

Stream Name	Huelo IIFS? (Y / N)	Relevant Ditch	Diversion ID	Diversion Type	General Description of Work	Submittals Pending	Approvals Pending	Permitting Time Frame	Work Time Frame	NOTE
'O'opuola	Y	New Hamakua Ditch	NH-6 262	Major	Remove PVC piping, seal intake to allow 100% streamflow to pass	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
'O'opuola	Y	Wailoa Ditch	W-10 142	Major	Modify intake such that all flows up to 0.36 cfs (0.23 mgd) flow past diversion to remain in stream. <i>Install 18"-wide steel plate x 1.5"-high concrete channel & upstream berm lip at low point side across grate.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
'O'opuola Tributary	Y	Wailoa Ditch	W-9 150	Major	Remove PVC piping, seal intake to allow 100% streamflow to pass	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
East Kōlea	Y	Wailoa Ditch	W-3 156	Major	Modify intake such that all flows up to 0.08 cfs flow past diversion to remain in stream without providing for connectivity. <i>Install 18"-wide steel plate x 0.6"-high concrete channel & upstream berm lip at low point across grate. If necessary, notch down stream portion of dam lip.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
East Kōlea	Y	New Hamkua Ditch	NH-2 209	Major	Modify intake such that all flows up to 0.08 cfs flow past diversion to remain in stream without providing for connectivity. <i>Install 18"-wide steel plate x 0.6"-high concrete channel & upstream berm lip at low point side.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hānawana	Y	Lowrie Ditch	L-3 177	Major	Modify existing bypass pipe across Lowrie Ditch to prevent clogging and maintain a continual flow of water to meet downstream riparian uses. <i>Increase pipe diameter to 8".</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Ho'olawa	Y	Haiku Ditch	H-7 215	Major	Seal holes in intake wall and create weir in sluice gate dam that is 45" wide x height 3" lower than lower than intake wall to allow 3.0 cfs to flow over new weir when repaired sluice gate closed; replace sluice gate	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 4-6 months after permits acquired.	
Hoolawaliiti	Y	Wailoa Ditch	W-19 145	Major	Modify intake with 18-in plate across grate such that 20% of all streamflow are transported and flow past diversion to provide for recreational, riparian, and aquatic habitat uses. <i>Install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip at low point across grate.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	

Hoolawaliili	Y	Lowrie Ditch	L-12 243	Major	Modify the intake such that a continual flow of 0.7 cfs (0.45 mgd) flows below diversion 243 on Hoolawaliili Stream to provide for recreational use and downstream habitat [no connectivity] ⁴ . <i>Install 8" PVC piping at 0.29% slope and valve in ditch downstream of sluice gate, which will normally be closed. Fixing leaks in ditch wall is optional.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hoolawanui	Y	New Hamakua Ditch	NH-19 234	Major	Seal / remove grate & seal hole into ditch with concrete/rocks to allow 100% streamflow to pass; remove dam wall between wingwalls and left and right banks	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hoolawanui	Y	Old Hamakua Ditch	OH-1(NH-21) 254	Major	Seal / plug & seal hole into intake diversion with concrete to allow 100% streamflow to pass; remove dam within 10 feet of right bank, remove additional portions of dam if feasible based on assessment of initial removal	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hoolawanui	Y	Wailoa Ditch ¹⁰	W-20 144	Major	Modify intake with 18-in plate across grate such that 20% of all streamflow are transported and flow past diversion to provide habitat connectivity, recreational, riparian, and aquatic habitat uses. <i>Install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip(s) at low point across grate.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hoolawanui	Y	Lowrie Ditch	L-13 236	Major	Modify current bypass channel in bedrock by ensuring all flows up to 1.2 cfs (0.78 mgd) flow past the diversion and continue downstream from the intake weir to provide recreational, downstream habitat, riparian, and aquatic habitat uses. <i>Create 18" wide x 6.7" deep channel at low point in bedrock in current channel & add new weir in ditch to match top with top of new channel in bedrock.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Ka'aiea	Y	Center Ditch	C-5 194	Major	Continual flow through 30" width x 3" curb height concrete/metal plate across grate and fix leaks in wing walls to transport all flows up to 1.8 cfs; fix leaks in upstream concrete and wing walls.	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 4-6 months after permits acquired.	
Ka'aiea	Y	Spreckels Ditch	S-11 232	Major	Modify intake with 18-in plate across grate such that all flows up to 1.8 cfs (1.12 mgd) flow past diversion and fix leaks in wing wall to provide for habitat connectivity. <i>Install 18"-wide steel plate x 4.3"-high concrete channel & upstream berm lip(s) at low point side across grate and where necessary fix leaks in wingwall.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Kailua	Y	Wailoa Ditch	W-15 185	Major	Continual flow through 30" width x 3" curb height concrete/ metal plate across grate and install concrete berm upstream of grate to transport all flows up to 1.8 cfs; fix leaks	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 4-6 months after permits acquired.	
Makapipi	Y	Wailoa Ditch	W-7 173	Major	Remove PVC piping to allow 100% streamflow to pass and remove concrete tile wall and all concrete down to embedded pipes	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	

