

SEWER MASTER PLAN UPDATE HCDA KAKA'AKO MAUKA DISTRICT

Kaka'ako, O'ahu, Hawai'i

October 2014

Prepared for:

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and

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1 PURPOSE

The purpose of this study is to provide an updated sewer master plan for the Hawai'i Community Development Authority (HCDA) Kaka'ako Community Development District (KCDD) – Mauka Area. The analysis reflects development projects currently or soon to be under construction, developments and infrastructure upgrades proposed by the Howard Hughes Group (HHG) for their properties within the district, and the increased densities proposed in the Transit Oriented Development (TOD) overlay for the KCDD Mauka area. The infrastructure requirements associated with the current developments and infrastructure improvements were not available at the time the previous utility analyses presented in the *Mauka Area Infrastructure Plan*¹ prepared in conjunction with the *KCDD Final Supplemental Environmental Impact Statement – Mauka Area Plan*² was prepared.

Recommendations for system improvements are made to upgrade the infrastructure system to meet the demands of the projected development scenarios. The master plan will be used by the City and County of Honolulu (City) as a guide for evaluating infrastructure needs for future developments in the KCDD Mauka Area.

2 BACKGROUND

HCDA is considering rule changes for the KCDD to incorporate transit oriented development. Rule changes would permit greater development densities than currently allowed under the Mauka Area rules. The sewer master plan maintained by City does not reflect the ongoing developments or proposed densities as allowed in the Mauka Area rules. The City master plan for the KCDD Mauka Area was last updated in 2009. This study will model the existing sewer infrastructure systems and comment on whether the existing systems can sustain an increase in development density.

The study area is approximately 503 acres, bound by South King Street, Pi'ikoi Street, Ala Moana Boulevard, and Punchbowl Street. The analysis considers four scenarios: the existing condition, a Future Baseline Condition, the Proposed TOD Alternative A, and the 690 Pohukaina Street Project. Where appropriate, projects currently approved for development are incorporated into each scenario.

- The existing condition is defined as the current land uses for each tax map key parcel and include redevelopment projects that have an approved sewer connection application or that are currently under construction. Uses and densities were derived from real property records of the individual tax map parcels within the study area.
- The Future Baseline Condition represents full build out in accordance with the current Mauka Area rules. Redevelopment is evaluated by large city blocks, combining several

¹ M&E Pacific, *Kakaako Community Development District, Mauka Area Infrastructure Plan* (Honolulu: March 2009).

² EDAW, Inc., *Kakaako Community Development District, Final Supplemental Environmental Impact Statement, Mauka Area Plan* (Honolulu, May 2009).

adjacent TMK parcels generally bound by the existing street grid. A capacity study³ detailing the number of residential units and floor areas for non-domestic uses was prepared, presenting a plausible development plan in conformance with the current Mauka Area rules.

- The TOD Alternative A represents the full build out of the KCDD utilizing an increase in densities over and above what is currently allowed in the Mauka Area rules. A redevelopment plan was prepared using the same methodology as the Future Baseline Condition with the proposed TOD Alternative A densities.
- The TOD Alternative B proposes densities similar to the TOD Alternative A, however, with a 400-ft building height cap imposed. The resulting densities for Alternative B are approximately 10% less than Alternative A. Given the marginal difference in densities, the master plan analysis considers only the greater densities proposed under TOD Alternative A.
- The 690 Pohukaina Street Project is a high-rise condominium project that is incorporated into TOD Alternatives A and B. The project is evaluated as being constructed prior to full build out of the TOD Alternatives. The existing condition model was modified to incorporate the project.

For the purposes of the infrastructure master plan update, infrastructure demands for specific blocks in the Future Baseline and TOD Alternative A scenarios were adjusted to reflect properties that are not likely to be redeveloped. For example, high-rise condominiums, government agency facilities, open space areas such as parks and cemeteries, and projects near or under construction are assumed to remain under both scenarios. See Figure 1 in the appendix.

3 ANALYSIS

This sewer master plan update is generally prepared in accordance with Chapter 20 of the Design Standards of the Wastewater Department (Design Standards), Volume 1, July 1993. The hydraulic analysis was performed using the EPA Storm Water Management Model (SWMM) version 5 as implemented in the Autodesk Storm and Sanitary Analysis 2014 application.

3.1 POPULATION

The land use categories and corresponding capita rate are utilized for the existing condition:

Table 1: Population Rates

Use	Unit Capita	Unit	Average daily flow rate (gpcd)
SF Residential	4 residents	Dwelling	80
MF Residential	2.8 residents	Dwelling	80

³Note the capacity study only suggests a possible development scenario. The HCDA Rules allow for a great degree of flexibility in development. Blocks may be developed as a single project, or as multiple smaller parcels and proposed uses may vary widely.

Use	Unit Capita	Unit	Average daily flow rate (gpcd)
Civic / Office	300 employees	Acre	25
Retail	140 employees	Acre	25
General/Light Industry	100 employees	Acre	25
Parking Structure	1 employee	Each	25
School	1 student	Per 80 sf	25
Restaurant	1 cover	Per 25 sf	5 gal/cover @ 6 services per day
Cinema	Metered water consumption rates used in lieu of population estimates based on patronage.		

See Tables 2, 3, and 4 in the appendix.

3.2 FLOW DETERMINATION

The determination of total wastewater flow generally conforms to the Design Standards. The design wastewater flows and dry weather infiltration/inflow are determined in accordance with the Design Standards. All sewers are assumed to be below the ground water table. A single flow factor is determined for each scenario, based on the total equivalent population for that scenario. Wet weather inflow and infiltration (WWI/I) is not computed in accordance with the Design Standards, rather, is based on the 5 year 24 hour values provided by the City⁴. The design and WWI/I flow values are assigned to the corresponding manholes. See Figures 1B, 1C, Table 5, and Table 6 in the appendix.

The off-site sewage flow rates are adjusted to reflect population growth for the Future Baseline and TOD Alternative A scenarios. Off-site sewer service basins which drain to the KCDD system were determined for each boundary SMH where offsite flows are applied in the model. The model assumes the net change in off-site sewer generation is equivalent to the average population growth within the off-site sewer basin.

Population growth rates are derived from projections for Development Plan Areas and subareas developed by the City and County of Honolulu.⁵ Growth rates are computed by comparing 2010 and 2035 projections for each area. Local rates of change vary from a decrease of 1.5% in Wai'alaie-Kahala to an increase of 94.1% over 2010 in the Ala Moana-Kaka'ako area.

⁴Updated City sewer models indicate the 5 year 24hr inflow and infiltration values are much higher than the what is computed using the Design Standards.

⁵Department of Planning and Permitting projections posted at <http://www.honoluluodpp.org/Portals/0/pdfs/planning/demographics2/Projections/2000-2035byDPSA.pdf>. The projections were made in 2009, and based on the State's 2035 Series of State and County population projections. More recent projections are available for the State and County, but not for subareas.

Table 7: Offsite Sewer Flows

Boundary SMH	Existing Design Maximum Flow (mgd)	Average Year 2035 Population Growth Factor	Future / TOD Alternative A Design Maximum Flow (mgd)	Wet Weather I/I 5 yr 24 hr (mgd)
339739	0.0115	139%	0.0161	0.0271
340340	0.0018	139%	0.0025	0.0076
340475	0.5609	139%	0.6170	0.9523
340496	0.3596	139%	0.5013	0.3220
340787	0.0457	107%	0.0491	0.1386
341080 S60" Ward Avenue	14.5126	103%	14.9983	65.3885
341082	0.0275	103%	0.0295	0.0808
341270	0.0710	107%	0.0760	0.1242
341283	0.0370	107%	0.0398	0.0922
351590	0.0082	107%	0.0088	0.0144
351869	0.5657	107%	0.6078	0.6399
352912	4.1797	127%	5.3062	5.3216
379476	0.0045	194%	0.0087	0.0782
380402	22.0012	102%	22.4288	0.0000
380962	0.0033	194%	0.0064	0.0152
381780	0.0211	194%	0.0410	0.0476
683754	2.1605	139%	3.0121	0.0428
4025665	3.1025	125%	3.8761	0.1851
4076088 36" Kapi'olani Boulevard	5.7604	127%	7.3130	0.0000
Total Off-site Flow	53.4347		58.9385	73.4781

Wet weather I/I values as derived from City dataset.

3.3 HYDRAULIC ANALYSIS

The sewer infrastructure system hydraulic network modeling is performed using hydrodynamic routing methods. A static hydraulic model is inappropriate for this analysis as several sections of the existing sewers in Kaka'ako are at adverse slopes⁶. Per discussions with the City and County of Honolulu Department of Design and Construction (DDC), the following modeling parameters were utilized to maintain consistency with the DDC's models:

- Mannings n = 0.013 for all reaches
- No entrance or exit losses are applied to manhole junctions

⁶ Sewer mains with adverse slopes slope uphill. This condition generally occurs where sags in the sewer mains have developed. The computations used to compute pipe flow in a static model would yield erroneous results when applied to adversely sloped sections.

The sewer network is based on GIS data obtained from the City. Apparent discrepancies in the GIS data were confirmed or corrected in consultation with the City. Modifications to the sewer networks for the Future Baseline and TOD Alternative A were made to incorporate the proposed improvements planned by the HHG within the study area. HHG is proposing to:

- Install a 24" relief sewer in Ward Avenue between Ilaniwai and Auahi Streets
- Reroute the 48" trunk sewer from under the Ross Dress for Less and Sports Authority stores into Ward Avenue
- Replace the 6" sewers in Pohukaina Street between Koula and Ward Avenue with 12" sewers
- Install a 36" sewer in Auahi Street between Kamakee Street and Ward Avenue
- Replace the 8" sewer in Auahi Street between Kamakee Street and Queen Lane with a 12" sewer.

See Figure 2 in the appendix.

3.4 OFF-SITE RELIEF SEWER PROJECTS

The City is studying several relief sewer projects outside the KCDD that will provide increased sewer capacity to the Mauka Area. The details of these relief sewer projects, including time schedules, are currently being evaluated internally at the City and have not been released to the public at this time. The City has indicated the relief sewer projects will be designed to accommodate TOD developments outside of the KCDD once the impact of those developments are determined. While this study does not identify specific relief sewer projects, it does suggest minimum flow reductions needed to alleviate any surcharged conditions in the study area.

3.5 RESULTS

Existing Condition

The peak flow model indicates surcharged sewers:

- The 30" and 60" trunk sewers in Auahi Street and Ward Avenue respectively, on the west side of the KCDD
- A portion of the 21" trunk sewer in Kapi'olani Boulevard near Pensacola Street
- 8" and 24" branch sewers connecting to the 72" Auahi Street between Keawe Street and Cooke Street
- 8" sewer immediately downstream of the Halekauwila Place sewer connection on Keawe Street

New developments with increased sewer demands within the KCDD may not be able to connect to the adjacent sewers because the City does not allow a sewer connection to a line that is surcharged or to a line which discharges to a surcharged line. See Figure 3 in the appendix.

Future Baseline

The surcharged condition under the existing condition is compounded under the Future Baseline scenario west of Ward Avenue. The proposed HHG sewer system improvements will provide sufficient capacity for the HHG developments east of Ward Avenue. The following sewers remain surcharged:

- The 30", 36", 60", and 78" trunk sewers in South Street, Auahi Street, and Ward Avenue on the west side of the KCDD
- The 8", 10", and 12" Halekauwila Street sewers between South Street and just west of Coral Street
- The 10" Pohukaina Street sewer between South Street and Keawe Street
- The 8" sewer immediately downstream of the Halekauwila Place sewer connection on Keawe Street
- The 36" sewer around the former CompUSA building on South and Auahi Streets and Ala Moana Boulevard
- The planned HHG 12" sewer on Pohukaina Street between Koula Street and Ward Avenue and branching 6" sewers on 'Ohe and Koula Streets
- Portions of the 21" trunk sewer in Kapi'olani Boulevard near Pensacola Street
- The 12" and 18" branching sewers on Kawaihao and Queen Streets, connecting to the 36" sewer in Kamake'e Street

See Figure 4 in the appendix.

TOD Alternative A

The surcharged condition under the Future Baseline scenario is compounded under the TOD Alternative A scenario. In addition to the sewers surcharged under the Future Baseline condition, the following sewers are surcharged:

- The 8", 10", and 12" Halekauwila Street sewers from South Street to east of Cooke Street
- The 8" and 10" Pohukaina Street sewers from South Street to Coral Street
- The 6" Ilaniwai Street sewer between Cooke Street and Ward Avenue

See Figure 5 in the appendix.

690 Pohukaina Street Project

The existing sewers adjacent to the 690 Pohukaina Street project have insufficient capacity for the projected wastewater flows and the downstream sewers in South Street and Auahi Street are surcharged. Furthermore, the model indicates the 8" sewer in Keawe Street does not have sufficient capacity for the Halekauwila Place sewage flow.

See Figure 6 in the appendix.

3.6 MITIGATION MEASURES

Future Baseline

- Replace 480 lf of 10" sewer on Pohukaina Street between South and Keawe Streets, SMH 4025647 to SMH 683930, with a 12" sewer.
- Upsize 305 lf of HHG's planned sewer in Pohukaina Street between Ahui Street and Ward Avenue from 12" to 18" diameter, between SMH 379756 and the new 24" sewer in Ward Avenue. Sewer demands from Blocks 48N and 55 (KS D) are redirected to this line as the adjacent 6" and 8" sewers are inadequate.
- City's proposed diversion of sewage flow from the 60" Ward Avenue trunk sewer; a minimum of 27 MGD was used in the analysis.

See Figure 7 in the appendix.

TOD Alternative A

- Replace 480 lf of 10" sewer on Halekauwila Street between South and Keawe Streets, SMH 4025647 to SMH 683930, with a 12" sewer.
- Replace 310 lf of 8" sewer on Keawe Street makai of Halekauwila Street, SMH 683930 to SMH 341527, with a 12" sewer.
- Replace 250 lf of 6" sewer on Ilaniwai between Kamani Street and Ward Avenue, SMH 342208 to SMH 342321, with an 8" sewer.
- Upsize 305 lf of HHG's planned sewer in Pohukaina Street between Ahui Street and Ward Avenue from 12" to 18" diameter, between SMH 379756 and the new 24" sewer in Ward Avenue. Sewer demands from Blocks 48N and 55 (KS D) are redirected to this line as the adjacent 6" and 8" sewers are inadequate.

See Figure 8 in the appendix.

Off-site Diversion

Approximately 132 MGD of sewage flow originates outside the KCDD and passes through the study area. A diversion of a minimum of 27 MGD of sewage flow from the 60" Ward Avenue trunk sewer will alleviate surcharged conditions in Ward Avenue, Auahi Street, and South Street under the Future Baseline and TOD Alternative A scenarios.

Surcharged Sewers to Remain

With the proposed diversion and sewer system improvements in place, a number of existing branching sewer mains will remain surcharged. Under ideal conditions the top of a branching sewer is typically set at an elevation equal to the top of the trunk sewer to minimize surcharging of the branching sewer. The following branching sewers all connect to a trunk sewer with the branching sewer inverts set at or near the trunk sewer invert. The branch sewer profiles suggest external factors such as a conflicting utility precluded a higher invert connection or larger pipe diameter. In these instances, surcharging of the branching sewers is practically unavoidable.

- The 8" sewer, ID 4065997, at the intersection of Auahi and Coral Streets
- The 24" sewer, ID 3014925, at the intersection of Cooke and Auahi Streets
- The 30" sewer, IDs 685449, 685488, and 3010720, on Auahi Street between South and Keawe Streets
- The 10" sewer, ID 4026585, at the intersection of Halekauwila and Cooke Streets
- The 6" sewer, ID 344232, at the intersection of Archer Lane and South Beretania Street
- The triple barrel 12" sewers, ID 3015527, at the intersection of Kapi'olani Boulevard and Pensacola Street
- The 21" sewer, ID 380522, on Kapi'olani Boulevard, just west of Pensacola Street
- The 8" sewer, ID 4047070, 12" sewer, ID 4046376, and 18" sewer, ID 2023300 connecting to the 36" Kamake'e Street sewer.

See Figure 8 in the appendix.

690 Pohukaina Street Project Sewer Connection

The 690 Pohukaina Street Project is located in the area impacted by the surcharged sewer lines in South and Auahi Streets. In accordance with the Design Standards, a sewer connection to a surcharged line is typically not allowed. The project would not be able to connect to the sewers fronting the property. The following off-site improvement would provide sewer service to the project:

- Replace 480 lf of 10" sewer on Pohukaina Street between South and Keawe Streets, SMH 4025647 to SMH 683930, with a 12" sewer.

See Figure 9 in the appendix.

4 CONCLUSION

The KCDD Mauka Area sewer system is impaired by the larger off-site sewer flows that surcharge the trunk sewers in the district. Sewer system improvements proposed by HHG and herein in addition to an off-site sewer diversion proposed by the City will free sewer capacity within the KCDD.

On-site sewer improvements include:

HHG Proposed Improvements

- Install a 24" relief sewer in Ward Avenue between Ilaniwai and Auahi Streets
- Reroute the 48" trunk sewer from under the Ross Dress for Less and Sports Authority stores into Ward Avenue
- Replace the 6" sewers in Pohukaina Street between Koula and Ward Avenue with 12" sewers
- Install a 36" sewer in Auahi Street between Kamakee Street and Ward Avenue
- Replace the 8" sewer in Auahi Street between Kamakee Street and Queen Lane with a 12" sewer.

Future Baseline

- Replace 480 lf of 10" sewer on Halekauwila Street between South and Keawe Streets with a 12" sewer.
- Upsize 305 lf of HHG's planned sewer in Pohukaina Street between Ahui Street and Ward Avenue from 12" to 18" diameter.

TOD Alternative A

- Replace 480 lf of 10" sewer on Halekauwila Street between South and Keawe Streets with a 12" sewer.
- Replace 310 lf of 8" sewer on Keawe Street makai of Halekauwila Street with a 12" sewer.
- Replace 250 lf of 6" sewers on Ilaniwai between Cooke Street and Ward Avenue with 8" sewers.
- Upsize 305 lf of HHG's planned sewer in Pohukaina Street between Ahui Street and Ward Avenue from 12" to 18" diameter.

