STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STREAM DIVERSION WORKS PERMIT APPLICATION

For Official Use Only:

Instructions: Please print in ink or type and send one (1) completed hardcopy and one (1) digital copy of the application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Applications must be accompanied by a non-refundable filing fee of **$25.00** payable to the Department of Land and Natural Resources. The Commission may not accept incomplete applications without the required signatures. For assistance, call the Stream Protection and Management Branch at **587-0234**. For further information and updates to this application form, visit http://dlnr.hawaii.gov/cwrm.

☒ Check here to allow Commission staff to communicate primarily via e-mail.
Legally required and other key correspondence will still be transmitted via postal mail.

PERMIT TYPE

1. Permit Status: ☒ New ☐ After-The-Fact

2. Type of Construction: ☐ Installation ☒ Modification ☐ Removal / Abandonment

APPLICANT INFORMATION

3. APPLICANT'S NAME / COMPANY	Applicant's Contact Person	Applicant's Phone
East Maui Irrigation Co., Ltd.	Mark Vaught	808-579-9516
Applicant's Mailing Address P O Box 1104 Pu'unēnē, HI 96784	Applicant's E-mail Address mark.vaught@mahipono.com	

☒ **Check here if project will impact multiple landowners.** *If project impacts multiple landowners, skip **Item 4** below, then complete and attach **Form LND-APP** to identify and verify landowner's approval of proposed stream diversion work.*

4. LANDOWNER'S NAME / COMPANY	Landowner's Contact Person	Landowner's Phone
Landowner's Mailing Address	Landowner's E-mail Address	

5. CONSULTANT'S NAME / COMPANY	Consultant's Contact Person	Consultant's Phone
Akinaka & Associates, Ltd.	Ken Kawahara, P.E.	808-203-6668
Consultant's Mailing Address 1100 Alakea St. Suite 1800 Honolulu, HI 96813	Consultant's E-mail Address kck@akinaka.com	

6. CONTRACTOR'S NAME / COMPANY	Contractor's Contact Person	Contractor's Phone
Same as 3.	Same as 3.	Same as 3.
Contractor's Mailing Address Same as 3.	Contractor's E-mail Address Same as 3.	

STREAM INFORMATION

7. Island: *(Check only one)* ☐ Kauai ☐ Oahu ☐ Molokai ☐ Lanai ☒ Maui ☐ Hawaii

8. Tax Map Key(s) *List all affected tax map key parcels.*
1-1-001:042, 1-1-001:050, 2-9-004:004, 2-9-012:029, 2-9-014:001, 2-9-014:004, 2-9-014:009 - see attached List of Modifications per CWRM Nov 15, 2022 action

9. Stream / Gulch Name(s) *List all affected streams and/or gulches.*
East Kōlea, Ka'aiea, 'O'opuola, Nailiilihaele, Hānawana, Hoolawaliili, Hoolawanui, West Hoolawanui - see attached List of Modifications per CWRM Nov 15, 2022 action

FOR OFFICIAL USE ONLY:	SWHU ID:	FILE ID:
LAT:	GWHU ID:	DOC ID:
LON:	REACH ID:	

GENERAL PROJECT INFORMATION

10. Diversion No: *(if already assigned)* see list;14 tot **11. Diversion Name:** see list; 14 total diversions

12. Project Site Location(s): *Provide site coordinates of downstream-most point of project in degrees, minutes, seconds (NAD83).*

Latitude: ° ' " Longitude: ° ' " Elevation: ft. above mean sea level

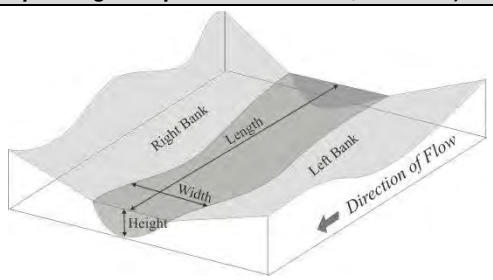
13. Diversion Structure Type: *(Check all that apply)*

☐ Unlined channel ☐ Hand-built rock ☒ Concrete masonry ☒ Dam/weir ☒ Pipe
☒ Metal ☒ Plastic ☒ Wood ☐ Pump ☒ Direct use
☒ Other - Describe: various structures to be modified per CWRM November 15, 2022 action - see attached list

STREAM DIVERSION WORKS SPECIFICATIONS *(For Abandonments, skip to Legal Requirements section, Item #32.)*

14. Structure Dimensions: *(feet)*
Provide generalized dimensions for the entire project / structure area. If the project includes a pipe (e.g., culvert, drain, etc.), provide the pipe diameter.

Width: various - see attach
Height: various - see attach
Length: various - see attach
Diameter: various - see attach



15. Diversion Location:
Provide the general location of the diversion intake structure in relation to the streambank.

☐ Left bank *(downstream view)*
☐ Right bank *(downstream view)*
☒ Across entire stream channel

16. Intake Dimensions: *(feet)* Width: var Height: var Length: var Diameter:

17. Average diversion amount: *(cubic feet per second)* Q > 0.07, 0.08, 0.36, 1.8, 3.4, 3.6, 5.2 or 20% CFS continuous flow through in list

18. Diversion is part of a system of diversions: ☒ Yes ☐ No

19. Diverted flow can be controlled: ☒ Yes ☐ No

Control Dimensions: *(feet)* Width: var Height: var Length: var Diameter: var

20. Water will be pumped from the stream: ☐ Yes ☒ No

If yes, identify pump capacity: *(gallons per minute)* **Daily average pumping time:** *(hours)*

21. Water will be impounded in the stream channel: ☒ Yes ☒ No

22. Water diversion capacity will be measured daily: ☐ Yes ☒ No

23. Water will be returned to the stream: ☒ Yes ☐ No

If yes, average amount of return flow: *(cubic feet per second)* minimums - see attached list

24. Water will be stored off-stream: ☒ Yes ☐ No **Storage capacity:** *(gallons)* Multiple that vary

Describe storage facility: Multiple in EMI & Mahi Pono Systems

25. State Land Use Classification: *(Check all that apply)* ☒ Agriculture ☒ Conservation ☐ Rural ☐ Urban

WATER USE INFORMATION

Check all water use categories below that are intended for the proposed diversion, then describe the proposed use in more detail.

☒ **26. Agriculture** Mahi Pono, Kula Ag Park, Nahiku community needs

☒ **27. Domestic** Upcountry and Nahiku communities

☐ **28. Industrial**

☒ **29. Irrigation** Nahiku community

☐ **30. Military**

☒ **31. Municipal** MDWS Upcountry System

LEGAL REQUIREMENTS

If required, the permits or approvals below must be obtained before the Commission on Water Resource Management can legally issue a permit. Visit the Commission's Applications & Forms webpage (http://dlnr.hawaii.gov/cwrm/info/forms/) for links to agency websites/contact information.

32. Conservation District Use Permit (CDUP): *To find out if your stream diversion works is located in a Conservation District (CD), you may visit to the Land Use Commission (LUC) website at http://luc.hawaii.gov/maps to view Land Use District Boundary maps. If the stream diversion works will be located in a CD, contact the Department of Land and Natural Resources' Office of Conservation and Coastal Lands (OCCL) at (808) 587-0377 to determine is a CDUP is required.*

☒ Stream diversion works is in a Conservation District. Except as noted below.

☐ Required. CDUP #: _____ Date CDUP approved: _____

☐ Not Required. *Attach documentation from Office of Conservation and Coastal Lands (OCCL), Department of Land and Natural Resources.*

☒ I have not checked with the OCCL about whether or not a CDUP is required.

☒ Stream diversion works is not in a Conservation District. NH-13, L-1, L-3, L-12 are in the AG district.

33. Special Management Area Permit (SMAP): *To determine if an SMAP is necessary, contact your County Planning Department.*

☐ Required. SMAP #: _____ Date SMAP approved: _____

☒ Not Required. *Attach documentation from applicable County agency.* N/A - no diversions are in the SMA.

☐ I have not checked with the County about whether or not an SMA Permit is required.

34. State Historic Preservation Division (SHPD), Department of Land and Natural Resources: *If the parcel(s) affected by the stream alteration has been reviewed by the State Department of Land and Natural Resources Historic Preservation Division (SHPD or through an OEQC Environmental Review, Special Management Area Permit, etc.), check "yes" and attach any relevant documentation from SHDP. If the affected parcel(s) has not undergone SHDP review, attach a photograph of the affected area, a schematic diagram (showing the location, access road and infrastructure for the alteration), and a short description of the prior use(s) of the land on which the alteration resides.*

Please note: You are **strongly advised to contact the SHPD to obtain a pre-review of your project. In the event that you do not get an HP pre-review and if during the course of either review or the permit itself it is determined that you need SHPD's concurrence, your application or permit may be held in abeyance or denied until issues with HP are resolved. To contact SHPD, please call (808) 692-8015.*

☐ I have consulted the SHPD regarding potential impacts of stream channel alteration activities on historic sites. I have attached applicable documentation from the SHPD.

☒ I have not consulted with the SHPD regarding potential impacts of stream channel alteration activities on historic sites.

35. Chapter 343, Hawaii Revised Statutes, Hawaii Environmental Policy Act:

☐ An Environmental Assessment was completed, and

☐ An Environmental Impact Statement was required and has been accepted (attach letter of acceptance).

Publication date in The Environmental Notice: _____

☐ A Finding of No Significant Impact has been determined (attach letter).

Publication date in The Environmental Notice: _____

This project proposes:

☒ Use of state or county lands, or use of state or county funds
☒ Use within a state conservation district
☐ Use within a shoreline setback area
☐ Use within a national or Hawaii registered historic site
☐ Use within the Waikiki Special District
☐ The construction, expansion or modification of helicopter facility
☐ A wastewater treatment unit
☐ Waste-to-energy facility
☐ Landfill
☐ Oil refinery
☐ Power-generating facility
☐ None of the above 11 items

OTHER REGULATORY REQUIREMENTS

If the proposed stream channel alteration is subject to the following permits or approvals, indicate by checking the appropriate box below and submit either the approval letter from the appropriate agency or attach a copy of the application form. If the proposed stream channel alteration is not subject to the following permits or approvals, indicate by checking the "N/A" (Not Applicable) field.

	Attached	N/A
36. U.S. Army Corps of Engineers (Harbors and Rivers Act, Section 404, Clean Water Act)	☐	☐
37. State Department of Health, Clean Water Branch (Section 401, Clean Water Act, Water Quality Certification, Best Management Practices Plan)	☐	☐
38. Right-of-Entry or Right-of-Way Permit if the proposed stream channel alteration includes State lands. (Chapter 171, Hawaii Revised Statutes)	☐	☒
39. Hawaii Environmental Policy Act (Chapter 343, Hawaii Revised Statutes; Title 11, Chapter 200, Hawaii Administrative Rules)	☐	☒
40. Soil and Water Conservation District	☐	☒
41. County Certification of "No-Rise"	☐	☐
42. County Grading Permit	☐	☒
43. County Discretionary Permit(s)	☐	☐

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups. If there is not enough space available, please make a note in the field (e.g., "See attached") and attach all information with this application as requested.

44. Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

See:

1) County of Maui Planning Department, Kalo Kanu O Ka'aina: A Cultural Landscape Study of Ke'anae and Wailuanui, Island of Maui, July 1995,
2) Kepa Maly and Onaona Maly, Wai O Ke Ola: He Wahi Mo'olelo NO Maui Hikina, 2001,
3) CWRM November 15, 2022 Item B-5,
4) IFSAR Kolea 6046 June 2020 PR-2020-14,
5) IFSAR Kaaiea 6044 June 2020 PR-2020-12,
6) IFSAR Oopuola 6043 June 2020 PR-2020-11,
7) IFSAR Nailiilihaele 6041 June 2020 PR-2020-09,
8) IFSAR Hanawana 6039 June 2020 PR-2020-07,
9) IFSAR Hoolawa 6035 June 2020 PR-2020-04,
10) Proposed Lease (Water Lease) for the Nāhiku, Keʻanae, Honomanū, and Huelo License Areas Corrected Final Environmental Impact Statement Vol. 3.September 24, 2021.

45. Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

The proposed actions will have positive impacts on stream restoration due to establishing continous flow through streams as determined by the CWRM at it's November 15, 2022 action. This in turn will have a positive effect on traditional and customary Native Hawaiian rights downstream of the diversions.

46. What feasible action, if any, could be taken by the Commission on Water Resource Management in regards to your application to reasonably protect Native Hawaiian rights?

The CWRM's expedited approval of this application will advance the order actions taken by CWRM on November 15, 2022 Item B-5

PROJECT DESCRIPTION

Please complete the following sections by providing detailed information on the project components identified below. If there is not enough space available, please make a note in the field (e.g., "See attached") and attach all information with this application as requested.

47. Describe the overall project scope and objectives.

See CWRM November 15, 2022 Item B-5 and attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order actions.

48. Describe existing stream channel dimensions and median streamflow conditions at the site of the proposed stream diversion works.

See CWRM November 15, 2022 Item B-5 and attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order Actions.

49. Identify and describe the project components outlined below

A. Materials

Principally modification of concrete, metal grates, pouring of concrete/grout - see attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order Actions.

B. Quantities

To be determined based on actual work plans for each modification - see attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order Actions.

C. Excavation

Modification of existing structures does not anticipate any excavation into native topography - see attached List of EMI Diversion Modifications per CWRM Nov 15, 2022 Order Actions.

D. Fill

To be determined based on actual work plans for each modification - see attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order Actions.

E. Disposal

With the exception of stream rocks, materials removed from diversion structures will be transported off-site for proper disposa.l

F. Construction methods

Demolition, concrete forming and pouring will be done primarily by hand. Heavy equipment may be utilized only when absolutely necessary.

