recommended options for the projects. Pursuant to Paragraph 18.f of the Consent Decree, options for the projects were: (1) the project should be required and CCH should complete construction by June 30, 2020; (2) the project should be required but its construction can be completed after June 30, 2020, or; (3) the project should be eliminated. EPA and DOH accepted and approved the evaluations and recommendations on April 14, 2015.

The following table provides a summary of the Paragraph 18.f projects, including project status and selected option. The projects that were not eliminated are being addressed through various planning contracts and facility plans. The projects that are not included in a DDC planning contract (identified as "NONE" in the DDC Serial Number column) are being addressed in on-going wastewater regional facility plans.

**Table 33 Paragraph 18.f Requirements**

<b>Requirement</b>	<b>DDC Serial Number</b>	<b>Compliance Milestone</b>	<b>Status</b>
SI-CS-01 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Airport Relief Sewer)	04-1139	None	Eliminated
SI-CS-08 Iwilei/Kalihi Kai Sewer Rehabilitation/ Reconstruction (aka Dillingham Blvd-Iwilei Relief Sewer)	06-0636	Design NTP:  7/31/2017  Construction NTP:  12/31/2018  Complete Construction:  6/30/2020	After evaluation and hydraulic analysis of the project, recommendations were made for the two sewer lines.  Construction for Line A can be completed after 6/30/2020.  A new relief sewer on Waiakamilo Road from Nimitz Highway to Dillingham Boulevard is being constructed to satisfy the project for Line B. Construction NTP issued on 6/27/2018. Construction in progress and will be completed by June 30, 2020.  Refer to Awa Street Project section below for further information.
SI-CS-10 Chinatown Sewer Rehabilitation (aka College Walk-30 Replacement Sewer)	08-0083	Design NTP:  12/31/2016  Construction NTP:  7/31/2018  Complete Construction:  6/30/2020	SI-CS-10 is part of Awa St. WWPS FM & Sewer System Improvements - Waiakamilo Rd Trunk Sewer.  Design NTP issued 5/10/2015. Design completed. Construction bids opened on 12/19/2017. Construction NTP issued on 6/27/2018. Construction in progress.  Refer to Awa Street Project section below for further information.

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Requirement	DDC Serial Number	Compliance Milestone	Status
SI-CS-15 Manoa Sewer Relief/Rehabilitation (aka Manoa Relief Sewer)	08-0102		Recommended for completion after June 30, 2020
SI-CS-17 Palolo Valley Sewer Rehabilitation (aka Palolo Relief Sewer)	08-0108	Design NTP: 7/31/2017  Construction NTP:  12/31/2018  Complete Construction:  6/30/2020	Portion only to be completed by 6/30/2020. Other portion to be completed after 6/30/2020, including design and compliance milestones.  Design NTP issued 8/12/2016. Construction bids opened on 3/22/2018. Construction NTP issued 7/16/2018. Construction is in progress and is 40% complete.
SI-CS-22 Chinatown Sewer Rehabilitation (aka River St. Relief Sewer)	08-0083	None	Eliminated
SI-CS-22 Chinatown Sewer Rehabilitation (aka River St. Relief Sewer)	08-0331		This portion of the work was completed under DDC serial number 08-0331. Construction completed 9/10/2009.
SI-CS-27 Palolo Valley Sewer Rehabilitation (aka Waiomao Stream Relief Sewer)	08-0108		Recommended for completion after June 30, 2020
SI-CS-28 Kalihi / Nuuanu Area Sewer Rehabilitation (aka Auwaiolimu St. Relief Sewer)	05-0284		Recommended for completion after June 30, 2020
SI-CS-29 Kalihi/Nuuanu Area Sewer Rehabilitation (southern makai portion) (aka Nuuanu Relief Sewer)	05-0284 (planning) 10-0212 (construction)	Design NTP: 7/31/2017  Construction NTP:  12/31/2018  Complete Construction:  6/30/2020	Design NTP issued 6/27/2014.  Design completed.  Construction bids opened on 2/28/2018 and 3/2/2018. Construction NTP issued on 7/9/2018. Construction in progress and is 38% complete.
SI-CS-36 Kalihi/Nuuanu Area Sewer Rehabilitation	05-0284	None	Eliminated

