

**Meeting of the Central Valley Flood Protection Board  
February 26, 2016**

**Staff Report**

**Transmittal for Reclamation Districts 70 and 1660 – Sutter Basin North: Letter of Intent to Submit a System-Wide Improvement Framework Plan to the U.S. Army Corps of Engineers**

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**1.0 – ITEM**

Consider authorizing the Executive Officer to send a letter (see Attachment 1) to the U.S. Army Corps of Engineers (USACE) transmitting a Letter of Intent (LOI) (see Attachment 2) for a System-Wide Improvement Framework (SWIF) plan. Reclamation Districts (RDs) 70 and 1660 prepared the LOI on behalf of the Department of Water Resources (DWR) for the RDs 70 and 1660 – Sutter Basin North Levee System (Levee System) as defined by the USACE's Periodic Inspection Report dated October 18, 2013.

**2.0 – LOCATION**

The Levee System is located within the County of Sutter. The levees covered by the proposed LOI for a SWIF consist of the following (see Attachment 2):

- RD 70 – Unit 1, Butte Slough (segment MRD1); 7.91 miles
- RD 70 – Unit 2, Sacramento River (segment MRD2); 15.50 miles
- RD 1660 – Unit 1, Sacramento River (TIS1); 2.95 miles
- RD 1660 – Unit 2, Sutter Bypass (TIS2); 9.12 miles
- Tisdale Bypass – Unit 1, North Levee (TBP1); 4.48 miles

**3.0 – AGENCY**

The local maintaining agencies (LMAs) in the Levee System are RD 70, RD 1660, and DWR's Sutter Maintenance Yard. The LMAs have the responsibility of maintaining the Levee System, and play a key role in planning, coordinating, and implementing flood risk reduction activities within this Levee System.

RD 70 and RD 1660 will be taking the lead in developing a SWIF plan with the support and assistance of DWR and Central Valley Flood Project Board (CVFPB) staff, as well as collaboration with USACE and environmental, cultural, and historical resource agencies, and with interested parties.

**4.0 – USACE PERIODIC INSPECTION**

From January through February 2012, the USACE performed a Periodic Inspection (PI) of the Levee System. PIs are conducted to verify proper operation and maintenance;

evaluate operational adequacy and structural stability; identify features to monitor over time; and improve the ability to communicate the overall levee condition. The PI report produced by the USACE for the Levee System determined that the Levee System was “Unacceptable and Inactive” for the USACE Public Law 84-99 (PL 84-99) Rehabilitation Program (RP) due to encroachments, erosion and bank caving, cracking, animal control, and seepage.

## **5.0 – PURPOSE OF THE LOI AND SWIF**

USACE approval of the LOI will allow the LMAs to move forward with the preparation of a SWIF that is intended to meet the policy and public safety objectives of USACE and the State. Concurrently, the LMAs will be making improvements that address system-wide issues and correct unacceptable inspection items in a prioritized manner to optimize flood risk reduction. USACE approval of the LOI will allow the Levee System to remain active in the PL 84-99 RP for a period of two years while the SWIF is being prepared.

The LMAs are aware of the USACE interim policy effective March 21, 2014, that established a subset of inspection categories used to determine PL 84-99 RP eligibility. The SWIF will include plans to address all of the inspection categories, but will place the subset of inspection categories as higher priority.

If the SWIF is accepted by the USACE, the Levee System will remain active in the USACE PL84-99 RP while the LMAs perform the work described in the SWIF.

## **6.0 – CEQA FINDINGS**

This action does not have the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment and thus is not a “project” for purposes of the California Environmental Quality Act (Public Res. Code § 21065; Guidelines § 15378(a)).

## **7.0 – STAFF RECOMMENDATION**

As agreed to in the initial operations and maintenance assurances to the USACE, the CVFPB serves as the non-federal sponsor for all State-federal project levees within the jurisdiction of the Sacramento-San Joaquin Drainage District, including this Levee System. In this capacity, it is the CVFPB’s responsibility to transmit the LOI and subsequent SWIF to the USACE on behalf of the LMAs.

Staff has received a formal statement of support for the LOI from DWR (see Attachment 3). Staff has reviewed the LOI submitted by RDs 70 and 1660, and finds that it adequately addresses the six requirements for submitting a LOI for a SWIF as described in the USACE’s November 29, 2011 Policy for Development and Implementation of SWIFs (see Attachment 4).

In order to submit the LOI as soon as possible, RDs 70 and 1660 have requested that the CVFPB authorize the Executive Officer to transmit the LOI. Staff agrees with this

request and is recommending that the CVFPB authorize the Executive Officer to finalize a letter of transmittal and forward it with the LOI to the USACE.

**8.0 – LIST OF ATTACHMENTS**

1. Draft Letter of Transmittal to USACE
2. Letter of Intent Prepared by RDs 70 and 1660, dated January 27, 2016
3. Letter of Support from DWR for a SWIF LOI, dated November 24, 2015
4. Excerpt from USACE Policy for Development and Implementation of System-Wide Improvement Frameworks, dated November 29, 2011

Prepared By:	Martin Janolo, Staff Engineer
Staff Report Review:	Alison Tang, PE, Staff Engineer
	Mitra Emami, PE, Operation Branch Chief
	Michael C. Wright, PE, Chief Enforcement Section
	Leslie Gallagher, Executive Officer
Legal Review	Nicole Rinke, Attorney General

**CENTRAL VALLEY FLOOD PROTECTION BOARD**

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February 26, 2016

Colonel Michael J. Farrell, District Commander  
U.S. Army Corps of Engineers  
Sacramento District  
1325 J Street  
Sacramento, California 95814

**Subject: Reclamation Districts 70 and 1660 Letter of Intent to Develop and Implement a System-Wide Improvement Framework Plan for the RD 70 and RD 1660 – Sutter Basin North Levee System**

Dear Colonel Farrell:

The Central Valley Flood Protection Board and its local maintaining agency (LMA) partners, the Department of Water Resources (DWR) and Reclamation Districts 70 and 1660 (RDs 70 and 1660) wish to notify the U.S. Army Corps of Engineers (USACE) by this letter and the attached Letter of Intent (LOI) that the LMAs for the RD 70 and RD 1660 – Sutter Basin North Levee System (Levee System) intend to develop and implement a System-Wide Improvement Framework (SWIF) plan in order for the Levee System to regain eligibility for rehabilitation assistance as authorized under Public Law 84-99 (PL 84-99). RDs 70 and 1660 will lead the SWIF effort.