G. Temporary facilities

None anticipated except as necessary to temporarily divert stream flows around work areas (e.g., using sand bags, pipes) and other Best Management Practices for control of water pollution.

H. Expected period of time required for construction

3 to 6 months, dependent upon weather conditions.

I. Liability during construction

Not anticipated.

50. Describe the project's consistency with county zoning and development plans.
Not applicable. No new uses are proposed, only stream restoration - see attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order Actions.

51. Identify potential alternatives (sources of water) to the project and describe the relative costs and benefits of each alternative.
Not applicable. No new uses are proprosed other than increased instream use restoration. Project is intended for follow CWRM orders to modify diversions for priority partial restoration per CWRM Novermber 15, 2022 actions - see attached List of EMI Diversion Modifications due March 15, 2023 per CWRM Nov 15, 2022 Order Actions.

SUBMITTALS

Please submit the following plans, maps, or drawings in legible form, preferably on 8.5" by 11" sheets.

52. Location Map: Provide a location map of the proposed project relative to major roadways.

53. Plans / Elevations / Sections: Provide a plan view of the proposed stream diversion works structure in relation to the stream channel and property boundaries. Elevation and section views of the diversion structure in relation to the stream channel should also be provided if available.

SIGNATURES

Signing below indicates that the signatories understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that if the permit requested is granted by the Commission on Water Resource Management (Commission), the permit shall be subject to the following conditions:

1) The proposed work is to be completed within two (2) years from the date of permit approval.
2) The permittee shall notify the Commission, by letter, of the actual dates of project initiation and completion.
3) The permittee shall submit a set of as-built plans and photographs to the Commission upon completion of the project.
4) The permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months.
5) If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

54. APPLICANT		
Print Name: East Maui Irrigation Co. Ltd	**Signature:** Maui K. Vaught	**Date:** 3/13/2023
55. CONSULTANT		
Print Name: Akinaka & Associates, Ltd	**Signature:**	**Date:** 03/14/2023
56. CONTRACTOR		
Print Name: East Maui Irrigation Co. Ltd	**Signature:** Maui K. Vaught	**Date:** 3/13/2023
57. LANDOWNER *(If multiple landowners, skip **Section 53**, then complete and attach **Form SCAP-LND** with appropriate landowner signatures.)*		
Print Name: East Maui Irrigation Co. Ltd	**Signature:** Maui K. Vaught	**Date:** 3/13/2023

CHECKLIST FOR A COMPLETE APPLICATION and ITEM DESCRIPTIONS (ITEMS 1 - 31)

- □ Fill in the most recent application form (check **http://dlnr.hawaii.gov/cwrm** or call 587-0234 for updates).
- □ Fill in every line which includes Items 1-57, as indicated (total 7 pages).
- □ Enclose a check for $25 payable to the Department of Land and Natural Resources.
- □ Mark the proposed diversion location on: the appropriate USGS quad map, TMK map, photo and schematic, and attach to the application.
- □ Attach Form LND-APP to identify and obtain authorizations for the project if multiple landowners will be impacted.
- □ Attach a grading plan and cross section profiles showing existing and finish grades, if available.
- □ Attach documentation from CDUP, SMAP, SHPD when applicable regarding Items 32-34.
- □ Attach letters from U.S. Army Corps of Engineers, Hawaii Department of Health, Office of Conservation and Coastal Lands, and appropriate county agencies regarding Items 35-43.
- □ Provide digital copies on CD-ROM or via e-mail, if available.
- □ Obtain the necessary signatures for the application form.

Send the application and maps, copies, and the filing fee to:
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

PERMIT TYPE

1. **Permit Status:** Indicate whether this application is for a new stream diversion works project (including medication or abandonment) or if the project has already been completed and an after-the-fact permit is being applied for.
2. **Type of Construction:** Is the permit application for the installation of a new diversion works or modification / abandonment of an existing diversion works.

APPLICANT INFORMATION

3. **Applicant's Information:** Fill in the information for the applicant. This should be the entity that will be responsible for operation and maintenance of the stream diversion works and for reporting water use when the project is completed.
4. **Landowner's Information:** Fill in the information for the landowner of the property where the diversion intake will be located.
5. **Consultant's Information:** Fill in the information for the consultant who will assist with plan and design preparation for the subject project.
6. **Contractor's Information:** Fill in the information for the contractor who will perform the work on the subject stream diversion works.

STREAM INFORMATION

7. **Island:** The island name where the stream diversion will be located.
8. **TMK:** Tax Map Key number (generally there is no lot number, but where a parcel is divided into two lots, fill in the lot number)
9. **Stream / Gulch Name:** Name of the stream or gulch where the stream diversion will be located.

GENERAL PROJECT INFORMATION

10. **Diversion Number:** If you already have a state diversion number assigned, please fill it out here. Otherwise, leave it blank and a diversion number will be assigned by CWRM.
11. **Diversion Name:** Give the diversion a short concise name that will differentiate it from other diversions.
12. **Project Site Location(s):** Fill in diversion location coordinates taken from a GPS unit at the project site. Units are Degrees, Minutes and Seconds (seconds should be filled out to at least one decimal place; e.g. 19°59'32.8"N, 155°14'51.5"W). If more than one site, attach separate sheet. Elevations should be provided in feet above mean sea level.
13. **Diversion Structure Type:** What materials will the diversion works structure consist of and how will it divert water from the stream.

DIVERSION SPECIFICATIONS *(For Abandonment applications, skip this section and proceed to the Legal Requirements section, Item #32.)*

14. **Structure Dimensions:** What are the physical dimensions of the stream diversion works structure that will be located in the stream channel?
15. **Diversion Location:** Will the diversion intake be located on the right or left bank (facing downstream) or across the entire stream channel?
16. **Intake Dimensions:** What are the physical dimensions for the stream diversion intake (gate, pipe, etc.)?
17. **Average Diversion Amount:** The average amount of water that the diversion is calculated / estimated to divert from the stream.
18. **Diversion is part of a system of diversions:** Is the diversion part of a larger system including multiple stream diversions?
19. **Diverted flow can be controlled:** Will a control structure be located on the intake that can be used to regulate the diversion (gate, valve, etc.)?
20. **Water will be pumped from the stream:** Will a pump be used to remove water from the stream, and if so, what is the pumpage rate?
21. **Water diversion will be impounded in the stream channel:** Will the diversion structure on the stream channel require impoundment?
22. **Water diversion capacity will be measured daily:** Will a meter or other measurement device be installed and recorded on a daily basis?
23. **Water will be returned to the stream:** Will a portion of the diverted water be returned to the stream, and if so, how much?
24. **Water will be stored off-stream:** Will the diverted water be stored in an off-stream facility (reservoir, basin, tank, etc.)? Describe.
25. **State Land Use Classification:** Identify the current State Land Use Classification.

WATER USE INFORMATION

26. **Agriculture:** Water used for aquaculture, crop irrigation and processing, livestock, ornamental and nursery plants, and taro.
27. **Domestic:** Water used for single- and multi-family households, non-municipal commercial businesses, hospitals, churches, hotels, and schools.
28. **Industrial:** Water used for fire protection, mining, dust control, geothermal, power development, and hydroelectric power.
29. **Irrigation:** Water used for golf courses, hotels, landscape and water features, parks, schools, and habitat maintenance.
30. **Military:** Water is used by the military for military-operated water supply systems.
31. **Municipal:** Water is State, county, or private agency-operated to service multiple uses.

Please see header descriptions for remaining Sections in completing Items 32 to 57.

NOTE: Please be aware that some information on this form asks for information in cubic feet per second (CFS). Conversion factors for other commonly used water flow rates are as follows:
1.0 million gallons per day (MGD) equals 1.547 cubic feet per second (CFS)
1.0 gallon per minute (GPM) equals 0.002228 cubic feet per second (CFS)

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

MULTIPLE LANDOWNERS/LOCATIONS FORM

For Official Use Only:

Instructions: Please print in ink or type and send completed form attached to stream channel alteration or stream diversion works permit application to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete applications without the required landowner signatures. For assistance, contact the Stream Protection and Management Branch at **587-0234**. For further information and updates to this application form, visit http://dlnr.hawaii.gov/cwrm.

A. LANDOWNER INFORMATION

For proposed stream channel alterations and stream diversion works affecting multiple landowners, complete the sections below for each individual landowner. ***Form LND-APP*** provides space for information on five (5) landowners. Complete as many forms as necessary to identify all, and only those, landowners affected by the proposed stream channel alteration or stream diversion works.

1. LANDOWNER'S NAME/COMPANY East Maui Irrigation Co., LLC	Landowner's Contact Person Mark Vaught	Landowner's Phone 808-579-9516
Landowner's Mailing Address P O Box 1104 Pu'unēnē, HI 96784	Tax Map Key Parcel(s) 1-1-001:042, 2-9-004:004, 2-9-012-029, 2-9-014:004,:009	
	Landowner's E-mail Address mark.vaught@mahipono.com	
Print Name: Mark Vaught	**Signature:** Mark K. Vaught	**Date:** 3/13/2023
2. LANDOWNER'S NAME/COMPANY State of Hawaii, DLNR	Landowner's Contact Person Dawn N.S. Chang (Chair)	Landowner's Phone 808-587-0400
Landowner's Mailing Address DLNR Main Office 1151 Punchbowl St. Honolulu, HI 96813	Tax Map Key Parcel(s) 1-1-001:050, 2-9-014:001	
	Landowner's E-mail Address dlnr@hawaii.gov	
Print Name: Dawn N.S. Chang	**Signature:**	**Date:** 03/14/2023
3. LANDOWNER'S NAME/COMPANY	Landowner's Contact Person	Landowner's Phone
Landowner's Mailing Address	Tax Map Key Parcel(s)	
	Landowner's E-mail Address	
Print Name:	**Signature:**	**Date:**
4. LANDOWNER'S NAME/COMPANY	Landowner's Contact Person	Landowner's Phone
Landowner's Mailing Address	Tax Map Key Parcel(s)	
	Landowner's E-mail Address	
Print Name:	**Signature:**	**Date:**
5. LANDOWNER'S NAME/COMPANY	Landowner's Contact Person	Landowner's Phone
Landowner's Mailing Address	Tax Map Key Parcel(s)	
	Landowner's E-mail Address	
Print Name:	**Signature:**	**Date:**

List of EMI Diversion Modifications Due March 15, 2023 per November 15, 2022 Commission Order Actions