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Requirement	DDC Serial Number	Compliance Milestone	Status
(aka Lanakila Ave. Relief Sewer), portion			
SI-CS-39 Kalihi / Nuuanu Area Sewer Rehabilitation (aka Kalani St. Relief Sewer)	05-0284		Recommended for completion after 6/30/2020
SI-CS-42 Dowsett Highlands Relief Sewer	10-0212	Design NTP: 7/31/2017  Construction NTP: 12/31/2018  Complete Construction: 6/30/2020	Design NTP issued 6/27/2014.  Design completed.  Construction bids opened on 2/28/2018 and 3/2/2018. Construction NTP issued on 7/9/2018. Construction in progress and is 38% complete.
SI-CS-43 Iwilei/Kalihi Kai Sewer Rehabilitation / Reconstruction (aka North King St. Relief Sewer)	06-0636	Complete Construction: 6/30/2020	Scope moved to Paragraph 18.f, SI-PS-04 Awa Street WWPS Upgrade.  The work was evaluated and recommendations were made. Necessary replacement/relief sewers were constructed under the Peterson Lane and Pua Lane Sewer Rehabilitation project, which was completed on 9/28/2010.  Refer to Awa Street Project section below for further information.
SI-CS-52 Iwilei /Kalihi Kai Sewer Rehabilitation / Reconstruction (aka Dillingham Blvd. – Iwilei Structural Rehabilitation)	06-0636	Complete Construction: 6/30/2020	Scope moved to Paragraph 18.f, SI-PS-04 Awa Street WWPS Upgrade. Work on lines and manholes requiring rehabilitation/replacement is being conducted through IDIQ Work Order, Awa St./Dillingham No. 2017-03-22. Construction NTP issued on 7/5/2017.

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Requirement	DDC Serial Number	Compliance Milestone	Status
			<p>Construction in progress and is 95% complete.</p> <p>A section of the 24-inch sewer, located between manhole 4100695 and manhole 4100703, was replaced with new 30-inch sewer under a private development project, and was completed on 6/1/2013.</p> <p>The work is performed through an Indefinite Delivery, Indefinite Quantity Contract (IDIQ) Work Order (WO) No. 2017-03-22, under the name Awa Street/Dillingham. The remaining work required by the CD is the rehabilitation of a single manhole (SMH #301641) and conducting post CCTV of a single sewer gravity line (Gravity main #4100705) to verify the lining is properly in place. These remaining two items will be completed and SI-CS-52 will be closed out by June 30, 2020.</p> <p>Refer to Awa Street Project section below for further information.</p>
WH-PS-02 Uwalu WWPS Upgrade	08-0113	None	Eliminated
SI-PS-01 Kamehameha Hwy WWPS Upgrade	09-0531		Recommended for completion after 6/30/2020
SI-PS-04 Awa Street WWPS Upgrade	10-0208	Design NTP: 7/31/2017  Construction NTP: 12/31/2018	A new trunk sewer on Waiakamilo Road from Nimitz Highway to Dillingham Boulevard is being constructed to reduce the hydraulic load to the Awa Street WWPS. Construction bid opened on

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Requirement	DDC Serial Number	Compliance Milestone	Status
		Complete Construction:  6/30/2020	12/19/2017. Construction NTP issued on 6/27/2018.  Construction in progress and is 40% complete.  Refer to Awa Street Project section below for further information.
SI-PS-06 Sand Island WWTP and Sewer Basin Facilities (aka Ala Moana WWPS and Force Main; upgrade of WWPS to 2020 flows will be further evaluated; note: the force main work is included in Paragraph 15)	08-0074	None	Eliminated
SI-PS-06 Sand Island WWTP and Sewer Basin Facilities (aka Ala Moana WWPS and Force Main; upgrade of WWPS to 2020 flows will be further evaluated; note: the force main work is included in Paragraph 15)	06-0065		This work is the Ala Moana Force Main No. 3, which is already addressed under CD Paragraph 15. Construction completed on 8/10/2015.
SI-PS-16 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 1 WWPS Upgrade – Phase 2)	04-1139		Recommended for completion after 6/30/2020
SI-PS-17 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 2 WWPS Upgrade – Phase 2)	04-1139		Recommended for completion after 6/30/2020
HN-CS-07 Honouliuli/Waipahu/Pearl City Wastewater Facilities (aka Waimalu Wastewater System Relief)	06-0667	None	Eliminated
HN-CS-08 Honouliuli/Waipahu/Pearl City Wastewater Facilities (aka Pearl City Trunk Sewer Relief)	06-0667	None	Eliminated
HN-CS-09 Pacific Palisades Diversion Sewer Line (aka	09-0393	None	Eliminated

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Requirement	DDC Serial Number	Compliance Milestone	Status
Pacific Palisades Relief Sewer)			
HN-CS-14 Waipahu Sewer Replacement/Relief Sewer (aka Waipahu Sewer Replacement)	03-0440	None	Eliminated
HN-PS-01 Waipio WWPS Upgrade	06-0669	None	Eliminated
HN-PS-04 Honouliuli/Waipahu/Pearl City Wastewater Facilities (aka Pearl City WWPS Relief)	06-0667	Design NTP: 7/31/2015 Construction NTP: 12/31/2016	For Pearl City WWPS: Complete Construction after 6/30/2020. Design NTP issued 9/18/2013.  For Waipahu WWPS, Piping modification project: Construction NTP issued 9/24/2014. Construction completed on 6/30/2017.
KK-CS-01 Kalaheo Ave. Relief Sewer	08-0741	None	Eliminated
KK-CS-13 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Alii Shores Relief Sewer)	03-0414	None	This portion of the requirement was performed under DDC serial number 03-0414. Construction completed on 1/9/2009.
KK-CS-13 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Alii Shores Relief Sewer)	08-0095	None	Eliminated
KK-CS-15 Hele St. Sewer Relief / Rehabilitation (aka Hele St. Relief Sewer)	09-532		Recommended for completion after 6/30/2020
KK-CS-20 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Kaha St. Relief Sewer)	08-0095	None	Eliminated
KK-CS-21 Kaneohe Sewer Relief / Rehabilitation, C2 Projects (aka kahuhipa St. Relief Sewer)	08-0095		Recommended for completion after 6/30/2020
KK-CS-22 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Namoku St. Relief Sewer)	08-0095	None	Eliminated
KK-CS-23 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Puohala Relief Sewer)	08-0095	None	Eliminated