The Levee System includes approximately 40 miles of levee embankments along the east bank of Sacramento River, south bank of Butte Slough, west bank of Sutter Bypass, and north bank of Tisdale Bypass. These levees were originally constructed by local interests and the USACE, with improvements and remedial measures implemented over the course of their existence, to bring these levees up to federal standards. However, due to the less rigorous State and federal encroachment permitting standards of the past, the Levee System is currently ineligible in the PL 84-99 Rehabilitation Program.

DWR and RDs 70 and 1660 are aware of the USACE interim policy effective March 21, 2014, that established a subset of inspection categories used to determine PL 84-99 eligibility. The SWIF will include plans to address all of the inspection categories, but will place the subset of inspection categories as the higher priority.

USACE approval of this LOI will allow the LMAs to move forward with preparation of a SWIF intended to meet the policy and public safety objectives of USACE, the State of California, and the LMAs, concurrent with making improvements that address system-wide issues and correct deficiencies identified in the Periodic Inspection Report in a prioritized manner.

We respectfully submit this LOI on behalf of RDs 70 and 1660 and DWR in accordance with the USACE November 29, 2011 *Policy for Development and Implementation of System-Wide Improvement Frameworks*, and request reinstatement of eligibility in the PL 84-99 Rehabilitation Program for the Levee System while RDs 70 and 1660, the lead LMAs, develop a SWIF. Upon

Colonel Farrell  
February 26, 2016  
Page 2

approval of this LOI, RDs 70 and 1660 will commence efforts to develop a SWIF for USACE approval.

Sincerely;

Leslie Gallagher  
Executive Officer

Attachment: RDs 70 and 1660 Letter of Intent for a System-Wide Improvement Framework

cc: Mr. Gordon Rohleder, President of RD 70  
PO Box 129  
Meridian, California 95957

Mr. Chris Capaul, President of RD 1660  
PO Box 35  
Meridian, California 95957

Mr. Andy Duffey, General Manager of RDs 70 & 1660  
PO Box 129  
Meridian, California 95957

Ms. Claire Marie Turner, MBK Engineers  
455 University Avenue, # 100  
Sacramento, California 95825

(via electronic copy)  
Mr. Mark List, DWR  
Mr. Russ Eckman, Sacramento Maintenance Yard  
Mr. Eric McGrath, DWR  
Ms. Mitra Emami, CVFPB  
Mr. Michael C. Wright, CVFPB  
Ms. Alison Tang, CVFPB  
Mr. Martin Janolo, CVFPB

*Reclamation District 70 & 1660  
PO Box 129 • Meridian, CA 95957  
Office: (530) 696-2569  
Fax: (530) 696-2551*

*Andy Duffey  
Manager*



January 27, 2016

William H. Edgar, President  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

Subject: Reclamation District Nos. 70 & 1660 Letter of Intent to Develop a System-Wide Improvement Framework

Dear Mr. Edgar,

After several months of review and coordination with U.S. Army Corps of Engineers (USACE), RD 70 & 1660 respectfully submits the enclosed final Letter of Intent (LOI). Our original cover letter is also enclosed. As indicated in Section 2.1 of the LOI, RD 70 & 1660 are aware of USACE's March 2014 interim policy regarding vegetation and rehabilitation. We look forward to the Board's transmittal of this LOI and the USACE's subsequent approval.

If I may be of assistant in facilitating this request, please contact me at 530-696-2569 or [aduffey@succeed.net](mailto:aduffey@succeed.net).

Sincerely,

Andy Duffey, General Manager  
Reclamation District Nos. 70 & 1660

Enclosures

Cc: Mr. John Ericson, Chief, DWR Flood Maintenance Office

*Reclamation District 70 & 1660  
PO Box 129 • Meridian, CA 95957  
Office: (530) 696-2569  
Fax: (530) 696-2551*

*Andy Duffey  
Manager*

August 27, 2014

William H. Edgar, President  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

**Subject: Reclamation District Nos. 70 & 1660 Letter of Intent to Develop a System-Wide Improvement Framework**

Dear Mr. Edgar,

As local maintaining agencies, Reclamation Districts (RD) 70 & 1660, are submitting this Letter of Intent (LOI) to develop a System-Wide Improvement Framework (SWIF) for the *RD 70 & 1660 - Sutter Basin North Levee System* which is currently "Inactive" in the P.L. 84-99 Rehabilitation and Inspection Program. The SWIF will address system-wide issues, including correction of unacceptable inspection items, in a prioritized way to optimize flood risk reduction.

We respectfully submit this LOI and request your assistance, as the non-Federal sponsor, in forwarding this LOI to the U.S. Army Corps of Engineers, Sacramento District. The enclosed supplemental information includes the required information to support this request.

As the Department of Water Resources' Sutter Maintenance Yard is also a maintaining agency for this system, and due to the high number of encroachment related deficiencies, development and implementation of a SWIF will require increased cooperation and collaboration among our agencies. We look forward to continuing our collective efforts to address and resolve these deficiencies and reduce flood risk to our residents.

# ATTACHMENT 2

*Letter from Duffey, Subject: Reclamation District Nos. 70 & 1660 Letter of Intent to Develop a System-Wide Improvement Framework*

If I may be of assistance in facilitating this request, please contact me at 530-696-2569 or [aduffey@succeed.net](mailto:aduffey@succeed.net).