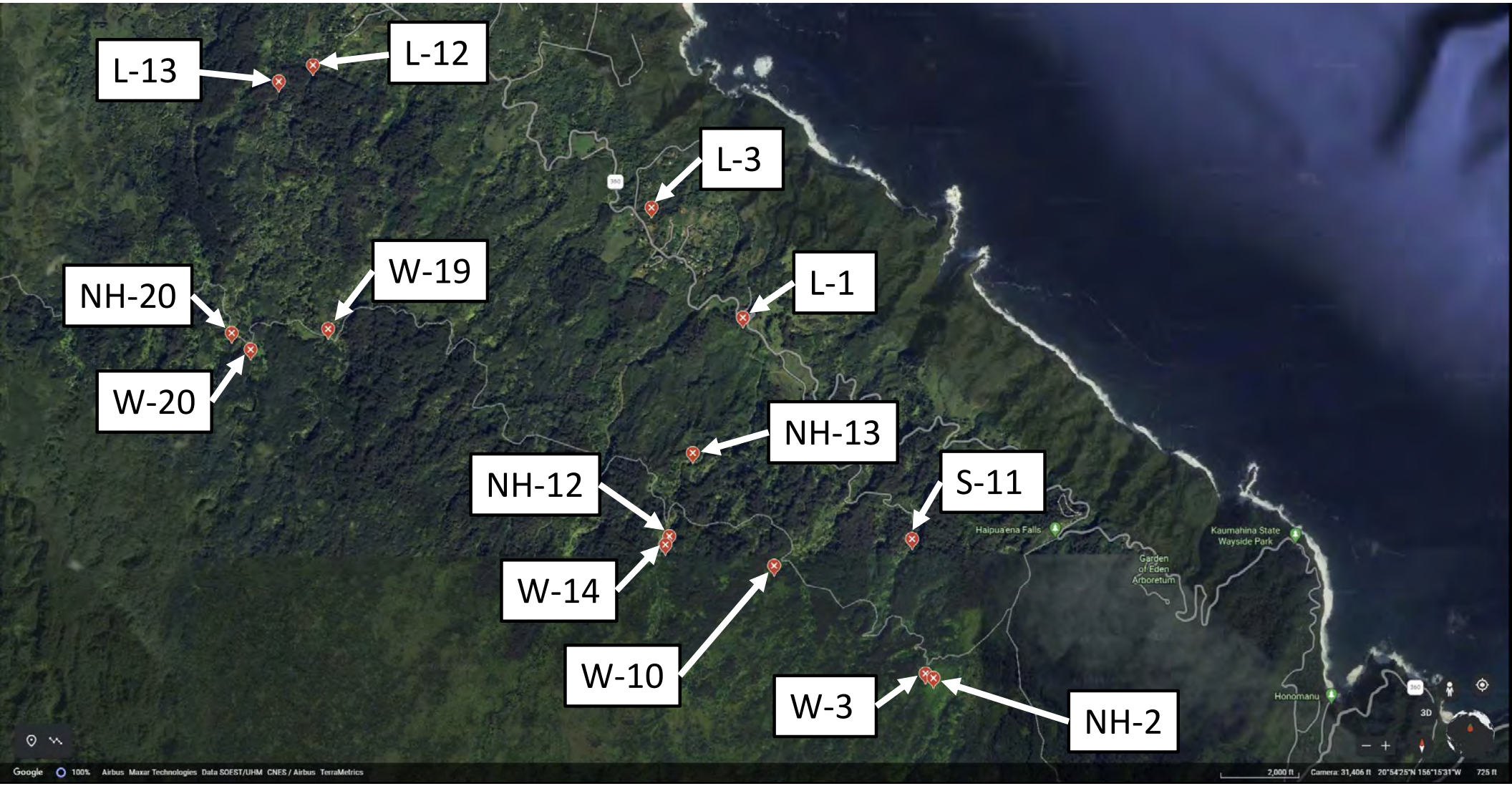
IDENTIFICATION INFORMATION								Approximate Location and Elevation of Diversion from Registration[1]			Diversion Structure Type	General Description of Work[3]	Possilbe Approvals Required											
Hydrologic Unit	Stream	Diversion Ditch	Flow transport[2] (cfs)	CWRM Diversion ID	EMI REG ID	TMK Parcel	Landowner	Latitude (N)	Longitude (W)	Elevation (feet)			CDUP	SMA	SHPD 6E	HEPA 343[2]	ARMY COE 404[5]	DOH 401[7]	ROE/ROW	HEPA 343[5]	SWCD	COUNTY NO-RISE	COUNTY GRADING PERMIT	COUNTY DISCRETIONARY PERMIT(S)
Kōlea (6046)	East Kōlea	Wailoa Ditch	0.08	156	W-3	1-1-001-050	State of Hawaii	20° 51' 45"	156° 11' 49"	1,255	Concrete masonry	Modify intake such that all flows up to **0.08 cfs** flow past diversion to remain in stream **without** providing for connectivity. *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.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
		New Hamkua Ditch	0.08	209	NH-2	1-1-001-050	State of Hawaii	20° 51' 44"	156° 11' 47"	1,320	Concrete masonry	Modify intake such that all flows up to **0.08 cfs** flow past diversion to remain in stream **without** providing for connectivity. *Install 18"-wide steel plate x 0.6"-high concrete channel & upstream berm lip at low point side.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
Ka'aiea (6044)	Ka'aiea	Spreckels Ditch	1.8	232	S-11	1-1-001-042	EMI	20° 52' 17"	156° 11' 52"	947	Concrete masonry	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. *Install 18"-wide steel plate x 4.3"-high concrete channel & upstream berm lips(s) at low point side across grate and where necessary fix leaks in wingwall.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
'O'opuola (6043)	'O'opuola	Wailoa Ditch	0.36	142	W-10	2-9-014-001	State of Hawaii	20° 52' 11"	156° 12' 28"	1,268	Concrete masonry	Pipe past intake from pool above to transport and modify such that all flows up to **0.36 cfs (0.23 mgd)** flow past diversion to remain in stream. *Instead, install 18" wide steel plate x 1.5" high concrete channel & upstream berm lip at low point side across grate.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
Nailiilihaele (6041)	Nailiilihaele	Wailoa Ditch	20% all flows	168	W-14	2-9-014-001	State of Hawaii	20° 52' 16"	156° 12' 56"	1,230	Concrete masonry	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. *Instead, install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip(s) at low point across grate.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
		New Hamkua Ditch	1.8	267	NH-12	2-9-014-001	State of Hawaii	20° 52' 18"	156° 12' 55"	1,223	Concrete masonry	Modify intake; increase intake invert (e.g. build a chimney intake or seal intake) such that all flows up to **1.8 cfs (1.12 mgd)** flow past diversion to provide for habitat connectivity and recreational uses. *Instead, **within ditch** increase ditch intake invert 0.75" above top of dam.*	In CD	Not in SMA	TBD	TBD	NA	TBD	NA	TBD	NA	TBD	NA	TBD
		New Hamkua Feeder Ditch to Papaaea Reservoir	3.6	255	NH-13	2-9-014-004	EMI	20° 52' 38"	156° 12' 49"	1,100	Concrete masonry	Modify intake; increase intake invert (e.g. build a chimney intake or seal intake) such that all flows up to **3.6 cfs (2.32 mgd)** flow past diversion and provide for habitat connectivity and recreational uses. *Instead, **within ditch**, increase ditch intake invert to be 1.8" higher than bedrock elevation at top of waterfall.*	Not in CD (AG)	Not in SMA	TBD	TBD	NA	TBD	NA	TBD	NA	TBD	NA	TBD
		Lowrie Ditch	5.2	187	L-1	2-9-014-004	EMI	20° 53' 11"	156° 12' 36"	675	Concrete masonry	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. *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.*	Not in CD (AG)	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
Hānawana (6039)	Hānawana	Lowrie Ditch	~	177	L-3[11]	2-9-012-029	EMI	20° 53' 38"	156° 32' 00"	681	PVC pipe	Modify existing bypass pipe across Lowrie Ditch to prevent clogging and maintain a continual flow of water to meet downstream riparian uses. *Increase pipe diameter to 8".*	Not in CD (AG)	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
Ho'olawa (6035)	Hoolawaliilii	Wailoa Ditch	20% all streamflows	145[9]	W-19[9]	2-9-014-001	State of Hawaii	20° 53 08"	156° 14' 23"	1,234	Concrete Masonry	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. *Instead, install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip at low point across grate.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
		Lowrie Ditch	0.7	243	L-12	2-9-004-004	EMI	20° 54 13"	156° 14' 29"	654	Concrete masonry	Seal leaks notch concrete behind gate in ditch rather than support current leakage underneath diversion dam with PVC piping from Lowrie ditch and modify intake to ensure **0.7 cfs (0.45 mgd)** continues downstream. Modify the intake such that a continual flow of 0.7 cfs (0.45 mgd) flows below diversion 243 on Hoolawaliilii Stream to provide for recreational use and downstream habitat [no connectivity][4]. *Instead, install 8" PVC piping at 0.29% slope and valve in ditch downstream of from sluice gate, which will normally be closed.*	Not in CD (AG)	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
	Hoolawanui	Wailoa Ditch[10]	20% all streamflows	144[10]	W-20[10]	2-9-014-001	State of Hawaii	20° 53 03"	156° 14' 43"	1,232	Concrete Masonry	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. *Instead, install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip(s) at low point across grate.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
		Lowrie Ditch	1.2[12]	236	L-13	2-9-014-009	EMI	20° 54 09"	156° 14' 38"	652	Concrete masonry	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. *Instead , 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.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD
	West Hoolawanui	New Hamkua Ditch	20% all streamflows	244	NH-20	2-9-014-001	State of Hawaii	20° 53 07"	156° 14' 48"	1,139	Concrete masonry	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. *Instead, install steel plate to cover 20% of grated area with a 1"-high concrete channel & upstream berm lip at low point across grate.*	In CD	Not in SMA	TBD	TBD	TBD	TBD	NA	TBD	NA	TBD	NA	TBD

Notes:

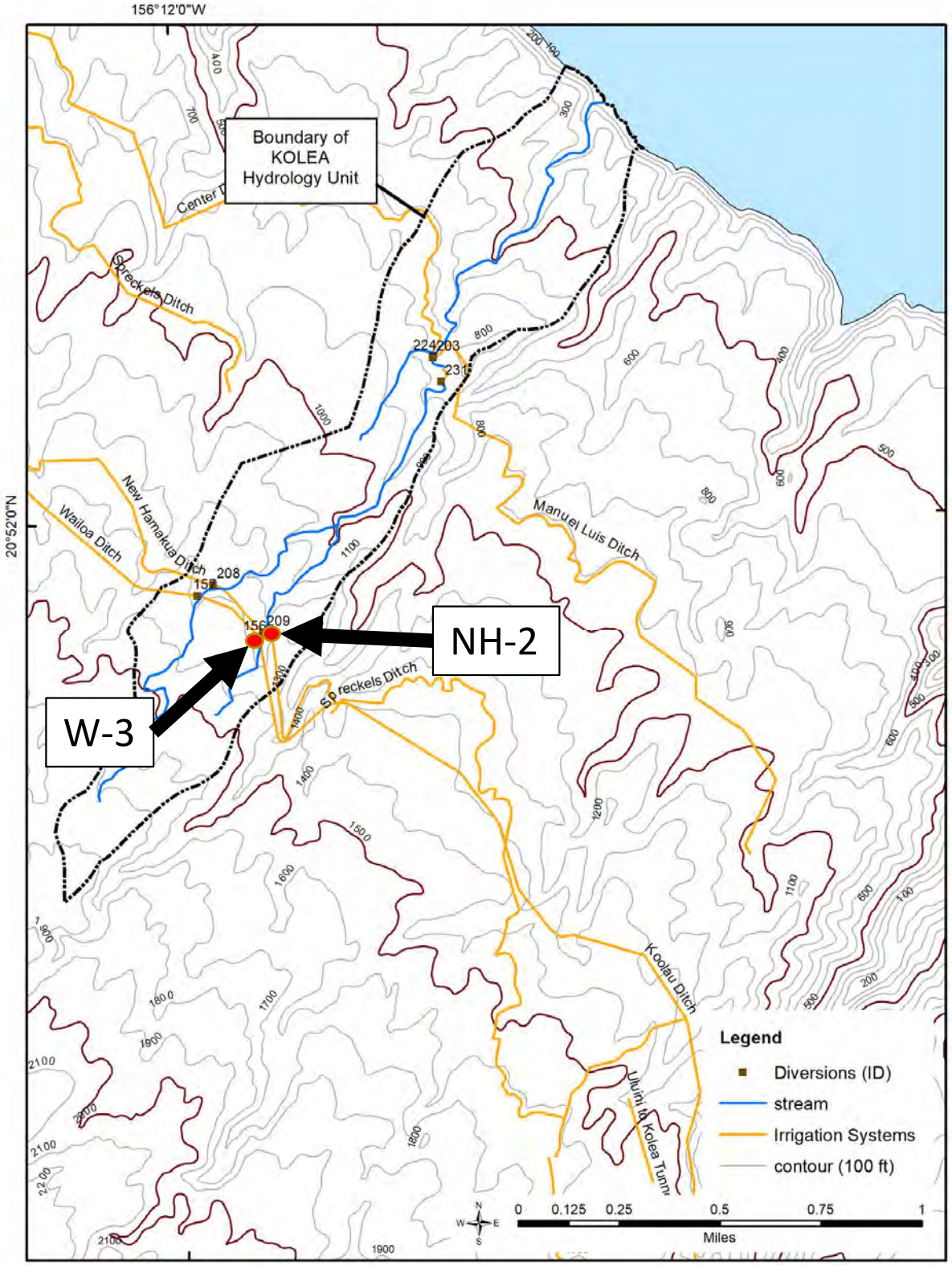
1 lat/long for S-11 estimated from Fig. 10 Ka'aiea Map - CWRM November 15, 2022 order action.
2 Flow transport variously described as streamflow, baseflow, all flows.
3 per Nov. 15 2022 CWRM proposed management, recommendation, & order action. *Italicized description is alternative/actual proposed modification.* Channel or weir dimensions assumptions: 0.005 channel slope, verticle side slope, and Manning's N = 0.012
4 Added clarification that habitat connectivity is **not** required.
5 may fall under DLNR & CWRM exemptions.
6 should be exempt under 404(f) & 33 CFR Section 323.4(a)(3) but will request COE determination.
7 will need a BMP Plan, but don't anticipate needing to obtain a 401 WQC.
8 inserted 'connectivity' oversight
9 missing from Fig. 35 schematic and misnamed as W-20 in recommendation 2.11
10 Fig. 35 schematic shows 144 on New Hamakua Ditch and misnamed as W-19 in recommendation 2.11 proposed modification for implementation.
11 misnamed as L-13 in recommendation 2.8 proposed modifications for implementation.
12 1.2 cfs was correct figure from dupicative order action 2.11.6 in submittal.

Legal Requirements before CWRM action can be taken
Other Regulatory Reuquirements
As Ordered but not proposed recommendations

Locations of 14 Listed Remaining EMI Modifications per CWRM November 15, 2022 Action



East Kōlea (Hydrological Unit: 6046) Stream Diversion Modifications


156°12'0"W
20°52'0"N
Boundary of
KOLEA
Hydrology Unit
Spreckels Ditch
224203
2315
New Hamakua Ditch
Wailoa Ditch
208
156209
NH-2
W-3
Spreckels Ditch
Manuel Luis Ditch
Koolau Ditch
Legend
Diversions (ID)
stream
Irrigation Systems
contour (100 ft)
0 0.125 0.25 0.5 0.75 1
Miles

