LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY IN SUPPORT OF THE INTERIM FEASIBILITY REPORT

REAL ESTATE PLAN APPENDIX C

REVISED 8 December 2017

PREPARED
BY THE
SACRAMENTO DISTRICT
REAL ESTATE DIVISION
SOUTH PACIFIC DIVISION

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1. STATEMENT OF PURPOSE

This Real Estate Plan (REP) presents the real estate requirements and costs for the Interim Feasibility Report for the Lower San Joaquin River Study. The REP is prepared in accordance with ER 405-1-12, Section 12-16. The purpose and scope of the REP is to identify the real estate costs for the Feasibility Report's Recommended Plan (Alternative 7a), hereafter called "the Recommended Plan."

2. PROJECT AUTHORITY

The general authority for flood control investigations in the San Joaquin River Basin arises under the Flood Control Act of 1936 (Public Law [PL] 74-738), Sections 2 and 6, as amended by the Flood Control Act of 1938 (PL 75-761). The Flood Control Act of 1936, Section 6 explicitly permits further reports to be authorized by congressional resolutions. Further studies of this river system were directed in the 8 May 1964 resolution adopted by the Committee on Public Works of the House of Representatives. The resolution reads:

"Resolved by the Committee on Public Works of the House of Representatives, United States, that the Board of Engineers for Rivers and Harbors is hereby requested to review the reports on the Sacramento-San Joaquin Basin Streams, California, published in House Document No. 367, 81st Congress, 1st session, and other reports, with a view to determine whether any modifications to the recommendations contained therein are advisable at this time, with particular reference to further coordinated development of the water resources in the San Joaquin River Basin, California."

The Lower San Joaquin River Feasibility Study (hereafter called the "LSJRFS") is being accomplished in accordance with the Section 905(b) Analysis (Water Resources Development Act (WRDA) 1986) dated 23 September 2004. The Section 905(b) Analysis was approved by the SPD Commander on 10 June 2005. The Section 905(b) Analysis was prepared with funds identified in House Report 108-357 (Conference Report to accompany H.R. 2745 for the Energy and Water Development Appropriations Act of 2004) for use under the Sacramento-San Joaquin River Basins Comprehensive Study for a reconnaissance study to evaluate environmental restoration, flood protection, and related purposes for the Lower San Joaquin River. House Report 105-190, which accompanied the Energy and Water Development Appropriations Act of 1998 (PL 105-62), authorized the Sacramento and San Joaquin River Basins Comprehensive Study (Comprehensive Study).

The Section 905(b) Analysis determined that there was Federal interest in pursuing feasibility level investigations for potential flood risk reduction and ecosystem restoration projects in the Lower San Joaquin River area. The LSJRFS has been focused on flood risk reduction through additional scoping and coordination with the non-Federal sponsors, resource agencies and local stakeholders.

The LSJRFS will only partially address the Sacramento – San Joaquin Basin Streams, California Comprehensive Study authority. Therefore, the LSJRFS will be called an "Interim Feasibility Report," which indicates that the study is addressing the flood risk issues of a specific area within the authority, rather than the entire area authorized for study.

3. PROJECT DESCRIPTION

Levees in the LSJRFS project area require improvements to address seepage, slope stability, overtopping, and erosion concerns. The Recommended Plan is composed of different structural measures, or building blocks, to address these problems. The Recommended Plan includes the following measures: (1) 22.4 miles of seepage cutoff walls; (2) 3.2 miles of geometric improvements consisting of levee slope and crown reshaping to meet Federal standards; (3) 3.5 miles of levee height raises mainly to reestablish the design levee height; (4) 0.5 miles of flood walls/sheet pile walls; (5) 0.75 miles of new levee, and (6) 5 miles of new erosion protection (a majority of the new protection would be on the landside only; any existing erosion protection disturbed by construction would be repaired or replaced). These features overlap one another and cannot be totaled to describe the total length of the project. The approximate length of horizontal flood features (including closure structures) is approximately 23.9 miles.

The project footprint for the Recommended Plan includes: the portion of the San Joaquin River between French Camp Slough and the railroad bridge 14 miles below the Stockton Deep Water Shipping Channel (hereafter the "Stockton DWSC"); French Camp Slough from El Dorado Street to the San Joaquin River; the Calaveras River from North El Dorado Street to the San Joaquin River; portions of the Stockton DWSC between Smith Canal and Fourteen Mile Slough; the west side of Fourteen Mile Slough, Tensile Slough, and Five Mile Slough to Mosher Slough; and the south side of Mosher Slough .41 miles beyond N. Eldorado Street up to the railroad tracks.

These levee improvement measures would be implemented primarily by fixing levees in place. In addition to levee improvements, the Recommended Plan includes two in-water closure structures at Fourteen Mile Slough and Smith Canal. Figure 1 identifies where each measure would be required. Once a levee is modified, regardless of the measure implemented, the levee would meet the Corps' levee design criteria. Table 1 is a summary of the structural measures of the Recommended Plan.

Figure 1 – Lower San Joaquin Feasibility Study

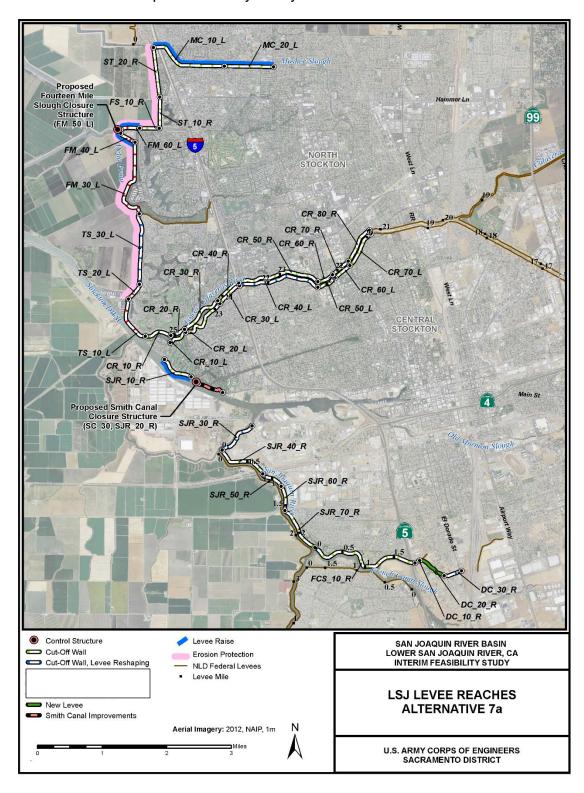


Table 1 – Structural Measures of the Recommended Plan

	NORTH STOCKTON				
Reach	Vicinity	Measure			
Mosher Slough	Thornton Road to UPRR Railroad Tracks	Cutoff Wall			
Mosher Slough	Shima Tract to Thornton Road	Cutoff Wall; Levee Height Fix			
Shima Tract and	Mosher Slough to Five mile Slough	Cutoff Wall; Erosion Protection			
Five mile Slough		(Landside)			
Shima Tract and	Shima Tract to Fourteen mile Slough	Cutoff Wall; Erosion Protection			
Five mile Slough		(Landside)			
Fourteen mile	Five mile Slough to Proposed Closure	Cutoff Wall; Levee Height Fix;			
Slough	Structure	Erosion Protection (Landside)			
Fourteen mile	Approximately 1,500 feet west of Five	Closure Structure			
Slough	mile Slough				
Fourteen mile	Approximately 1,250 feet southeast	Cutoff Wall; Levee Height Fix;			
Slough	setback out from proposed closure	Erosion Protection (Landside)			
J	structure	,			
Fourteen mile	From setback cut south to Tensile	Cutoff Wall; Slope Reshaping;			
Slough	Slough	Erosion Protection (Landward)			
Tensile Slough	Fourteen mile Slough to March Lane	Cutoff Wall; Slope Reshaping;			
J		Erosion Protection (Waterside)			
Tensile Slough	March Lane to West March	Seismic Fix; Slope Reshaping;			
J	Lane/Buckley Cove Way	Erosion Protection (Waterside)			
Tensile	West March Lane/Buckley Cove Way to	Seismic Fix; Slope Reshaping			
Slough/Buckley	Calaveras River				
Cove Marina/San					
Joaquin River					
Calaveras River –	San Joaquin River to North El Dorado	Cutoff Wall			
Right/North Bank	Street				
	CENTRAL STOCKTON				
Reach	Vicinity	Measure			
Calaveras River –	San Joaquin River to approximately I-5	Cutoff Wall			
Left/South Bank					
Calaveras River -	Approximately I-5 to approximately North	Cutoff Wall; Slope Reshaping			
Left/South Bank	Pershing Avenue				
Calaveras River –	Approximately North Pershing Avenue to	Cutoff Wall			
Left/South Bank	approximately El Dorado Street				
San Joaquin River	From approximately 2,100 feet upstream	Cutoff Wall; Levee Height Fix			
-	of the Calaveras River to the proposed	(Sea Level Rise)			
	Smith Canal Closure Structure				
Smith Canal	At the mouth of the canal between	Closure Structure			
	Brown's Island and Dad's Point				
Smith Canal	Dad's Point from the Closure Structure	Floodwall			
	to approximately 375 feet down Monte				
	Diablo Avenue	1			

Reach	Vicinity	Measure
San Joaquin River	Railroad bridge just upstream of the Port	Cutoff Wall; Slope Reshaping
	of Stockton to Burns Cutoff	
San Joaquin River	Burns Cutoff to French Camp Slough	Cutoff Wall
French Camp	French Camp Slough confluence with	Cutoff Wall
Slough	the San Joaquin River to approximately	
Right/North Bank	500 feet southwest of I-51	
Duck Creek	500 feet past I-5 cross to approximately	New Levee
	Odell Avenue	
Duck Creek	Approximately Odell Avenue to McKinley	Cutoff Wall; Levee Reshaping;
	Avenue	Levee Height Fix

4. DESCRIPTION OF LANDS, EASEMENTS, RIGHTS-OF-WAY, RELOCATIONS AND DISPOSALS

The Lands, Easements, Rights-of-Way, Relocations and Disposal (LERRD) requirements of the Recommended Plan are estimated to cost \$189,101,000. The Recommended Plan will impact an estimated 368.51 acres across 460 parcels (See Table 2, below).

Mitigation Rights -

In the Delta Front Reach of the Recommended Plan 14.00 acres have been identified for acquisition in fee simple to provide necessary on-site planting mitigation. No other mitigation acreage has yet been identified on cadastral maps.

For planning purposes the project's potential adverse effect on jurisdictional wetlands and other habitats requiring mitigation would be compensated by the purchase of mitigation credits from authorized mitigation banks at an estimated cost of *\$48,569,000. The cost of credits purchased from mitigation banks is not defined as a real estate cost and therefore is not included in the REP.

*[This number was provided by Planning and Cost Engineering. Real Estate Division makes no representation that \$48,569,000 is an accurate estimate of probable project mitigation costs.]

<u>Permanent Flood Protection Levee Easements</u> –Approximately 194.07 acres of levee easements are needed for construction of new levees, levee raises, levee seismic remediation, construction of cutoff walls and levee reshaping. These easements must reserve the right to construct, maintain, repair, operate and patrol the respective flood protection features. The estimated area needed for project easements includes all lands from landside toe to waterside toe of existing and proposed project levees.

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<u>Permanent Roadway Easements</u> - Approximately 35.94 acres of permanent roadway easements are needed for access roads at the landside toe and waterside toe of existing and proposed levees. These easements are needed for O&M activities and inspections.

<u>Permanent Channel Improvement Easements</u> – Approximately 2.12 acres of channel improvement easements are needed to maintain a canal at the proposed Fourteen Mile Slough Closure Structure within the Delta Front reach.

Temporary Work Area Easements for Borrow Areas – Up to 1.4 million cubic yards of borrow material and 138 acres of borrow lands could be needed to construct the project. Borrow material estimates are explained in Appendix B – Engineering Summary, Section 2.9.6. Potential locations for borrow material were identified by the San Joaquin Area Flood Control Agency, a project sponsor. The potential borrow material sites have not been field tested. The borrow areas are not yet identified on cadastral maps. Typically projects constructed by the Sacramento District utilize commercial borrow sites near the project area. Tentative borrow sites have been identified, however once the project is authorized, borrow requirements, identification and evaluation of potential borrow locations will be reevaluated during PED. Whether sufficient borrow material may be found within a reasonable distance, at reasonable cost, and without unacceptably adverse environmental effects, has not yet been analyzed.

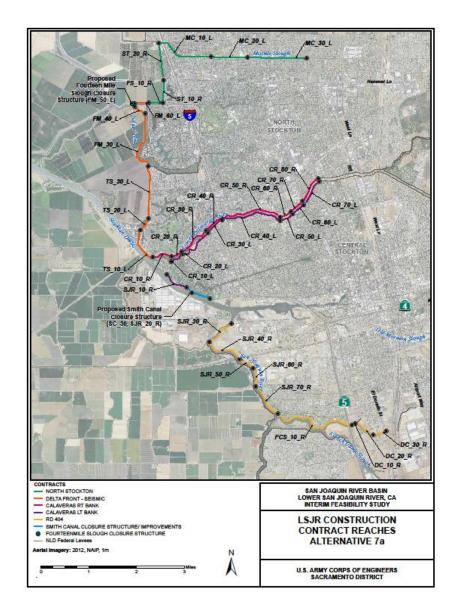
Staging and Access Easements – For planning purposes staging areas for project construction are presumed to be located within levee rights-of-way. The project sponsors hold sufficient interest in existing rights-of-way to support temporary access and staging requirements. Staging areas for construction of the closure structures on Fourteen Mile Slough and the Smith Canal would be immediately adjacent to the levees on either side of the closure structures. The staging and access areas are not yet identified on cadastral maps. Project improvement and construction work will impact approximately 23.9 linear miles of levees. The rule of thumb that a project contractor requires one acre of staging ground for each mile of levee improvement work equates to an estimated need for temporary rights-of-way for access and staging over approximately 23.9 acres at sites adjacent to the project footprint. An estimate of the cost for obtaining 23.9 acres of Standard Temporary Work Area Easements is included in the Recommended Plan Cost Summary. If the project is authorized, temporary work area location identifications will be completed during PED.

Table 2 is a summary of the parcels, estates and acreage required for the Recommended Plan with an associated location map at Figure 2 – Lower San Joaquin Feasibility Study

Table 2 - Recommended Plan Lands, Easements and Rights-of-Way

North Stockton Reach	Parcels	Estate	Acres
	227	Flood Protection Levee Easement	34.69
		Roadway Easement	8.99
Delta Front Reach	Parcels	Estate	Acres
	56	Flood Protection Levee Easement	45.17
		Roadway Easement	22.97
		Channel Improvement Easement	2.12
		Fee	14.00
Fourteen Mile Slough Closure Structure Reach	Parcels	Estate	Acres
Closure Otractare Neach	1	Flood Protection Levee Easement	0.29
	г	F	т
Calaveras Right Bank Reach	Parcels	Estate	Acres
	108	Flood Protection Levee Easement	29.19
Calaveras Left Bank	Parcel s	Estate	Acres
Reach	Faiceis	Estate	Acies
	109	Flood Protection Levee Easement	40.96
		Roadway Easement	1.53
Smith Canal Closure	Parcels	Estate	Acres
Structure Reach			
	2	Flood Protection Levee Easement	1.51
DD 404 Dana!	Dan1:	Fatata	A
RD 404 Reach	Parcels	Estate	Acres
	27	Flood Protection Levee Easement	41.72
		Roadway Easement	2.45
All Reaches Temporary S	taging Are	eas	
			23.9

Figure 2 – Lower San Joaquin Feasibility Study Recommended Plan Reaches.



5. LERRDS OWNED BY THE NON-FEDERAL SPONSOR (NFS) AND CREDITING

The Sacramento and San Joaquin Drainage District, acting by and through the Central Valley Flood Protection Board of the State of California, and the San Joaquin Area Flood Control Agency, the non-Federal sponsors, hold 128.33 acres of access and flood protection levee easements in the Recommended Plan footprint. These easements will be made available for the project.

On March 20, 2015 the non-Federal Sponsors were notified in writing of the risks of acquiring right-of-way interests prior to execution of a Project Partnership Agreement

and prior to issuance of a notice to proceed with real estate acquisition. A copy of the letter is attached at Exhibit A.

6. ESTATES

The non-Federal sponsors will acquire the minimum interests in real estate necessary to support the construction and subsequent operation and maintenance of the Recommended Plan. The following standard estates are identified and defined for the project:

Fee Simple Title

Fee simple title to project lands, subject to existing easements for public roads and highways, public utilities, railroads and pipelines.

Channel Improvement Easement

A perpetual and assignable right and easement to construct, operate, and maintain channel improvement works on, over and across the lands described therein, including the right to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, buildings, improvements and/or other obstructions therefrom; to excavate; dredge, cut away, and remove any and all of said land and to place thereon dredge or spoil material; and for such other purposes as may be required in connection with said work improvement; reserving, however, to the owners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Flood Protection Levee Easement

A perpetual and assignable right and easement in the lands described therein to construct, maintain, repair, operate, patrol and replace a flood protection levee, including all appurtenances thereto; reserving, however, to the owners, their heirs and assigns, all such rights and privileges in the land as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Permanent Road Easement

A perpetual and assignable easement and right-of-way in, on, over and across the lands described therein for the location, construction, operation, maintenance, alternation and replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; (reserving, however, to the owners, their heirs and assigns, the right to cross over or under the right-of-way as access to their adjoining land at the locations indicated in the lands described therein, subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Temporary Work Area Easement

A temporary easement and right-of-way in, on, over and across the lands described therein, for a period not to exceed 2 years after the execution of the construction contract, beginning with the date possession of the land is granted to the United States or the Non-Federal Sponsor, for use by the United States and the Non-Federal Sponsor, its representatives, agents, and contractors as a (borrow area) (work area), including the right to (borrow and/or deposit fill, spoil and waste material thereon) (move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the Lower San Joaquin River Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Construction and Maintenance Cooperative Agreement (Non-Standard Estate)

A portion of the proposed project will occur on property under the jurisdiction of the U.S. Department of Transportation Federal Highway Administration and controlled by the State of California Department of Transportation (Caltrans) in the North Stockton Levees Reach, consisting of approximately 0.36 acres for flood protection levees and maintenance roads. According to California law, whenever there is an exchange of effort between Caltrans and a public entity regarding construction of an improvement on the State Highway System, a cooperative agreement is required. The cooperative agreement to be acquired by the non-federal sponsor will require approval from headquarters (HQUSACE) during the Planning, Engineering and Design Phase of the project.

7. DESCRIPTION OF ANY EXISTING FEDERAL PROJECTS IN OR PARTIALLY IN THE PROPOSED PROJECT'S FOOTPRINT

The Recommended Plan partially lies within the lands, easements and rights-of-way of the existing Lower San Joaquin River and Tributaries Project. The existing flood control project was authorized by the Flood Control Act of 1944 and construction was initiated in 1956. The degree of overlap between existing Federal project levees and the footprint of the Recommended Plan has not yet been calculated.

The sponsors will not receive credit for lands, easements or rights-of-way that were previously provided as an item of cooperation for the Lower San Joaquin River and Tributaries Project. Approximately 128.33 acres of previously credited permanent rights-of-way partially lie within the Recommended Plan, leaving an additional 240.18 acres for which real property rights must be acquired.

8. DESCRIPTION OF ANY FEDERALLY-OWNED LAND NEEDED FOR THE PROJECT

Approximately 0.36 acres of one parcel of land owned by the U.S. Department of Transportation in the North Stockton Levees Reach would be needed for construction of a project cutoff wall, based on the conceptual design.

9. APPLICATION OF THE NAVIGATION SERVITUDE TO THE LERRDS REQUIREMENT

The navigation servitude is the dominant right of the Government under the Commerce Clause of the U.S. Constitution to use, control and regulate the navigable waters of the United States and submerged lands thereunder.

The revetment measure will be constructed from the landside of the levee. The project does not require lands, easements or rights-of-way within any navigable watercourses. Therefore, the federal navigation servitude will not be invoked for this project.

10. PROJECT MAP

The Recommended Plan Cadastral Map and Track Register are attached at Exhibit C.

11. NO INCREASED FLOODING ANTICIPATED

Induced flooding is defined as any ancillary increase in the depth, duration or frequency of area flooding caused by a project's modifications to existing structures or construction of new structures. Hydrological studies were undertaken to estimate the potential of the modified and new structures of the Recommended Plan to induce additional flooding. Results showed that in no project reaches would implementation of the Recommended Plan induce additional flooding over the "no action alternative."

12. COST ESTIMATE

The following baseline cost estimate, set forth in Table 4, below, reflects the total costs to acquire the LERRDs needed to build the Recommended Plan. The date of the approved cost estimate was January 2016. The estimate includes costs for LERRD acquisitions as well as for administrative costs and potential condemnation and relocation costs. Displaced persons and businesses may be entitled to relocation assistance benefits (as required by Public Law 91-646, Title II as amended, the "Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970").

Table 4 – Recommended Plan Cost Summary

Lower San Joaquin Feasibility Study Red Plan Cost Summary	LERRDs Include a 35% Contingency Factor				
01 ACCOUNT - LERRDs (NON-FEDERAL	_)				
Non-Federal Real Estate Administrative Co		\$25,620,000			
parcels)	•				
P.L. 91-646 Payment Assistance Relocation	าร	\$29,154,000			
Subtotal:		\$54,774,000			
		,			
Non-Federal Lands/Damages					
North Stockton Reach		\$627,351			
Delta Front Reach		\$3,563,170			
Fourteen Mile Slough Closure Structure		\$6,821			
Reach					
Calaveras Right Bank Reach		\$1,174,252			
Calaveras Left Bank Reach		\$3,792,906			
Smith Canal Closure Structure Reach		\$244,475			
RD 404 Reach		\$1,183,322			
All Reaches Temporary Staging Areas		\$4,612,300			
Subtotal (Non-Fed Lands and Damages):		\$15,204,597			
Non-Fed Lands and Damages/Admin/91-646:		\$69,978,597			
Federal Real Estate Administrative Costs:		\$10,675,000			
Non-Federal/Federal 01 Account Costs:		\$80,653,597			
	ROUNDED	\$80,654,000			
02 ACCOUNT – RELOCATIONS					
*Utility/Facility Relocation Costs:		\$78,585,000			
Contingency 38%		\$29,862,000			
otal 02 Account Costs:		\$108,447,000			
TOTAL LERRDS COSTS (01 AND 02 ACCOUNTS)	(ROUNDED)	\$189,101,000			

^{*}Note – The Total Project Cost Summary displayed in the Cost Engineering Appendix will include Accounts 30 and 31 for all relocations and construction items combined.

13. RELOCATION ASSISTANCE BENEFITS

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646) may require payment of relocation assistance benefits to businesses or residents which are forced by the Project to vacate their property either temporarily or permanently. Payments to residents may include reimbursement of costs for storage of

household goods, moving costs, lodging, incidentals, differential payments, etc. Businesses could be entitled to receive advisory services, reimbursement for actual reasonable moving costs, re-establishment costs and certain reasonable and necessary incidental costs associated with their relocation.

A preliminary estimate of potential PL 91-646 displacements was prepared by the Sacramento District Real Estate and Engineering Divisions. The impacts and estimates relating to potential displacements, and the anticipated need to provide relocation assistance benefits, are provided for project cost estimating purposes only and are not intended to be relied upon for provision of benefits and/or payment of the estimates referenced herein. Should the project be authorized, a relocation plan will be provided by the non-Federal Sponsor. Table 5 is the Recommended Plan Uniform Relocation Assistance Summary.

Table 5 – Recommended Plan Uniform Relocation Assistance Summary (PL 91-646)

Reach	Number of Structures	Relocation Assistance Payments
North Stockton Reach	113	\$29,154,000
Total:		\$29,154,000

14. MINERAL/TIMBER ACTIVITY/WATER RIGHTS

No timber harvesting or mineral extraction operations are currently active along the San Joaquin River and tributaries levees in the project area. No water rights are expected to be needed in support of the Recommended Plan and project construction and operation should have no impact on known water rights within the project footprint.

15. NON-FEDERAL SPONSOR'S ABILITY TO ACQUIRE

The San Joaquin Area Flood Control Agency and the Sacramento and San Joaquin Drainage District, acting by and through the Central Valley Flood Protection Board of the State of California, will be required to serve as the Non-Federal Sponsors (NFS) for project construction and operation, maintenance, repair, rehabilitation and replacement responsibilities if this project is authorized. Each sponsor has legal authority to acquire and hold title to real property for the project under State of California Water Code Section 8590. The sponsors also have the power of eminent domain and "quick-take" authority that may be used for this project.

16. ZONING ANTICIPATED IN LIEU OF ACQUISITION

No application or enactment of zoning ordinances in lieu of, or to facilitate, acquisitions for this project is presently anticipated.

17. ACQUISITION SCHEDULE

For the purposes of this study, an annual appropriation of 100 million dollars (federal) was targeted along with the Non-Federal Sponsor's schedule for acquiring rights-of-way. The Recommended Plan would be constructed in seven reaches over a 15 1/2-year period, with project scheduling dependent upon federal appropriations. Table 6 sets forth the Recommended Plan Real Estate Acquisition Schedule.

Table 6 – Recommended Plan Real Estate Acquisition Schedule

REAL ESTATE ACQUISITION SCHEDULE				
Project Name: Lower San		COE		
Joaquin River Flood Reduction COE Start		COE Finish	NFS Start	NFS Finish
Project		FILISH		
Receipt of Preliminary Drawings	2017	2021		
from Engineering	2017	2021		
Receipt of Final Drawings from	2040	2023		
Engineering	2019			
Formal Transmittal of Final				
Drawings and Instruction to	2019	2023	2019	2023
Acquire LEERDS				
Construction Contracts:				
Calaveras Left Bank Levees	2020	2020		
Smith Canal Closure Structure	2020	2020		
RD 404 Levees	2019	2019		
Calaveras Right Bank Levees	2021	2021		
Delta Front Levees	2022	2022		
Fourteen Mile Closure Structure	2022	2022		
North Stockton Levees	2023	2023		
Conduct Landowner Meetings			2019	2029
Prepare/Review Mapping &			2019	2029
Legal Descriptions				
Obtain/Review Title Evidence			2019	2029
Obtain/Review Tract Appraisals			2019	2029
Conduct Negotiations			2019	2029
Condemnation			2019	2029
Prepare/Review			2019	2029
Condemnations				
Perform Condemnations			2019	2029
Obtain Possession			2019	2029
Complete/Review PL 91-646			2019	2029
Benefit Assistance			2013	2023
Certify All Necessary LERRDS			2019	2029
for Construction			2013	2023

Prepare and Submit Credit Requests			2019	2029
Review/Approve or Deny Credit Requests	2020	2029		
Establish Value for Creditable LERRDS	2020	2029		

18. DESCRIPTION OF FACILITY AND UTILITY RELOCATIONS

On January 10, 2013, the Corps issued Real Estate Policy Guidance Letter No. 31--Real Estate Support to Civil Works Planning Paradigm (3x3x3) ("PGL No. 31") establishing additional Corps policy guidance for feasibility-level real estate efforts directed at identifying, defining and estimating the costs of utility/facility relocations for planning and budgeting purposes. In qualifying instances, a real estate assessment, in lieu of an attorney's preliminary opinion of compensability, may be prepared and utilized for such purposes (although a final attorney's opinion of compensability will be required for specified relocations prior to execution of the Project Partnership Agreement between the Corps and the non-Federal sponsors.).

The Utility/Facility Inventory table and cost estimates discussed herein and available in Exhibit D set forth the following information: identification of the utilities/facilities within the project area anticipated to be impacted by the construction, operation and maintenance of the project and thus require "relocation" (as defined in applicable law and regulations); the District's preliminary efforts to identify owners with compensable interests in the impacted utilities/facilities and their eligibility for the provision of a substitute or replacement facility under applicable law and regulations; and identification of the non-Federal sponsors' performance and cost responsibilities in connection with the identified relocations for this cost-shared project.

Consistent with requirements of PGL No. 31, the preparation of a real estate assessment is appropriate for this feasibility study because the estimated total cost to modify all project utility/facility relocations identified in the Utility/Facility Inventory (including the value of any additional lands that may be required to perform the relocations) for the Recommended Plan do not exceed 30 percent of estimated total project costs. Here, total project costs are estimated at \$1.1 billion dollars and the utility relocations are estimated at \$108,447,000, which is below the 30% threshold.

The real estate assessment discussed herein, and presented in Exhibit D, is based upon the following assumptions to assist in analyzing and determining compensability for study planning and budgeting purposes:

(1) If an impacted utility/facility is likely operated under a permit that has been issued to the utility/facility owner by the underlying property owner, and the terms of the permit include conditional language stating the utility/facility owner must relocate the

impacted utility/facility at its own expense at request of the underlying fee or easement owner, the relocation is categorized as a non-compensable relocation, the costs of which are borne by the utility/facility owner and/or the non-Federal sponsor, and are not included in the total project cost estimate.

(2) If the owner of the impacted utility/facility likely has an easement or real property interest in the underlying land, and the utility/facility so impacted appears to meet the criteria for the provision of a substitute and/or replacement facility under the substitute facilities doctrine, the relocation is categorized as a compensable relocation, the costs of which are borne by the non-Federal sponsor and included in the total project cost estimate.

Final Attorney's Opinions of Compensability will be completed during the PED Phase and prior to the execution of the Project Partnership Agreement, as well as prior to issuance of any notice to proceed to obtain lands and perform relocations by the non-Federal sponsors.

