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June 2, 2015

Mr. Bill Frampton & Mr. David Ward  
Frampton & Ward, LLC  
2035 Main Street, #1  
Wailuku, Hawaii 96793

Subject: Olowalu Town  
Supplement to Preliminary Engineering Report  
Maui Island Plan Alternative Infrastructure Assessment & Additional Comments  
Project No. 2010-17

Please note that this letter supersedes our Feb. 13, 2015 letter regarding this topic. In response to your request, we reviewed the overall infrastructure requirements for the project based on an alternative subject area which removed the proposed development areas makai of the existing Honoapiilani Highway from the project plans. The Olowalu Town subject area was analyzed based on an updated area of 591 acres, reduced from 636 acres while maintaining the same unit count of 1,500 and same commercial area of approximately 300,000 – 375,000 sq. ft. By maintaining the original unit count, impacts to the proposed water and wastewater demand, and roadways requirements will not change significantly from the analysis based on the original project limits.

Due to the reduction of project area, the surface runoff for the existing conditions and post development conditions both decrease in value. Therefore, the increase in onsite surface runoff volume due to the development of the project is estimated to be reduced from 73 acre-ft to 57 acre-ft. The drainage system will still include onsite retention basins throughout the project area to accommodate this increase in onsite surface runoff volume due to the development of the project. The removal of the makai areas will require any potential storm water retention and siltation areas for surface runoff to be incorporated into the design plan of the remainder of the project area. The Master Plan will still utilize approximately 15% - 20% of the approximately 120 acres of green space for storm water retention. The proposed total retention basin storage volume of approximately 88 acre-feet will accommodate the increase in surface runoff volume due to the proposed development as well as reduce the existing surface runoff volume by at least 10%. Storm water runoff from the areas makai of the existing highway will remain in its existing conditions and will not be included with the proposed drainage improvements for the Olowalu Town project.

In response to additional comments received on the Preliminary Engineering Report, we acknowledge that Olowalu Stream is a named drainageway. Based on information provided, we note that Olowalu Stream has been realigned from its original outlet at Hekili Point to its present

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location north of Olowalu Wharf. We have also confirmed that the other drainageways in the project limits are unnamed based on the USGS quadrangle maps.

We also acknowledge that referenced natural feature in the project limits is Puu Kilea.

Please feel free to let me know if you have any questions or need any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark M. Matsuda". The signature is fluid and cursive, with a large initial "M" and a long, sweeping underline.

Mark M. Matsuda, P.E.  
Senior Project Manager

attachment

**OLOWALU TOWN - SURFACE RUNOFF (MIP ALTERNATIVE)**

**PRE DEVELOPMENT (ONSITE & OFFSITE)**

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	836	24.38%	73	1,890	535
2	2788	15.61%	83	5,609	2,038
3	536	25.06%	70	1,360	310
4	184	18.90%	81	769	132
	4,344				3,015

100 year - 24 hour Rainfall = 11 inches

**PRE DEVELOPMENT (ONSITE)**

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	169	4.46%	62	319	85
2	180	4.96%	64	265	96
3	222	8.51%	61	299	110
4	20	4.71%	62	55	10
	591			938	301

100 year - 24 hour Rainfall = 11 inches

**OLOWALU TOWN - SURFACE RUNOFF (MIP ALTERNATIVE)**

**POST DEVELOPMENT (ONSITE & OFFSITE)**

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	836	24.38%	76	1,998	564
2	2788	15.61%	84	5,683	2,068
3	536	25.06%	74	1,710	354
4	184	18.90%	82	780	134
	4,344				3,120

100 year - 24 hour Rainfall = 11 inches

**POST DEVELOPMENT (ONSITE)**

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	169	4.46%	75	447	102
2	180	4.96%	72	364	109
3	222	8.51%	73	599	136
4	20	4.71%	69	81	11
	591			1,491	358

100 year - 24 hour Rainfall = 11 inches

## OLOWALU TOWN - SURFACE RUNOFF (ORIGINAL PROJECT LIMITS)

### PRE DEVELOPMENT (ONSITE & OFFSITE)

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	852	24.38%	73	1,926	545
2	2788	15.61%	83	5,609	2,038
3	565	25.06%	70	1,434	327
4	184	18.90%	81	769	132
	4,389				3,043

100 year - 24 hour Rainfall = 11 inches

### PRE DEVELOPMENT (ONSITE)

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	185	4.46%	62	350	93
2	180	4.96%	64	265	96
3	251	8.51%	61	338	124
4	20	4.71%	62	55	10
	636			1,008	322

100 year - 24 hour Rainfall = 11 inches

**OLOWALU TOWN - SURFACE RUNOFF (ORIGINAL PROJECT LIMITS)**

**POST DEVELOPMENT (ONSITE & OFFSITE)**

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	852	24.38%	76	2,036	574
2	2788	15.61%	84	5,683	2,068
3	565	25.06%	74	1,803	373
4	184	18.90%	82	780	134
	4,389				3,149

100 year - 24 hour Rainfall = 11 inches

**POST DEVELOPMENT (ONSITE)**

Drainage #	Area (acres)	S (%)	Cn	Q (cfs)	Vol. (acre.-ft.)
1	185	4.46%	75	602	124
2	180	4.96%	72	364	109
3	251	8.51%	72	664	151
4	20	4.71%	69	81	11
	636			1,711	395

100 year - 24 hour Rainfall = 11 inches