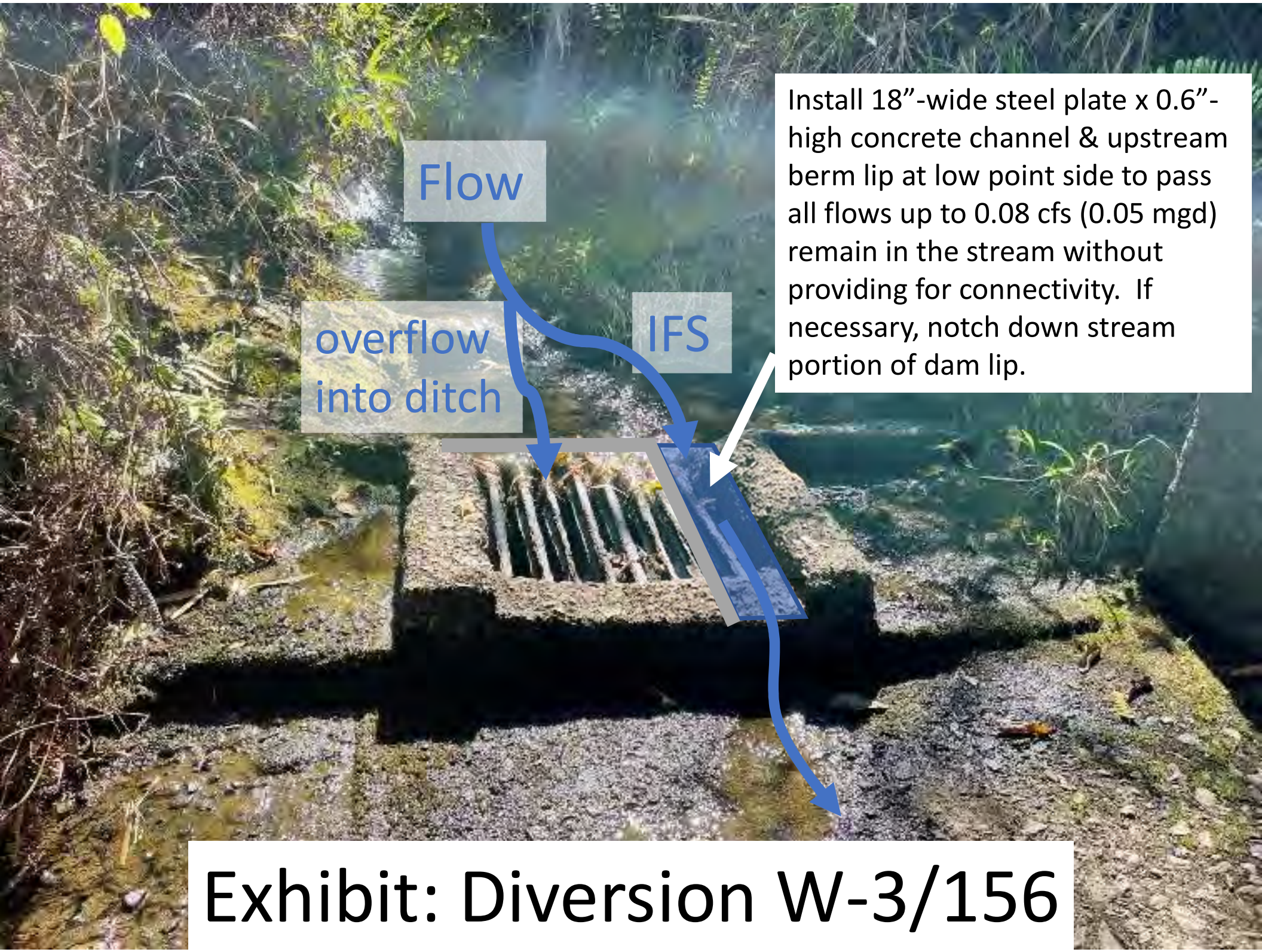


Exhibit: Diversion W-3/156

Exhibit: Diversion NH-2/209

Ka’aiea (Hydrological Unit: 6044) Stream Diversion Modification

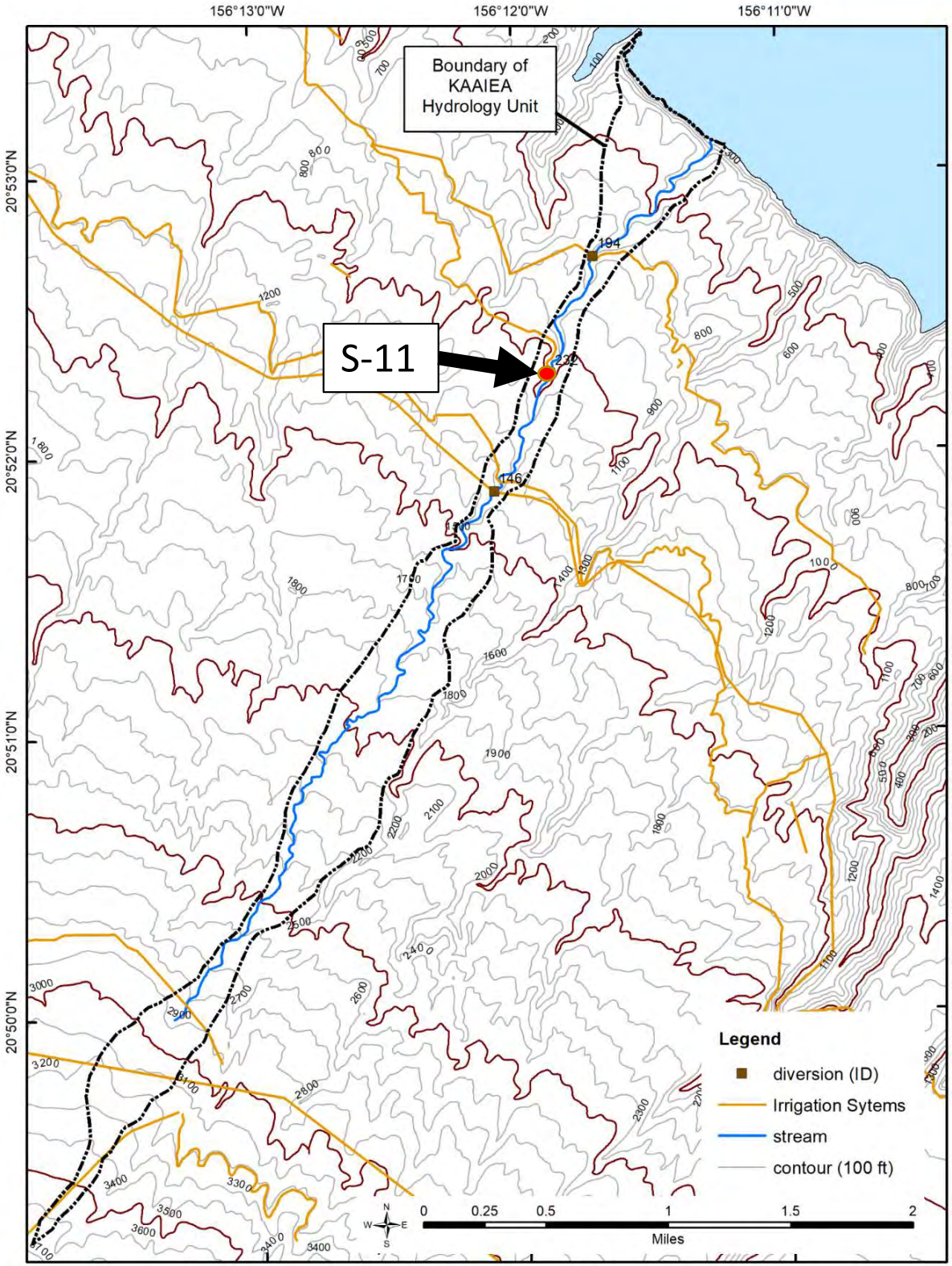
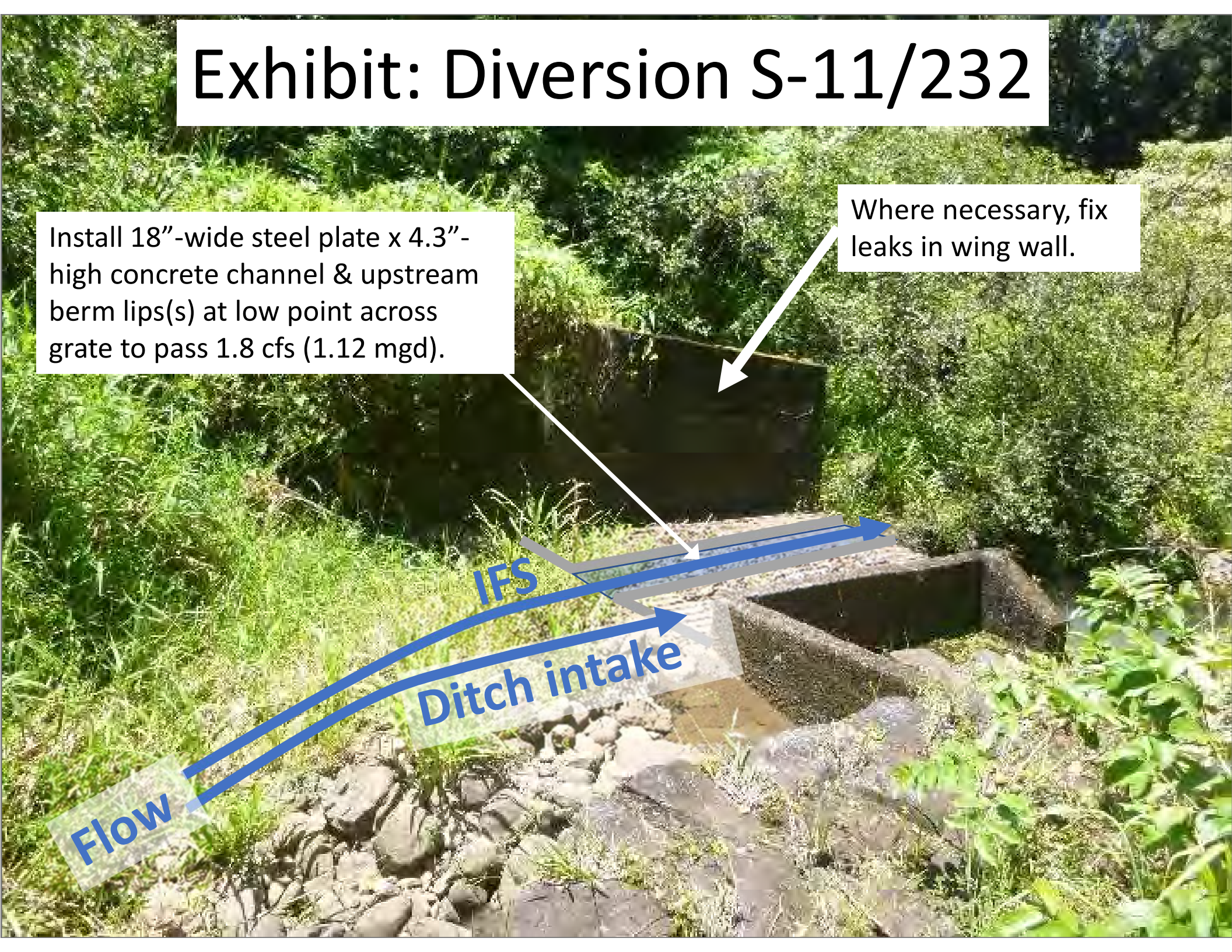

156°13'0"W
156°12'0"W
156°11'0"W
20°53'0"N
20°52'0"N
20°51'0"N
20°50'0"N
Boundary of KAAIEA Hydrology Unit
S-11
194
232
146
Legend
diversion (ID)
Irrigation Sytems
stream
contour (100 ft)
0
0.25
0.5
1
1.5
2
Miles

