DRAFT MINUTES OF THE FLOOD ZONE 1 ADVISORY BOARD MEETING HELD OCTOBER 26, 2023

Board Members (AB) Present
Bill Long (BL) – Chairman
Sue Lattanzio (SL)
Drew McIntyre (DM)
Tom Jordan (TJ)

District Staff (Staff) Present
Tracy Clay (TC), Principal Civil Engineer
Roger Leventhal (RL), Senior Civil Engineer
Hannah Lee (HL), Senior Civil Engineer

Board Members (AB) Absent
Gary Butler (GB) – Vice Chairman

Item 1. Approval of Meeting Minutes: February 10, 2022
Action by Board: Approve minutes as written
M/S: *DM/TJ* ***Ayes:*** *All present,* ***Nay:*** *None present,* ***Abstain:*** *None present*

Item 2. Open Time for Items Not on the Agenda
An update on State Route 37 was requested. A draft EIR for the first phase – a new, elevated, Novato Creek bridge funded to be constructed in 2026 – was released. The District submitted comments to Caltrans on the EIR.

The Marin County Multi-Jurisdictional Local Hazard Mitigation Plan is being updated this year and progress can be followed at this website: https://emergency.marincounty.org/pages/lhmp. Zone 1 projects are described in this plan, making them potentially eligible for FEMA Hazard Mitigation Funding.

RL also reported that a Novato Baylands Strategy group is starting up, led by San Francisco Estuary Institute with all agencies in the Baylands area participating. An San Francisco Estuary Partnership grant is funding a Baylands plan which will be utilized to filter future restoration and sea level rise adaptation project funding. Anyone is welcome to attend the Novato Baylands Group kick-off meeting to be held in February at Bel Marin Keys Community Services District.

Item 3. Deer Island Basin Complex Wetland Restoration Design
See staff report for written update. Additionally, the staff report to the District Board of Supervisors on June 6 regarding the project Initial Study and Mitigated Negative Declaration can be found here under Item 14d:
https://marin.granicus.com/GeneratedAgendaViewer.php?view_id=9&clip_id=11843

Item 4. Novato Creek Bypass Study
See staff report for written update as well as attached presentation from the consultant. AB expressed appreciation that the work studying potential solutions for Nave Gardens had gotten to this point. AB was interested in how project alternatives would perform with sea level rise, and how sensitive model results are to Stafford Dam attenuation. AB suggested local businesses and City of Novato may support projects identified in the study, particularly if commercial and environmental benefits are highlighted.

Item 5. Operations and Maintenance Update
See staff report for written update.

Item 6. Updating Hydrology for Stafford Dam
See staff report for information.

Action by Board: Recommend the District Board of Supervisors approve 1) a resolution of intent to approve a project to update the hydrology and hydraulics analysis for Stafford lake, 2) approve an approximately $150k contract for updated hydrology and hydraulic analysis for Stafford Dam, 3) approve an amendment to the District's existing 1985 agreement with NMWD for management of the dam, adding that NMWD fully reimburse these contracting costs to the Zone.
M/S: *DM/TJ* ***Ayes:*** *All present,* ***Nay:*** *None present,* ***Abstain:*** *None present*

Item 7. Schedule Next Meeting
Next meeting is tentatively scheduled for February 8, 2028.

Flood Zone 1

MARIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

ADVISORY BOARD MEETING

OCTOBER 26, 2023

Roger Leventhal, PE
Senior Civil Engineer
Project Manager

Hannah Lee, PE
Senior Civil Engineer
Operations & Maintenance

Agenda

- Approval of Meeting Minutes February 10, 2022
- Open Time for Items Not on the Agenda
- Deer Island Basin Complex Wetland Restoration Design
- Novato Creek Bypass Study
- Novato Creek Sediment Removal
- Operations and Maintenance Update
- Updating Hydrology for Stafford Dam
- Schedule Next Meeting

Item 1. Approval of Meeting Minutes

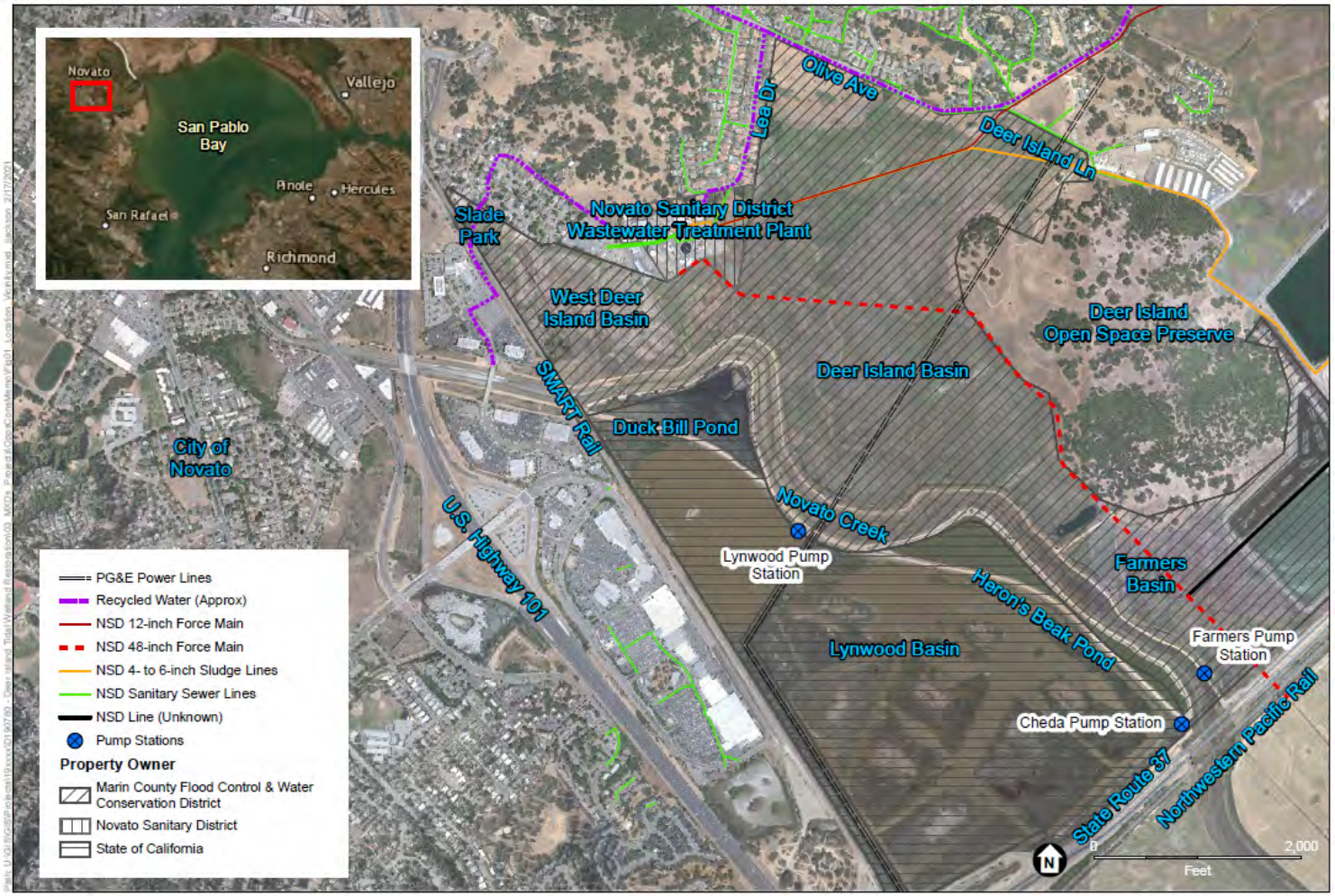
https://marinflooddistrict.org/meetings/zone-1-advisory-board-meeting-february-10-2022/

Recommended Action: Approve the minutes

Item 2. Open Time

- Comments will be heard for items not on the agenda.
- Limited to three minutes per speaker.
- When written testimony is presented, it is not necessary to read the entire text; it will automatically become part of the minutes.
- All are expected to be polite and courteous, and refrain from questioning the character or motives of others. Please help create an atmosphere of respect.

Item 3.
Deer Island Basin Complex Wetland Restoration Design

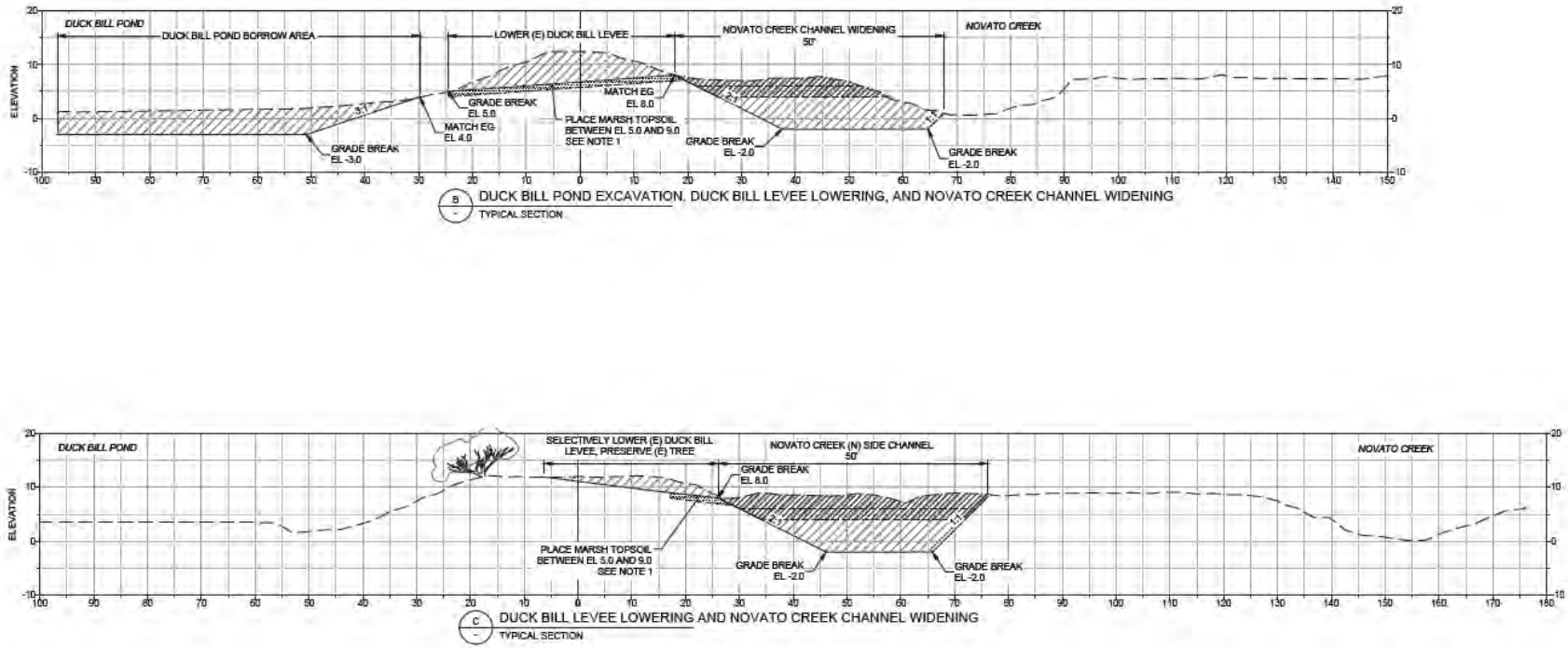


SOURCE: 2015 Aerial Photo (ESRI), 2014 Aerial Photo (Marin Map)

Deer Island Basin Tidal Wetland Restoration - D190780.00

Figure 2
Project Location and Vicinity

ESA

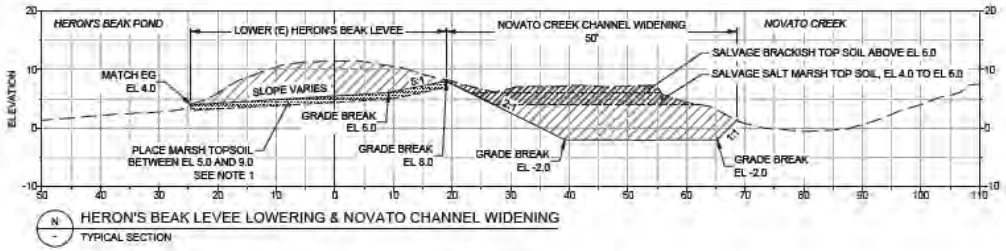


SOURCE: ESA, 2022

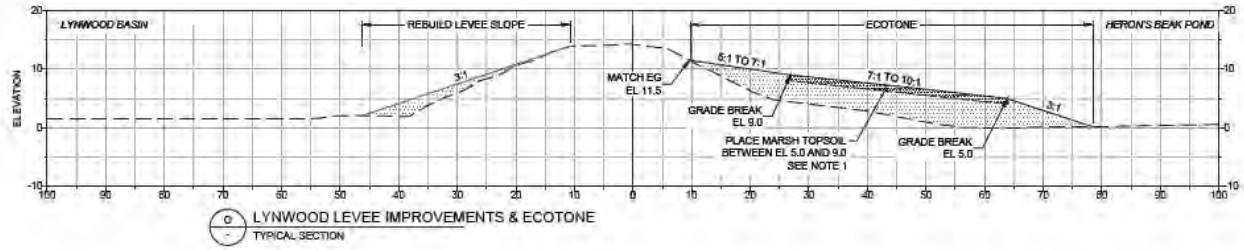
Deer Island Basin Complex Tidal Wetland Restoration - D190780.00

Figure 5a
Duck Bill Pond – Representative Cross-Sections

ESA



N
-
HERON'S BEAK LEVEE LOWERING & NOVATO CHANNEL WIDENING
TYPICAL SECTION



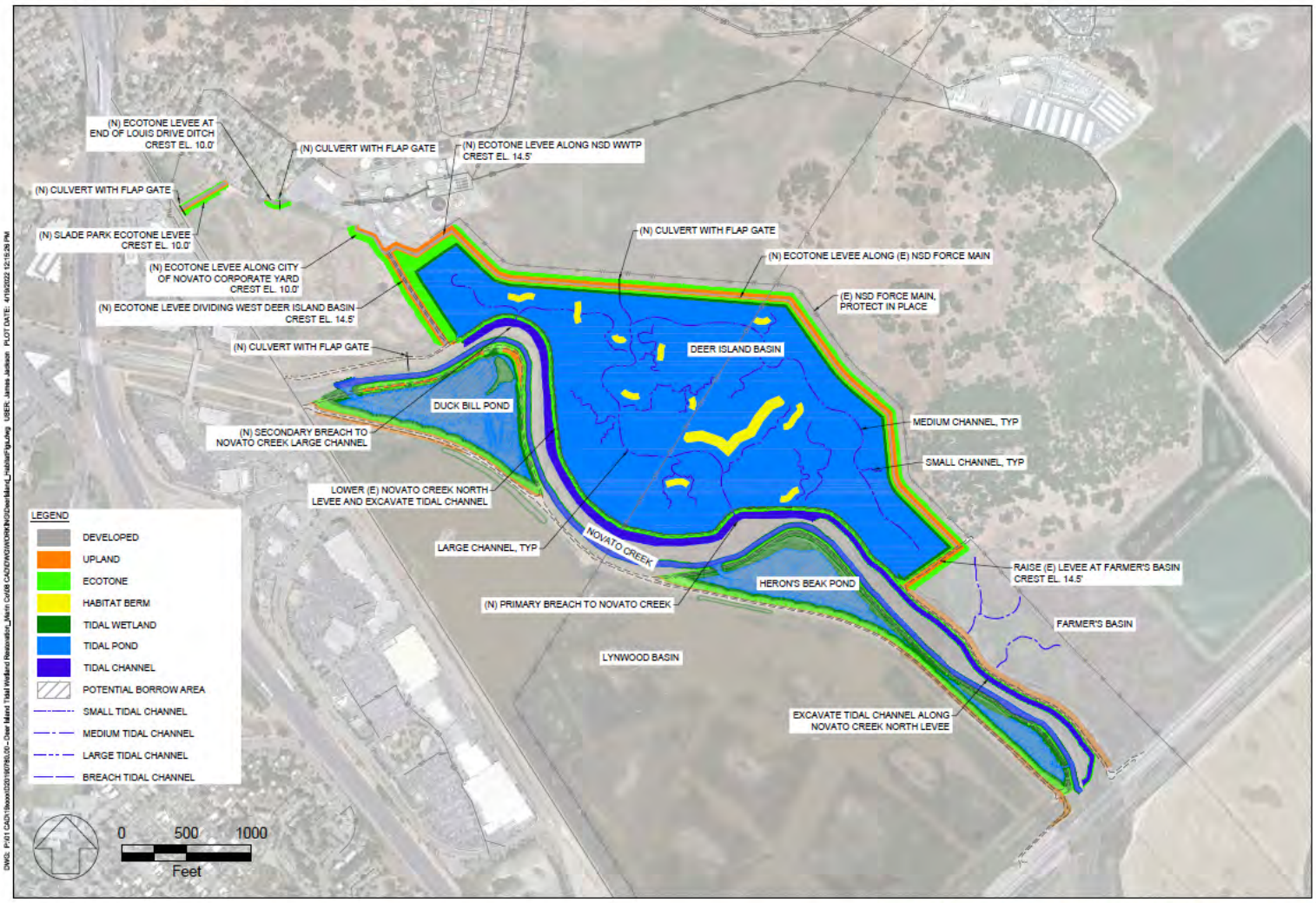
O
-
LYNWOOD LEVEE IMPROVEMENTS & ECOTONE
TYPICAL SECTION

SOURCE: ESA, 2022

Deer Island Basin Complex Tidal Wetland Restoration - D190780.00

Figure 5b
Heron's Beak Pond/Lynwood Levee – Representative Cross-Sections

ESA



Deer Island Basin Complex Tidal Wetland Restoration - D190780.00

Figure 6
Deer Island Basin South Restoration Plan

ESA

Item 4.
Novato Creek Bypass Study

Arroyo Avichi - Baccaglio Basin - Scottsdale Marsh and Pond - Lynwood Basin (ABSL) Complex and Nave Gardens Flood Drainage Improvements Feasibility Study

In-Progress Project Update

MARIN COUNTY FLOOD CONTROL DISTRICT

ZONE 1 MEETING

OCTOBER 26, 2023

Project Team and Goals

Marin County
- Roger Leventhal
- Hannah Lee

Wood Rodgers (Consultant)
- Dan Matthies
- Andrew Augustine
- Jeremy McMahon

Existing Aroyo Avichi weir

Goal - Evaluate improvements to the creek and stormdrain system through downtown Novato to reduce flooding downtown and Nave Gardens and the benefits or relocating the Lynwood pump that has to be rebuilt or moved.

Project Background

Frequent Flooding in Nave Gardens

Less frequent but highly impactful flooding in Downtown Novato

Desire to evaluate flood benefits and costs for moving more water through the ABSL wetlands system

Need to perform expensive fix to Lynwood pump station or relocate

Project Scope

Improvements to be evaluated...not all done for today

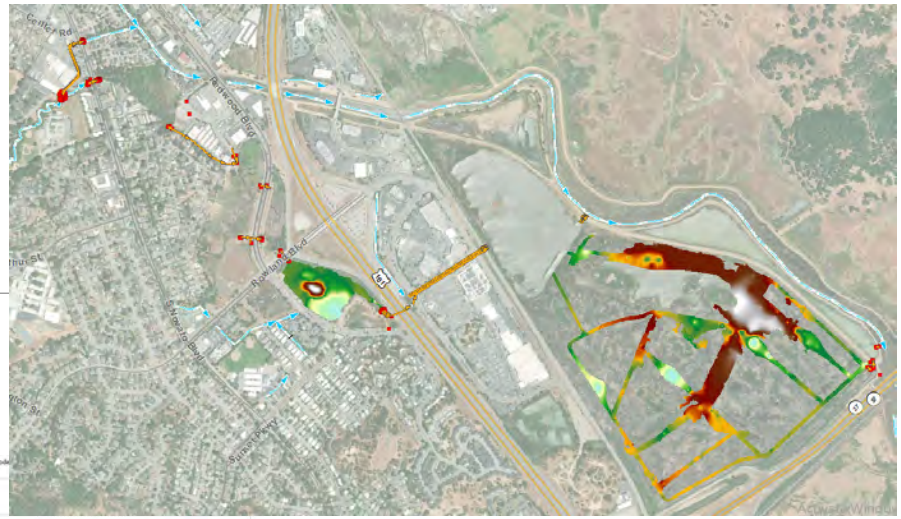
- Modification of Diversion Structure. Adjustment of Arroyo Avichi diversion structure to increase diverted runoff toward the Baccaglio Basin and ABSL Complex, and away from the current primary flow path through Nave Gardens and Novato Creek.
- Modification to the Baccaglio Basin feeder channel.
- Modifications of the Baccaglio Basin/Scottsdale Marsh. Lowering the depth of the basins to increase flood volume stored.
- Large Scale High Flow Diversion. Diversion of runoff from Novato and/or Warner Creeks into the ABSL Complex via large storm drains in Novato Blvd to bypass flood prone portions of Novato Creek.
- Improvements to the Lynwood Basin. Modification to Lynwood Basin would be evaluated in combination with other improvements..
- Addition of Pump Stations. Addition of pump stations for the purpose of flood control (as well as for storage discharge as discussed above).
- Nave Garden Improvements. Improvements for consideration will include walls, diversions, valves, flow barriers, and new pump stations as a last resort (not preferred by the District).