Nailiilihale	Y	Wailoa Ditch	W-14 168	Major	Modify intake with 18-in plate across grate such that 20% of all flows are transported and flow past diversion to remain in stream to provide for habitat connectivity and recreational uses. <i>Install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip(s) at low point across grate.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Nailiilihale	Y	Lowrie Ditch	L-1 187	Major	Maintain wetted path over dam via notch in concrete to transport all flows up to 5.2 cfs (3.36 mgd) to provide for habitat connectivity and recreational uses. <i>Maintain wetted path over dam by creating invert notch (18"-wide x 9.1" deep) in concrete dam. Close sluice gate. Add weir in ditch behind gate with a height to match top of notch.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Nailiilihale	Y	New Hamkua Ditch	NH-12 267	Major	Modify intake such that all flows up to 1.8 cfs (1.12 mgd) flow past diversion to provide for habitat connectivity and recreational uses. <i><u>Within ditch</u>, increase ditch intake invert 0.75" above top of dam.</i>	None	SHPD	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Nailiilihale	Y	New Hamkua Feeder Ditch to Papaea Reservoir	NH-13 255	Major	Modify intake such that all flows up to 3.6 cfs (2.32 mgd) flow past diversion and provide for habitat connectivity and recreational uses. <i><u>Within ditch</u>, increase ditch intake invert to be 1.8" higher than bedrock elevation at top of waterfall.</i>	None	SHPD	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
O'opuola	Y	Spreckels Ditch	S-13 308	Major	30" width x 3" curb height concrete/metal plate across grate and installation of a concrete lip across the upstream side of the diversion, which is necessary to ensure flow is directed into the low flow channel to transport all flows up to 1.8 cfs.	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 4-6 months after permits acquired.	
O'opuola	Y	Center Ditch	C-7 196	Major	Continual flow through 30" width x 3" curb height concrete/ metal plate across grate with the concrete berm that needs to be installed in order to direct flow into the low flow channel. Seal leakage along upstream edge to transport all flows up to 1.8 cfs.	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 4-6 months after permits acquired.	
Oanui	Y	New Hamakua Ditch	NH-14 273	Major	Seal intake / remove grate then seal with concrete/rocks to allow 100% streamflow to pass	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Waipi'o	Y	Lowrie Ditch	L-9 238	Major	Lay pipe in ditch and create concrete ditch overpass to allow 100% streamflow to pass; include wingwalls and upstream curbs	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
West O'opuola Tributary	Y	New Hamakua Ditch	NH-8 260	Major	Seal intake / with concrete slab to allow 100% streamflow to pass	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	