Various utilities/facilities are located within the project boundaries and must be relocated to allow for project construction. These utilities/facilities consist of electrical distribution and service facilities, telephone communication lines, irrigation facilities, roadways, water delivery facilities and natural gas pipelines. A summary of their assessment of compensability, referencing the data set forth in the Relocation Inventory Table, is as follows:

The following utilities/facilities appear to be non-compensable relocations:

North Stockton Reach Items – 50, 54-56; Delta Front Reach Items – 40-42; Calaveras Right Bank Reach Items – 2, 5, 7, 9-10, 14, 16-17, 23, 26, 34; Calaveras Left Bank Reach Items – 1-9, 11-12, 18-20, 24, 26, 29-41, 43, 46; RD 404 Reach Items – 52, 56, 58-61, 71, 73-75, 77, 80, 84-85, 89-90, 92, 95, 98

The following utilities/facilities appear to qualify as compensable relocations:

North Stockton Reach Items – 46-49, 51-53, 57 (gas main), 58; Delta Front Reach Items – 35-36, 37 (petroleum pipeline), 38-39, 43-45; Calaveras Right Bank Reach Items – 3, 6 (gas lines), 15 (power poles), 19-21, 24, 27-28, 30-33; Calaveras Left Bank Reach Items – 10, 16-17, 21-23, 25, 27-28, 47; RD 404 Reach Items – 48-51, 53-55, 57, 62-70, 72, 76, 78-79, 81-83, 88, 91, 93, 94

The following utilities/facilities may or may not be compensable. Information is not available to make a preliminary assessment as to whether the utilities/facilities are compensable relocations. The submission of additional data and further analysis is required:

Calaveras Right Bank Reach Items – 18 (sewer line through levee no data); Calaveras Left Bank Reach Items – 45 (domestic gas line through levee to residence on waterward side); RD 404 Reach Items – 87 (telephone conduit through levee), 96-97 (power poles)

Table 7 – Code of Accounts 02 Utility/Facility for the Recommended Plan

Reach	Cost
North Stockton Reach	\$4,961,000
Delta Front Reach	\$7,984,000
Calaveras Right Bank Reach	\$17,980,000
Calaveras Left Bank Reach	\$2,837,000
RD 404 Reach	\$27,831,000
30 & 31 PED	\$16,992,000
Subtotal:	\$78,585,000
Contingency (38%)	\$29,862,000
*Total:	\$108,447,000

^{*}Note: Construction Management Costs and PED costs for all construction items are displayed in the MII Cost Engineering Appendix. The Utility Facility Inventory table and costs discussed herein are available in Exhibit D.

ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REAL ESTATE PLAN (AND THE FEASIBILITY REPORT) THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION TO BE PERFORMED BY THE NON-FEDERAL SPONSOR AS PART OF ITS LERRD RESPONSIBILITIES AND/OR IS OTHERWISE COMPENSABLE OR NON-COMPENSABLE IS PRELIMINARY AND FOR DISCUSSION PURPOSES ONLY. THE GOVERNMENT WILL MAKE A FINAL DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE PROJECT AFTER FURTHER ANALYSIS AND COMPLETION AND APPROVAL OF THE FINAL ATTORNEY'S OPINIONS OF COMPENSABILITY FOR EACH OF THE IMPACTED UTILITIES AND FACILITIES DURING FINAL DESIGNS.

19. HAZARDOUS, TOXIC AND RADIOLOGICAL WASTE IMPACTS

A Phase I Environmental Site Assessment conducted within the study area identified seven hazardous waste sites variously located between 250 feet and 900 feet from the centerline of the nearest project levee section. The likelihood that soil contamination may be encountered during excavation for project construction was judged "low" in the vicinity of 5 of the 7 sites, "medium" at one of the sites, and "possible" at one site. See Table 8, below.

Costs for removal and disposal of any contaminated soil must be paid by the project's non-Federal sponsors. But the Phase I Environmental Site Assessment found

no evidence of HTRW conditions that could delay the project's schedule for acquisition of real property rights. A map of identified HTRW sites is provided at Appendix A – Environmental, Section A-12, Chapter A-12-1, Section 4, Figure 3a. HTRW contaminated soil removal is explained in Appendix B – Engineering Summary, Section 2.12.

Table 8 - Hazardous Waste Sites Summary

Site	Possible Contaminant	Distance to Levee (ft)	Potential for Levee Clean- up
Brea Ag Service 1905 N. Broadway	Pesticide, fertilizer, groundwater contamination	~ 250-ft	Possible
Colon Property 5681 E. Marsh Rd.	Junkyard, possible lead in soil	~ 350-ft	Medium
Beacon Property #27 3300 Waterloo Rd.	Gasoline contamination	~ 650-ft	Low
Fisco Warehouse 1648 Shaw Rd.	Diesel contamination	~ 900-ft	Low
Don's Buggy Shop 3245 Wilson Way, N	Gasoline contamination	~ 800-ft	Low
Certified Grocers of California 1990 Piccoli St., N	Diesel contamination	~ 900-ft	Low
PG&E (Case #2) 4040 West Ln., N	Gasoline contamination	~ 900-ft	Low

20. ATTITUDE OF LANDOWNERS

The project has received wide-spread support from the community; however, the attitudes of the landowners who will be directly affected by its construction are not known. The Non-Federal Sponsors are confident that they will be able to acquire the rights-of-way required for the project.

21. CULTURAL RESOURCE ISSUES

The Recommended Plan has the potential to adversely affect cultural resources during placement of cutoff walls, seepage berms, deep soil mixing, levee raises and closure structures. The records and literature search, reconnaissance survey, and the regional history of the area have identified at least 30 previously recorded cultural resources and the likelihood of additional unknown historic properties within the study

area. In particular the prehistoric overview and previously recorded prehistoric sites suggests a high probability that multiple prehistoric villages on the San Joaquin River and tributaries would be affected. The likelihood is also high for discovery of additional historic-era structures and features within the project. It is likely that historic properties will be adversely affected by the Recommended Plan. Effects to cultural resources under the Recommended Plan would be significant and unavoidable.

22. ASSESSMENT OF NON-FEDERAL SPONSOR'S REAL ESTATE ACQUISITION CAPABILITY

Project: LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY

Sponsors: San Joaquin Area Flood Control Agency

Sacramento and San Joaquin Drainage District acting by and through the

Central Valley Flood Protection Board of the State of California

I. Legal Authority:

a. Does the sponsor have legal authority to acquire and hold title to real property for project purposes? YES

Please cite the authority: STATE OF CALIFORNIA WATER CODE SECTION 8590

- b. Does the sponsor have the power of eminent domain for this project? YES
- c. Does the sponsor have "quick-take" authorities for this project? YES
- d. Are any of the lands/interests in land required for the project located outside the sponsor's political boundary? NO
- e. Are any of the lands or interests in land required for the project owned by an entity whose property the sponsor cannot condemn? NO
- II. Human Resource Requirements:
- a. Will the sponsor's in-house staff require training to become familiar with the real estate requirements of Federal projects including P.L. 91-646, as amended? NO
- b. If the answer to II.a. is "yes," has a reasonable plan been developed to provide such training? N/A
- c. Does the sponsor's in-house staff have sufficient real estate acquisition experience to meet its responsibilities for the project? YES

- d. Is the sponsor's project in-house staffing level sufficient considering its other workload, if any, and the project schedule? YES
- e. Can the sponsor obtain contractor support, if required, in a timely fashion? YES
- f. Will the sponsor likely request U.S. Army Corps of Engineers (USACE) assistance in acquiring real estate? NO
- III. Other Project Variables:
- a. Will the sponsor's staff be located within reasonable proximity to the project site? YES
- b. Has the sponsor approved the project real estate schedule/milestones? YES
- IV. Overall Assessment:
- a. Has the sponsor performed satisfactorily on other USAGE projects? YES
- b. With regard to this project, the sponsor is anticipated to be: The State of California, Central Valley Flood Protection Board
- V. Coordination:
- a. Has this assessment been coordinated with the sponsor? YES
- b. Does the sponsor concur with this assessment? YES

Prepared by:

Elizabeth A. Yoyin

Realty Specialist

Acquisition and Management Branch

Reviewed and Approved by:

Diane M. Simpson

Chief, Real Estate Division

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY REAL ESTATE PLAN

EXHIBIT A



DEPARTMENT OF THE ARMY

U.S. ARMY ENGINEER DISTRICT, SACRAMENTO CORPS OF ENGINEERS 1325 J STREET SACRAMENTO CALIFORNIA 95814-2922

March 20, 2015

Acquisition and Management Branch

Central Valley Flood Protection Board Executive Officer 3310 El Camino Avenue, Room LL40 Sacramento, CA 95821

San Joaquin Area Flood Control Agency Executive Director 22 East Weber Avenue, Room 301 Stockton, CA 95202-2317

To Whom It May Concern:

Our purpose for writing is to caution the Central Valley Flood Protection Board and San Joaquin Area Flood Control Agency, the non-Federal partners to the Lower San Joaquin River Feasibility Project, that there are many risks associated with the acquisition of lands prior to project authorization, execution of a Project Partnership Agreement and Federal Government giving formal notice to proceed with land acquisitions.

The U.S. Army Corps of Engineers must caution and advise that there are many risks associated with right-of-way acquisition under such circumstances and that, as the non-Federal partners, your agencies assume full and sole responsibility for any and all costs, or liability arising out of the acquisition effort. Generally, these risks include, but may not be limited to the following:

- a. The Congress of the United States may not appropriate funds to construct the proposed project.
- b. A Project Partnership Agreement (PPA) mutually agreeable to the Central Valley Flood Protection Board (CVFPB) and San Joaquin Area Flood Control Agency (SJAFCA) and the Federal Government may not be executed and implemented.
- c. The CVFPB and SJAFCA may incur liability and expense by virtue of its ownership of contaminated lands, or interests therein, whether such liability should arise out of local, state, or Federal laws or regulations including liability arising out of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42, U.S.C. 9601-9675.

- d. The CVFPB and SJAFCA may acquire interests or estates in real property that are later determined by the Federal Government to be inappropriate, insufficient, or otherwise not required for the project.
- e. The CVFPB and SJAFCA may initially acquire insufficient or excessive real property acreage which may result in additional negotiations, payment of Public Law 91-646 (as amended) benefits, or payments of fair market value to affected landowners which could have been avoided by delaying acquisition until after PPA execution and the said formal notice by the Corps to commence acquisition of land and right of way.
- f. The CVFPB and SJAFCA may incur costs or expenses in connection with its decision to acquire or perform acquisition activities in advance of the Project Authorization, an executed PPA, and the Government's notice to proceed which may not be creditable under the provisions of Public Law 99-662, The Water Resources Development Act of 1986.

Should you have any questions regarding project real estate matters, please contact Ms. Elizabeth Youn of our staff at (916) 557-7013. For questions concerning project execution and partnership agreements, please contact Ms. Joana Savinon, Project Manager, at (916) 557-7098.

Sincerely,

ORIGINAL SIGNED

Stan J. Wallin Chief, Real Estate Division

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY REAL ESTATE PLAN

EXHIBIT B



DEPARTMENT OF THE ARMY U.S. ARMY CORPS OF ENGINEERS 441 G STREET NW WASHINGTON, D.C. 20314-1000

REPLY TO ATTENTION OF:

CEMP-CR

JAN 1 0 2013

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Real Estate Policy Guidance Letter No. 31-Real Estate Support to Civil Works Planning Paradigm (3x3x3)

1. References.

- a. Memorandum, CECW-CP, 8 February 2012, Subject: U.S. Army Corps of Engineers Civil Works Feasibility Study Program Execution and Delivery
- b. ER 5-1-11, USACE Business Process, 1 November 2006
- c. EC 405-1-04, Appraisal, 30 Dec 2003
- d. ER 1105-2-100, Planning Guidance Notebook, 22 Apr 2000
- e. ER 405-1-12, Chapter 12, Real Estate Roles and Responsibilities for Civil Works, Cost Shared and Full Federal Projects, Change 31, 1 May 1998
- 2. <u>Purpose</u>. In accordance with reference a, this memorandum provides interim policy and guidance for real estate efforts associated with feasibility studies under the new Planning Paradigm, "SMART Planning," and the 3x3x3 rule. In accordance with the 3x3x3 rule, all feasibility studies should be completed within three years, at a cost of no more than \$3 million, utilize three levels of vertical team coordination, and be of a "reasonable" report size.
- 3. <u>Background</u>. Real Estate has been fully engaged in the implementation of the 3x3x3 by actively participating in each webinar, the planning modernization workshop, and serving as part of the HQ Transition Team. In accordance with references b-e, Real Estate involvement is essential to the development and implementation of any pre-authorization project. Paragraph 12-16 of reference e. outlines the significant topics that must be covered in a real estate plan (REP). The level of detail necessary to apply the requirements of real estate policy and guidance will vary depending on the scope and complexity of each project.

As outlined in Chapter 12, the minimum interests in real property necessary to support various types of projects must be identified. As projects are scoped at the beginning of the feasibility phase (via a Charette or other forum), it is essential that Real Estate become familiar with the project authority and purposes to make a determination of the minimum interests and estate(s), both standard and non-standard, necessary as projects are scoped and alternatives evaluated. If a

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SUBJECT: Real Estate Policy Guidance Letter No. 31-Real Estate Support to Civil Works Planning Paradigm (3x3x3)

non-standard estate will be needed, this should be discussed with MSC and HQ Real Estate as early as possible to ensure that the justification is sound and will serve the project purpose.

4. <u>Policy</u>. Typically, the attorney's preliminary opinion of compensability and gross appraisals are two areas that require more detail than may be readily available during the start of the feasibility phase, and are critical to determination of accurate estimates for real estate and total project costs. Due to the focus on 3 years or less for study duration, it will be essential for Real Estate to be adaptable and scale its requirements, decision making, and risk management in proportion to the significance of total project costs.

a. Gross Appraisals:

Specific to gross appraisals, EC 405-1-04 provides that cost estimates are utilized for preliminary planning of projects and in other cases, brief gross appraisals are acceptable. For purposes of the feasibility phase, the detail will vary as outlined below.

- (1) For projects in which the value of real estate (lands, improvements, and severance damages) are not expected to exceed ten percent of total project costs (total cost to implement project), a cost estimate (or rough order of magnitude) will be acceptable for purposes of the feasibility phase.
- (2) For projects in which the value of real estate (lands, improvements, and severance damages) do not exceed 30 percent of total project costs (total cost to implement project), a brief gross appraisal will be acceptable for purposes of the feasibility phase. A brief gross appraisal will follow format issued by Chief Appraiser.
- (3) For projects in which the value of real estate (lands, improvements, and severance damages) exceed 30 percent of total project costs (total cost to implement project), a full gross appraisal will be prepared in accordance with the appraisal regulation and guidance provided by EC 405-1-04 and the Chief Appraiser.

b. Attorney's Opinion of Compensability:

As described in paragraph 12-17 of Chapter 12, utility/facility relocations may require preliminary attorney's opinions of compensability. While the practice of obtaining preliminary attorney's opinions of compensability provides a high degree of certainty with regard to project costs during the feasibility phase, such opinions can be time consuming and may provide more certainty than may be optimal for feasibility purposes when potential utility/facility relocation costs do not constitute a large percentage of total project costs. In support of the goals set out in the new planning paradigm described in reference a., Districts shall adhere to the following guidance:

SUBJECT: Real Estate Policy Guidance Letter No. 31-Real Estate Support to Civil Works Planning Paradigm (3x3x3)

- (1) Where the estimated total cost to modify all project utility facility relocations, including the value of any additional lands that may be required to perform the relocations does not exceed 30 percent of estimated total project costs, the District Office of Real Estate shall, in lieu of an attorney s opinion of compensability prepare a real estate assessment. Such a real estate assessment, will address the following questions:
 - (a) Is the identified utility facility generally of the type eligible for compensation under the substitute facilities doctrine (e.g., school, highway, bridge, water and sewer systems, parks, etc.)
 - (b) Does the District have some valid data or evidence that demonstrates that it has identified an owner with a compensable interest in the property

If the answer to both questions is yes, then the District Office of Real Estate shall reflect the cost of providing a substitute facility in the Real Estate Plan (REP) and all other feasibility study cost estimates. If the answer to either or both questions is no, the District shall not reflect the cost of a substitute facility in the REP or other feasibility study cost estimates. However, the REP narrative should still include a discussion on the facility with results of analysis and project impact. For cost shared projects, the non-federal sponsor must be advised that the inclusion of substitute facilities costs in the REP or other use feasibility study estimates is for planning and budgeting purposes only and does not constitute a preliminary or final determination of compensability by the agency regardless of whether the cost of substitute facilities are reflected in the feasibility study documents. Using a real estate assessment does not eliminate the need to obtain a final attorney s opinion of compensability prior to execution of the PPA.

(2) Where the estimated total cost to modify all project facility relocations, including the value of any additional lands that may be required to perform the relocations, has public or political significance or the costs exceed 30 percent of estimated total project costs, a preliminary opinion of compensability shall be prepared for each owner s facilities. The level of documentation for each relocation item should be based on the significance of the relocation item to project formulation and estimated project costs.

Real Estate products, such as the REP, must be adaptable and scaled based on the project scope. Additionally, Real Estate must utilize the risk register to highlight areas where cost, schedule or uncertainty is greater in order to manage risk. Going forward, the Real Estate Division will continue to work closely with the Planning and Policy Division, Engineering and Construction Division, the Programs Integration Division and the National Law Firm on the Planning SmartGuide. This SmartGuide will provide more on procedures, tips, techniques and tools for

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SUBJECT: Real Estate Policy Guidance Letter No. 31-Real Estate Support to Civil Works Planning Paradigm (3x3x3)

specific types of planning projects to aid in implementation of the new Planning Paradigm. All bulletins and updates on the SmartGuide can be found at: http://planning.usace.army.mil/toolbox/.

5. <u>Duration</u>. The policies stated herein will remain in effect until amended or rescinded by Policy Memorandums, Policy Guidance Letters, Engineers Circulars or Engineer Regulations.

FOR THE COMMANDER:

SCOTT L. WHITEFORD DIRECTOR OF REAL ESTATE

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DISTRIBUTION:

COMMANDER,

GREAT LAKES AND OHIO RIVER DIVISION (CELRD-PDS-R)

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SOUTH PACIFIC DIVISION (CESPD-ET-R)

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CF:

COMMANDER.

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HUNTINGTON DISTRICT (CELRH-RE)

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MEMPHIS DISTRICT (CEMVM-RE)

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ROCK ISLAND DISTRICT (CEMVR-RE)

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ST. PAUL DISTRICT (CEMVP-RE)

VICKSBURG DISTRICT (CEMVK-RE)

BALTIMORE DISTRICT (CENAB-RE)

NEW ENGLAND DISTRICT (CENAE-RE)

NEW YORK DISTRICT (CENAN-RE)

NORFOLK DISTRICT (CENAO-RE)

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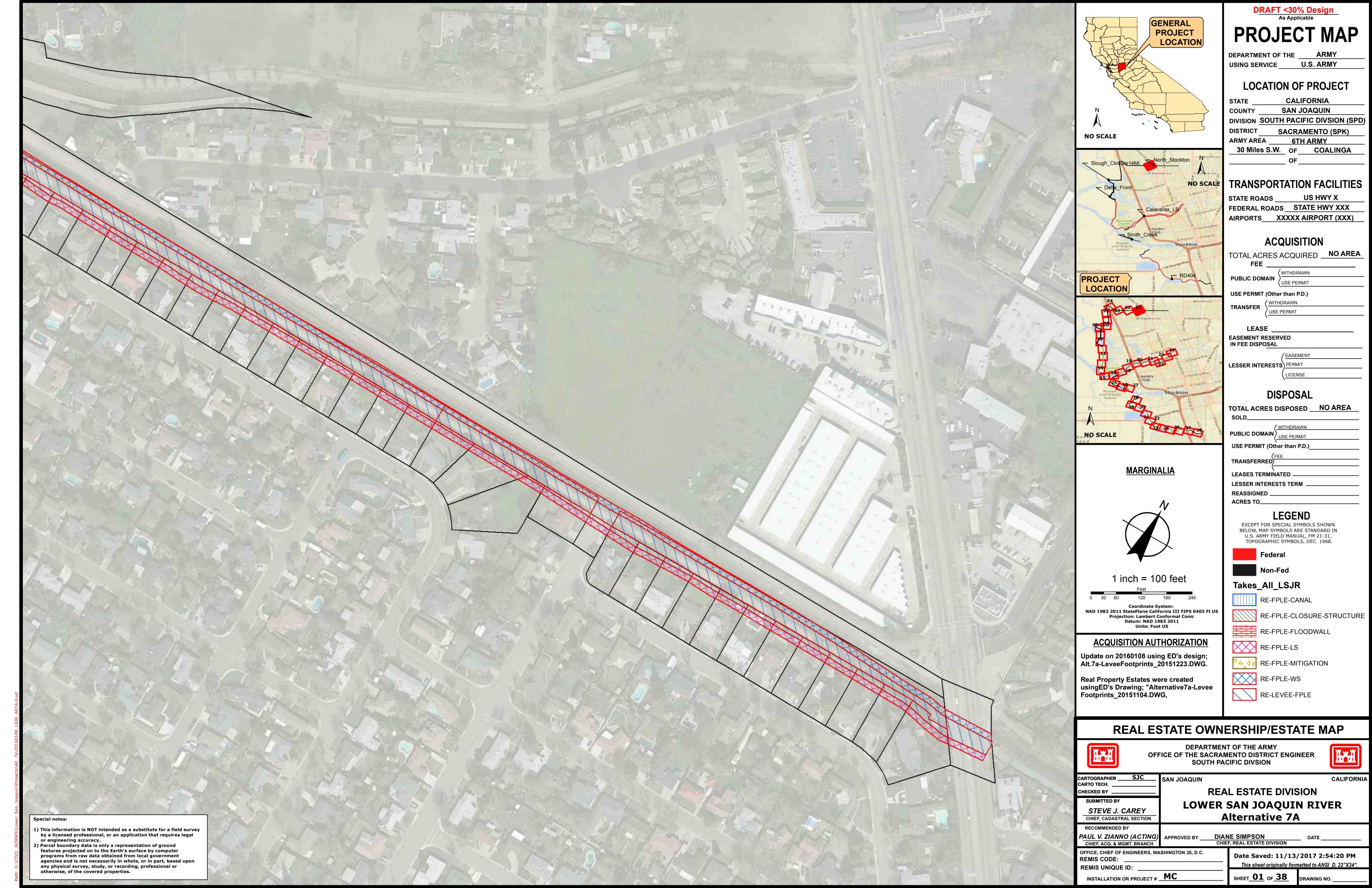
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SUBJECT: Real Estate Policy Guidance Letter No. 31-Real Estate Support to Civil Works Planning Paradigm (3x3x3)

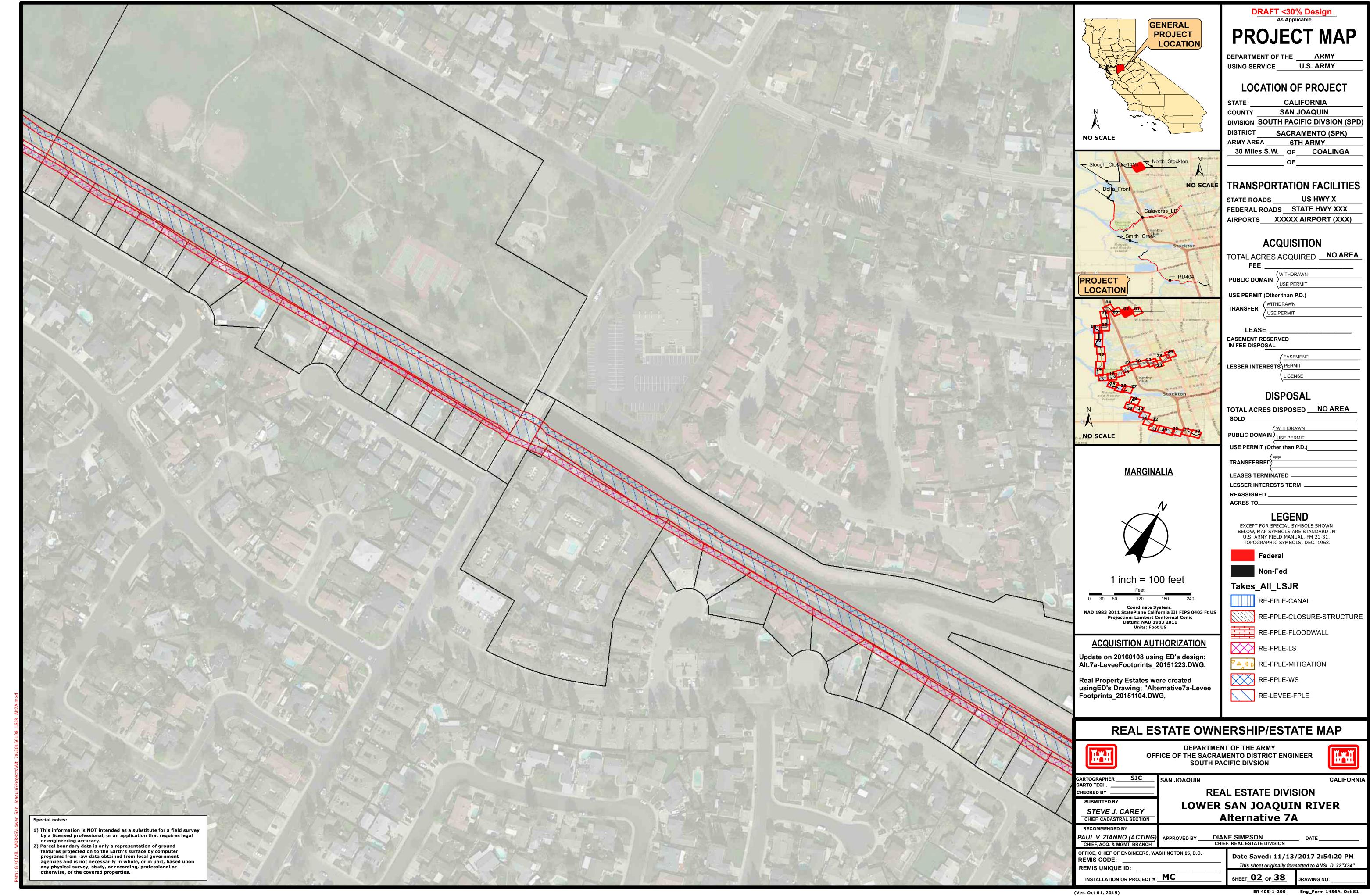
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LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY REAL ESTATE PLAN

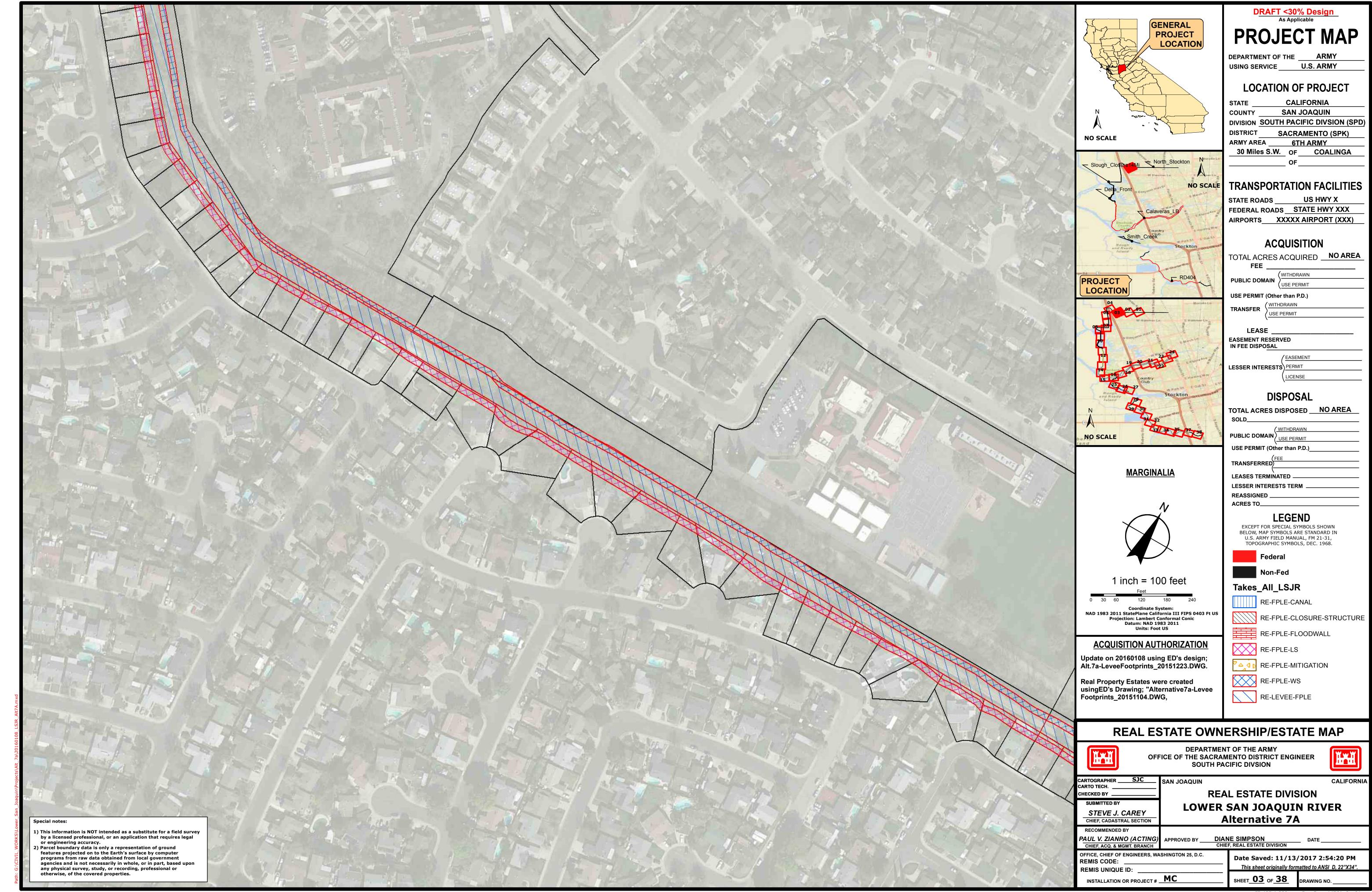
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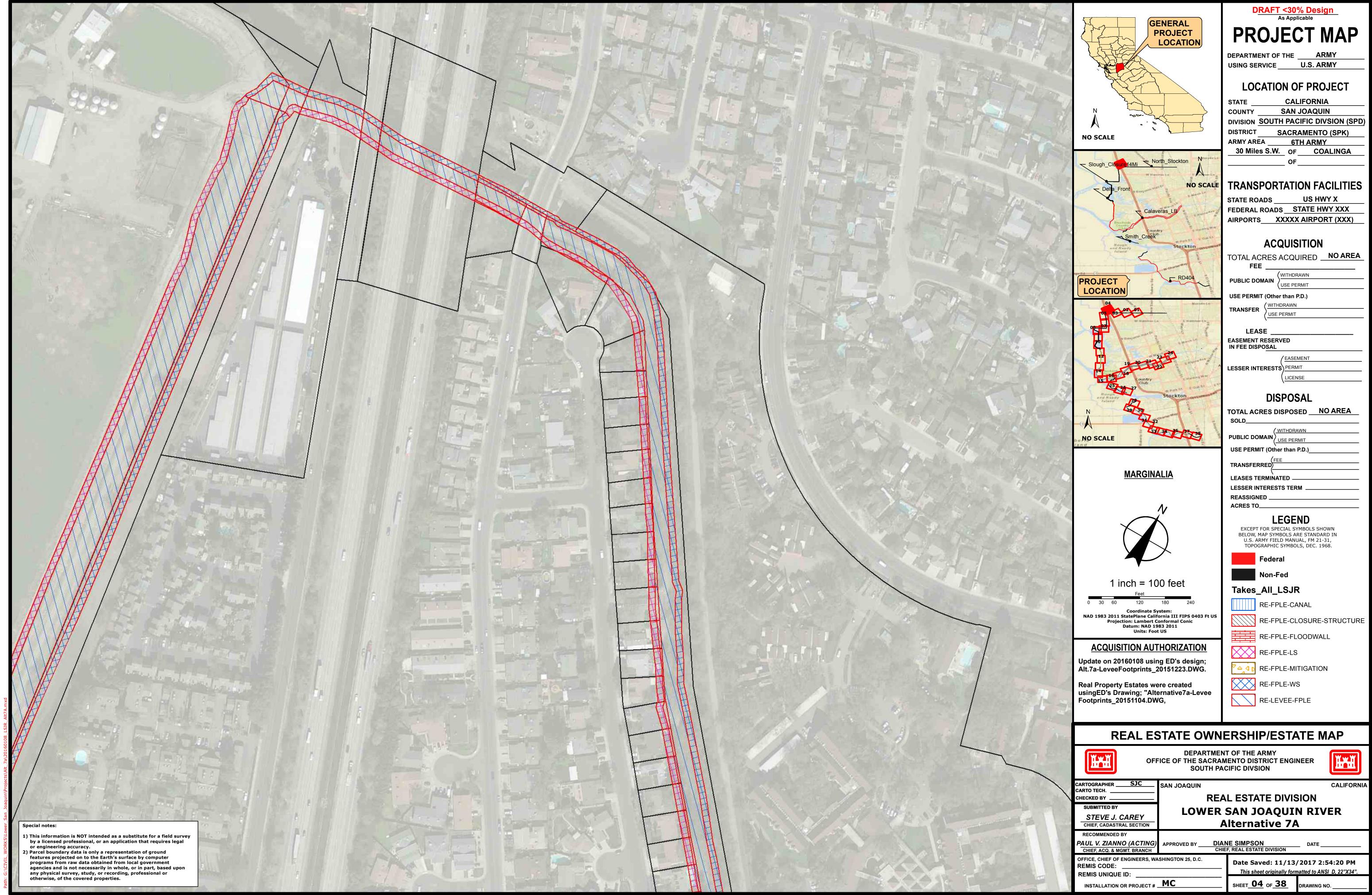
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(Ver. Oct 01, 2015)

or engineering accuracy.