APPENDICES

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- Figure 5 – TOD Alternative A Peak Flow
- Figure 6 – 690 Pohukaina Street Project Impact
- Figure 7 - Future Condition with Diversions Peak Flow
- Figure 8 – TOD Alternative A with Diversions Peak Flow
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- Table 3 – Population and Utility Demands – Future Baseline
- Table 4 – Population and Utility Demands – TOD Alternative A
- Table 5 – Flow Computation – Existing Condition
- Table 6 – Flow Computation – Future Baseline and TOD Alternative A

Model Inputs and Results

- Discharge Manhole Summary
- Existing Condition
- Future Baseline
- TOD Alternative A
- Future Baseline w/Diversion and Improvements
- TOD Alternative A w/Diversion and Improvements
- 690 Pohukaina w/Improvements

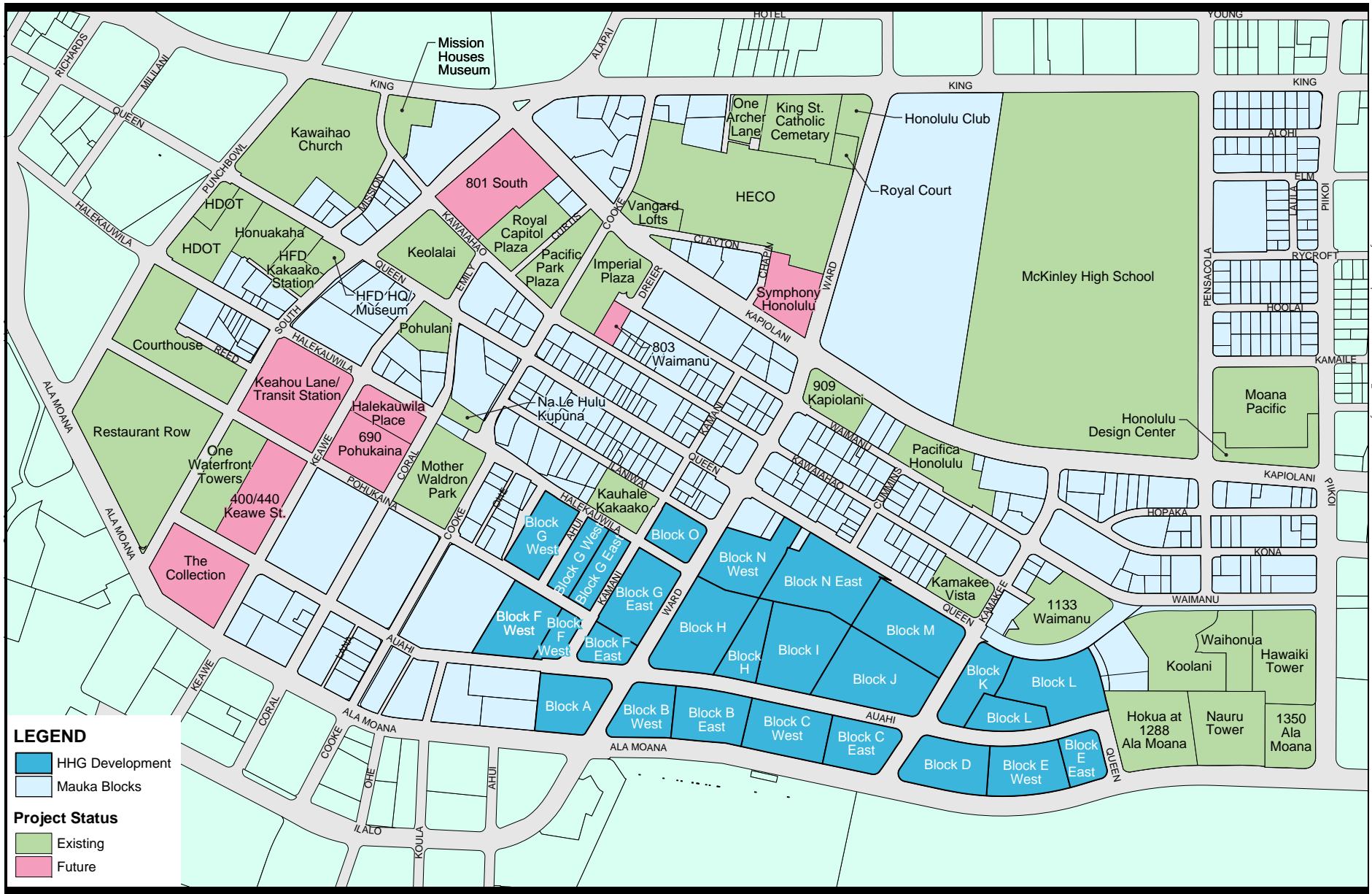
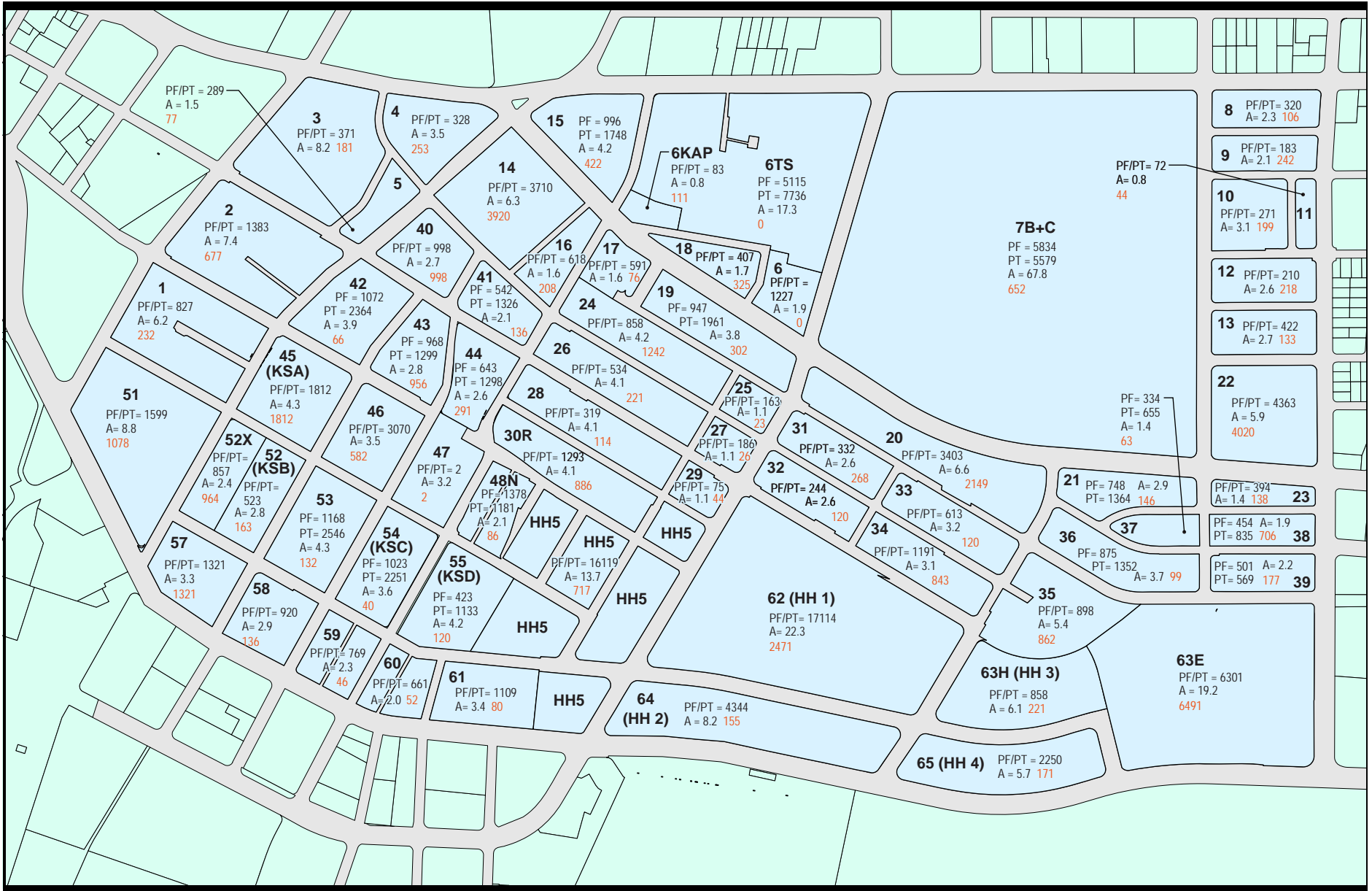
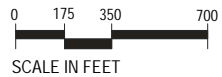


Figure 1
Mauka Area Projects
Kakaako Mauka Sewer Master Plan
HCDA
6/12/2014

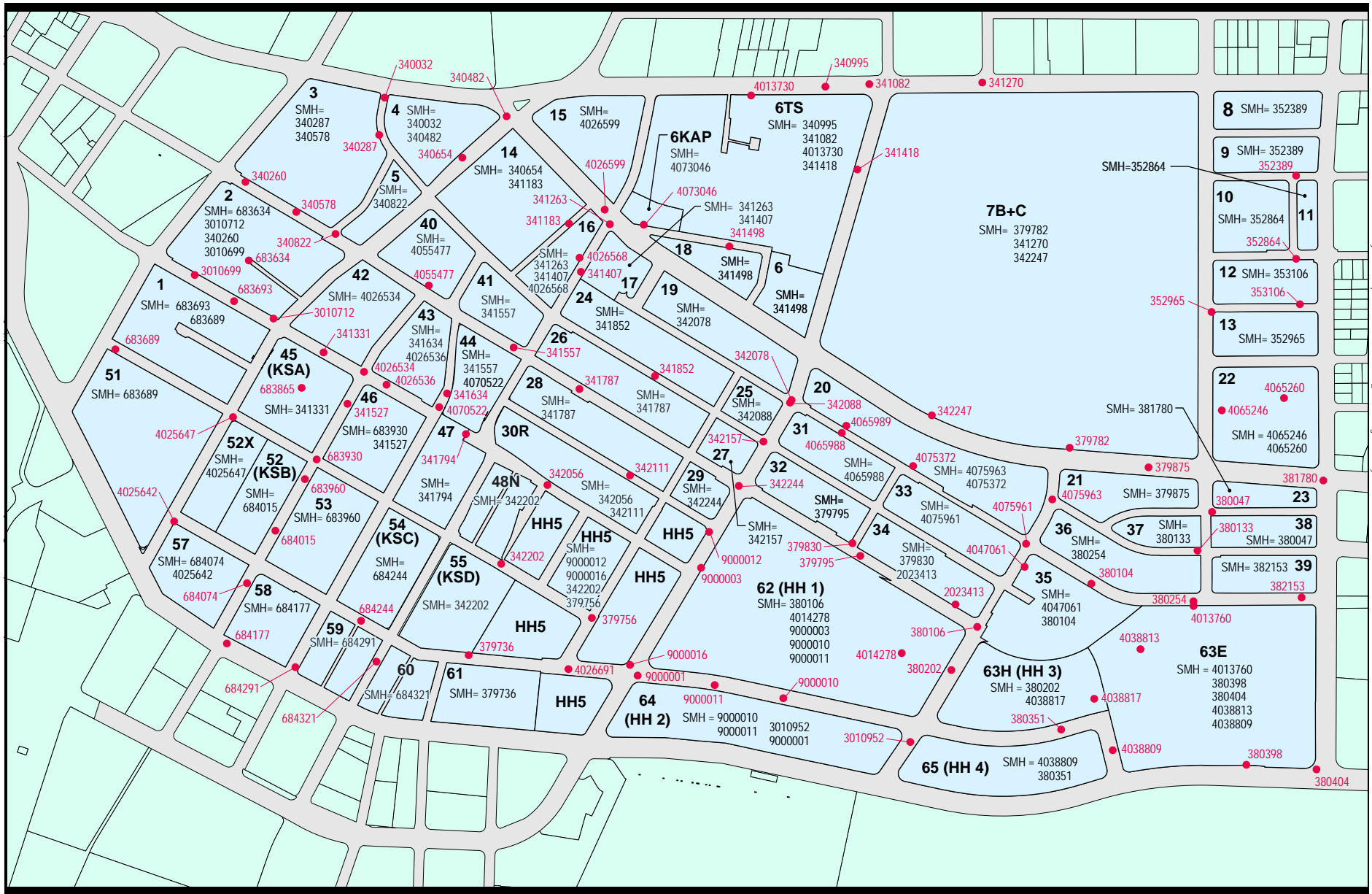


LEGEND

- 100 Existing equivalent population, capita
- PF Future base equivalent population, capita
- PT TOD equivalent population, capita
- A Block area, acre
- SMH Discharge point



**Figure 1B
Flow Generation**



LEGEND

- SMH Discharge point
- Sewer Manhole
- 379736 Sewer Manhole ID Number

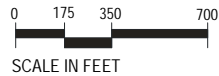


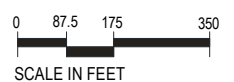
Figure 1C
Discharge SMH



Figure 2
Howard Hughes Group Development
and Proposed Sewer Improvements

Kakaako Mauka Sewer Master Plan
 HCDA

10/30/2014



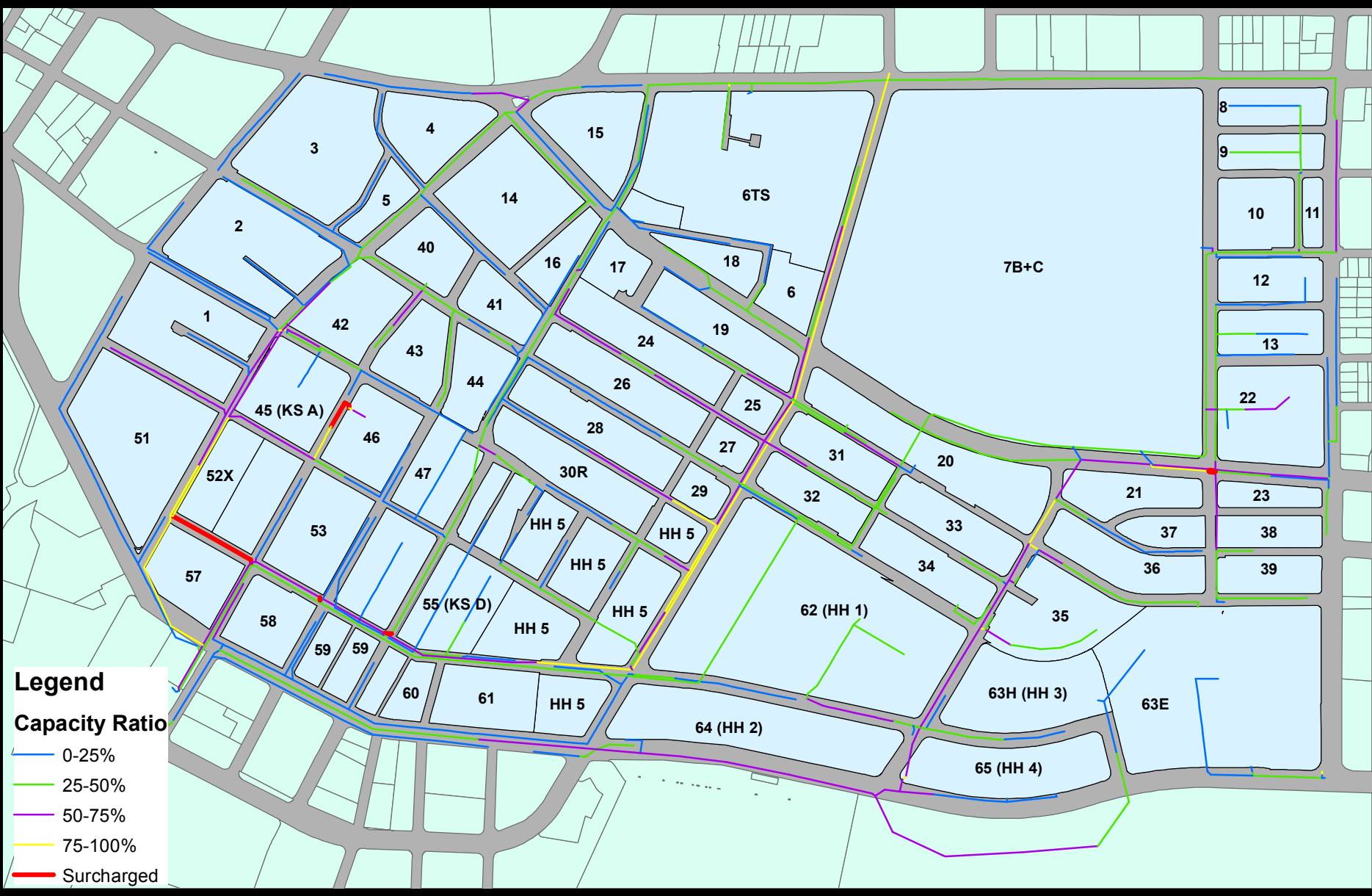
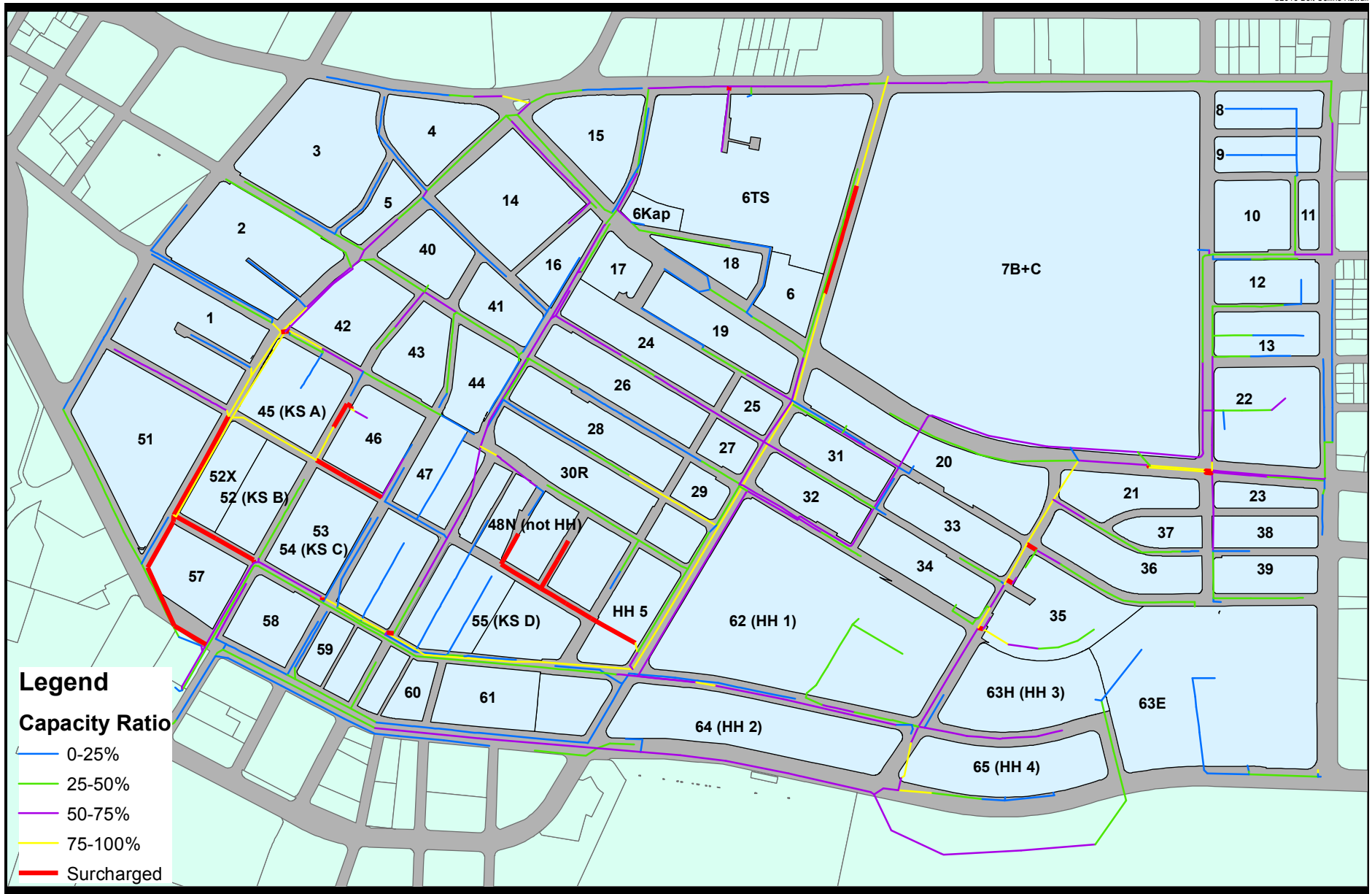