West Hoolawanui	Y	New Hamkua Ditch	NH-20 244	Major	Modify intake with 18-in plate across grate such that 20% of all streamflow flow below diversion to provide downstream habitat (connectivity) ⁸ , recreational, riparian, and aquatic habitat uses. <i>Install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip at low point across grate.</i>	DOH CWB	SHPD, USACE	3-6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hanehoi	N CAT 3	New Hamakua	NH-17a	Minor	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of downstream access road	OCCL, USACE, DOH CWB	County of Maui (consultation regarding flood control) USFWS (consultation regarding damsetly)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Hanehoi	N CAT 3	Lowrie	L-5a	Minor	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of downstream access road	OCCL, USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Hanehoi	N CAT 3	Lowrie	L-5b	Minor	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of two downstream access roads	OCCL, USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Hanehoi	N CAT 3	Lowrie	L-5c	Minor	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of downstream access road	OCCL, USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Honopou	N CAT 3	Haiku	H-8 189.6	Major	Concrete over stream grate and also concrete downstream windows. Also, extend west wingwall to prevent water from flowing back to the ditch. Planned work is consistent with design as originally proposed. Control gates shut and channel over intake installed to meet the IIFS.	DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Honopou	N CAT 3	Lowrie	L-15 266.6	Major	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of downstream access road	USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Honopou	N CAT 3	Lowrie	L-16 257.6	Major	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of downstream access road	USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Huelo	N CAT 3	Lowrie	L-7a	Minor	Construct stream overpass over ditch; work required for final design is significantly more expensive than originally envisaged, to include additional of fill material and headwall in stream, pipe within ditch, partial excavation of downstream access road, and installation of riprap over road to create new stream bed	USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	

Huelo	N CAT 3	Lowrie	L-7b	Minor	Construct stream overpass over ditch; work required for final design is more expensive than originally envisaged, to include headwall in stream, pipe over ditch, and excavation of downstream access road	USACE, DOH CWB	County of Maui (consultation regarding flood control)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Palauhulu	N CAT 3	Koolau	K-30d	Minor	Install ditch overpass. Planned work is consistent with design as originally proposed.	DOH CWB	OCCL (consultation regarding prior approved SPA) County of Maui (consultation regarding flood hazard)	3-6 Months	Pending weather delays, approximately 6-18 months after permits acquired.	
Hanehoi	N CAT 1	Haiku	H-3	Major	1. Remove wingwall portion of dam (towards the left bank). 2. Remove downstream lip of the apron at the foot of the dam. 3. Remove the sluice gate infrastructure.	DOH CWB	USACE, SHPD, SMA	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	<p>All permits for the Original Category 1 Modifications were obtained and the work was completed as approved.</p> <p>Outstanding work and submittals/approvals pending relate to additional work requested by East Maui Community.</p>
Hanehoi	N CAT 1	Wailoa	W-18 191.6	Major	1. Remove wing walls on right bank. 2. Fill in gaps undercutting the downstream end of the intake structure (need to determine volume and type of material to be used).	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hanehoi	N CAT 1	New Hamakua	NH-17 264.6	Major	Remove dam lip from right bank at downstream end of the bypass channel, up to sealed diversion intake.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hanehoi	N CAT 1	Lowrie	L-5 240.6	Major	1. Seal and/or cap downstream end of PVC bypass pipe. 2. Seal leaks into Lowrie Ditch on upstream end of bypass channel (need to determine volume and type of material to be used).	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Hanehoi	N CAT 1	Lowrie	L-6 242.6	Major	Remove concrete dam on right bank. Note: Need to assess the quantity and nature of material accumulated behind the dam and whether or not this material may need to be dredged out prior to dam removal to prevent downstream water quality impacts.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Honopou	N CAT 1	New Hamakua	NH-22 247.6	Major	1. Remove steel plates separating former intake and main stream channel. 2. Remove concrete lip on top of dam structure.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Honopou	N CAT 1	New Hamakua	NH-23 246.6	Major	Construct 45-degree concrete ramp on the left bank, downstream of the bypass channel for the main channel to the left of the sealed intake (need to determine volume and type of material to be used to construct the ramp).	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Huelo	N CAT 1	Haiku	H-4 225.6	Major	1. Remove dam wall and sluice gate infrastructure. 2. Remove sediment basin wall. Note: Need to assess the quantity and nature of material accumulated behind the dam and/or in the sediment basin and whether or not this material may need to be dredged out prior to removal of the dam and sediment basin to prevent downstream water quality impacts.	DOH CWB	USACE, SMA, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	