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Requirement	DDC Serial Number	Compliance Milestone	Status
KK-CS-25 Kaneohe Sewer Relief / Rehabilitation, C2 Projects (aka Makahio St. Relief Sewer)	08-0095		Recommended for completion after 6/30/2020
KK-PS-02 Waikalua WWPS Upgrade	08-0115		Recommended for completion after 6/30/2020
KK-PS-10 Kahanahou Pump Station Upgrade	08-0734	Design NTP: 12/31/2016  Construction NTP: 7/31/2018  Complete Construction: 6/30/2020	Design NTP issued 6/9/2016.  Design completed.  Construction project bid opened on 4/28/2017.  Construction at 70% complete with anticipated completion date of 3/15/2020.
KK-PS-12 Waikapoki WWPS Upgrade	06-0102	Design NTP: 12/31/2016  Construction NTP: 7/31/2018  Complete Construction: 6/30/2020	Design NTP issued 3/14/2012.  Design completed.  Construction bid opened on 4/20/2017. Construction NTP issued 9/25/2017.  Project was substantially completed on 12/19/2019

CCH certifies that it has completed or will complete the projects designated to be completed by June 30, 2020, with the exception of Project SI-CS-10, , as described below.

C. Awa Street Project

The Awa Street Wastewater Pump Station Upgrade Project is a consolidated project consisting of the following projects:

- 18.e, SI-CS-10 Chinatown Sewer Rehabilitation (aka College Walk-30 Replacement Sewer);
- 18.e, SI-CS-43 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka North King St. Relief Sewer);
- 18.e, SI-CS-52 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka Dillingham Blvd. – Iwilei Structural Rehabilitation);

- 18.f, SI-CS-08 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka Dillingham Blvd. - Iwilei Relief Sewer); and
- 18.f, SI-PS-04 Awa Street WWPS Upgrade

As detailed in the preceding table, these projects have been completed or will be completed by June 30, 2020, with the exception of SI-CS-10, which has been delayed due to unforeseen site conditions. CCH is proceeding with the best technically feasible means to ensure completion of SI-CS-10 as soon as practicable and has requested a modification of the construction completion date.

D. Final Deferred Projects List (Paragraph 18.g.ix)

Paragraph 18.g of the Consent Decree requires CCH to continue its ongoing Wet Weather I/I Assessment update.

As compliance milestones, Paragraph 18.g.ix of the Consent Decree requires CCH to complete construction of the deferred projects as necessary in the revised Final Deferred Projects Report, dated May 2014, as approved and prioritized for completion by no later than June 30, 2020, and shall comply with the following interim requirements:

- As interim compliance milestones, by no later than December 31, 2016, CCH shall award the detailed design contract for each of the projects.
- As interim Compliance milestones, by no later than July 31, 2018, CCH shall award the contract to construct each of the projects.

**Table 34 Paragraph 18.g.ix Requirements**

Requirement	DDC Serial Number	Compliance Milestone	Status
KK-CS-27 Waikapoki Relief Sewer (Windward Tributary Area)	08-0734	Design NTP: 12/31/2016 Construction NTP: 7/31/2018 Complete Construction: 06/30/2020	IDIQ on-going. Design NTP: 6/5/17 Construction NTP: 9/20/17 Construction in progress and is 53% complete.
SI-CS-29 Nuuanu Relief Sewer (Dowsett Highlands Relief Sewer)	16-0137	Design NTP: 7/31/2017 Construction NTP: 12/31/2018 Complete Construction: 06/30/2020	Design NTP issued 6/27/2014. Design completed. Construction bids opened on 2/28/2018 and 3/2/2018. Construction NTP issued on 7/9/2018. Construction in progress and is 48% complete.
SI-CS-44 Alewa Heights Relief Sewer (Hart St. Tributary Area)	13-0103	Design NTP: 12/31/2016	Construction completed on

Requirement	DDC Serial Number	Compliance Milestone	Status
		Construction NTP: 7/31/2018 Complete Construction: 06/30/2020	1/10/2018 via IDIQ work.
SI-CS-49 Waikiki Relief Sewer (Ala Moana Tributary Area)	16-0306	Design NTP: 12/31/2016 Construction NTP: 7/31/2018 Complete Construction: 06/30/2020	Design NTP issued 12/28/2016. Construction NTP issued on 7/19/2018. Construction in progress and is 90% complete.