Figure 3
Existing Condition Peak Flow

Kakaako Mauka Sewer Master Plan
HCDA
6/17/2014





Legend
Capacity Ratio
— 0-25%
— 25-50%
— 50-75%
— 75-100%
— Surcharged

Figure 4
Future Condition Peak Flow

Kakaako Mauka Sewer Master Plan
HCDA
10/30/2014



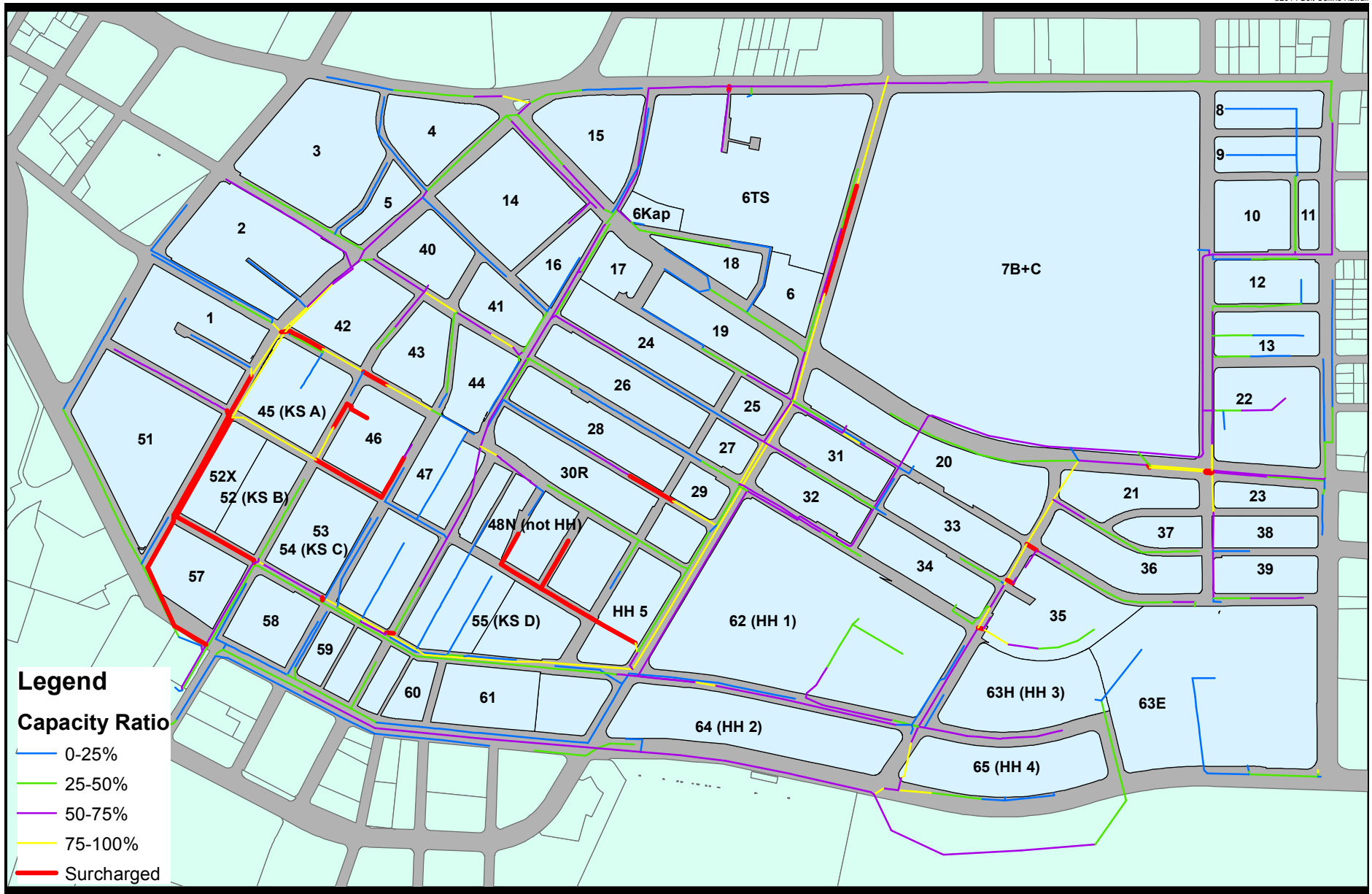

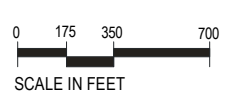


Figure 5
TOD Overlay Peak Flow
Kakaako Mauka Sewer Master Plan
HCDA
10/30/2014

  
SCALE IN FEET

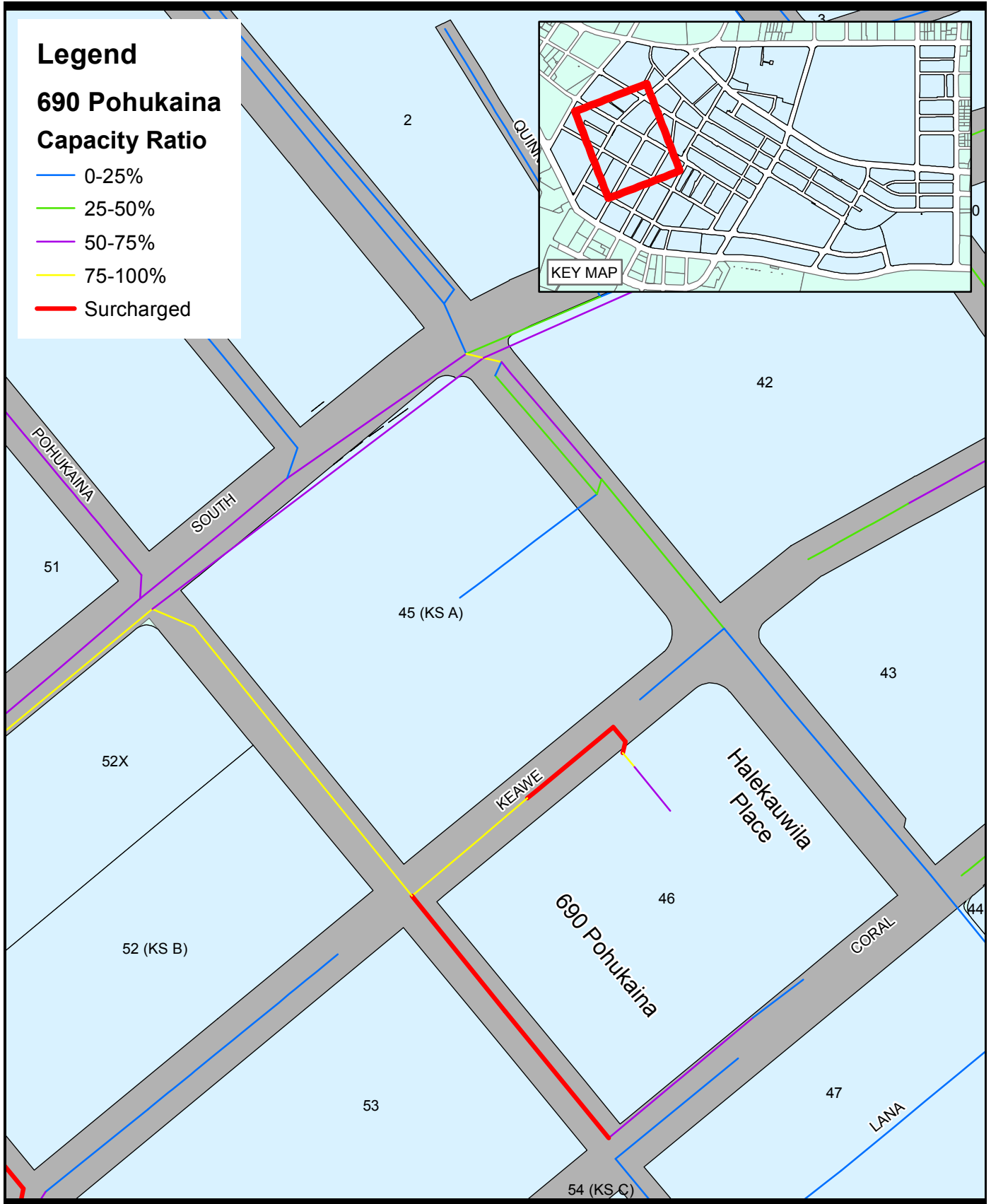


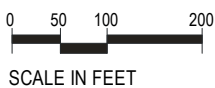
Figure 6

690 Pohukaina Street Project Impact

Kakaako Mauak Sewer Master Plan

HCDA

10/30/2014



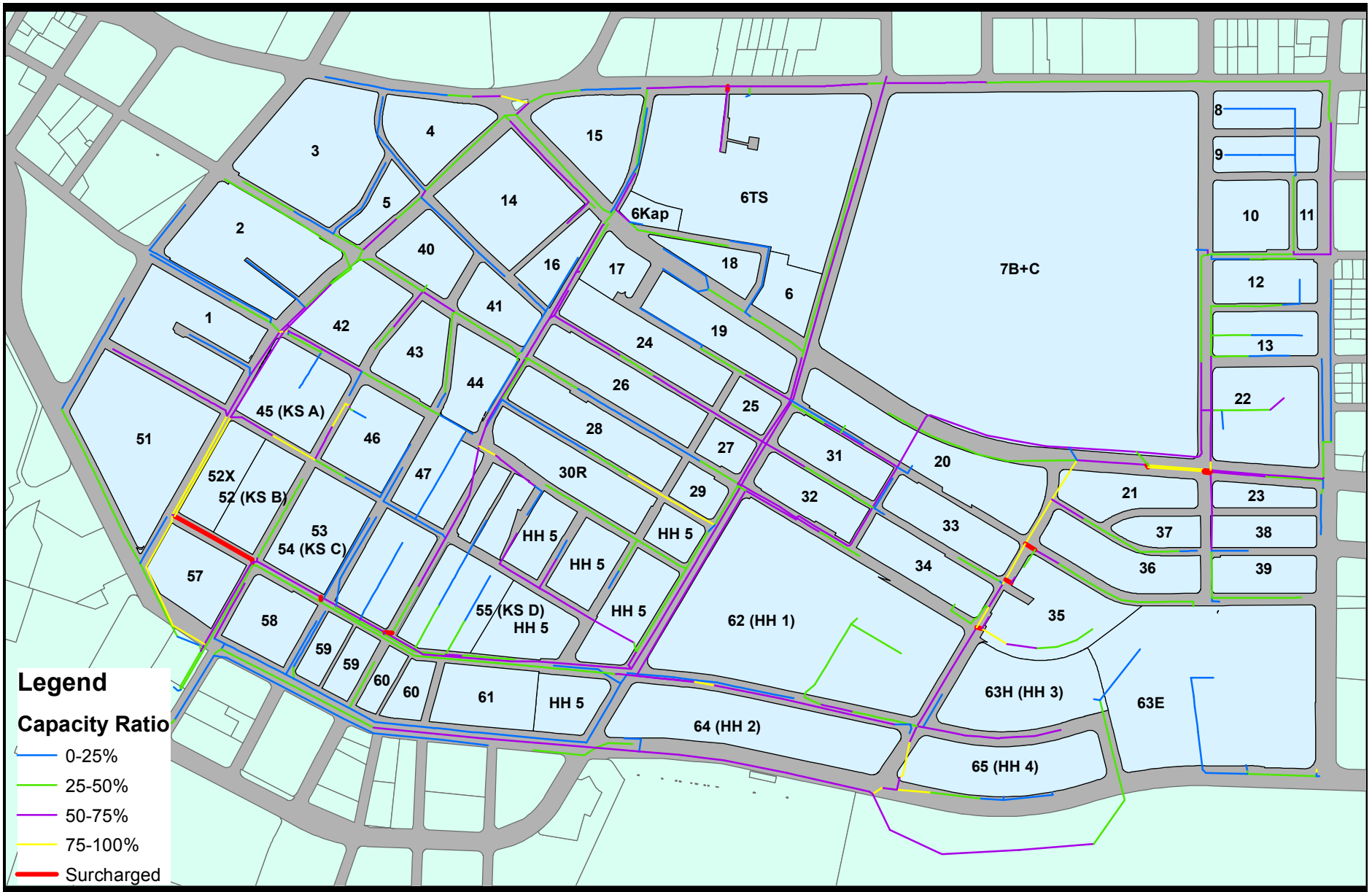


Figure 7
Future Condition with Diversions Peak Flow



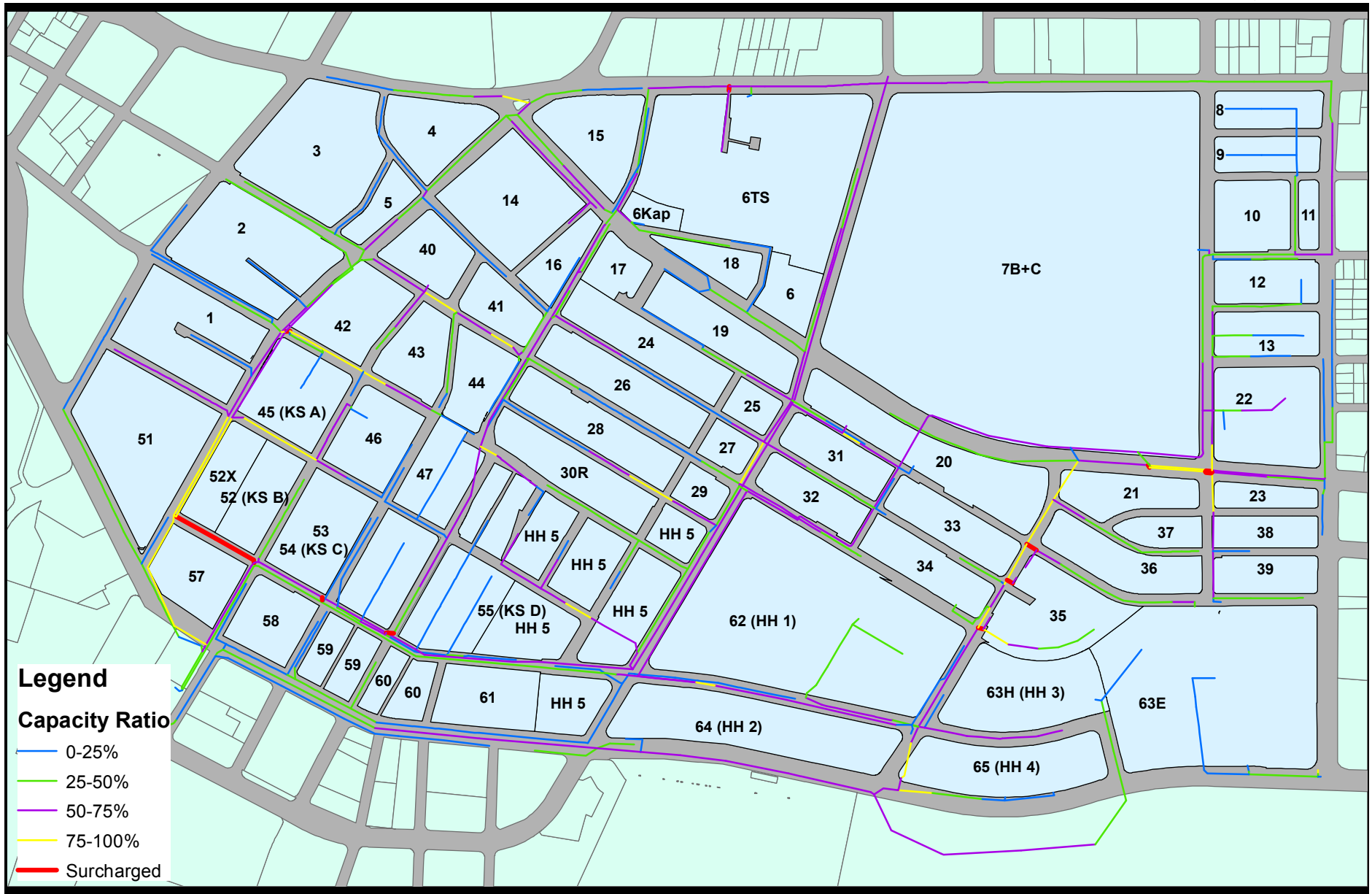


Figure 8
TOD Alternative A with Diversions Peak Flow

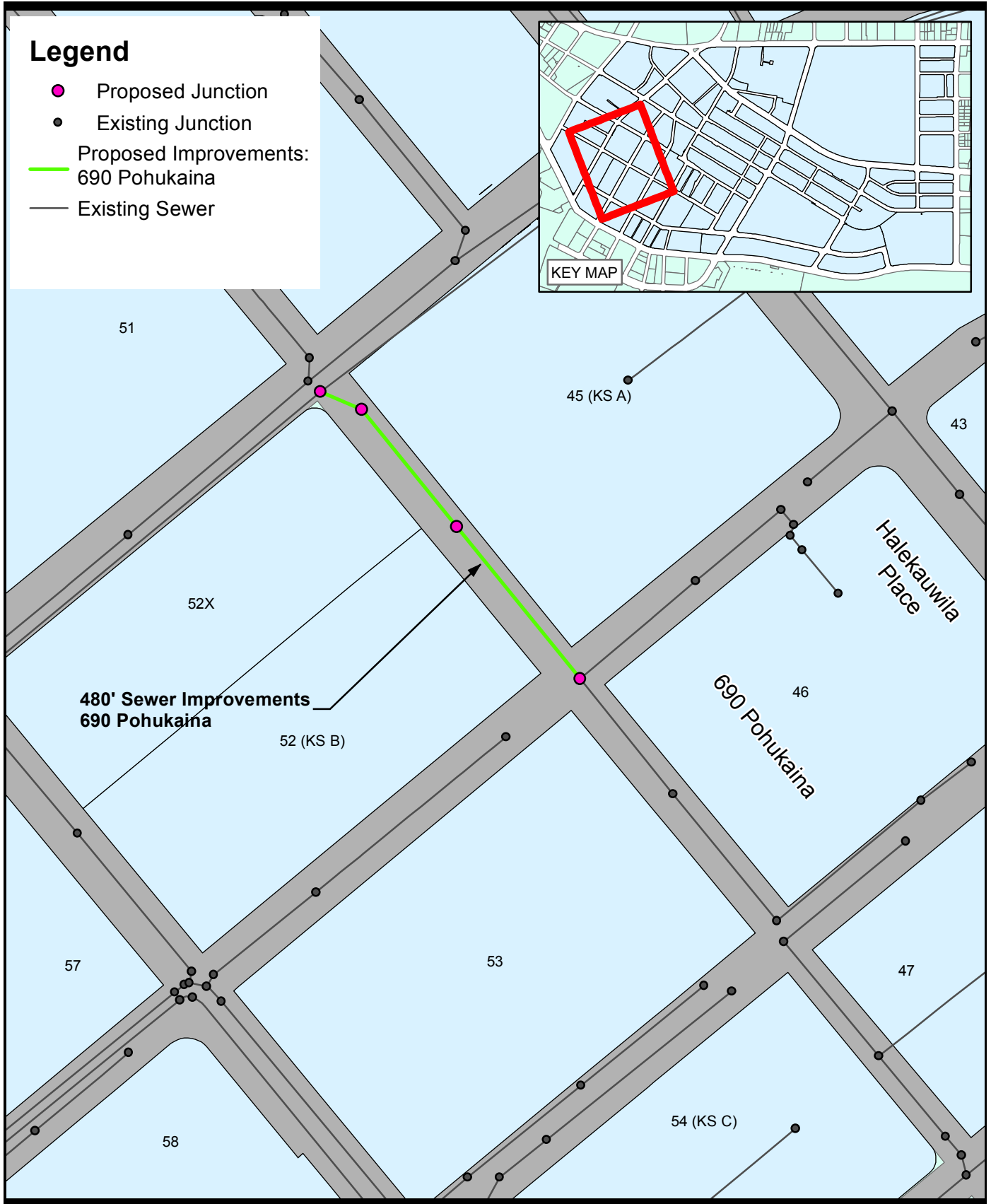


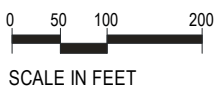
Figure 9

690 Pohukaina Street Project Sewer Improvements

Kakaako Mauka Sewer Master Plan

HCDA

10/30/2014



Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
339665			0.00000	0.00000	0.00000	0.00000	0.00000
339739		offsite	0.01152	0.01610	0.01610	0.04279	0.02705
339841			0.00000	0.00000	0.00000	0.00000	0.00000
340006			0.00000	0.00000	0.00000	0.04190	0.02441
340015			0.00000	0.00000	0.00000	0.00000	0.00000
340032	Block 4	Mission Houses	0.00695	0.00695	0.00695	0.02429	0.01508
340195			0.00000	0.00000	0.00000	0.03503	0.02067
340260	Block 2	DOT, Honuakaha	0.09626	0.11840	0.11840	0.02698	0.01676
340282			0.00000	0.00000	0.00000	0.02875	0.01708
340287	Block 3	Kawaihao Church	0.01727	0.02120	0.02120	0.03828	0.02379
340340		offsite	0.00177	0.00250	0.00250	0.01177	0.00765
340426			0.00000	0.00000	0.00000	0.01768	0.01059
340475		offsite	0.56094	0.61704	0.61704	1.50347	0.95233
340479			0.01434	0.00000	0.00000	0.02211	0.01381
340482	Block 4		0.00000	0.01623	0.01557	0.00471	0.00000
340496		offsite	0.35958	0.50130	0.50130	0.59202	0.32204
340497			0.05024	0.00000	0.00000	0.00000	0.00494
340514			0.00000	0.00000	0.00000	0.00613	0.00000
340523			0.00000	0.00000	0.00000	0.00934	0.00488
340578	Block 3		0.02318	0.04157	0.03990	0.01148	0.00080
340654	Block 14	801 South Street	0.69336	0.64932	0.62983	0.01181	0.00000
340663			0.03196	0.00000	0.00000	0.05300	0.00000
340679			0.00000	0.00000	0.00000	0.00538	0.00000
340746			0.00132	0.00000	0.00000	0.03660	0.02384
340778			0.00000	0.00000	0.00000	0.01090	0.00000
340787		offsite	0.04570	0.04910	0.04910	0.09504	0.13863
340789			0.00000	0.00000	0.00000	0.00547	0.00011
340801			0.00198	0.00000	0.00000	0.00000	0.00000
340822	Block 5		0.00000	0.85568	0.82112	0.00789	0.00519
340845			0.00000	0.00000	0.00000	0.00000	0.00000
340852			0.00000	0.00000	0.00000	0.00000	0.00000
340860			0.00000	0.00000	0.00000	0.01228	0.00500
340869			0.00000	0.00000	0.00000	0.01364	0.01346
340876			0.00000	0.00000	0.00000	0.01727	0.01082
340917			0.00000	0.00000	0.00000	0.00000	0.00000
340961			0.00000	0.00000	0.00000	0.00000	0.00000
340969			0.00000	0.00000	0.00000	0.01660	0.01165
340971			0.00000	0.00000	0.00000	0.01208	0.00768
340995	Block 6TS	King St. Catholic Cemetary	0.00142	0.00142	0.00142	0.02613	0.02279
341034			0.00339	0.00000	0.00000	0.02823	0.00014
341052			0.00000	0.00000	0.00000	0.00000	0.04974
341080		offsite	14.51260	14.99830	14.99830	63.30600	65.38850
341082	Block 6TS	Honolulu Club, offsite	0.10729	0.10930	0.10930	0.09424	0.08080
341085			0.00000	0.00000	0.00000	0.01076	0.01061
341090			0.00000	0.00000	0.00000	0.02581	0.00766
341111			0.00000	0.00000	0.00000	0.00804	0.00790
341119			0.00000	0.00000	0.00000	0.00000	0.03224
341125			0.00000	0.00000	0.00000	0.01887	0.01912
341127			0.00303	0.00000	0.00000	0.01764	0.00960
341161			0.00000	0.00000	0.00000	0.00259	0.00125
341165			0.00000	0.00000	0.00000	0.02285	0.00889
341183	Block 14	Royal Capitol	0.18823	0.31192	0.30268	0.03763	0.00185
341186			0.00000	0.00000	0.00000	0.00000	0.00000
341193			0.00000	0.00000	0.00000	0.01626	0.00008
341195			0.00000	0.00000	0.00000	0.02536	0.02475
341199			0.00000	0.00000	0.00000	0.00000	0.00000
341205			0.00000	0.00000	0.00000	0.00000	0.00000
341243			0.00000	0.00000	0.00000	0.00567	0.00208
341252			0.00000	0.00000	0.00000	0.01558	0.01028
341258			0.00000	0.00000	0.00000	0.00605	0.00638
341263	Block 17		0.00000	0.11237	0.10783	0.00061	0.00059
341270	Block 7B+C	Blasidell 50%	0.07103	0.82167	0.75657	0.13390	0.12418
341283		offsite	0.03694	0.03980	0.03980	0.09922	0.09216
341308			0.01583	0.00000	0.00000	0.01091	0.00700
341328			0.00000	0.00000	0.00000	0.01075	0.00754
341331	Block 45 (KSA)	Keahou Lane	0.40590	0.38614	0.37401	0.04364	0.03970
341339			0.00000	0.00000	0.00000	0.01719	0.01137
341360			0.00181	0.00000	0.00000	0.02045	0.01032
341372			0.00000	0.00000	0.00000	0.00910	0.00445
341383			0.00000	0.00000	0.00000	0.01495	0.00952
341389			0.00000	0.00000	0.00000	0.02653	0.02458
341402			0.01145	0.00000	0.00000	0.01864	0.01214
341403			0.00000	0.00000	0.00000	0.01326	0.01156