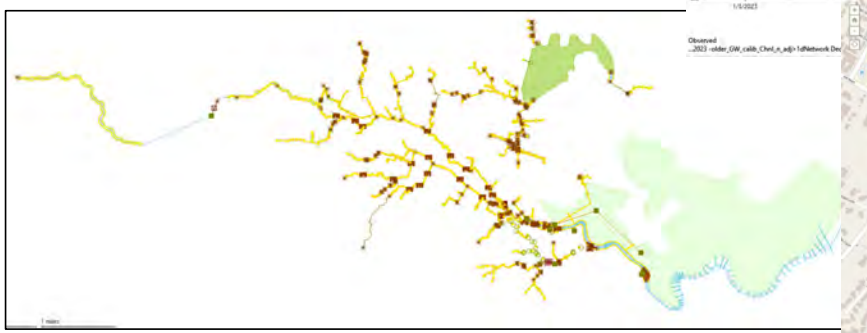
Other improvements will be developed based on review of previous reports and discussions with the District. After each is assessed individually, the improvements will then be combined into combinations to reflect "Alternatives".

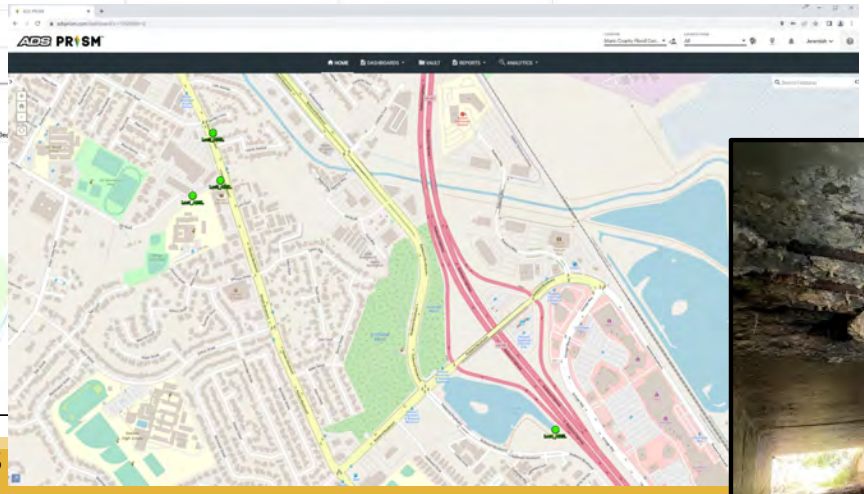
Project Methodology

Data Collection
- Survey
- 2022/2023 Wet Season Gage Installation
- Condition Assessment

H&H Modeling[1]
- Verification
- Improvement Alternatives
- Improvement Effectiveness



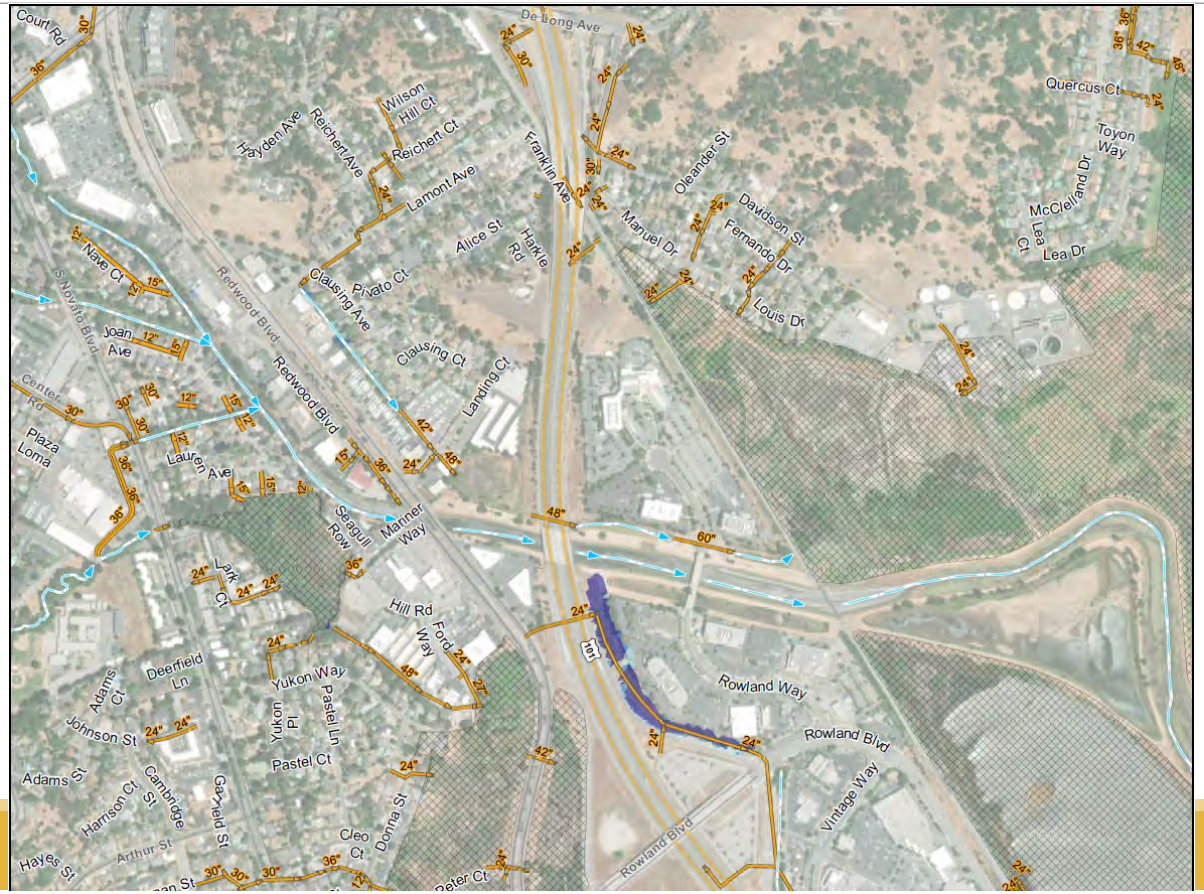




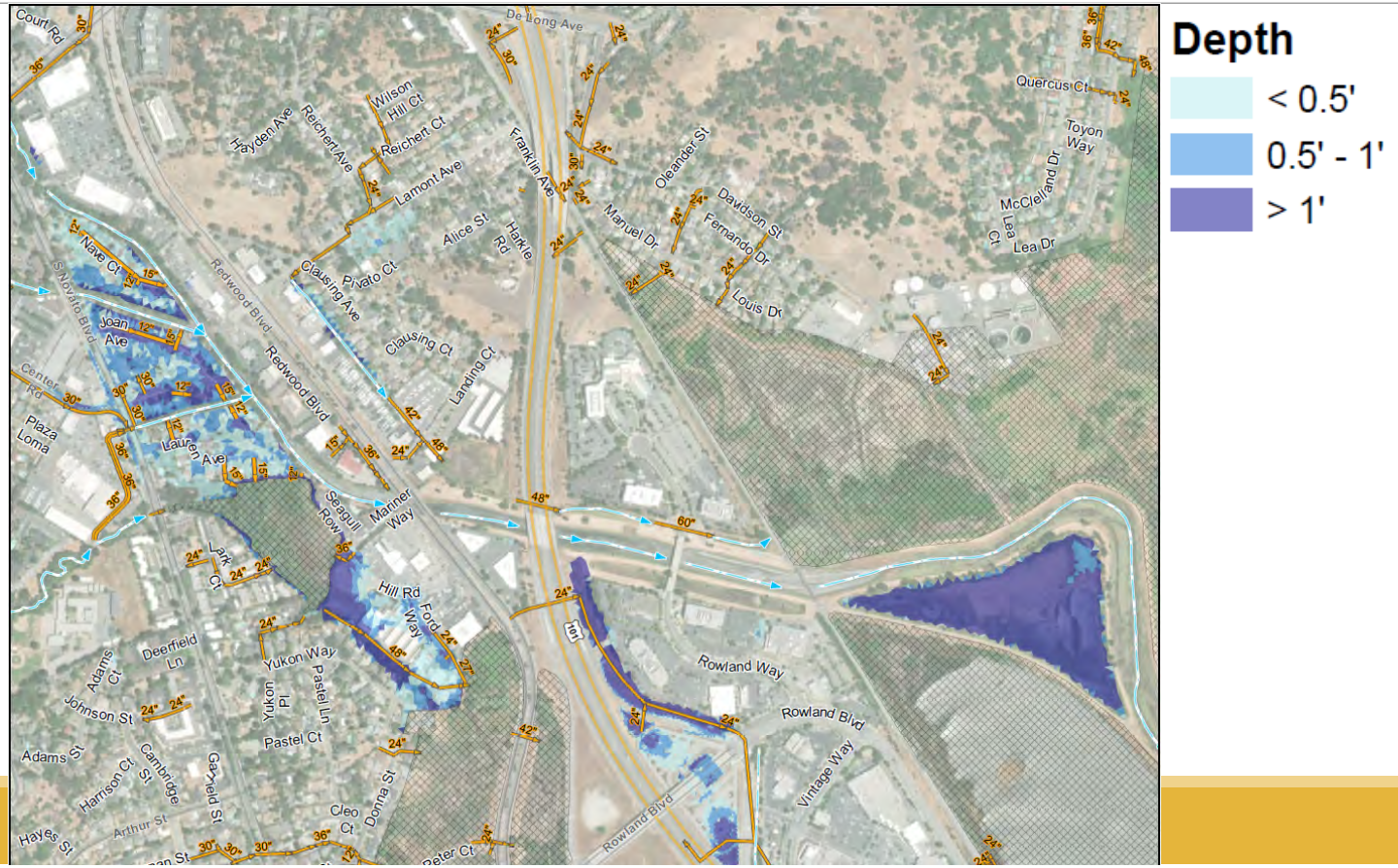
[1] Conservative Assumption of Non-Dredged Channels

Project Scope

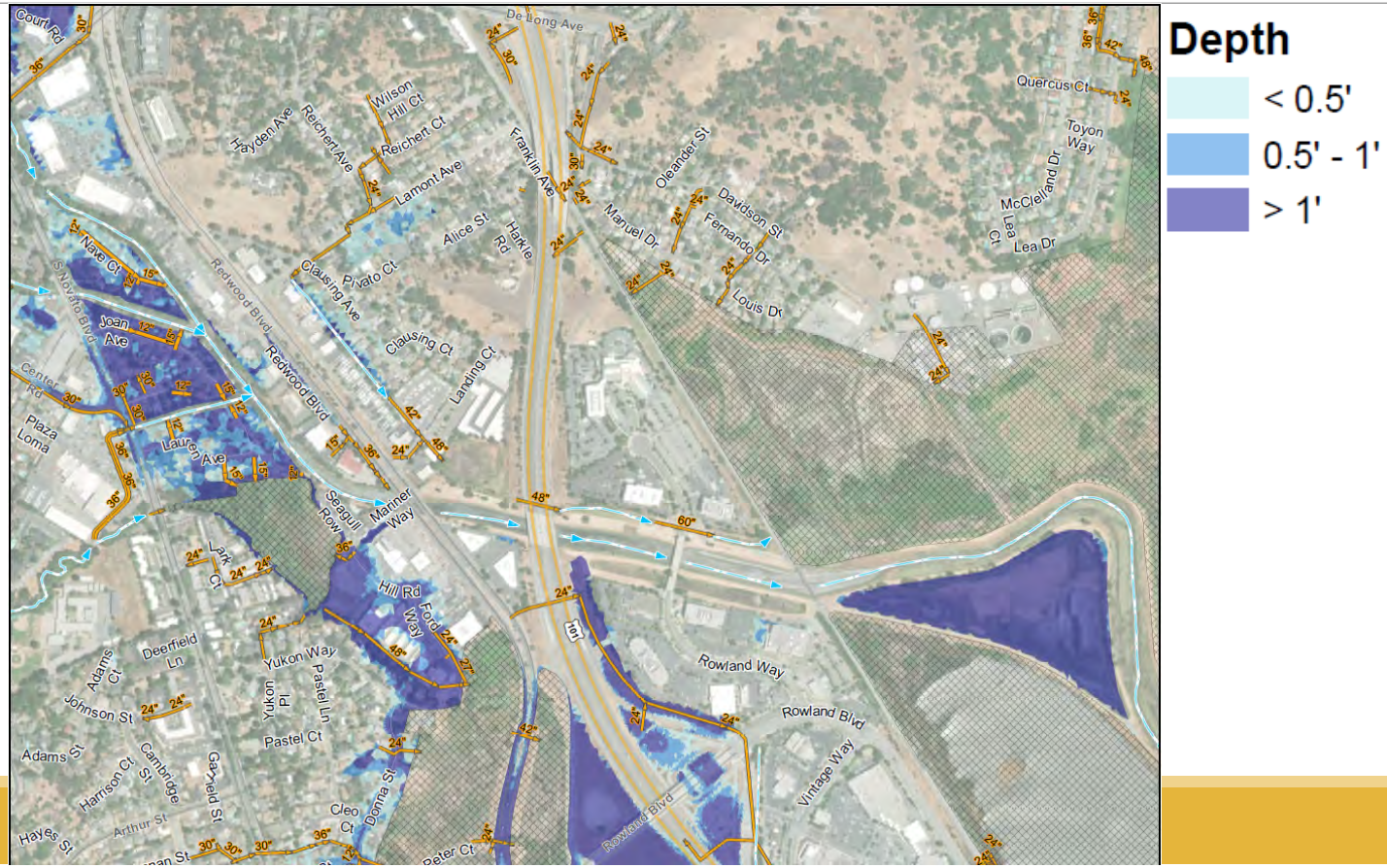
Existing Flooding Conditions : 2-Year



Existing Flooding Conditions : 10-Year



Existing Flooding Conditions : 50-Year



Proposed Solutions

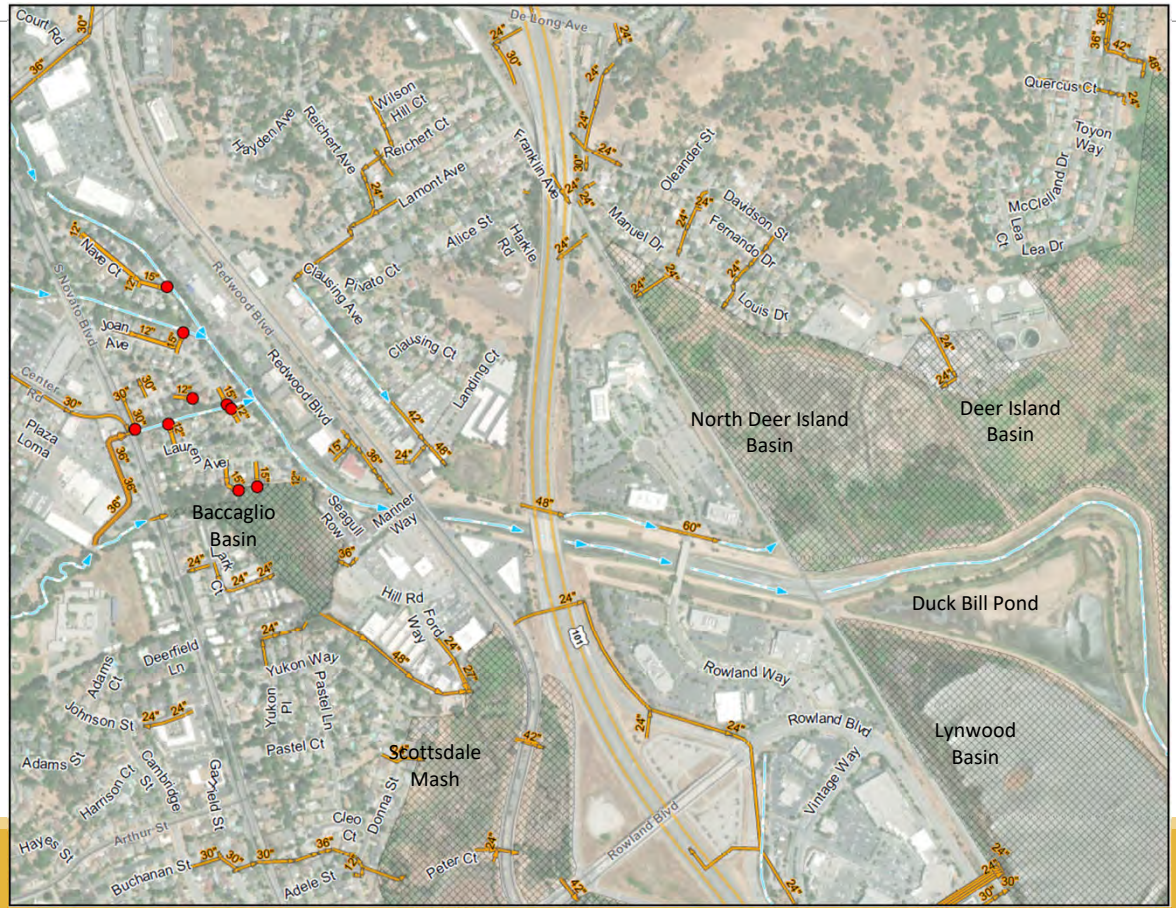
Flap Gates

Diversion

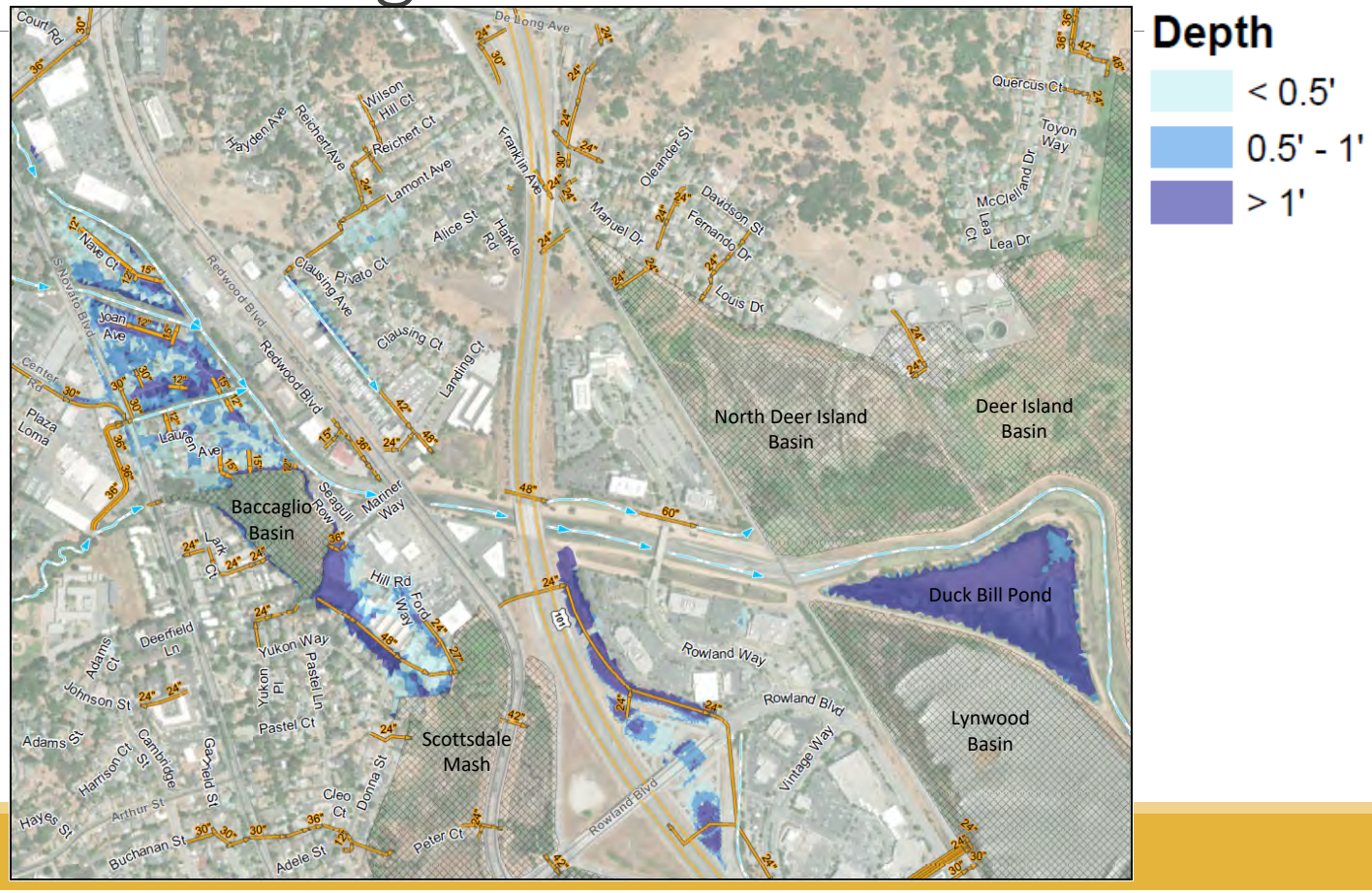
Novato Creek Levee Lowering

Flood Walls

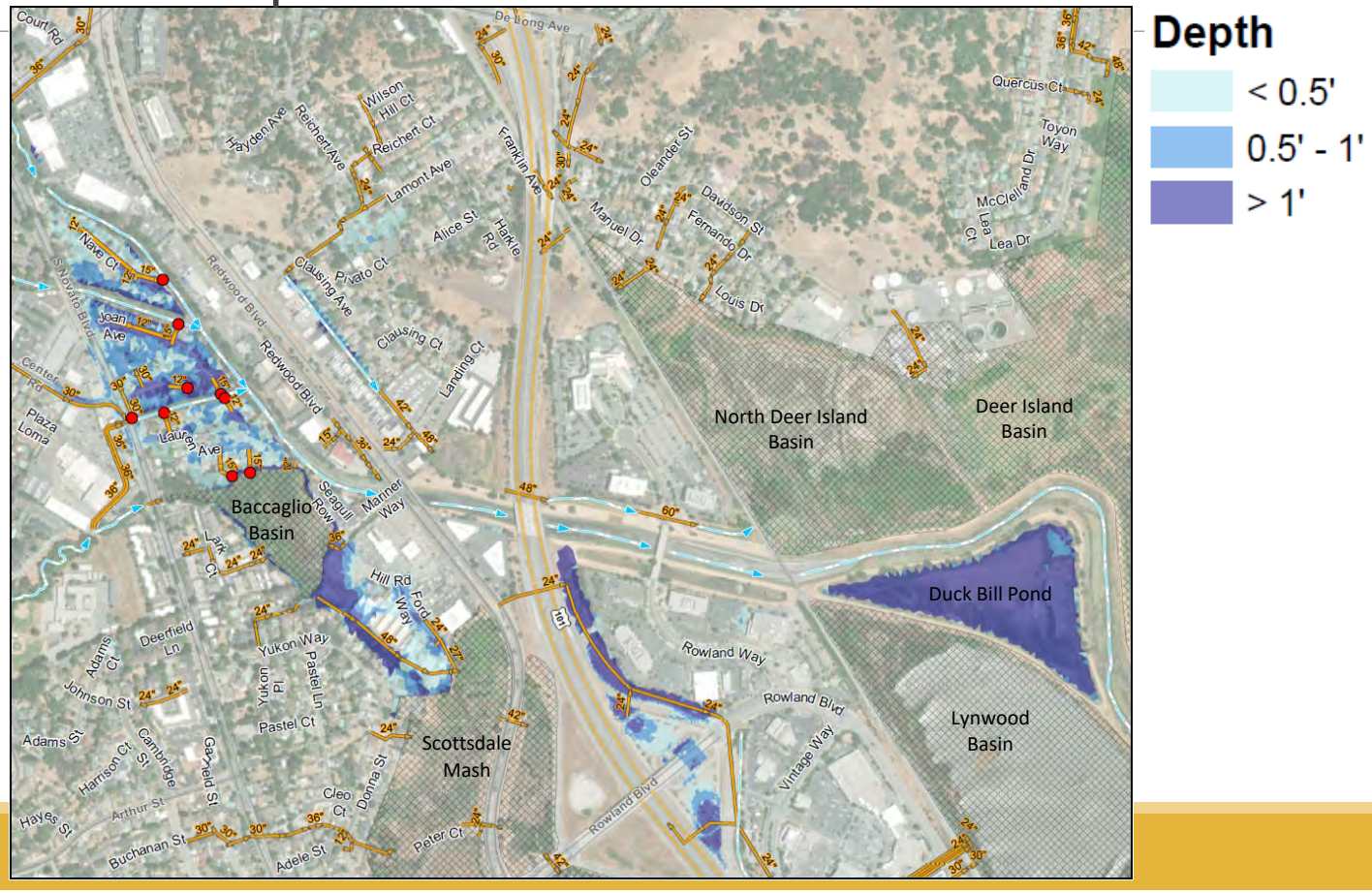
Possible Flood Mitigation Measure – Flap Gates