Exhibit: Diversion S-11/232



‘O’opuola (Hydrological Unit: 6043) Stream Diversion Modification

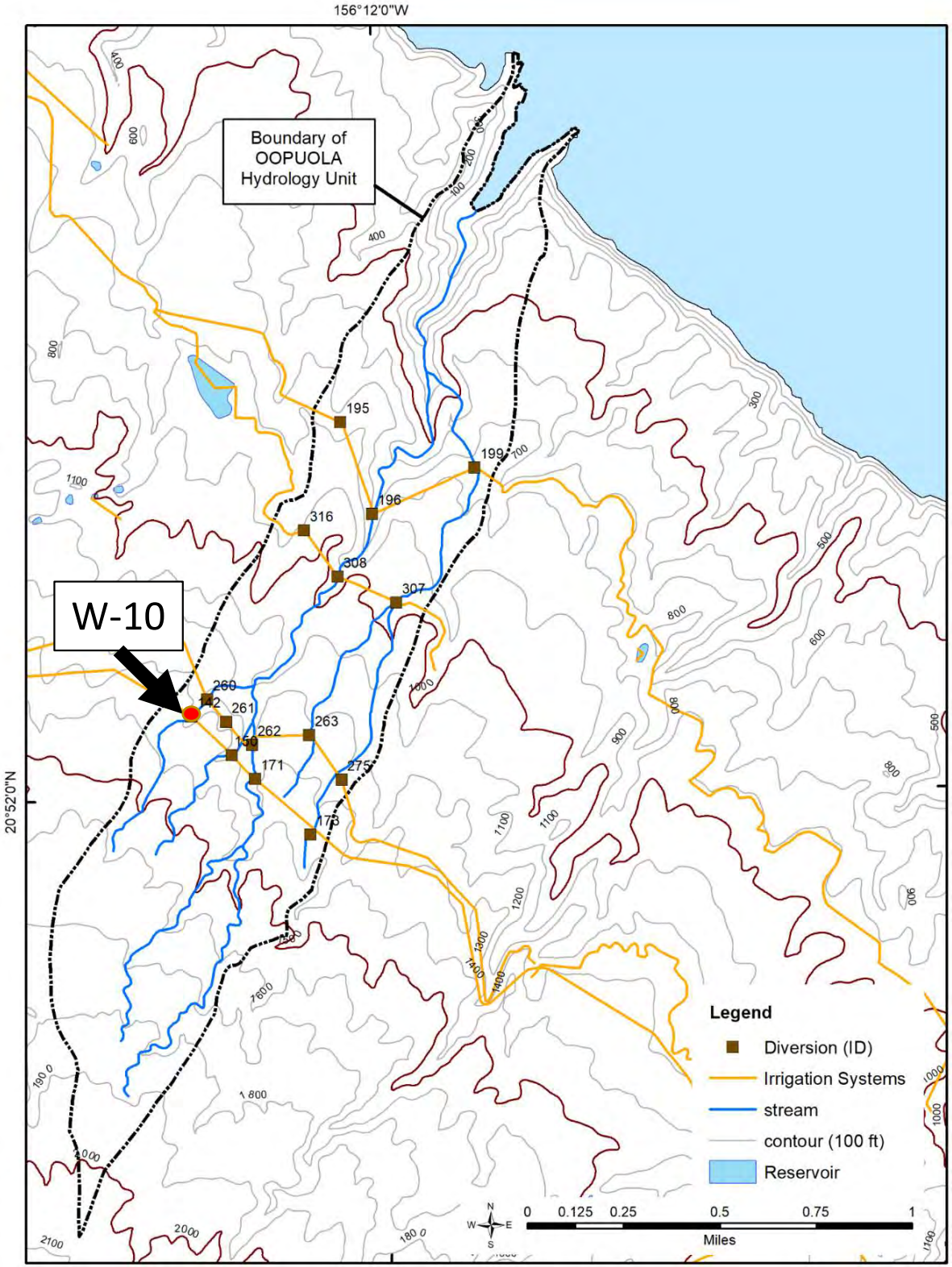
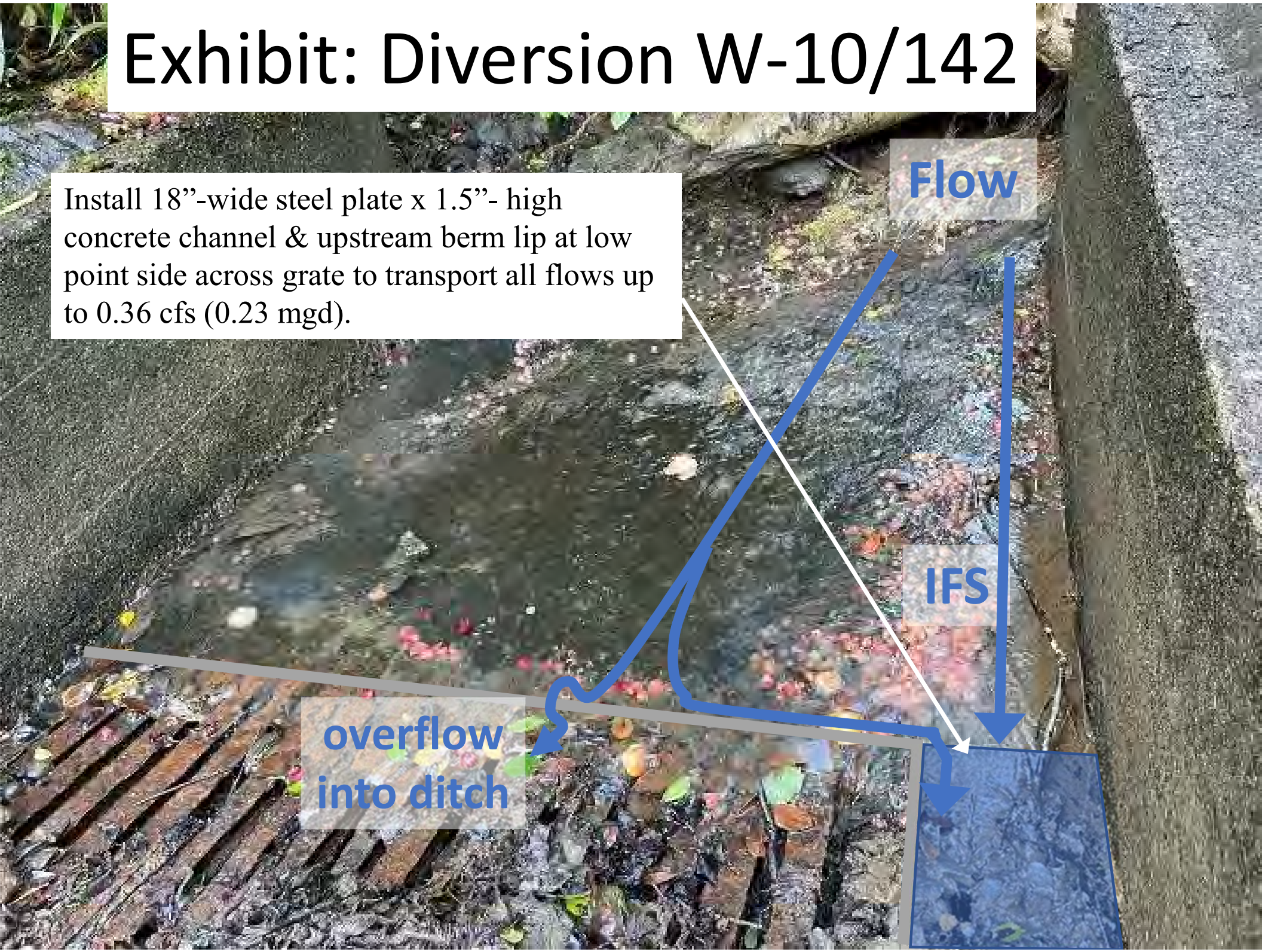

156°12'0"W
20°52'0"N
Boundary of
OOPUOLA
Hydrology Unit
W-10
195
199
196
316
308
307
260
142
261
262
263
150
171
275
173
Legend
Diversion (ID)
Irrigation Systems
stream
contour (100 ft)
Reservoir
N
W
E
S
0
0.125
0.25
0.5
0.75
1
Miles

Exhibit: Diversion W-10/142

Install 18”-wide steel plate x 1.5”- high concrete channel & upstream berm lip at low point side across grate to transport all flows up to 0.36 cfs (0.23 mgd).



Nailiilihaele (Hydrological Unit: 6041) Stream Diversion Modifications

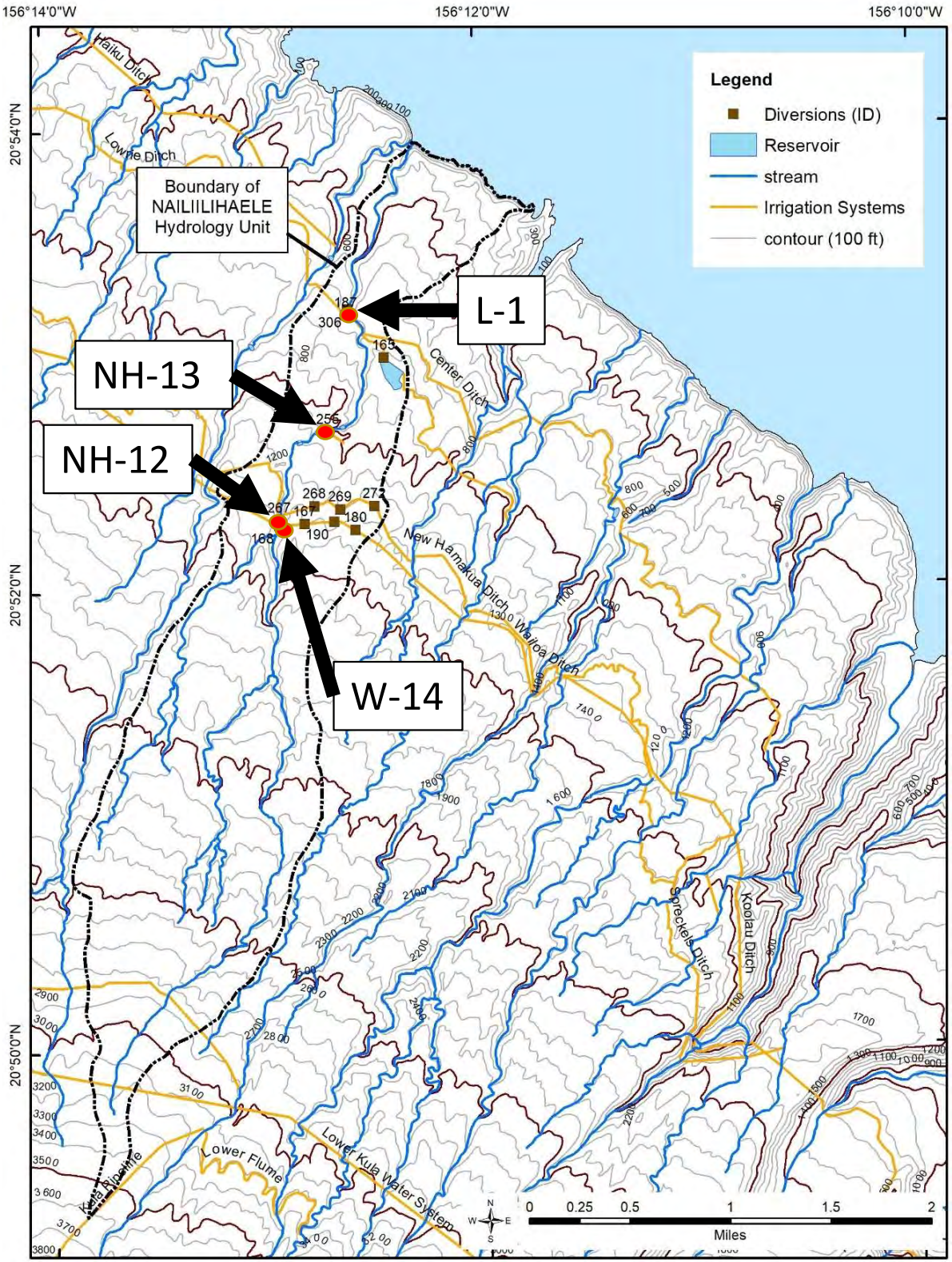
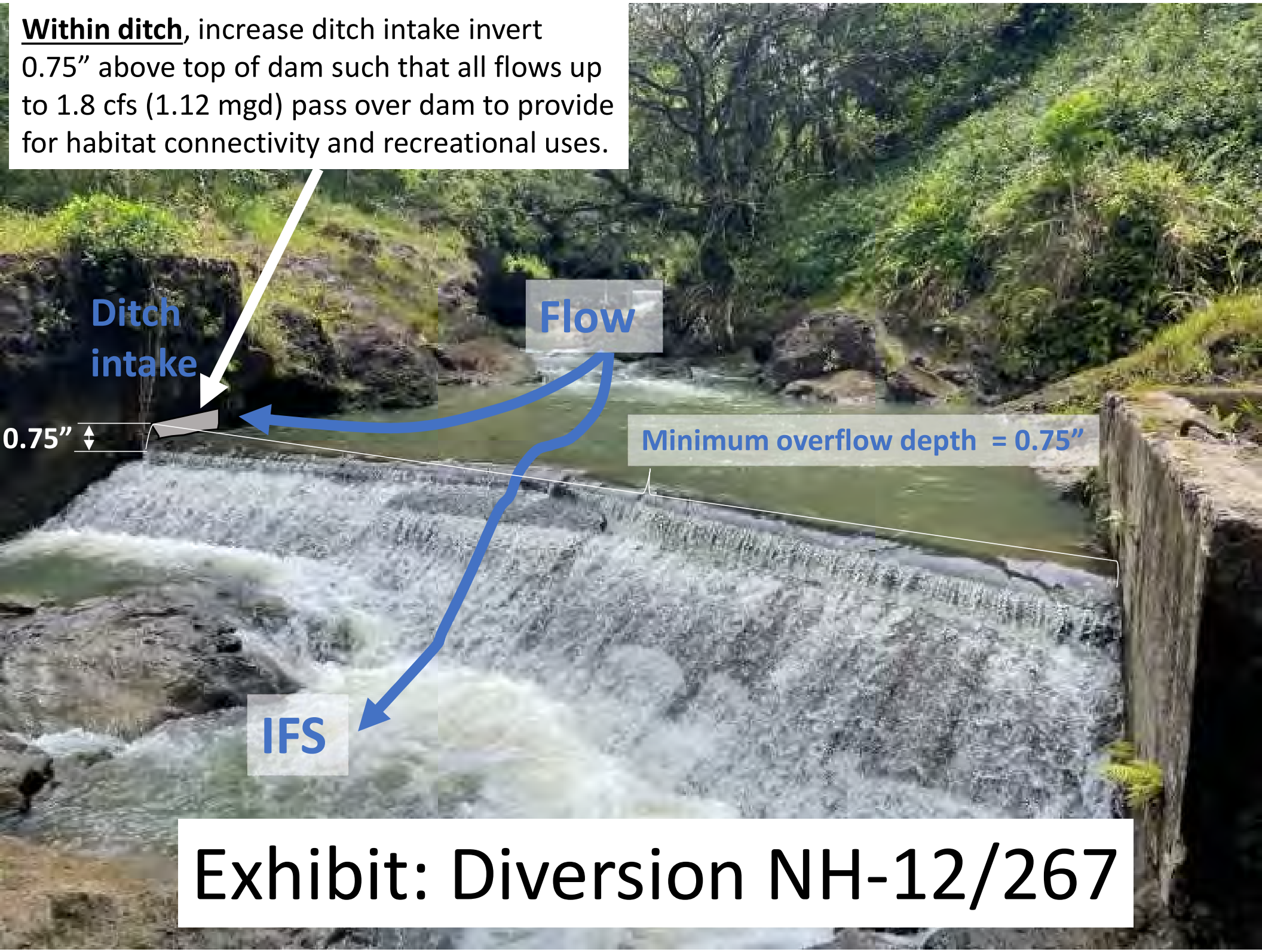

156°14'0"W
156°12'0"W
156°10'0"W
20°54'0"N
20°52'0"N
20°50'0"N
Legend
Diversions (ID)
Reservoir
stream
Irrigation Systems
contour (100 ft)
Boundary of NAILILIHAELE Hydrology Unit
L-1
NH-13
NH-12
W-14
187
306
163
256
267
167
268
269
272
180
190
166
Haiku Ditch
Lowrie Ditch
Center Ditch
New Hamakua Ditch
Wailoa Ditch
Spreckels Ditch
Koolau Ditch
Lower Flume
Lower Kula Water System
Kula Pipeline
0 0.25 0.5 1 1.5 2
Miles

Exhibit: Diversion W-14/168


Within ditch, increase ditch intake invert 0.75” above top of dam such that all flows up to 1.8 cfs (1.12 mgd) pass over dam to provide for habitat connectivity and recreational uses.
Ditch intake
Flow
0.75”
Minimum overflow depth = 0.75”
IFS
Exhibit: Diversion NH-12/267