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
341407	Block 17, Block 24	Imperial Plaza	0.14731	0.18120	0.18120	0.00000	0.00000
341418	Block 6TS	Royal Court, HECO	0.10100	0.10100	0.10100	0.02560	0.01462
341424			0.00000	0.00000	0.00000	0.01092	0.00451
341438			0.06054	0.00000	0.00000	0.00111	0.00071
341444			0.00000	0.00000	0.00000	0.00263	0.00050
341468			0.00000	0.00000	0.00000	0.04100	0.04820
341490			0.00000	0.00000	0.00000	0.01244	0.01277
341491			0.00278	0.00000	0.00000	0.01720	0.00769
341498	Block 6, Block 18	Symphony Park	0.01289	0.35656	0.34216	0.00450	0.00432
341504			0.00000	0.00000	0.00000	0.05522	0.03481
341508			0.00000	0.00000	0.00000	0.00168	0.00000
341511			0.00000	0.00000	0.00000	0.00264	0.00000
341527	Block 46	Halekauwila Place	0.56720	0.56720	0.56720	0.00628	0.00617
341533			0.00000	0.00000	0.00000	0.01804	0.01544
341556			0.00000	0.00000	0.00000	0.01659	0.01675
341557	Block 41, Block 44		0.00876	0.25867	0.54971	0.00014	0.00007
341561			0.00000	0.00000	0.00000	0.00869	0.00868
341574			0.00000	0.00000	0.00000	0.00979	0.00825
341588			0.02017	0.00000	0.00000	0.02090	0.02093
341598			0.00000	0.00000	0.00000	0.00000	0.00000
341599			0.00000	0.00000	0.00000	0.00000	0.00000
341601			0.00114	0.00000	0.00000	0.01219	0.00713
341615			0.00000	0.00000	0.00000	0.00690	0.00630
341617			0.00000	0.00000	0.00000	0.01167	0.01176
341619			0.02293	0.00000	0.00000	0.00503	0.00353
341625			0.00000	0.00000	0.00000	0.00002	0.00006
341634	Block 43	Pohulani	0.19786	0.16764	0.16764	0.03363	0.01347
341656			0.03028	0.00000	0.00000	0.01732	0.01773
341660			0.00148	0.00000	0.00000	0.01173	0.00884
341677			0.00000	0.00000	0.00000	0.01283	0.01293
341729			0.00047	0.00000	0.00000	0.00421	0.00433
341730			0.00441	0.00000	0.00000	0.00000	0.01520
341743			0.00000	0.00000	0.00000	0.00417	0.00435
341764			0.02944	0.00000	0.00000	0.00464	0.00397
341780			0.00000	0.00000	0.00000	0.05342	0.05310
341782			0.00000	0.00000	0.00000	0.02470	0.03080
341786			0.00000	0.00000	0.00000	0.01971	0.02000
341787	Block 26, Block 28		0.01414	0.18613	0.17861	0.01714	0.01686
341794	Block 47	Mother Waldron Park	0.00000	0.00048	0.00046	0.00370	0.00361
341797			0.00000	0.00000	0.00000	0.01066	0.01061
341798			0.00000	0.00000	0.00000	0.00749	0.00783
341803			0.00065	0.00000	0.00000	0.01161	0.01074
341812			0.00407	0.00000	0.00000	0.01942	0.01834
341814			0.00000	0.00000	0.00000	0.01368	0.01306
341826			0.00175	0.00000	0.00000	0.00728	0.00738
341852	Block 24	803 Waimanu	0.10110	0.18274	0.17700	0.01418	0.01380
341904			0.00000	0.00000	0.00000	0.01465	0.01438
341914			0.00000	0.00000	0.00000	0.00623	0.00604
341927			0.00000	0.00000	0.00000	0.00000	0.00676
341934			0.01335	0.00000	0.00000	0.00454	0.00439
341935			0.00000	0.00000	0.00000	0.01438	0.01196
341945			0.00868	0.00000	0.00000	0.01306	0.01273
341964			0.00000	0.00000	0.00000	0.01075	0.01073
341965			0.00000	0.00000	0.00000	0.00357	0.00367
341967			0.02831	0.00000	0.00000	0.01566	0.01508
341970			0.02984	0.00000	0.00000	0.00289	0.00297
341976			0.05047	0.00000	0.00000	0.01201	0.01159
341980			0.00000	0.00000	0.00000	0.00808	0.00735
342021			0.00000	0.00000	0.00000	0.01394	0.00897
342026			0.01069	0.00000	0.00000	0.01309	0.01291
342028			0.00000	0.00000	0.00000	0.01249	0.01237
342039			0.00906	0.00000	0.00000	0.00982	0.00976
342049			0.00466	0.00000	0.00000	0.00910	0.00901
342056	Block 30R		0.00391	0.08895	0.08536	0.00268	0.00265
342065			0.00000	0.00000	0.00000	0.00336	0.00318
342078	Block 19		0.00000	0.25239	0.50091	0.00785	0.00843
342079			0.00000	0.00000	0.00000	0.00250	0.00770
342081			0.00424	0.00000	0.00000	0.00000	0.00000
342082			0.00000	0.00000	0.00000	0.01584	0.01567
342088	Block 25		0.00000	0.03565	0.03421	0.00000	0.08502
342093			0.00706	0.00000	0.00000	0.01182	0.01171
342098			0.00000	0.00000	0.00000	0.00000	0.00000
342111	Block 30R	Kauhale Kaka'ako	0.18176	0.22360	0.22360	0.00795	0.00777

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
342114			0.00381	0.00000	0.00000	0.01434	0.01434
342145			0.01049	0.00000	0.00000	0.01248	0.01238
342150			0.00928	0.00000	0.00000	0.00468	0.00454
342154			0.00209	0.00000	0.00000	0.00391	0.00382
342157	Block 27		0.00000	0.04052	0.03888	0.01047	0.01087
342161			0.00000	0.00000	0.00000	0.00333	0.00341
342162			0.00678	0.00000	0.00000	0.00621	0.00621
342168			0.00000	0.00000	0.00000	0.00992	0.01045
342180			0.00000	0.00000	0.00000	0.02097	0.03948
342199			0.00172	0.00000	0.00000	0.03761	0.04904
342202	Block HH5, Block 48N, Block 55 (KSD)	Block G West	0.01309	1.09140	1.18000	0.00629	0.00499
342207			0.00238	0.00000	0.00000	0.00758	0.00753
342208			0.00769	0.00000	0.00000	0.01408	0.01421
342210			0.00573	0.00000	0.00000	0.00337	0.00324
342212			0.00000	0.00000	0.00000	0.01050	0.01510
342221			0.00000	0.00000	0.00000	0.00616	0.00574
342231			0.00000	0.00000	0.00000	0.00194	0.00330
342244	Block 29		0.00000	0.01637	0.01571	0.05083	0.05250
342247	Block 7B+C	Blasidell 50%	0.00000	0.81670	0.75160	0.00000	0.00000
342248			0.00157	0.00000	0.00000	0.00487	0.00483
342249			0.00672	0.00000	0.00000	0.00551	0.00558
342253			0.00000	0.00000	0.00000	0.00000	0.00000
342258			0.04589	0.00000	0.00000	0.00381	0.00371
342261			0.01044	0.00000	0.00000	0.00500	0.00528
342283			0.02484	0.00000	0.00000	0.00255	0.00179
342308			0.00137	0.00000	0.00000	0.01132	0.00837
342309			0.00000	0.00000	0.00000	0.02204	0.03036
342320			0.00000	0.00000	0.00000	0.00790	0.00725
342321			0.00000	0.00000	0.00000	0.01556	0.01691
342348			0.00577	0.00000	0.00000	0.01685	0.01674
342353			0.00700	0.00000	0.00000	0.00922	0.00864
342356			0.01175	0.00000	0.00000	0.00496	0.00524
342357			0.02584	0.00000	0.00000	0.00645	0.00301
342358			0.00000	0.00000	0.00000	0.00000	0.00000
342367			0.00499	0.00000	0.00000	0.00751	0.00749
342369			0.00000	0.00000	0.00000	0.01101	0.00000
342376			0.00000	0.00000	0.00000	0.00000	0.00000
342385			0.00667	0.00000	0.00000	0.01018	0.00791
342391			0.00000	0.00000	0.00000	0.00770	0.02080
342394			0.00841	0.00000	0.00000	0.00628	0.00578
342398			0.00000	0.00000	0.00000	0.03283	0.02430
342402			0.02716	0.00000	0.00000	0.02440	0.02461
351395			0.00000	0.00000	0.00000	0.00000	0.00000
351559			0.00000	0.00000	0.00000	0.01607	0.01453
351590		offsite	0.00823	0.00880	0.00880	0.01625	0.01441
351697			0.00000	0.00000	0.00000	0.02517	0.01944
351789			0.02399	0.00000	0.00000	0.00670	0.00428
351869		offsite	0.56571	0.60780	0.60780	0.81173	0.63989
351871			0.00000	0.00000	0.00000	0.00465	0.00273
351958			0.00000	0.00000	0.00000	0.00363	0.00214
352086			0.05461	0.00000	0.00000	0.01452	0.00812
352091			0.00000	0.00000	0.00000	0.00090	0.00092
352146			0.00000	0.00000	0.00000	0.00091	0.00148
352166			0.00000	0.00000	0.00000	0.00418	0.00110
352253			0.00000	0.00000	0.00000	0.00188	0.00000
352389	Block 8, Block 9		0.00000	0.10987	0.10543	0.00357	0.00210
352390			0.02167	0.00000	0.00000	0.00311	0.00183
352471			0.00000	0.00000	0.00000	0.00137	0.00184
352602			0.00000	0.00000	0.00000	0.01067	0.01182
352620			0.00000	0.00000	0.00000	0.00834	0.00863
352633			0.00000	0.00000	0.00000	0.00627	0.00317
352644			0.00000	0.00000	0.00000	0.00000	0.00000
352653			0.00000	0.00000	0.00000	0.03043	0.02990
352674			0.00000	0.00000	0.00000	0.00000	0.00000
352684			0.00000	0.00000	0.00000	0.00118	0.00131
352759			0.00271	0.00000	0.00000	0.00517	0.00401
352777			0.00000	0.00000	0.00000	0.04301	0.00134
352821			0.00000	0.00000	0.00000	0.00241	0.00112
352831			0.00000	0.00000	0.00000	0.00000	0.00000
352864	Block 10, Block 11		0.02212	0.07489	0.07186	0.00261	0.00199
352912		offsite	4.17971	5.30620	5.30620	4.75938	5.32158
352940			0.00542	0.00000	0.00000	0.02418	0.03114
352965	Block 13		0.00000	0.09219	0.08847	0.01499	0.01991

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
352972			0.0000	0.0000	0.0000	0.00538	0.00620
353056			0.0000	0.0000	0.0000	0.00960	0.01098
353059			0.0000	0.0000	0.0000	0.00972	0.01246
353085			0.0000	0.0000	0.0000	0.00738	0.00803
353096			0.0000	0.0000	0.0000	0.01230	0.01630
353106	Block 12		0.0000	0.04584	0.04399	0.00605	0.00675
353205			0.0000	0.0000	0.0000	0.00497	0.00756
379475			0.00115	0.0000	0.0000	0.01077	0.09161
379476		offsite	0.00448	0.00870	0.00870	0.03537	0.07820
379481			0.0000	0.0000	0.0000	0.00851	0.04428
379484			0.0000	0.0000	0.0000	0.02280	0.03117
379488			0.0000	0.0000	0.0000	0.00678	0.01687
379586			0.0000	0.0000	0.0000	0.00568	0.03034
379722			0.0000	0.0000	0.0000	0.0000	0.0000
379729			0.00076	0.0000	0.0000	0.01343	0.01894
379734			0.0000	0.0000	0.0000	0.00326	0.00324
379736	Block 61		0.0000	0.24216	0.23238	0.00368	0.00314
379737			0.01178	0.0000	0.0000	0.0000	0.0000
379754			0.00848	0.0000	0.0000	0.00564	0.00499
379756	Block HH5	Block G East	0.01076	1.56000	1.56000	0.01008	0.00884
379761			0.0000	0.0000	0.0000	0.02837	0.0000
379764			0.00825	0.0000	0.0000	0.01601	0.02261
379765			0.00733	0.0000	0.0000	0.00817	0.00803
379771			0.01614	0.0000	0.0000	0.00666	0.00589
379779			0.0000	0.0000	0.0000	0.00830	0.00622
379781			0.0000	0.0000	0.0000	0.0000	0.0000
379782	Block 7B+C	McKinley High School	0.12694	0.12694	0.12694	0.02800	0.00510
379786			0.0000	0.0000	0.0000	0.0000	0.0000
379790			0.0000	0.0000	0.0000	0.0000	0.0000
379792			0.0000	0.0000	0.0000	0.0000	0.0000
379795	Block 32		0.0000	0.05321	0.09254	0.0000	0.0000
379805			0.0000	0.0000	0.0000	0.00608	0.00952
379810			0.02464	0.0000	0.0000	0.00687	0.00642
379812			0.02357	0.0000	0.0000	0.00389	0.00181
379817			0.0000	0.0000	0.0000	0.01370	0.63330
379829			0.0000	0.0000	0.0000	0.01526	0.0000
379830	Block 34		0.0000	0.07599	0.07292	0.00709	0.00646
379831			0.0000	0.0000	0.0000	0.0000	0.00916
379855			0.0000	0.0000	0.0000	0.0000	0.0000
379857			0.0000	0.0000	0.0000	0.00415	0.00234
379870			0.00032	0.0000	0.0000	0.01010	0.18784
379873			0.0000	0.0000	0.0000	0.00496	0.03941
379874			0.0000	0.0000	0.0000	0.0000	0.0000
379875	Block 21		0.01899	0.16323	0.28574	0.00760	0.01231
379881			0.0000	0.0000	0.0000	0.01326	0.02474
379886			0.0000	0.0000	0.0000	0.0000	0.0000
379890			0.0000	0.0000	0.0000	0.0000	0.0000
379892			0.0000	0.0000	0.0000	0.0000	0.0000
379894			0.01361	0.0000	0.0000	0.02239	0.02998
379901			0.0000	0.0000	0.0000	0.0000	0.0000
379904			0.00456	0.0000	0.0000	0.00715	0.11439
379906			0.0000	0.0000	0.0000	0.00091	0.00060
379920			0.0000	0.0000	0.0000	0.00096	0.00054
379921			0.0000	0.0000	0.0000	0.0000	0.0000
379941			0.0000	0.0000	0.0000	0.0000	0.02562
379943			0.01182	0.0000	0.0000	0.0000	0.0000
379948			0.00142	0.0000	0.0000	0.01415	0.01520
379949			0.0000	0.0000	0.0000	0.00535	0.00369
379950			0.03167	0.0000	0.0000	0.00542	0.00156
379952			0.0000	0.0000	0.0000	0.33862	0.45957
379979			0.0000	0.0000	0.0000	0.0000	0.0000
379995			0.0000	0.0000	0.0000	0.0000	0.00907
380002			0.03418	0.0000	0.0000	0.00628	0.00437
380017			0.0000	0.0000	0.0000	0.02850	0.03726
380018			0.0000	0.0000	0.0000	0.00538	0.0000
380025			0.01011	0.0000	0.0000	0.00599	0.01529
380028			0.0000	0.0000	0.0000	0.0000	0.00233
380033			0.0000	0.0000	0.0000	0.01661	0.0000
380045			0.0000	0.0000	0.0000	0.0000	0.03803
380047	Block 38		0.0000	0.09905	0.17484	0.01986	0.03127
380055			0.0000	0.0000	0.0000	0.01090	0.00744
380067			0.0000	0.0000	0.0000	0.0000	0.01961
380104	Block 35		0.01280	0.02290	0.02290	0.00867	0.01286

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
380106	Block 62 (HH1)	Block M	0.00000	0.81000	0.81000	0.00000	0.00646
380113			0.03502	0.00000	0.00000	0.00685	0.00484
380133	Block 37		0.00517	0.07283	0.13714	0.00480	0.00332
380147			0.00000	0.00000	0.00000	0.00000	0.00000
380149			0.00000	0.00000	0.00000	0.00556	0.00972
380159			0.00000	0.00000	0.00000	0.01176	0.01771
380189			0.00133	0.00000	0.00000	0.00899	0.01221
380202	Block 63H (HH3)	Block K	0.00000	0.39000	0.39000	0.00421	0.00865
380209			0.00000	0.00000	0.00000	0.00000	0.00000
380210			0.00000	0.00000	0.00000	0.01105	0.01713
380234			0.00209	0.00000	0.00000	0.00847	0.01106
380249			0.00356	0.00000	0.00000	0.01091	0.01458
380254	Block 36		0.00000	0.19108	0.28324	0.00383	0.00113
380260			0.00000	0.00000	0.00000	0.00623	0.00979
380263			0.00000	0.00000	0.00000	0.00511	0.00814
380268			0.00000	0.00000	0.00000	0.00000	0.00000
380270			0.00000	0.00000	0.00000	0.00193	0.00422
380272			0.00000	0.00000	0.00000	0.01104	0.01464
380283			0.00000	0.00000	0.00000	0.00000	0.00000
380285			0.00000	0.00000	0.00000	0.00882	0.01169
380287			0.00000	0.00000	0.00000	0.00000	0.00000
380289			0.00000	0.00000	0.00000	0.00000	0.00000
380312			0.00000	0.00000	0.00000	0.00921	0.01350
380333			0.00000	0.00000	0.00000	0.00641	0.00924
380336			0.00000	0.00000	0.00000	0.07342	0.00000
380338			0.00000	0.00000	0.00000	0.00000	0.00000
380347			0.00000	0.00000	0.00000	0.00563	0.00784
380351	Block 65 (HH4)	Block D, Block E/West	0.02666	0.86000	0.86000	0.01352	0.01799
380367			0.00000	0.00000	0.00000	0.00835	0.01388
380368			0.00000	0.00000	0.00000	0.00477	0.00636
380369			0.00000	0.00000	0.00000	0.00560	0.07810
380372			0.00000	0.00000	0.00000	0.00755	0.01231
380377			0.00000	0.00000	0.00000	0.00933	0.01233
380378			0.00000	0.00000	0.00000	0.00000	0.00000
380380			0.00000	0.00000	0.00000	0.01145	0.01558
380381			0.00000	0.00000	0.00000	0.01242	0.01709
380382			0.00000	0.00000	0.00000	0.00680	0.00892
380383			0.00000	0.00000	0.00000	0.01482	0.02223
380389			0.00000	0.00000	0.00000	0.00670	0.09060
380394			0.00000	0.00000	0.00000	0.00482	0.00682
380397			0.00000	0.00000	0.00000	0.00820	0.10270
380398	Block 63E	Nauru Tower	0.32337	0.31009	0.29899	0.00000	0.00000
380400			0.00000	0.00000	0.00000	0.00548	0.01065
380402		offsite	22.00120	22.42880	22.42880	0.01919	0.00000
380404	Block 63E	1350 Ala Moana	0.22320	0.27450	0.27450	0.01904	0.00000
380405			0.00000	0.00000	0.00000	0.00000	0.00000
380962		offsite	0.00330	0.00640	0.00640	0.01466	0.01522
381297			0.00000	0.00000	0.00000	0.00813	0.00446
381340			0.03002	0.00000	0.00000	0.00630	0.00603
381342			0.00000	0.00000	0.00000	0.00875	0.01224
381401			0.00000	0.00000	0.00000	0.00969	0.01253
381442			0.00000	0.00000	0.00000	0.00619	0.00770
381454			0.00000	0.00000	0.00000	0.00784	0.00983
381561			0.00000	0.00000	0.00000	0.00377	0.00528
381567			0.00000	0.00000	0.00000	0.00781	0.00863
381642			0.09721	0.00000	0.00000	0.00392	0.01026
381648			0.00000	0.00000	0.00000	0.00623	0.00538
381684			0.00000	0.00000	0.00000	0.00000	-0.14905
381771			0.00000	0.00000	0.00000	0.00000	0.00000
381780	Block 23	offsite	0.02111	0.10598	0.10250	0.02605	0.04760
381816			0.00000	0.00000	0.00000	0.00000	0.00000
381836			0.00000	0.00000	0.00000	0.00926	0.01284
381994			0.03303	0.00000	0.00000	0.02648	0.03403
382153	Block 39		0.01799	0.10929	0.12556	0.05771	0.07586
683492			0.00000	0.00000	0.00000	0.00000	0.00000
683559			0.00000	0.00000	0.00000	0.01358	0.00828
683582			0.00000	0.00000	0.00000	0.00457	0.00000
683588			0.00000	0.00000	0.00000	0.00921	0.00606
683592			0.00000	0.00000	0.00000	0.01359	0.00555
683617			0.00000	0.00000	0.00000	0.03858	0.02211
683632			0.00000	0.00000	0.00000	0.01482	0.00295
683634	Block 2	HFD Station and Museum	0.03750	0.02680	0.02680	0.00801	0.00000
683647			0.00000	0.00000	0.00000	0.02377	0.01399