Possible Flood Mitigation Measure – Flap Gates: Existing 10-Year



Possible Flood Mitigation Measure – Flap Gates: Proposed 10-Year



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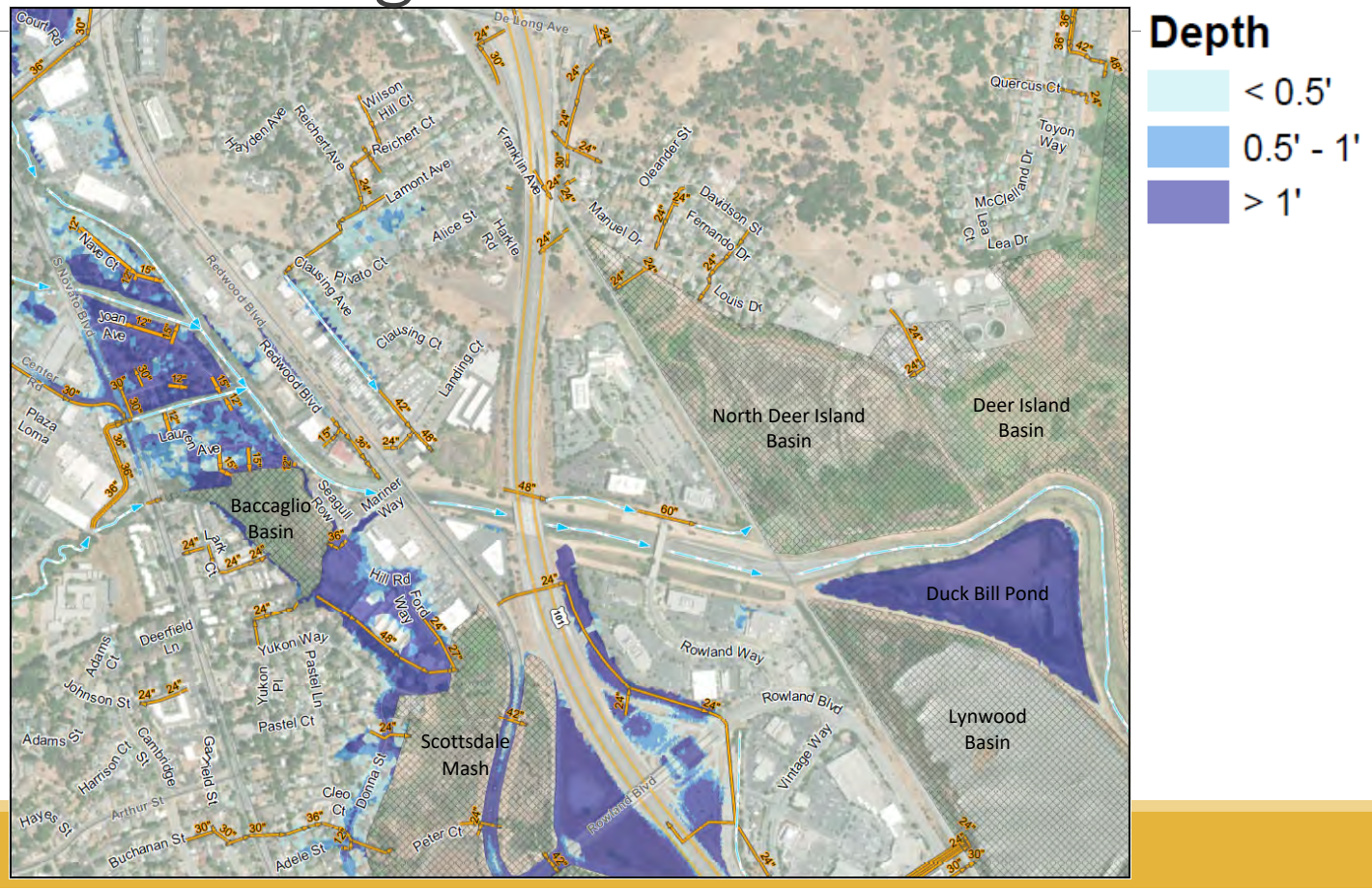
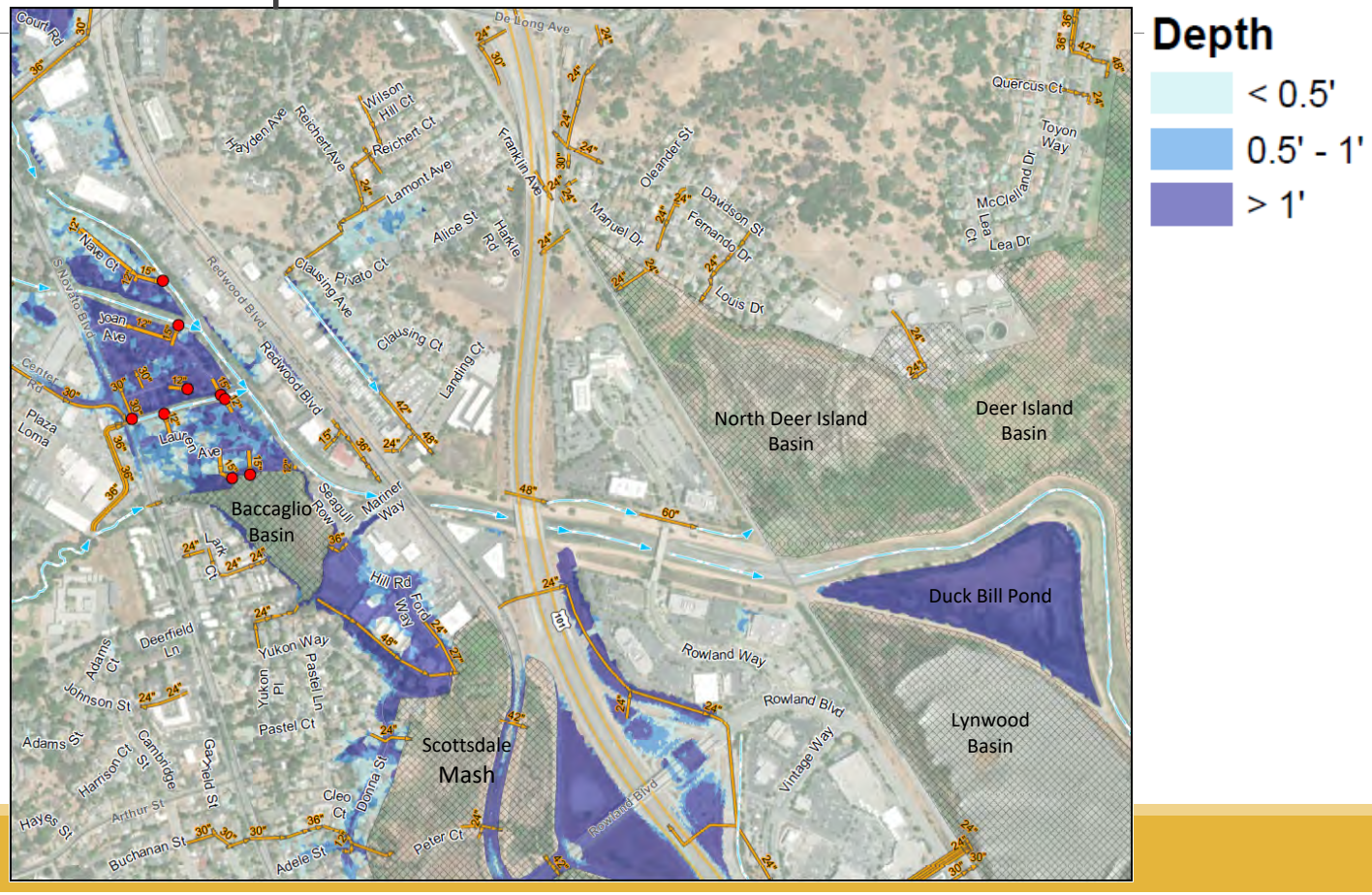
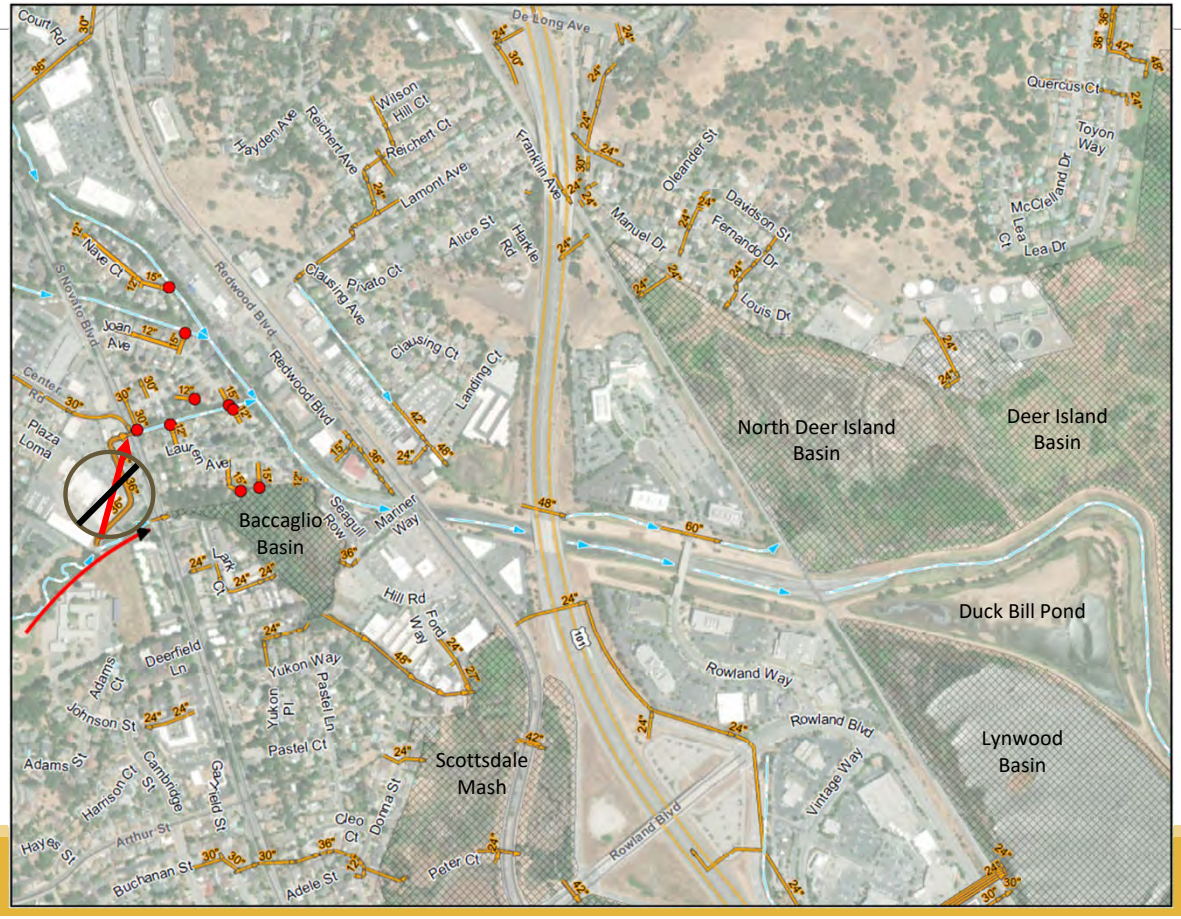


Possible Flood Mitigation Measure – Flap Gates: Proposed 50-Year



Possible Flood Mitigation Measure – AA to ABSL



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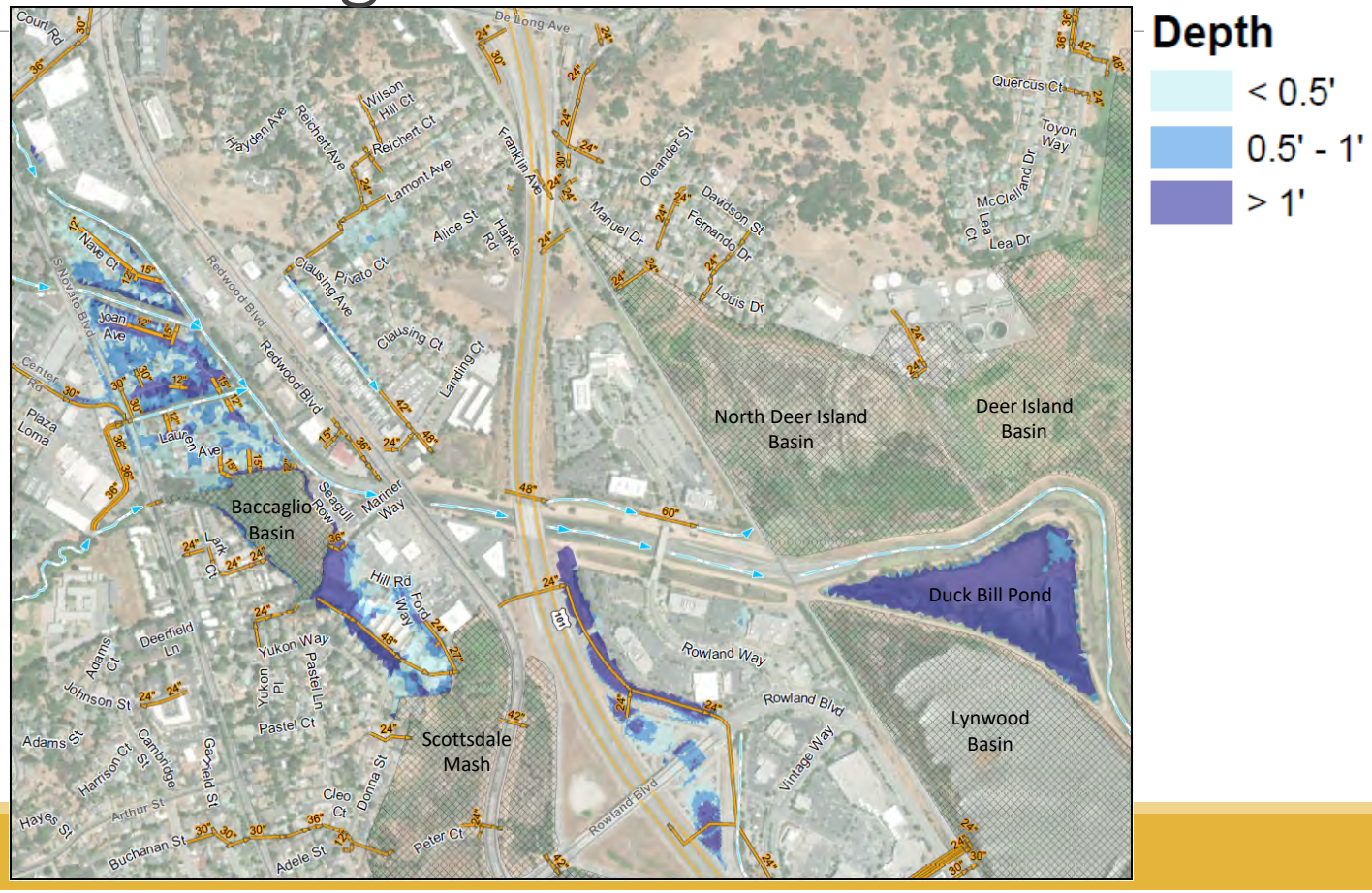

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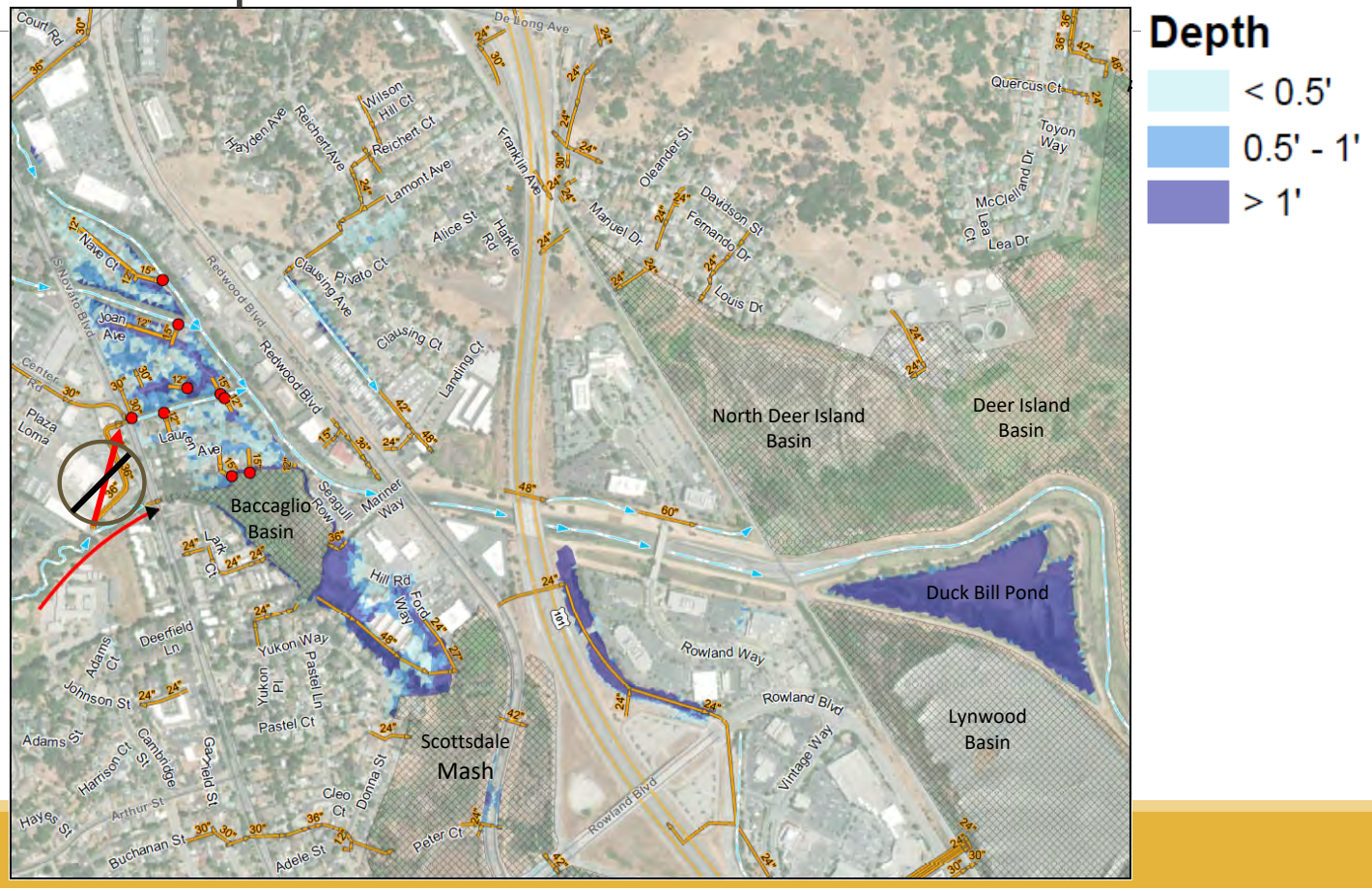