2) Parcel boundary data is only a representation of ground features projected on to the Earth's surface by computer programs from raw data obtained from local government

any physical survey, study, or recording, professional or otherwise, of the covered properties.

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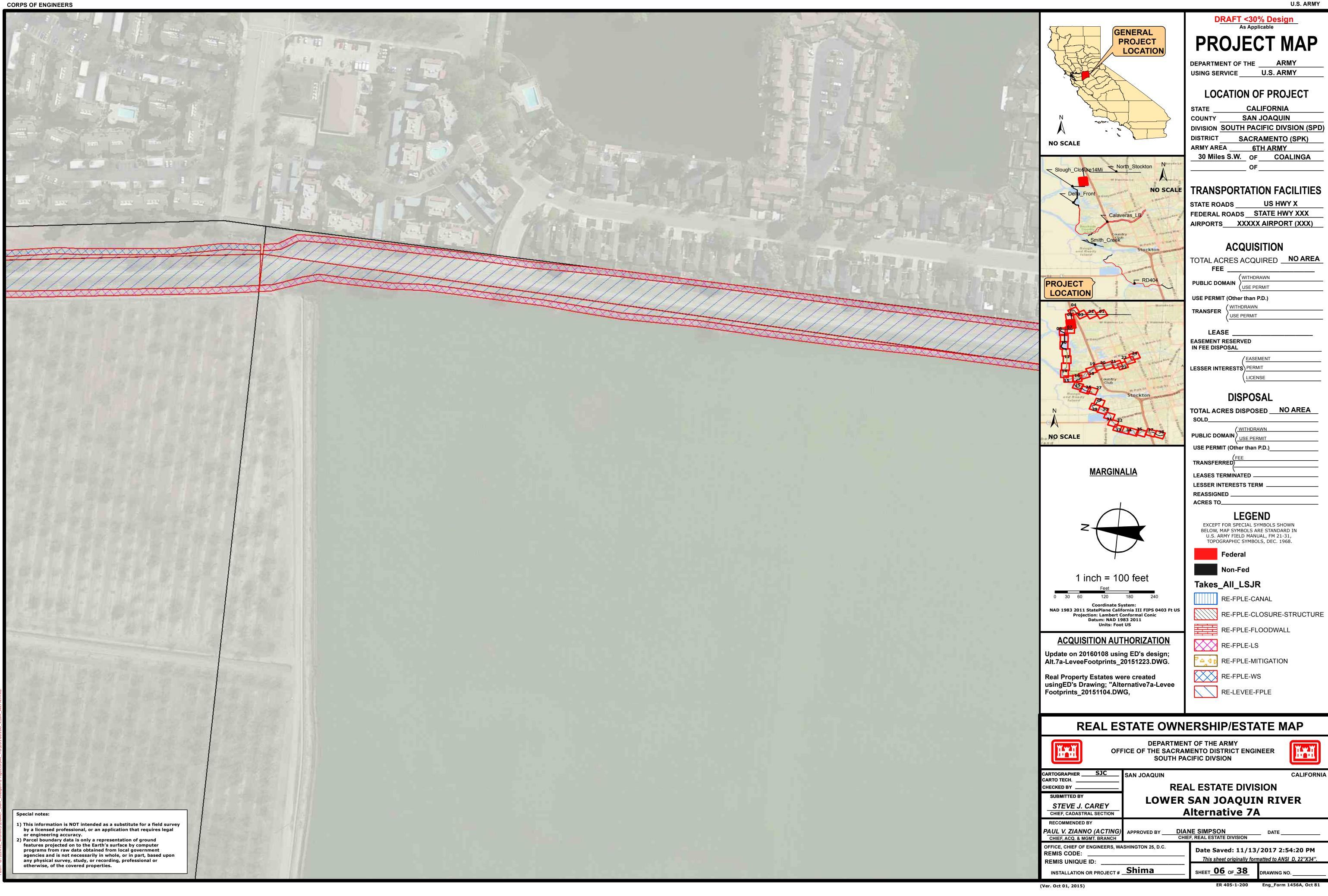
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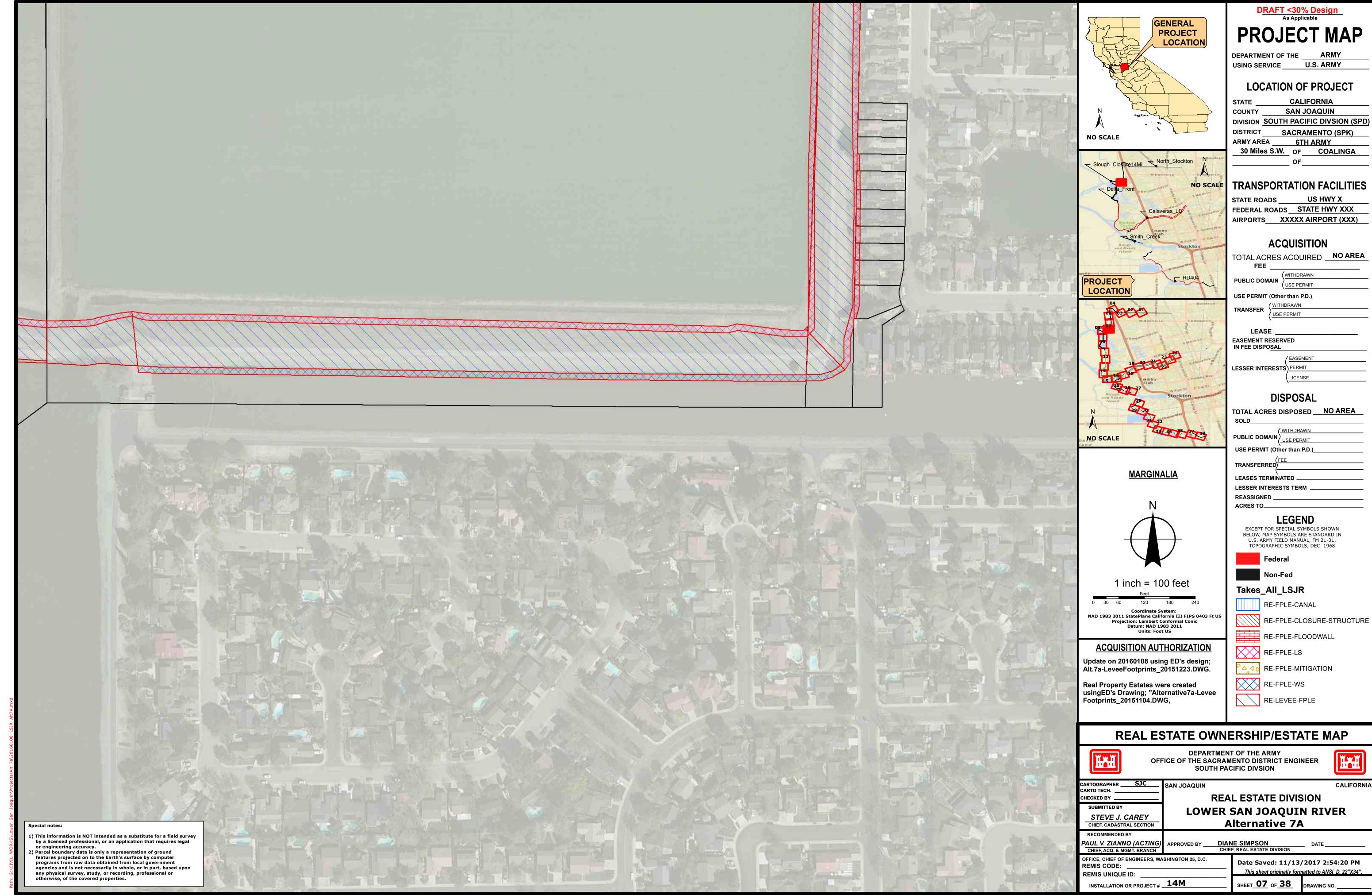
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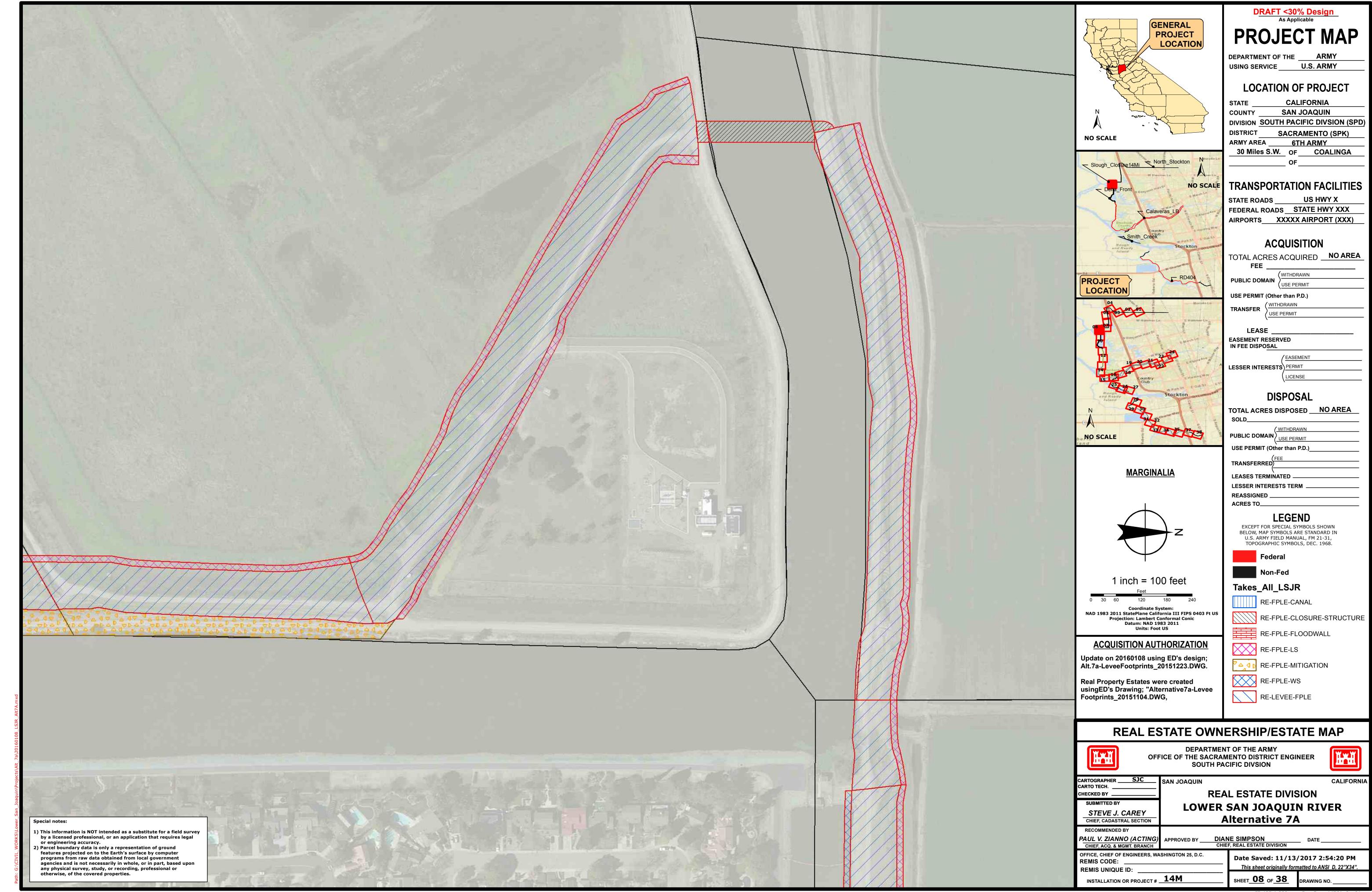
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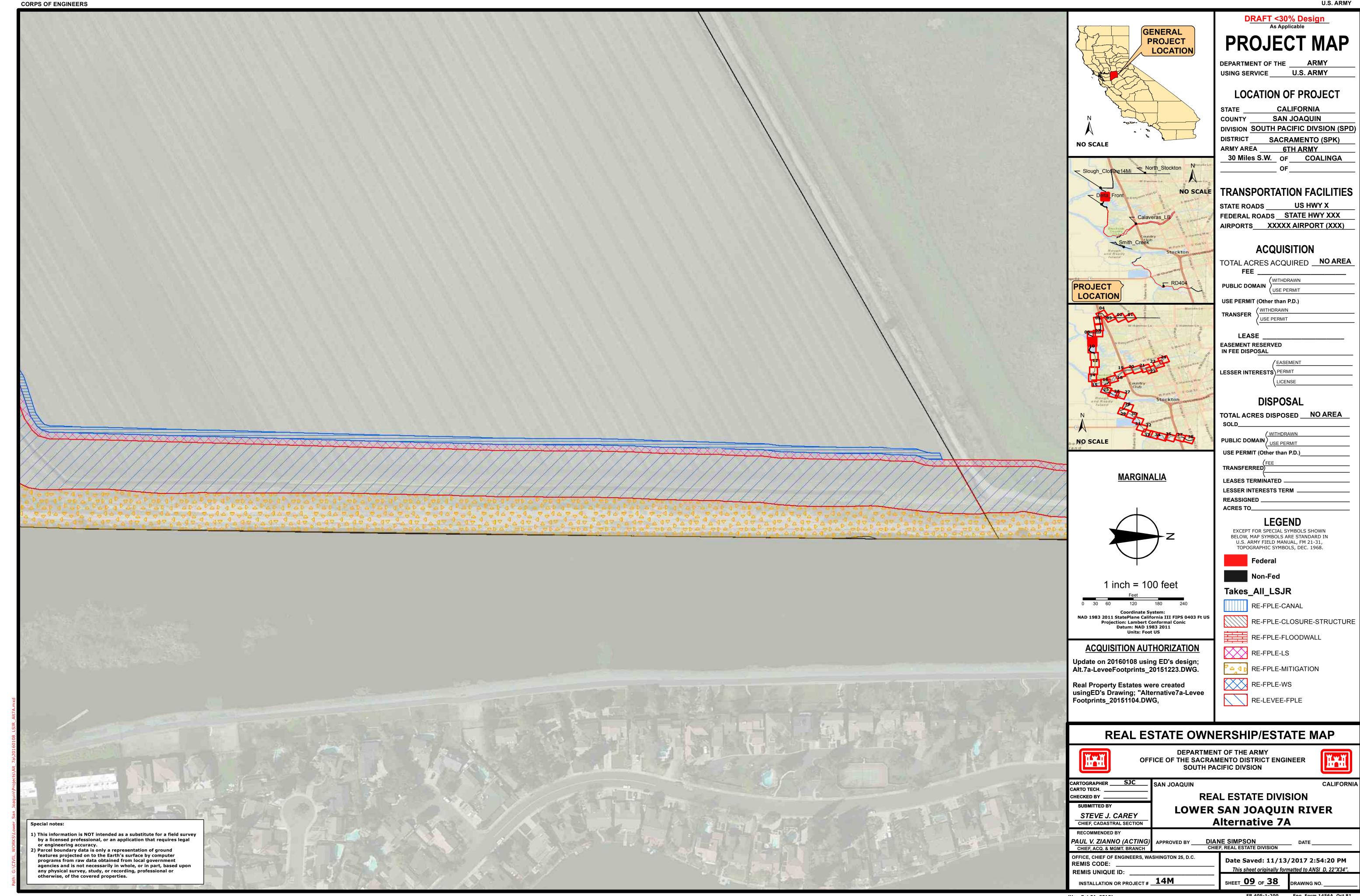
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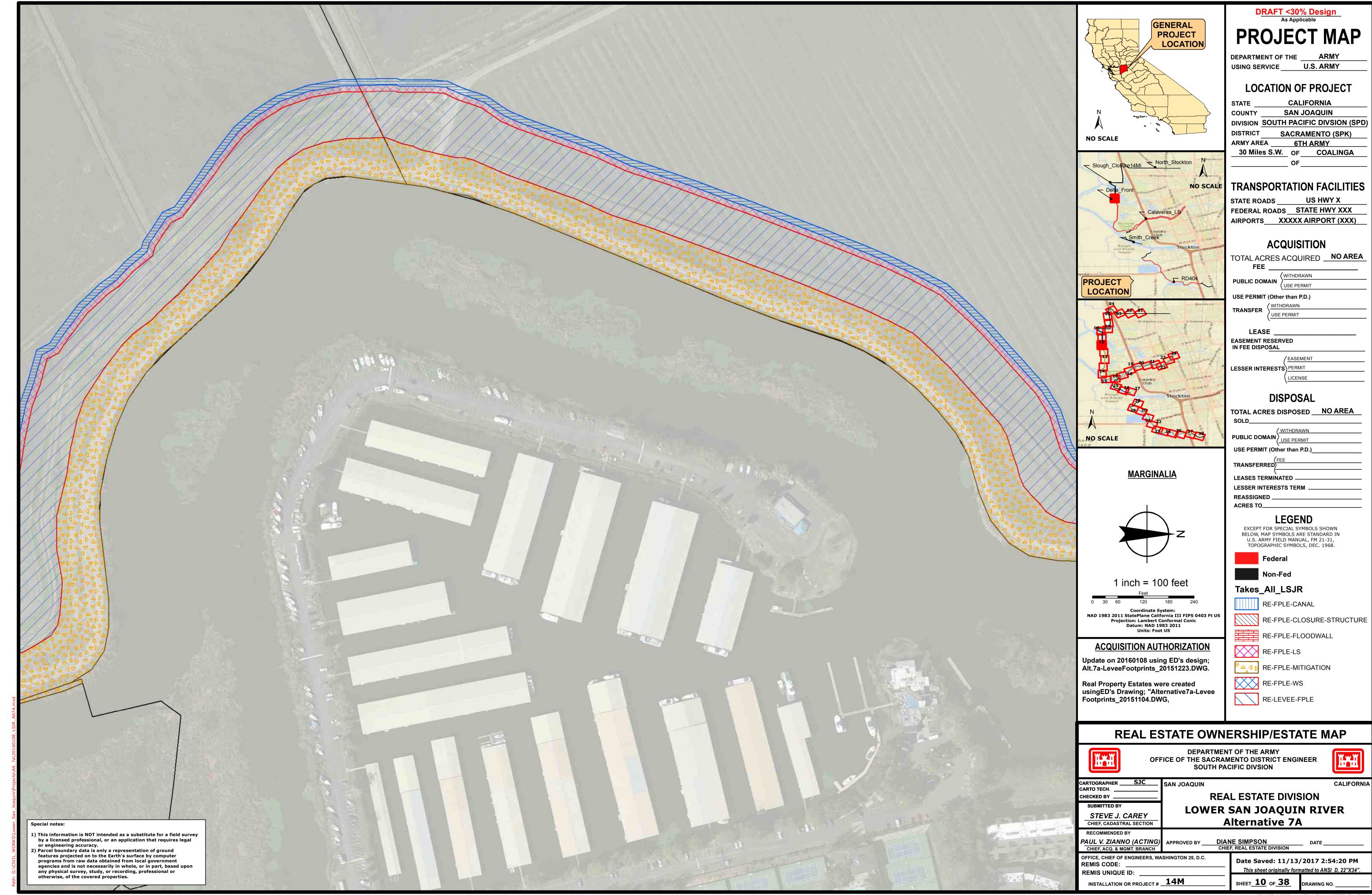
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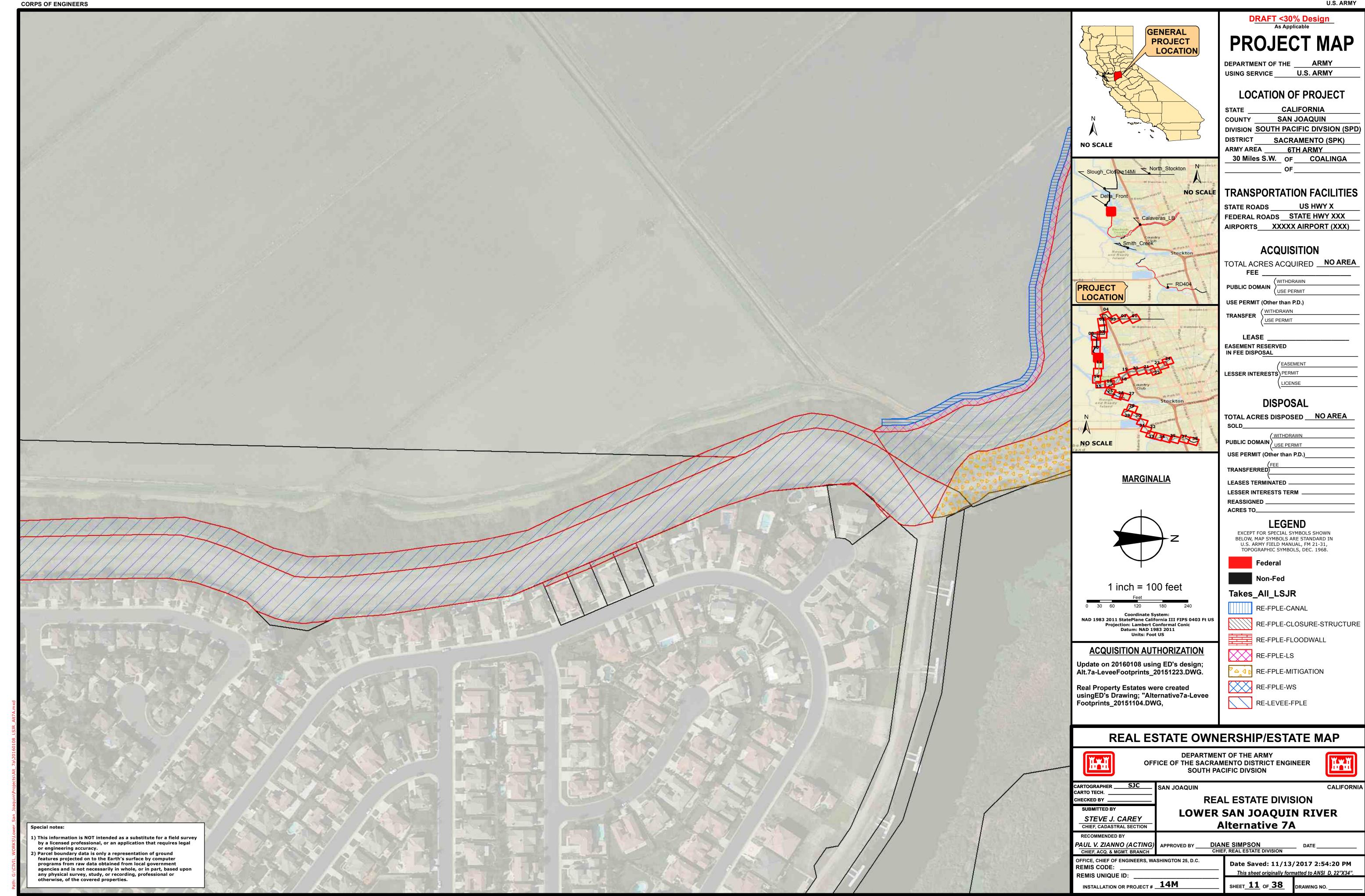