Sincerely,



Andy Duffey, General Manager  
Reclamation District Nos. 70 & 1660

Enclosure

cc: Mr. Jon Ericson, Chief, DWR Flood Maintenance Office



## SYSTEM-WIDE IMPROVEMENT FRAMEWORK LETTER OF INTENT ATTACHMENT

### INTRODUCTION

Reclamation Districts (RD) 70 & 1660 have prepared this System-wide Improvement Framework (SWIF) Letter of Intent (LOI) for continued rehabilitation eligibility for the *RD 70 & 1660 – Sutter Basin North Levee System* under P.L. 84-99 while developing a SWIF. This attachment describes unacceptable levee system deficiencies and justification for how a system-wide approach will optimize flood risk reduction.

The U. S. Army Corps of Engineers (USACE) Sacramento District released its final Periodic Inspection (PI) report in September 2013. The final PI report reflects the corrective actions taken by RD 70 & 1660 following the inspection, but prior to finalization of the report, though these corrective actions did not change the overall system rating.

Section 2.0 of this attachment includes a description of the unacceptable deficiencies, progress on correction of unacceptable items, and anticipated revised segment ratings. However, because a system's rating is determined by the lowest rating of one of its segments, it is not anticipated that the system rating will improve without long-term solutions. This LOI, and future SWIF, will address a plan for correcting the unacceptable items which cannot be corrected by September 2015.

### 1.0 Levee System and Segment Identification and Description

#### 1.1 Levee System and Segment Identification

The levee system covered by this LOI, and which will be included in the SWIF, is the RD 70 & 1660 – Sutter Basin North Levee System (NLD System ID: 5205000544), herein referred to as the *SBN levee system*. This system is comprised of a total of five segments as described in Table 1.1 below.

#### 1.2 System and Segment Description

The SBN levee system is part of the Sacramento River Flood Control Project (SRFCP). It is comprised of five levee segments with a total length of approximately 40 miles. The SBN levee system consists of two levee segments on the Sacramento River east bank, one levee segment on Butte Slough, one levee segment on the Sutter Bypass, and one levee segment on the Tisdale Bypass. It is located in Sutter County. (See Plate 1.)

The CVFPB is the non-federal sponsor for the SBN levee system and its segments. RD 70 is the local maintaining agency (LMA) for the Meridian – Unit 1 Butte Slough (MRD1) and Meridian – Unit 2 Sacramento River (MRD2) segments. RD 1660 is the LMA for the Tisdale – Unit 1 Sacramento River (TIS1) and Tisdale – Unit 2 Sutter Bypass (TIS2) segments. RD 70 and 1660 function operationally as a single RD. The California Department of Water Resources (DWR) Sutter Maintenance Yard (Sutter Yard) is the LMA for the Tisdale Bypass – Unit 1 (TBP1).

Reclamation District No. 70 & 1660 SWIF Letter of Intent

Table 1.1 Levee System and Segment Identification				
Levee System Name and ID Number	NLD Segment Name	NLD Segment ID Number	Latest Inspection Type & Date	Rating
RD 70 and 1660 –Sutter Basin North Levee System  NLD System ID: 5205000544	RD 70 – Meridian –Unit 1 , Butte Slough (MRD1)	5204000672	Periodic, February 2012	U
	RD 70 – Meridian –Unit 2 , Sacramento River (MRD2)	5204000671	Periodic, February 2012	U
	RD 1660 –Tisdale –Unit 1 , Sacramento River (TIS1)	5204000961	Periodic, February 2012	U
	RD 1660 – Tisdale –Unit 2 , Sutter Bypass (TIS2)	520400962	Periodic, February 2012	U
	Tisdale Bypass –Unit 1 , North Levee (TBP1)	5204001081	Periodic, February 2012	U

Note: A = Acceptable; M = Minimally Acceptable; U = Unacceptable.

Table 1.2 Description of Segments in the SBN Levee System					
Segment	River / Channel	LMA	Description	Levee Length (Miles)	USACE O&M Unit
MRD1	Butte Slough	RD 70	This segment extends south from the Sacramento River on the right bank of Butte Slough to the Sutter Bypass.	7.91	134
MRD2	Sacramento River	RD 70	This segment extends south from Butte Slough Outfall Gates on the left bank of the Sacramento River to Winship School.	15.50	134
TIS1	Sacramento River	RD 1660	The segment extends south from Winship School on the left bank of the Sacramento River to the Tisdale Weir.	2.95	133
TIS2	Sutter Bypass	RD 1660	The segment extends south from Butte Slough on the right bank of the Sutter Bypass to the Tisdale Bypass.	9.12	133
TBP1	Tisdale Bypass	DWR, Sutter Yard	The segment extends from the Sacramento River to the Sutter Bypass on the north bank of the Tisdale Bypass.	4.48	133

## **1.3 Construction History**

Construction of flood protection facilities in the Sacramento Valley began in the 1800s, when landowners built low levees to protect their individual properties. Landowners eventually formed reclamation districts and constructed more substantial levees in the late 1800s. After the SRFCP was authorized in 1917, USACE began improving the levees and flood protection systems. Levees in the SRFCP generally met USACE project standards by the late 1940s. Per the PI report, USACE has assumed that the levees in the SBN levee system met the USACE project levee standards at the time the levees were brought into the state-federal project, which was in 1953 for segments MRD1 and MRD2 and in 1955 for segments TIS1, TIS2, and TBP1. Repairs and improvements have been made to the levee system since the 1950s. The available documents do not mention any significant issues encountered during the construction of the project levees. The supplemental O&M manuals for units 133 and 134, and the PI report, provide a construction history.

## **1.4 Population and Industry at Risk**

Available data from the National Levee Database and O&M manuals indicate that the SBN levee system provides protection for approximately 35,127 acres and a population of 674, which includes the town of Meridian and agricultural areas behind the levees. Residential land use includes sparsely populated use in the agricultural areas and more densely populated areas within the town. The SBN levee system protects State Highway 20, Meridian fire station, a Pacific Gas and Electric substation and other numerous transmission lines, hundreds of gas well pumping facilities, the Meridian Post Office, two grammar schools, the Meridian Cemetery, two main drain pumping plants as well as smaller pumping facilities. There is also significant agricultural infrastructure protected by the levee systems including rice drying and storage facilities, four walnut processing and storage facilities, two bean-processing warehouses, and numerous hay and equipment storage barns and warehouses. Property values from NLD are approximately \$48,001,000, levee failure could result in significant damage to property and impact the local economy.