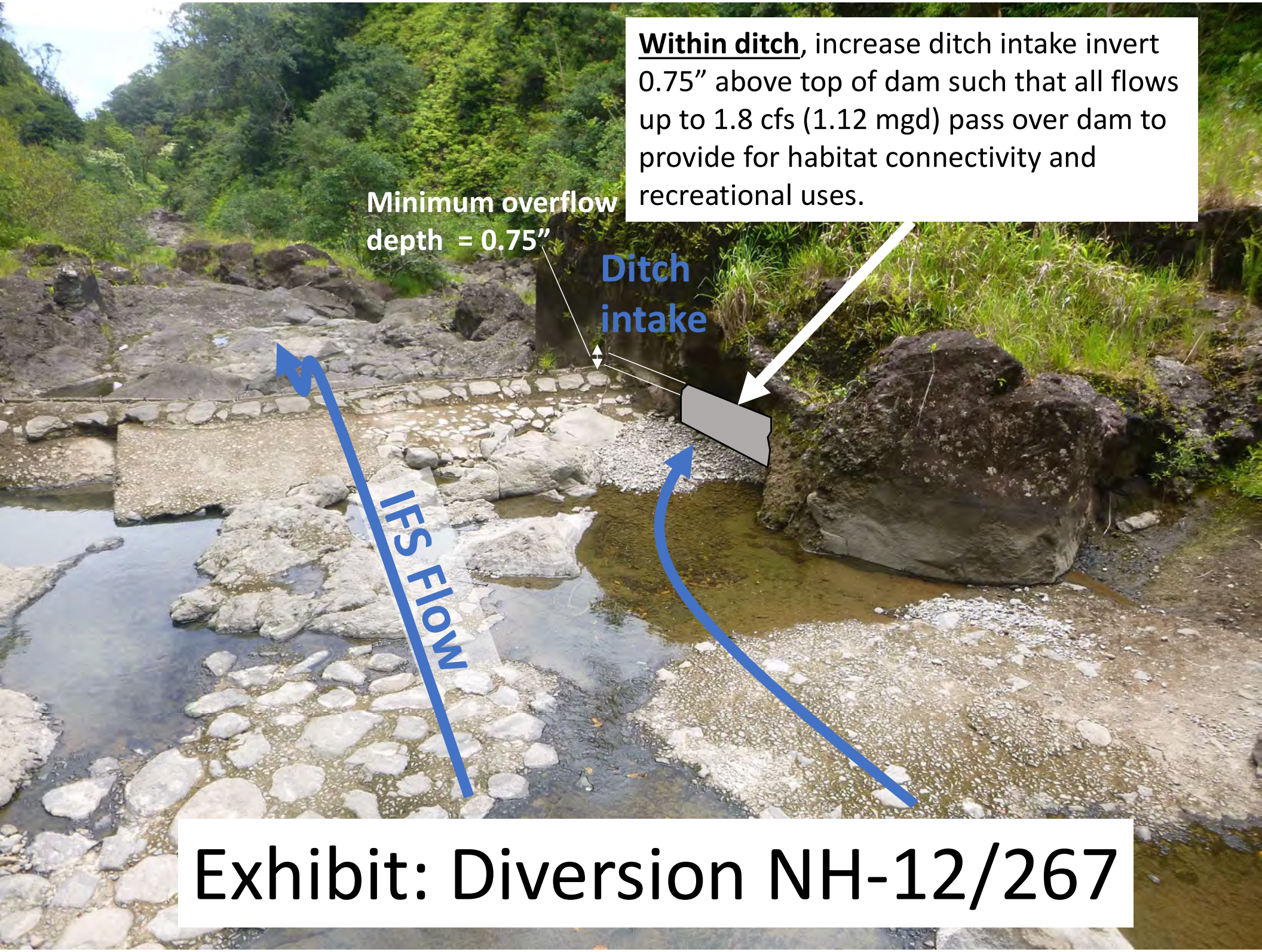
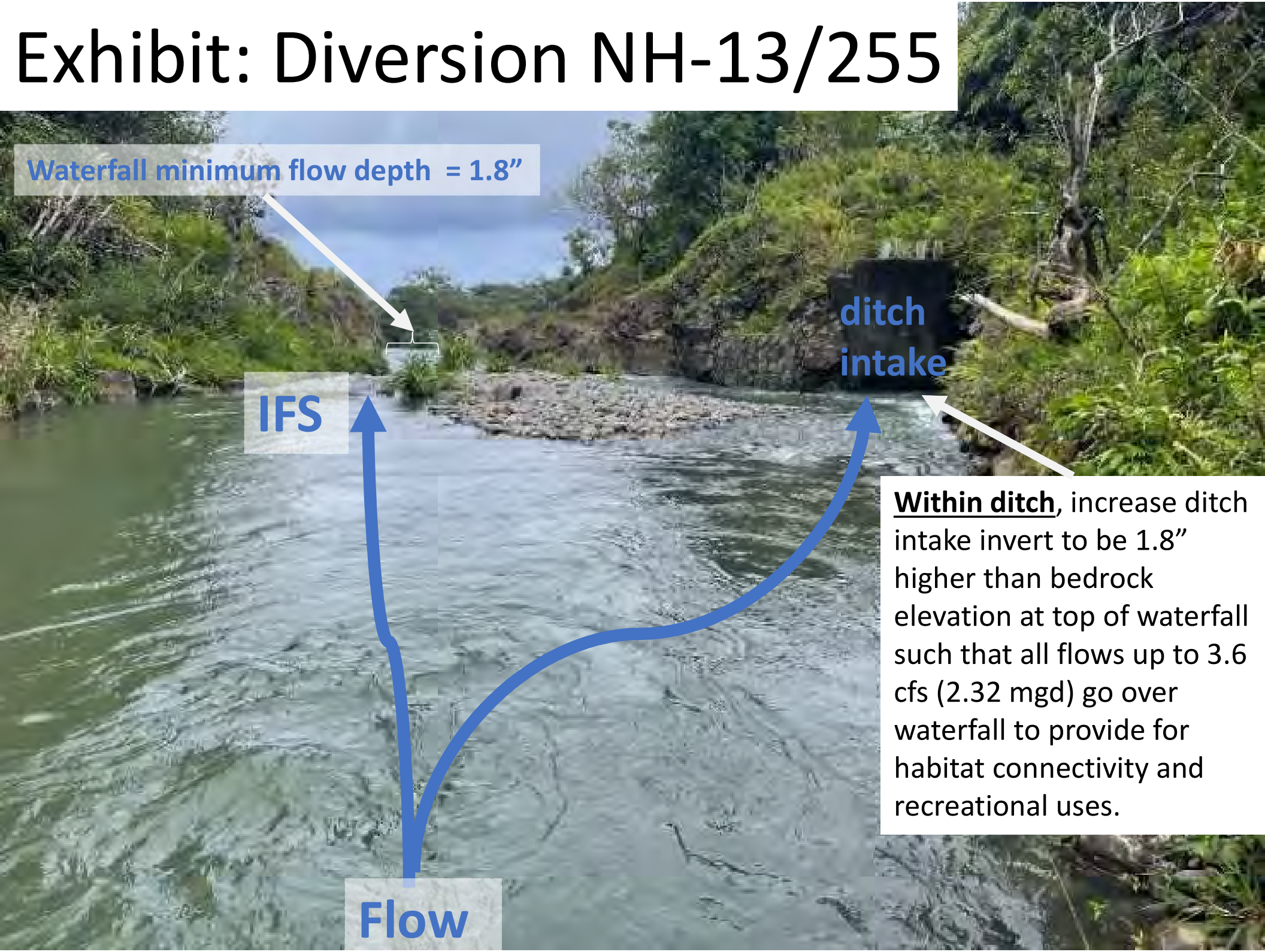


Exhibit: Diversion NH-12/267

Exhibit: Diversion NH-13/255



Within ditch, increase ditch intake invert to be 1.8” higher than bedrock elevation at top of waterfall such that all flows up to 3.6 cfs (2.32 mgd) go over waterfall to provide for habitat connectivity and recreational uses.

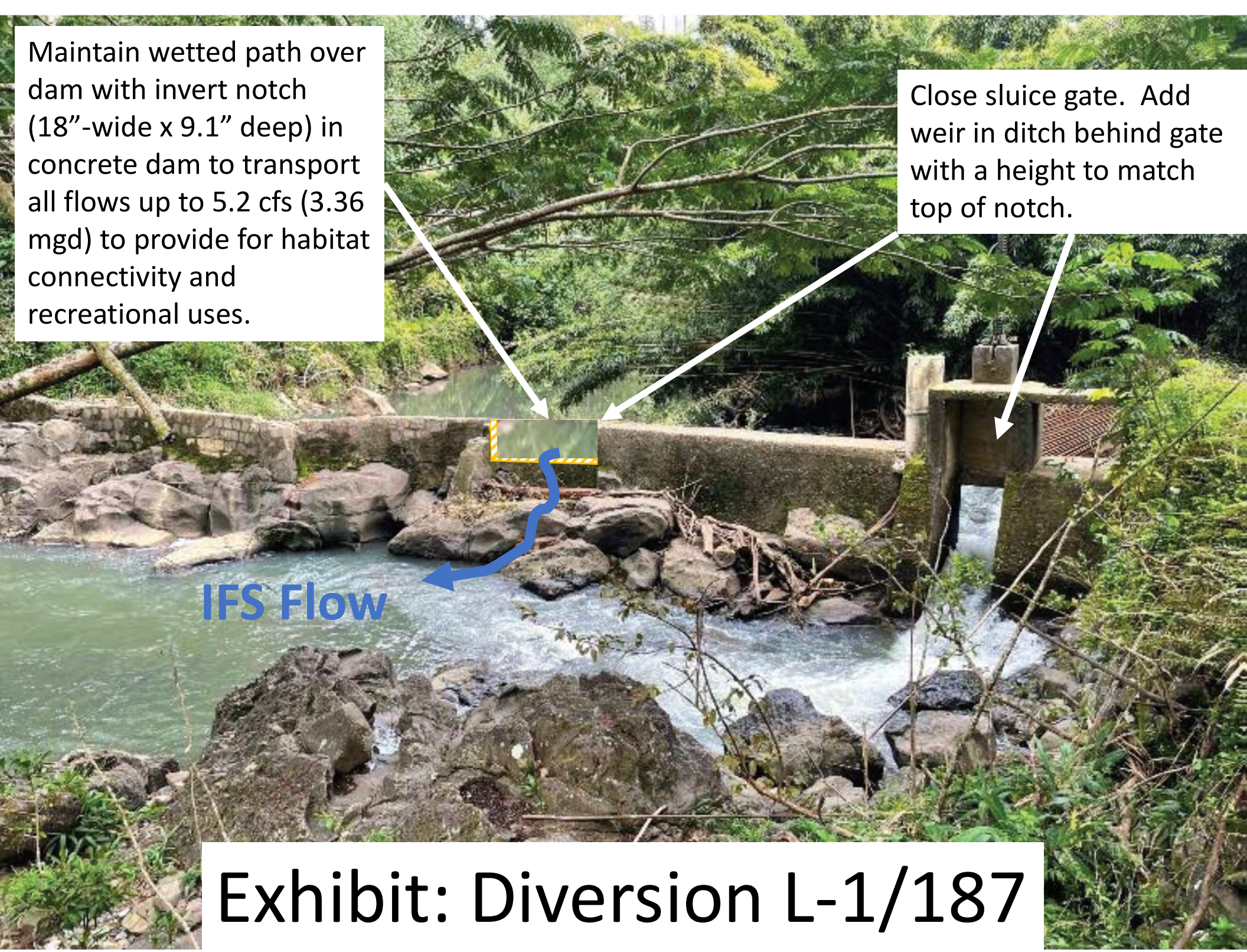
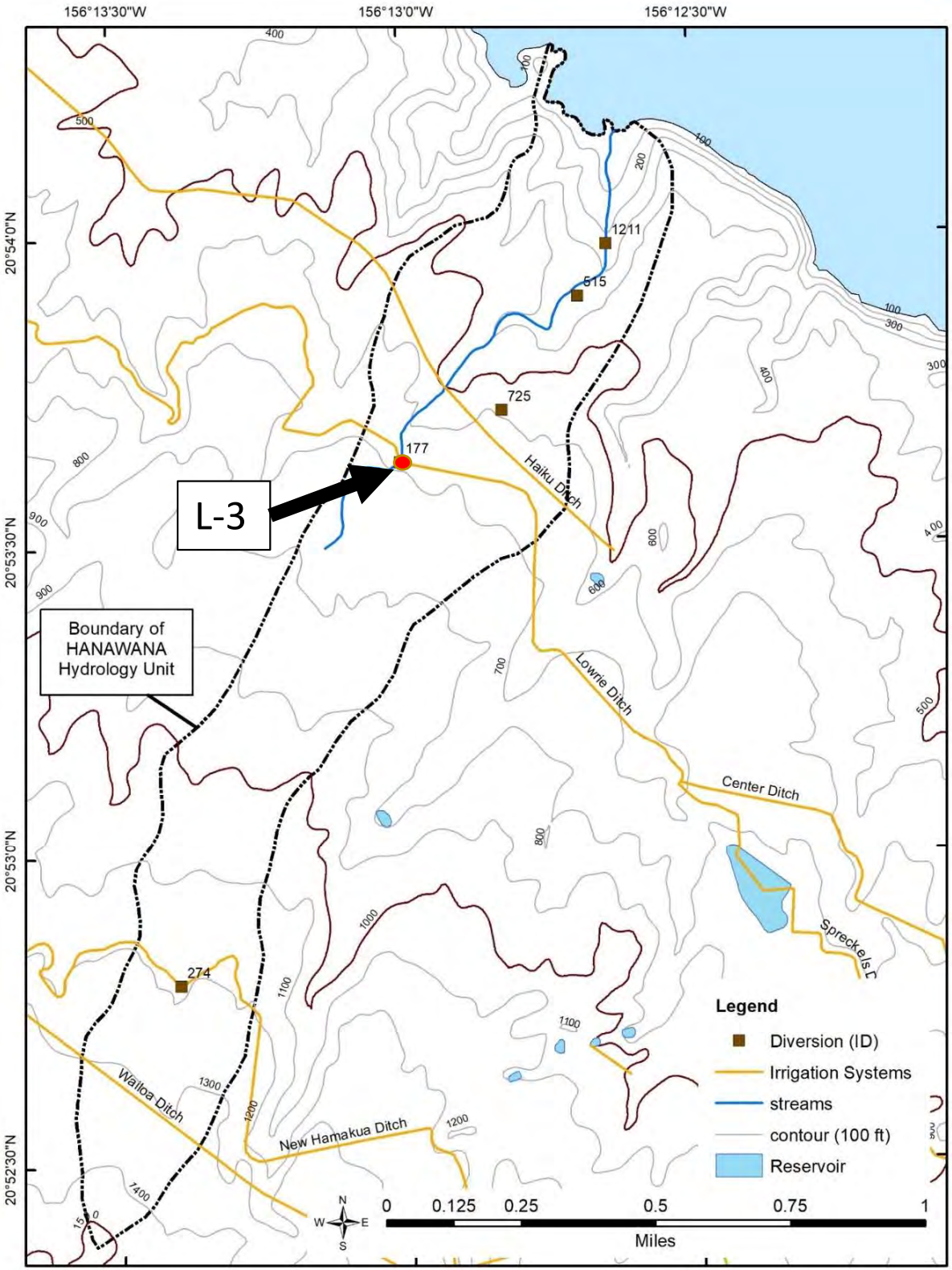