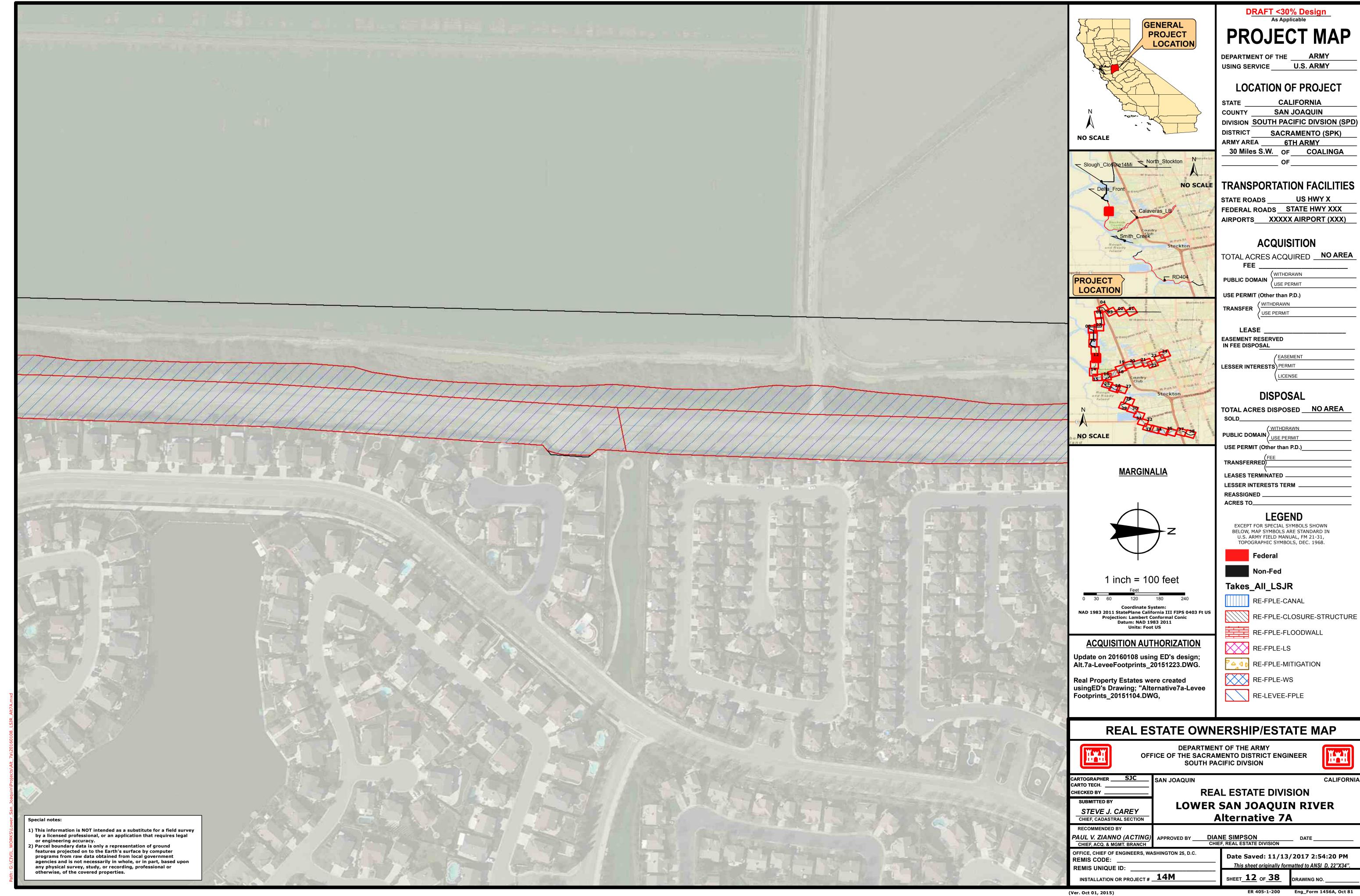


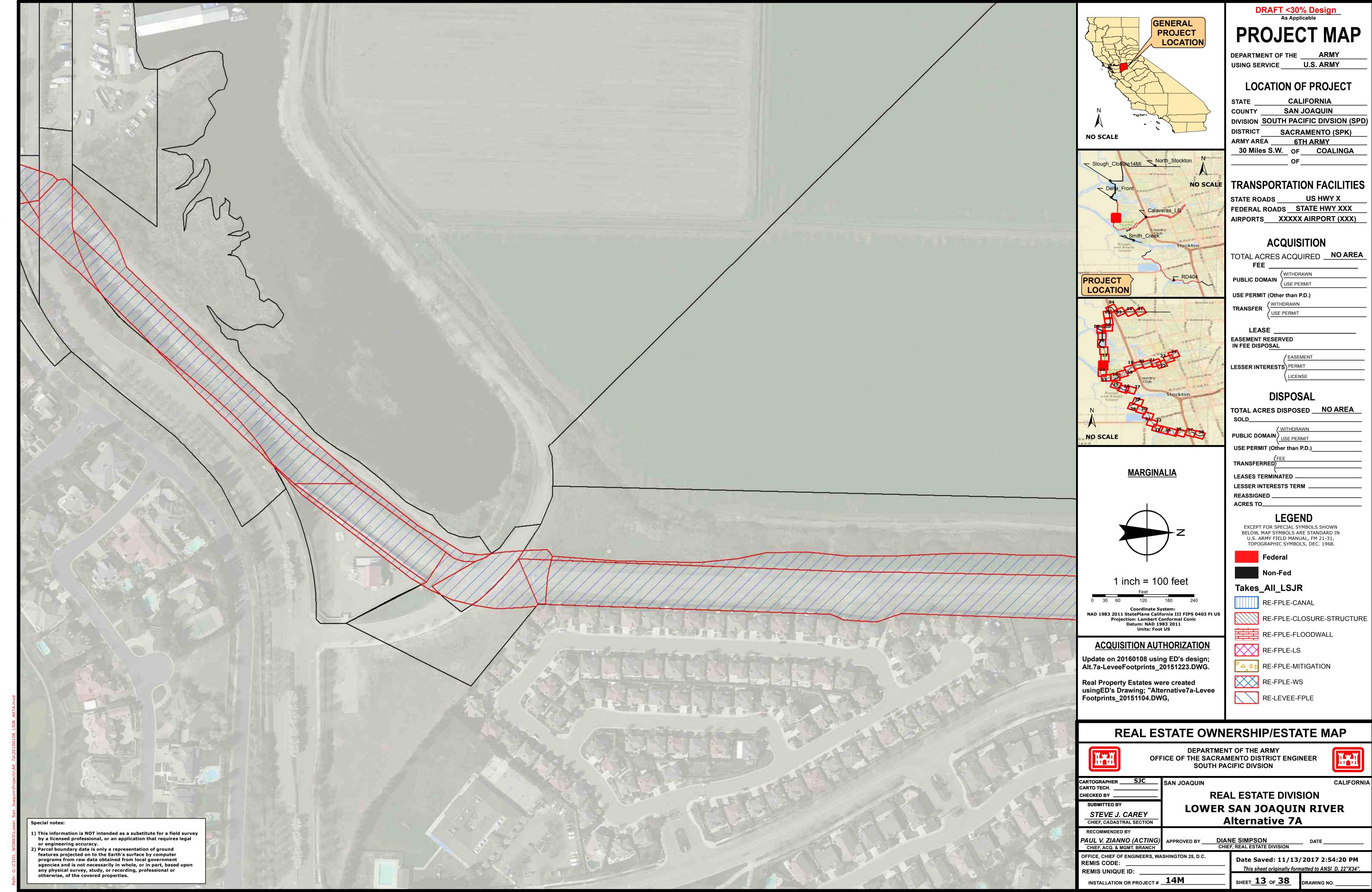


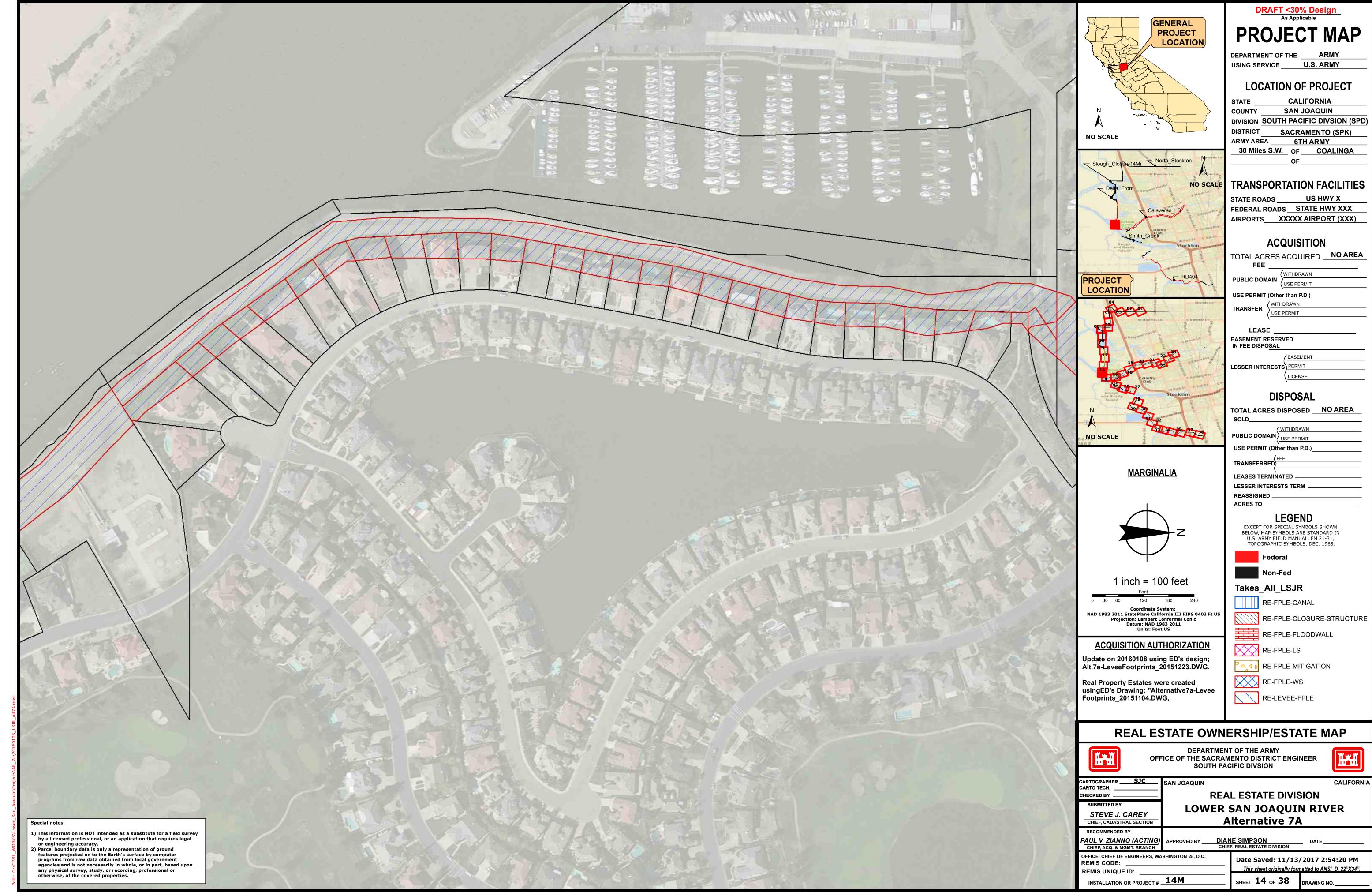


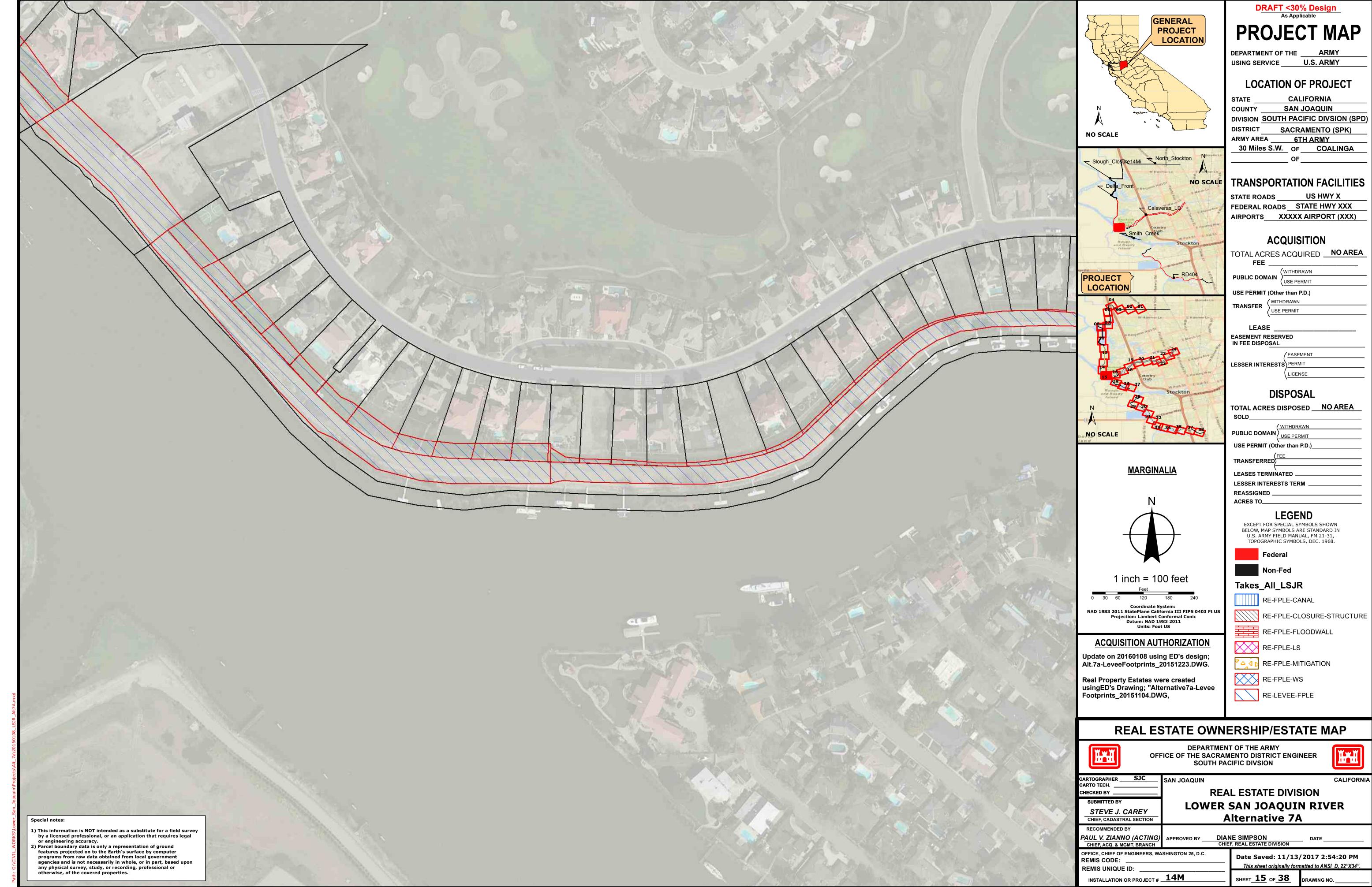


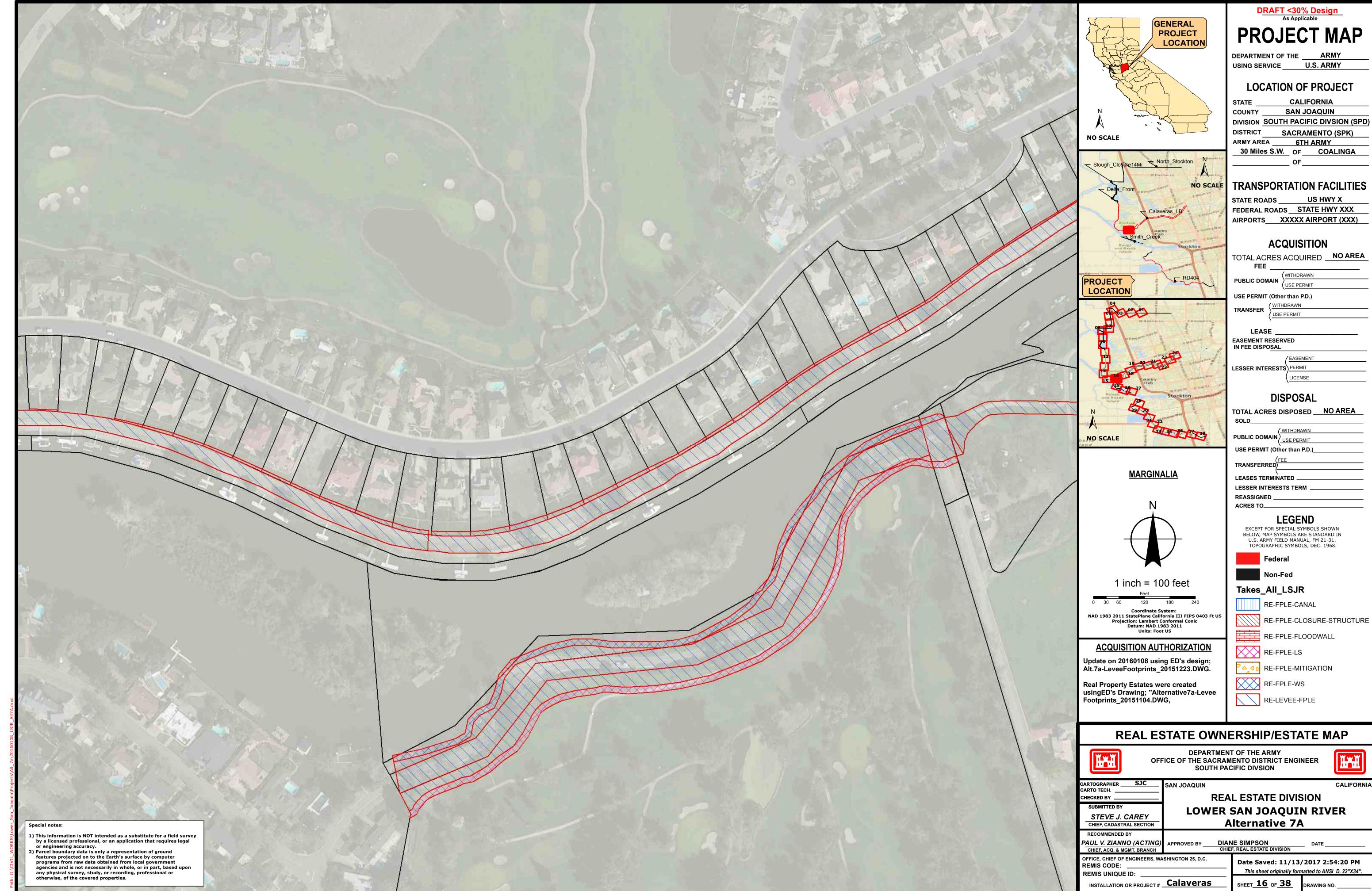


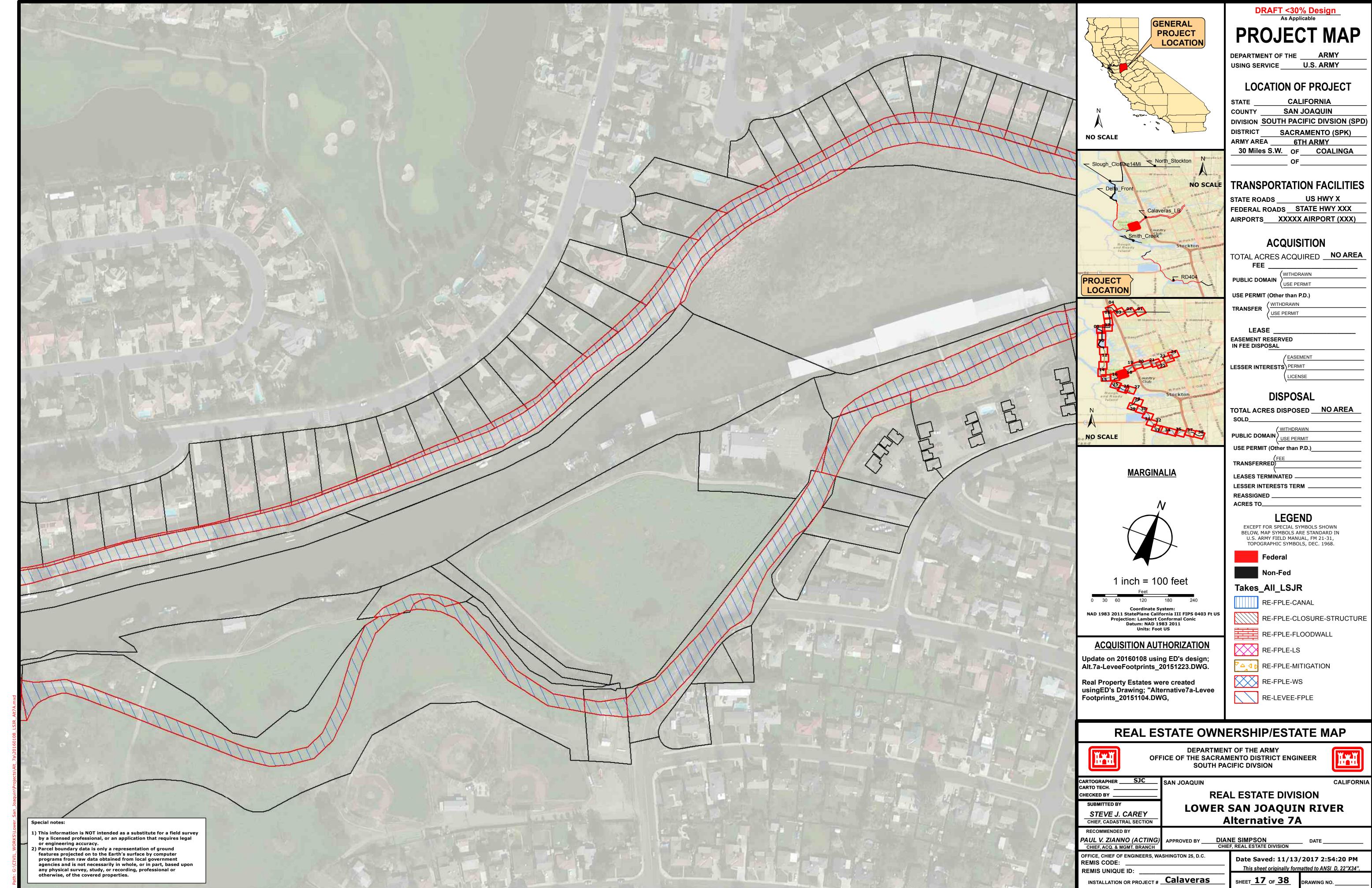


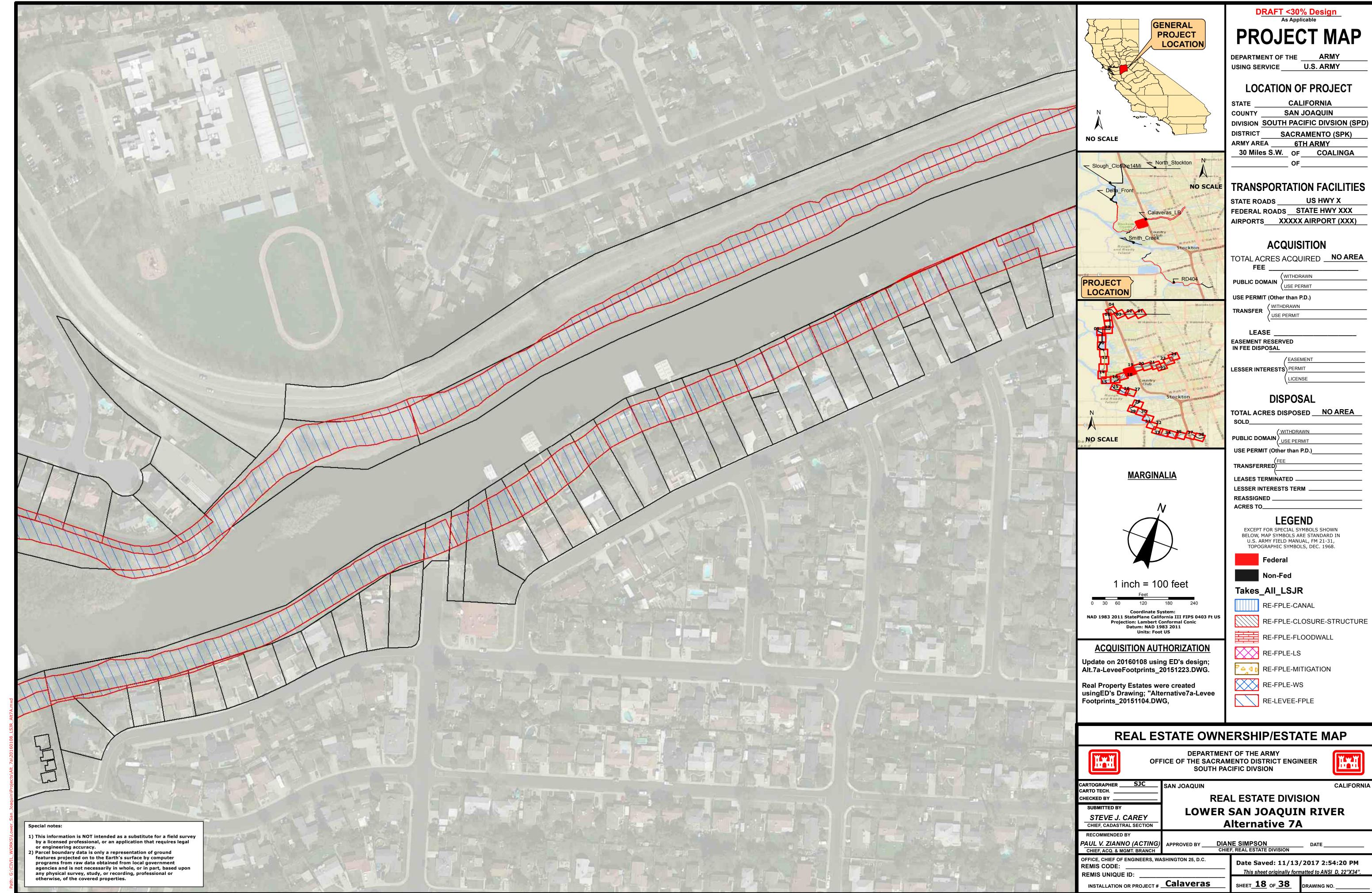


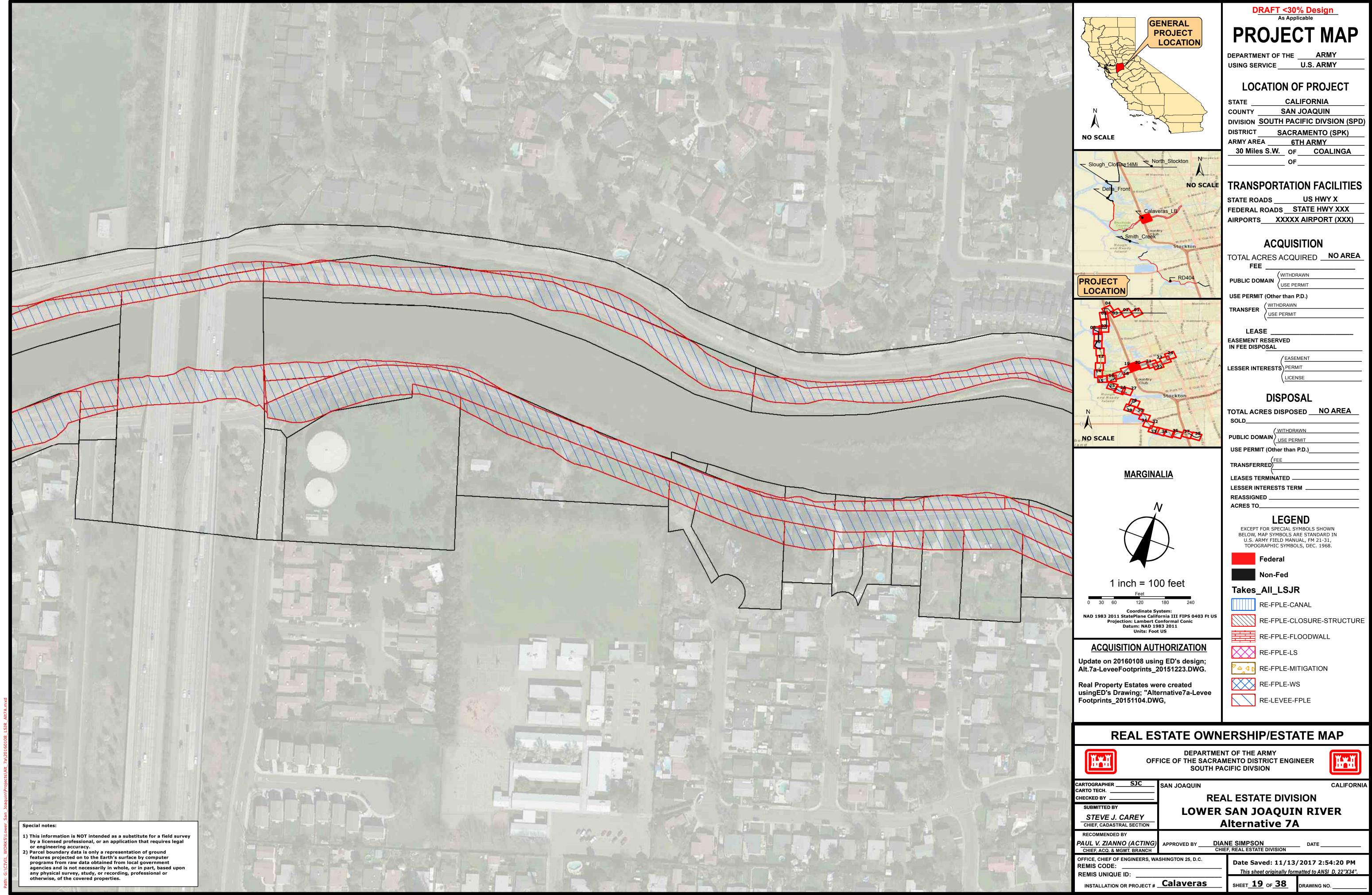