E. Wet Weather I/I Assessment Update Projects Incorporated Into Capital Improvement Plan (Para18.g.x)

Paragraph 99.a.vi requires CCH to certify that it has incorporated into its Capital Improvement Plan the projects determined appropriate as a result of analysis or development pursuant to the Wet Weather I/I Assessment Update in Paragraph 18.g.x.

Paragraph 18.g.x of the CD requires that within 12 months of the approval of the Final Deferred Projects Report, CCH shall update its Capital Improvement Plan to include:

- (a) Deferred Projects determined to be reasonably necessary to prevent capacity-related spills from its Wastewater Collection System during wet weather through the year 2030, but not appropriate to construct by a deadline of June 30, 2020, and;
- (b) New Projects (identified pursuant to Paragraph 18.g.vii.(c)) determined to be reasonably necessary to prevent capacity-related spills from its Wastewater Collection System during wet weather through the year 2030.

Seven projects were identified as reasonably necessary to prevent capacity-related spills during wet weather through the year 2030, but not appropriate to construct by a deadline of June 30, 2020. A single new project was determined to be reasonably necessary to prevent capacity-related spills during wet weather through the year 2030. CCH has incorporated the deferred and new projects into its CIP program. CCH Annual Budget is available online. Budget summary sheets showing the incorporated projects are attached.

Table 35 provides the project status of the incorporated but deferred CIP projects. Table 36 provides the project status of incorporated new projects. As required in Paragraph 18.g.x of the CD, the tables includes a description of each project and a projected schedule for completion of the project.

**Table 35 Deferred CIP Project Status**

Project ID	DDC Serial Number	Description	Status
KK-CS-19 Maunawili Relief Sewer	13-0090	Plan and design pump station, force main and sewer improvements.	Added to CIP Program, Construction complete

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Project ID	DDC Serial Number	Description	Status
			<p>after June 30, 2020, In planning.</p> <p>Funding is currently programmed for construction in FY 2021, under the Maunawili WWPS, Force Mains and Sewer Improvements, Kailua project.</p>
KK-CS-26 Keaahala Relief Sewer	18-0017	2012 Wet Weather I/I Assessment Update Proposed Project Scope: Upsize approx. 1,079 LF of existing sewer along an easement between William Henry Rd and Waikapoki Rd; initial estimate is to upsize to 12-inch sewer.	<p>Added to CIP Program, Construction complete after June 30, 2020.</p> <p>Currently retained consultant for planning. Being considered under the Sewer I/I and Rehabilitation Projects – Windward Increment 2.</p>
KK-PS-14 Maunawili Estates WWPS Upgrade	13-0090	Upgrade the capacity of Maunawili Estates WWPS to approx. 1.17 mgd.	<p>Added to CIP Program, Construction complete after June 30, 2020.</p> <p>Funding is currently programmed for construction in FY 2021, under the Maunawili WWPS, Force Mains and Sewer Improvements, Kailua project.</p>
SI-CS-04 Auiki Street Relief Sewer	05-0284 & 13-0103	Upsize approx. 2,726 LF of existing sewer with initial estimate as follows: - 771 LF of 12-inch, - 1,955 LF of 15-inch sewer.	<p>Added to CIP Program, Construction complete after June 30, 2020.</p> <p>Funding for Planning and Development was encumbered in FY2013 through FY2016, under the Sewer I/I Relief and Rehabilitation Projects – Hart St. Tributary Basin project. Construction funding for this project was initially appropriated in FY17, but lapsed and will be reprogrammed.</p>

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<b>Project ID</b>	<b>DDC Serial Number</b>	<b>Description</b>	<b>Status</b>
WN-TP-01 Waianae WWTP Influent Pump Station Upgrade		Upgrade the capacity of the Waianae WWTP Influent Pump Station to approx. 14.3 mgd. This project should be coordinated with recommendations from the Waianae Wastewater Facilities Plan. Since 2000, the peak flow at the Influent Pump Station has not exceeded 9.3 mgd.	Added to CIP Program, Construction complete after June 30, 2020.  Currently under the Waianae WWTP Influent Pump Station Upgrade & Flow Equalization. Funding programmed for construction in FY 2025.
KK-CS-16 Iana Street Relief Sewer and KK- CS-26 Keaahala Relief Sewer		Upsize approx. 1,704 LF of existing sewer from Wanaao Rd through easements to Iana St, through easements towards Paumakua Pl.; initial estimate as follows: 244 LF of 8-inch sewer and 1,460 LF of 12-inch sewer.	Added to CIP Program, Construction complete after June 30, 2020.  Currently under the Sewer I/I Relief Sewer and Rehab Projects, Windward, Increment 2. Funding programmed for construction in 2023.
KK-PS-03 Aala WWPS Upgrade		Upgrade the capacity of Aala WWPS to approx. 0.9 mgd.	Added to CIP Program, Construction complete after June 30, 2020.  Currently programmed for Construction in FY 2022 as Windward Area WWPS Facilities Improvements or a standalone project called Aala WWPS Improvements.