## **2.0 Description of Deficiencies and Justification of SWIF approach**

### **2.1 Description of Deficiencies**

The USACE PI report for the SBN levee system identified several items rated unacceptable, requiring immediate attention, and which could seriously impair the functioning of the system. These items are herein referred to as critical items. The PI report also identified items rated unacceptable, requiring immediate attention, but with which the systems should perform as intended in the next flood event with historic levels of flood-fighting. Table 2.1 provides the ratings for each segment by deficiency as provided in the PI report.

Reclamation District No. 70 & 1660 SWIF Letter of Intent

Table 2.1 Periodic Inspection Segment Ratings by Levee Embankment Item					
Levee Embankment Deficiency	RD 70 & 1660 Sutter Basin North Levee System				
	MRD1	MRD2	TIS1	TIS2	TBP1
Item 1, Vegetation Growth	U	U	U	U	U
Item 2, Sod Cover	U	U	M	U	M
Item 3, Encroachments	<u>U</u>	<u>U</u>	<u>U</u>	<u>U</u>	<u>U</u>
Item 5, Slope Stability	U	M	U	U	A
Item 6, Erosion/Bank Caving	<u>U</u>	U	U	<u>U</u>	M
Item 8, Depressions/Rutting	U	U	U	U	U
Item 9, Cracking	A	M	A	<u>U</u>	U
Item 10, Animal Control	<u>U</u>	<u>U</u>	<u>U</u>	<u>U</u>	<u>U</u>
Item 12, Riprap Revetments and Bank Protection	U	U	U	U	U
Item 15, Seepage	M	<u>U</u>	<u>U</u>	M	M

Note: A = Acceptable; M = Minimally Acceptable; U = Unacceptable; N/A = Not Applicable;

Bold, underlines "U" indicates that the unacceptable rating included items rated as unacceptable and likely to prevent the system from performing (i.e., "critical items")

The Final PI report provides the following with regards to unacceptable items:

<b>Table 2.2 Number of Unacceptable Items By Segment</b>							
	<b>Priority</b>	<b>MRD1</b>	<b>MRD2</b>	<b>TIS1</b>	<b>TIS2</b>	<b>TBP1</b>	<b>TOTAL</b>
<b>Unacceptable Vegetation, Non-Critical</b>	Lowest	45	98	30	23	18	214
<b>Number of Non-Vegetation, Non-Critical, Unacceptable Items</b>	Low to Moderate	144	297	66	52	73	632
<b>Number of Critical Unacceptable Items</b>	High	11	12	2	8	1	34
<b>Total Unacceptable</b>		200	407	98	83	92	880

Of the 34 critical items, eleven have been corrected by RD 70 & 1660 as well as one by a landowner since finalization of the PI report. RD 70 & 1660 will continue to resolve unacceptable items as a SWIF is developed. Most of the non-critical, unacceptable items are related to encroachments and vegetation.

Many of the encroachments rated as unacceptable appear to have been due to a lack of documentation supporting the USACE's approval of the encroachment. RD 70 & 1660 will research individual encroachments to determine those that are missing proper documentation and take proper course to work with the CVFPB to either remove or permit the encroachment. While vegetation is no longer considered in determining eligibility in the RIP, RD 70 & 1660 will address vegetation as part of the SWIF.

### **2.3 Justification of SWIF Approach**

RD 70 & 1660 will take a worst-first, prioritized approach with the overall goal of correcting outstanding deficiencies to bring the system into compliance with the project Operations and Maintenance Manual in accordance with the assurances provided. However, some unacceptable items will require a longer period to correct due to coordination, enforcement, and associated property rights issues related to encroachments; engineering analysis and design for more complex repairs; and permitting for impacts to endangered species. A SWIF will outline a plan for correcting those unacceptable items which will require more than two years to correct. The worst-first approach will optimize flood risk reduction by correcting areas of highest risk first to incrementally reduce overall flood risk. Additionally, as outlined in Section 4 below, RD 70 & 1660 will implement Interim Risk Reduction Measures to reduce risk to the community while the SWIF is being implemented.

### **3.0 Demonstration of Funding Commitments**

In order to address the items listed above, RD 70 & 1660 will need to cover the additional costs associated with correcting these items. Although the majority of the items will simply require re-prioritization of maintenance activities that will not result in additional costs, there will be additional costs associated with staff overtime, additional engineering and consultant time, and outside contracting costs for structural repairs. The estimated cost for the rectification work is \$800,000. This cost estimated is considered an "order of magnitude" estimate which will be refined during development of the SWIF. The SWIF will evaluate potential costs and develop a plan to finance the repairs. The following paragraphs describe potential funding sources to be used.

RD 70 & 1660 have a combined annual 2014 O&M budget of \$548,768, raised by a benefit assessment on properties in the District. This amount reflects a new assessment passed in 2012 following the USACE's inspection. This budget is used annually to address many of the on-going items associated with O&M of the levee system including erosion, bank caving, burrowing animals, visibility, access, and vegetation management. This budget also includes funding for the RD Manager, three full-time staff members, an engineering consultant, outside legal counsel, and part-time labor as needed. This team of RD staff and outside consultants are being tasked to prioritize all unacceptable items identified in the inspection reports with most being addressed through routine maintenance activities. The team will also develop a strategy and worst-first prioritization of encroachment, bank caving and erosion, as well as large vegetation issues that will require longer-term coordination and permitting activities.

In addition to the local funding as described above, RD 70 & 1660 will actively pursue available State grant funding programs including Flood System Repair Projects (FSRP) grants, Flood Emergency Response grants, and will seek broader structural improvement projects through the Central Valley Flood Protection Mid to Upper Sac Regional Planning process. RD 70 & 1660 will also seek funding that comes available through CalEMA and/or FEMA Pre-Disaster Mitigation Programs.