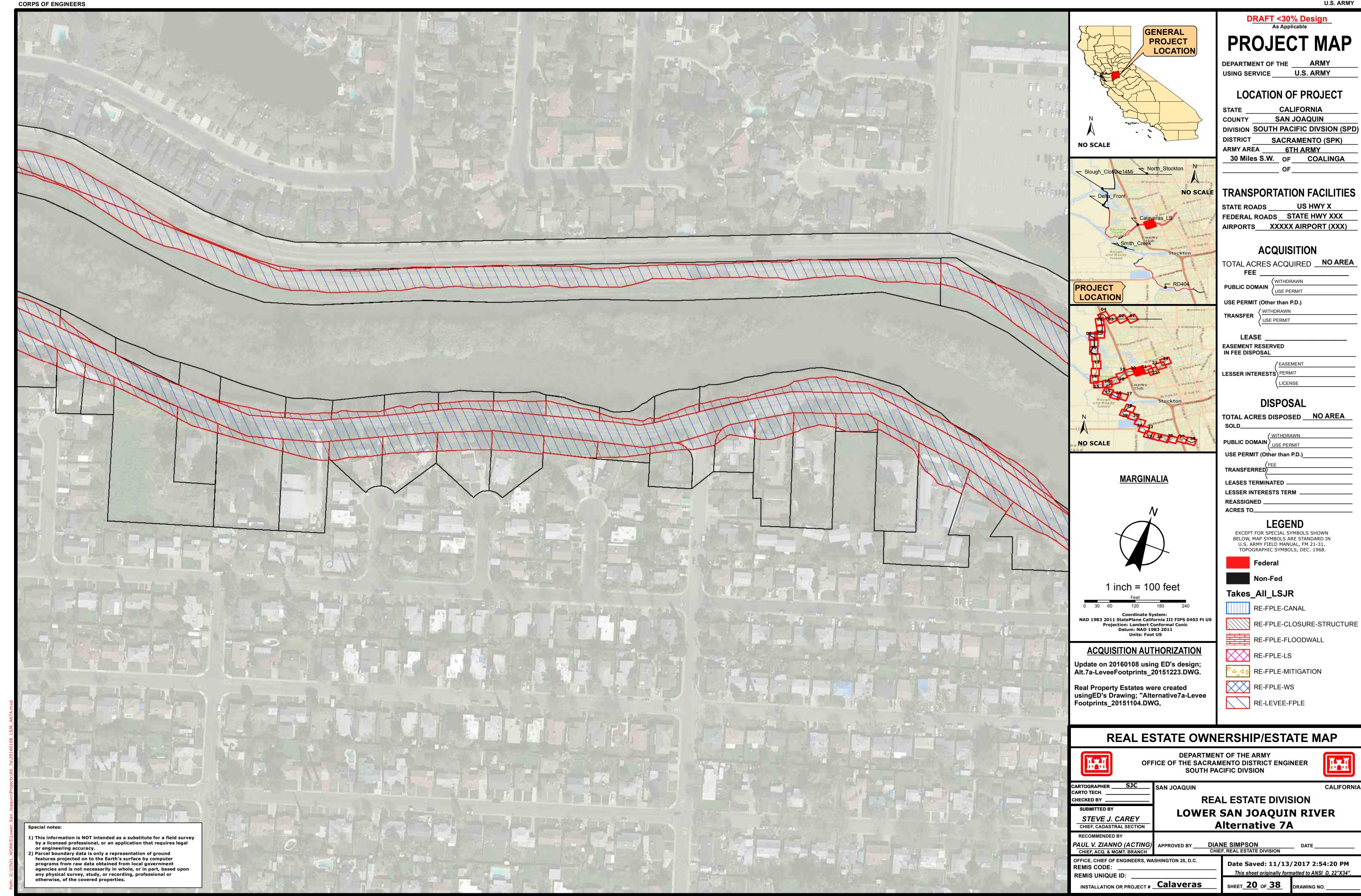


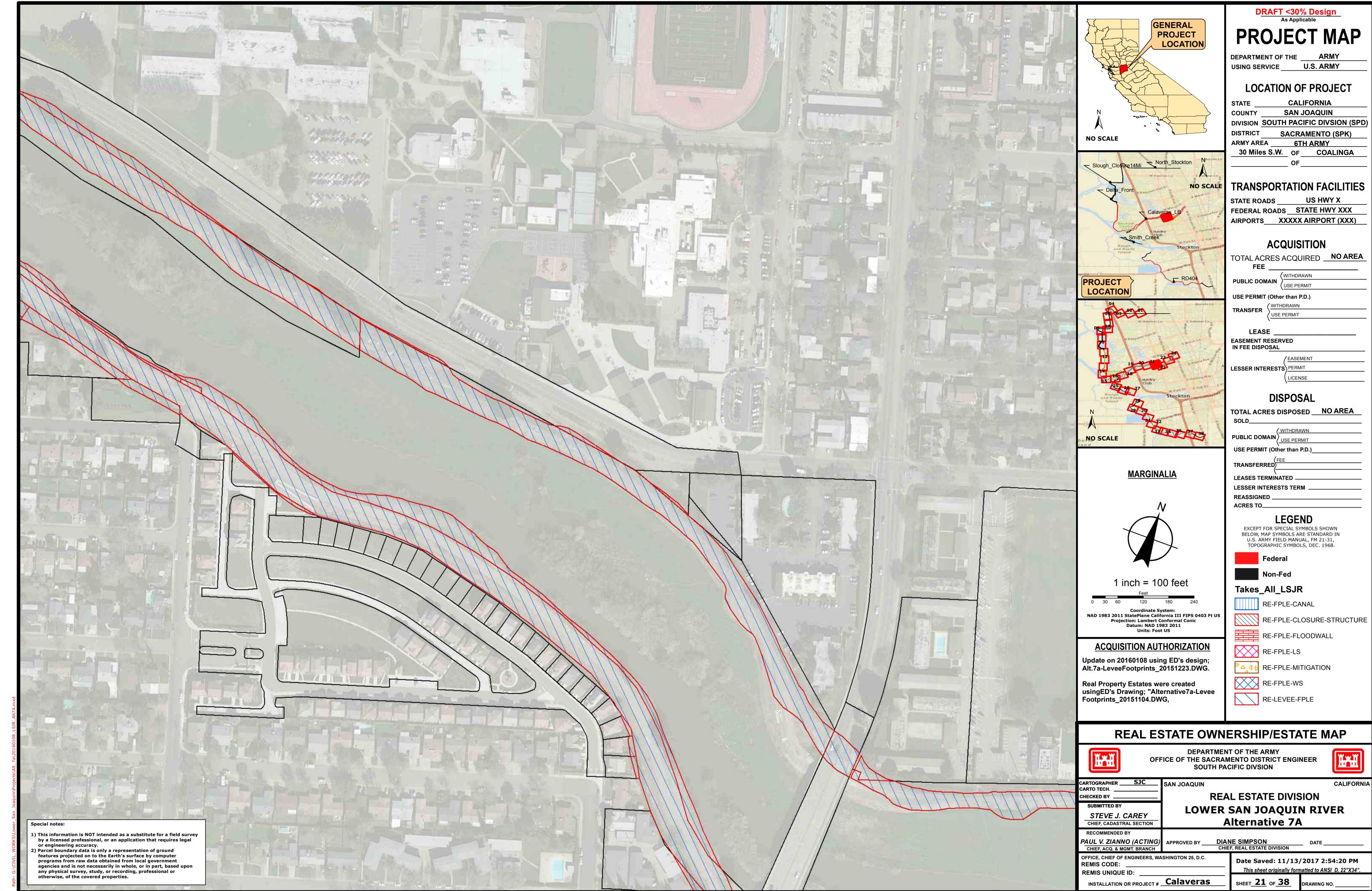


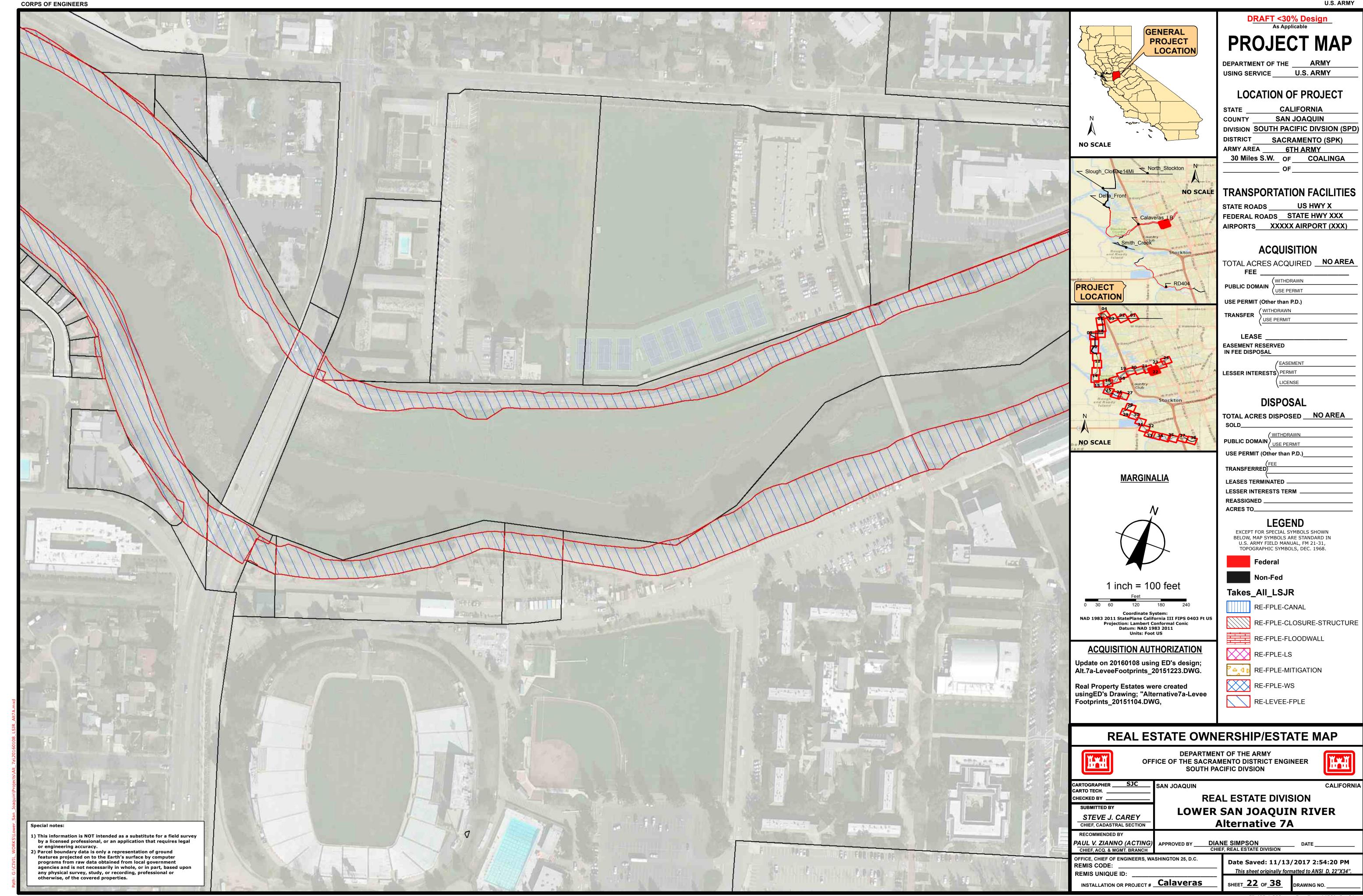


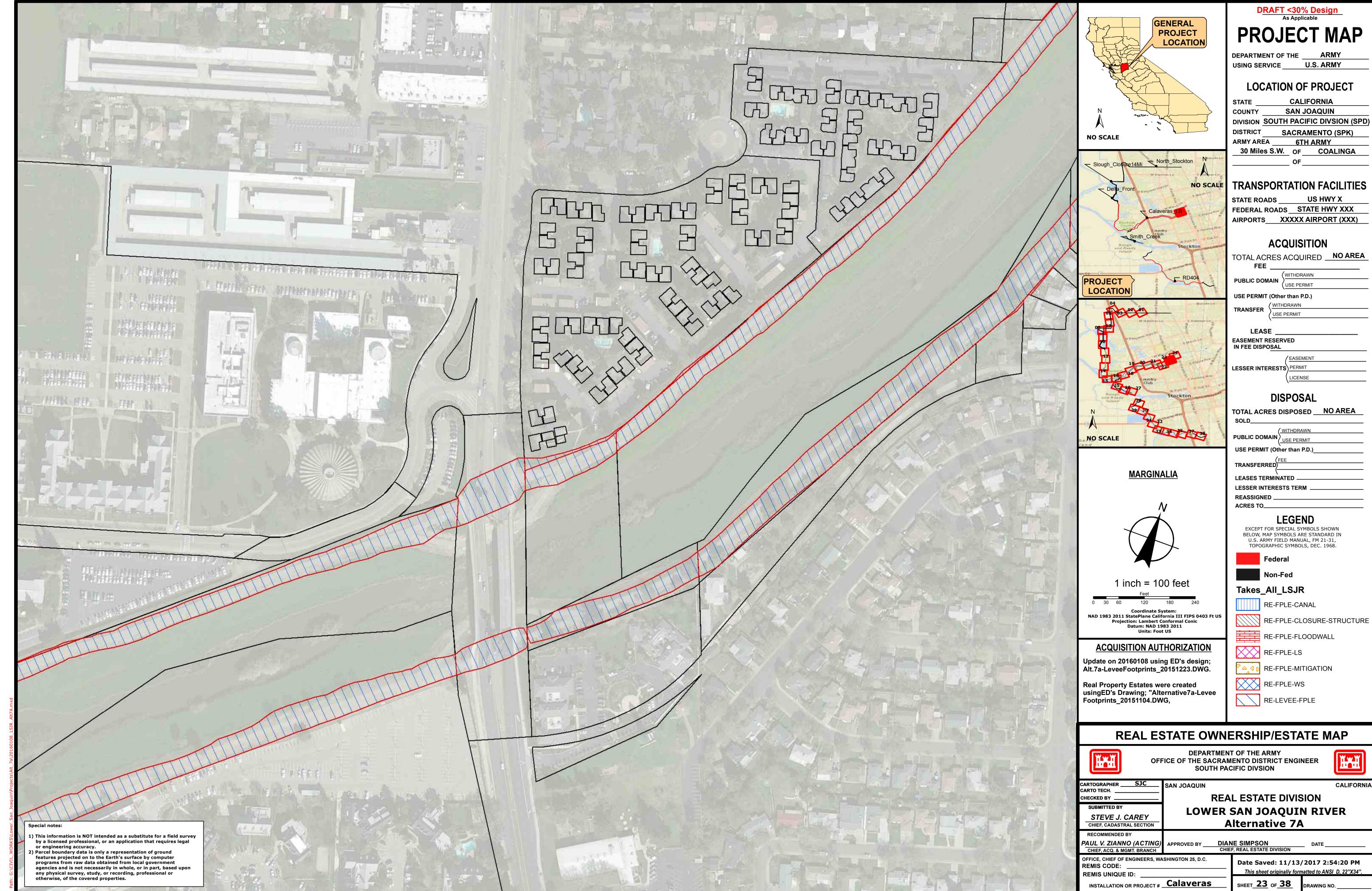


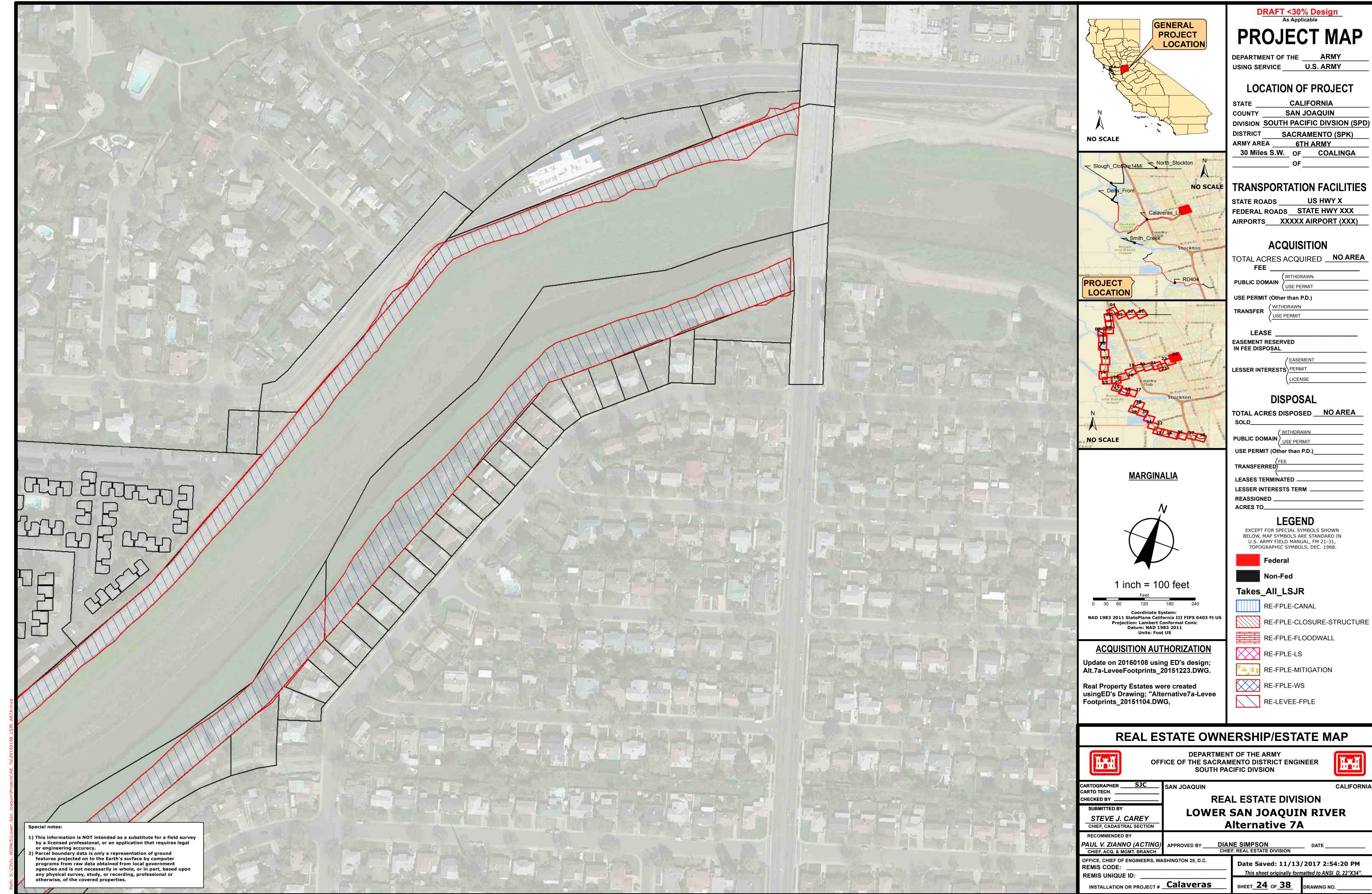
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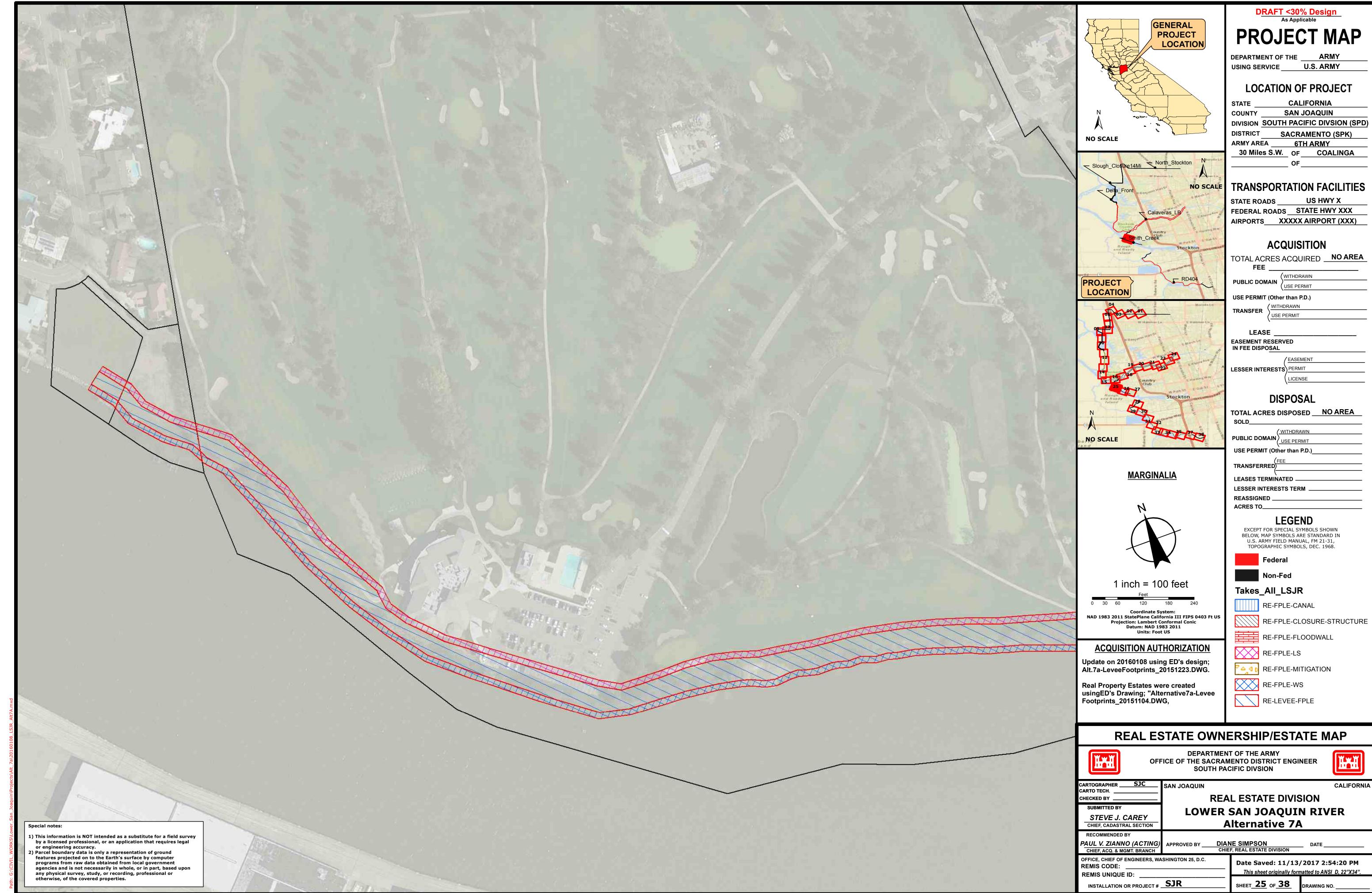