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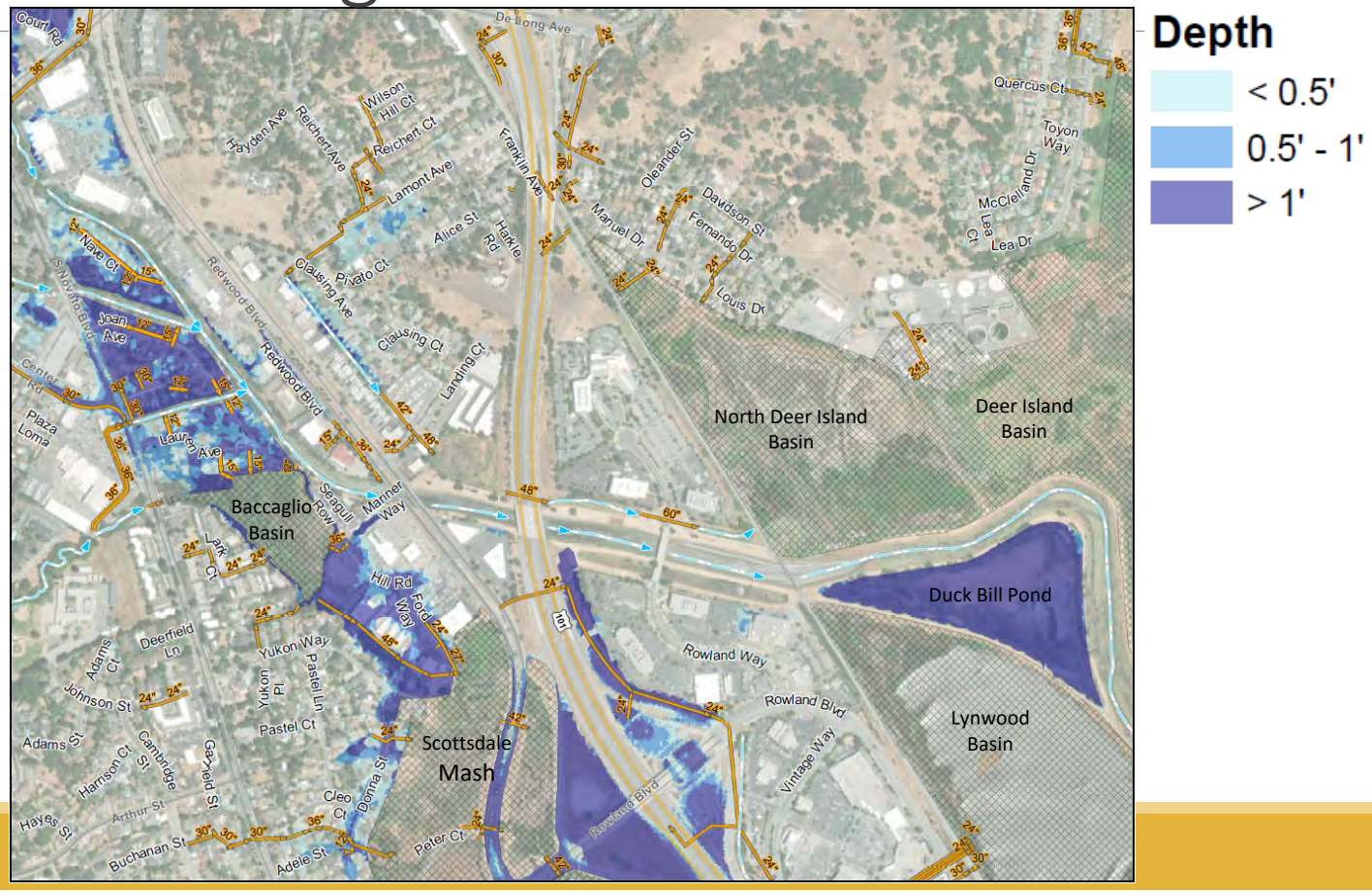
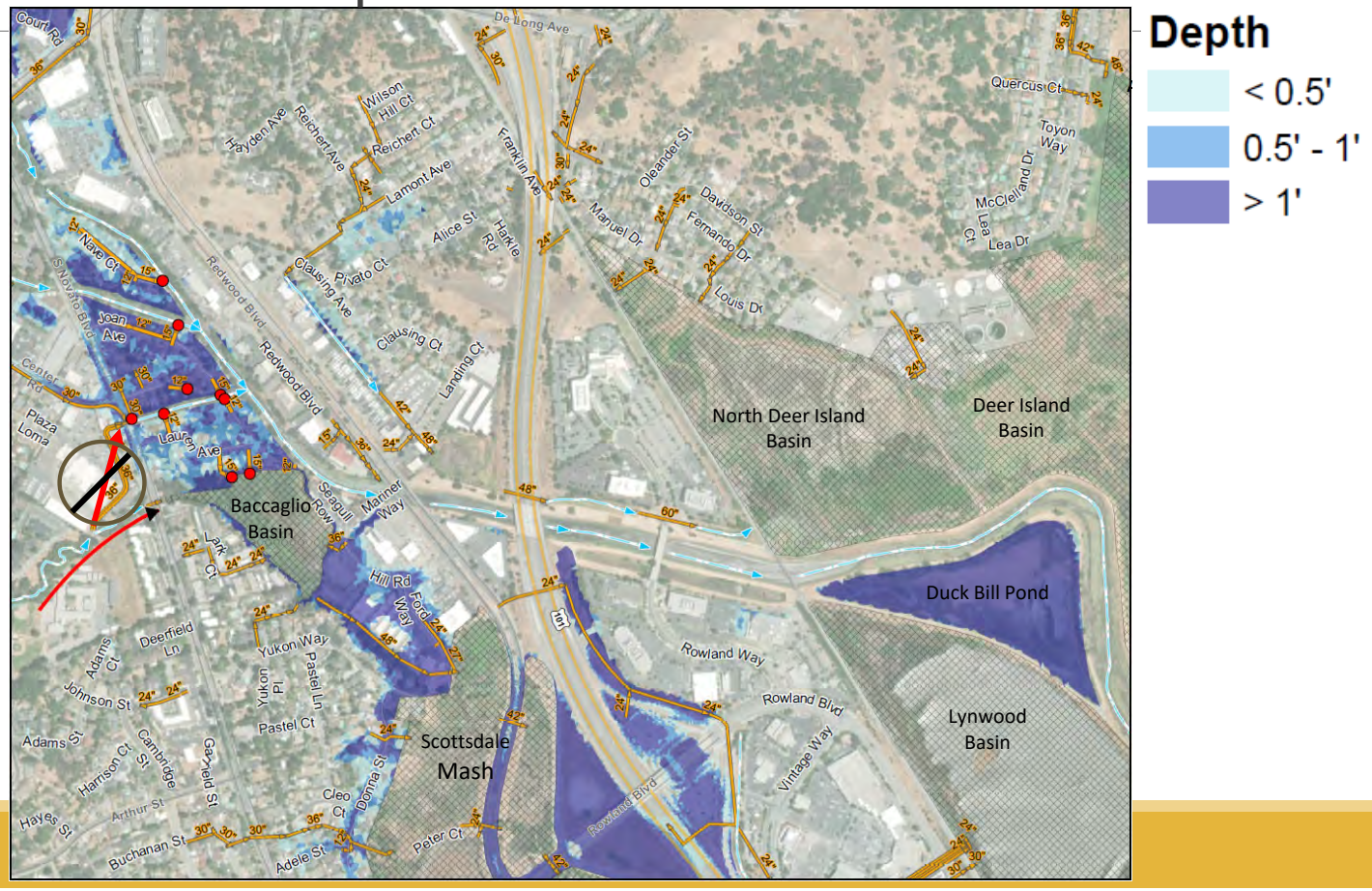
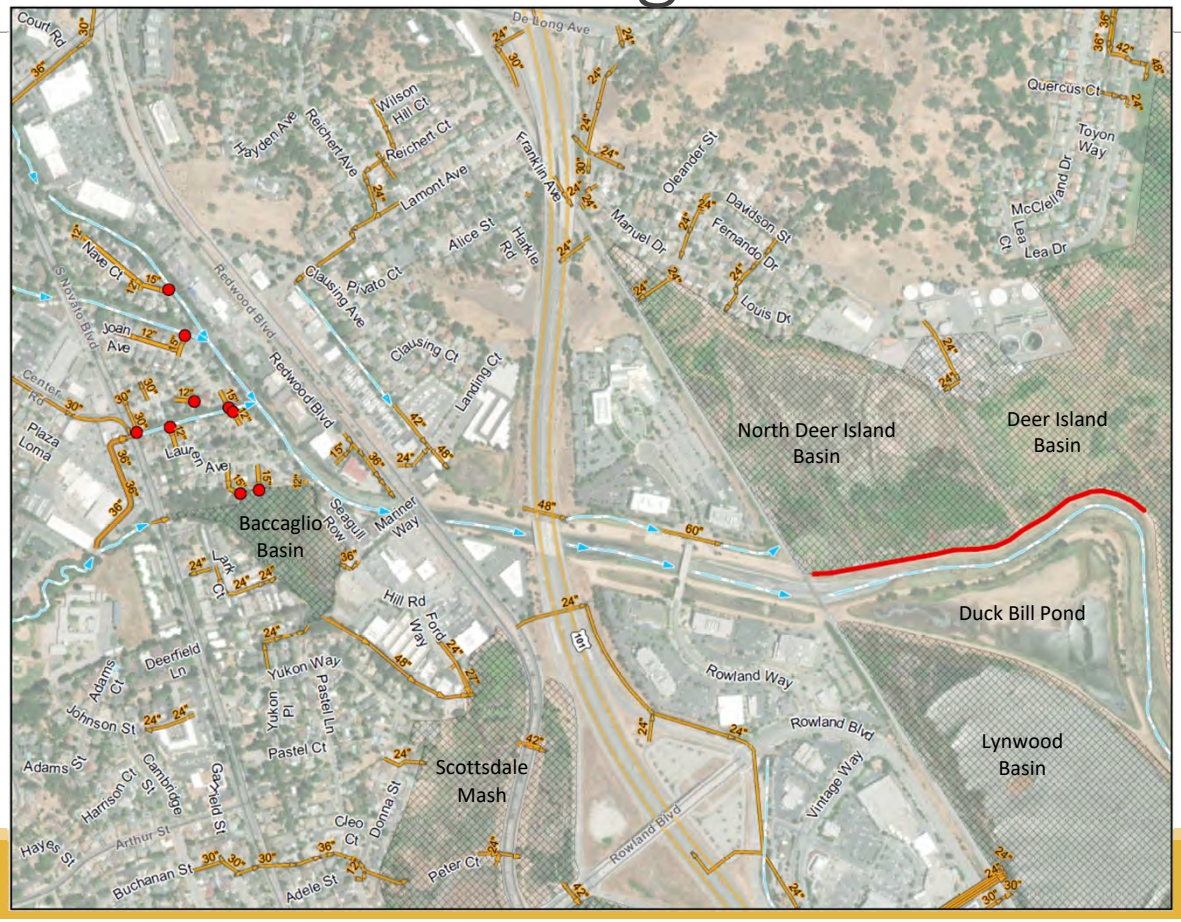


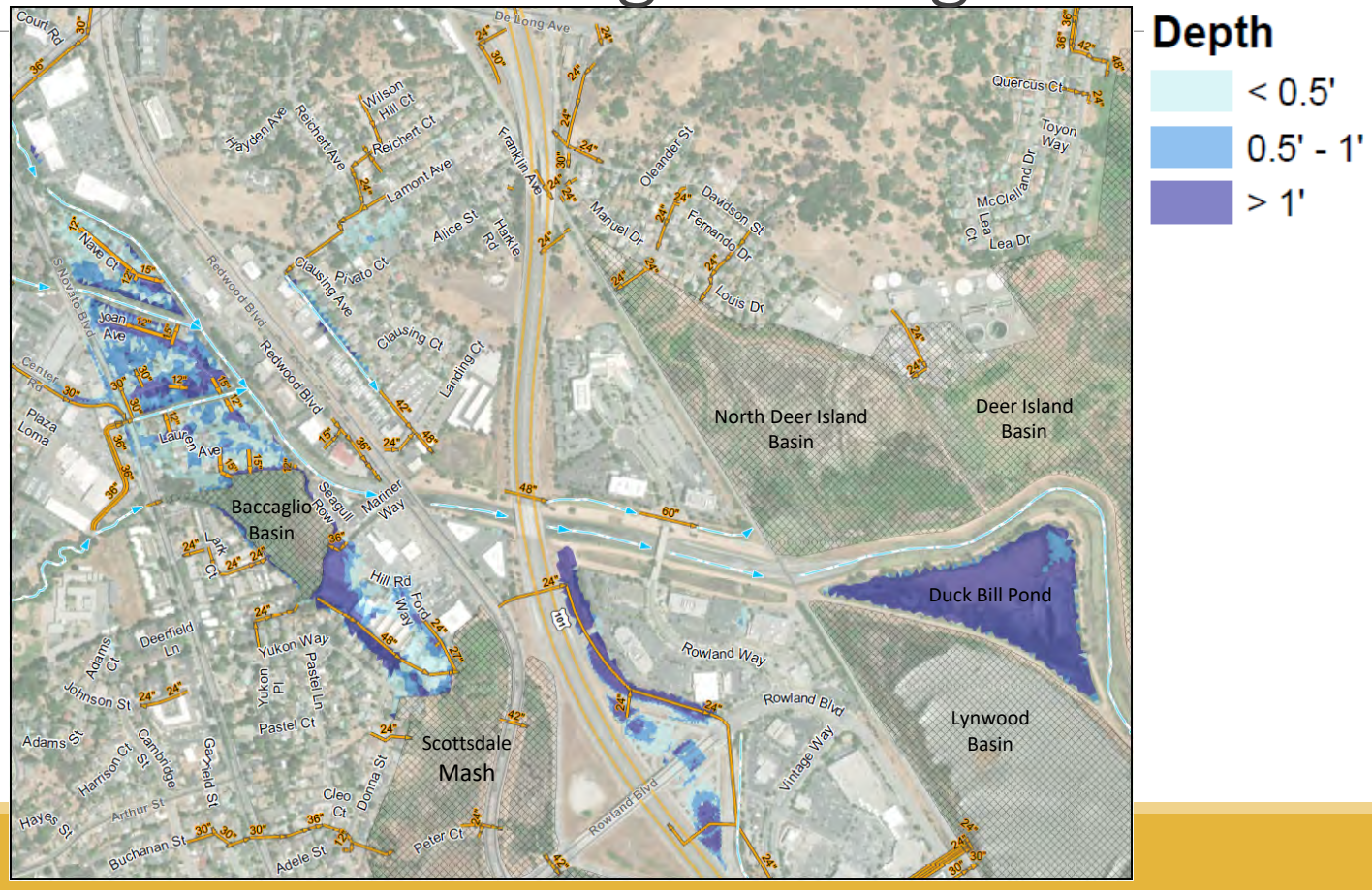
Possible Flood Mitigation Measure – AA to ABSL: Proposed 50-Year



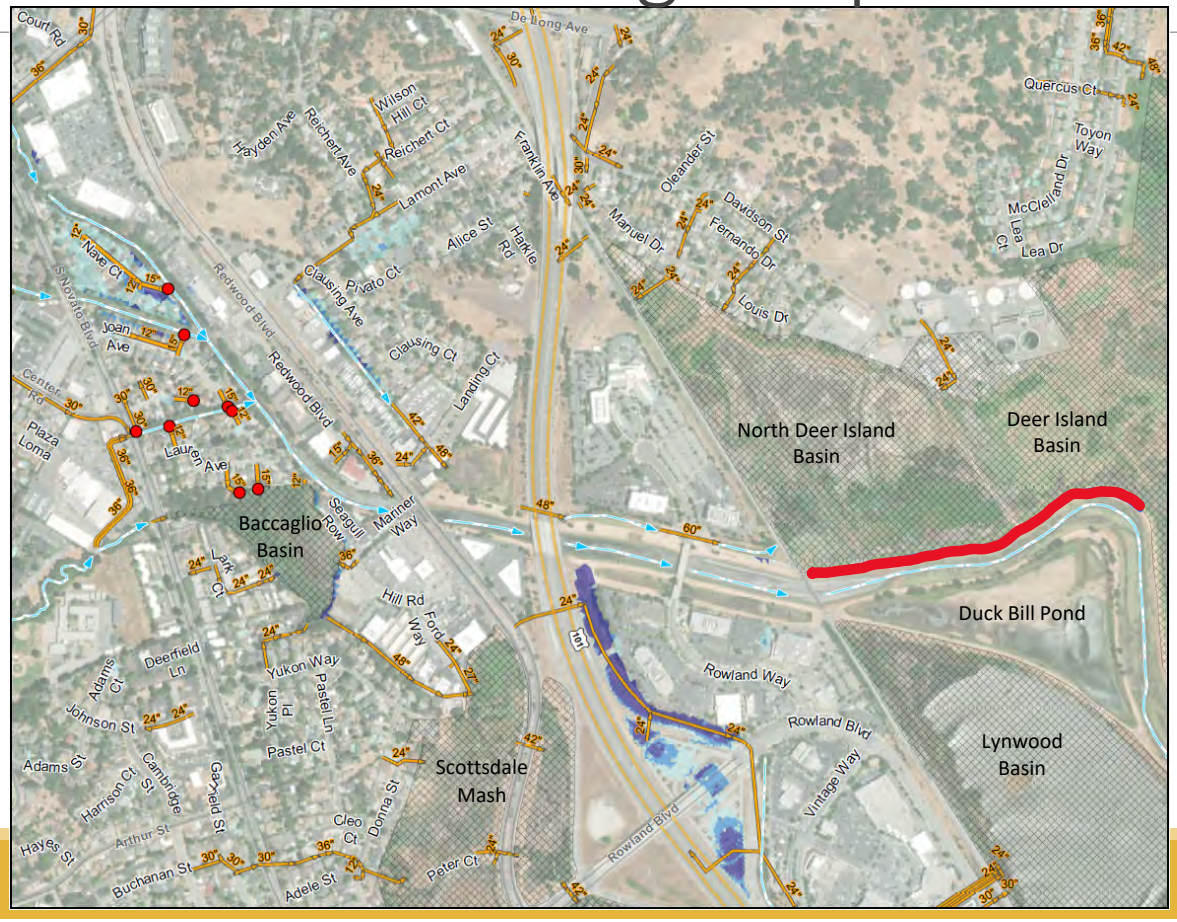
Possible Flood Mitigation Measure – North DI Basin Levee Lowering



Possible Flood Mitigation Measure – North DI Basin Levee Lowering: Existing 10-Year



Possible Flood Mitigation Measure – North DI Basin Levee Lowering: Proposed 10-Year