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
683669		Federal Building	0.04723	0.04723	0.04723	0.02819	0.01826
683689	Block 1, Block 51	US Courthouse, Restaurant Row	0.27642	0.26738	0.25658	0.04321	0.02515
683693	Block 1		0.00308	0.12996	0.12471	0.00206	0.00071
683714			0.01425	0.00000	0.00000	0.03635	0.01639
683742			0.00000	0.00000	0.00000	0.00000	0.00000
683750			0.00046	0.00000	0.00000	0.02490	0.01221
683754	offsite		2.16049	3.00310	3.00310	0.04458	0.04278
683760			0.00140	0.00000	0.00000	0.00000	0.00000
683766			0.00000	0.00000	0.00000	0.05306	0.02978
683784			0.00000	0.00000	0.00000	0.00954	0.00529
683789			0.00000	0.00000	0.00000	0.02389	0.02284
683801			0.00000	0.00000	0.00000	0.00000	0.04544
683858			0.00000	0.00000	0.00000	0.02384	0.01378
683866			0.00000	0.00000	0.00000	0.00000	0.00000
683871			0.00000	0.00000	0.00000	0.00600	0.01282
683872			0.00000	0.00000	0.00000	0.01209	0.01159
683899			0.01648	0.00000	0.00000	0.02994	0.02778
683904			0.00000	0.00000	0.00000	0.00000	0.00722
683927			0.00000	0.00000	0.00000	0.07134	0.13891
683930	Block 46	690 Pohukaina	0.00462	0.64836	0.62896	0.01513	0.01918
683933			0.00000	0.00000	0.00000	0.06754	0.00000
683960	Block 53		0.01559	0.08070	0.15000	0.01632	0.01597
683996			0.00000	0.00000	0.00000	0.00000	0.00000
683997			0.00000	0.00000	0.00000	0.00000	0.00000
684015	Block 52 (KSB)	400/440 Keawe Street	0.00000	0.11144	0.10794	0.03930	0.03970
684033			0.00000	0.00000	0.00000	0.00000	0.00000
684041			0.00000	0.00000	0.00000	0.00000	0.00560
684047			0.00000	0.00000	0.00000	0.00000	0.00000
684050			0.00000	0.00000	0.00000	0.00000	0.00000
684051			0.00000	0.00000	0.00000	0.61570	0.59490
684052			0.00000	0.00000	0.00000	0.05406	0.06547
684074	Block 57	The Collection	0.30520	0.28151	0.27266	0.00637	0.00398
684075			0.00000	0.00000	0.00000	0.00000	0.00000
684091			0.00000	0.00000	0.00000	0.01053	0.01057
684110			0.00533	0.00000	0.00000	0.00228	0.00108
684119			0.00000	0.00000	0.00000	0.00579	0.00593
684126			0.00000	0.00000	0.00000	0.00000	0.00000
684135			0.00000	0.00000	0.00000	0.01035	0.01036
684148			0.00000	0.00000	0.00000	0.00000	0.00000
684149			0.00000	0.00000	0.00000	0.26268	0.00000
684151			0.00000	0.00000	0.00000	0.05357	0.05554
684153			0.00000	0.00000	0.00000	0.01328	0.00000
684163			0.00000	0.00000	0.00000	0.00000	0.00000
684170			0.00000	0.00000	0.00000	0.00000	0.00000
684173			0.00000	0.00000	0.00000	0.01043	0.01049
684177	Block 58		0.00000	0.24532	0.23509	0.01949	0.00000
684182			0.00000	0.00000	0.00000	0.00000	0.00000
684191			0.00000	0.00000	0.00000	0.00406	0.00917
684192			0.00521	0.00000	0.00000	0.00050	0.00036
684197			0.00000	0.00000	0.00000	0.00000	0.00000
684204			0.00000	0.00000	0.00000	0.00211	0.00423
684209			0.01593	0.00000	0.00000	0.00383	0.00249
684216			0.00000	0.00000	0.00000	0.01408	0.02308
684244	Block 54 (KSC)		0.00000	0.22326	0.47158	0.02186	0.02268
684251			0.00000	0.00000	0.00000	43.15100	37.84970
684290			0.00000	0.00000	0.00000	0.00569	0.00000
684291	Block 59		0.00000	0.16784	0.16106	0.00498	0.00353
684295			0.00000	0.00000	0.00000	0.00974	0.01496
684296			0.00000	0.00000	0.00000	0.14237	0.10308
684297			0.00000	0.00000	0.00000	0.00000	0.00000
684298			0.00000	0.00000	0.00000	0.05926	0.06550
684299			0.00000	0.00000	0.00000	0.00000	0.00000
684301			0.00000	0.00000	0.00000	0.00000	0.00000
684302			0.00000	0.00000	0.00000	0.00794	0.02363
684305			0.00000	0.00000	0.00000	0.07955	0.09806
684318			0.00000	0.00000	0.00000	0.00000	0.45200
684321	Block 60		0.00292	0.14420	0.13837	0.00502	0.00369
1004956			0.01228	0.00000	0.00000	0.00942	0.00534
1004976			0.00000	0.00000	0.00000	0.00930	0.00504
2023299			0.00000	0.00000	0.00000	0.00093	0.00403
2023413	Block 34	Kamakee Vista	0.15868	0.19520	0.19520	0.01062	0.01371
3010699	Block 2	Department of Transportation	0.01667	0.02050	0.02050	0.01038	0.00678
3010701			0.00099	0.00000	0.00000	0.01280	0.00049

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
3010712	Block 2		0.00122	0.15419	0.14796	0.01656	0.00955
3010721			0.00000	0.00000	0.00000	0.00000	0.01393
3010952	Block 64 (HH2)	Block C	0.00000	0.39000	0.39000	0.00000	0.00000
3010954			0.00000	0.00000	0.00000	0.00178	0.00434
3010956			0.00000	0.00000	0.00000	0.00030	0.00251
3010959			0.00000	0.00000	0.00000	0.00000	0.00000
3013634			0.01150	0.00000	0.00000	0.01958	0.01750
3014917			0.00000	0.00000	0.00000	0.06470	0.12944
4009797			0.00000	0.00000	0.00000	0.40377	1.25210
4013594			0.00000	0.00000	0.00000	0.01152	0.01598
4013595			0.00000	0.00000	0.00000	0.00000	0.00000
4013598			0.00000	0.00000	0.00000	0.00372	0.00511
4013626			0.00322	0.00000	0.00000	0.00582	0.00547
4013729			0.00000	0.00000	0.00000	0.00290	0.00295
4013730	Block 6TS	One Archer Lane	0.20890	0.20890	0.20890	0.00793	0.00806
4013732			0.00000	0.00000	0.00000	0.00000	0.00000
4013760	Block 63E	Waihonua, Hawaiki Tower	0.50197	0.61740	0.61740	0.00000	0.00000
4014268			0.00000	0.00000	0.00000	0.00046	0.00079
4014270			0.00000	0.00000	0.00000	0.00251	0.00345
4014272			0.00000	0.00000	0.00000	0.00374	0.00509
4014274			0.00000	0.00000	0.00000	0.01508	0.01988
4014276			0.03167	0.00000	0.00000	0.01477	0.01983
4014278	Block 62 (HH1)	Block J, Ward Entertainment Complex	0.13590	0.13590	0.13590	0.01613	0.01997
4014280			0.00000	0.00000	0.00000	0.01604	0.01917
4020183			0.00000	0.00000	0.00000	0.00917	0.00386
4020187			0.00443	0.00000	0.00000	0.01559	0.00620
4020189			0.01210	0.00000	0.00000	0.00516	0.00160
4025637			0.00000	0.00000	0.00000	0.00000	0.00000
4025638			0.00000	0.00000	0.00000	0.00000	0.11149
4025640			0.00000	0.00000	0.00000	0.00000	0.19446
4025642	Block 57	The Collection	0.00000	0.29552	0.28320	0.00000	0.19165
4025645			0.00000	0.00000	0.00000	0.00000	0.00000
4025647	Block 52X	One Waterfront Towers	0.21764	0.21764	0.21764	0.00000	0.02025
4025650			0.00000	0.00000	0.00000	1.33863	0.00000
4025653			0.00853	0.00000	0.00000	0.00000	0.00000
4025655			0.00000	0.00000	0.00000	0.00000	0.00000
4025657			0.00000	0.00000	0.00000	0.00000	0.00000
4025660			0.00000	0.00000	0.00000	0.00000	0.02715
4025661			0.00000	0.00000	0.00000	0.00000	0.04020
4025663			0.00000	0.00000	0.00000	0.00000	0.13375
4025665			3.10250	3.87610	3.87610	0.00000	0.18505
4026531			0.00000	0.00000	0.00000	0.01917	0.02714
4026534	Block 42		0.00000	0.23396	0.49520	0.00000	0.01158
4026536	Block 43		0.00123	0.21050	0.27100	0.02058	0.01100
4026538			0.00275	0.00000	0.00000	0.01066	0.00799
4026540			0.00000	0.00000	0.00000	0.00673	0.00446
4026542			0.00000	0.00000	0.00000	0.00106	0.00068
4026546			0.01010	0.00000	0.00000	0.01025	0.00812
4026560			0.00000	0.00000	0.00000	0.00095	0.00067
4026561			0.00000	0.00000	0.00000	0.00142	0.00133
4026562			0.00000	0.00000	0.00000	0.00019	0.00006
4026564			0.00143	0.00000	0.00000	0.00944	0.00492
4026566			0.00000	0.00000	0.00000	0.01006	0.00350
4026568	Block 16	Pacific Park Plaza	0.04693	0.04539	0.04356	0.01153	0.00202
4026584			0.00000	0.00000	0.00000	0.01940	0.01929
4026586			0.00672	0.00000	0.00000	0.00783	0.00811
4026597			0.00000	0.00000	0.00000	0.00000	0.00000
4026599	Block 15		0.00448	0.21751	0.36621	0.00046	0.00000
4026601			0.00000	0.00000	0.00000	0.00000	0.00000
4026688			0.00000	0.00000	0.00000	0.00000	0.00000
4026690			0.00000	0.00000	0.00000	0.00000	0.00000
4026691	Block 61	Block A	0.00000	0.42000	0.42000	0.00000	0.00000
4038807			0.00000	0.00000	0.00000	0.07689	0.12575
4038809	Block 63E , Block 65 (HH4)	Hokua, Block E East	0.18444	0.22690	0.22690	0.00158	0.01756
4038811			0.00000	0.00000	0.00000	0.00638	0.03810
4038813	Block 63E	Koolani	0.24377	0.29980	0.29980	0.00788	0.01780
4038817	Block 63H (HH3)	Block K, Block L	0.04623	0.05690	0.05690	0.00788	0.01780
4039005			0.00000	0.00000	0.00000	0.00054	0.00071
4042830			0.00000	0.00000	0.00000	0.00000	0.25440
4044086			0.00000	0.00000	0.00000	0.00443	0.00622
4044526			0.00000	0.00000	0.00000	0.00000	0.00000
4044793			0.00000	0.00000	0.00000	0.00629	0.00000
4044866			0.00000	0.00000	0.00000	0.00296	0.00284

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	IISYR6HR	IISYR24HR
4046051			0.00000	0.00000	0.00000	0.00000	0.13280
4046053			0.00000	0.00000	0.00000	0.00000	0.00000
4046055			0.00000	0.00000	0.00000	0.00000	0.00000
4046375			0.00000	0.00000	0.00000	0.00000	0.00000
4046377			0.00000	0.00000	0.00000	0.00361	0.01052
4046379			0.00000	0.00000	0.00000	0.00462	0.00703
4046381			0.00000	0.00000	0.00000	0.00602	0.00586
4046383			0.00000	0.00000	0.00000	0.00598	0.00558
4046385	Block 35	1133 Waimanu	0.17700	0.17700	0.17700	0.00679	0.00809
4047055			0.00326	0.00000	0.00000	0.00351	0.00471
4047061	Block 35		0.00858	0.18825	0.18065	0.00209	0.00275
4047068			0.00000	0.00000	0.00000	0.00872	0.01019
4047071			0.00421	0.00000	0.00000	0.00100	0.00033
4051543			0.00000	0.00000	0.00000	0.00000	0.00000
4055477	Block 40	Keola Lai	0.22595	0.22595	0.22595	0.01494	0.00984
4065243			0.00000	0.00000	0.00000	0.02089	0.00905
4065244			0.00000	0.00000	0.00000	0.00156	0.00271
4065246	Block 22	Honolulu Design Center	0.09710	0.09710	0.09710	0.00000	0.00000
4065248			0.00000	0.00000	0.00000	0.00247	0.00244
4065254			0.00000	0.00000	0.00000	0.00247	0.00244
4065256			0.00000	0.00000	0.00000	0.00000	0.00000
4065260	Block 22	Moana Pacific	0.88737	0.83008	0.80532	0.00000	0.00000
4065988	Block 31		0.00000	0.07238	0.06946	0.00260	0.00276
4065989	Block 20	909 Kapi'olani	0.14690	0.14690	0.14690	0.00843	0.00885
4065994			0.00000	0.00000	0.00000	0.00589	0.00587
4065995			0.00000	0.00000	0.00000	0.77647	0.80853
4066890			0.00000	0.00000	0.00000	0.00134	0.00148
4068852			0.00000	0.00000	0.00000	0.00443	0.00452
4070284			0.00000	0.00000	0.00000	0.00000	0.00000
4070286			0.00000	0.00000	0.00000	0.00000	0.00000
4070522	Block 44	Nā Le Hulu Kūpuna	0.05780	0.05780	0.05780	0.00000	0.00000
4073046	Block 6Kap	Vanguard Apartments	0.02497	0.02415	0.02318	0.00000	0.00000
4073048			0.00000	0.00000	0.00000	0.00000	0.00000
4075025			0.00000	0.00000	0.00000	0.00000	0.00000
4075027			0.00000	0.00000	0.00000	0.00000	0.00000
4075030			0.00000	0.00000	0.00000	0.00000	0.00000
4075347			0.00000	0.00000	0.00000	0.00000	0.00000
4075352			0.00000	0.00000	0.00000	0.00000	0.00000
4075362			0.00000	0.00000	0.00000	0.00000	0.00000
4075370			0.00000	0.00000	0.00000	0.00000	0.00000
4075372	Block 20	Pacifica Honolulu	0.31144	0.38310	0.38310	0.00000	0.00000
4075943			0.00000	0.00000	0.00000	0.00000	0.00000
4075945			0.00000	0.00000	0.00000	0.00000	0.00000
4075947			0.00000	0.00000	0.00000	0.00000	0.00000
4075949			0.00000	0.00000	0.00000	0.00000	0.00000
4075951			0.00000	0.00000	0.00000	0.00000	0.00000
4075957			0.00440	0.00000	0.00000	0.00000	0.00000
4075961	Block 33		0.00315	0.13378	0.12837	0.00000	0.00000
4075962			0.00000	0.00000	0.00000	0.00000	0.00000
4075963	Block 20		0.00000	0.27384	0.26278	0.00000	0.00000
4075964			0.00028	0.00000	0.00000	0.00000	0.00000
4076017			0.00000	0.00000	0.00000	0.00000	0.00000
4076018			0.00000	0.00000	0.00000	0.00000	0.00000
4076088		offsite	5.76041	7.31300	7.31300	0.00000	0.00000
4077063			0.00000	0.00000	0.00000	0.00000	0.00000
4079658			0.00000	0.00000	0.00000	0.00000	0.00000
4079920			0.00000	0.00000	0.00000	0.00000	0.00000
4079921			0.01202	0.00000	0.00000	0.00000	0.00000
4079929			0.13460	0.00000	0.00000	0.00000	0.00000
4079935			0.00000	0.00000	0.00000	0.00000	0.00000
4100473			0.00000	0.00000	0.00000	0.00000	0.00000
4100725			0.00000	0.00000	0.00000	0.00000	0.00000
4100729			0.00000	0.00000	0.00000	0.00000	0.00000
4100731			0.00000	0.00000	0.00000	0.00000	0.00000
4100733			0.00000	0.00000	0.00000	0.00000	0.00000
4100735			0.00000	0.00000	0.00000	0.00000	0.00000
9000001	Block 64 (HH2)	Block B West	0.00000	0.30000	0.30000	0.00000	0.00000
9000002			0.00000	0.00000	0.00000	0.00000	0.00000
9000003	Block 62 (HH1)	Block N East, Block N West	0.00000	1.08000	1.08000	0.00000	0.00000
9000004			0.00000	0.00000	0.00000	0.00000	0.00000
9000005			0.00000	0.00000	0.00000	0.00000	0.00000
9000006			0.00000	0.00000	0.00000	0.00000	0.00000
9000007			0.00000	0.00000	0.00000	0.00000	0.00000

Discharge Manhole Summary

ID	TOD Block	Alias	EX_DF	FUT_DWF	TOD_DWF	I15YR6HR	I15YR24HR
9000008			0.00000	0.00000	0.00000	0.00000	0.00000
9000009			0.00000	0.00000	0.00000	0.00000	0.00000
9000010	Block 62 (HH1), Block 64(HH2)	Block C West, Block I	0.00000	2.25000	2.25000	0.00000	0.00000
9000011	Block 62 (HH1), Block 64(HH2)	Block B East, Block H	0.00000	1.18000	1.18000	0.00000	0.00000
9000012	Block HH5	Block O	0.00000	0.75000	0.75000	0.00000	0.00000
9000013			0.00000	0.00000	0.00000	0.00000	0.00000
9000014			0.00000	0.00000	0.00000	0.00000	0.00000
9000015			0.00000	0.00000	0.00000	0.00000	0.00000
9000016	Block HH5	Block F East, Block F West	0.00000	0.87000	0.87000	0.00000	0.00000