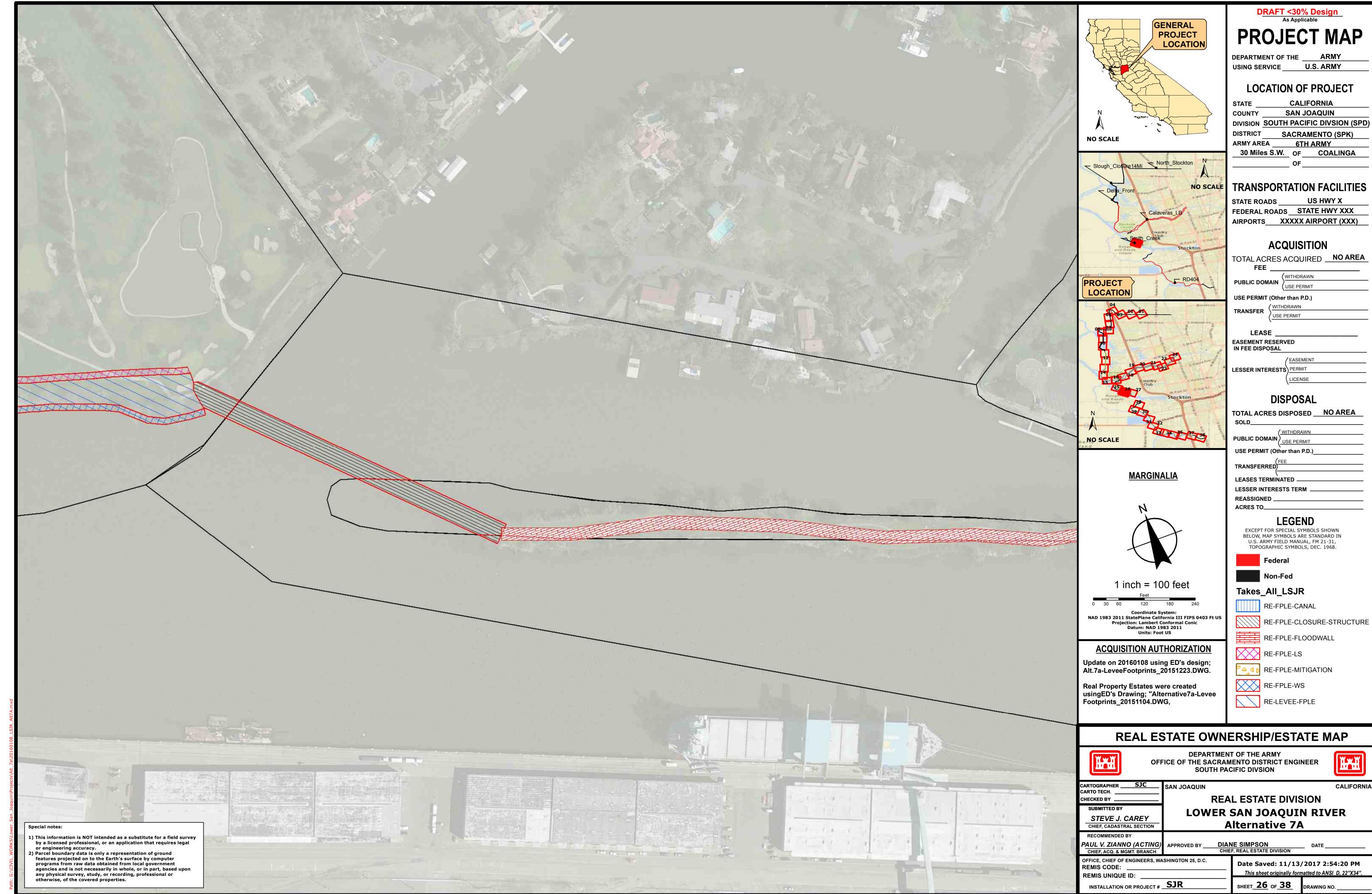


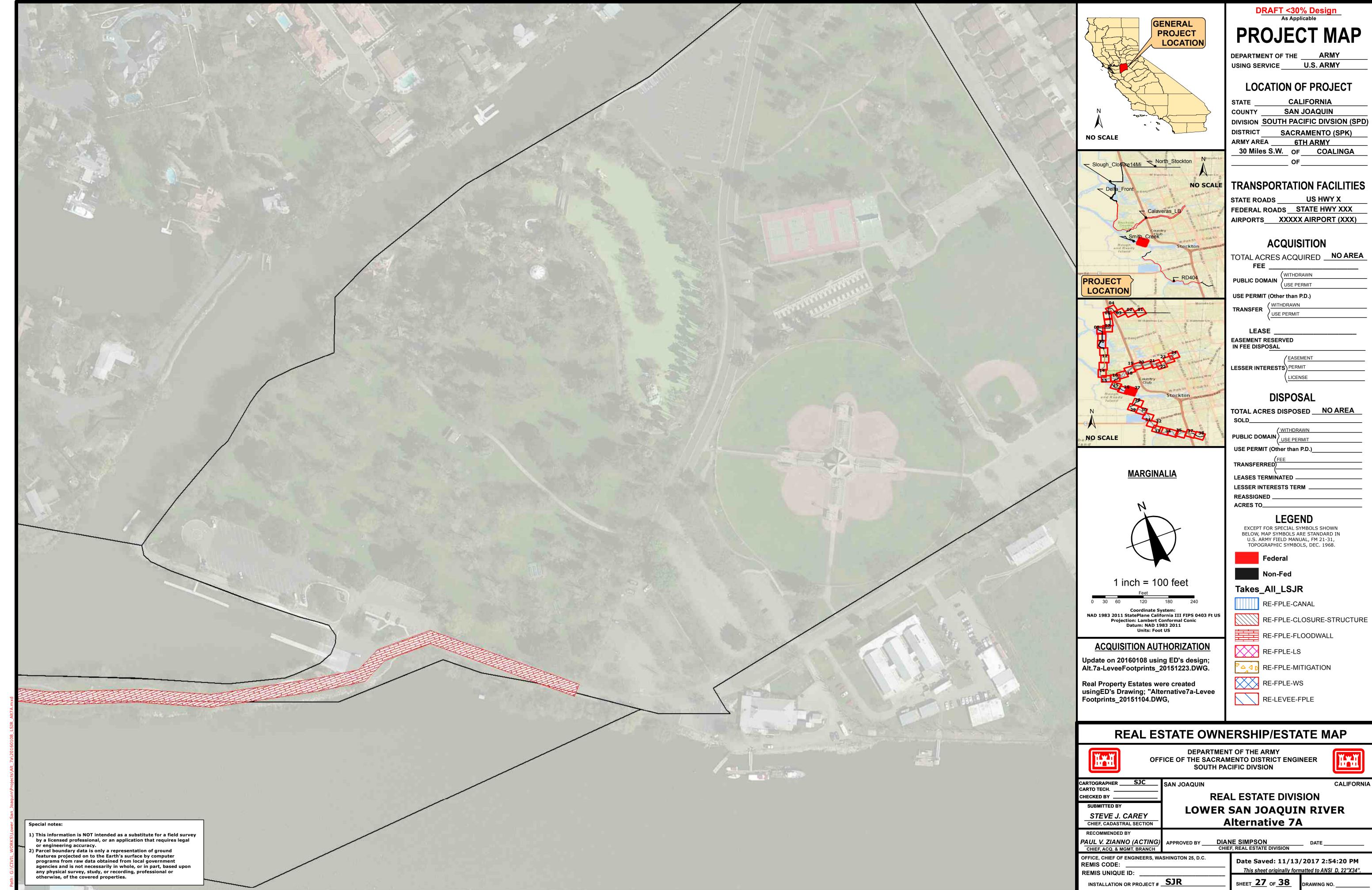


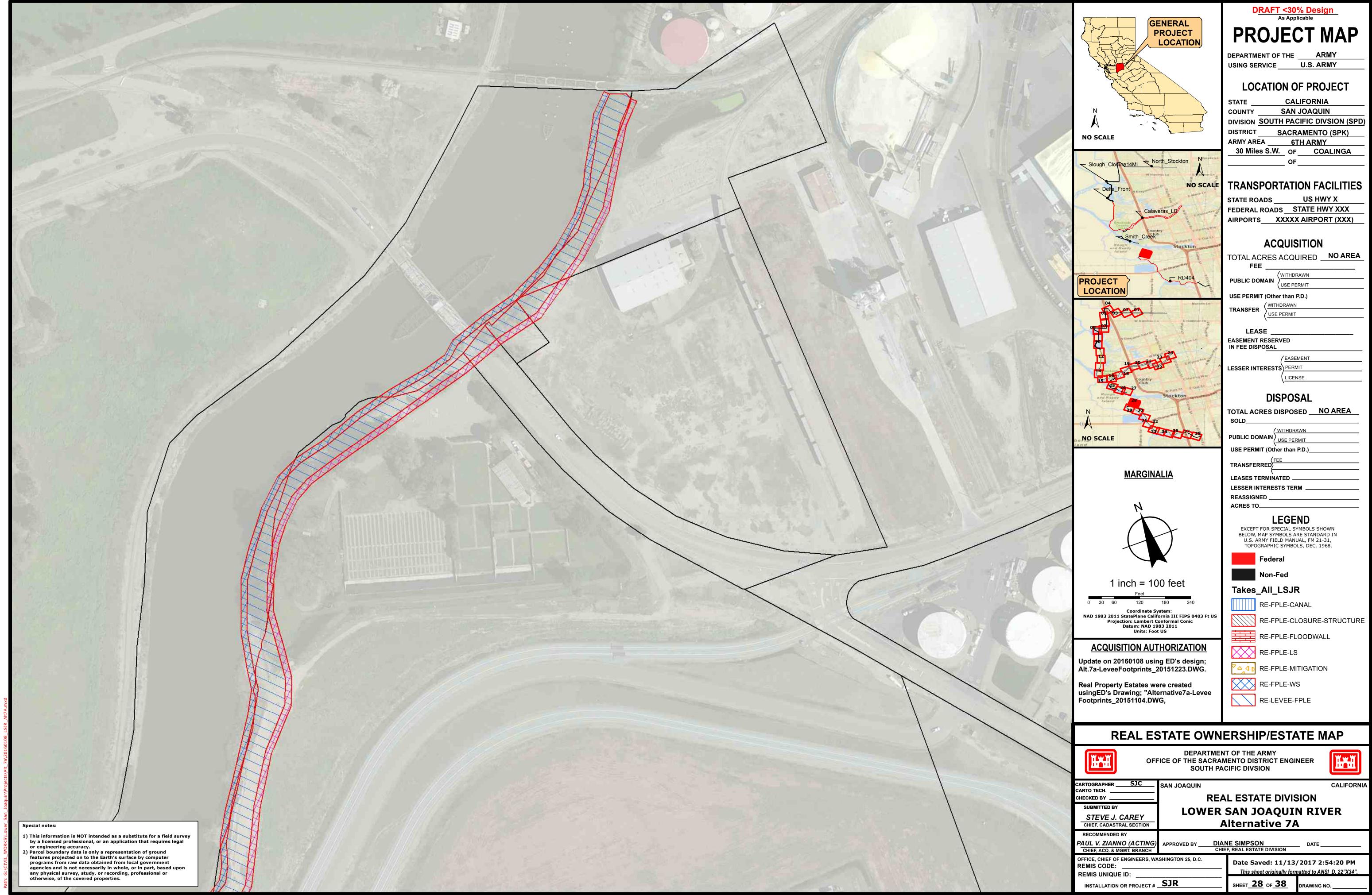


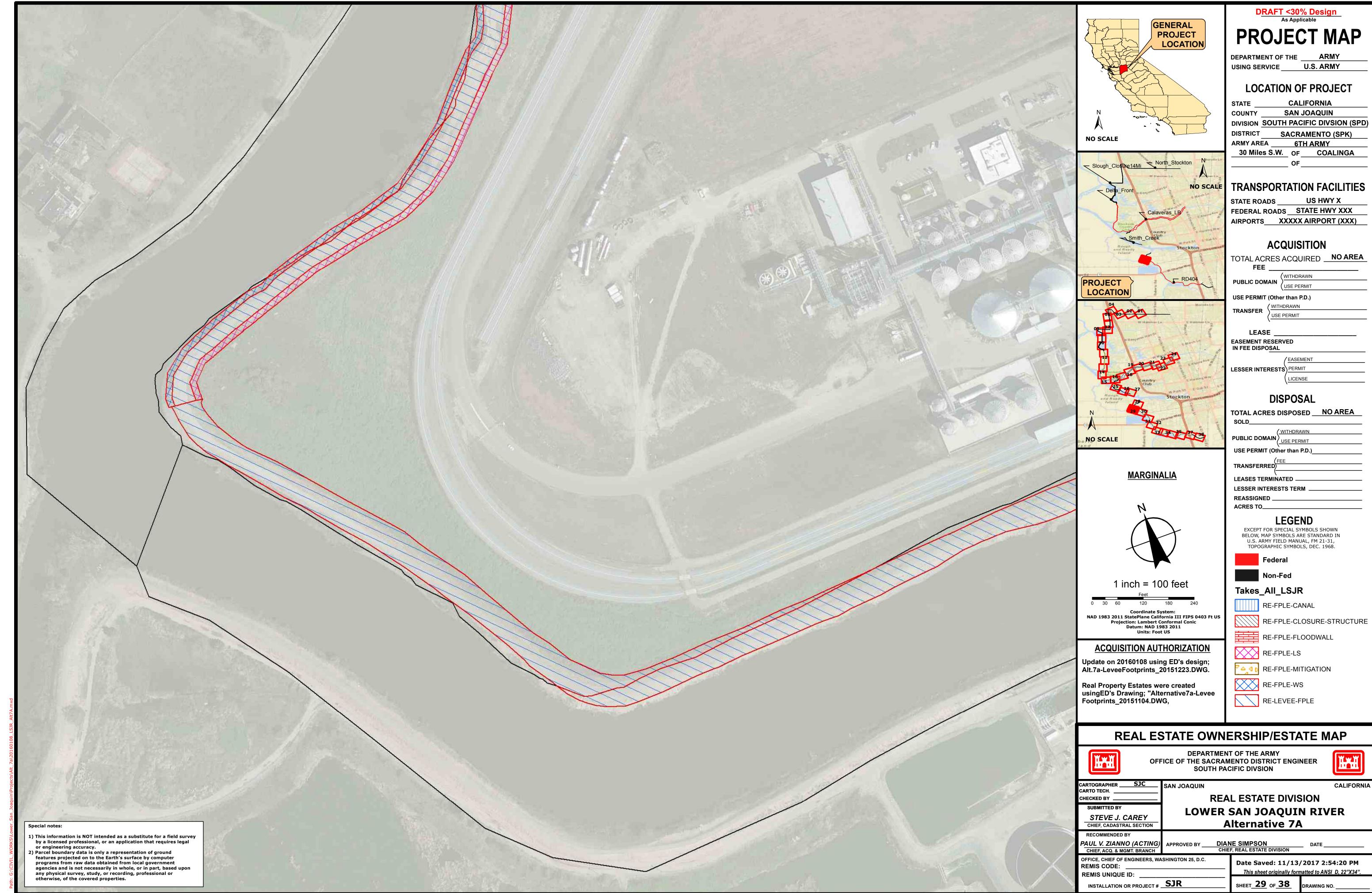


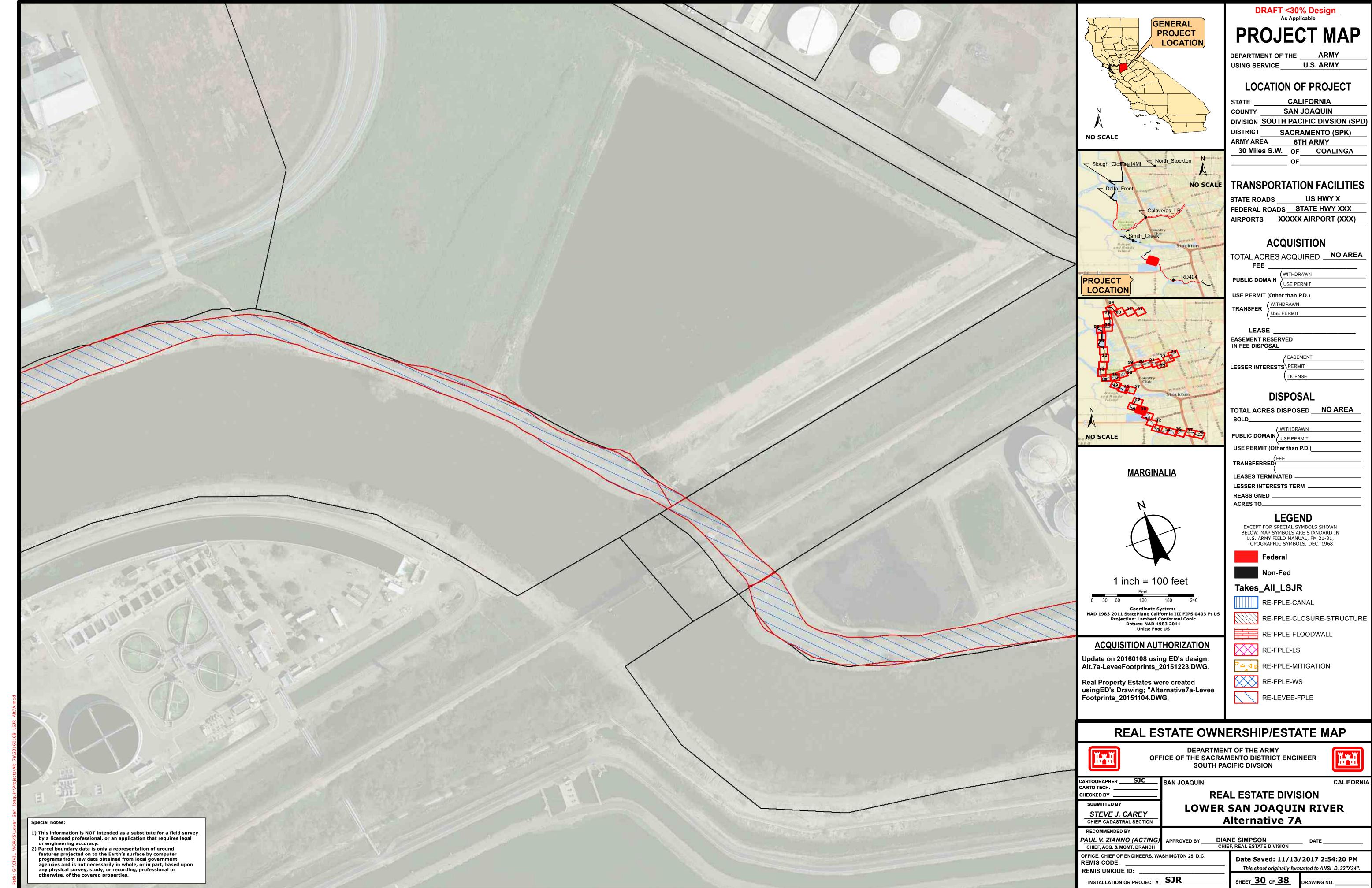


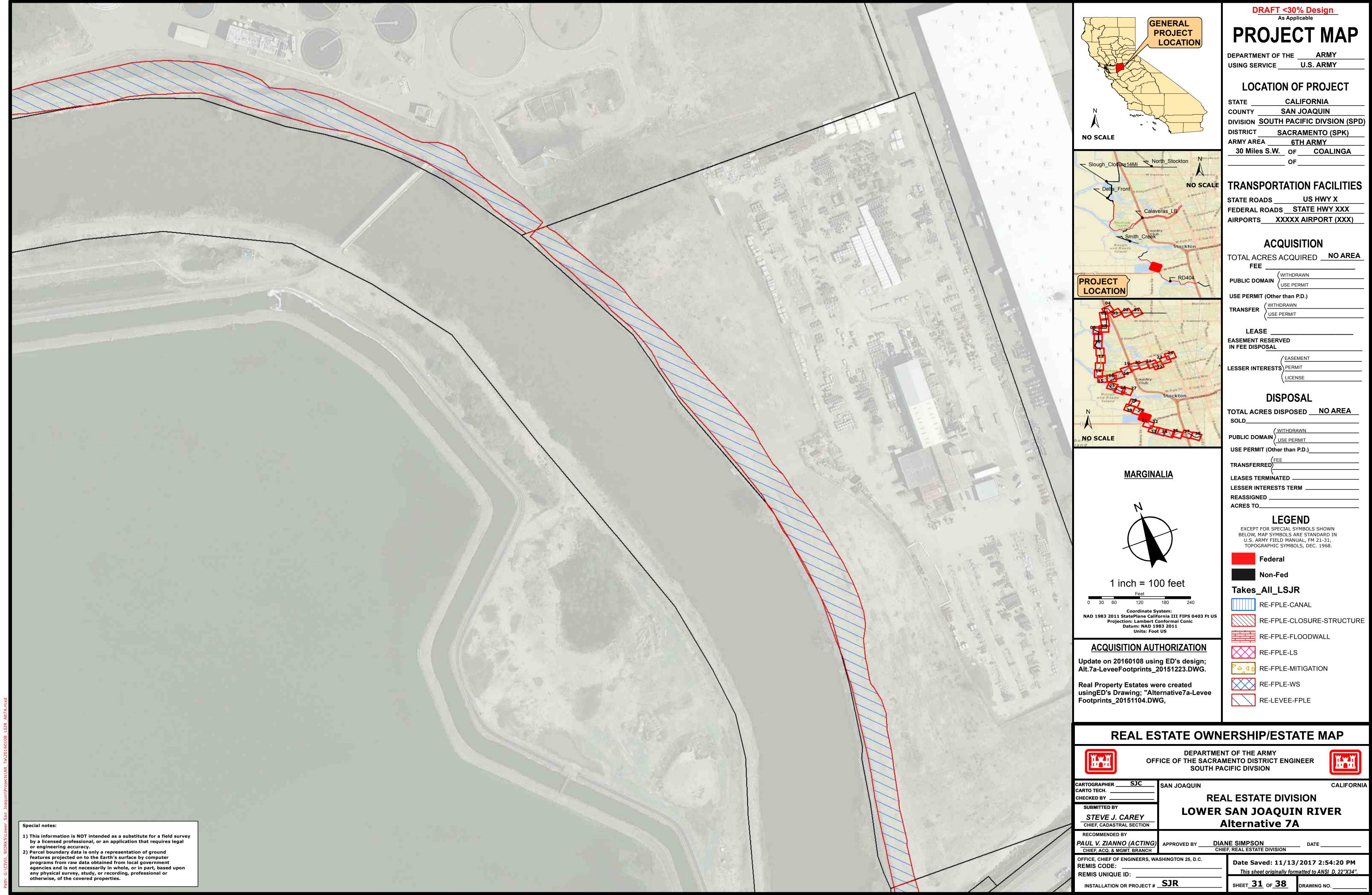


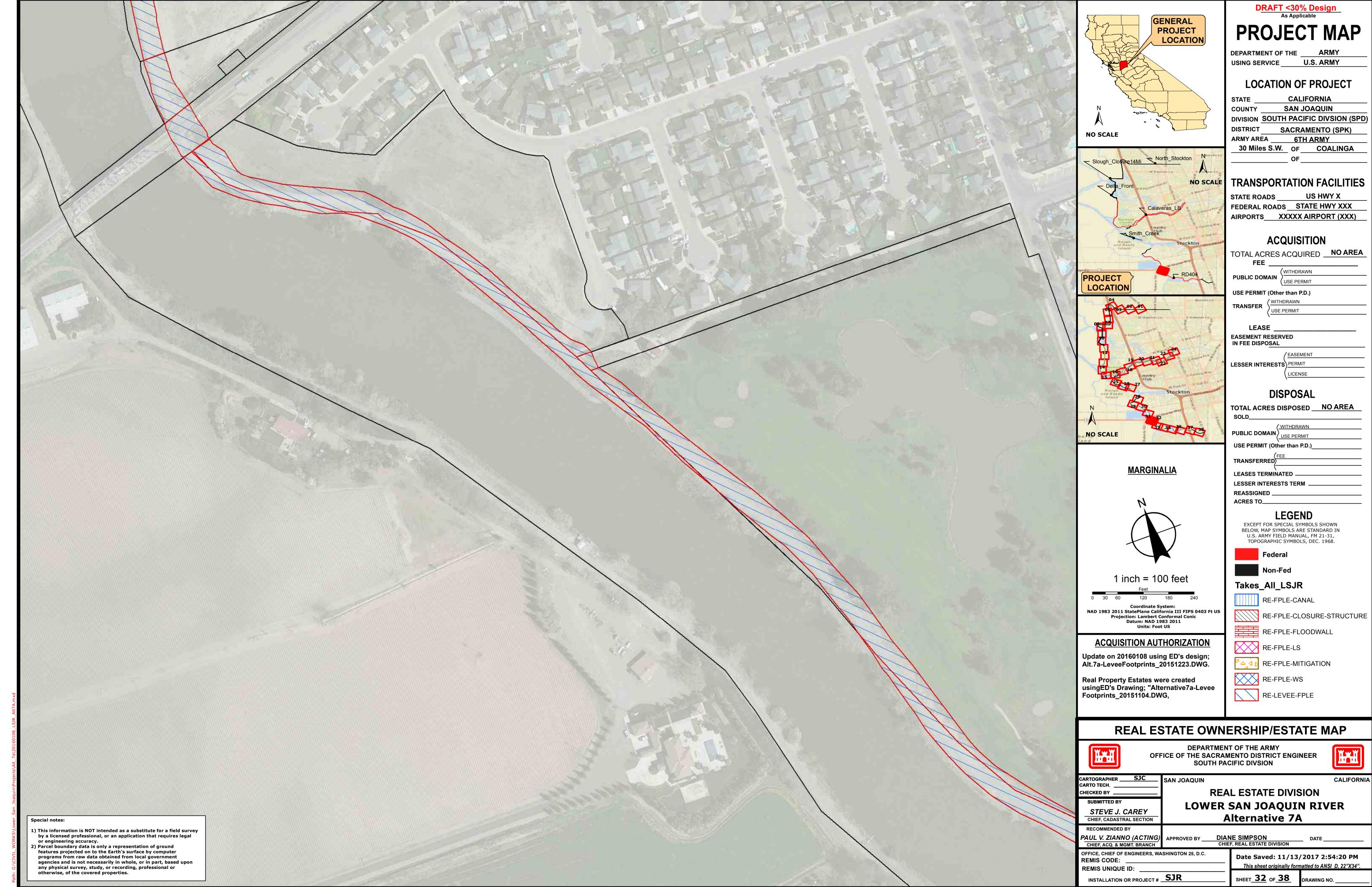


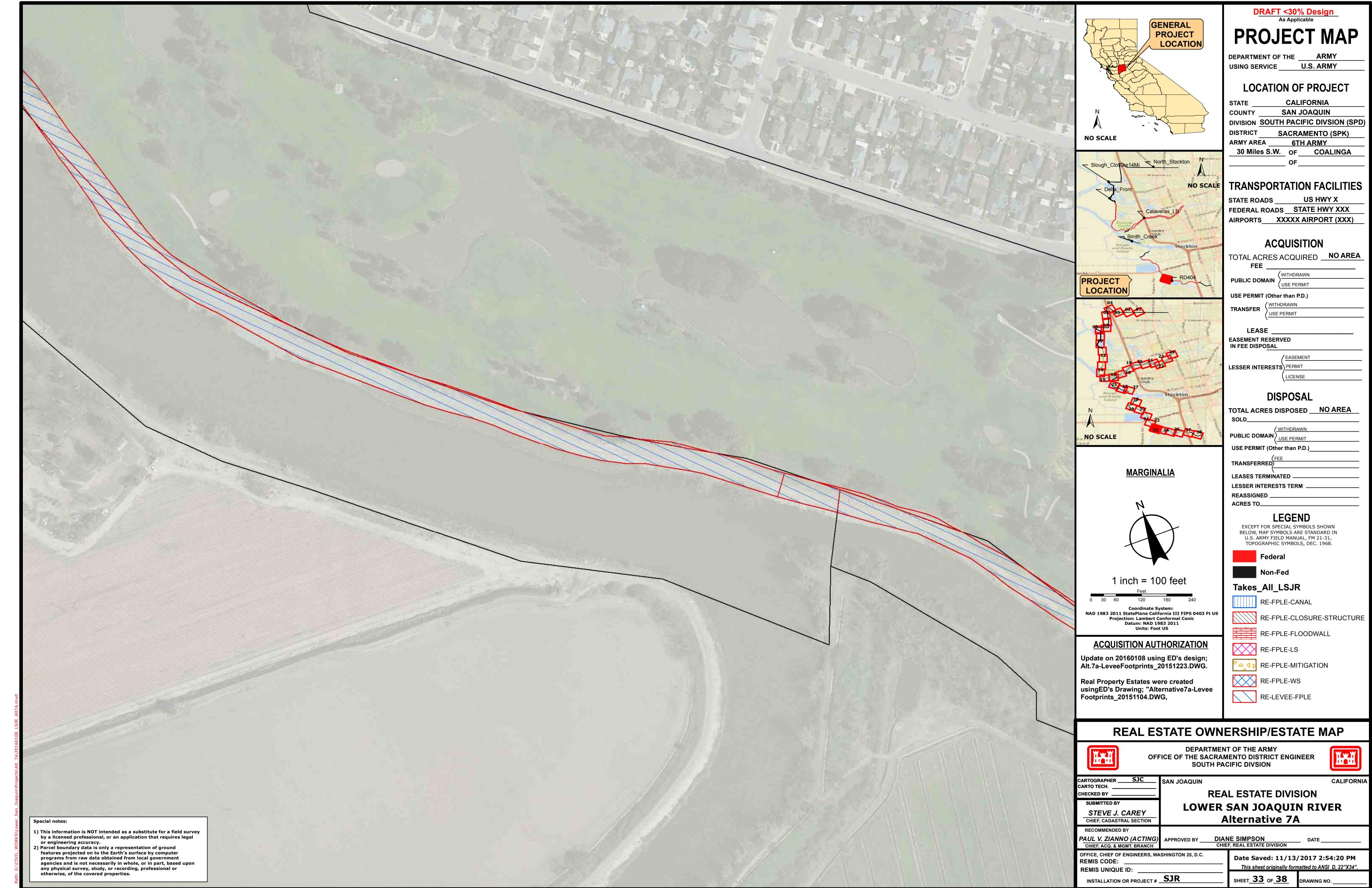


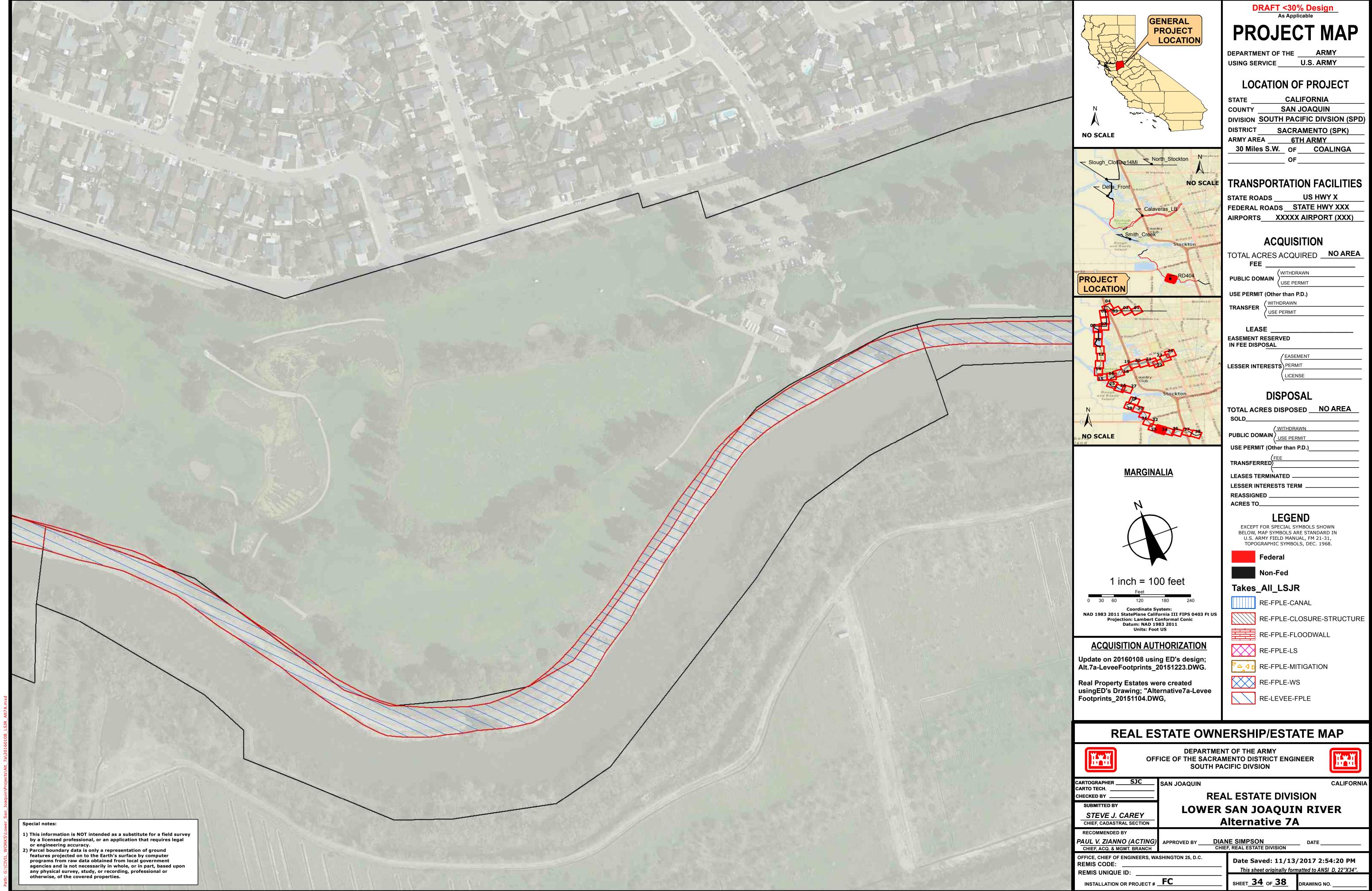


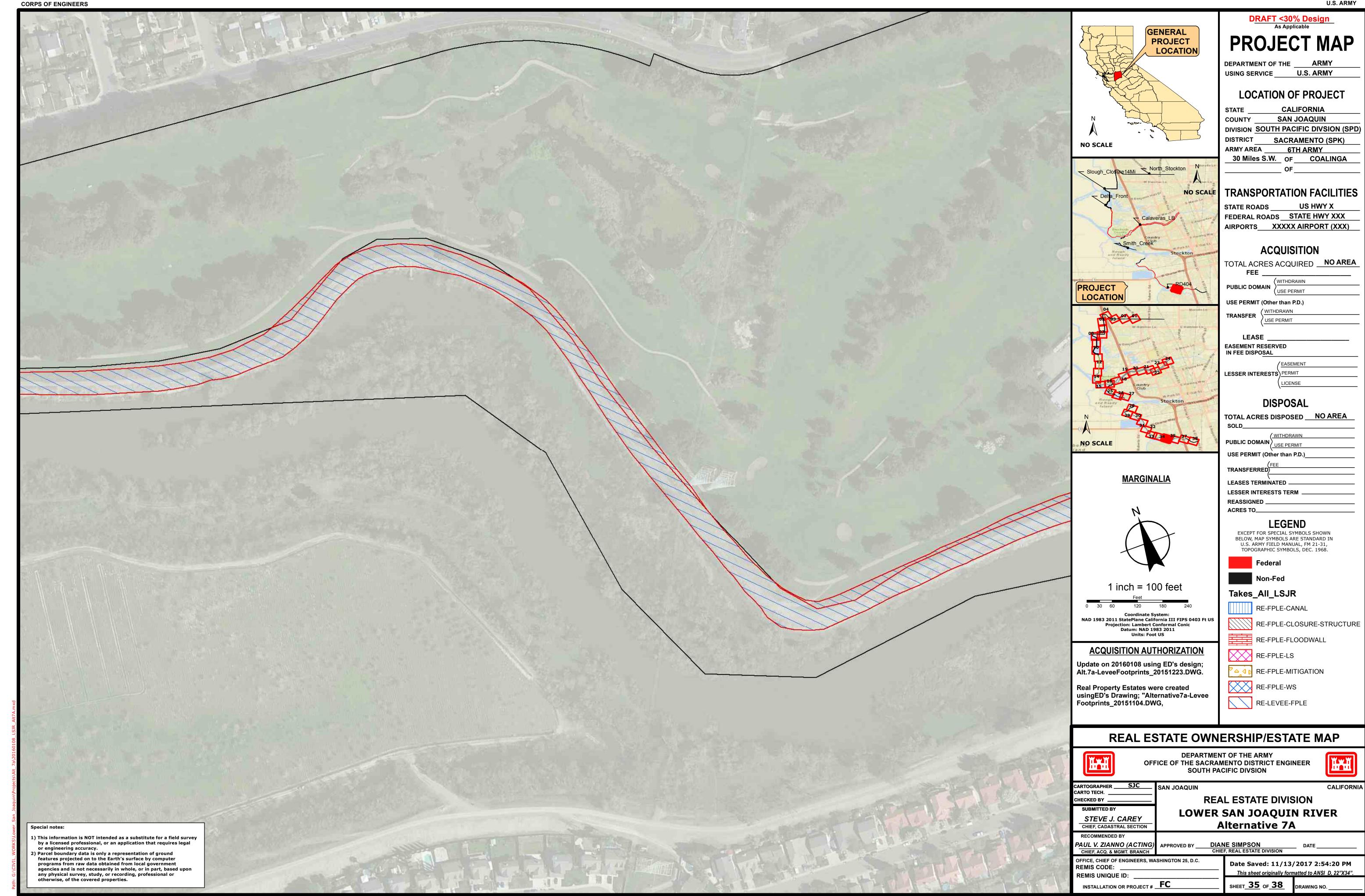


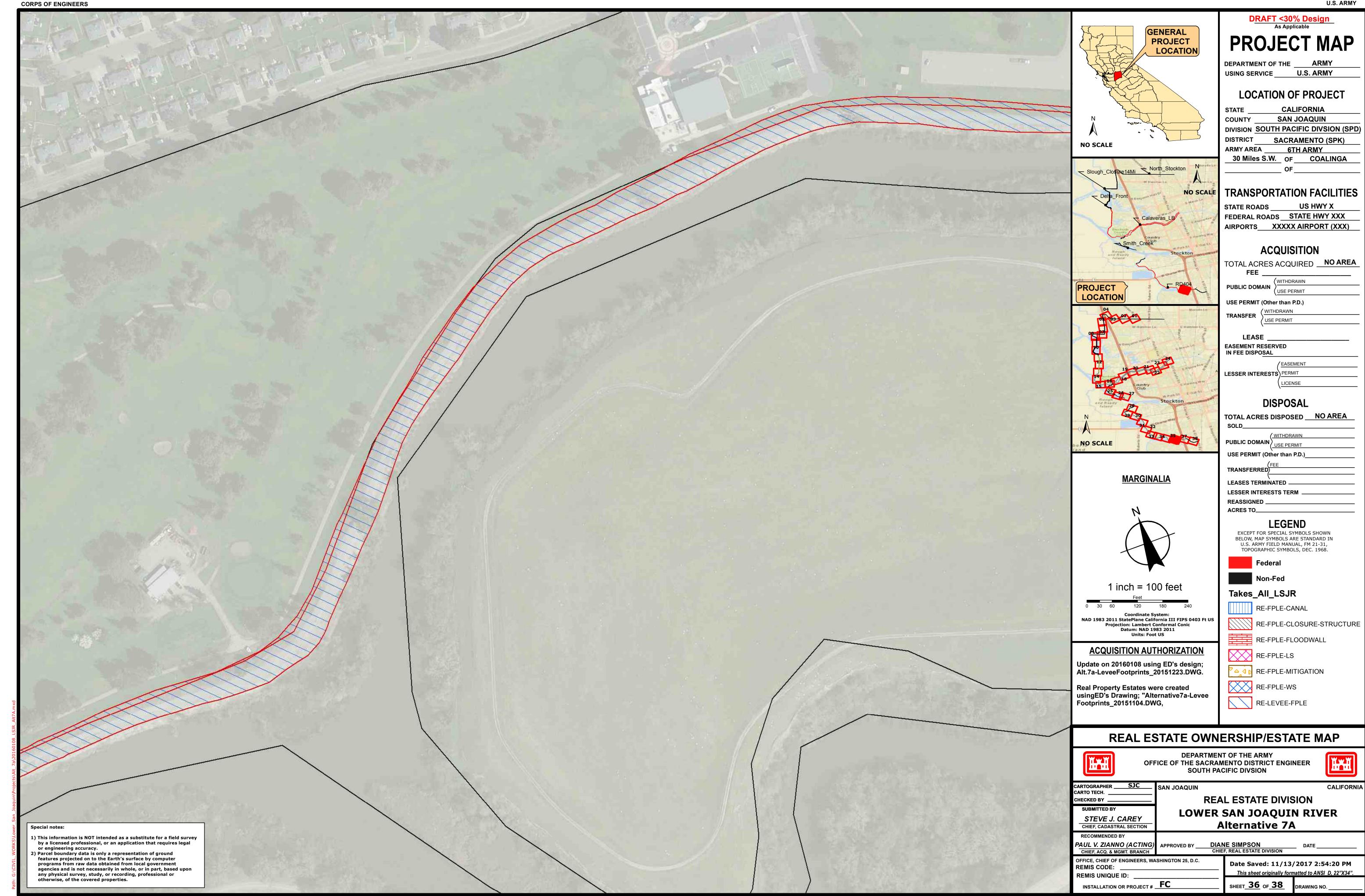


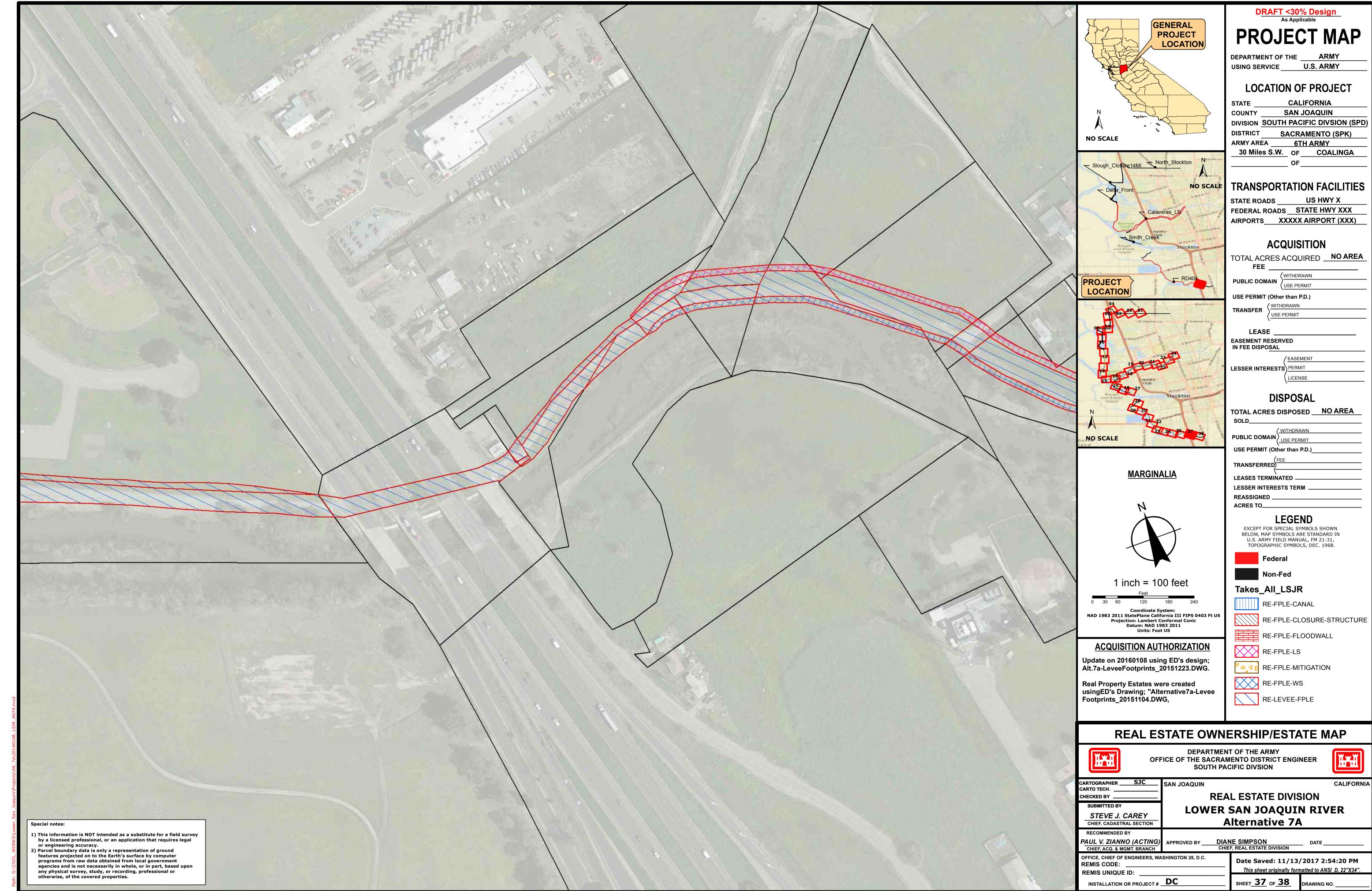


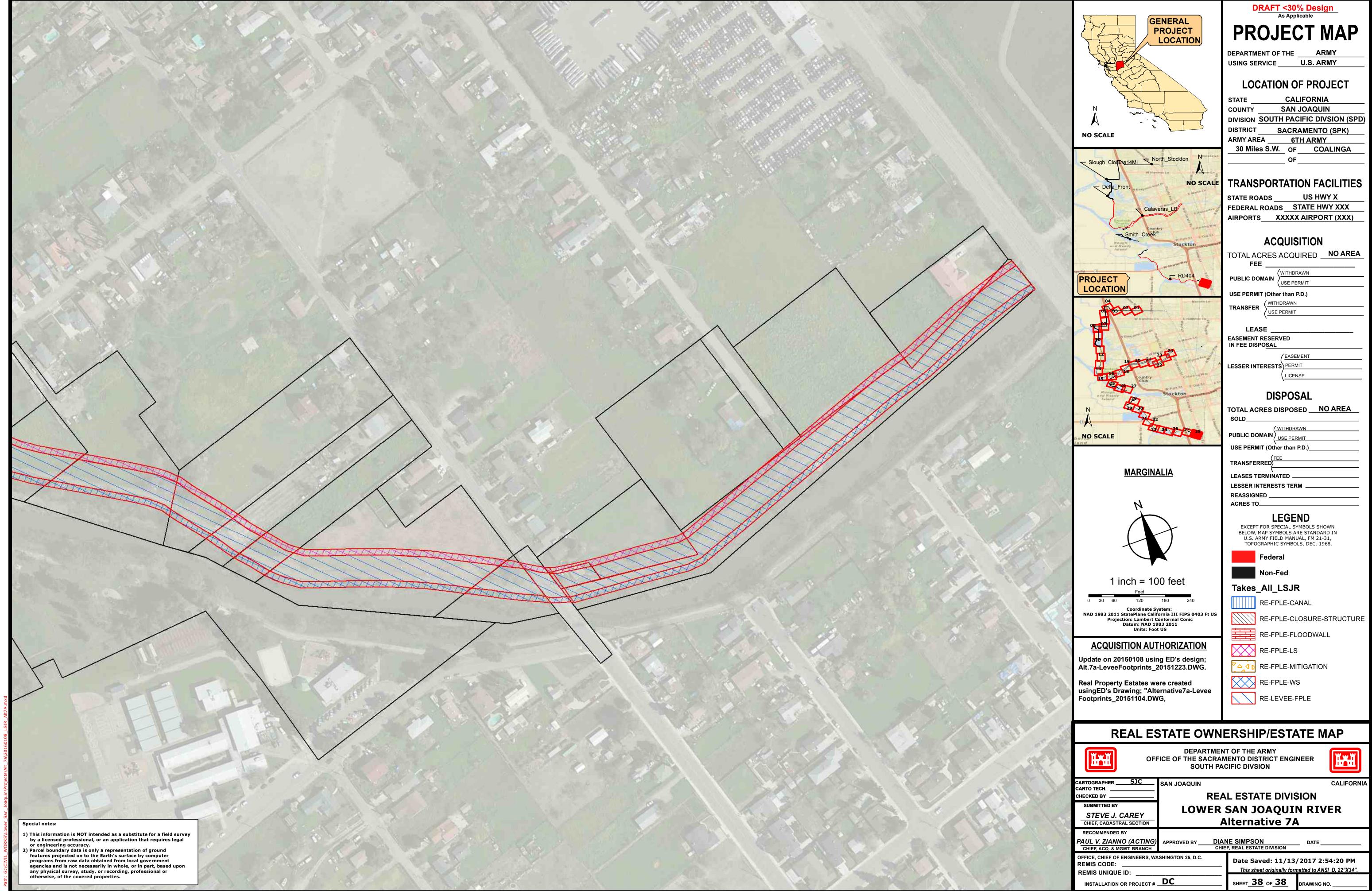












LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY TRACT REGISTER

LOWER SAIN JOAQUIN RIVER FEASIBILITY STUDY TRACT REGISTER			
Contract	Estate_Layer	Take_Area_GIS	
Delta_Front	RE-LEVEE-FPLE	2.779	
Delta_Front	RE-FPLE-CLOSURE-STRUCTURE	0.023	
North_Stockton	RE-FPLE-LS	1.386	
North_Stockton	RE-LEVEE-FPLE	6.579	
North_Stockton	RE-LEVEE-FPLE	0.006	
North_Stockton	RE-LEVEE-FPLE	0.076	
Delta_Front	RE-FPLE-LS	0.479	
North_Stockton	RE-FPLE-WS	0.035	
North_Stockton	RE-FPLE-WS	1.388	
North_Stockton	RE-LEVEE-FPLE	0.829	
North_Stockton	RE-LEVEE-FPLE	0.045	
North_Stockton	RE-FPLE-LS	0.014	
North_Stockton	RE-FPLE-WS	0.018	
Delta_Front	RE-FPLE-MITIGATION	8.551	
Delta_Front	RE-LEVEE-FPLE	10.870	
Delta_Front	RE-FPLE-LS	1.440	
Delta_Front	RE-FPLE-CANAL	1.431	
Delta_Front	RE-FPLE-LS	0.469	
Delta_Front	RE-FPLE-CLOSURE-STRUCTURE	0.030	
Delta_Front	RE-FPLE-MITIGATION	0.851	
Delta_Front	RE-LEVEE-FPLE	3.963	
Delta_Front	RE-LEVEE-FPLE	1.958	
Delta_Front	RE-FPLE-LS	0.261	
Delta_Front	RE-FPLE-LS	0.492	
Delta_Front	RE-LEVEE-FPLE	0.757	
Delta_Front	RE-FPLE-MITIGATION	4.227	
Delta_Front	RE-LEVEE-FPLE	0.307	
Delta_Front	RE-LEVEE-FPLE	5.190	
Delta_Front	RE-FPLE-LS	0.693	
Delta_Front	RE-FPLE-CANAL	0.687	
Delta_Front	RE-LEVEE-FPLE	0.035	
Delta_Front	RE-LEVEE-FPLE	5.082	
Delta_Front	RE-FPLE-WS	0.542	
Delta_Front	RE-FPLE-LS	0.548	
Delta_Front	RE-LEVEE-FPLE	3.809	
Delta_Front	RE-LEVEE-FPLE	0.458	
North_Stockton	RE-FPLE-LS	0.782	
North_Stockton	RE-LEVEE-FPLE	0.694	
 Delta_Front	RE-FPLE-LS	0.066	
_ North_Stockton	RE-FPLE-WS	0.030	
North_Stockton	RE-LEVEE-FPLE	0.102	
_ North_Stockton	RE-FPLE-LS	0.781	
North Stockton	RE-FPLE-LS	0.083	
North_Stockton	RE-LEVEE-FPLE	4.138	
North_Stockton	RE-FPLE-LS	0.006	
-			

North_Stockton	RE-FPLE-LS	0.008
North_Stockton	RE-FPLE-LS	0.010
North_Stockton	RE-FPLE-LS	0.009
North_Stockton	RE-FPLE-LS	0.010
North_Stockton	RE-FPLE-LS	0.010
North_Stockton	RE-FPLE-LS	0.015
-		
North_Stockton	RE-FPLE-LS	0.019
North_Stockton	RE-LEVEE-FPLE	0.101
North_Stockton	RE-FPLE-LS	0.053
North_Stockton	RE-FPLE-WS	0.049
North_Stockton	RE-FPLE-LS	0.114
North_Stockton	RE-LEVEE-FPLE	0.036
North_Stockton	RE-FPLE-LS	0.013
North_Stockton	RE-LEVEE-FPLE	0.014
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.016
North_Stockton	RE-FPLE-LS	0.027
North_Stockton	RE-LEVEE-FPLE	0.016
-		
North_Stockton	RE-FPLE-LS	0.027
North_Stockton	RE-LEVEE-FPLE	0.017
North_Stockton	RE-FPLE-LS	0.025
North_Stockton	RE-LEVEE-FPLE	0.017
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.019
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.022
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.024
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.017
North_Stockton	RE-FPLE-LS	0.026
North Stockton	RE-LEVEE-FPLE	0.015
North Stockton	RE-FPLE-LS	0.015
_		
North_Stockton	RE-LEVEE-FPLE	0.012
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.011
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.009
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.010
_ North_Stockton	RE-FPLE-LS	0.026
North Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-WS	0.355
		0.555

North_Stockton	RE-LEVEE-FPLE	0.785
North_Stockton	RE-FPLE-WS	0.109
North_Stockton	RE-LEVEE-FPLE	0.298
_ North_Stockton	RE-FPLE-LS	0.044
North_Stockton	RE-LEVEE-FPLE	0.020
North_Stockton	RE-FPLE-LS	0.036
_		
North_Stockton	RE-LEVEE-FPLE	0.015
North_Stockton	RE-FPLE-LS	0.048
North_Stockton	RE-LEVEE-FPLE	0.018
North_Stockton	RE-FPLE-LS	0.020
North_Stockton	RE-LEVEE-FPLE	0.006
North_Stockton	RE-FPLE-WS	0.280
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North_Stockton	RE-FPLE-LS	0.025
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_ North_Stockton	RE-FPLE-LS	0.025
North_Stockton	RE-LEVEE-FPLE	0.021
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.020
_		
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.017
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.018
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.018
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.019
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North_Stockton	RE-LEVEE-FPLE	0.019
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.022
_		
North_Stockton	RE-FPLE-LS	0.025
North_Stockton	RE-LEVEE-FPLE	0.023
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.026
North_Stockton	RE-FPLE-LS	0.042
North_Stockton	RE-LEVEE-FPLE	0.040
North_Stockton	RE-FPLE-LS	0.036
North_Stockton	RE-LEVEE-FPLE	0.012
North_Stockton	RE-FPLE-LS	0.042
_ North_Stockton	RE-FPLE-LS	0.025
North_Stockton	RE-FPLE-LS	0.033
North_Stockton	RE-FPLE-LS	0.046
North_Stockton	RE-FPLE-LS	0.011
_		
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-FPLE-LS	0.026
North_Stockton	RE-LEVEE-FPLE	0.005

North_Stockton	RE-FPLE-LS	0.024
North_Stockton	RE-LEVEE-FPLE	0.006
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.007
_ North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.008
North_Stockton	RE-FPLE-WS	0.087
_	RE-FPLE-WS	
North_Stockton		0.591
North_Stockton	RE-FPLE-LS	0.005
North_Stockton	RE-LEVEE-FPLE	0.946
North_Stockton	RE-LEVEE-FPLE	0.522
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North_Stockton	RE-LEVEE-FPLE	0.611
North_Stockton	RE-FPLE-LS	0.034
North_Stockton	RE-FPLE-WS	0.230
North_Stockton	RE-FPLE-WS	0.132
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North_Stockton	RE-FPLE-LS	0.021
North Stockton	RE-LEVEE-FPLE	0.006
North Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.006
North_Stockton	RE-FPLE-LS	0.020
North_Stockton	RE-LEVEE-FPLE	0.020
_	RE-FPLE-LS	0.007
North_Stockton		
North_Stockton	RE-LEVEE-FPLE	0.009
North_Stockton	RE-FPLE-LS	0.021
North_Stockton	RE-LEVEE-FPLE	0.019
North_Stockton	RE-FPLE-LS	0.031
North_Stockton	RE-LEVEE-FPLE	0.028
North_Stockton	RE-FPLE-LS	0.050
North_Stockton	RE-FPLE-LS	0.005
North_Stockton	RE-FPLE-LS	0.020
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.007
North_Stockton	RE-FPLE-LS	0.022
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North_Stockton	RE-FPLE-LS	0.027
North Stockton	RE-LEVEE-FPLE	0.009
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-FPLE-LS	0.022
_		0.022
North_Stockton	RE-FPLE-LS	
North_Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.008
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.007

North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.007
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.007
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.007
North_Stockton	RE-FPLE-LS	0.022
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North_Stockton	RE-FPLE-LS	0.022
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North_Stockton	RE-FPLE-LS	0.025
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North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.011
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.008
North_Stockton	RE-FPLE-LS	0.017
North Stockton	RE-LEVEE-FPLE	0.012
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.012
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.012
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North_Stockton	RE-LEVEE-FPLE	0.008
North_Stockton	RE-FPLE-LS	0.022
North Stockton	RE-FPLE-LS	0.020
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North Stockton	RE-LEVEE-FPLE	0.012
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.011
North_Stockton	RE-FPLE-LS	0.036
North_Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-LS	0.035
North_Stockton	RE-LEVEE-FPLE	0.031
North_Stockton	RE-FPLE-LS	0.037
North_Stockton	RE-LEVEE-FPLE	0.015
North_Stockton	RE-FPLE-LS	0.035
North_Stockton	RE-LEVEE-FPLE	0.010
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.025

North_Stockton	RE-FPLE-LS	0.043
North_Stockton	RE-FPLE-LS	0.025
North_Stockton	RE-LEVEE-FPLE	0.018
North_Stockton	RE-FPLE-LS	0.039
North_Stockton	RE-LEVEE-FPLE	0.006
North_Stockton	RE-FPLE-LS	0.018
North_Stockton	RE-LEVEE-FPLE	0.027
North_Stockton	RE-FPLE-LS	0.044
North_Stockton	RE-LEVEE-FPLE	0.044
North_Stockton	RE-FPLE-LS	0.039
North_Stockton	RE-LEVEE-FPLE	0.028
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.023
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.018
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_ North_Stockton	RE-LEVEE-FPLE	0.010
_ North_Stockton	RE-FPLE-LS	0.024
North Stockton	RE-FPLE-LS	0.033
_ North_Stockton	RE-LEVEE-FPLE	0.008