Exhibit: Diversion L-1/187

Hānawana (Hydrological Unit: 6039) Stream Diversion Modification


156°13'30"W
156°13'0"W
156°12'30"W
20°54'0"N
20°53'30"N
20°53'0"N
20°52'30"N
1211
515
725
177
274
L-3
Haiku Ditch
Lowrie Ditch
Center Ditch
Wailoa Ditch
New Hamakua Ditch
Boundary of HANAWANA Hydrology Unit
Legend
Diversion (ID)
Irrigation Systems
streams
contour (100 ft)
Reservoir
N
W
E
S
0
0.125
0.25
0.5
0.75
1
Miles

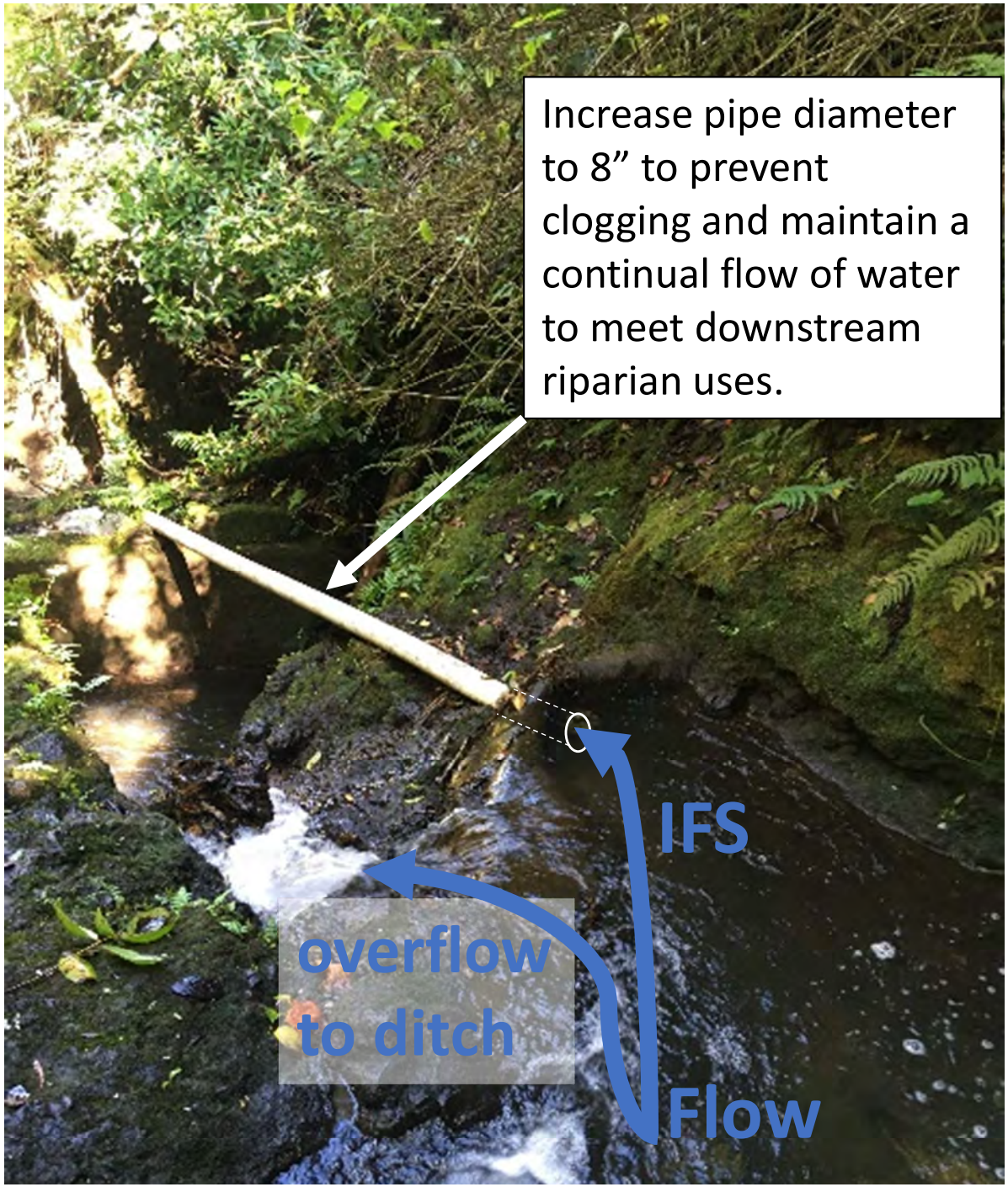


Exhibit: Diversion L-3/177

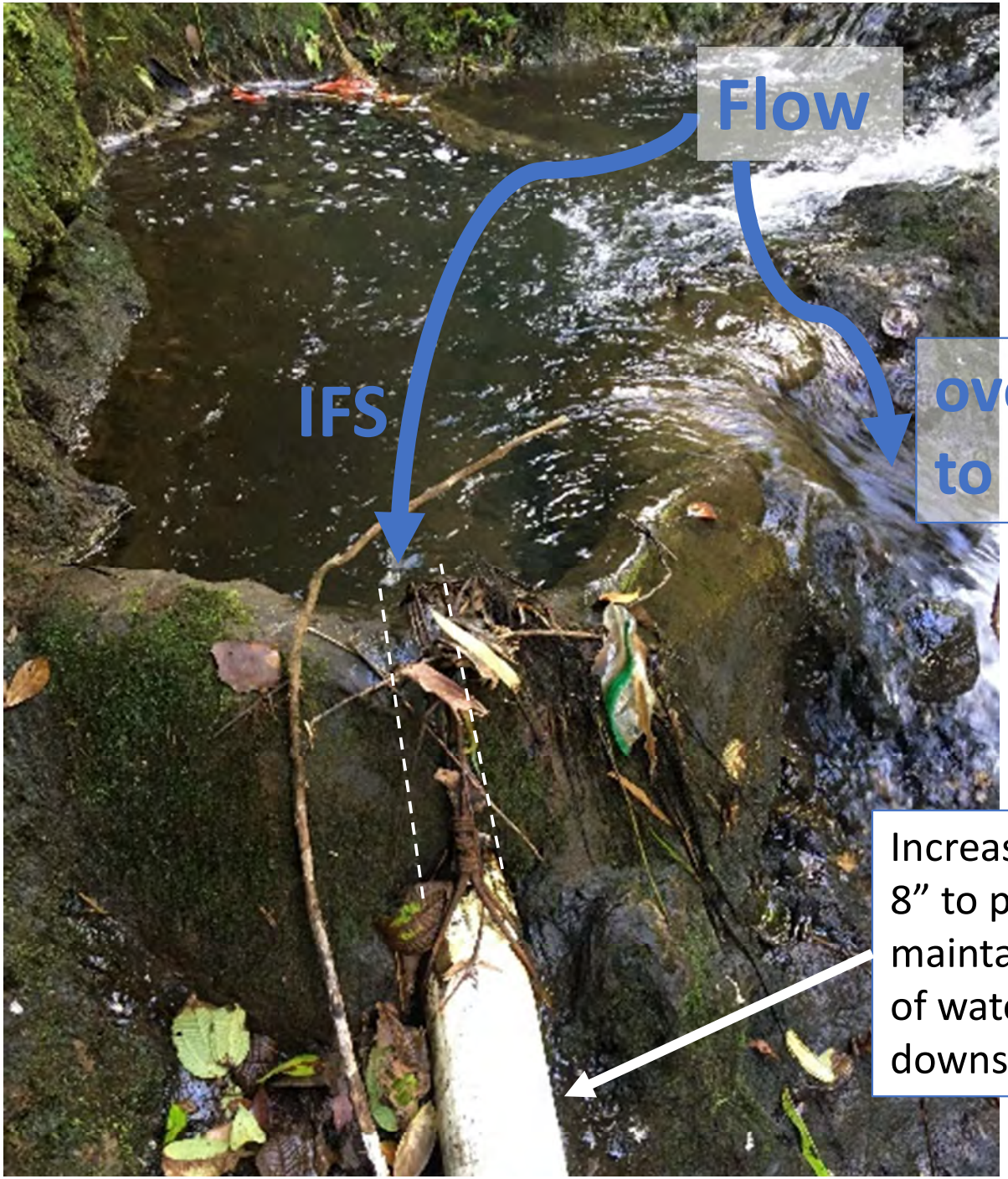


Exhibit: Diversion L-3/177

Ho’olawa (Hydrological Unit: 6035) Stream Diversion Modifications

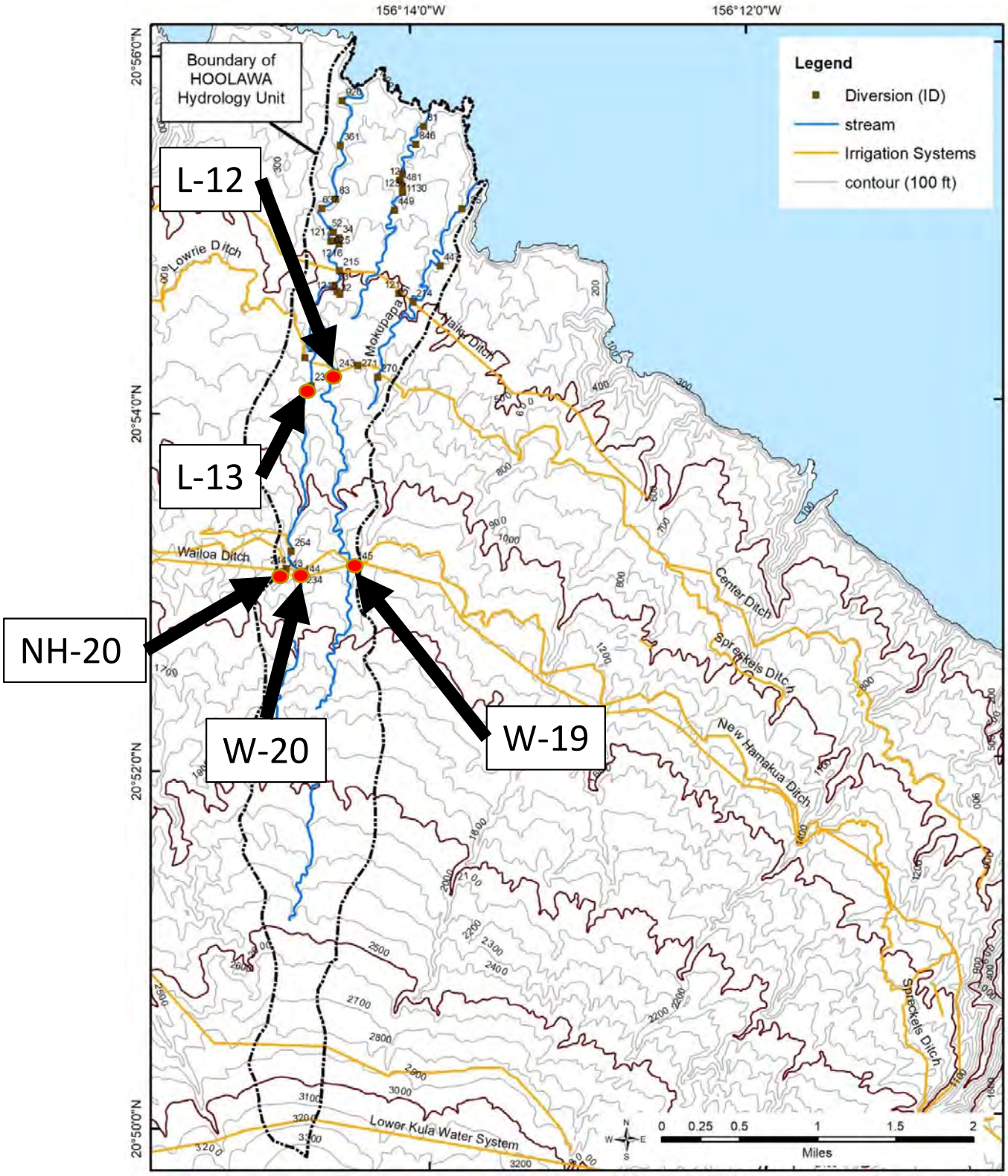
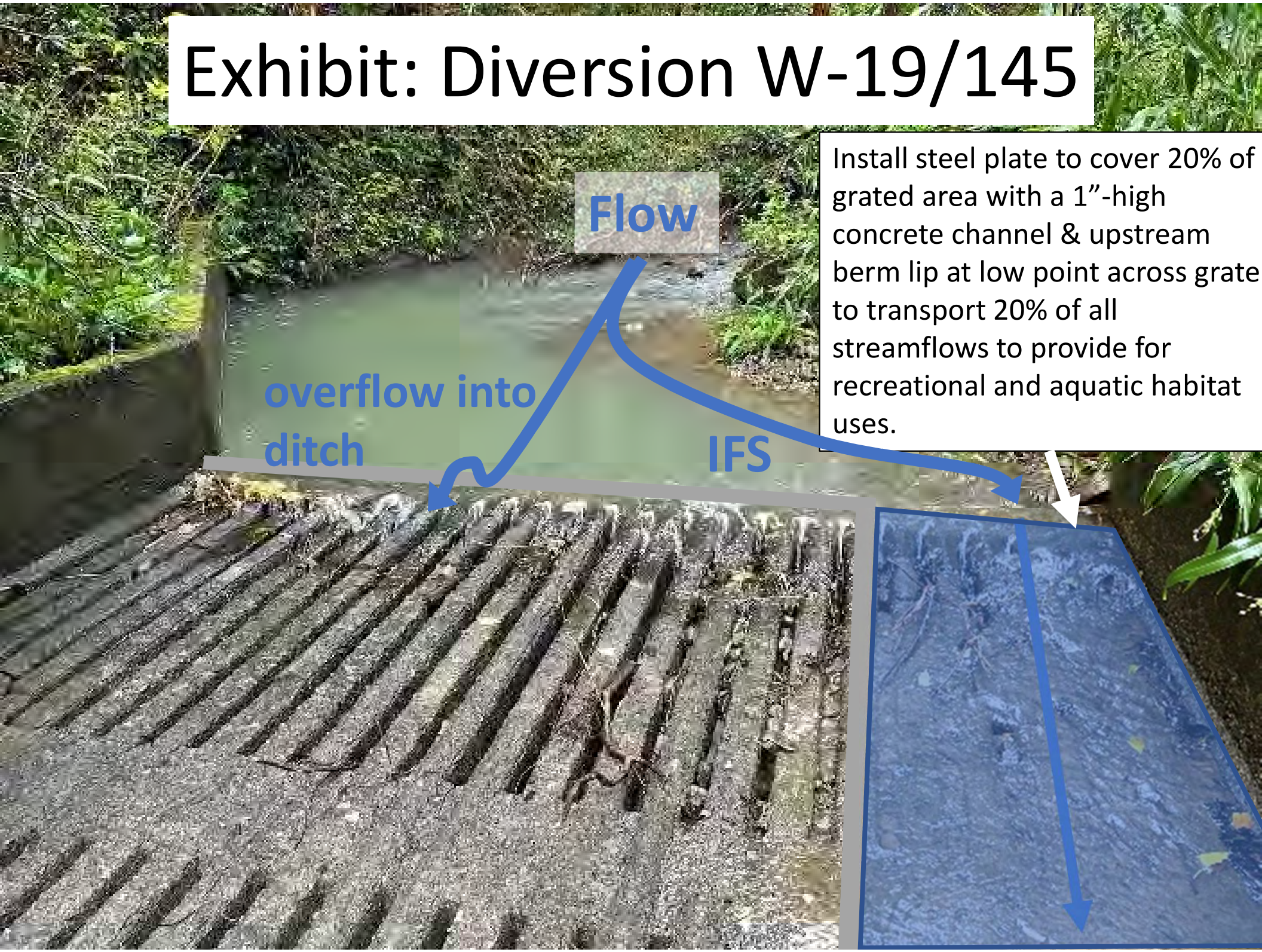

156°14'0"W
156°12'0"W
20°56'0"N
20°54'0"N
20°52'0"N
20°50'0"N
Boundary of HOOLAWA Hydrology Unit
L-12
L-13
NH-20
W-20
W-19
Legend
Diversion (ID)
stream
Irrigation Systems
contour (100 ft)
Lowrie Ditch
Mokupapa
Hailua Ditch
Wailoa Ditch
Center Ditch
Sprinkels Ditch
New Hamakua Ditch
Lower Kula Water System
0 0.25 0.5 1 1.5 2
Miles

Exhibit: Diversion W-19/145



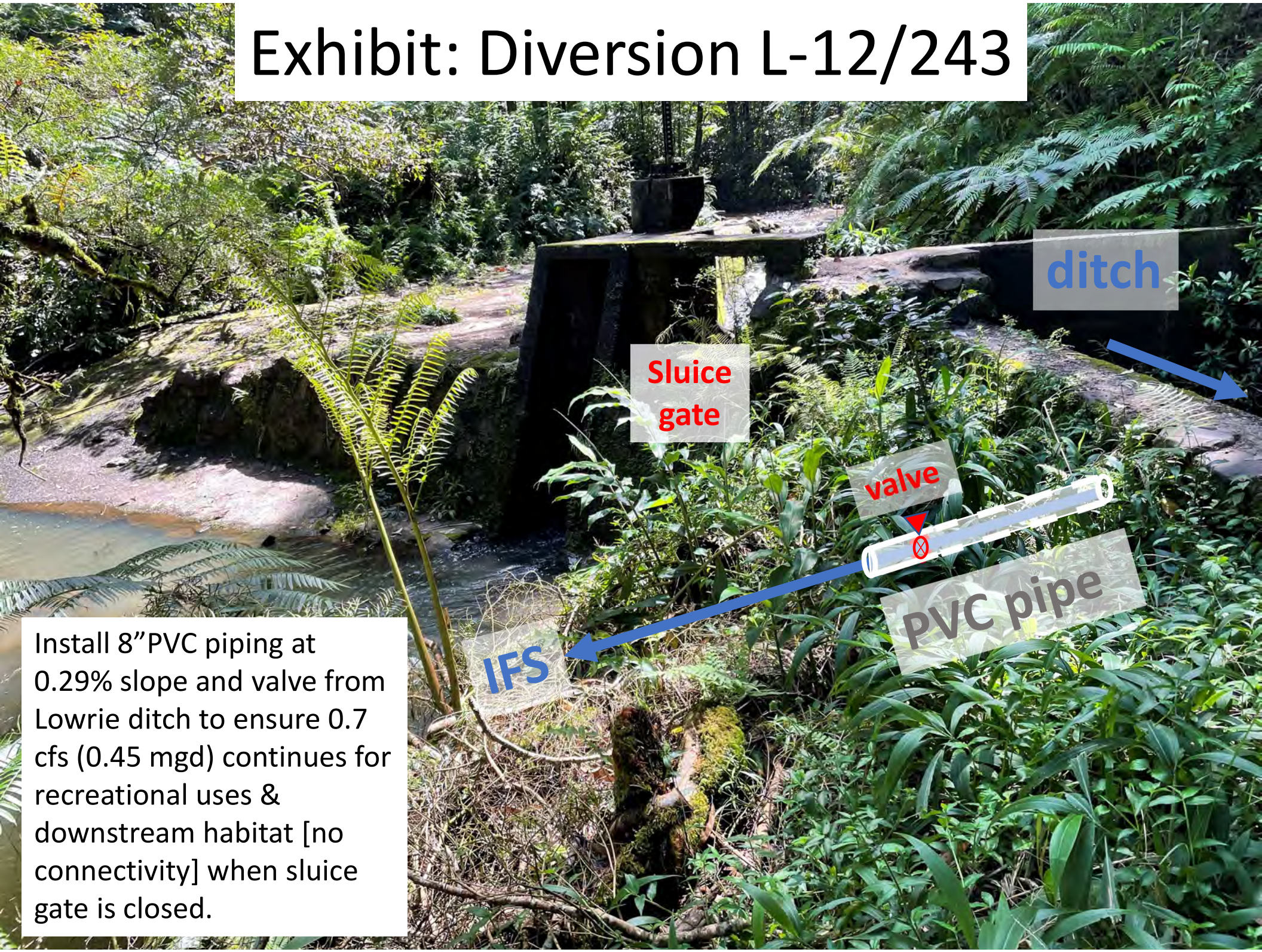
Install steel plate to cover 20% of grated area with a 1”-high concrete channel & upstream berm lip at low point across grate to transport 20% of all streamflows to provide for recreational and aquatic habitat uses.