**Table 36 New CIP Projects**

<b>Project ID</b>	<b>Project ID</b>	<b>Description</b>	<b>Status</b>
SI-GM-01 Punahou Street Relief Sewer	17-008 (construction) & 13- 0102 (design)	Upsizing 1,089 linear foot of existing 8" sewer line to new 16" sewer lines and 1,128 linear foot of existing 6" sewer line to new 8" sewer lines.	Added to CIP Program, Construction complete by June 30, 2020.  Construction NTP July 2018, In construction and 90% complete,

CCH certifies that it has incorporated the above projects into its Capital Improvement Plan.

F. Gravity Sewer Miles Inspected – Paragraph 19

Paragraph 99.a.vii requires CCH to certify that it has inspected and assessed the number of miles of gravity sewers required pursuant to Paragraph 19. Paragraph 19 of the CD requires CCH to conduct a comprehensive inspection and assessment of selected gravity mains. The Condition Assessment shall be directed at identifying gravity main defects or conditions that may cause or contribute to SSOs, including, but not limited to, design and construction defects, structural defects, debris, root intrusion, or grease accumulation. The Condition Assessment shall be directed at gravity mains in asset classes that CCH determines to be associated with an elevated risk of SSOs. As a performance requirement, CCH shall inspect and assess: (i) 300 miles of gravity mains from January 1, 2009, to no later than three years after the Effective Date of this Consent Decree; and (ii) a total of 650 miles of gravity mains, beginning from January 1, 2009, by no later than June 30, 2020.

CCH certifies that it has completed the first 300 miles by 12/17/2013. The GCD requires an additional 350 miles (650 miles total) to be completed by no later than June 30, 2020. CCH has completed 1,062 miles of inspection as of 6/30/2019.

G. Gravity Sewer Miles Repaired, Rehabilitated, or Replaced – Paragraph 20

Paragraph 99.a.viii requires CCH to certify that it has repaired, rehabilitated, or replaced the number of miles of gravity sewers required pursuant to Paragraph 20. Paragraph 20 of the CD requires CCH to undertake a ten-year Rehabilitation and Replacement Program for its gravity mains in order to take corrective action necessary to address deficiencies in its system, reduce the risk of SSOs, and lead to a long-term sustainable renewal of its infrastructure. Pursuant to this Program, CCH shall complete a total of 144 miles of Rehabilitation and Replacement projects by no later than June 30, 2020 and shall complete no less than 63 miles of Rehabilitation and Replacement projects by the end of Year Three. CCH certifies that it completed 63 miles of rehabilitation and replacement projects by the end of Year Three, with an additional 31.21 miles banked. At the end of year nine, CCH had completed 138.55 miles with an additional 37.7 banked miles.

Other

There are no outstanding stipulated penalty assessments or pending dispute resolution proceedings with regard to CCH's Wastewater Collection System pursuant to the Consent Decree.

Conclusion

This Nine and One-Half Year Report documents and certifies that CCH is in compliance with the requirements of Paragraph 99.a. of the Consent Decree, subsequently amended. The demonstrable measures that CCH has implemented include a program of improvements to the wastewater collection and treatment systems owned by CCH and are detailed in the preceding paragraphs. CCH certifies specifically:

- i. that CCH has met the interim compliance milestones in Paragraph 11.c. (Force Main Spill Contingency Planning), and obtained approval of the spill contingency plans required therein;
- ii. that CCH has completed work required in the follow-up action plans to be completed by no later than June 30, 2020, as required by Paragraph 12;
- iii. that CCH has Completed Construction of the Force Main Projects required by Paragraphs 13.d., 14.a, 15.a., and 16, and has both completed construction of the Kaneohe/Kailua Sewer Tunnel Project required by Paragraph 17.a. and completed the initial two-year operation period set forth in Paragraph 17.c;

- iv. that CCH is maintaining backup force mains in good operating condition as required by Paragraphs 14.b., 15.b. and 16;
- v. that CCH has Completed Construction, or will Complete Construction, of the 1999 Final Sewer I/I Plan projects required to be constructed by June 30, 2020, pursuant to Paragraph 18; with the exception of Paragraph 18.f project SI-CS-10;
- vi. that CCH has incorporated into its Capital Improvement Plan the projects that CCH had determined appropriate to program as a result of analysis or development pursuant to the Wet Weather I/I Assessment Update in Paragraph 18.g.x.;
- vii. that CCH has inspected and assessed the number of miles of gravity sewers required pursuant to Paragraph 19;
- viii. that CCH has repaired, rehabilitated or replaced the number of miles of gravity sewers required pursuant to Paragraph 20; and
- ix. that there are no outstanding stipulated penalty assessments or pending dispute resolution proceedings with regard to CCH's Wastewater Collection System pursuant to the Consent Decree.