_ North_Stockton	RE-FPLE-LS	0.025
_ North_Stockton	RE-LEVEE-FPLE	0.023
_ North_Stockton	RE-FPLE-LS	0.042
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_ North_Stockton	RE-FPLE-LS	0.029
_ North_Stockton	RE-LEVEE-FPLE	0.015
_ North_Stockton	RE-FPLE-LS	0.022
_ North_Stockton	RE-LEVEE-FPLE	0.013
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.015
_ North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-LEVEE-FPLE	0.015
North_Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.010
North Stockton	RE-FPLE-LS	0.022
North_Stockton	RE-LEVEE-FPLE	0.006
North_Stockton	RE-FPLE-LS	0.023
_ North_Stockton	RE-LEVEE-FPLE	0.007
North Stockton	RE-FPLE-LS	0.023
_ North_Stockton	RE-LEVEE-FPLE	0.010
_ North_Stockton	RE-FPLE-LS	0.025
_ North_Stockton	RE-LEVEE-FPLE	0.009
_ North_Stockton	RE-FPLE-LS	0.032
North_Stockton	RE-LEVEE-FPLE	0.007
North_Stockton	RE-FPLE-LS	0.034
North_Stockton	RE-FPLE-LS	0.017
North_Stockton	RE-FPLE-LS	0.017

North_Stockton	RE-FPLE-LS	0.016
North_Stockton	RE-FPLE-LS	0.019
North_Stockton	RE-FPLE-LS	0.020
North_Stockton	RE-FPLE-LS	0.023
North_Stockton	RE-FPLE-LS	0.025
North_Stockton	RE-LEVEE-FPLE	0.006
_ North_Stockton	RE-FPLE-LS	0.045
Calaveras RB	RE-LEVEE-FPLE	0.264
Calaveras_RB	RE-LEVEE-FPLE	0.008
Calaveras_RB	RE-LEVEE-FPLE	0.073
Calaveras_LB	RE-LEVEE-FPLE	3.189
Calaveras_LB	RE-FPLE-WS	0.871
Calaveras_LB	RE-FPLE-LS	0.862
Calaveras_LB	RE-LEVEE-FPLE	1.599
Calaveras LB	RE-FPLE-WS	0.468
_		
Calaveras_LB	RE-FPLE-LS	0.548
Calaveras_LB	RE-FPLE-CLOSURE-STRUCTURE	0.108
Calaveras_LB	RE-LEVEE-FPLE	0.174
Calaveras_LB	RE-FPLE-WS	0.082
Calaveras_LB	RE-FPLE-LS	0.068
Calaveras_LB	RE-LEVEE-FPLE	0.058
Calaveras_LB	RE-FPLE-WS	0.026
Calaveras_LB	RE-FPLE-LS	0.024
Calaveras_LB	RE-LEVEE-FPLE	0.085
Calaveras_LB	RE-LEVEE-FPLE	0.012
Calaveras_LB	RE-LEVEE-FPLE	0.495
Calaveras_LB	RE-LEVEE-FPLE	0.013
Calaveras_LB	RE-LEVEE-FPLE	1.119
Calaveras_LB	RE-LEVEE-FPLE	0.083
Calaveras_LB	RE-LEVEE-FPLE	0.113
Calaveras_LB	RE-LEVEE-FPLE	0.114
Calaveras_LB	RE-LEVEE-FPLE	0.111
Calaveras_LB	RE-LEVEE-FPLE	0.093
Calaveras LB	RE-LEVEE-FPLE	0.128
Calaveras LB	RE-LEVEE-FPLE	0.103
_ Calaveras_LB	RE-LEVEE-FPLE	0.098
Calaveras LB	RE-LEVEE-FPLE	0.099
Calaveras LB	RE-LEVEE-FPLE	0.099
Calaveras LB	RE-LEVEE-FPLE	0.102
Calaveras_LB	RE-LEVEE-FPLE	0.103
Calaveras_LB	RE-LEVEE-FPLE	0.101
Calaveras_LB	RE-LEVEE-FPLE	0.099
Calaveras_LB	RE-LEVEE-FPLE	0.108
Calaveras_LB	RE-LEVEE-FPLE	0.108
-		
Calaveras_LB	RE-LEVEE-FPLE	0.112
Calaveras_LB	RE-LEVEE-FPLE	0.102
Calaveras_LB	RE-LEVEE-FPLE	0.106

Calaveras_LB	RE-LEVEE-FPLE	0.081
Calaveras_LB	RE-LEVEE-FPLE	0.622
Calaveras_LB	RE-LEVEE-FPLE	0.301
Calaveras_LB	RE-LEVEE-FPLE	0.268
Calaveras_LB	RE-LEVEE-FPLE	0.089
Calaveras_LB	RE-LEVEE-FPLE	0.109
Calaveras_LB	RE-LEVEE-FPLE	0.010
Calaveras_LB	RE-LEVEE-FPLE	0.058
Calaveras_LB	RE-LEVEE-FPLE	0.098
 Calaveras_LB	RE-LEVEE-FPLE	0.007
 Calaveras_LB	RE-LEVEE-FPLE	0.009
Calaveras LB	RE-LEVEE-FPLE	0.008
Calaveras LB	RE-LEVEE-FPLE	0.011
Calaveras LB	RE-LEVEE-FPLE	0.027
Calaveras LB	RE-LEVEE-FPLE	0.008
Calaveras_LB	RE-LEVEE-FPLE	1.266
Calaveras RB	RE-LEVEE-FPLE	1.469
Calaveras_RB	RE-LEVEE-FPLE	1.497
Calaveras_RB	RE-LEVEE-FPLE	2.631
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras_RB	RE-LEVEE-FPLE	0.042
Calaveras_RB	RE-LEVEE-FPLE	0.042
Calaveras_RB	RE-LEVEE-FPLE	0.018
–	RE-LEVEE-FPLE	0.452
Calaveras_LB		
Calaveras_LB	RE-LEVEE-FPLE	0.075
Calaveras_LB	RE-LEVEE-FPLE	0.061
Calaveras_LB	RE-LEVEE-FPLE	0.199
Calaveras_LB	RE-LEVEE-FPLE	0.114
Calaveras_LB	RE-LEVEE-FPLE	0.102
Calaveras_LB	RE-LEVEE-FPLE	0.133
Calaveras_LB	RE-LEVEE-FPLE	0.150
Calaveras_LB	RE-LEVEE-FPLE	0.029
Calaveras_LB	RE-LEVEE-FPLE	0.076
Calaveras_LB	RE-LEVEE-FPLE	0.025
Calaveras_LB	RE-LEVEE-FPLE	0.211
Calaveras_LB	RE-LEVEE-FPLE	0.014
Calaveras_LB	RE-LEVEE-FPLE	0.035
Calaveras_LB	RE-LEVEE-FPLE	0.063
Calaveras_LB	RE-LEVEE-FPLE	0.053
Calaveras_LB	RE-LEVEE-FPLE	0.064
Calaveras_LB	RE-LEVEE-FPLE	0.036
Calaveras_LB	RE-LEVEE-FPLE	0.037
Calaveras_LB	RE-LEVEE-FPLE	0.039
Calaveras_LB	RE-LEVEE-FPLE	0.143
Calaveras_LB	RE-LEVEE-FPLE	0.110
Calaveras_LB	RE-LEVEE-FPLE	0.126
Calaveras_LB	RE-LEVEE-FPLE	0.057

Calaveras_LB	RE-LEVEE-FPLE	0.045
Calaveras_LB	RE-LEVEE-FPLE	0.098
Calaveras_LB	RE-LEVEE-FPLE	0.035
Calaveras_LB	RE-LEVEE-FPLE	0.170
Calaveras_LB	RE-LEVEE-FPLE	0.178
Calaveras_LB	RE-LEVEE-FPLE	0.188
 Calaveras_LB	RE-LEVEE-FPLE	0.204
Calaveras LB	RE-LEVEE-FPLE	0.066
 Calaveras_LB	RE-LEVEE-FPLE	0.063
 Calaveras_LB	RE-LEVEE-FPLE	0.107
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Calaveras_LB	RE-LEVEE-FPLE	0.051
Calaveras_LB	RE-LEVEE-FPLE	0.144
Calaveras LB	RE-LEVEE-FPLE	0.067
Calaveras_LB	RE-LEVEE-FPLE	0.013
Calaveras_LB	RE-LEVEE-FPLE	0.086
Calaveras_LB	RE-LEVEE-FPLE	0.085
Calaveras_LB	RE-LEVEE-FPLE	0.472
Calaveras_LB	RE-LEVEE-FPLE	0.167
Calaveras_LB	RE-LEVEE-FPLE	0.008
Calaveras_LB	RE-LEVEE-FPLE	0.222
Calaveras_LB	RE-LEVEE-FPLE	0.084
-		0.062
Calaveras_LB	RE-LEVEE-FPLE	
Calaveras_LB	RE-LEVEE-FPLE	0.010
Calaveras_LB	RE-LEVEE-FPLE	0.015
Calaveras_LB	RE-LEVEE-FPLE	0.009
Calaveras_LB	RE-LEVEE-FPLE	0.013
Calaveras_LB	RE-LEVEE-FPLE	0.012
Calaveras_LB	RE-LEVEE-FPLE	0.643
Calaveras_LB	RE-LEVEE-FPLE	0.154
Calaveras_LB	RE-LEVEE-FPLE	1.696
Calaveras_LB	RE-LEVEE-FPLE	1.895
Calaveras_LB	RE-LEVEE-FPLE	0.499
Calaveras_LB	RE-LEVEE-FPLE	1.680
Calaveras_LB	RE-LEVEE-FPLE	0.005
Calaveras_LB	RE-LEVEE-FPLE	0.006
Calaveras_LB	RE-LEVEE-FPLE	0.009
Delta_Front	RE-FPLE-MITIGATION	0.079
Delta_Front	RE-LEVEE-FPLE	7.877
Delta_Front	RE-LEVEE-FPLE	0.145
Delta_Front	RE-FPLE-MITIGATION	0.045
Delta_Front	RE-LEVEE-FPLE	0.104
Delta_Front	RE-LEVEE-FPLE	1.188
Delta_Front	RE-LEVEE-FPLE	0.751
Delta_Front	RE-LEVEE-FPLE	6.189
Delta_Front	RE-LEVEE-FPLE	0.008
Delta_Front	RE-LEVEE-FPLE	0.016

Delta_Front	RE-LEVEE-FPLE	0.017
Delta_Front	RE-LEVEE-FPLE	0.015
Delta_Front	RE-LEVEE-FPLE	0.014
Delta_Front	RE-LEVEE-FPLE	0.851
Delta_Front	RE-LEVEE-FPLE	0.013
Delta_Front	RE-LEVEE-FPLE	2.349
Delta Front	RE-LEVEE-FPLE	0.061
_ Delta_Front	RE-LEVEE-FPLE	0.028
Calaveras RB	RE-LEVEE-FPLE	2.032
Calaveras_RB	RE-LEVEE-FPLE	1.174
Calaveras_RB	RE-LEVEE-FPLE	3.946
Calaveras_RB	RE-LEVEE-FPLE	1.454
Calaveras_RB	RE-LEVEE-FPLE	2.059
Calaveras_RB	RE-LEVEE-FPLE	0.025
Calaveras_RB	RE-LEVEE-FPLE	0.017
Calaveras_RB	RE-LEVEE-FPLE	0.017
_	RE-LEVEE-FPLE	
Calaveras_RB		0.012
Calaveras_RB	RE-LEVEE-FPLE	0.013
Calaveras_RB	RE-LEVEE-FPLE	0.012
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras_RB	RE-LEVEE-FPLE	0.005
Calaveras_RB	RE-LEVEE-FPLE	0.006
Calaveras_RB	RE-LEVEE-FPLE	0.008
Calaveras_RB	RE-LEVEE-FPLE	0.006
Calaveras_RB	RE-LEVEE-FPLE	0.008
Calaveras_RB	RE-LEVEE-FPLE	0.011
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras_RB	RE-LEVEE-FPLE	0.012
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras_RB	RE-LEVEE-FPLE	0.008
Calaveras_RB	RE-LEVEE-FPLE	0.009
Calaveras_RB	RE-LEVEE-FPLE	0.043
Calaveras_RB	RE-LEVEE-FPLE	0.039
Calaveras_RB	RE-LEVEE-FPLE	0.038
Calaveras RB	RE-LEVEE-FPLE	0.037
 Calaveras_RB	RE-LEVEE-FPLE	0.033
 Calaveras_RB	RE-LEVEE-FPLE	0.031
Calaveras RB	RE-LEVEE-FPLE	0.027
Calaveras RB	RE-LEVEE-FPLE	0.025
Calaveras_RB	RE-LEVEE-FPLE	0.032
Calaveras_RB	RE-LEVEE-FPLE	0.029
Calaveras_RB	RE-LEVEE-FPLE	0.014
Calaveras_RB	RE-LEVEE-FPLE	0.029
Calaveras_RB	RE-LEVEE-FPLE	0.039
Calaveras_RB	RE-LEVEE-FPLE	0.030
_		
Calaveras_RB	RE-LEVEE-FPLE	0.029
Calaveras_RB	RE-LEVEE-FPLE	0.029

Calaveras_RB	RE-LEVEE-FPLE	0.023
Calaveras_RB	RE-LEVEE-FPLE	0.020
Calaveras_RB	RE-LEVEE-FPLE	0.025
Calaveras_RB	RE-LEVEE-FPLE	0.027
Calaveras RB	RE-LEVEE-FPLE	0.029
 Calaveras_RB	RE-LEVEE-FPLE	0.029
 Calaveras_RB	RE-LEVEE-FPLE	0.025
Calaveras RB	RE-LEVEE-FPLE	0.026
Calaveras RB	RE-LEVEE-FPLE	0.036
Calaveras_RB	RE-LEVEE-FPLE	0.079
Calaveras_RB	RE-LEVEE-FPLE	0.043
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras RB	RE-LEVEE-FPLE	0.011
-	RE-LEVEE-FPLE	0.010
Calaveras_RB		
Calaveras_RB	RE-LEVEE-FPLE	0.011
Calaveras_RB	RE-LEVEE-FPLE	0.011
Calaveras_RB	RE-LEVEE-FPLE	0.006
Calaveras_RB	RE-LEVEE-FPLE	0.005
Calaveras_RB	RE-LEVEE-FPLE	0.012
Calaveras_RB	RE-LEVEE-FPLE	0.014
Calaveras_RB	RE-LEVEE-FPLE	0.012
Calaveras_RB	RE-LEVEE-FPLE	0.010
Calaveras_RB	RE-LEVEE-FPLE	0.013
Calaveras_RB	RE-LEVEE-FPLE	0.017
Calaveras_RB	RE-LEVEE-FPLE	0.019
Calaveras_RB	RE-LEVEE-FPLE	0.023
Calaveras_RB	RE-LEVEE-FPLE	0.025
Calaveras_RB	RE-LEVEE-FPLE	0.025
Calaveras_RB	RE-LEVEE-FPLE	0.023
Calaveras_RB	RE-LEVEE-FPLE	0.021
Calaveras_RB	RE-LEVEE-FPLE	0.018
Calaveras_RB	RE-LEVEE-FPLE	0.014
Calaveras_RB	RE-LEVEE-FPLE	0.006
 Calaveras_RB	RE-LEVEE-FPLE	0.007
 Calaveras_RB	RE-LEVEE-FPLE	0.009
 Calaveras_RB	RE-LEVEE-FPLE	0.012
Calaveras_RB	RE-LEVEE-FPLE	0.013
Calaveras RB	RE-LEVEE-FPLE	0.014
Calaveras_RB	RE-LEVEE-FPLE	0.017
Calaveras_RB	RE-LEVEE-FPLE	0.020
Calaveras_RB	RE-LEVEE-FPLE	0.020
Calaveras_RB	RE-LEVEE-FPLE	0.020
-	RE-LEVEE-FPLE	0.019
Calaveras_RB		
Calaveras_RB	RE-LEVEE-FPLE	0.019
Calaveras_RB	RE-LEVEE-FPLE	0.018
Calaveras_RB	RE-LEVEE-FPLE	0.028