Huelo	N CAT 1	Lowrie	L-7 155.6	Major	1. Remove top of dam intake above bypass channel. 2. Seal downstream end of bypass channel for leakages (need to determine volume and type of material to be used).	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	All permits for the Original Category 1 Modifications were obtained and the work was completed as approved. Outstanding work and submittals/approvals pending relate to additional work requested by East Maui Community.
Pi'ina'au	N CAT 1	Koolau	K-31 330.6	Major	Remove low dam downstream of sealed intake. Note: Need to assess the quantity and nature of material accumulated behind the dam, if any, and whether or not this material may need to be dredged out prior to dam removal to prevent downstream water quality impacts.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Wailuanui	N CAT 1	Koolau	K-18 331.6	Major	1. Remove dam wall and sluice gate infrastructure. 2. Remove sediment basin wall. Note: Need to assess the quantity and nature of material accumulated behind the dam and/or in the sediment basin and whether this material may need to be dredged out prior to removal of the dam and/or sediment basin to prevent downstream water quality impacts.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Wailuanui	N CAT 1	Koolau	K-20 322.6	Major	Remove low dam wall on left bank of stream. Note: Need to assess the quantity and nature of material accumulated behind the dam and whether or not this material may need to be dredged out prior to dam removal to prevent downstream water quality impacts.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Wailuanui	N CAT 1	Koolau	K-21 321.6	Major	1. Cut and (partially) remove the dam while leaving intact four feet from the rockwall-supported embankment on the left bank and thence tapered at a 1:1 slope to the stream bed to keep the rock wall supported embankment in good condition. 2. If the base of the dam, once cut, is not found to be hard bedrock, the area may need to be capped with high-strength concrete to prevent erosion/scouring. 3. Large boulders may be placed at the base of the rock wall supporting the embankment to prevent scour of the embankment. Note: Need to assess the quantity and nature of material accumulated behind the dam and whether or not this material may need to be dredged out prior to dam removal to prevent downstream water quality impacts.	OCCL, DOH CWB	USACE, SHPD	3-6 Months	Pending weather delays, approximately 6-12 months after permits acquired.	
Kapaula	N	Koolau	K-5 295.6	Major	A drisco pipe will be installed to create a wetted path. (12/19/24: Per CWRM, no modification required)	CWRM, OCCL, USACE, DOH CWB	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Kapaula	N	Koolau	K-6 285.6	Major	No sluice gate is present. Add drisco pipe to provide wetted path over top of dam. No alteration to this diversion is required to achieve IIFS flow. (12/19/24: Per CWRM, no modification required)	CWRM, OCCL, USACE, DOH CWB	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Kopiliula	N	Koolau	K-14 277.6	Major	Install drisco pipe to provide wetted path. (12/19/24: Per CWRM, concur)	CWRM, OCCL, USACE, DOH CWB	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	

Kopiliula	N	Koolau	K-15 290.6	Major	Sluice gate has been adjusted to provide for both the IIFS and connectivity. Install drisco pipe to provide wetted path and meet the IIFS/provide connectivity. (12/19/24: Per CWRM, concur)	CWRM, OCCL, USACE, DOH CWB	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Makapipi	N	Koolau	K-1 298.6	Major	Sluice gate has been completely removed and the intake windows will be sealed with concrete. (12/19/24: Per CWRM, concur)	CWRM, OCCL, USACE, DOH CWB (confirm Flood Hazard Zone)	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Pa'akea	N	Koolau	K-10 281.6	Major	Intake gate has been shut to provide for the IIFS. Adjustment to be made so that water flows over the dam. (12/19/24: Intake gate will be opened to allow diversion of water; Notch dam to provide for downstream connectivity)	CWRM, OCCL, USACE, DOH CWB (confirm Flood Hazard Zone)	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Puohokamoa	N	Manuel Luis	ML-3 193.6	Major	Intake temporarily blocked with stream rocks. EMI will consider installing boards inside the tunnel within the ditch to block intake. (12/19/24: Per CWRM, concur)	CWRM, OCCL (confirm Flood Hazard Zone)	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Puohokamoa	N	Spreckels	S-9 162.6	Major	Board gate at intake has been closed. Dam will be notched to provide for both the IIFS and connectivity. (12/19/24: Per CWRM, concur)	CWRM, OCCL, USACE, DOH CWB (confirm Flood Hazard Zone)	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	
Waikamoi	N	Spreckels	S-10 163.6	Major	Skimming Dam will be notched to provide for both the IIFS and connectivity. (12/19/24: EMI and CWRM will investigate further)	CWRM, OCCL, USACE, DOH CWB (confirm Flood Hazard Zone)	None	6 months	Pending weather delays, approximately 6-12 months after permits acquired.	