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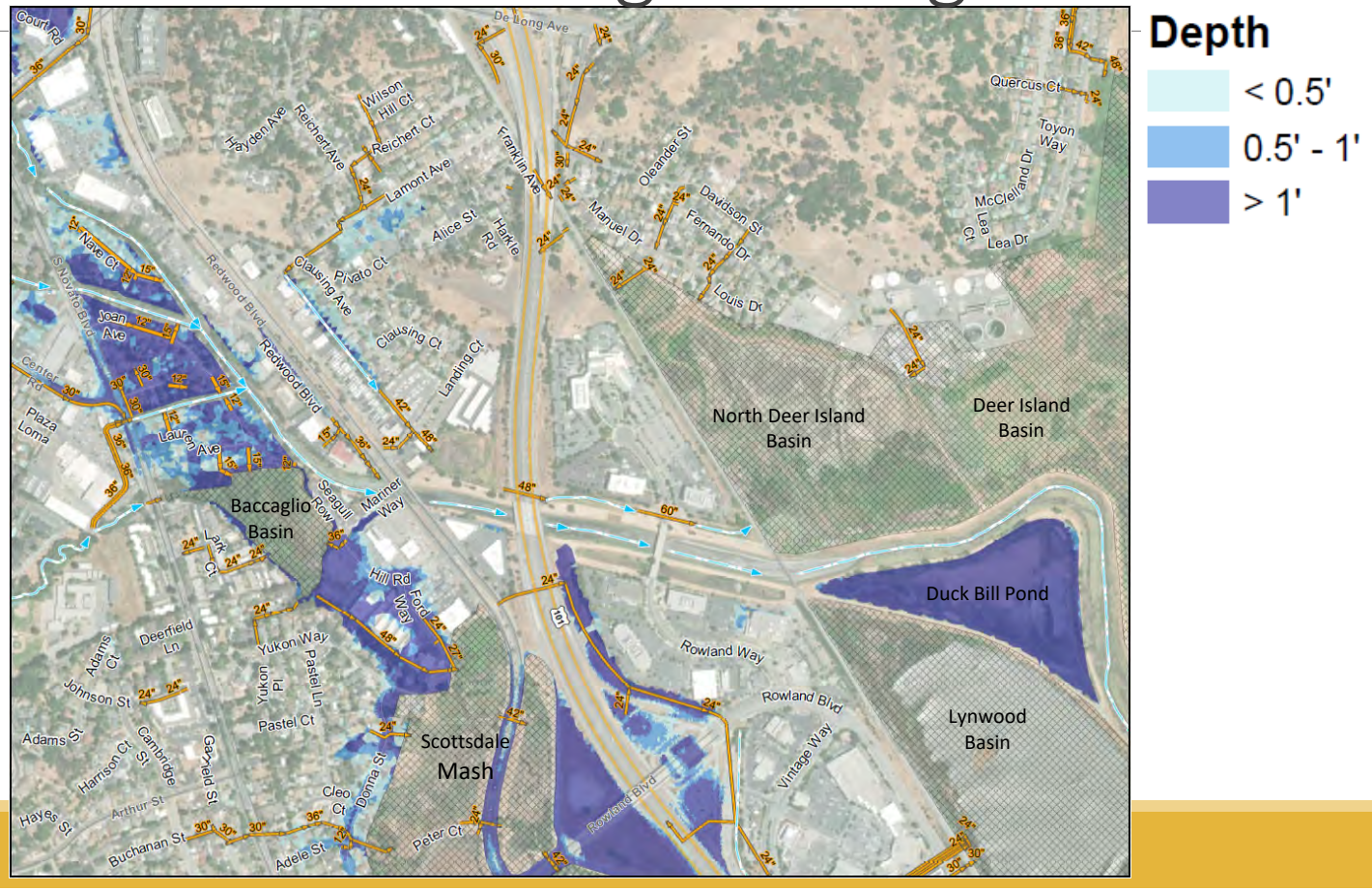
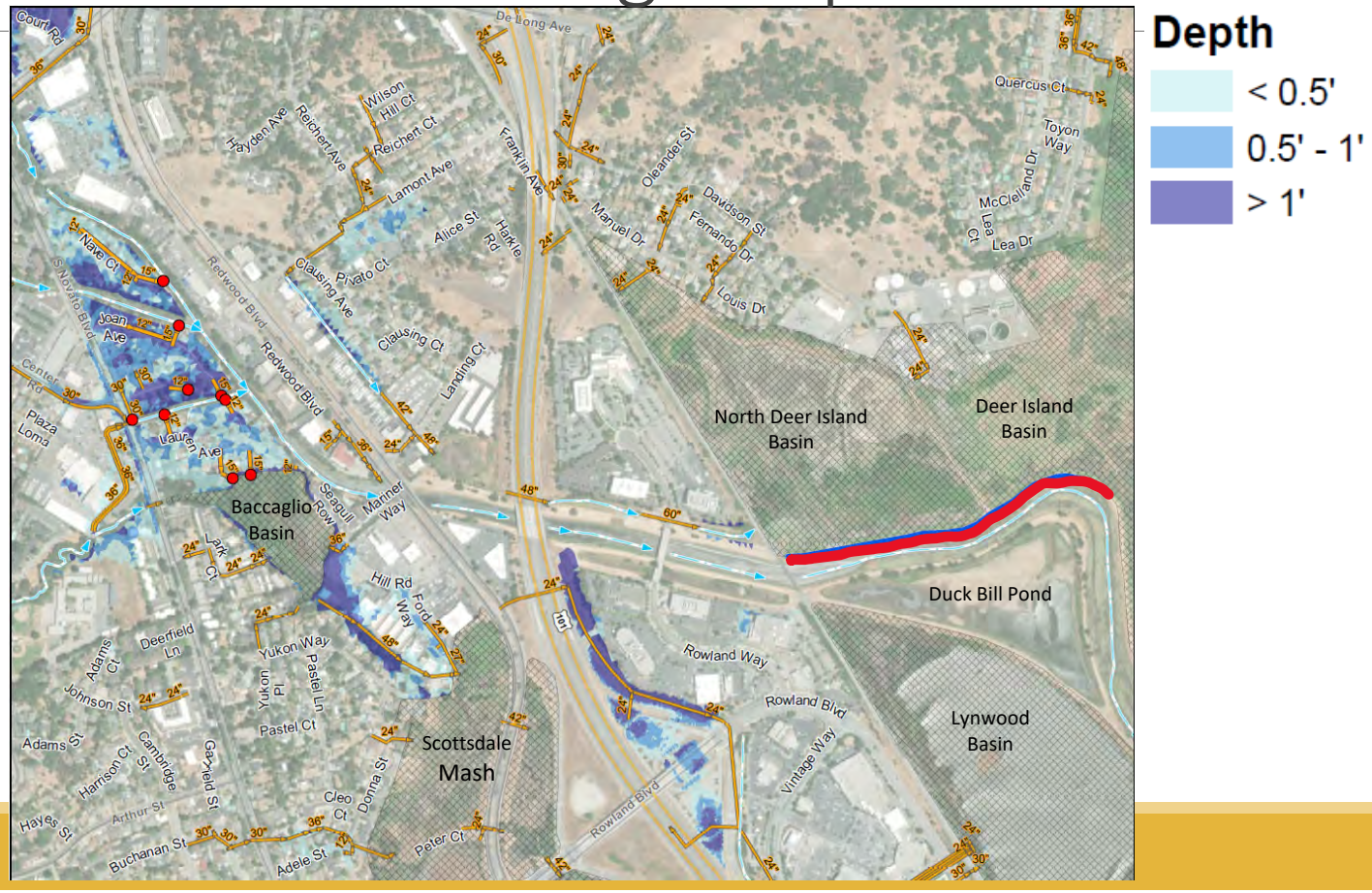
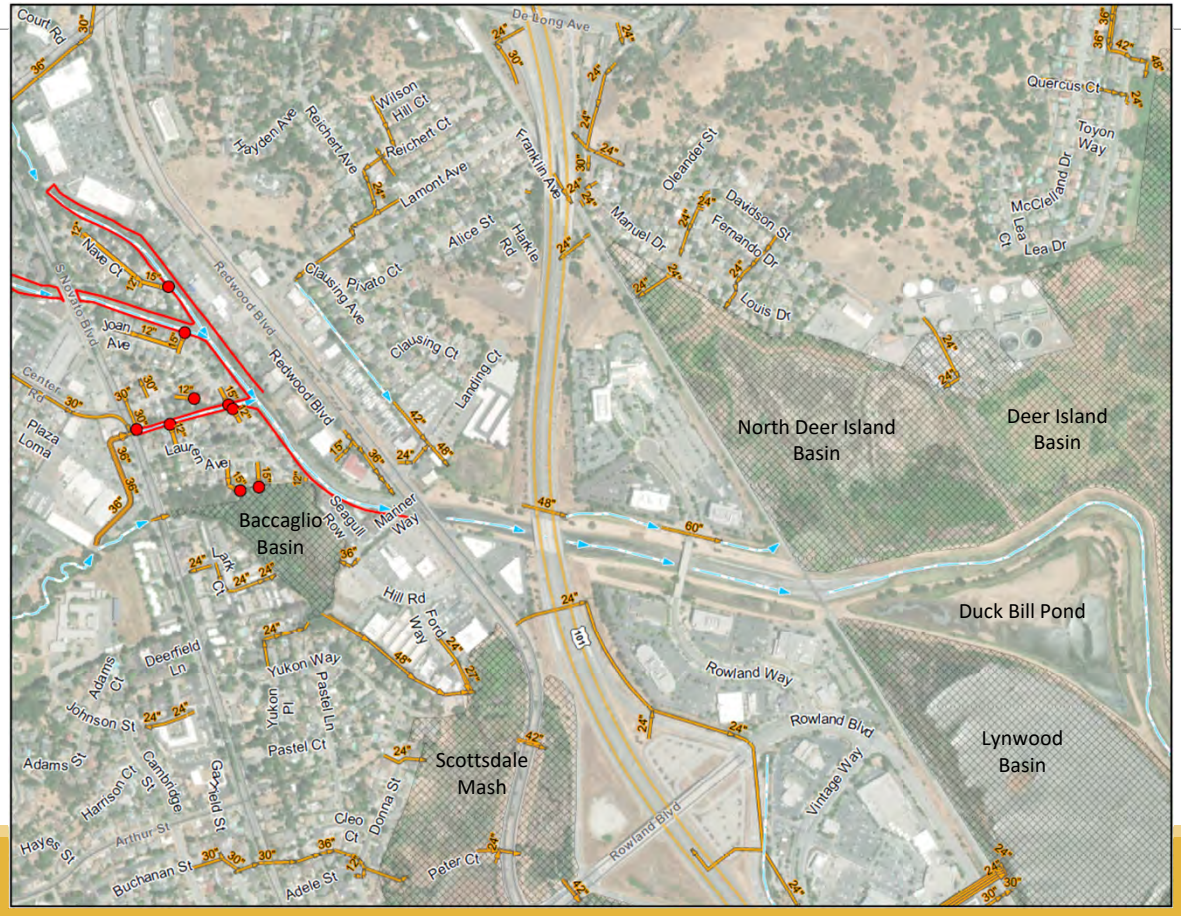


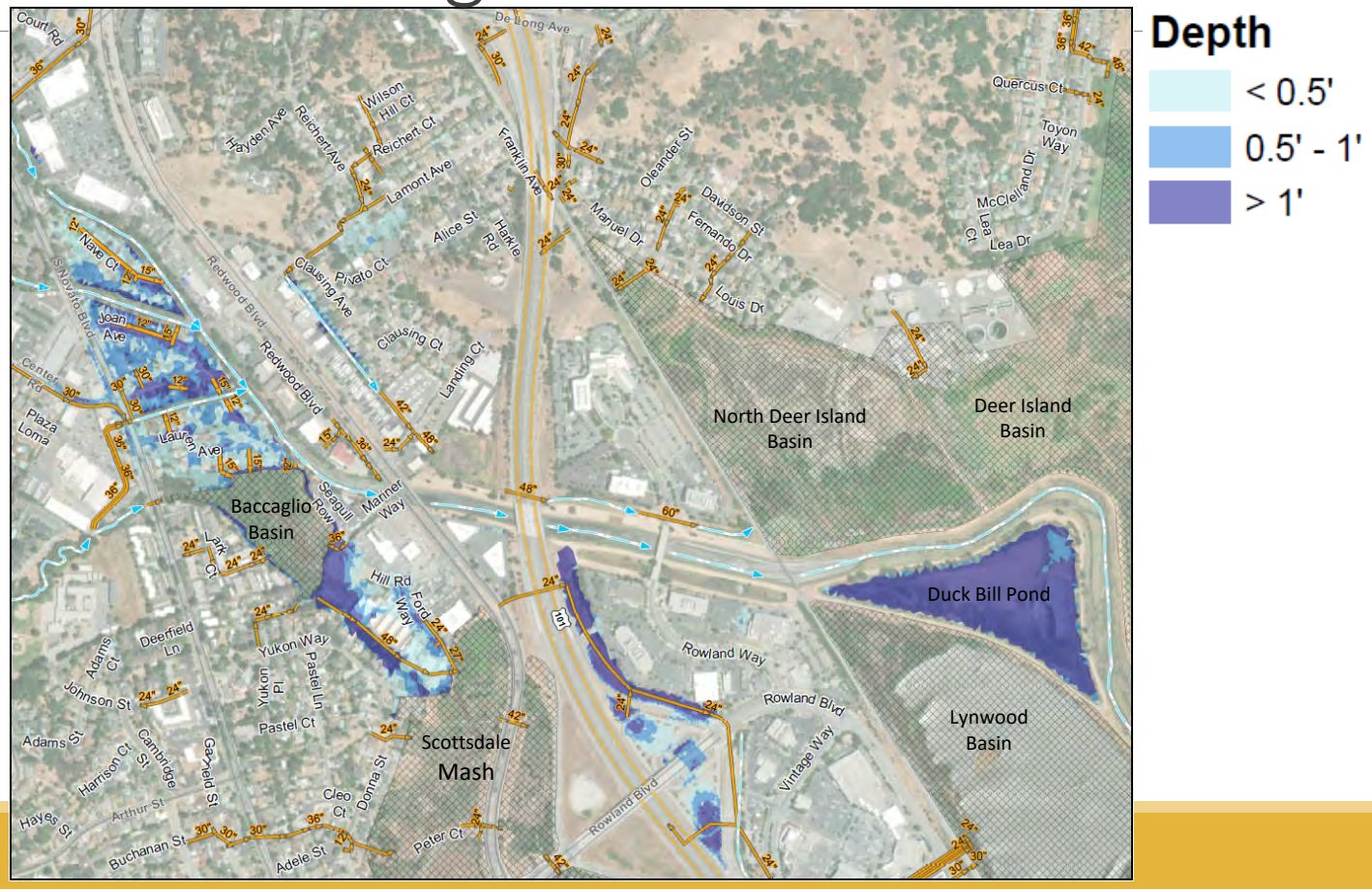
Possible Flood Mitigation Measure – North DI Basin Levee Lowering: Proposed 50-Year



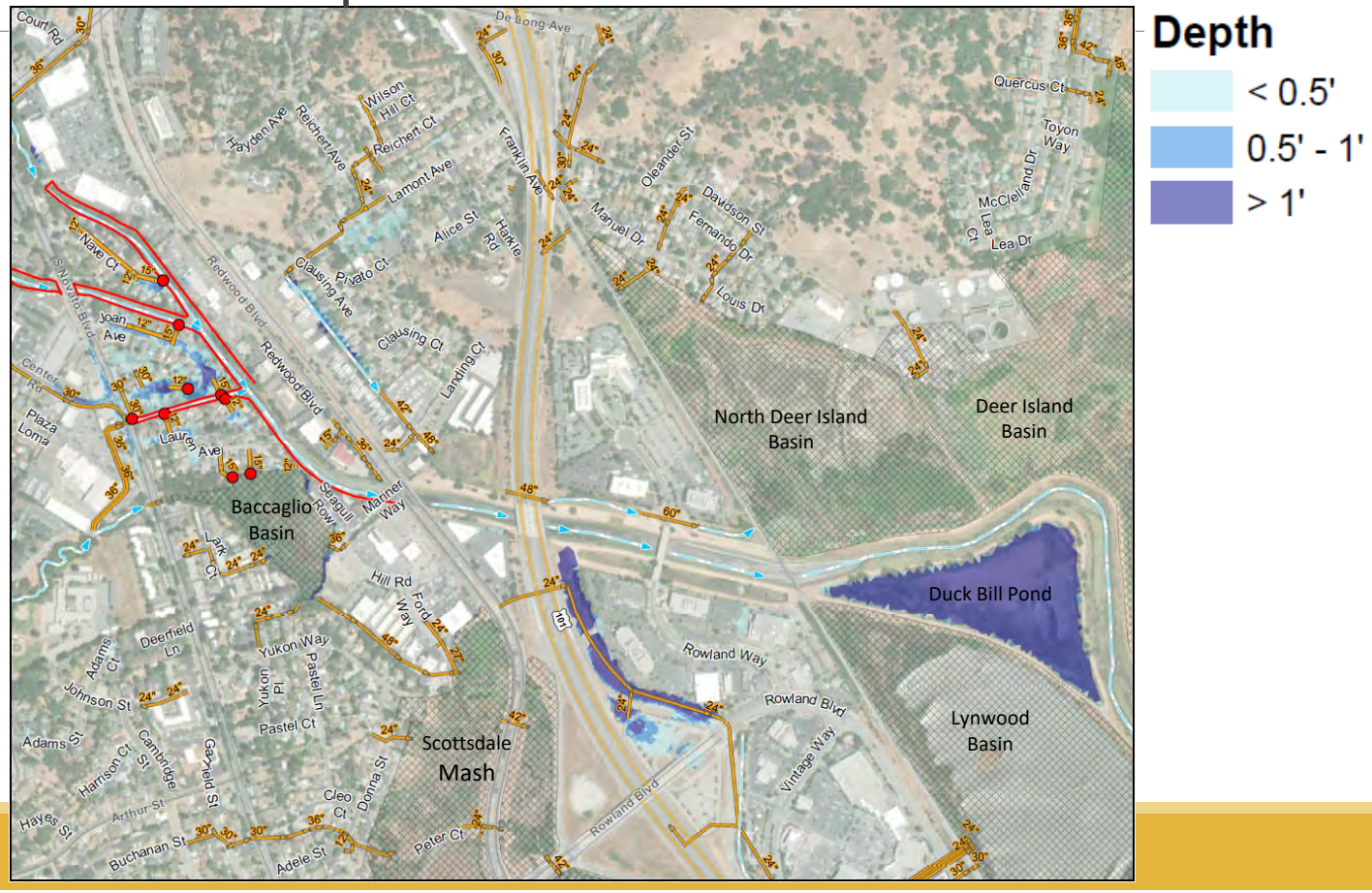
Possible Flood Mitigation Measure – Floodwalls



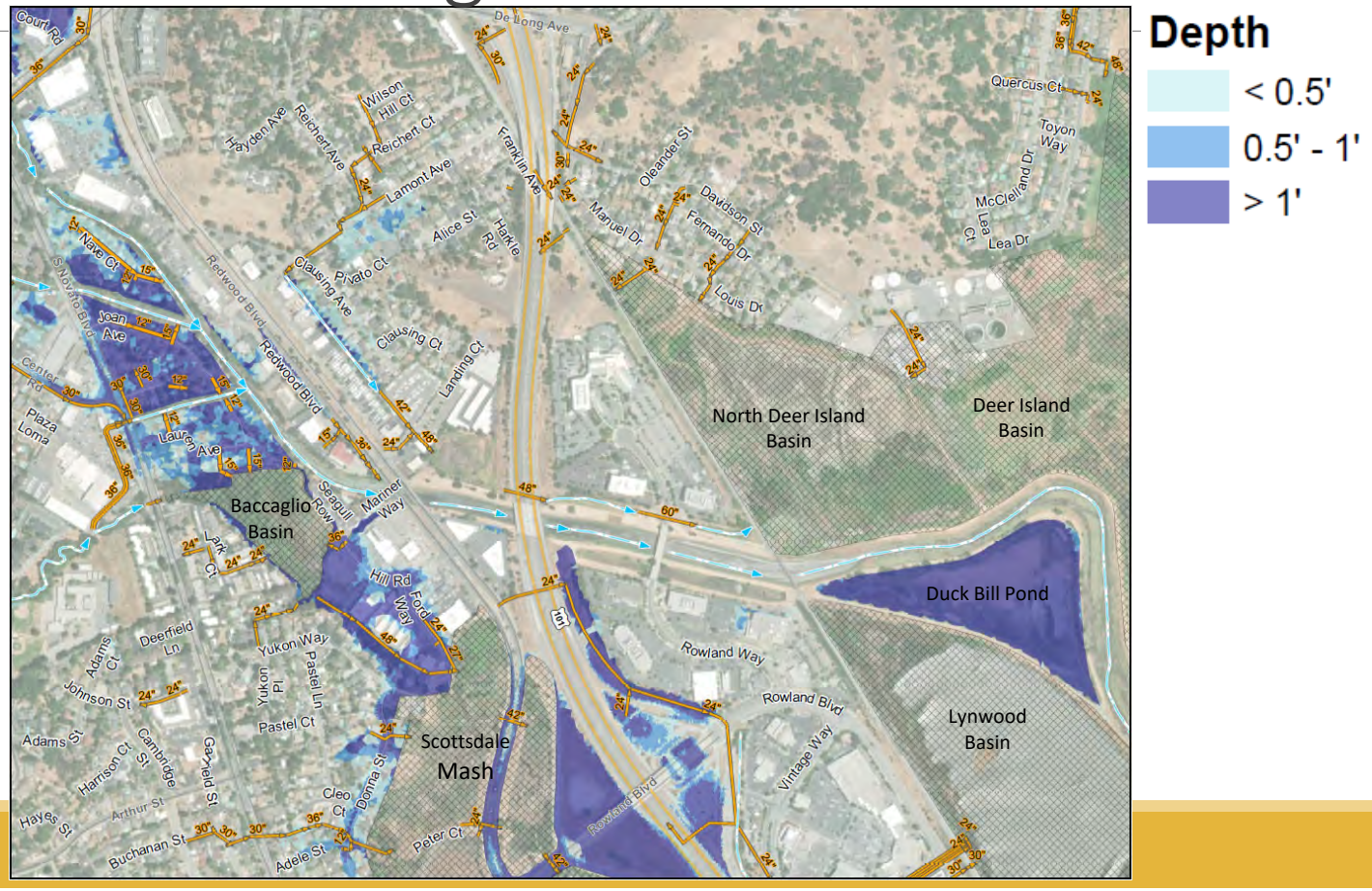
Possible Flood Mitigation Measure – Floodwalls: Existing 10-Year



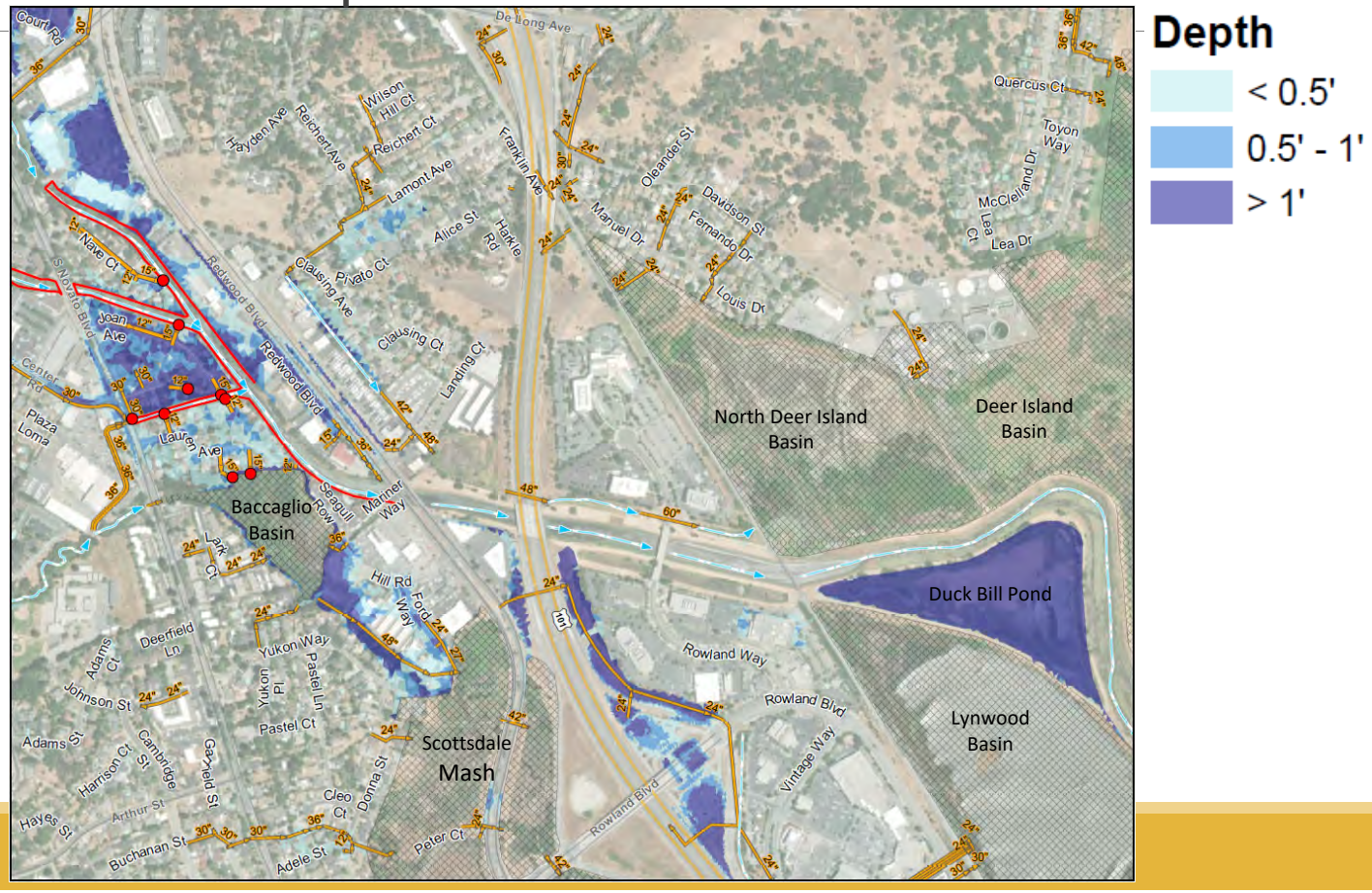
Possible Flood Mitigation Measure – Floodwalls: Proposed 10-Year