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition										Water								
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial / Retail	General / Light Industry	Other	Use	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial	General / Light Industry	Other	Average Day Flow
				units	units	units	SF	SF	SF	SF	SF	SF	500 gal/unit	400 gal/unit	350 gal/unit	69 gal/1000 sf	69 gal/1000 sf	92 gal/1000 sf	gal
25	21049057	Central Kakaako								SF HOME									500
25	21049058	Central Kakaako						4,275		WAREHOUSE									394
25	21049060	Central Kakaako						1,008		RETAIL STORE					70				70
25	21049060	Central Kakaako						2,400		WAREHOUSE							221		221
25	21049061	Central Kakaako						3,800		WAREHOUSE						350			350
19	21049063	Kapiolani					5,207			OFFICES			360						360
19	21049063	Kapiolani							5,239	RESTAURANT								362 Commercial	362
19	21049064	Kapiolani					3,022			OFFICES			209						209
19	21049064	Kapiolani							3,478	RESTAURANT								240 Commercial	240
19	21049066	Kapiolani							53,124	AUTO SHOWROOM/OFFICE					3666				3666
19	21049066	Kapiolani						1,034		MEZZ DISPLAY SALES					72				72
25	21049069	Central Kakaako						2,805		RETAIL STORE					194				194
24	21049070	Central Kakaako					160			OFF ENCL WAREHSE			12						12
24	21049071	Central Kakaako							1,830	WAREHOUSE									169
24	21049073	Central Kakaako							7,580	WAREHOUSE							698		698
19	21049075	Kapiolani							665	MEZZ DISPLAY SALES					46				46
19	21049075	Kapiolani					1,501			OFFICES			104						104
19	21049075	Kapiolani							5,267	WAREHOUSE							485		485
24	21049076	Central Kakaako					1,026			OFFICES			71						71
24	21049078	Central Kakaako						6,030		WAREHOUSE									555
27	21049078	Central Kakaako						14,500		AUTO PARTS/SERVICE							1334		1334
26	21049079	Central Kakaako						3,564		WAREHOUSE							328		328
19	21049080	Kapiolani							3,129	RESTAURANT								216 Commercial	216
HH 5	21050001	Pauahi						9,600		WAREHOUSE							884		884
30R	21050002	Central Kakaako						3,050		OFFICES				211					211
30R	21050003	Central Kakaako						3,500		OFF ENCL WAREHSE				242					242
30R	21050003	Central Kakaako							20,500	WAREHOUSE							1886		1886
30R	21050004	Central Kakaako						6,202		OFF ENCL WAREHSE			428						428
30R	21050004	Central Kakaako							3,082	RETAIL STORE					213				213
30R	21050004	Central Kakaako							12,241	WAREHOUSE						1127			1127
30R	21050007	Central Kakaako						7,030		OFFICES			486						486
30R	21050007	Central Kakaako							4,029	WAREHOUSE							371		371
30R	21050009	Central Kakaako						1,225		OFFICES			85						85
30R	21050011	Central Kakaako						1,200		OFFICES			83						83
30R	21050011	Central Kakaako							14,550	WAREHOUSE						1339			1339
30R	21050012	Central Kakaako						1,488		OFFICES			103						103
30R	21050012	Central Kakaako								PARKING PAR/ENCL									0
28	21050016	Central Kakaako						6,816		WAREHOUSE							628		628
28	21050017	Central Kakaako						5,150		WAREHOUSE							474		474
28	21050018	Central Kakaako							6,300	OFFICES			435						435
28	21050019	Central Kakaako						2,436		AUTO PARTS/SERVICE							225		225
28	21050020	Central Kakaako						2,772		AUTO PARTS/SERVICE							256		256
28	21050021	Central Kakaako						1,609		WAREHOUSE							149		149
28	21050022	Central Kakaako						2,500		AUTO PARTS/SERVICE							230		230
28	21050023	Central Kakaako						5,000		AUTO PARTS/SERVICE							460		460
28	21050024	Central Kakaako					320			OFFICES			23						23
28	21050027	Central Kakaako						720		MEZZ DISPLAY SALES					50				50
28	21050027	Central Kakaako						2,850		WAREHOUSE							263		263
28	21050028	Central Kakaako						1,388		MEZZ DISPLAY SALES				96		96			96
28	21050028	Central Kakaako							1,388	OFFICES				96					96
28	21050028	Central Kakaako						8,200		WAREHOUSE							755		755
28	21050030	Central Kakaako						9,750		LIGHT MANUFACTURING							897		897
28	21050030	Central Kakaako						8,000		WAREHOUSE							736		736
28	21050031	Central Kakaako						1,207		RETAIL STORE					84				84
28	21050031	Central Kakaako							2,289	WAREHOUSE							211		211
28	21050032	Central Kakaako							4,319	RETAIL STORE					299				299
28	21050033	Central Kakaako					240			MEZZ ENCL OFFICE			17						17
28	21050033	Central Kakaako						2,104		WAREHOUSE							194		194
28	21050034	Central Kakaako							2,116	VETERINARIAN								147 Office	147
28	21050034	Central Kakaako						4,644		WAREHOUSE							428		428
28	21050035	Central Kakaako						6,000		WAREHOUSE							552		552
28	21050036	Central Kakaako					557			OFFICES			39						39
28	21050036	Central Kakaako							6,422	WAREHOUSE							591		591
28	21050037	Central Kakaako								APARTMENT		400							400
28	21050037	Central Kakaako						760		OFFICES				53					53
28	21050038	Central Kakaako						440		MEZZ ENCL OFFICE				31					31
28	21050039	Central Kakaako							3,772	WAREHOUSE							348		348
28	21050042	Central Kakaako								BENEATH BLDG PARK ENCL									0
28	21050042	Central Kakaako							7,300	WAREHOUSE							672		672
29	21050043	Central Kakaako						905		MEZZ ENCL OFFICE				63					63
29	21050043	Central Kakaako							3,761	WAREHOUSE							347		347
29	21050045	Central Kakaako						2,576		AUTO PARTS/SERVICE							237		237
29	21050046	Central Kakaako						2,972		AUTO PARTS/SERVICE							274		274
29	21050048	Central Kakaako						1,600		MEZZ ENCL OFFICE			111						111
29	21050048	Central Kakaako							4,050	WAREHOUSE							373		373
29	21050049	Central Kakaako								APARTMENT		800							800
29	21050052	Central Kakaako						3,096		BANK/SAVINGS INST				214					214
29	21050052	Central Kakaako						6,943		MEZZ ENCL OFFICE				480					480
28	21050054	Central Kakaako							7,150	RETAIL STORE						494			494
28	21050055	Central Kakaako							2,000	WAREHOUSE							184		184

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition											Water								
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic/Office	Commercial/Retail	General/Light Industry	Other	Use	SF Residential	MF Residential	Hotel	Civic/Office	Commercial	General/Light Industry	Other	Average Day Flow	
				units	units	units	SF	SF	SF	SF	SF	SF	OFFICES	gal/unit	gal/unit	gal/unit	gal/1000 sf	gal/1000 sf		gal/1000 sf
PACIFICA HONOLULU PACIFICA HONOLULU	31	23003090	Central Kakaako				1,250				OFFICES	0	0	0	0	0	0			87
	31	23003091	Central Kakaako							7,500	RESTAURANT	0	0	0	0	0	0		518 Commercial	518
	31	23003092	Central Kakaako								WAREHOUSE	0	0	0	0	0	336			336
	31	23003093	Central Kakaako				835		3,650		MEZZ ENCL OFFICE	0	0	0	58	0	0			58
	31	23003093	Central Kakaako							6,880	WAREHOUSE	0	0	0	0	0	633			633
	32	23003094	Central Kakaako								OFFICES	0	0	0	65	0	0			65
	32	23003094	Central Kakaako							2,880	WAREHOUSE	0	0	0	0	0	265			265
	32	23003095	Central Kakaako						1,035		WAREHOUSE	0	0	0	0	0	96			96
	20	23003097	Kapiolani								OFFICES	0	0	0	844	0	0			844
	20	23003098	Kapiolani							13,824	OFFICES	0	0	0	954	0	0			954
	20	23003099	Kapiolani							1,911	BANKSAVINGS INST	0	0	0	132	0	0			132
	20	23003099	Kapiolani							1,620	OFFICES	0	0	0	112	0	0			112
	20	23003105	Kapiolani		489						APARTMENT	0	195600	0	0	0	0			195600
	20	23003105	Kapiolani						9,985		RETAIL STORE	0	0	0	0	689	0			689
	21	23004002	Kapiolani							7,210	OFFICES	0	0	0	498	0	0			498
	21	23004003	Kapiolani							15,388	OFFICES	0	0	0	1062	0	0			1062
	21	23004003	Kapiolani								RETAIL STORE	0	0	0	0	257	0			257
	21	23004007	Kapiolani								RESTAURANT	0	0	0	0	0	0		294 Commercial	294
21	23004007	Kapiolani								RETAIL STORE	0	0	0	0	294	0			294	
21	23004010	Kapiolani								CAR WASH AUTOMATIC	0	0	0	0	0	0			131	
21	23004010	Kapiolani							1,946	SERVICE STATION W/BAYS	0	0	0	0	0	180		131 Commercial	180	
21	23004012	Kapiolani							8,792	WAREHOUSE	0	0	0	0	0	809			809	
1133 WAIMANU	35	23004025	Central Kakaako			282					APARTMENT	0	112800	0	0	0	0		112800	
	35	23004029	Central Kakaako								BENEATH BLDG PARK ENCL	0	0	0	0	0	0		0	
	35	23004029	Central Kakaako							6,561	OFFICES	0	0	0	453	0	0		453	
	35	23004031	Central Kakaako							576	OFFICES	0	0	0	40	0	0		40	
	35	23004033	Central Kakaako								BENEATH BLDG PARK ENCL	0	0	0	0	0	0		0	
	35	23004033	Central Kakaako							2,960	MEZZ ENCL OFFICE	0	0	0	205	0	0		205	
	35	23004033	Central Kakaako							2,960	OFFICES	0	0	0	205	0	0		205	
	35	23004033	Central Kakaako								WAREHOUSE	0	0	0	0	0	717		717	
	35	23004034	Central Kakaako								RESTAURANT	0	0	0	0	0	0		138 Commercial	138
	36	23004035	Central Kakaako							5,839	OFF ENCL WAREHSE	0	0	0	403	0	0		403	
	36	23004035	Central Kakaako							7,274	OFFICES	0	0	0	502	0	0		502	
	36	23004035	Central Kakaako								WAREHOUSE	0	0	0	0	0	3569		3569	
HOKUA AT 1288 ALA MOANA HOKUA AT 1288 ALA MOANA	63E	23005001	Auahi						32,282		OFFICES	0	0	0	2228	0	0		2228	
	63E (HH 4)	23005001	Auahi			248					APARTMENT	0	99200	0	0	0	0		99200	
	65 (HH 4)	23005004	Auahi							22,687	OFFICES	0	0	0	1566	0	0		1566	
	65 (HH 4)	23005004	Auahi								MEZZ DISPLAY SALES	0	0	0	0	272	0		272	
	65 (HH 4)	23005006	Auahi							3,937	MEZZ DISPLAY SALES	0	0	0	0	64	0		64	
	65 (HH 4)	23005006	Auahi							920	PARK STRUCTURE	0	0	0	0	0	0		0	
	65 (HH 4)	23005006	Auahi								RETAIL STORE	0	0	0	0	8030	0		8030	
	63H (HH 3)	23005013	Auahi								DEPARTMENT STORE	0	0	0	0	4698	0		4698	
	63H (HH 3)	23005013	Auahi							6,081	MEZZ DISPLAY SALES	0	0	0	0	420	0		420	
	63H (HH 3)	23005013	Auahi								PARK STRUCTURE	0	0	0	0	0	0		0	
	63H (HH 3)	23005014	Auahi								DEPARTMENT STORE	0	0	0	0	8955	0		8955	
	63H (HH 3)	23005019	Auahi							15,704	RETAIL STORE	0	0	0	0	1084	0		1084	
1350 ALA MOANA NAURU TOWER NAURU TOWER NAURU TOWER HAWAIIKI TOWER HAWAIIKI TOWER KOOLANI KOOLANI WAIHONUA	63E	23006001	Auahi			353					APARTMENT	0	141200	0	0	0	0		141200	
	63E	23006003	Auahi							4,788	WAREHOUSE	0	0	0	0	0	441		441	
	63E	23006003	Auahi							11,184	OFFICES	0	0	0	772	0	0		772	
	63E	23006003	Auahi								RESTAURANT	0	0	0	0	0	0		742 Commercial	742
	63E	23006003	Auahi			430					APARTMENT	0	172000	0	0	0	0		172000	
	63E	23006004	Auahi							41,940	OFFICES	0	0	0	2894	0	0		2894	
	63E	23006004	Auahi			417					APARTMENT	0	166800	0	0	0	0		166800	
	63E	23006014	Auahi			370					APARTMENT	0	148000	0	0	0	0		148000	
	63E	23006014	Auahi							20,516	OFFICES	0	0	0	1416	0	0		1416	
	63E	23006017	Auahi			345					APARTMENT	0	138000	0	0	0	0		138000	
	39	23007023	Central Kakaako								OFFICES	0	0	0	1177	0	0		1177	
	39	23007026	Central Kakaako								WAREHOUSE	0	0	0	0	0	232		232	
39	23007027	Central Kakaako							7,628	OFFICES	0	0	0	527	0	0		527		
39	23007028	Central Kakaako								BAR LOUNGE	0	0	0	0	0	0		392 Commercial	392	
39	23007028	Central Kakaako								WAREHOUSE	0	0	0	0	0	678		678		
39	23007029	Central Kakaako							4,458	OFFICES	0	0	0	308	0	0		308		
36	23007033	Central Kakaako							1,470	OFF ENCL WAREHSE	0	0	0	102	0	0		102		
36	23007033	Central Kakaako								WAREHOUSE	0	0	0	0	0	609		609		
36	23007036	Central Kakaako							896	OFF ENCL WAREHSE	0	0	0	62	0	0		62		
36	23007036	Central Kakaako							896	OFFICES	0	0	0	62	0	0		62		
36	23007036	Central Kakaako								WAREHOUSE	0	0	0	0	0	415		415		
36	23007039	Central Kakaako							4,509	BENEATH BLDG PARK ENCL	0	0	0	0	0	0		0		
36	23007039	Central Kakaako								WAREHOUSE	0	0	0	0	0	662		662		

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition										Water								
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial / Retail	General / Light Industry	Other	Use	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial	General / Light Industry	Other	Average Day Flow
				units	units	units	SF	SF	SF	SF	SF	SF	500 gal/unit	400 gal/unit	350 gal/unit	69 gal/1000 sf	69 gal/1000 sf	92 gal/1000 sf	gal
Honolulu Design Center	12	23010107	Sheridan	1							SF HOME	500	0	0	0	0	0		500
Honolulu Design Center	22	23010111	Kapiolani	1					19,751		RESTAURANT	0	0	0	0	0	0	1363 Commercial	1363
Honolulu Design Center	22	23010111	Kapiolani					60,112			RETAIL STORE	0	0	0	0	4148	0		4148
	10	23011002	Sheridan				460				LIBRARY	0	0	0	32	0	0		32
	10	23011002	Sheridan				969				MEZZ ENCL OFFICE	0	0	0	67	0	0		67
	10	23011002	Sheridan				2,766				OFFICES	0	0	0	191	0	0		191
	10	23011002	Sheridan						5,207		RELIGIOUS INST	0	0	0	0	0	0	360 Commercial	360
	10	23011002	Sheridan						28,573		SCHOOL	0	0	0	0	0	0	21480 60 gal/student	21480
	10	23011002	Sheridan								SOCIAL/FRATERNAL HALL	0	0	0	488	0	0		488
	8	23011003	Sheridan						955		OFFICES	0	0	0	66	0	0		66
	8	23011003	Sheridan								RETAIL STORE	0	0	0	0	222	0		222
	8	23011004	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	8	23011005	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	8	23011006	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	8	23011007	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	8	23011008	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	8	23011009	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	8	23011010	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	8	23011011	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	8	23011012	Sheridan								PARKING PARENCL	0	0	0	0	0	0		0
	8	23011012	Sheridan					5,228			RETAIL STORE	0	0	0	0	361	0		361
	8	23011013	Sheridan					5,041			RETAIL STORE	0	0	0	0	348	0		348
	8	23011014	Sheridan					1,138			RETAIL STORE	0	0	0	0	79	0		79
	8	23011015	Sheridan				1,920				OFFICES	0	0	0	133	0	0		133
	8	23011015	Sheridan					1,441			RETAIL STORE	0	0	0	0	100	0		100
	8	23011016	Sheridan					2,400			RETAIL STORE	0	0	0	0	166	0		166
	8	23011017	Sheridan						1,650		RESTAURANT	0	0	0	0	0	0	114 Commercial	114
	8	23011018	Sheridan				1,281				OFFICES	0	0	0	89	0	0		89
	8	23011018	Sheridan					3,294			RETAIL STORE	0	0	0	0	228	0		228
	8	23011019	Sheridan					2,500			OFFICES	0	0	0	173	0	0		173
	8	23011019	Sheridan						2,800		RETAIL STORE	0	0	0	0	194	0		194
	9	23011021	Sheridan			4					APARTMENT	0	1600	0	0	0	0		1600
	9	23011022	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011023	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011024	Sheridan	1							SF HOME	500	0	0	0	0	0		500
ELMS	9	23011025	Sheridan			63					APARTMENT	0	25200	0	0	0	0		25200
	9	23011029	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	9	23011030	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011031	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011032	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011033	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	9	23011034	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011035	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	9	23011036	Sheridan			1					APARTMENT	0	400	0	0	0	0		400
	9	23011037	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	11	23011038	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	11	23011039	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	11	23011040	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	11	23011041	Sheridan								APARTMENT	0	800	0	0	0	0		800
	11	23011042	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	11	23011043	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	11	23011044	Sheridan			4					APARTMENT	0	1600	0	0	0	0		1600
	10	23011045	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	10	23011046	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	10	23011047	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	10	23011048	Sheridan			4					APARTMENT	0	1600	0	0	0	0		1600
	10	23011049	Sheridan			2					APARTMENT	0	800	0	0	0	0		800
	10	23011050	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	10	23011051	Sheridan			4					APARTMENT	0	1600	0	0	0	0		1600
	11	23011053	Sheridan	1							SF HOME	500	0	0	0	0	0		500
	10	23011054	Sheridan	1							SF HOME	500	0	0	0	0	0		500
												22,500	3,942,800	-	176,191	81,153	200,465	79,628	4,502,737
690 Pohukaina	46	21051041	Pauahi		851		19,000	76,000			APARTMENT	0	340400	0	1311	5244	0		346955
Ward Entertainment Village	62 (HH 1)	23002104	Auahi																