## Attachment: Incorporated Project Budget Summary Sheet

**Six-Year CIP and Budget FY 2020-2025**



**MAUNAWILI WASTEWATER PUMP STATIONS, FORCE MAINS AND SEWER IMPROVEMENTS, KAI**

Project:	2013059	Function:	Sanitation	Council:	03
Priority No.:		Program:	Sewage Collection And Disposal	Nbrd Board:	31
TMK:		Department:	Environmental Services	Senate:	24
				House:	49
				Other:	

**Description:** This project is to address peak wet weather flow projections for the Maunawili Park WWPS and Maunawili Estates WWPS, Kailua, and provide for miscellaneous structural, mechanical, electrical and site improvements as determined in the planning phase. Project may also include improvements to the pump stations, force mains and sewer lines in the vicinity as determined in the planning phase to address the peak flows. Project includes KK-CS-19, Maunawili Relief Sewer, and KK-PS-14, Maunawili Estates WWPS Upgrade, per para. 18.g. of the 2010 Consent Decree, and in accordance with the Final Deferred Projects Report, May 2014.

**Justification:** Subject to the results of the planning phase evaluations, and in accordance with the I/I assessment update per the 2010 Consent Decree, for project nos. KK-CS-19 and KK-PS-14, and field verifications, the project will address peak wet weather flow requirements. The project also includes miscellaneous structural, mechanical, electrical and site improvements needed to ensure pump station and force main reliability and compliance with current standards.

**Use of Funds:** Design, construct and inspect wastewater pump stations, force mains and sewer improvements.

*dollars in thousands*

Phase	Fund Src	Expend Encumb	Appn 2018	Appn 2019	2020	2021	2022	2023	2024	2025	Total 6 Years	Future Years
LAND	SR	0	0	0	0	0	0	0	0	0	0	0
LAND	SW	0	0	0	0	0	0	0	0	0	0	0
PLAN	SR	0	0	0	0	0	0	0	0	0	0	0
PLAN	SW	700	300	0	0	0	0	0	0	0	0	0
DGN	SR	0	0	0	0	0	0	0	0	0	0	0
DGN	SW	602	600	0	0	1	0	0	0	0	1	0
CONST	SR	0	0	0	0	0	0	0	0	0	0	0
CONST	SW	0	0	0	0	8,000	0	0	0	0	8,000	0
INSP	SR	0	0	0	0	0	0	0	0	0	0	0
INSP	SW	0	0	0	0	600	0	0	0	0	600	0
<b>Total</b>		<b>1,302</b>	<b>900</b>	<b>0</b>	<b>0</b>	<b>8,601</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8,601</b>	<b>0</b>

Estimated Implementation Schedule		
Phase	Start Date	End Date
PLAN	5/1/2014	12/1/2020
DGN	7/1/2017	12/1/2023
CONST	12/1/2021	12/1/2023

Annual Effect on Operating Budget	
No of Positions	0
Salary Cost	0
Cur Exp & Equip	0
Maint Cost	0
Useful Life	50

**Six-Year CIP and Budget FY 2020-2025**



**SEWER I/I RELIEF AND REHABILITATION PROJECTS - ALA MOANA TRIBUTARY BASIN**

Project:	2013063	Function:	Sanitation	Council:	99
Priority No.:		Program:	Sewage Collection And Disposal	Nbrd Board:	99
TMK:		Department:	Environmental Services	Senate:	99
				House:	99
				Other:	

**Description:** Project includes sewer relief and sewer rehabilitation projects identified by the Wet Weather I/I Assessment Update work, facility planning and condition assessments, in accordance with the requirements of the 2010 Consent Decree. This project covers the sewer collection basin that is tributary to the Ala Moana Wastewater Pump Station, which is roughly from the downtown and Punchbowl areas going eastward to Niu Valley. Project includes, but is not limited to, project SI-CS-49, Waikiki Relief Sewer, and SI-GM-01, Punahou Street Relief Sewer, in accordance with the Wet Weather I/I Assessment Update Report, December 2013, and the Final Deferred Projects Report, May 2014.

**Justification:** The sewer relief and rehabilitation projects will meet requirements of the 2010 Consent Decree, for the purpose of preventing and reducing sanitary sewer overflows.

**Use of Funds:** Design, construct and inspect sewer relief and rehabilitation projects.

*dollars in thousands*

Phase	Fund Src	Expend Encumb	Appn 2018	Appn 2019	2020	2021	2022	2023	2024	2025	Total 6 Years	Future Years
LAND	SR	0	1	0	0	0	0	0	0	0	0	0
LAND	SW	0	0	0	0	0	0	0	0	0	0	0
PLAN	SR	2	1	0	0	0	0	0	0	0	0	0
PLAN	SW	1,401	0	0	0	0	0	0	0	0	0	0
DGN	SR	2,500	500	1	0	0	0	0	0	0	0	0
DGN	SW	1,502	0	0	0	0	0	0	0	0	0	0
CONST	SR	14,206	15,000	15,000	0	0	0	0	0	0	0	0
INSP	SR	0	1,500	1,500	0	0	0	0	0	0	0	0
<b>Total</b>		<b>19,611</b>	<b>17,002</b>	<b>16,501</b>	<b>0</b>	<b>0</b>						

Phase	Start Date	End Date
PLAN	1/1/2013	1/1/2019
DGN	7/1/2015	12/31/2021
CONST	10/1/2017	12/31/2021