Possible Flood Mitigation Measure – Floodwalls: Existing 50-Year



Possible Flood Mitigation Measure – Floodwalls: Proposed 50-Year

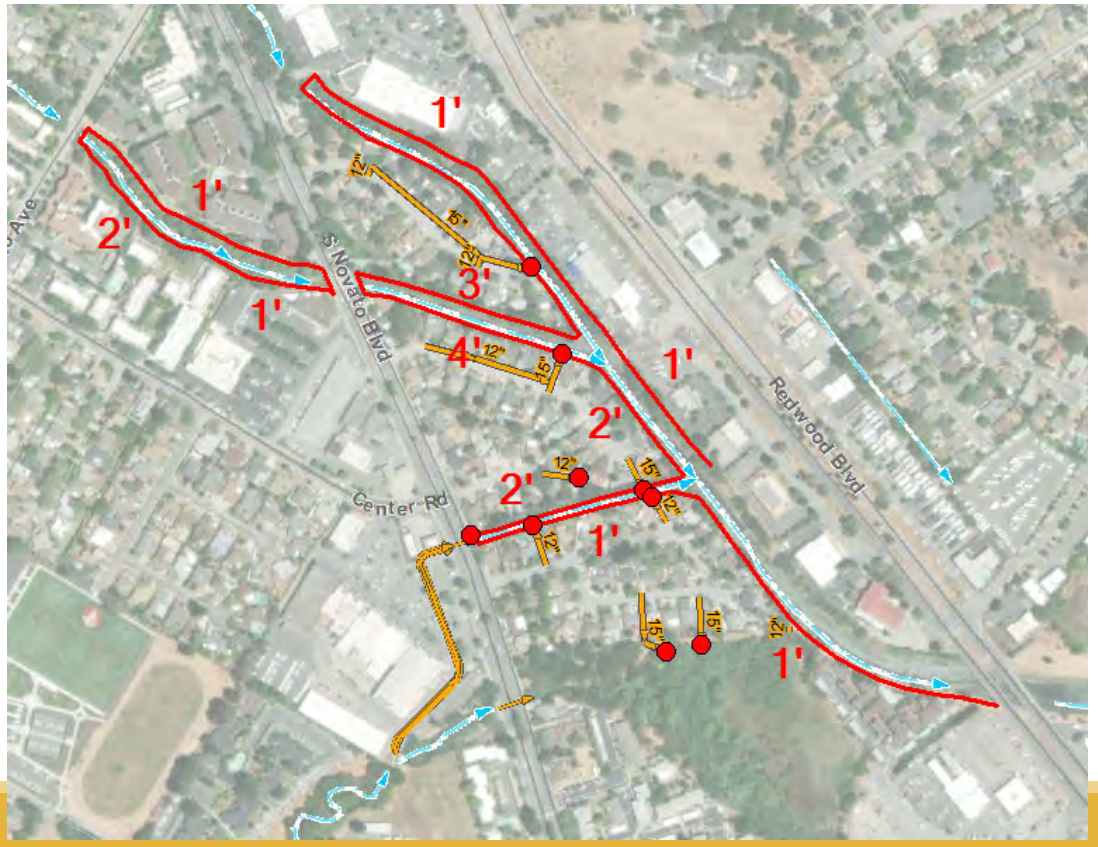


Possible Flood Mitigation Measure– Floodwalls

Approximate Height and Extent of Floodwalls shown to contain the 50-Year WSE

Flood Wall Height

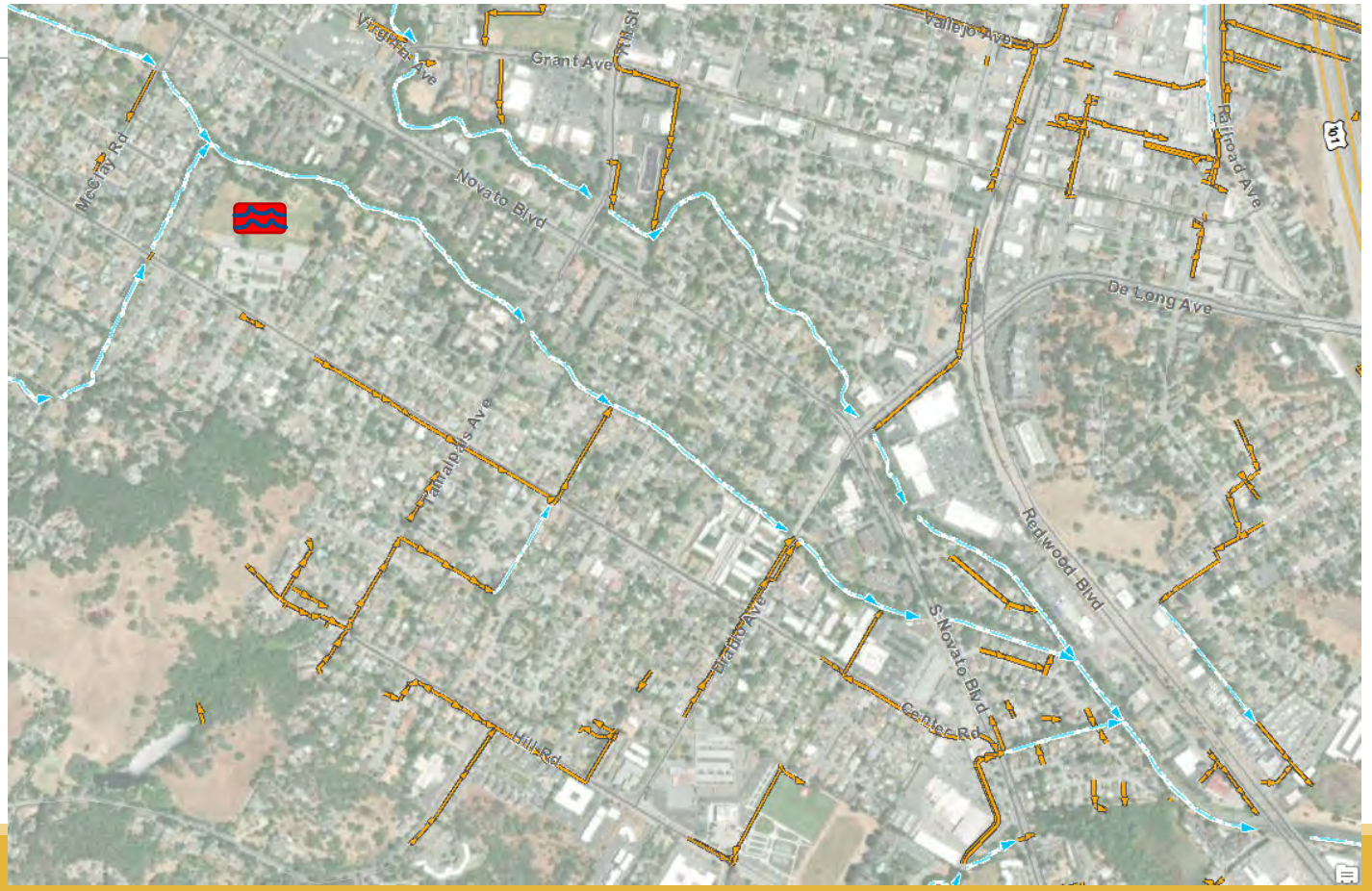
- FEMA Freeboard = 3.0’
- Non-FEMA Flood Wall with Freeboard < 3.0’



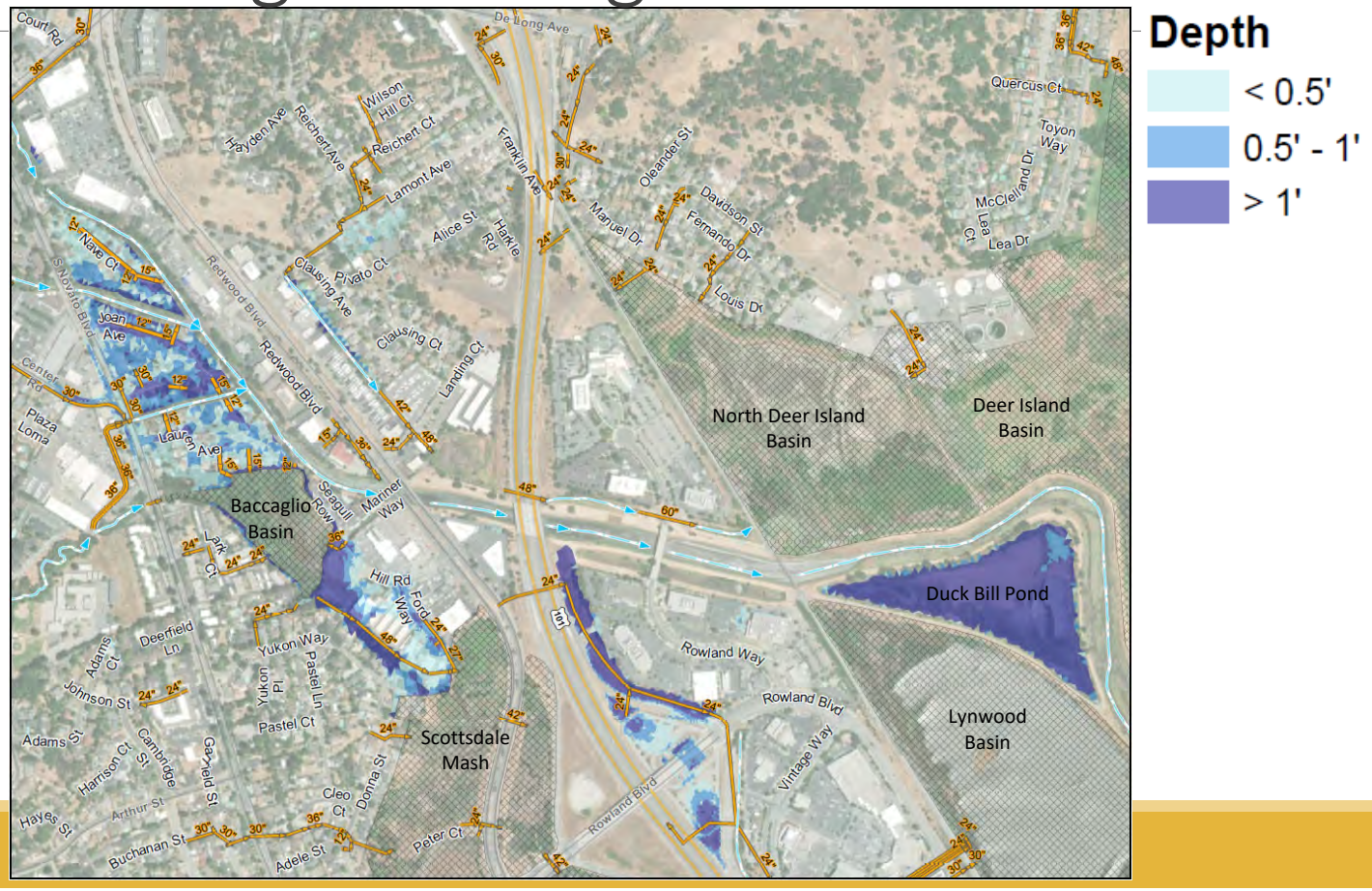
Possible Flood Mitigation Measure – Short Term Winter Storage

Possible example location Lu Sutton Elementary ballfields

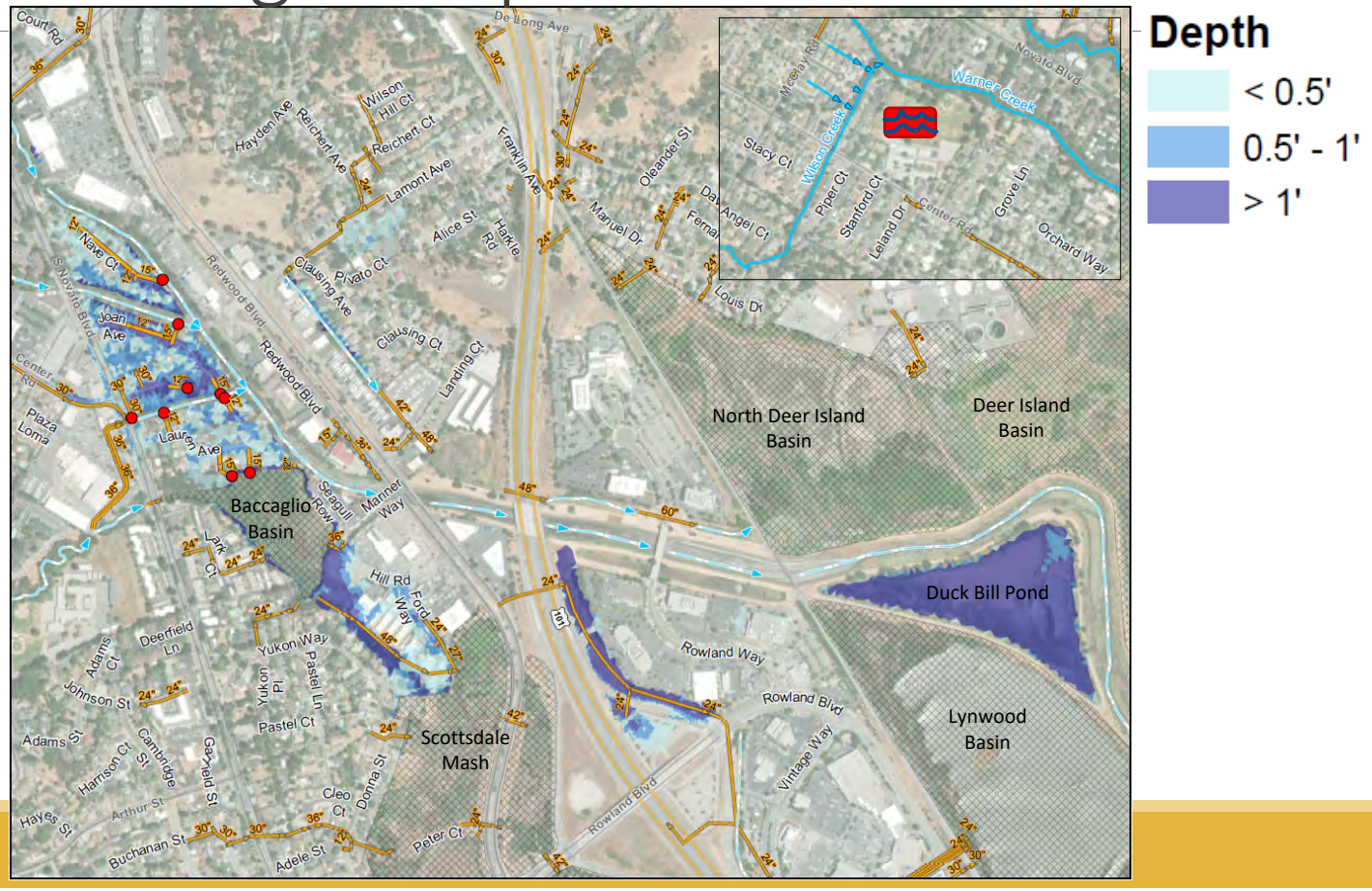
Disclaimer: *For evaluation only - no communication or agreements with school district*



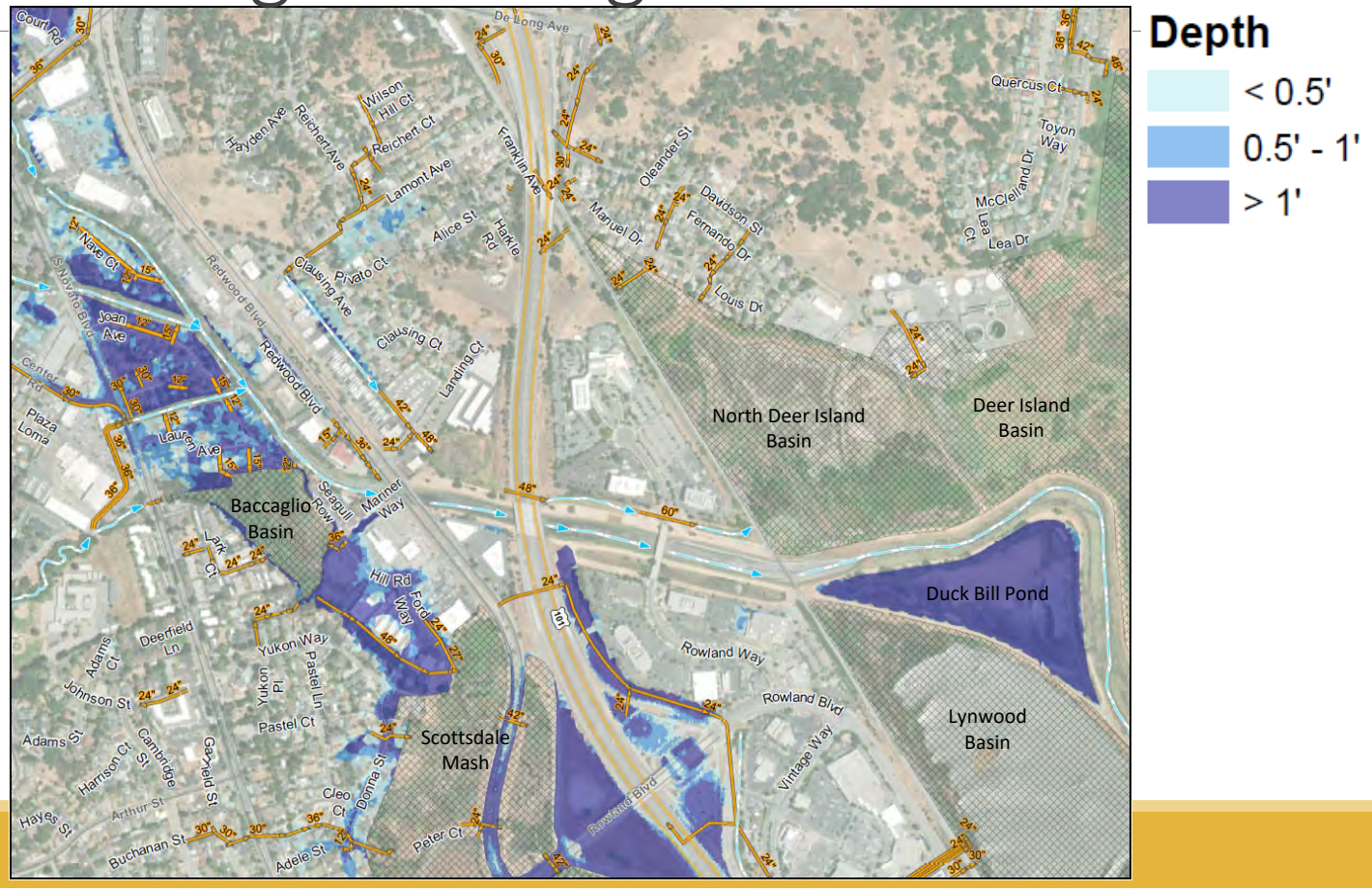
Possible Flood Mitigation Measure – Short Term Winter Storage: Existing 10-Year