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition											Sewer								
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial / Retail	General / Light Industry	Other	Use	4. SF Residential	2.8 MF Residential	2 Hotel	Civic/ Office	R Retail	General / Light Industry	Other	Average Flow	Equivalent Population
				units	units	units	SF	SF	SF	SF		cap/unit	cap/unit	cap/unit	capa	capa	capa	cap	gpd	cap
25		21049057	Central Kakaako	1					4,275	SF HOME	4								320	4
25		21049058	Central Kakaako							WAREHOUSE						10			246	3
25		21049060	Central Kakaako				1,008			RETAIL STORE					3				81	1
25		21049060	Central Kakaako					2,400		WAREHOUSE						6			138	2
25		21049061	Central Kakaako					3,800		WAREHOUSE						9			219	3
19		21049063	Kapiolani				5,207			OFFICES				36					897	11
19		21049063	Kapiolani						5,239	RESTAURANT							1572		7,860	98
19		21049064	Kapiolani				3,022			OFFICES				21					521	7
19		21049064	Kapiolani						3,478	RESTAURANT							1044		5,220	65
19		21049066	Kapiolani					53,124		AUTO SHOWROOM/OFFICE					171				4,269	53
19		21049066	Kapiolani					1,034		MEZZ DISPLAY SALES					3				84	1
25		21049069	Central Kakaako					2,805		RETAIL STORE					9				226	3
24		21049070	Central Kakaako				160			OFF ENCL WAREHSE				1					28	0
24		21049071	Central Kakaako						1,830	WAREHOUSE						4			106	1
24		21049073	Central Kakaako						7,580	WAREHOUSE						17			436	5
19		21049075	Kapiolani					665		MEZZ DISPLAY SALES					2				54	1
19		21049075	Kapiolani				1,501			OFFICES				10					259	3
19		21049075	Kapiolani						5,267	WAREHOUSE						12			303	4
24		21049076	Central Kakaako				1,026			OFFICES				7					177	2
24		21049078	Central Kakaako					6,030		WAREHOUSE						14			347	4
27		21049078	Central Kakaako					14,500		AUTO PARTS/SERVICE						33			833	10
26		21049079	Central Kakaako					3,564		WAREHOUSE						8			205	3
19		21049080	Kapiolani						3,129	RESTAURANT							939		4,685	59
HH 5		21050001	Pauahi					9,600		WAREHOUSE						22			551	7
30R		21050002	Central Kakaako				3,050			OFFICES				21					526	7
30R		21050003	Central Kakaako				3,500			OFF ENCL WAREHSE				24					603	8
30R		21050003	Central Kakaako						20,500	WAREHOUSE						47			1,177	15
30R		21050004	Central Kakaako				6,202			OFF ENCL WAREHSE				43					1,068	13
30R		21050004	Central Kakaako					3,082		RETAIL STORE					10				248	3
30R		21050004	Central Kakaako						12,241	WAREHOUSE						28			703	9
30R		21050007	Central Kakaako				7,030			OFFICES				48					1,211	15
30R		21050007	Central Kakaako					4,029		WAREHOUSE						9			232	3
30R		21050009	Central Kakaako				1,225			OFFICES				8					211	3
30R		21050011	Central Kakaako				1,200			OFFICES				8					207	3
30R		21050011	Central Kakaako					14,550		WAREHOUSE						33			836	10
30R		21050012	Central Kakaako				1,488			OFFICES				10					257	3
30R		21050012	Central Kakaako							PARKING PAR/ENCL							1		25	0
28		21050016	Central Kakaako					6,816		WAREHOUSE						16			392	5
28		21050017	Central Kakaako					5,150		WAREHOUSE						12			296	4
28		21050018	Central Kakaako				6,300			OFFICES				43					1,085	14
28		21050019	Central Kakaako					2,436		AUTO PARTS/SERVICE						6			140	2
28		21050020	Central Kakaako					2,772		AUTO PARTS/SERVICE						6			160	2
28		21050021	Central Kakaako					1,609		WAREHOUSE						4			93	1
28		21050022	Central Kakaako					2,500		AUTO PARTS/SERVICE						6			144	2
28		21050023	Central Kakaako					5,000		AUTO PARTS/SERVICE						11			287	4
28		21050024	Central Kakaako				320			OFFICES				2					56	1
28		21050027	Central Kakaako					720		MEZZ DISPLAY SALES					2				58	1
28		21050027	Central Kakaako					2,850		WAREHOUSE						7			164	2
28		21050028	Central Kakaako					1,388		MEZZ DISPLAY SALES					4				112	1
28		21050028	Central Kakaako							OFFICES				10					239	3
28		21050028	Central Kakaako					8,200		WAREHOUSE						19			471	6
28		21050030	Central Kakaako					9,750		LIGHT MANUFACTURING						22			560	7
28		21050030	Central Kakaako					8,000		WAREHOUSE						18			460	6
28		21050031	Central Kakaako					1,207		RETAIL STORE					4				97	1
28		21050031	Central Kakaako						2,289	WAREHOUSE						5			132	2
28		21050032	Central Kakaako					4,319		RETAIL STORE					14				348	4
28		21050033	Central Kakaako				240			MEZZ ENCL OFFICE				2					42	1
28		21050033	Central Kakaako					2,104		WAREHOUSE						5			121	2
28		21050034	Central Kakaako						2,116	VETENARIAN							15		375	5
28		21050034	Central Kakaako					4,644		WAREHOUSE						11			267	3
28		21050035	Central Kakaako					6,000		WAREHOUSE						14			345	4
28		21050036	Central Kakaako				557			OFFICES				4					96	1
28		21050036	Central Kakaako						6,422	WAREHOUSE						15			369	5
28		21050037	Central Kakaako	1						APARTMENT			3						240	3
28		21050037	Central Kakaako					760		OFFICES				5					131	2
28		21050038	Central Kakaako				440			MEZZ ENCL OFFICE				3					76	1
28		21050039	Central Kakaako						3,772	WAREHOUSE						9			217	3
28		21050042	Central Kakaako							BENEATH BLDG PARK ENCL							1		25	0
28		21050042	Central Kakaako						7,300	WAREHOUSE						17			419	5
29		21050043	Central Kakaako					905		MEZZ ENCL OFFICE				6					156	2
29		21050043	Central Kakaako						3,761	WAREHOUSE						9			216	3
29		21050045	Central Kakaako						2,576	AUTO PARTS/SERVICE						6			148	2
29		21050046	Central Kakaako						2,972	AUTO PARTS/SERVICE						7			171	2
29		21050048	Central Kakaako				1,600			MEZZ ENCL OFFICE				11					276	3
29		21050048	Central Kakaako						4,050	WAREHOUSE						9			233	3
29		21050049	Central Kakaako							APARTMENT									480	6
29		21050052	Central Kakaako		2			3,096		BANK/SAVINGS INST				21					534	7
29		21050052	Central Kakaako				6,943			MEZZ ENCL OFFICE				48					1,196	15
28		21050054	Central Kakaako						7,150	RETAIL STORE						23			575	7
28		21050055	Central Kakaako						2,000	WAREHOUSE						5			115	1

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition											Sewer									
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic / Office	Commercial / Retail	General / Light Industry	Other	Use	4 SF Residential	MF Residential	2 Hotel	Civic / Office	Retail	General / Light Industry	Other	Average Flow	Equivalent Population	
				units	units		units	SF	SF			SF	SF	SF	SF	SF	SF		SF	SF	SF
KAMAKEE VISTA	34	23003007	Central Kakaako								APARTMENT								480	6	
	34	23003008	Central Kakaako								MINI-WAREHOUSE		6						3,769	47	
	34	23003008	Central Kakaako								OFF ENCL WAREHSE				19				480	6	
	34	23003008	Central Kakaako								WAREHOUSE							49	1,218	15	
	34	23003011	Central Kakaako								OFF ENCL WAREHSE				12				299	4	
	34	23003011	Central Kakaako								RACQUET BALL COURT	3,000							175	2	
	34	23003012	Central Kakaako								WAREHOUSE							6	160	2	
	34	23003013	Central Kakaako								OFFICES				21				517	6	
	34	23003014	Central Kakaako								OFFICES								2,583	32	
	34	23003015	Central Kakaako								APARTMENT			633					50,640	633	
	34	23003018	Central Kakaako		226						MEZZ ENCL OFFICE				5				127	2	
	34	23003018	Central Kakaako								OFFICES				105				2,632	33	
	34	23003018	Central Kakaako								PARKING PAR/ENCL										
	34	23003018	Central Kakaako								SCHOOL	9,059							114	2,850	36
	32	23003019	Central Kakaako								WAREHOUSE							4	103	1	
	32	23003020	Central Kakaako								MEZZ ENCL OFFICE				7				167	2	
	32	23003020	Central Kakaako								WAREHOUSE							23	573	7	
	32	23003021	Central Kakaako								WAREHOUSE							8	201	3	
	32	23003022	Central Kakaako								MEZZ DISPLAY SALES								199	2	
	32	23003022	Central Kakaako								MEZZ ENCL OFFICE				7		8		164	2	
	32	23003022	Central Kakaako								OFF ENCL WAREHSE				4				96	1	
	32	23003022	Central Kakaako								WAREHOUSE							16	409	5	
	32	23003023	Central Kakaako								WAREHOUSE							19	486	6	
	32	23003024	Central Kakaako								OFFICES				45				1,118	14	
	32	23003024	Central Kakaako								RETAIL STORE						18		443	6	
	32	23003026	Central Kakaako								LIGHT MANUFACTURING							9	231	3	
	32	23003026	Central Kakaako								MEZZ ENCL OFFICE				5				119	1	
	32	23003026	Central Kakaako								RESTAURANT	1,890							567	2,835	35
	32	23003028	Central Kakaako								WAREHOUSE							7	169	2	
	32	23003030	Central Kakaako								SF HOME								320	4	
	32	23003031	Central Kakaako		1						MEZZ ENCL OFFICE				2				54	1	
	32	23003031	Central Kakaako								OFFICES				4				99	1	
	32	23003031	Central Kakaako								WAREHOUSE							4	94	1	
	32	23003032	Central Kakaako			1					APARTMENT								240	3	
	32	23003032	Central Kakaako								BENEATH BLDG PARK ENCL								25	0	
	32	23003032	Central Kakaako								OFFICES				17				435	5	
	33	23003037	Central Kakaako								WAREHOUSE							20	491	6	
33	23003038	Central Kakaako								MEZZ ENCL OFFICE				19				483	6		
33	23003038	Central Kakaako								OFF ENCL WAREHSE				19				483	6		
33	23003038	Central Kakaako								WAREHOUSE							31	786	10		
33	23003043	Central Kakaako								OFFICES				166				4,144	52		
33	23003046	Central Kakaako								WAREHOUSE							10	254	3		
33	23003047	Central Kakaako								WAREHOUSE							7	173	2		
33	23003048	Central Kakaako								WAREHOUSE							9	219	3		
33	23003049	Central Kakaako								OFFICES				27				678	8		
33	23003049	Central Kakaako								RETAIL STORE							13	317	4		
33	23003059	Central Kakaako								WAREHOUSE							62	1,559	19		
31	23003061	Central Kakaako								BENEATH BLDG PARK ENCL								25	0		
31	23003061	Central Kakaako								OFFICES				29				723	9		
31	23003061	Central Kakaako								RESTAURANT	1,409							423	2,115	26	
31	23003062	Central Kakaako								BENEATH BLDG PARK ENCL								25	0		
31	23003062	Central Kakaako								WAREHOUSE							17	431	5		
31	23003063	Central Kakaako								OFF ENCL WAREHSE				3				83	1		
31	23003063	Central Kakaako								WAREHOUSE							4	111	1		
31	23003064	Central Kakaako								WAREHOUSE							23	574	7		
31	23003065	Central Kakaako								OFFICES				10				249	3		
31	23003065	Central Kakaako								WAREHOUSE							6	152	2		
31	23003066	Central Kakaako								WAREHOUSE							15	374	5		
31	23003067	Central Kakaako								MEZZ ENCL OFFICE				52				1,287	16		
31	23003067	Central Kakaako								OFF ENCL WAREHSE				15				387	5		
31	23003067	Central Kakaako								WAREHOUSE							29	718	9		
31	23003068	Central Kakaako								OFF ENCL WAREHSE				11				276	3		
31	23003068	Central Kakaako								WAREHOUSE							8	212	3		
31	23003069	Central Kakaako								MEZZ ENCL OFFICE				10				262	3		
31	23003069	Central Kakaako								WAREHOUSE							8	205	3		
20	23003071	Kapiolani								MEZZ ENCL OFFICE				9				222	3		
20	23003071	Kapiolani								MEZZ ENCL OFFICE				19				483	6		
20	23003071	Kapiolani								WAREHOUSE							16	410	5		
909 Kapiolani	20	23003073	Kapiolani							APARTMENT								51,120	639		
909 Kapiolani	20	23003073	Kapiolani							OFFICES									678	8	
909 Kapiolani	20	23003073	Kapiolani							WAREHOUSE							11	278	3		
	20	23003074	Kapiolani							AUTO PARTS/SERVICE							4	97	1		
	20	23003074	Kapiolani							OFFICES				7				173	2		
	20	23003075	Kapiolani							MINI-WAREHOUSE				117				2,926	37		
	31	23003078	Central Kakaako							OFF ENCL WAREHSE				18				463	6		
	31	23003078	Central Kakaako							WAREHOUSE							21	529	7		
	32	23003081	Central Kakaako							OFFICES				14				348	4		
	32	23003083	Central Kakaako							OFF ENCL WAREHSE				5				124	2		
	32	23003083	Central Kakaako							WAREHOUSE							5	129	2		

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition										Use	Sewer								
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial / Retail	General / Light Industry	Other		4 SF Residential	MF Residential	Hotel	Civic/ Office	Retail	General / Light Industry	Other	Average Flow	Equivalent Population
				units	units	units	SF	SF	SF	SF	cap/unit	cap/unit	cap/unit	capa	capa	capa	cap	gpd	cap	
	31	23003090	Central Kakaako				1,250							9				216	3	
	31	23003091	Central Kakaako							7,500							2,250	11,250	141	
	31	23003092	Central Kakaako													8		210	3	
	31	23003093	Central Kakaako				835		3,650				6					144	2	
	31	23003093	Central Kakaako							6,880						16		395	5	
	32	23003094	Central Kakaako				942						6					163	2	
	32	23003094	Central Kakaako							2,880						7		166	2	
	32	23003095	Central Kakaako						1,035							2		60	1	
	20	23003097	Kapiolani				12,228						84					2,106	26	
	20	23003098	Kapiolani				13,824						95					2,381	30	
	20	23003099	Kapiolani				1,911						13					330	4	
	20	23003099	Kapiolani				1,620						11					279	3	
PACIFICA HONOLULU	20	23003105	Kapiolani	489								1,370						109,600	1,370	
PACIFICA HONOLULU	20	23003105	Kapiolani					9,985						32				803	10	
	21	23004002	Kapiolani				7,210						50					1,242	16	
	21	23004003	Kapiolani				15,388						106					2,650	33	
	21	23004003	Kapiolani					3,721						12				299	4	
	21	23004007	Kapiolani						4,257			4,257					1,278	6,390	80	
	21	23004007	Kapiolani							4,257					14			343	4	
	21	23004010	Kapiolani							1,888										
	21	23004010	Kapiolani							1,946						4		112	1	
1133 WAIMANU	21	23004012	Kapiolani						8,792							20		505	6	
	35	23004025	Central Kakaako		282													63,200	790	
	35	23004029	Central Kakaako									790					1	25	0	
	35	23004029	Central Kakaako				6,561						45					1,130	14	
	35	23004031	Central Kakaako				576						4					100	1	
	35	23004033	Central Kakaako													1		25	0	
	35	23004033	Central Kakaako				2,960						20					510	6	
	35	23004033	Central Kakaako				2,960						20					510	6	
	35	23004033	Central Kakaako						7,790							18		448	6	
	35	23004034	Central Kakaako							1,994							599	2,995	37	
	36	23004035	Central Kakaako				5,839						40					1,006	13	
	36	23004035	Central Kakaako				7,274						50					1,253	16	
	36	23004035	Central Kakaako							38,790						89		2,227	28	
	21	23004037	Kapiolani				160						1					28	0	
	21	23004039	Kapiolani							1,248						3		72	1	
	26	23004048	Central Kakaako				2,130						15					367	5	
	36	23004048	Central Kakaako						6,493							15		373	5	
	36	23004051	Central Kakaako				1,830						13					316	4	
	36	23004051	Central Kakaako						2,688							6		155	2	
	36	23004069	Central Kakaako				900						6					155	2	
	36	23004069	Central Kakaako						7,280							17		418	5	
	35	23004071	Central Kakaako					565							2			46	1	
HOKUA AT 1288 ALA MOANA	63E	23005001	Auahi				32,282											5,559	69	
HOKUA AT 1288 ALA MOANA	63E	23005001	Auahi	248								695						55,600	695	
65 (HH 4)		23005004	Auahi				22,687						156					3,907	49	
65 (HH 4)		23005004	Auahi					3,937							13			317	4	
65 (HH 4)		23005006	Auahi					920						3				74	1	
65 (HH 4)		23005006	Auahi													1		25	0	
65 (HH 4)		23005006	Auahi					116,370							374			9,351	117	
63H (HH 3)		23005013	Auahi				68,079								219			5,471	68	
63H (HH 3)		23005013	Auahi				6,081								20			489	6	
63H (HH 3)		23005013	Auahi																	
WARD VILLAGE SHOPS	63H (HH 3)	23005014	Auahi					129,778							417			10,428	130	
	63H (HH 3)	23005019	Auahi					15,704							50			1,262	16	
1350 ALA MOANA	63E	23006001	Auahi	353								989						79,120	989	
NAURU TOWER	63E	23006003	Auahi					4,788								11		275	3	
NAURU TOWER	63E	23006003	Auahi				11,184						77					1,926	24	
NAURU TOWER	63E	23006003	Auahi						10,740								3,222	16,110	201	
NAURU TOWER	63E	23006003	Auahi	430								1,204						98,320	1,204	
HAWAIIKI TOWER	63E	23006004	Auahi				41,940						289					7,222	90	
HAWAIIKI TOWER	63E	23006004	Auahi	417								1,168						93,440	1,168	
KOOLANI	63E	23006014	Auahi	370								1,036						82,880	1,036	
KOOLANI	63E	23006014	Auahi				20,516						141					3,533	44	
WAIHONUA	63E	23006017	Auahi	345								966						77,280	966	
	39	23007023	Central Kakaako				17,057							117				2,937	37	
	39	23007026	Central Kakaako						2,512							6		145	2	
	39	23007027	Central Kakaako				7,628						53					1,314	16	
	39	23007028	Central Kakaako						5,680								284	1,420	18	
	39	23007028	Central Kakaako						7,360							17		423	5	
	39	23007029	Central Kakaako				4,458							31				768	10	
	36	23007033	Central Kakaako				1,470							10				254	3	
	36	23007033	Central Kakaako						6,616						15			380	5	
	36	23007036	Central Kakaako				896						6					155	2	
	36	23007036	Central Kakaako				896						6					155	2	
	36	23007036	Central Kakaako						4,509						10			259	3	
	36	23007039	Central Kakaako													1		25	0	
	36	23007039	Central Kakaako						7,192							17		413	5	

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Development Name	Land Use: Existing Condition										Use	Sewer									
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic/ Office	Commercial / Retail	General / Light Industry	Other		4. SF Residential	2.8 MF Residential	2 Hotel	300 Civic/ Office	140 Retail	100 General / Light Industry	Other	Average Flow	Equivalent Population	
				units	units	units	SF	SF	SF	SF	cap/unit	cap/unit	cap/unit	cpa	cpa	cpa	cap	gpd	cap		
	39	23007044	Central Kakaako				3,710							26				639	8		
	39	23007045	Central Kakaako					8,460								19		486	6		
	39	23007049	Central Kakaako					2,045							7			165	2		
	39	23007049	Central Kakaako						18,240							42		1,047	13		
	38	23007054	Central Kakaako							1,288							387	1,935	24		
	38	23007054	Central Kakaako					1,664								4		96	1		
	38	23007056	Central Kakaako					4,051								9		233	3		
	38	23007057	Central Kakaako					14,960								34		859	11		
	38	23007057	Central Kakaako							28,140							8442	42,210	528		
	38	23007061	Central Kakaako														1	25	0		
	38	23007061	Central Kakaako				2,100							14				362	5		
	38	23007061	Central Kakaako						4,500							10		259	3		
	38	23007062	Central Kakaako							1,200					4			97	1		
	38	23007062	Central Kakaako						8,228							19		473	6		
	38	23007063	Central Kakaako						8,000							18		460	6		
	37	23007064	Central Kakaako							1,584								273	3		
	37	23007064	Central Kakaako							6,037						14		347	4		
	37	23007066	Central Kakaako					1,144						8				197	2		
	37	23007066	Central Kakaako						6,608							15		380	5		
	37	23007067	Central Kakaako							910					6			157	2		
	37	23007067	Central Kakaako							6,760						16		388	5		
	37	23007069	Central Kakaako							360						2		62	1		
	37	23007069	Central Kakaako					1,608										277	3		
	37	23007069	Central Kakaako							32,137						74		1,845	23		
	37	23007078	Central Kakaako					2,577						18				444	6		
	37	23007078	Central Kakaako							11,332						26		651	8		
	38	23007092	Central Kakaako							1,724							87	435	5		
	38	23007093	Central Kakaako					5,385						37				928	12		
	38	23007093	Central Kakaako							5,385							1616	8,080	101		
	23	23007098	Kapiolani						2,030								609	3,045	38		
	23	23007099	Kapiolani														1	25	0		
	23	23007100	Kapiolani					4,823						33				831	10		
	23	23007107	Kapiolani					31,933						220				5,499	69		
	23	23007107	Kapiolani														1	25	0		
	23	23007107	Kapiolani							19,864					64			1,597	20		
BLAISDELL CENTER	7B+C	23008002	Thomas Square														1	25	0		
	7B+C	23008003	Thomas Square							4,747							1425	7,125	89		
MCKINLEY HIGH SCHOOL	7B+C	23009001	Thomas Square														1800	45,000	563		
	12	23010001	Sheridan			2												480	6		
	12	23010002	Sheridan		1													320	4		
	12	23010003	Sheridan		1													320	4		
	12	23010004	Sheridan			4												960	12		
	12	23010005	Sheridan			1												240	3		
	12	23010006	Sheridan			1												320	4		
	12	23010007	Sheridan			2												480	6		
	12	23010008	Sheridan			1												320	4		
HAWAIIANA APTS		23010009	Sheridan			14												3,200	40		
RYCROFT MANOR		23010011	Sheridan			29												6,560	82		
	12	23010012	Sheridan			2												480	6		
	12	23010013	Sheridan			1												320	4		
	13	23010014	Sheridan			4												960	12		
	13	23010015	Sheridan			1												320	4		
	13	23010016	Sheridan			2												480	6		
	13	23010017	Sheridan			3												720	9		
	13	23010018	Sheridan			1												320	4		
	13	23010019	Sheridan			1												320	4		
	13	23010020	Sheridan			2												480	6		
	13	23010021	Sheridan			2												480	6		
	13	23010022	Sheridan			1												320	4		
	13	23010023	Sheridan			2												480	6		
	13	23010024	Sheridan			4												960	12		
	13	23010025	Sheridan			4												960	12		
	13	23010026	Sheridan			1												320	4		
	13	23010027	Sheridan			1												240	3		
MOANA PACIFIC	22	23010028	Kapiolani			1,404												314,560	3,932		
	13	23010083	Sheridan			1												320	4		
	13	23010092	Sheridan			1												320	4		
	13	23010093	Sheridan			2												480	6		
	13	23010094	Sheridan			3												720	9		
	13	23010096	Sheridan			2												480	6		
	13	23010097	Sheridan			2												480	6		
	13	23010098	Sheridan			2												480	6		
	12	23010099	Sheridan			1												240	3		
	12	23010100	Sheridan			1												320	4		
	12	23010101	Sheridan			2												480	6		
	12	23010102	Sheridan			2												480	6		
	12	23010103	Sheridan			2												480	6		
	12	23010104	Sheridan			2												480	6		
	12	23010105	Sheridan			1												320	4		
	12	23010106	Sheridan			1												320	4		