RD 70 & 1660 have identified two locations that could be fixed through the State FSRP. The FSRP provides a cost share to assist LMAs with repair sites that the State deems critical. In RD 70 there is an erosion site in MRD2. In RD 1660 there is a seepage site in TIS2.

Both RD 70 & 1660 are responsible for maintaining drainage through their districts. This also includes pumping water out of the basin. Pumping water out of the districts is the number one expense for both districts. In years where there is little rainfall, drainage costs are substantially less than in wet years. Thus, in years when there is little pumping, RD 70 & 1660 will use monies that were intended for pumping to be spent correcting deficient items.

In the event that additional monies cannot be secured through State and/or Federal grants, the RDs will continue to address deficiencies using the O&M budget, which was recently increased.

### **4.0 Interim Risk Reduction Measures**

RD 70 & 1660 are currently implementing interim risk reduction measures and will prepare an Interim Risk Reduction Measures (IRRM) Plan as a part of the SWIF.

## Reclamation District No. 70 &amp; 1660 SWIF Letter of Intent

The IRRM Plan will include a risk communication plan that addresses the increased risk to life caused by system-wide deficiencies. It will also include measures to identify, monitor, and communicate specific locations where deficiencies exist that have the potential to increase flood risk. Primary communications will occur with appropriate local officials, and will include outreach to landowners and the public, as appropriate. Upon USACE release of the final PI report, RD 70 & 1660 notified their respective governing boards as well as the governing boards for the three water companies which operate in conjunction with RD 70 & 1660. Both RD 70 & 1660 have monthly board meetings; locals are encouraged to attend these meetings where levee safety issues are discussed and members of the public have the opportunity to ask questions, voice concerns, and/or comment. In Fall 2012, RD 70 & 1660 conducted a public workshop to support a new assessment to raise funding for operations and maintenance. During this workshop, the RD presented the findings of the PI. In addition to notification and subsequent discussion of the final PI report with governing boards and the public at the workshop, owners of critical items have also been notified by the RD. The RD has started working with owners to identify remedies for critical items. To increase communication of flood risk, the RDs will post a public announcement at the local post office and/or district headquarters which notifies the public of the levee condition. This posting will be made in February 2016. In addition, the RD will be including a message in its annual assessment notification regarding the status of levee. The IRRMP will also include a combination of emergency response plans, communication and coordination with the property owners and evacuation planners (RD and County), as well as increased monitoring and levee patrols in specific areas of concern. RD 70 & 1660 will also continue close coordination with Sutter County emergency managers to improve communication and evacuation planning and update emergency operations to address areas of increased interim risk. Finally, RD 70 & 1660 are participating members of the Yuba-Sutter Flood Fight Coalition. This group consists of various LMA's in Yuba and Sutter Counties that have partnered to establish regional stockpiles of flood fight materials; coordinated communications between agencies and improvements to communication equipment; application for State grant funding to improve emergency operation and evacuation plans, and coordinate those plans between the agencies; to develop regional contracts with equipment and material suppliers to increase reliability during an emergency; and to provide regional manpower assistance to areas in need in time of emergency. The RD also has access to State resources. DWR, the maintainer for Unit TBP1, has stockpiled supplies that are available to the RDs.

Additionally, RD 70 & 1660 will continue to implement actions to reduce risk while they seek a SWIF, as part of their routine maintenance activities. These actions include a more aggressive animal control program, increased vegetation management, and permitting corrective actions. Since the PIR and initial submittal of this LOI, the following has been accomplished:

RD 70 and 1660 is nearing completion of a new Emergency Operations Plan which details flood preparedness procedures, levee patrol procedures, flood fight procedures, water removal procedures, and recovery procedures. The plan also includes a new flood contingency map.

Since the issuance of the Final PI Report and since submittal of the LMA's LOI to the CVFPB in August 2014, RD 70 & 1660 have performed the following:

*Rodent Abatement* – Using the increased assessment funds, the RDs have improved their annual rodent abatement program primarily through the dedication of a single staff member devoted almost entirely to rodent abatement. The program is implemented annually, spring to fall and includes bait stations, excavation of burrows and holes and fill; and physical removal of rodents. The RD increases survey frequency and intensity in the fall as flood season approaches.

*Encroachment* – Record searches for critical encroachments were conducted to identify those without CVFPB permits, those without USACE concurrence, and those identified in the USACE O&M

## Reclamation District No. 70 & 1660 SWIF Letter of Intent

Manual. Some encroachments, including some not identified in the PIR, have been removed or modified due to levee integrity risk. In addition, annually, during September and October, the District Manager begins communication with landowners that have pumping stations. Landowners are reminded that positive closure devices need to be closed before the flood season. The week before the flood season the district manager and/or staff take inventory of those that have not closed their positive closure devices. The district manager will then call or meet with the landowner to ensure that they close the positive closure device

*Vegetation Control* – The RDs continue its annual grass maintenance including burning. The RD has made significant progress in managing its vegetation through removal and trimming along levee toe embankment.

*Erosion Repairs* – Critical erosion sites identified in the PI Report were repaired in 2012. The RDs are monitoring other erosion sites not identified in PI while they actively pursue State funding for repair (see below).

*Embankment Repairs* – Cracking, cuts, and “boils” identified in PI Report were repaired. Note that the boils were actually rodent holes. RDs continue annual activities including dragging, rutting and crack repairs.

*Access* – RDs continue their annual improvements to their access road including grading and gravel placement.

The most significant interim risk reduction measure for addressing specific critical items is an annual visual monitoring and observation of all active pumps and culverts to identify any that present signs of deficiencies (i.e., leaking, pipe failure). This goal of this is to identify the highest risk critical items, thereby allowing the RD to increase monitoring at these locations and better plan for flood fighting. Encroachment owners are notified of deficiencies. Failure to correct deficiencies are referred to the CVFPB for enforcement. The RDs currently monitor pipes and pumps through their routine patrols and the course of action (i.e., notification, enforcement) is no different; however, this effort will be focused on the critical items USACE identified.