Calaveras_RB	RE-LEVEE-FPLE	0.006
Calaveras_RB	RE-LEVEE-FPLE	0.082
Calaveras_RB	RE-LEVEE-FPLE	0.079
Delta Front	RE-LEVEE-FPLE	0.076
Delta Front	RE-LEVEE-FPLE	0.081
Delta_Front	RE-LEVEE-FPLE	0.123
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Delta_Front	RE-LEVEE-FPLE	0.084
Delta_Front	RE-LEVEE-FPLE	0.093
Delta_Front	RE-LEVEE-FPLE	0.103
Delta_Front	RE-LEVEE-FPLE	0.123
Delta_Front	RE-LEVEE-FPLE	0.073
Delta_Front	RE-LEVEE-FPLE	0.087
Delta_Front	RE-LEVEE-FPLE	0.027
Delta_Front	RE-LEVEE-FPLE	0.074
 Delta_Front	RE-LEVEE-FPLE	0.105
_ Delta_Front	RE-LEVEE-FPLE	0.100
Delta Front	RE-LEVEE-FPLE	0.089
Delta_Front	RE-LEVEE-FPLE	0.089
-	RE-LEVEE-FPLE	0.086
Delta_Front		
Delta_Front	RE-LEVEE-FPLE	0.085
Delta_Front	RE-LEVEE-FPLE	0.089
Delta_Front	RE-LEVEE-FPLE	0.088
Delta_Front	RE-LEVEE-FPLE	0.085
Delta_Front	RE-LEVEE-FPLE	0.086
Delta_Front	RE-LEVEE-FPLE	0.087
Delta_Front	RE-LEVEE-FPLE	0.091
Delta Front	RE-LEVEE-FPLE	0.089
_ Delta_Front	RE-LEVEE-FPLE	0.086
_ Delta_Front	RE-LEVEE-FPLE	0.085
Delta_Front	RE-LEVEE-FPLE	0.106
Delta_Front	RE-LEVEE-FPLE	0.112
Delta_Front	RE-LEVEE-FPLE	0.109
-		
Delta_Front	RE-LEVEE-FPLE	0.104
Delta_Front	RE-LEVEE-FPLE	0.104
Delta_Front	RE-LEVEE-FPLE	0.101
Delta_Front	RE-LEVEE-FPLE	0.097
Delta_Front	RE-LEVEE-FPLE	0.126
Delta_Front	RE-LEVEE-FPLE	0.090
Delta_Front	RE-LEVEE-FPLE	0.090
Delta_Front	RE-LEVEE-FPLE	0.088
Delta_Front	RE-LEVEE-FPLE	0.189
_ Smith_Canal	RE-FPLE-FLOODWALL	1.394
Smith_Canal	RE-FPLE-CLOSURE-STRUCTURE	0.338
RD_404	RE-LEVEE-FPLE	0.074
RD_404	RE-FPLE-LS	0.043
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RD_404	RE-FPLE-WS	0.372
RD_404	RE-LEVEE-FPLE	2.000

RD_404 RE-LEVEE-FPLE 2.216 RD_404 RE-FPLE-LS 0.881 RD_404 RE-LEVEE-FPLE 0.262 RD_404 RE-LEVEE-FPLE 0.088 RD_404 RE-LEVEE-FPLE 0.032 RD_404 RE-LEVEE-FPLE 0.063 RD_404 RE-LEVEE-FPLE 0.028 RD_404 RE-LEVEE-FPLE 0.751 RD_404 RE-LEVEE-FPLE 0.322 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 0.322 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.075			
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RD_404 RE-FPLE-LS 0.151 RD_404 RE-LEVEE-FPLE 0.088 RD_404 RE-FPLE-LS 0.032 RD_404 RE-LEVEE-FPLE 0.063 RD_404 RE-LEVEE-FPLE 0.028 RD_404 RE-LEVEE-FPLE 0.123 RD_404 RE-LEVEE-FPLE 0.751 RD_404 RE-LEVEE-FPLE 0.026 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.049	RD_404	RE-FPLE-LS	0.881
RD_404 RE-FPLE-LS 0.151 RD_404 RE-LEVEE-FPLE 0.088 RD_404 RE-FPLE-LS 0.032 RD_404 RE-LEVEE-FPLE 0.063 RD_404 RE-LEVEE-FPLE 0.028 RD_404 RE-LEVEE-FPLE 0.123 RD_404 RE-LEVEE-FPLE 0.751 RD_404 RE-LEVEE-FPLE 0.026 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.049	RD 404	RE-LEVEE-FPLE	0.262
RD_404 RE-IEVEE-FPLE 0.032 RD_404 RE-FPLE-LS 0.032 RD_404 RE-LEVEE-FPLE 0.063 RD_404 RE-IEVEE-FPLE 0.028 RD_404 RE-LEVEE-FPLE 0.751 RD_404 RE-LEVEE-FPLE 0.026 RD_404 RE-LEVEE-FPLE 0.026 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.011 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-FPLE-LS 0.042	_ RD 404	RE-FPLE-LS	0.151
RD_404 RE-FPLE-LS 0.032 RD_404 RE-LEVEE-FPLE 0.063 RD_404 RE-LEVEE-FPLE 0.028 RD_404 RE-LEVEE-FPLE 0.123 RD_404 RE-LEVEE-FPLE 0.751 RD_404 RE-LEVEE-FPLE 0.026 RD_404 RE-LEVEE-FPLE 1.571 RD_404 RE-LEVEE-FPLE 1.431 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-FPLE-LS 0.015	_		
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RD_404 RE-LEVEE-FPLE 1.431 RD_404 RE-LEVEE-FPLE 0.332 RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.0113 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-LEVEE-FPLE 0.005 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS<	RD_404	RE-LEVEE-FPLE	0.026
RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 8.236 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.0113 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-FPLE-LS 0.049 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-US 0.020 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.103 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS	RD_404	RE-LEVEE-FPLE	1.571
RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.049 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.103 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS 0.037 RD_404 RE-FPLE-WS 0	RD_404	RE-LEVEE-FPLE	1.431
RD_404 RE-LEVEE-FPLE 2.827 RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.049 RD_404 RE-LEVEE-FPLE 0.004 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-US 0.015 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.103 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS 0.037 RD_404 RE-FPLE-WS 0	RD 404	RE-LEVEE-FPLE	0.332
RD_404 RE-LEVEE-FPLE 2.628 RD_404 RE-LEVEE-FPLE 0.199 RD_404 RE-LEVEE-FPLE 8.236 RD_404 RE-LEVEE-FPLE 0.254 RD_404 RE-LEVEE-FPLE 0.030 RD_404 RE-LEVEE-FPLE 0.013 RD_404 RE-LEVEE-FPLE 0.075 RD_404 RE-LEVEE-FPLE 0.049 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-LS 0.015 RD_404 RE-FPLE-LS 0.020 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.020 RD_404 RE-FPLE-WS 0.125 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.123 RD_404 RE-FPLE-WS 0.103 RD_404 RE-FPLE-WS 0.103 RD_404 RE-FPLE-WS 0.080 RD_404 RE-FPLE-WS 0.036 RD_404 RE-FPLE-WS 0.037 RD_404 RE-FPLE-WS 0.037 </td <td>_</td> <td>RE-LEVEE-FPLE</td> <td>2.827</td>	_	RE-LEVEE-FPLE	2.827
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_	_		
RD_404 RE-FPLE-WS 0.029	_		
	RD_404	RE-FPLE-WS	0.029

RD_404	RE-FPLE-LS	0.030
RD_404	RE-LEVEE-FPLE	0.159
RD_404	RE-FPLE-WS	0.065
RD_404	RE-FPLE-LS	0.014
RD_404	RE-LEVEE-FPLE	0.666
RD_404	RE-FPLE-WS	0.164
_ RD_404	RE-FPLE-LS	0.168
_ RD_404	RE-FPLE-LS	0.004
_ RD_404	RE-LEVEE-FPLE	0.201
_ RD_404	RE-FPLE-LS	0.003
_ RD_404	RE-FPLE-LS	0.095
RD 404	RE-LEVEE-FPLE	0.074
RD_404	RE-LEVEE-FPLE	0.007
RD_404	RE-LEVEE-FPLE	0.001
RD_404	RE-FPLE-LS	0.001
RD_404	RE-FPLE-LS	0.016
RD_404	RE-LEVEE-FPLE	0.079
RD_404	RE-FPLE-LS	0.091
RD 404	RE-FPLE-LS	0.082
North_Stockton	RE-FPLE-LS	0.020
North_Stockton	RE-LEVEE-FPLE	0.013
Calaveras_RB	RE-LEVEE-FPLE	1.038
Calaveras_RB	RE-LEVEE-FPLE	0.052
Calaveras_RB	RE-LEVEE-FPLE	0.032
Delta_Front	RE-LEVEE-FPLE	0.447
Delta_Front	RE-LEVEE-FPLE	0.037
Calaveras_LB	RE-LEVEE-FPLE	0.037
-	RE-LEVEE-FPLE	0.003
Calaveras_LB	RE-LEVEE-FPLE	2.857
Calaveras_RB		
Calaveras_LB	RE-FPLE-WS	0.075
Calaveras_RB	RE-LEVEE-FPLE	0.031
Calaveras_RB	RE-LEVEE-FPLE	0.240
Calaveras_LB	RE-LEVEE-FPLE	0.135
Calaveras_RB	RE-LEVEE-FPLE	1.830
Calaveras_LB	RE-LEVEE-FPLE	1.049
Calaveras_RB	RE-LEVEE-FPLE	1.607
Calaveras_RB	RE-LEVEE-FPLE	1.402
Calaveras_LB	RE-LEVEE-FPLE	0.018
North_Stockton	RE-LEVEE-FPLE	0.059
North_Stockton	RE-FPLE-LS	0.019
North_Stockton	RE-FPLE-WS	0.018
RD_404	RE-LEVEE-FPLE	0.069
RD_404	RE-LEVEE-FPLE	0.072
RD_404	RE-LEVEE-FPLE	1.360
RD_404	RE-LEVEE-FPLE	0.003
RD_404	RE-LEVEE-FPLE	0.001
RD_404	RE-FPLE-WS	0.014

RD_404	RE-FPLE-WS	0.018
RD_404	RE-FPLE-WS	0.002
RD_404	RE-FPLE-WS	0.458
RD_404	RE-FPLE-LS	0.017
RD_404	RE-FPLE-LS	0.018
RD_404	RE-FPLE-LS	0.164
RD_404	RE-FPLE-LS	0.006
RD_404	RE-FPLE-LS	0.001
 Delta_Front	RE-LEVEE-FPLE	0.026
_	RE-FPLE-CLOSURE-STRUCTURE	0.286
RD_404	RE-LEVEE-FPLE	3.059
_ Calaveras_LB	RE-LEVEE-FPLE	0.063
_ Calaveras_RB	RE-LEVEE-FPLE	0.205
Calaveras LB	RE-LEVEE-FPLE	0.582
North_Stockton	RE-LEVEE-FPLE	0.177
North_Stockton	RE-FPLE-LS	0.088
North_Stockton	RE-FPLE-WS	0.089
North_Stockton	RE-LEVEE-FPLE	0.044
North_Stockton	RE-FPLE-LS	0.020
North_Stockton	RE-FPLE-WS	0.008
Delta_Front	RE-LEVEE-FPLE	0.295
North_Stockton	RE-LEVEE-FPLE	0.035
North_Stockton	RE-FPLE-LS	0.033
North_Stockton	RE-FPLE-WS	0.018
-	RE-LEVEE-FPLE	0.018
Calaveras_LB		
North_Stockton	RE-LEVEE-FPLE	3.774
North_Stockton	RE-FPLE-LS	0.078
North_Stockton	RE-FPLE-WS	1.323
Calaveras_RB	RE-LEVEE-FPLE	0.120
Calaveras_RB	RE-LEVEE-FPLE	0.347
Calaveras_LB	RE-LEVEE-FPLE	0.232
Calaveras_LB	RE-LEVEE-FPLE	0.127
Calaveras_LB	RE-FPLE-WS	0.018
Calaveras_LB	RE-FPLE-LS	0.021
Calaveras_LB	RE-LEVEE-FPLE	0.861
Calaveras_LB	RE-LEVEE-FPLE	0.033
Calaveras_LB	RE-LEVEE-FPLE	8.437
Calaveras_LB	RE-LEVEE-FPLE	1.794
Calaveras_LB	RE-FPLE-WS	0.009
Calaveras_LB	RE-FPLE-LS	0.008
Calaveras_LB	RE-LEVEE-FPLE	2.320
Smith_Canal	RE-FPLE-FLOODWALL	0.120
Smith_Canal	RE-FPLE-CLOSURE-STRUCTURE	0.463
RD_404	RE-FPLE-WS	0.798
RD_404	RE-LEVEE-FPLE	0.737
RD_404	RE-FPLE-LS	0.030
RD_404	RE-LEVEE-FPLE	3.313

RD_404	RE-LEVEE-FPLE	0.022
RD_404	RE-LEVEE-FPLE	0.022
RD_404	RE-LEVEE-FPLE	0.186
RD_404	RE-LEVEE-FPLE	2.915
RD_404	RE-LEVEE-FPLE	0.163
North_Stockton	RE-FPLE-WS	0.043
North_Stockton	RE-FPLE-LS	0.032
North_Stockton	RE-LEVEE-FPLE	0.098
Delta_Front	RE-LEVEE-FPLE	0.288
RD_404	RE-LEVEE-FPLE	0.449
RD_404	RE-LEVEE-FPLE	0.007
Calaveras_RB	RE-LEVEE-FPLE	0.064
RD_404	RE-LEVEE-FPLE	0.141
RD_404	RE-FPLE-WS	0.058
RD_404	RE-LEVEE-FPLE	0.256
RD_404	RE-FPLE-WS	0.143
RD_404	RE-FPLE-LS	0.036
North_Stockton	RE-FPLE-LS	0.020

LOWER SAN JOAQUIN RIVER FEASIBILITY STUDY REAL ESTATE PLAN

EXHIBIT D

				CNTG	TOTAL FIRST
			COST	(%)	COST
LSJRFS	1 LS	\$	61,594,258	38% \$	85,000,000
North Stockton (Conventional SB Cutoff Walls)	1 LS				
02 Relocations	1 LS				
Utilities and Structures	1 LS	\$	4,961,299	38% \$	6,847,000
Mob, Demob & Prep Work (assumes 5% of construction)	1 LS	\$	220,010	38% \$	304,000
SWPP (assumes 3% of Construction)	1 LS	\$	131,452	38% \$	181,000
Traffic Control (assumes 5% of Construction)	1 LS	\$	220,010	38% \$	304,000
Utility Fix 3A (Cut and Replace) MC10L Culvert connecting Mosher Slough to Shima Tract (#46 - unknown type or dia - assumes two 48-IN RCP)	1 EA	⇔	774,731	38% \$	1,069,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC10L (#47 - 16-IN Water Main, assumes DIP)	1 EA	\$	444,862	38% \$	614,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC10L (#48 - 12-IN Water Main, assumes DIP)	1 EA	\$	306,170	38% \$	423,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC10L (#49 - 12-IN Force Main, assumes CIP)	1 EA	↔	362,036	38% \$	200,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC10L (#51 - discharge sta, unknown type or dia - assumes two 16-IN WSP)	1 EA	↔	1,061,071	38% \$	1,464,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC10L (#52 - 12-IN Force Main, assumes CIP)	1 EA	s	328,100	38% \$	453,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC10L (#53 - 12-IN Water Main, assumes DIP)	1 EA	⇔	272,234	38% \$	376,000
Utility Fix 3C (Cut and Replace - above the DWSE) MC20L (#57 - 4-IN Gas Main, assumes steel pipe)	1 EA	\$	108,684	38% \$	150,000
Utility Fix 3A (Cut and Replace - above the DWSE) MC20L (#58 - 15-IN sewer, assumes CIP)	1 EA	\$	731,939	38% \$	1,010,000
Delta Front (DSM Cutoff Walls - 3 configurations, SB Cutoff Wall)	1 LS				
02 Relocations	1 LS				
Utilities and Structures	1 LS	\$	7,983,759	38% \$	11,018,000
Mob, Demob & Prep Work (assumes 5% of construction)	1 LS	₩	352,845	38% \$	487,000
SWPP (assumes 3% of Construction)	1 LS	₩.	211,707	38% \$	292,000
Traffic Control (assumes 5% of Construction)	1 LS	\$	352,845	38% \$	487,000
Utility Fix 3A (Cut and Replace - above the DWSE) TS10L (#35 - 36-IN Force Main, assumes WSP)	1 EA	↔	1,129,751	\$ %88	1,559,000
Utility Fix 3A (Cut and Replace - above the DWSE) TS10L (#37 - 10-IN Petroleum Pipeline, assumes WSP)	1 EA	\$	408,863	38% \$	564,000
	1 EA	\$	110,924	38% \$	153,000
Utility Fix 3C (Cut and Replace - above the DWSE) TS10L (#39 - 12-IN Water Line, assumes DIP and 8-IN Sewer Line, assumes CIP)	1 EA	⇔	647,314	38% \$	893,000

Utility Fix PIPE-L (Cut and Replace) FM30L (#43 - 30-IN Force Main, assumes WSP, assumes runs length of Levee segment)	1 EA	€9	1,740,412	38% \$		2,402,000
Utility Fix 3B (Cut and Replace - below the DWSE) FM40L (#44 - 30-IN Force Main, assumes WSP)	1 EA	₩	1,265,231	38% \$		1,746,000
Utility Fix 3B (Cut and Replace - below the DWSE) FM60L (#45 - 66-IN Sewer, assumes WSP)	1 EA	\$	1,763,866	38% \$		2,434,000
Calaveras River (RB) (Conventional SB Cutoff Walls)	1 LS					
02 Relocations	1 LS					
Utilities and Structures	1 LS	\$	17,979,931	38% \$		24,812,000
Mobilization and Demobilization (assumes 5% of construction)	1 LS	⇔	795,632	38% \$		1,098,000
SWPP (assumes 3% of construction)	1 LS	↔	477,379	38% \$		000'659
Traffic Control (assumes 5% of construction)	1 LS	\$	795,632	38% \$		1,098,000
Utility Fix PUMP (assumes 3A for Earthwork) (Cut and Replace - above the DWSE) CR30R, LM 24.23 (#33 - four 20-IN, one 12-IN, assumes WSP)	1 EA	€9	2,433,237	38% \$		3,358,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR30R, LM 24.20 (#32 - Water Line, assumes 16-IN, DIP)	1 EA	↔	281,611	\$ %88	40	389,000
Utility Fix 3A (Cut and Replace - above the DWSE) CR30R, LM 24.19 (#31 - 16-IN Water Line, assumes DIP)	1 EA	↔	443,895	38% \$	40	613,000
Utility Fix PP-L (Utility Pole Relocation) CR40R, LM 23.85-24.14 (#30 - Power Line along Levee)	1 EA	\$	32,314	38% \$	40	45,000
Utility Fix PUMP (assumes 3A for Earthwork) (Cut and Replace - above the DWSE) CR40R, LM 23.77 (#28 - three 30-IN, one 12-IN, assumes WSP)	1 EA	⇔	2,753,656	38% \$		3,800,000
Utility Fix 4 (Cut and Replace/Relocate - from below DWSE to above the DWSE) CR40R, LM 23.77 (#27 - 33- IN Force Main, assumes WSP)	1 EA	⇔	1,425,307	38% \$		1,967,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR50R, LM 23 (#24 - 14-IN Discharge Line, assumes WSP)	1 EA	↔	205,372	38% \$	40	283,000
Utility Fix 3A (Cut and Replace - above the DWSE) CR50R, LM 22.76 (#21 - 12-IN Water Line, assumes DIP)	1 EA	↔	305,203	38% \$	40	421,000
Utility Fix 3A (Cut and Replace - above the DWSE) CR50R, LM 22.61 (#20 - two 30-IN discharge pipes, assumes WSP)	1 EA	↔	1,223,925	38% \$		1,689,000
Utility Fix 3A (Cut and Replace - above the DWSE) CR50R, LM 22.6 (#19 -18-IN and 24-IN discharge pipes, assumes WSP)	1 EA	↔	960,838	38% \$		1,326,000
Utility Fix 3B (Cut and Replace/Relocate - from below DWSE to above the DWSE) CR50R, LM 22.46 (#18 - 14- IN Sewer, assumes WSP)	1 EA	↔	1,358,027	38% \$		1,874,000
Utility Fix PP (Utility Pole Relocation) CR60R, LM 22.37 (#15 - Power Pole)	1 EA	⇔	29,186	38% \$		40,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR70R, LM 21.84 (#6 - two pipes, one 4-IN gas, second unknown utility type, assumes 4-IN gas)	1 EA	↔	163,011	\$ %88	40	225,000
Utility Fix PUMP (Cut and Replace - above the DWSE) CR80R, LM 21.21-21.22 (#3 - Pump Station with 2 sets of three pipes, one is 25"-18"-24" steel, second is 36"-25"-36" steel, assumes WSP)	1 EA	↔	4,295,708	38% \$		5,928,000
Calaveras River (LB) and North Port San Joaquin River (Conventional SB Cutoff Walls)	1 LS					
Utilities and Structures	1 LS	₩	2,837,442	\$ %88		3,916,000

Mob, Demob & Prep Work (assumes 5% of construction)	1 LS	49	126,000	38% \$	174,000
SWPP (assumes 3% of Construction)	1 LS	49	75,000		104,000
Traffic Control (assumes 5% of Construction)	1 LS	⇔	126,000	38% \$	174,000
Utility Fix PP-L, SJR10R (#47 - UG Elec Cable)	1 EA	⇔	121,821	38% \$	168,000
Utility Fix 3C (Cut and Replace - above the DWSE) - CR20L, LM 23.69 (#45 - 1-IN Gas Line)	1 EA	⇔	62,609	38% \$	86,000
Utility Fix PP, CR40L, LM 21.84-21.89 (#28 Light Pole Relocations)	2 EA	\$	3,189	38% \$	4,000
Utility Fix PP-L, CR40L, LM 21.70 (#27 - Utility Pole Relocations)	1 EA	⇔	29,731	\$ %88	41,000
Utility Fix 3A (Cut and Replace - above the DWSE) CR40L, LM 21.54 (#25 - 12-IN Water Main, assumes DIP)	1 EA	↔	220,813	\$ %88	305,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR40L (#23 - 4-IN Discharge Line, assumes DIP)	1 EA	\$	68,516	38% \$	95,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR40L (#22 - 18-IN sewer, assumes WSP)	1 EA	₩	375,661	38% \$	518,000
Utility Fix 3B (Cut and Replace - below the DWSE) CR40L (#21 - 54-IN sewer, assumes WSP)	1 EA	\$	1,527,622	38% \$	2,108,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR50L, LM 21.16 (#17 - four 5-1/2-IN conduits, unknown utility type, assumes elec 6-IN HDPE)	1 EA	↔	48,349	38% \$	000'29
Utility Fix PP, CR50L, LM 21.08 (#16 - Utility Pole Relocations)	1 EA	⇔	28,491	38% \$	39,000
Utility Fix 3C (Cut and Replace - above the DWSE) CR50L, LM 20.95 (#10 - Elec, 6-IN conduit, assumes HDPE)	1 EA	↔	23,641	38% \$	33,000
RD 404 and Duck Creek (Conventianal SB Cutoff Walls)	1 LS				
02 Relocations	1 LS				
Utilities and Structures	1 LS	ક	27,831,827	38% \$	38,408,000
Mob, Demob & Prep Work (assumes 5% of construction)	1 LS	₩.	1,230,116	38% \$	1,698,000
SWPP (assumes 3% of Construction)	1 LS	₩.	737,516	38% \$	1,018,000
Traffic Control (assumes 5% of Construction)	1 LS	\$	1,230,116	\$ %88	1,698,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR30R (#48 - two 36-IN Force Mains, assumes WSP)	1 EA	69	2,389,686	\$ %88	3,298,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR30R (#49 - 24-IN Force Main, assumes WSP)	1 EA	↔	647,364	\$ %88	893,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR30R (#50 - 12-IN Force Main, assumes CIP)	1 EA	\$	349,029	\$ %88	482,000
Utility Fix 3C (Cut and Replace - above the DWSE) SJR30R (#51 - 3 1/2-IN Gas Main, assumes steel pipe)	1 EA	↔	108,274	\$ %88	149,000
Utility Fix 3C (Cut and Replace - above the DWSE) SJR30R (#53 - 4-IN pipe, assumes Gas line steel pipe)	1 EA	\$	108,274	38% \$	149,000
Utility Fix 3C (Cut and Replace - above the DWSE) SJR30R (#54 - Submarine Utility Cable, assumes 4-IN Comm Conduit)	1 EA	↔	25,724	\$ %88	35,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR40R, LM 0.35 (#55 - 36-IN pipe, assumes Water Main, WSP)	1 EA	⇔	1,137,675	38% \$	1,570,000
Utility Fix 3B (Cut and Replace - below the DWSE) SJR40R, LM 0.7 (#57 - 60-IN RCP Outfall Pipe)	1 EA	⇔	930,570	\$ %88	1,284,000

Utility Fix 3A (Cut and Replace - above the DWSE) SJR50R, LM 1.06 (#62 - three pipes, util type unknown, assumes water/effluent - two 25-IN, one 60-IN, assumes WSP)	1 EA	69	1,783,746	38% \$	2,462,000
Utility Fix 3B (Cut and Replace - below the DWSE) SJR50R, LM 1.08 (#63 - 36-IN Force Main, assumes WSP)	1 EA	\$	1,434,746	\$ %88	1,980,000
Utility Fix 3B (Cut and Replace - below the DWSE) SJR50R, LM 1.08 (#64 - sewage outfall pipe, dia unknown, assumes 42-IN, WSP)	1 EA	↔	987,896	\$ %88	1,363,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR50R, LM 1.08 (#65 - 6-IN pipe - assumes Water Line, assumes DIP)	1 EA	so	229,126	38% \$	316,000
Utility Fix 3B (Cut and Replace - below the DWSE) SJR60R, LM 1.45 (#66 - three effluent pipes - two 25-IN, one 60-IN, assumes WSP)	1 EA	\$	2,374,764	38% \$	3,277,000
Utility Fix 2B (Cut and Abandon - below the DWSE) SJR60R, LM 1.48 (#67 - 36-IN pipes, assumes WSP)	1 EA	↔	495,307	\$ %88	684,000
Utility Fix 3C (Cut and Replace - above the DWSE) SJR60R, LM 1.55 (#68 - 3-IN Comm Conduit)	1 EA	₩	25,634	38% \$	35,000
	1 EA	so	273,964	38% \$	378,000
	1 EA	↔	287,301	\$ %88	396,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR60R, LM 1.57 (#72 - Pump Station, one 10-IN and one 12-IN, assumes WSP)	1 EA	\$	782,913	\$ %88	1,080,000
Utility Fix 3C (Cut and Replace - above the DWSE) SJR70R, LM 1.76 (#76 - Pump Station, one 8-IN, assumes WSP)	1 EA	⇔	267,447	38% \$	369,000
Utility Fix PUMP (assumes 3A for Earthwork) (Cut and Replace - above the DWSE) SJR70R, LM 1.85 (#78 - four 24-IN, one 8-IN, assumes WSP) NOT DONE	1 EA	so	2,791,199	38% \$	3,852,000
Utility Fix 3A (Cut and Replace - above the DWSE) SJR70R, LM 1.85 (#79 - Pump Station, one 8-IN, assumes WSP)	1 EA	↔	381,152	\$ %88	526,000
Utility Fix 3B (Cut and Replace - below the DWSE) FCS10R, LM 0.22 (#81 - abandoned 8-IN, two effluent pipes - two 27-IN, one 12-IN sewer, assumes WSP)	1 EA	s	3,240,733	\$ %88	4,472,000
Utility Fix 3A (Cut and Replace - above the DWSE) FCS10R, LM 0.77 (#82 - 6-IN pipe - assumes intake line, 18-IN & 3-IN assumes discharge)	1 EA	s	1,508,105	\$ %88	2,081,000
Utility Fix 2A (Cut and Abandon - above the DWSE) FCS10R, LM 0.78 (#83 - abandoned pipes 8-IN and 4-IN, assumes WSP)	1 EA	69	62,351	38% \$	86,000
Utility Fix 3C (Cut and Replace - above the DWSE) FCS10R, LM 1.09 (#87 - 3-IN Comm Conduit)	1 EA	₩	25,634	38% \$	35,000
Utility Fix 2A (Cut and Abandon - above the DWSE) FCS10R LM 1.18 (#88 - two abandoned 6-IN, assumes DIP)	1 EA	⇔	60,572	\$ %88	84,000
Utility Fix 3C (Cut and Replace - above the DWSE) FCS10R, LM 1.7 (#91 - Pump Station, one 6-IN, assumes WSP)	1 EA	↔	263,066	38% \$	363,000
Utility Fix 3B (Cut and Replace - below the DWSE) DC10R (#94 -24-IN discharge pipes, assumes WSP)	1 EA	⇔	1,269,570	38% \$	1,752,000
Utility Fix 3A (Cut and Replace - above the DWSE) DC10R (#95 - Fiber Optic Cable, 2-IN HDPE conduit)	1 EA	⇔	66,587	\$ %88	92,000
Utility Fix PP-L, DC20R (#96 - Utility Pole Relocations) Utility Fix PP, DC30R (#97 - Utility Pole Relocations)	7 EA 5 EA		190,658 135,011	38% \$ 38% \$	263,000 186,000

02 Relocations	\$ 61,594,258	38% \$	85,000,000
30 & 31 PED	\$ 16,990,601	\$ %88	23,447,000
TOTAL (02, 30, 31)	\$ 78,584,859	❖	108,447,000