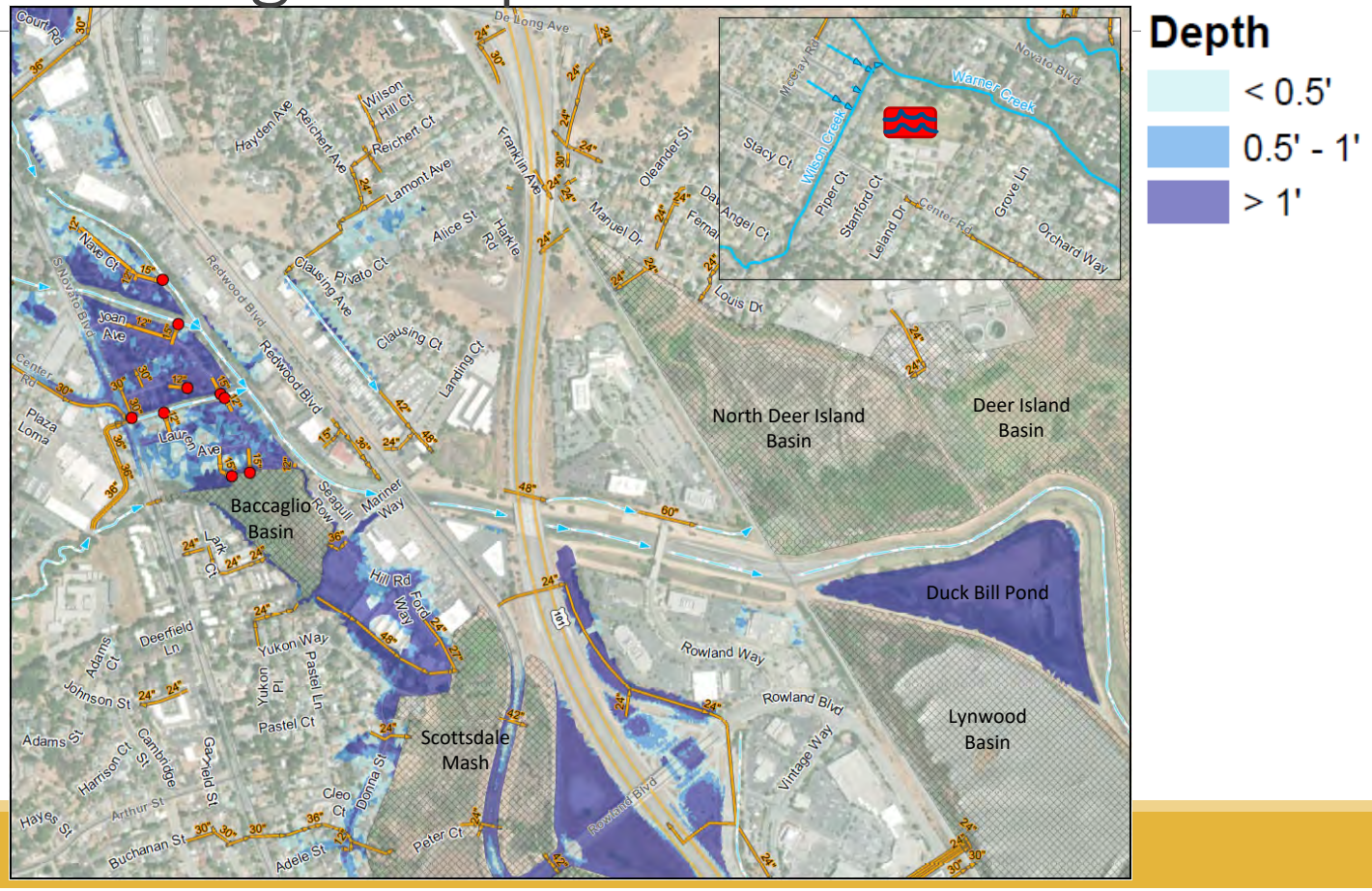
Possible Flood Mitigation Measure – Short Term Winter Storage: Proposed 10-Year



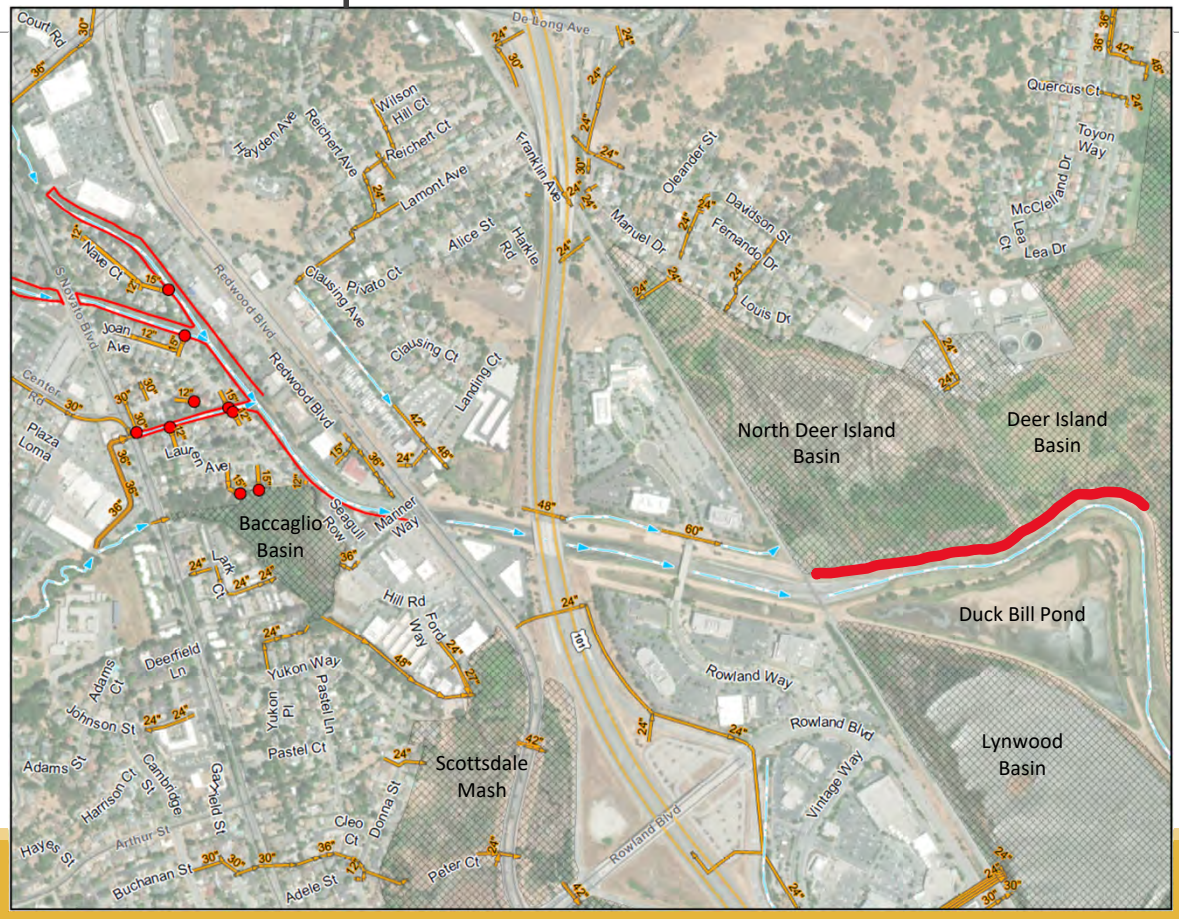
Possible Flood Mitigation Measure – Short Term Winter Storage: Existing 50-Year



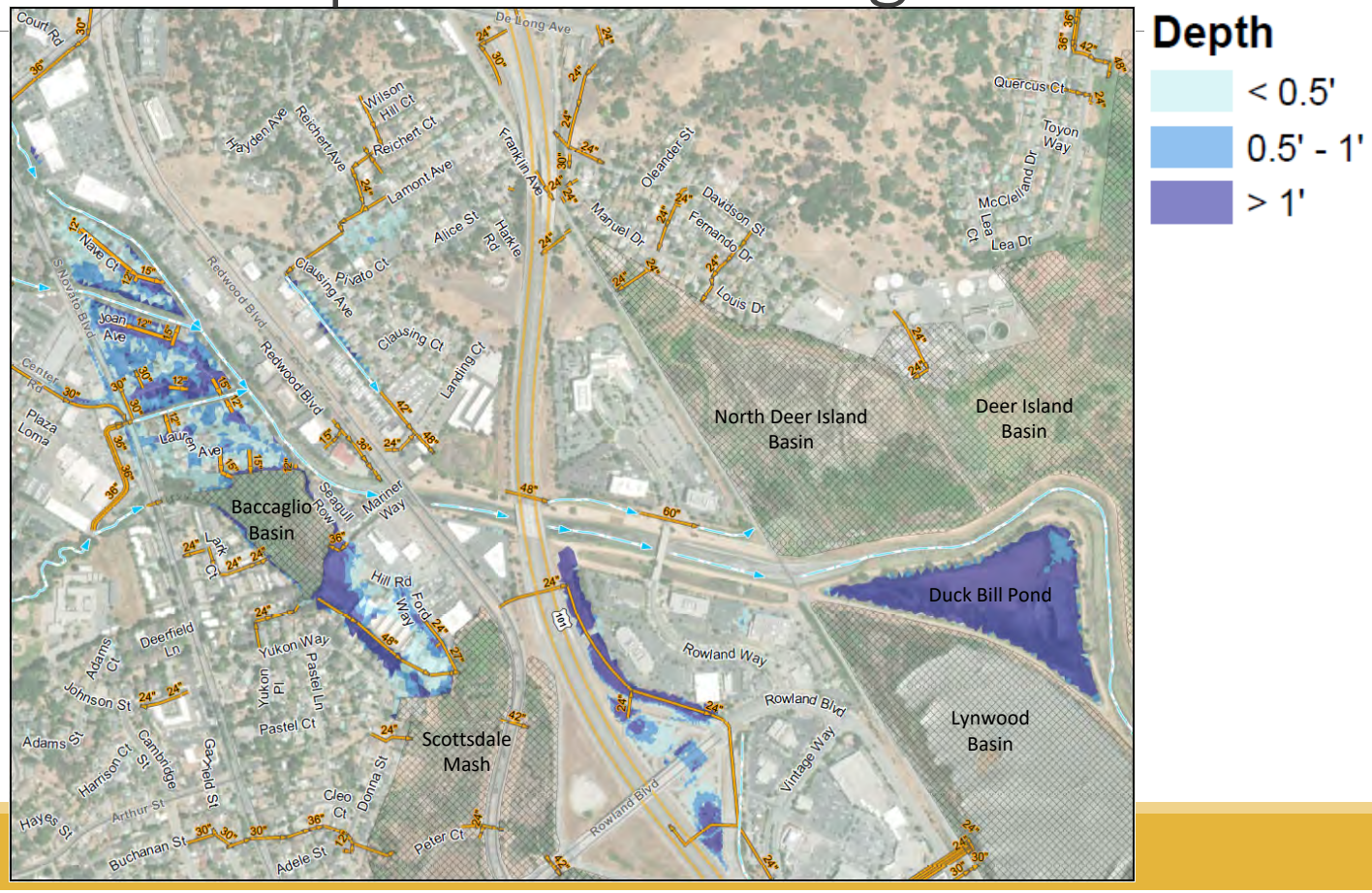
Possible Flood Mitigation Measure – Short Term Winter Storage: Proposed 50-Year



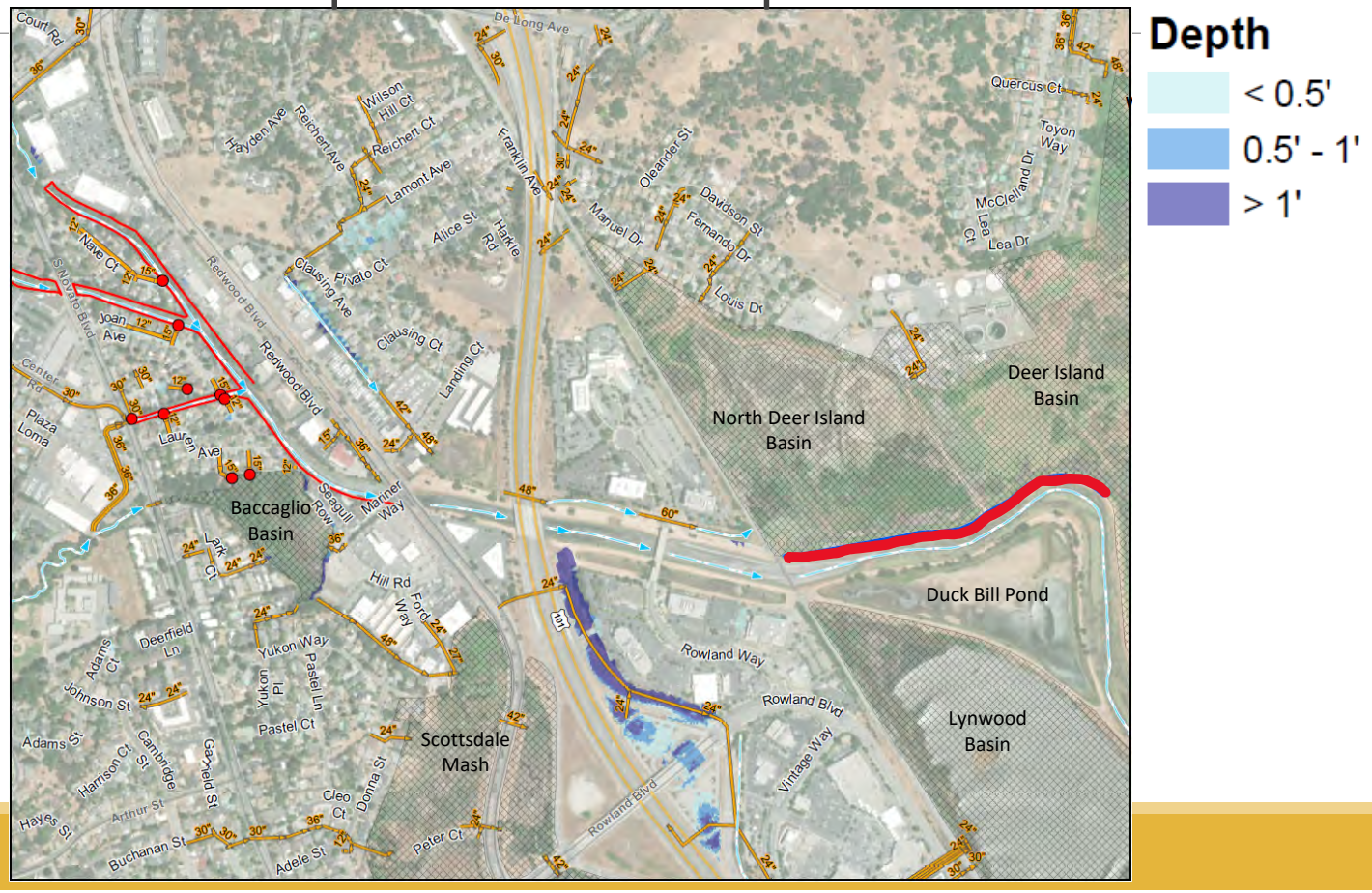
Possible Flood Mitigation Measure – Weir + Floodwall + Flap Gates



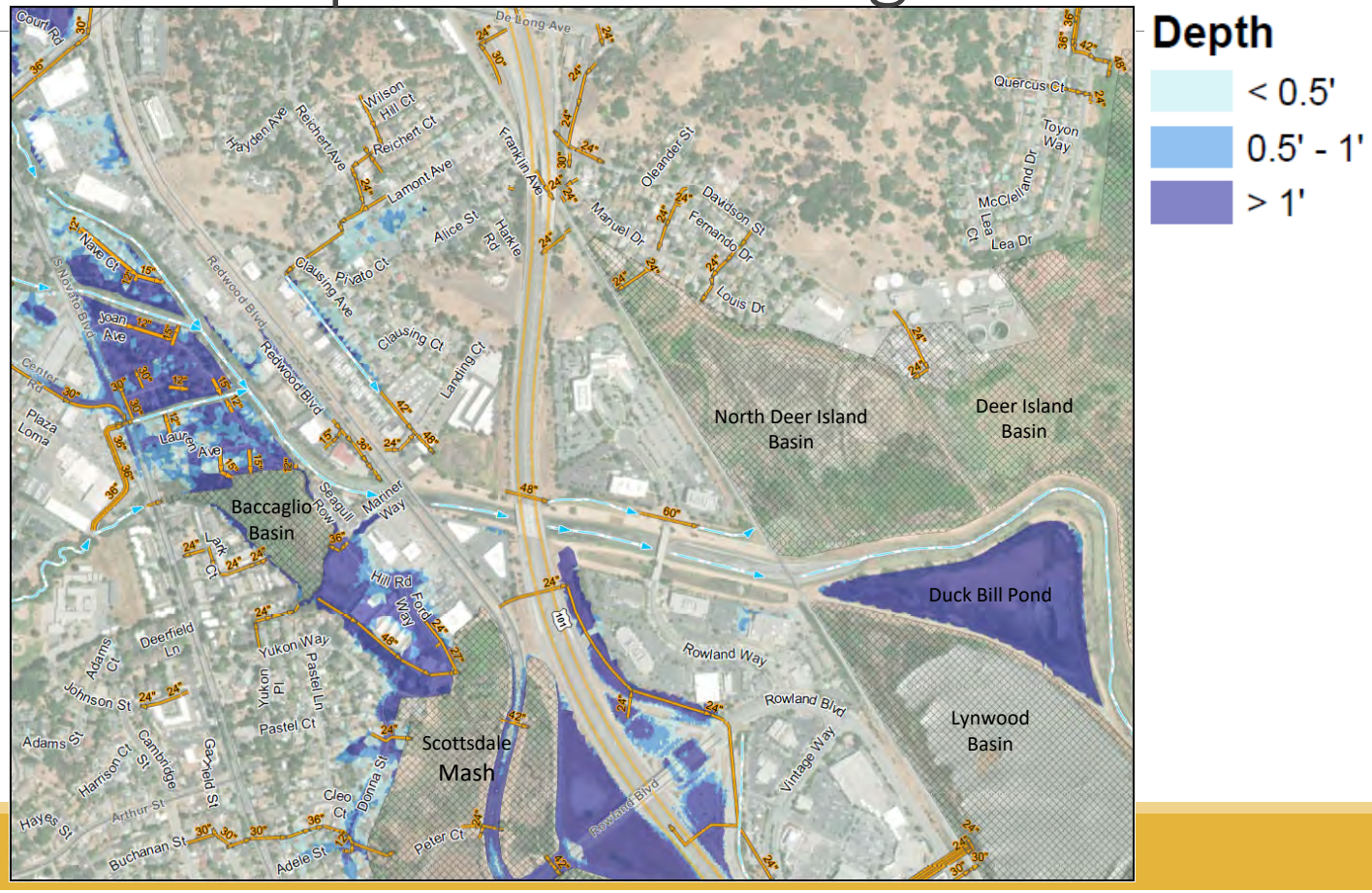
Possible Flood Mitigation Measure – Weir + Floodwall + Flap Gates: Existing 10-Year



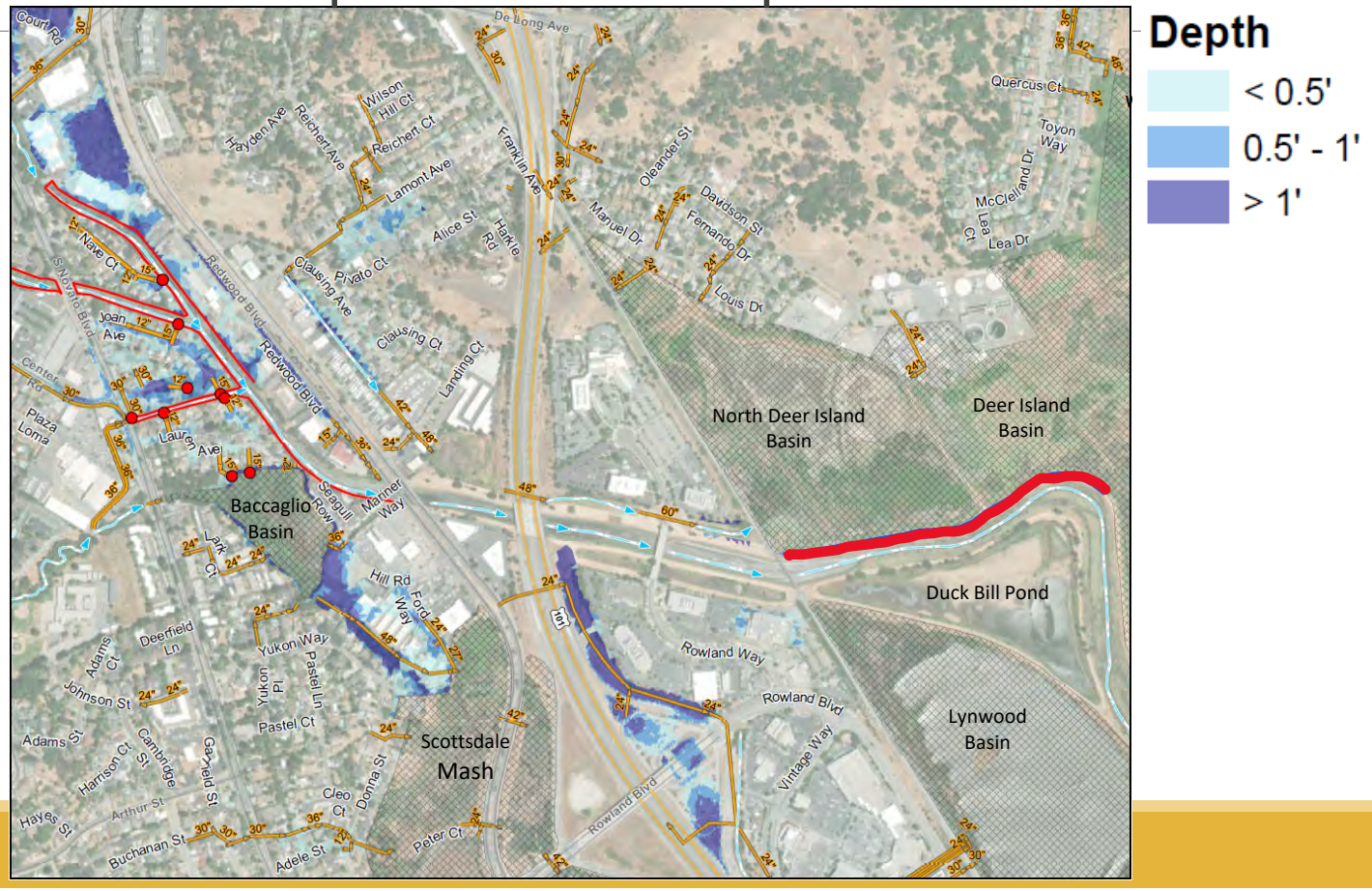
Possible Flood Mitigation Measure – Weir + Floodwall + Flap Gates: Proposed 10-Year



Possible Flood Mitigation Measure – Weir + Floodwall + Flap Gates: Existing 50-Year



Possible Flood Mitigation Measure – Weir + Floodwall + Flap Gates: Proposed 50-Year



Other Improvements Considered

Novato/Warner/Baccaglio Creeks Channel Dredging

Novato Creek Bypass Culvert Along Redwood Blvd

Conceptual Cost Estimate[1]

Flap Gates	$$$,$$$
Levee Lowering	$$,$$$,$$$
Floodwall	$$,$$$,$$$
Temp Storage	n/a
ABSL Weir Reconstruction	$,$$$,$$$