## 5.0 Interagency Collaboration

In order to address the remaining items and develop the SWIF, RD 70 & 1660 will collaborate extensively with other local, State, and Federal agencies. Implementation of the corrective actions will require collaborative planning with some or all of the following:

- USACE for levee standards, design, Section 404 and Section 408 permits, and continuing eligibility inspections.
- CVFPB for real property issues, permitting, compliance, and enforcement of illegal or non-compliant encroachments.
- Federal Emergency Management Agency as a potential mitigation funding partner.
- U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), California Department of Fish & Wildlife (CDFW), and California State Historic Preservation Act (SHPO) for environmental and historical resource consultation.
- California Department of Water Resources (DWR) for funding, levee standards, coordination with State Plan of Flood Control, regional planning, and continuing eligibility inspections.
- Sutter County for emergency operations and response, land use planning, funding and permitting.
- Yuba Sutter Flood Fight Coalition for emergency operations, response and funding.



## Reclamation District No. 70 & 1660 SWIF Letter of Intent

Additionally, as part of the SWIF process, progress on SWIF milestones will be monitored and evaluated by USACE. Routine continuing eligibility inspections of the levee system would continue to be undertaken during SWIF development and implementation. USACE, DWR, CVFPB, and RD 70 & 1660 will coordinate inspections during SWIF development and implementation to ensure milestones are being met.

### **6.0 Anticipated Permit and Consultation Requirements**

RD 70 & 1660 will be performing corrective actions to ensure operational adequacy of the levee system. In general, these corrective actions will consist of routine maintenance activities including mowing, spraying, grazing, burning, baiting, and minor grading operations that would not be anticipated to impact special status species or habitat. For corrective actions that are beyond routine maintenance, including larger grading operations, activities that may impact sensitive species or habitat, or activities that require enforcement actions, the following permits may be required:

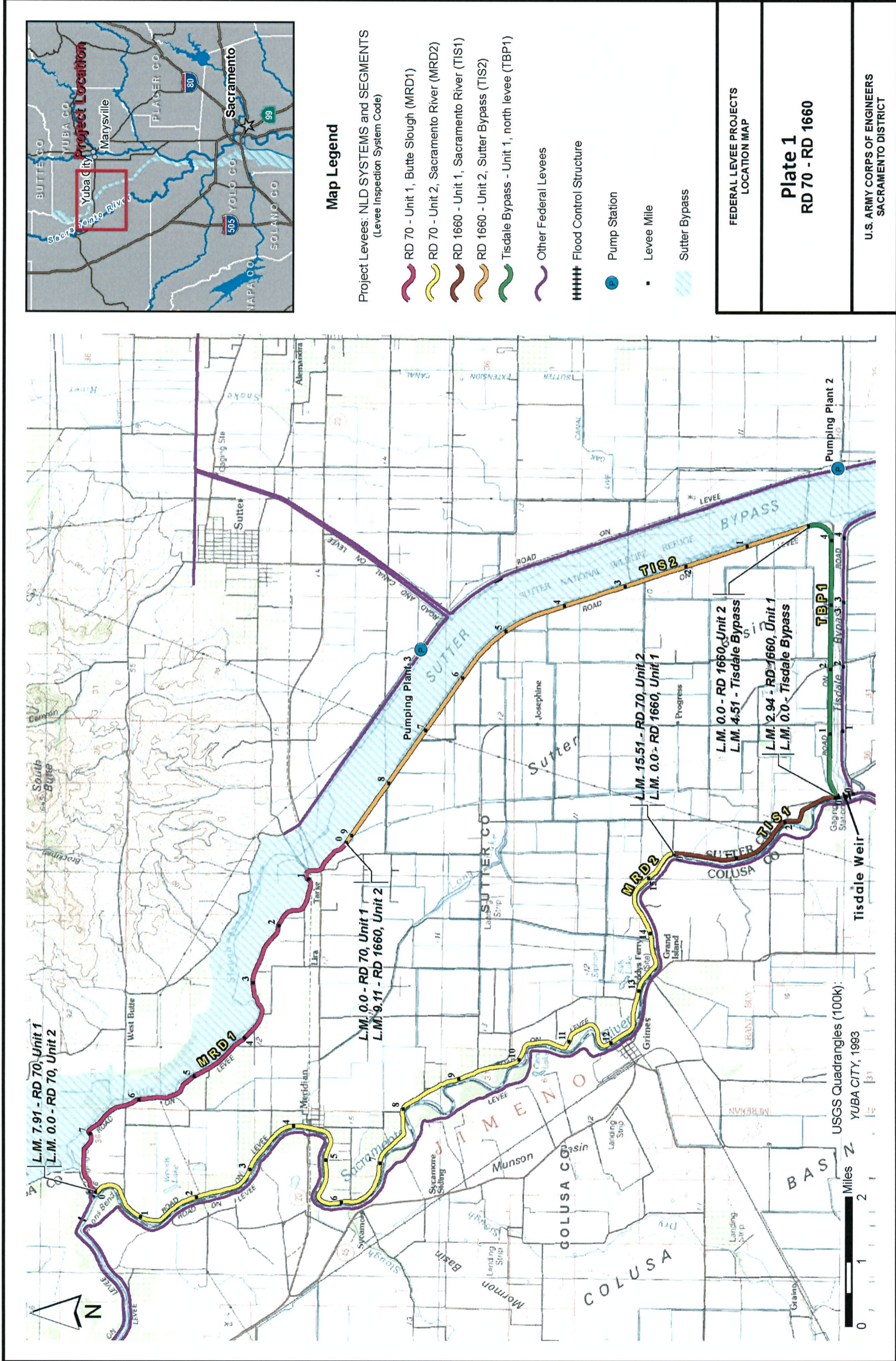
- CVFPB encroachment permits;
- USACE Section 408 permits;
- USACE Section 404 permits;
- NMFS, USFWS, CDFW Endangered Species Act consultation;
- California Section 1600 Streambed Alteration Agreements;
- California Section 401 Water Quality permit;
- California Environmental Quality Act (CEQA) analysis and documentation;
- National Pollution Discharge Elimination System (NPDES) permits; and
- Local grading and drainage permits.