Table 2: Population and Utility Demands - Existing Condition

Development Name	Land Use: Existing Condition										Sewer								
	Block	TMK	HCDA Neighborhood	SF Residential	MF Residential	Hotel	Civic / Office	Commercial / Retail	General / Light Industry	Other	Use	4 SF Residential	MF Residential	Hotel	Civic / Office	Retail	General / Light Industry	Other	Average Flow
				units	units	units	SF	SF	SF	SF	cap/unit	cap/unit	cap/unit	capa	capa	capa	cap	gpd	cap
Honolulu Design Center	12	23010107	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	22	23010111	Kapiolani						19,751	RESTAURANT	-	-	-	-	-	-	5926	29,630	370
Honolulu Design Center	22	23010111	Kapiolani					60,112		RETAIL STORE	-	-	-	-	193	-	-	4,830	60
	10	23010002	Sheridan				460			LIBRARY	-	-	3	-	-	-	-	80	1
	10	23010002	Sheridan				969			MEZZ ENCL OFFICE	-	-	7	-	-	-	-	167	2
	10	23010002	Sheridan				2,766			OFFICES	-	-	19	-	-	-	-	477	6
	10	23010002	Sheridan						5,207	RELIGIOUS INST	-	-	-	-	-	-	36	900	11
	10	23010002	Sheridan						28,573	SCHOOL	-	-	-	-	-	-	-	8,950	112
	10	23010002	Sheridan					7,058		SOCIAL/FRATERNAL HALL	-	-	49	-	-	-	-	1,216	15
	8	23011003	Sheridan				955			OFFICES	-	-	7	-	-	-	-	165	2
	8	23011003	Sheridan							RETAIL STORE	-	-	-	10	-	-	-	259	3
	8	23011004	Sheridan		2			3,215		APARTMENT	-	6	-	-	-	-	-	480	6
	8	23011005	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	8	23011006	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	8	23011007	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	8	23011008	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	8	23011009	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	8	23011010	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	8	23011011	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	8	23011012	Sheridan							PARKING PAR/ENCL	-	-	-	-	-	-	1	95	0
	8	23011012	Sheridan					5,228		RETAIL STORE	-	-	-	-	17	-	-	421	5
	8	23011013	Sheridan					5,041		RETAIL STORE	-	-	-	-	16	-	-	406	5
	8	23011014	Sheridan					1,138		RETAIL STORE	-	-	-	-	4	-	-	92	1
	8	23011015	Sheridan				1,920			OFFICES	-	-	13	-	-	-	-	331	4
	8	23011015	Sheridan					1,441		RETAIL STORE	-	-	-	-	5	-	-	116	1
	8	23011016	Sheridan					2,400		RETAIL STORE	-	-	-	-	8	-	-	193	2
	8	23011017	Sheridan						1,650	RESTAURANT	-	-	-	-	-	-	495	2,475	31
	8	23011018	Sheridan				1,281			OFFICES	-	-	-	9	-	-	-	221	3
	8	23011018	Sheridan					3,294		RETAIL STORE	-	-	-	-	11	-	-	265	3
	8	23011019	Sheridan					2,500		OFFICES	-	-	-	17	-	-	-	431	5
	8	23011019	Sheridan							RETAIL STORE	-	-	-	-	9	-	-	225	3
	9	23011021	Sheridan		4					APARTMENT	-	12	-	-	-	-	-	960	12
	9	23011022	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011023	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011024	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
ELMS	9	23011025	Sheridan		63					APARTMENT	-	177	-	-	-	-	-	14,160	177
	9	23011029	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	9	23011030	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011031	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011032	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011033	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	9	23011034	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011035	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	9	23011036	Sheridan		1					APARTMENT	-	3	-	-	-	-	-	240	3
	9	23011037	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	11	23011038	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	11	23011039	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	11	23011040	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	11	23011041	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	11	23011042	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	11	23011043	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	11	23011044	Sheridan		4					APARTMENT	-	12	-	-	-	-	-	960	12
	10	23011045	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	10	23011046	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	10	23011047	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	10	23011048	Sheridan		4					APARTMENT	-	12	-	-	-	-	-	960	12
	10	23011049	Sheridan		2					APARTMENT	-	6	-	-	-	-	-	480	6
	10	23011050	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	10	23011051	Sheridan		4					APARTMENT	-	12	-	-	-	-	-	960	12
	11	23011053	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
	10	23011054	Sheridan	1						SF HOME	4	-	-	-	-	-	-	320	4
											180 cap	25,864 cap	- cap	14,127 cap	3,644 cap	5,000 cap		3,355,522 gpd	41,944 equiv
690 Pohukaina	46	21051041	Pauahi		851		19,000	76,000		APARTMENT	-	2,383	-	131	244	-	-	200,018	
Ward Entertainment Village	62 (HH 1)	23002104	Auahi															48000	

Table 5: Flow Computation - Existing Condition

Discharge SMH	Average Flow (mgd)	Dry Weather I/I (mgd)	Design Average Flow (mgd)
340032	0.0025	0.0011	0.0069
340260	0.0341	0.0149	0.0955
340287	0.0061	0.0027	0.0171
340479	0.0051	0.0022	0.0142
340496	0.0196	0.0086	0.0549
340497	0.0178	0.0078	0.0499
340578	0.0082	0.0036	0.0230
340654	0.2458	0.1075	0.6882
340663	0.0113	0.0050	0.0317
340746	0.0005	0.0002	0.0013
340787	0.0001	0.0001	0.0004
340801	0.0007	0.0003	0.0020
340822	0.0000	0.0000	0.0000
340995	0.0005	0.0002	0.0014
341082	0.0283	0.0124	0.0793
341034	0.0012	0.0005	0.0034
341127	0.0011	0.0005	0.0030
341183	0.0667	0.0292	0.1868
341308	0.0056	0.0025	0.0157
341331	0.1450	0.0634	0.4059
341339	0.0594	0.0260	0.1664
341360	0.0006	0.0003	0.0018
341402	0.0041	0.0018	0.0114
341407	0.0522	0.0228	0.1462
341418	0.0359	0.0157	0.1004
341438	0.0215	0.0094	0.0601
341491	0.0010	0.0004	0.0028
341498	0.0046	0.0020	0.0128
341527	0.2011	0.0880	0.5629
341557	0.0031	0.0014	0.0087
341588	0.0072	0.0031	0.0200
341601	0.0000	0.0000	0.0000
341619	0.0081	0.0036	0.0228
341634	0.0107	0.0047	0.0300
341656	0.0000	0.0000	0.0000
341660	0.0005	0.0002	0.0015
341729	0.0002	0.0001	0.0005
341730	0.0009	0.0004	0.0025
341764	0.0104	0.0046	0.0292

Table 5: Flow Computation - Existing Condition

Discharge SMH	Average Flow (mgd)	Dry Weather I/I (mgd)	Design Average Flow (mgd)
341787	0.0050	0.0022	0.0140
341803	0.0002	0.0001	0.0006
341812	0.0014	0.0006	0.0040
341826	0.0006	0.0003	0.0017
341852	0.0361	0.0158	0.1011
341934	0.0047	0.0021	0.0132
341945	0.0031	0.0013	0.0086
341967	0.0100	0.0044	0.0281
341970	0.0106	0.0046	0.0296
341976	0.0179	0.0078	0.0501
342026	0.0038	0.0017	0.0106
342039	0.0032	0.0014	0.0090
342049	0.0017	0.0007	0.0046
342056	0.0014	0.0006	0.0039
342081	0.0015	0.0007	0.0042
342093	0.0025	0.0011	0.0070
342111	0.0644	0.0282	0.1804
342114	0.0014	0.0006	0.0038
342145	0.0037	0.0016	0.0104
342150	0.0033	0.0014	0.0092
342154	0.0007	0.0003	0.0021
342162	0.0024	0.0011	0.0067
342199	0.0006	0.0003	0.0017
342202	0.0046	0.0020	0.0130
342207	0.0008	0.0004	0.0024
342208	0.0027	0.0012	0.0076
342210	0.0020	0.0009	0.0057
342248	0.0006	0.0002	0.0016
342249	0.0024	0.0010	0.0067
342258	0.0163	0.0071	0.0455
342261	0.0037	0.0016	0.0104
342283	0.0088	0.0039	0.0247
342308	0.0005	0.0002	0.0014
342348	0.0020	0.0009	0.0057
342353	0.0025	0.0011	0.0069
342356	0.0042	0.0018	0.0117
342357	0.0092	0.0040	0.0256
342367	0.0018	0.0008	0.0050
342385	0.0024	0.0010	0.0066

Table 5: Flow Computation - Existing Condition

Discharge SMH	Average Flow (mgd)	Dry Weather I/I (mgd)	Design Average Flow (mgd)
342394	0.0030	0.0013	0.0083
342402	0.0096	0.0042	0.0270
351789	0.0085	0.0037	0.0238
352086	0.0194	0.0085	0.0542
352390	0.0077	0.0034	0.0215
352759	0.0010	0.0004	0.0027
352769	0.0118	0.0052	0.0330
352864	0.0078	0.0034	0.0220
352940	0.0019	0.0008	0.0054
352972	0.0067	0.0029	0.0188
379475	0.0004	0.0002	0.0011
379729	0.0003	0.0001	0.0008
379737	0.0042	0.0018	0.0117
379754	0.0030	0.0013	0.0084
379756	0.0038	0.0017	0.0107
379764	0.0029	0.0013	0.0082
379765	0.0026	0.0011	0.0073
379771	0.0057	0.0025	0.0160
379782	0.0450	0.0197	0.1260
379810	0.0087	0.0038	0.0245
379812	0.0084	0.0037	0.0234
379870	0.0001	0.0000	0.0003
379875	0.0067	0.0029	0.0189
379894	0.0048	0.0021	0.0135
379904	0.0016	0.0007	0.0045
379943	0.0042	0.0018	0.0117
379948	0.0005	0.0002	0.0014
379950	0.0112	0.0049	0.0314
380002	0.0121	0.0053	0.0339
380025	0.0036	0.0016	0.0100
380104	0.0046	0.0020	0.0128
380113	0.0124	0.0054	0.0348
380133	0.0018	0.0008	0.0051
380189	0.0005	0.0002	0.0013
380234	0.0007	0.0003	0.0021
380249	0.0013	0.0006	0.0035
380351	0.0095	0.0041	0.0265
380404	0.0791	0.0346	0.2215
381340	0.0106	0.0047	0.0298

Table 5: Flow Computation - Existing Condition

Discharge SMH	Average Flow (mgd)	Dry Weather I/I (mgd)	Design Average Flow (mgd)
381642	0.0000	0.0000	0.0000
381994	0.0117	0.0051	0.0328
382153	0.0064	0.0028	0.0179
384244	0.0004	0.0002	0.0011
683634	0.0133	0.0058	0.0373
683689	0.0980	0.0429	0.2744
683693	0.0011	0.0005	0.0031
683714	0.0051	0.0022	0.0141
683750	0.0002	0.0001	0.0005
683760	0.0005	0.0002	0.0014
683865	0.0000	0.0000	0.0000
683899	0.0058	0.0026	0.0164
683930	0.0016	0.0007	0.0046
683960	0.0055	0.0024	0.0155
684074	0.1090	0.0477	0.3052
684110	0.0019	0.0008	0.0053
684192	0.0018	0.0008	0.0052
684209	0.0056	0.0025	0.0158
684321	0.0010	0.0005	0.0029
1004956	0.0044	0.0019	0.0122
2023413	0.0562	0.0246	0.1575
3010699	0.0059	0.0026	0.0165
3010701	0.0004	0.0002	0.0010
3010712	0.0004	0.0002	0.0012
3013634	0.0041	0.0018	0.0114
3420121	0.0004	0.0002	0.0011
4013626	0.0011	0.0005	0.0032
4013730	0.0742	0.0324	0.2076
4013760	0.1779	0.0778	0.4982
4014276	0.0112	0.0049	0.0314

Table 5: Flow Computation - Existing Condition

Discharge SMH	Average Flow (mgd)	Dry Weather I/I (mgd)	Design Average Flow (mgd)
4014278	0.0480	0.0210	0.1344
4020187	0.0016	0.0007	0.0044
4020189	0.0043	0.0019	0.0120
4025647	0.0772	0.0338	0.2160
4025653	0.0030	0.0013	0.0085
4026536	0.0004	0.0002	0.0012
4026538	0.0010	0.0004	0.0027
4026546	0.0036	0.0016	0.0100
4026564	0.0005	0.0002	0.0014
4026568	0.0166	0.0073	0.0466
4026586	0.0024	0.0010	0.0067
4026599	0.0016	0.0007	0.0044
4038809	0.0654	0.0286	0.1831
4038813	0.0864	0.0378	0.2419
4046385	0.0632	0.0277	0.1770
4047055	0.0012	0.0005	0.0032
4047061	0.0030	0.0013	0.0085
4047071	0.0015	0.0007	0.0042
4055477	0.0798	0.0349	0.2235
4065246	0.0345	0.0151	0.0965
4065260	0.3146	0.1376	0.8807
4065989	0.0521	0.0228	0.1458
4070282	0.1146	0.0502	0.3210
4070522	0.0205	0.0090	0.0574
4073046	0.0089	0.0039	0.0248
4038817	0.0164	0.0072	0.0459
4075372	0.1104	0.0483	0.3091
4075957	0.0016	0.0007	0.0044
4075961	0.0011	0.0005	0.0031
4075964	0.0001	0.0000	0.0003
4076088	0.0110	0.0048	0.0309
4079921	0.0043	0.0019	0.0119
4079929	0.0477	0.0209	0.1336

3.3978 <- Avg Flow

42472 <- Equivalent Population

2.362377 <- Flow Factor

690 Pohukaina

683930	0.2000	0.0875	0.6792
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Table 6: Flow Computation -Future Baseline and TOD Alternative A

Discharge SMH	Future Baseline			TOD Overlay		
	Average	DWII	Design Max	Average	DWII	Design Max
339739			12676.0			12676.0
340340			1945.2			1945.2
340475			617037.2			617037.2
340482	5947.0	2601.8	15692.6	5947.0	2601.8	15224.6
340496			395538.0			395538.0
340578	15236.0	6665.8	40203.8	15236.0	6665.8	39004.9
340654	245786.0	107531.4	648564.3	245786.0	107531.4	629224.5
340787			50261.2			50261.2
340789	99923.0	43716.3	263670.4	99923.0	43716.3	255807.9
340822	23110.0	10110.6	60981.2	23110.0	10110.6	59162.8
341080			15963860.0			15963860.0
341082			30241.4			30241.4
341183	118343.0	51775.1	312275.9	118343.0	51775.1	302964.0
341263	41182.0	18017.1	108668.4	41182.0	18017.1	105428.0
341270			78134.3			78134.3
341283			40632.5			40632.5
341331	144975.0	63426.6	382550.7	144975.0	63426.6	371143.3
341498	130670.0	57168.1	344803.6	130670.0	57168.1	334521.7
341557	94795.0	41472.8	250139.0	209935.0	91846.6	537444.1
341588	466730.0	204194.4	1231577.1	446290.0	195251.9	1142524.8
341599	24785.0	10843.4	65401.1	56705.0	24808.4	145167.6
341625	75745.0	33138.4	199871.0	156870.0	68630.6	401595.1
341787	68210.0	29841.9	179988.2	68210.0	29841.9	174621.0
341794	175.0	76.6	461.8	175.0	76.6	448.0
341797	76675.0	33545.3	202325.1	244526.0	106980.1	625998.8
341798	98125.0	42929.7	258925.9	98125.0	42929.7	251204.9
341852	68610.0	30016.9	181043.7	68610.0	30016.9	175645.0
341964	93440.0	40880.0	246563.5	203705.0	89120.9	521495.0
342056	32599.0	14262.1	86020.1	32599.0	14262.1	83455.1
342088	13065.0	5715.9	34475.1	13065.0	5715.9	33447.1
342157	14850.0	6496.9	39185.2	14850.0	6496.9	38016.7
342161	110255.0	48236.6	290933.8	94455.0	41324.1	241809.5
342244	6000.0	2625.0	15832.4	6000.0	2625.0	15360.3
342402	144085.0	63037.2	380202.2	90635.0	39652.8	232030.1
351590			9054.1			9054.1
351869			622276.6			622276.6
352389	40265.0	17615.9	106248.7	40265.0	17615.9	103080.4
352864	21685.0	9487.2	57221.0	21685.0	9487.2	55514.7
352864	5760.0	2520.0	15199.1	5760.0	2520.0	14745.9
352864	27445.0	12007.2	72420.1	27445.0	12007.2	70260.6
352912			4597681.0			4597681.0
352965	33785.0	14780.9	89149.7	33785.0	14780.9	86491.3
353106	16800.0	7350.0	44330.8	16800.0	7350.0	43008.8
379476			4932.2			4932.2
379736	88745.0	38825.9	234174.6	88745.0	38825.9	227191.6
379795	19500.0	8531.3	51455.3	35340.0	15461.3	90472.2
379830	27847.0	12183.1	73480.9	27847.0	12183.1	71289.7
379875	59820.0	26171.3	157849.2	109125.0	47742.2	279365.5
380047	36300.0	15881.3	95786.1	66770.0	29211.9	170934.5
380133	26690.0	11676.9	70427.9	52375.0	22914.1	134082.6
380254	70025.0	30635.9	184777.5	108170.0	47324.4	276920.6
380398	114631.0	50151.1	302480.9	114631.0	50151.1	293461.1
380402			24201320.0			24201320.0
380962			3630.0			3630.0
381780	31550.0	13803.1	83252.1	31550.0	13803.1	80769.6
382153	40050.0	17521.9	105681.4	47950.0	20978.1	122754.4
683689	97988.0	42869.8	258564.4	97988.0	42869.8	250854.2
683693	47626.0	20836.4	125672.4	47626.0	20836.4	121924.9
683930	245560.0	107432.5	647967.9	245560.0	107432.5	628645.9
684015	41840.0	18305.0	110404.7	41840.0	18305.0	107112.5
684074	105690.0	46239.4	278888.0	105690.0	46239.4	270571.7
684110	73625.0	32210.9	194276.9	73625.0	32210.9	188483.7
684244	81820.0	35796.3	215901.4	180095.0	78791.6	461052.2

Table 6: Flow Computation -Future Baseline and TOD Alternative A

Discharge SMH	Future Baseline			TOD Overlay			
	Average	DWII	Design Max	Average	DWII	Design Max	
684291	61510.0	26910.6	162308.6	61510.0	26910.6	157468.7	
684321	52845.0	23119.7	139444.0	52845.0	23119.7	135285.8	
3010712	56506.0	24721.4	149104.4	56506.0	24721.4	144658.2	
4020189	51455.0	22511.6	135776.1	103830.0	45425.6	265810.0	
4025647	55249.0	24171.4	145787.5	55249.0	24171.4	141440.2	
4026534	85740.0	37511.3	226245.2	189115.0	82737.8	484143.9	
4026568	16635.0	7277.8	43895.4	16635.0	7277.8	42586.4	
4026599	79710.0	34873.1	210333.6	139855.0	61186.6	358035.8	
4047061	8675.0	3795.3	22891.0	8675.0	3795.3	22208.4	
4055477	79812.0	34917.8	210602.8	79812.0	34917.8	204322.7	
4065260	314560.0	137620.0	830040.7	314560.0	137620.0	805289.4	
4065985			6336451.0			6336451.0	
4065988	26525.0	11604.7	69992.5	26525.0	11604.7	67905.3	
4070522	77445.0	33882.2	204356.9	103935.0	45471.6	266078.8	
4073046	8851.0	3872.3	23355.4	8851.0	3872.3	22659.0	
4075961	49025.0	21448.4	129364.0	49025.0	21448.4	125506.5	
4075963	100356.0	43905.8	264813.0	100356.0	43905.8	256916.4	
9000001							
9000002	HHG provided peak flow values only. These values were assigned directly at each discharge manhole.						
9000003							
9000004							
9000005							
9000006							
9000007							
9000008							
9000009							
9000010							
9000011							
9000012							
9000013							
9000014							
9000015							
9000016							
48N	110255.0	48236.6	290933.8	94455.0	41324.1	241809.5	
55 (KSD)	33830.0	14800.6	89268.4	90636.0	39653.3	232032.7	
	60466.8	<- equiv population		72537.1	<- equiv population		
	2.2	<- flow factor		2.1	<- flow factor		