No of Positions	0
Salary Cost	0
Cur Exp & Equip	0
Maint Cost	0
Useful Life	60

**Six-Year CIP and Budget FY 2020-2025**



**SEWER I/I RELIEF AND REHABILITATION PROJECTS - HART ST. TRIBUTARY BASIN**

Project:	2013064	Function:	Sanitation	Council:	99
Priority No.:		Program:	Sewage Collection And Disposal	Nbrd Board:	99
TMK:		Department:	Environmental Services	Senate:	99
				House:	99
				Other:	

**Description:** Project includes sewer relief and sewer rehabilitation projects identified by the Wet Weather I/I Assessment Update work, facility planning and condition assessments, in accordance with the requirements of the 2010 Consent Decree. This project covers the sewer collection basin that is tributary to the Hart St. Wastewater Pump Station, which roughly covers from the downtown area and westward to the Red Hill area. Project includes, but is not limited to, project SI-CS-44, Alewa Heights Relief Sewer, SI-CS-04, Auiki Street Relief Sewer, and SI-CS-39, Kalani Street Relief Sewer, in accordance with the Wet Weather I/I Assessment Update Report, December 2013, the Final Deferred Projects Report, May 2014, and the 18.f Report of Evaluation and Recommendations, December 2014.

**Justification:** The sewer relief and rehabilitation projects will meet requirements of the 2010 Consent Decree, for the purpose of preventing and reducing sanitary sewer overflows.

**Use of Funds:**

*dollars in thousands*

Phase	Fund Src	Expend Encumb	Appn									Total 6 Years	Future Years	
			2018	2019	2020	2021	2022	2023	2024	2025				
LAND	SR	0	1	0	0	0	0	0	0	0	0	0	0	0
LAND	SW	0	0	0	0	0	0	0	0	0	0	0	0	0
PLAN	SR	1	1	0	0	0	0	0	0	0	0	0	0	0
PLAN	SW	1,401	0	0	0	0	0	0	0	0	0	0	0	0
DGN	SR	1,000	1	0	0	0	0	0	0	0	0	0	0	0
DGN	SW	2,002	0	0	0	0	0	0	0	0	0	0	0	0
CONST	SR	1,756	1	0	0	0	0	0	0	0	0	0	0	0
INSP	SR	0	1,200	0	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>6,160</b>	<b>1,204</b>	<b>0</b>	<b>0</b>	<b>0</b>								

Phase	Start Date	End Date
PLAN	1/1/2013	1/1/2018
DGN	5/1/2016	7/1/2020
CONST	12/1/2017	7/1/2020

No of Positions	0
Salary Cost	0
Cur Exp & Equip	0
Maint Cost	0
Useful Life	60

**Six-Year CIP and Budget FY 2020-2025**



**SEWER I/I RELIEF & REHABILITATION PROJECTS - WINDWARD, INCREMENT 2**

Project:	2017061	Function:	Sanitation	Council:
Priority No.:		Program:	Sewage Collection And Disposal	Nbrd Board:
TMK:		Department:	Environmental Services	Senate:
				House:
				Other:

**Description:** Project includes Increment 2 of sewer relief and sewer rehabilitation projects identified by capacity assessment, facility planning and condition assessments, and in accordance with the requirements of the 2010 Consent Decree. This project covers the sewer collection basins that are tributary to the Kailua Wastewater Treatment Plant, the Waimanalo Wastewater Treatment Plant, and the Kahuku Wastewater Treatment Plant, which roughly covers all windward areas starting from Waimanalo to Kailua, Kaneohe, Ahuimanu, and Kahuku. Project may include, but not be limited to, project nos. KK-CS-16, Iana Street Relief Sewer, KK-CS-21, Kahuhipa Street Relief Sewer, KK-CS-25, Makahio Street Relief Sewer, and KK-CS-26, Keaahala Relief Sewer, in accordance with the Final Deferred Projects Report, May 2014, and the 18.f Report of Evaluation and Recommendations, December 2014.

**Justification:** The sewer relief and rehabilitation projects are needed for continued reliability of service. Project includes some improvements needed to meet requirements of the 2010 Consent Decree which have construction completion schedule allowed after 2020.

**Use of Funds:** Plan and design sewer relief and rehabilitation projects.

*dollars in thousands*

Phase	Fund Src	Expend Encumb	Appn 2018	Appn 2019	2020	2021	2022	2023	2024	2025	Total 6 Years	Future Years
PLAN	SR	0	0	0	0	0	0	0	0	0	0	0
PLAN	SW	0	0	500	0	1	0	0	0	0	1	0
DGN	SR	0	0	0	0	0	0	0	0	0	0	0
DGN	SW	0	0	1	0	500	0	1	1	0	502	0
CONST	SW	0	0	0	0	0	0	2,800	1	0	2,801	0
INSP	SW	0	0	0	0	0	0	300	300	0	600	0
<b>Total</b>		<b>0</b>	<b>0</b>	<b>501</b>	<b>0</b>	<b>501</b>	<b>0</b>	<b>3,101</b>	<b>302</b>	<b>0</b>	<b>3,904</b>	<b>0</b>

Estimated Implementation Schedule		
Phase	Start Date	End Date
PLAN	10/1/2019	7/1/2022
DGN	10/1/2019	7/1/2025