Permitting corrective actions (i.e., encroachments) will include coordination and/or consultation with several State and Federal agencies, including some of those mentioned previously in Section 5.0.

In addition to consultation under fish and wildlife protection authorities and other environmental regulations, encroachment permitting, removal, or modification will require significant consultation between RD 70 & 1660, Sutter Yard, and CVFPB as well as individual encroachment owners and landowners. The CVFPB is responsible for enforcing encroachment permit terms and conditions and has a process in place for such enforcement. It includes research of permit and as-built records, informal coordination with easement- and land-owners, noticing, and potentially public hearings. This process can take a significant amount of time and can become litigious. Further, in some cases, encroachments pre-date the establishment of operations and maintenance regulations and/or are found in project as-builts.

### **7.0 Conclusion**

Given the anticipated scope of necessary work, RD 70&1660 respectfully requests that the SBN levee system retain active status in the P.L. 84-99 Program, while the SWIF is being developed.



**DEPARTMENT OF WATER RESOURCES**

DIVISION OF FLOOD MANAGEMENT  
P.O. BOX 219000  
SACRAMENTO, CA 95821-9000



November 24, 2015

Mr. William Edgar, President  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Suite 151  
Sacramento, California 95821



Dear Mr. Edgar,

The Reclamation Districts 70 and 1660 (RD 70&1660) are preparing to submit a Letter of Intent (LOI) to develop a System-Wide Improvement Framework (SWIF) for the Sutter Basin North Levee System (SBNLS). RD 70&1660 will be leading the LOI effort for the basin. The Department of Water Resources (DWR) operates and maintains the north levee of the Tisdale Bypass, which is a portion of the SBNLS. As a partner maintaining agency within the basin, DWR's Sutter Maintenance Yard will cooperate with and provide support to RD 70&1660 through the LOI process. DWR also intends to work with RD 70&1660, as needed, through the SWIF development effort within the parameters of our maintenance responsibilities and practices, in a manner consistent with the principles and strategies embodied in the Central Valley Flood Protection Plan (CVFPP).

It is important to note that some of the unacceptable issues highlighted by United States Army Corps of Engineers (USACE) periodic inspections are beyond the reasonable scope of responsibility of the local maintaining agency. In order to make steady progress in reducing flood risk for the people and property receiving protection from federal project levees, public entities at the local, State, and federal levels can best serve the public by collaborating on remediation of levee defects that transcend the technical and financial resource capabilities associated with annual maintenance programs. DWR is developing a number of programs to cost share with Local Maintaining Agencies (LMAs) on certain types of repairs which exceed their resource capabilities, as well as a new program to address larger-scale levee repairs and improvements. Regarding the difficult situation with encroachments, we applaud Central Valley Flood Protection Board (CVFPB) for its commitment to reinforce its role in resolving encroachment-related issues such as abandoned pipelines and structures within the easements, including efforts to supplement the CVFPB's authority to carry out encroachment enforcement actions.

The overall goal of resolving levee deficiencies on a systemic level in order to steadily reduce flood hazard and consequence in a risk-prioritized manner over time is a common theme articulated in three key documents: (1) RD 70&1660 LOI; (2) the CVFPP, adopted by CVFPB on June 29, 2012; and (3) USACE's "Policy for Development and Implementation of SWIFs" dated November 29, 2011.

Mr. William Edgar  
November 24, 2015  
Page 2

Accordingly, in order for DWR to participate as a levee maintainer and support LOIs (and associated SWIFs) for levee systems that include State-maintained levees, all proposed actions regarding such levees must be consistent with the CVFPP and its implementation under the State Systemwide Investment Approach. For the north levee of the Tisdale Bypass, DWR will do the following:

- develop a plan for remediation of deficiencies reasonably ascribed to annual maintenance;
- collaborate with local and federal partners in pursuing remediation of deficiencies beyond the reasonable scope of annual maintenance;
- remove and modify unauthorized encroachments consistent with CVFPB enforcement actions and DWR's responsibilities;
- continue to implement animal control measures consistent with the USACE Operations and Maintenance Manual and DWR's Rodent Abatement/Damage Reduction and Rehabilitation Program; and
- manage levee vegetation according to the Levee Vegetation Management Strategy embodied in the CVFPP and associated Conservation Framework, which includes removal of vegetation found to present an unacceptable threat.

In performing these activities, it must be recognized that State levee maintenance (whether performed within state maintenance areas funded by local beneficiaries pursuant to California Water Code (CWC) Section 12878, or performed pursuant to CWC Section 8361 and funded through the State's highly constrained and volatile General Fund), is subject to funding challenges similar to those faced by LMA's.

We look forward to working with the CVFPB, RD 70&1660 and USACE in this important effort to improve the long-term functioning of the Central Valley flood protection system.

Sincerely,

  
Mark List, Acting Chief  
Flood Maintenance Office

cc: Andy Duffey, Manager  
RD 70 & 1660  
PO Box 129  
Meridian, CA 95957

CECW-HS

SUBJECT: Policy for Development and Implementation of System-Wide Improvement Frameworks (SWIFs)

c. Transitioning “Acceptable” or “Minimally Acceptable” Levees. Levees sponsors with levees that are “Active” in the rehabilitation assistance program under an existing vegetation variance or deviation from the standard that want to use the SWIF process to transition to a new vegetation inspection standard through the vegetation variance request process, or that would like to systematically improve the condition of participating levees, may maintain their P.L. 84-99 rehabilitation assistance eligibility as long as they continue to meet the milestones set forth in their applicable SWIF.

d. Reinstating Eligibility While Developing and Implementing a SWIF. Levee sponsors that receive an overall levee system inspection rating of “Unacceptable” or have been “Inactive” in the rehabilitation program may regain eligibility for P.L. 84-99 rehabilitation assistance through the SWIF process. Upon approval by USACE of the letter of intent, requirements described below, the levee sponsor will receive an initial of up to two-year reinstatement of eligibility for P.L. 84-99 rehabilitation assistance. Continued eligibility will be determined annually based on milestones described in the subsequent SWIF. Levee sponsors who have never been eligible for rehabilitation assistance under P.L. 84-99 cannot gain P.L. 84-99 rehabilitation assistance eligibility through the SWIF process.