Exhibit: Diversion L-12/243

Support current leakage underneath diversion dam with PVC piping and valve from Lowrie ditch and modify intake to ensure 0.7 cfs (0.45 mgd) continues downstream. Install 8" PVC piping at 0.29% slope and valve from Lowrie ditch to ensure 0.7 cfs (0.45 mgd) continues for recreational uses & downstream habitat [no connectivity] when sluice gate is closed. Fixing leaks in wall is optional. (see next L-12 pictures)

Exhibit: Diversion L-12/243

Exhibit: Diversion L-12/243



Install 8”PVC piping at 0.29% slope and valve from Lowrie ditch to ensure 0.7 cfs (0.45 mgd) continues for recreational uses & downstream habitat [no connectivity] when sluice gate is closed.

Exhibit: Diversion W-20/144

Install steel plate to cover 20% of grated area with a 1”-high concrete channel & upstream berm lip(s) at low point across grate to transport 20% of all streamflows to provide habitat connectivity, recreational, riparian, and aquatic habitat uses.

Exhibit: Diversion L-13/236

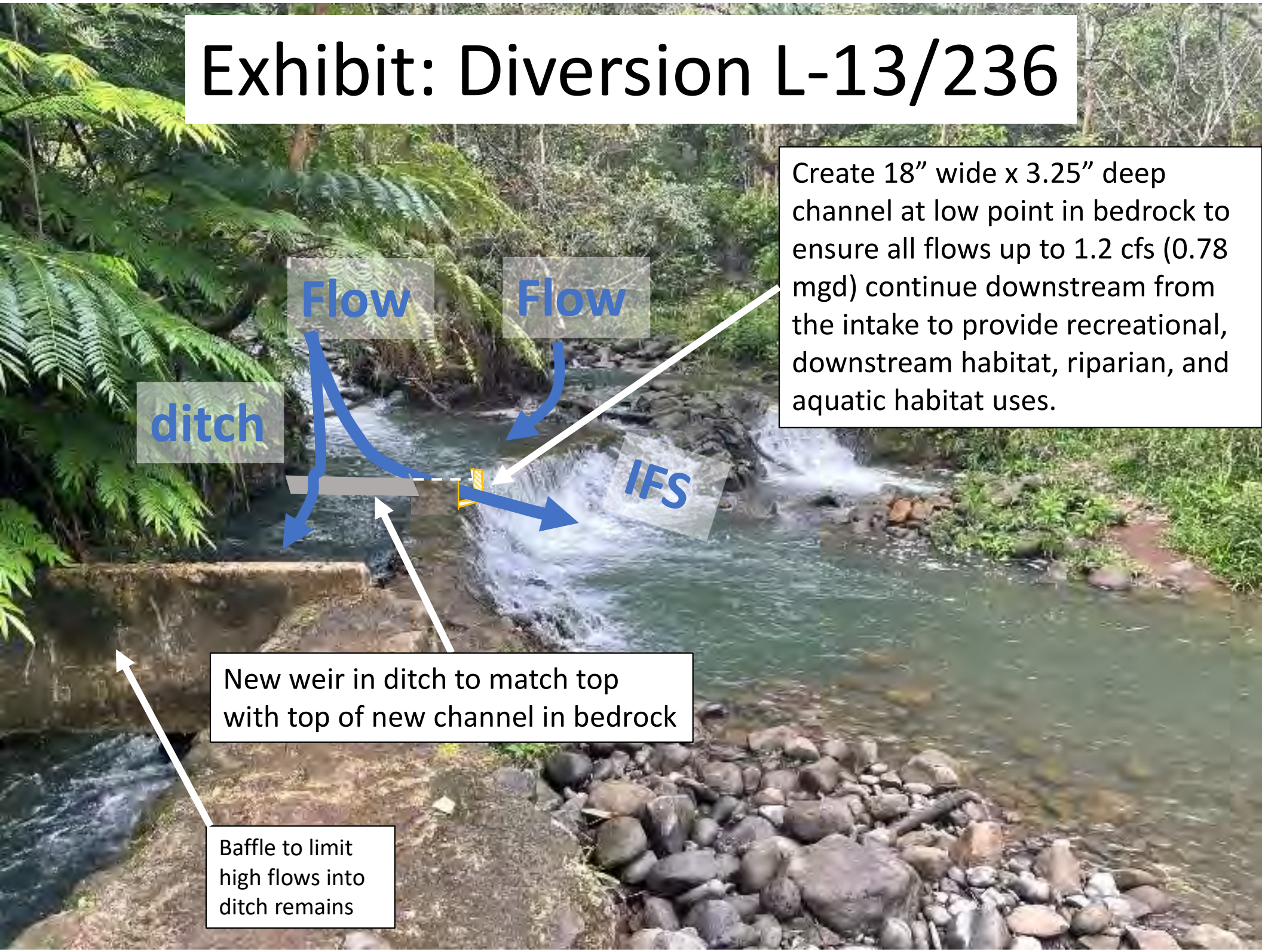


Exhibit: Diversion NH-20/244

Install steel plate to cover 20% of grated area with a 1”-high concrete channel & upstream berm lip at low point across grate to transport 20% of all flows provide downstream habitat [connectivity]8 , recreational, riparian, and aquatic habitat uses.

Flow

IFS

Overflow into ditch