Annual Effect on Operating Budget	
No of Positions	0
Salary Cost	0
Cur Exp & Equip	0
Maint Cost	0
Useful Life	60

**Six-Year CIP and Budget FY 2020-2025**



**WINDWARD AREA WASTEWATER PUMP STATION FACILITIES IMPROVEMENTS**

Project:	2013101	Function:	Sanitation	Council:	03
Priority No.:		Program:	Sewage Collection And Disposal	Nbrd Board:	31
TMK:		Department:	Environmental Services	Senate:	24
				House:	51
				Other:	

**Description:** This project provides condition assessment of existing wastewater facilities and design and construction of improvements, including pumping, structural, mechanical, electrical and site improvements and upgrades as determined in the planning phase. This project includes wastewater pump stations (WWPS) in the Windward area, including initially A'ala WWPS, Alala Point WWPS, Coconut Grove WWPS, Halekou WWPS, Kahawai Stream WWPS and Kailua Road WWPS. Includes project no. KK-PS-03, A'ala WWPS Upgrade, per para. 18.g., of the 2010 Consent Decree, and in accordance with the Final Deferred Projects Report, May 2014. Construction phase funds for Kailua Road WWPS Improvements are under project #2017058. Other Windward WWPS's may be added in future budget years.

**Justification:** Pumping, structural, mechanical, electrical and site improvements identified in the planning phase are intended to ensure station reliability and compliance with current standards, which also provides prevention and reduction of potential sanitary sewer overflows. KK-PS-03, A'ala WWPS Upgrade, para. 18.g., has a construction completion schedule allowed after 2020.

**Use of Funds:**

*dollars in thousands*

Phase	Fund Src	Expend Encumb	Appn 2018	Appn 2019	2020	2021	2022	2023	2024	2025	Total 6 Years	Future Years
PLAN	SR	0	0	0	0	0	0	0	0	0	0	0
PLAN	SW	3	0	0	0	0	0	0	0	0	0	0
DGN	SR	0	0	0	0	0	0	0	0	0	0	0
DGN	SW	1,600	0	0	0	0	1	0	0	0	1	0
CONST	SR	0	0	0	0	0	0	0	0	0	0	0
CONST	SW	0	0	0	0	0	3,000	0	0	0	3,000	0
INSP	SR	0	0	0	0	0	0	0	0	0	0	0
INSP	SW	0	0	0	0	0	300	0	0	0	300	0
<b>Total</b>		<b>1,603</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,301</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,301</b>	<b>0</b>

Estimated Implementation Schedule		
Phase	Start Date	End Date
PLAN	9/1/2012	1/1/2022
DGN	7/1/2016	6/1/2024
CONST	9/1/2021	6/1/2024

Annual Effect on Operating Budget	
No of Positions	0
Salary Cost	0
Cur Exp & Equip	0
Maint Cost	0
Useful Life	50

**Six-Year CIP and Budget FY 2020-2025**



**WAIANAEE WWTP INFLUENT PUMP STATION UPGRADE & FLOW EQUALIZATION**

Project:	2017062	Function:	Sanitation	Council:	
Priority No.:		Program:	Sewage Collection And Disposal	Nbrd Board:	
TMK:		Department:	Environmental Services	Senate:	
				House:	
				Other:	

**Description:** Project includes rehabilitation and/or upgrades at the Waianae Wastewater Treatment Plant, including improvements to the influent pump station, and consideration of alternative equalization storage facilities. Project will also provide related reliability improvements to electrical, mechanical, civil and structural components at these facilities.

**Justification:** Upgrades and improvements at the WWTP are required to ensure continued reliability and efficiency of the facilities. Includes project no. WN-TP-01, para. 18.g., per the requirements of the 2010 Consent Decree, which has a construction completion schedule allowed after 2020.

**Use of Funds:** Plan and design wastewater treatment plant influent pump station and flow equalization improvements.

*dollars in thousands*

Phase	Fund Src	Expend Encumb	Appn		2020	2021	2022	2023	2024	2025	Total 6 Years	Future Years
			2018	2019								
PLAN	SR	0	0	0	0	0	0	0	0	0	0	0
PLAN	SW	0	0	0	0	0	500	1	0	0	501	0
DGN	SR	0	0	0	0	0	0	0	0	0	0	0
DGN	SW	0	0	0	0	0	1	600	0	1	602	0
CONST	SR	0	0	0	0	0	0	0	0	0	0	0
CONST	SW	0	0	0	0	0	0	0	0	6,000	6,000	0
INSP	SR	0	0	0	0	0	0	0	0	0	0	0
INSP	SW	0	0	0	0	0	0	0	0	600	600	0
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>501</b>	<b>601</b>	<b>0</b>	<b>6,601</b>	<b>7,703</b>	<b>0</b>

Phase	Start Date	End Date
PLAN	10/1/2022	7/1/2025
DGN	10/1/2022	7/1/2028

No of Positions	0
Salary Cost	0
Cur Exp & Equip	0
Maint Cost	0
Useful Life	30