7. Requirements for Development and Submittal of a SWIF. The development of a SWIF is a two-step process consisting of (1) a Letter of Intent from the sponsor briefly describing levee system deficiencies and justification for how a system-wide approach will optimize flood risk reduction, and (2) development of a SWIF for addressing deficiencies and reducing flood risk. Once a Letter of Intent has been approved by USACE, a levee sponsor has up to two years to develop a SWIF plan. Eligibility after this two-year period will be dependent on the levee sponsor’s progress in achieving the milestones defined in the SWIF. The SWIF plan is intended to be a specific document that guides sponsor activities, including anticipated milestones, but may also be adaptable and should be revised if conditions or needs change during implementation. The requirements for the Letter of Intent and SWIF are described as follows:

a. Requirements for Submitting a Letter of Intent for a SWIF. A Letter of Intent must be signed by all associated levee sponsors for each levee system involved in developing the SWIF and must include the following:

(1) Identification of levee system or systems to be covered by the SWIF, including system name and system identification number as listed in the National Levee Database;

(2) Brief description of deficiencies or issues that will be included in the SWIF and discussion of how a system-wide approach will improve and optimize overall flood risk reduction. This includes identifying any conditions not within the control of the levee sponsor(s) that prevents them from correcting “Unacceptable” inspection items in a timely manner;

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SUBJECT: Policy for Development and Implementation of System-Wide Improvement Frameworks (SWIFs)

(3) Demonstration that significant non-federal resources have been, or will be, committed for developing and/or implementing the SWIF (e.g., state legislative action, bond financing);

(4) Anticipated interim risk reduction measures that will be implemented throughout the SWIF process, including overall risk communication approach that addresses the risk to life increased by system-wide deficiencies;

(5) Brief description of existing or planned interagency collaborative efforts that will contribute positively to SWIF development, implementation and oversight; and

(6) List of anticipated state and federal permits and consultation requirements, needed to implement the SWIF.

b. Requirements for Submittal of a SWIF. SWIFs are developed and implemented by levee sponsor(s), reviewed and accepted by USACE, and monitored by a USACE district to address system-wide issues in a prioritized way to optimize system-wide risk reduction. As a minimum for acceptance by USACE, the levee sponsor's SWIF must include the following:

(1) Identification of levee system or systems covered by the system-wide improvement framework, including system name and identification number as listed in the National Levee Database;

(2) Description of proposed levee improvement and justification on how the SWIF optimizes flood risk reduction;

(3) A plan and schedule for interagency collaboration, including environmental and/or Tribal consultation if applicable, in the implementation of the SWIF;

(4) Documentation of specific agreements, such as project specific agreements, between levee sponsors and USACE or other agencies/organizations related to implementation of levee modifications, under Section 408 or other overlapping USACE policies and studies, applicable to the levee systems identified in the system-wide improvement framework;

(5) Documentation of any regional considerations, approaches, and tools to be used during implementation of the system-wide improvement framework;

(6) Description of interim maintenance standards that will be implemented during the SWIF to mitigate conditions of uncorrected "Unacceptable" inspection items;

CECW-HS

SUBJECT: Policy for Development and Implementation of System-Wide Improvement Frameworks (SWIFs)

(7) IRRM plan, including a risk communication plan that addresses the risk to life increased by system-wide deficiencies;

(8) Schedules and milestones that will be used to monitor progress and to determine continued eligibility for P.L. 84-99 rehabilitation assistance while the SWIF is being implemented; and

(9) For those levee systems shown as accredited on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map that are part of the SWIF, demonstration that FEMA has been informed that these levee systems with "Unacceptable" inspection items are being addressed in a system-wide improvement framework. Please note that an extension of eligibility for rehabilitation assistance through the SWIF process by USACE does not constitute an extension of accreditation for FEMA purposes. FEMA determines how a SWIF may or may not impact accreditation.

8. Approval Process. The approval authority for reinstating eligibility for rehabilitation assistance under P.L. 84-99 via a Letter of Intent, and for acceptance of a SWIF is the Director of Contingency Operations and Homeland Security (DCO/HS) under USACE. District Commanders shall evaluate the levee sponsors' request for an extension, based on the criteria outlined in this memorandum. If the District recommends approval of an eligibility reinstatement, the District Commander shall forward this recommendation to the Division Commander for concurrence. The Division Commander will review the request and, if in concurrence, will endorse the recommendation and submit the request to the DCO/HS through the Regional Integration Team. The District and MSC Commanders shall coordinate these requests with their Levee Safety Officers for technical input. Eligibility reinstatement will not be implemented until the request is approved by DCO/HS. District Commanders are also responsible for monitoring levee sponsor milestones in implementing SWIFs, conducting reviews for eligibility extensions following initial reinstatement, submitting an accepted SWIF to the local FEMA regional office, and providing approval recommendations through the approval process described herein.

9. Progress Reporting and Continued P.L. 84-99 Eligibility. Once a Letter of Intent has been approved through the process in paragraph 8, a levee sponsor(s) has up to two years of reinstated rehabilitation assistance eligibility under P.L. 84-99 to develop a system-wide improvement framework. The District Commander shall review the levee sponsor's progress for development of the SWIF after the first year and, if deemed not satisfactory, the District Commander may recommend to the DCO/HS that the levee sponsor no longer be eligible for P.L. 84-99 rehabilitation assistance. Eligibility after the two-year period for SWIF development will then be dependent on the levee sponsor's progress in achieving the milestones defined in the SWIF. Continued P.L. 84-99 rehabilitation assistance eligibility during the implementation of the SWIF