[1]Preliminary Capital Construction Costs Only

Deliverables

Refined GeoDatabase

Model

Technical Report

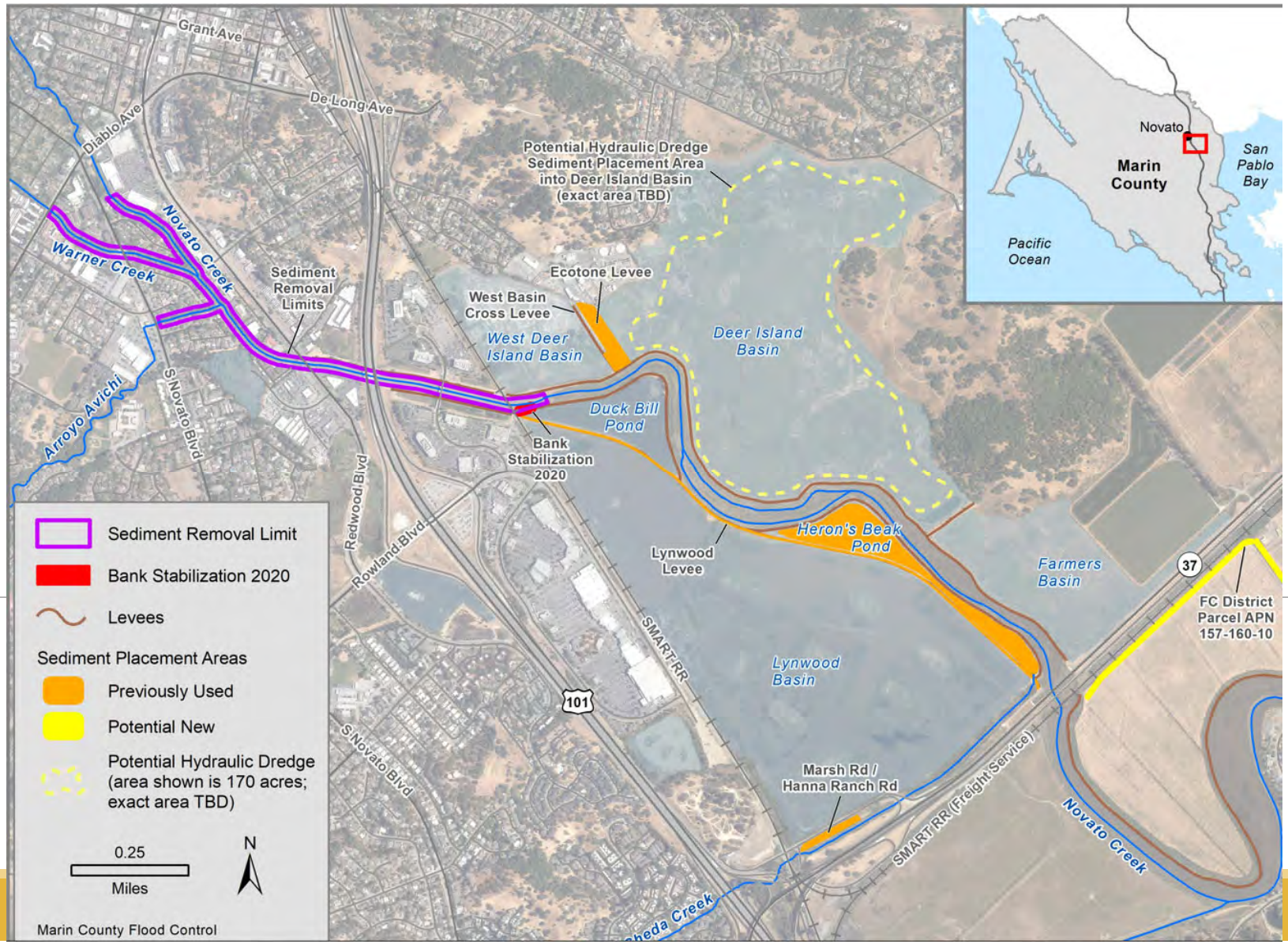
Schedule

Existing Conditions	Complete
Condition Assessment	Complete
Refine Model	Complete
Perform Calibration/Validation	Complete
Evaluate 2-, 10-, and 50-Year Event Flooding	Complete
Nave Gardens Evaluation	Complete
Improvement Alternatives	December 2023
Evaluate Flood Risk	February 2023
Evaluate Habitat Impact & Benefits	April 2024
H&H Technical Memorandum	June 2024

Questions?

Item 5.
Novato Creek Sediment Removal Project

MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

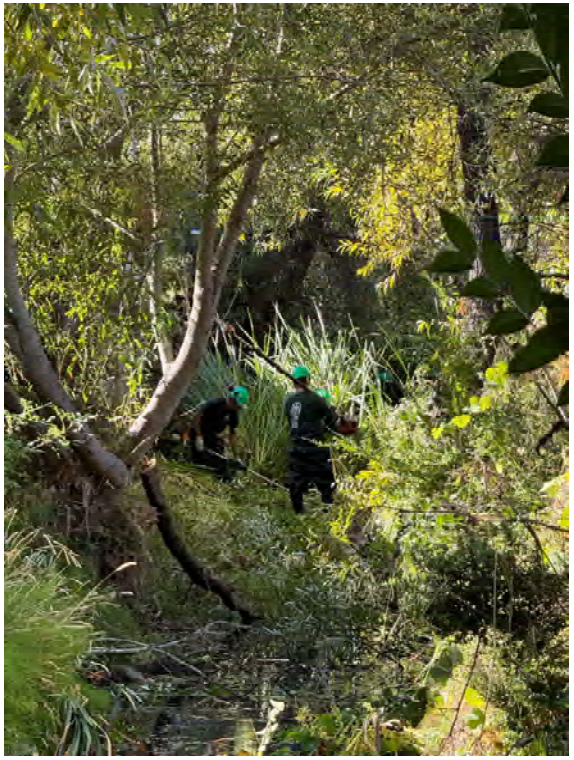

Grant Ave
De Long Ave
Diablo Ave
Warner Creek
Novato Creek
Sediment Removal Limits
Potential Hydraulic Dredge Sediment Placement Area into Deer Island Basin (exact area TBD)
Ecotone Levee
West Basin Cross Levee
West Deer Island Basin
Deer Island Basin
Duck Bill Pond
Bank Stabilization 2020
Arroyo Avichi
S Novato Blvd
Redwood Blvd
Rowland Blvd
Lynwood Levee
Heron's Beak Pond
Farmers Basin
FC District Parcel APN 157-160-10
SMART RR
Lynwood Basin
101
37
Marsh Rd / Hanna Ranch Rd
SMART RR (Freight Service)
Novato Creek
Novato
Marin County
San Pablo Bay
Pacific Ocean
Sediment Removal Limit
Bank Stabilization 2020
Levees
Sediment Placement Areas
Previously Used
Potential New
Potential Hydraulic Dredge (area shown is 170 acres; exact area TBD)
0.25
Miles
N
Marin County Flood Control

Item 6.
Operations and Maintenance Update

Pump Station Maintenance - Lynwood

Pump Station Maintenance - Cheda

Vegetation Management



Sediment Management

MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

Item 7. Updating Hydrology for Stafford Dam

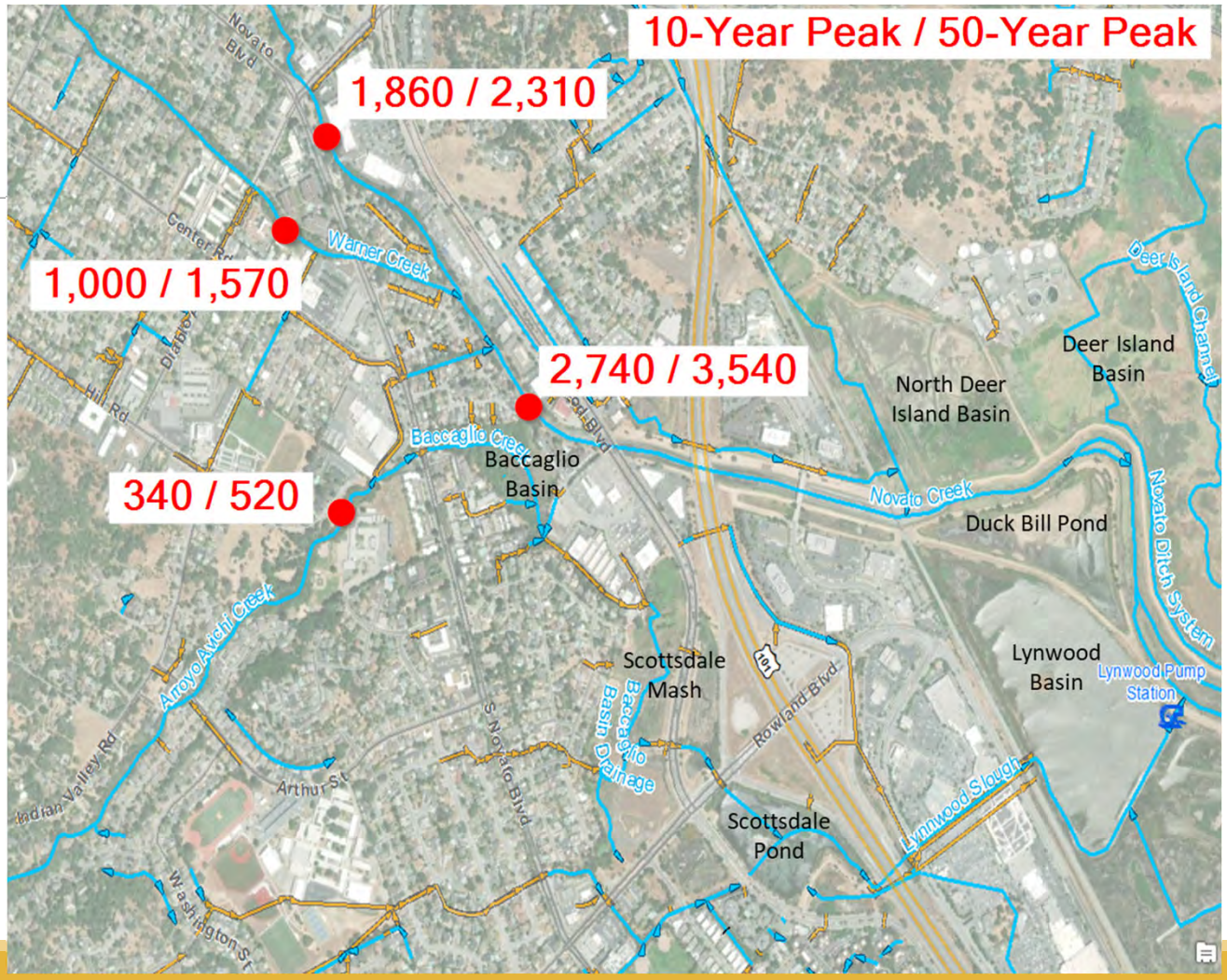
Recommended Action: Recommend the District Board of Supervisors approve

1) a resolution of intent to approve a project to update the hydrology and hydraulic analysis for Stafford lake,
2) approve an approximately $150k contract for updated hydrology and hydraulic analysis for Stafford Dam,
3) approve an amendment to the District's existing 1985 agreement with NMWD for management of the dam, adding that NMWD fully reimburse these contracting costs to the Zone.

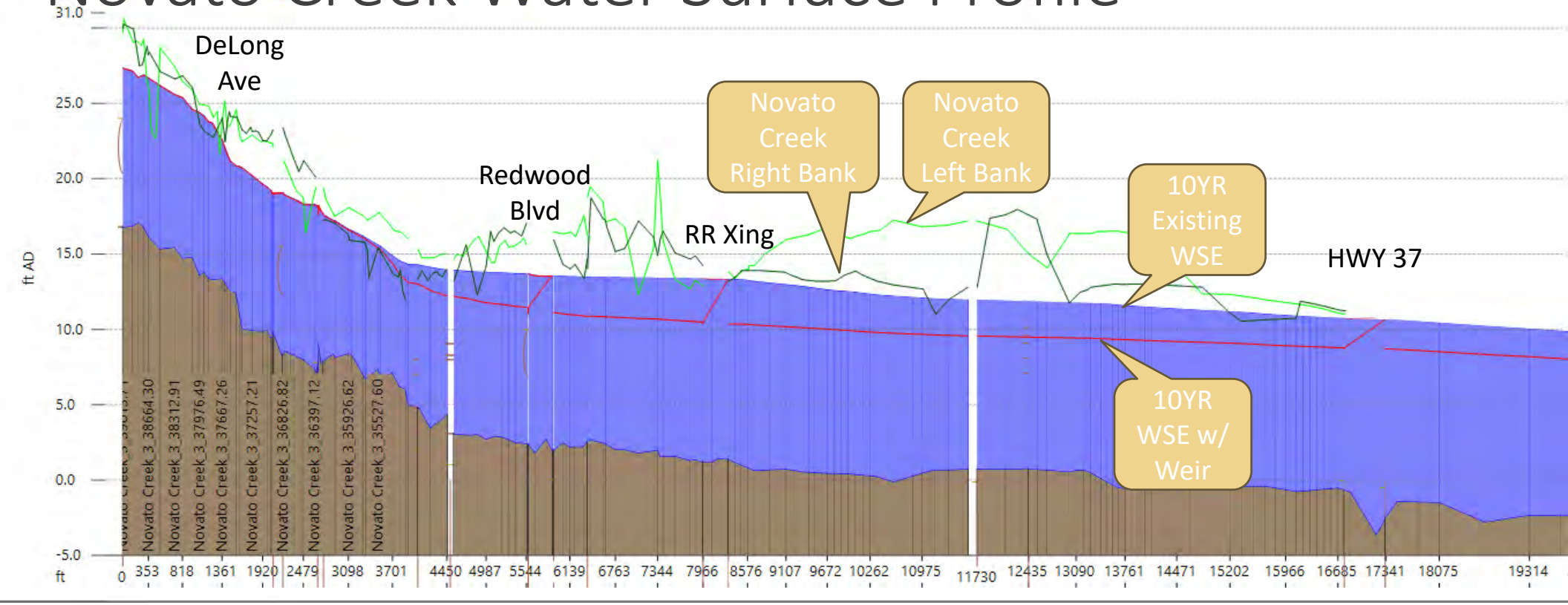
Item 8. Schedule Next Meeting

- Next regular meeting is tentatively scheduled for February 2024
- Additional special meetings may be held for other project needs like budget adjustments

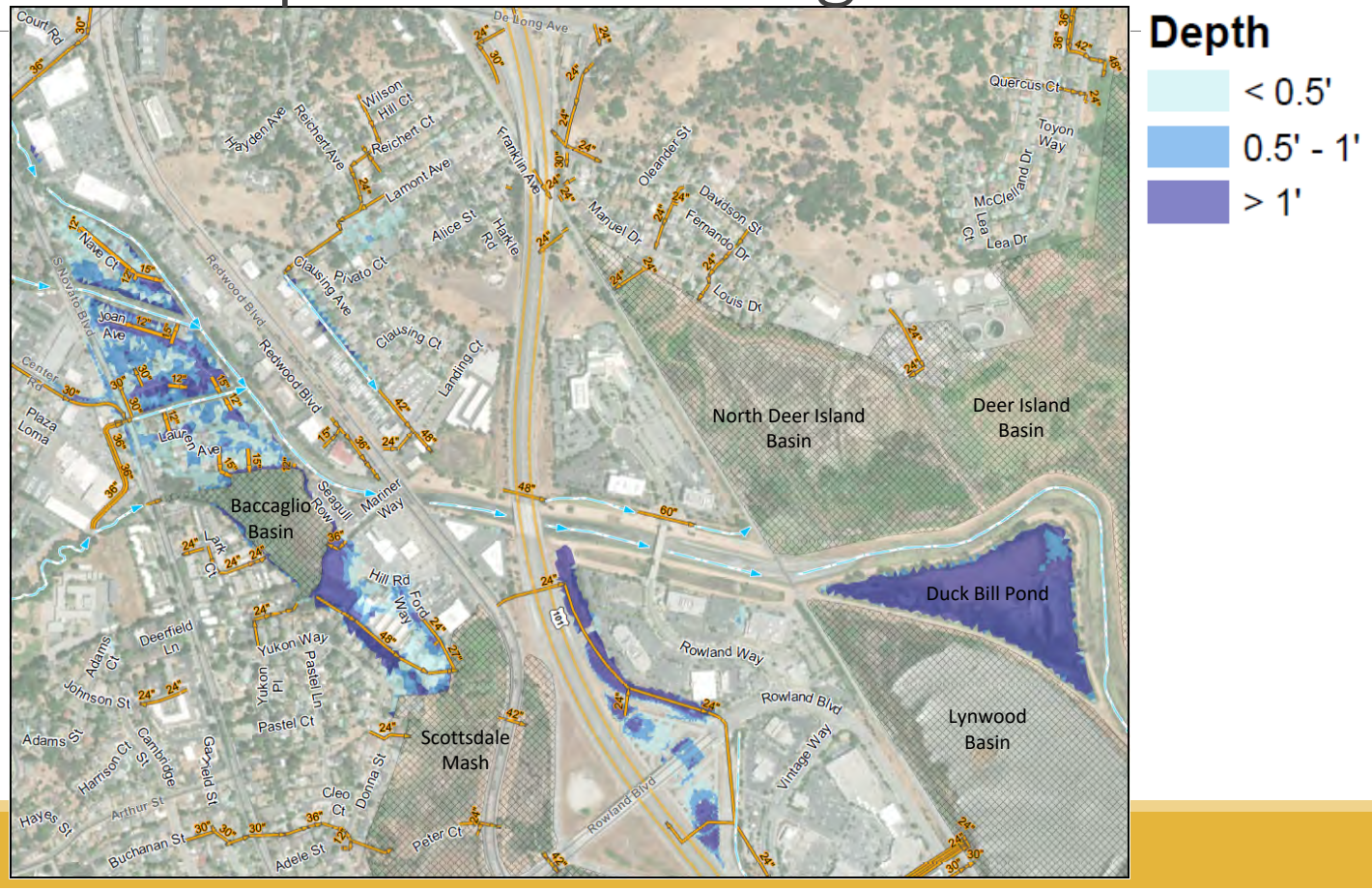
Existing 10-Year & 50-Year Peak Flows (cfs)



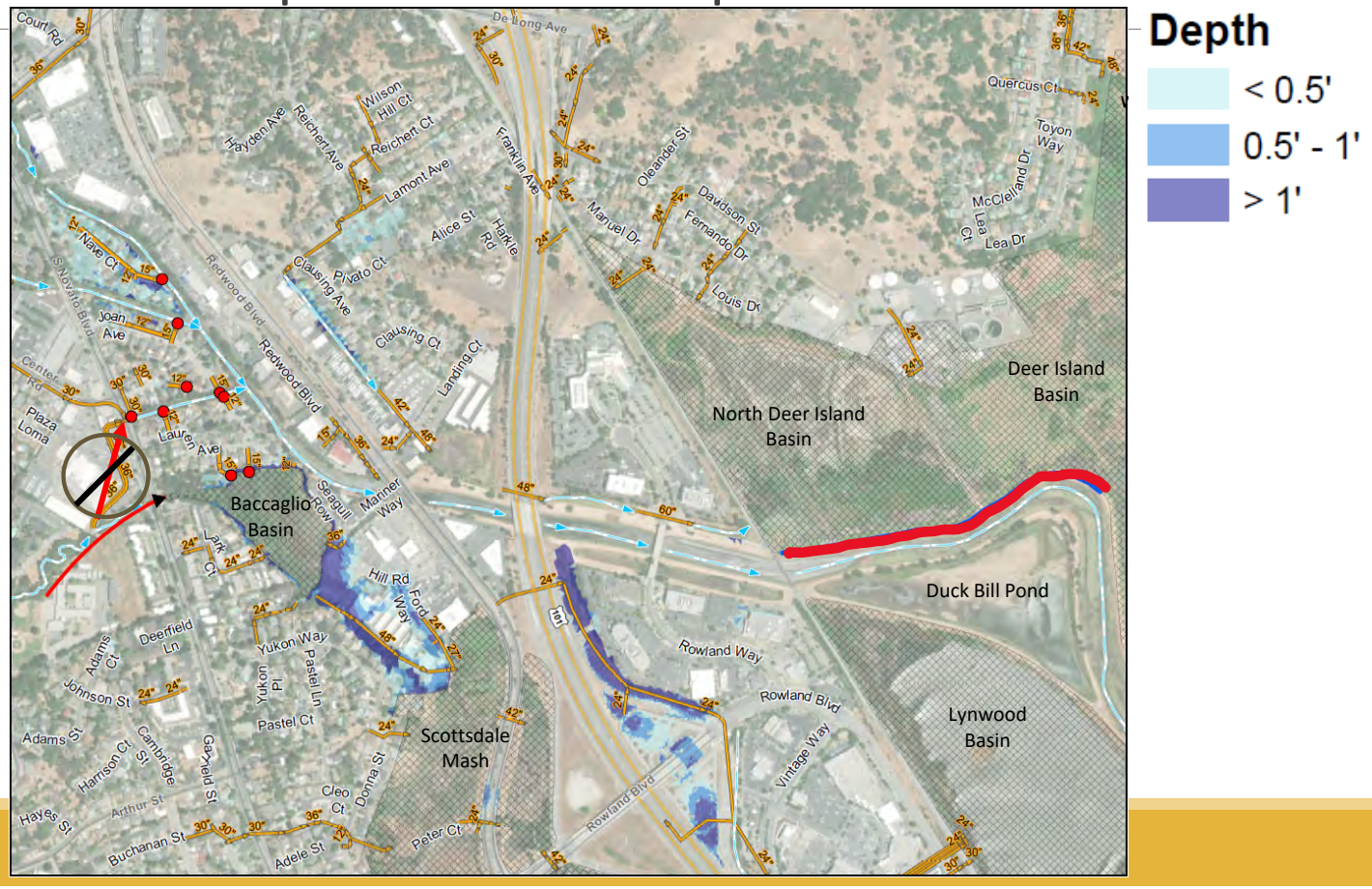
Novato Creek Water Surface Profile



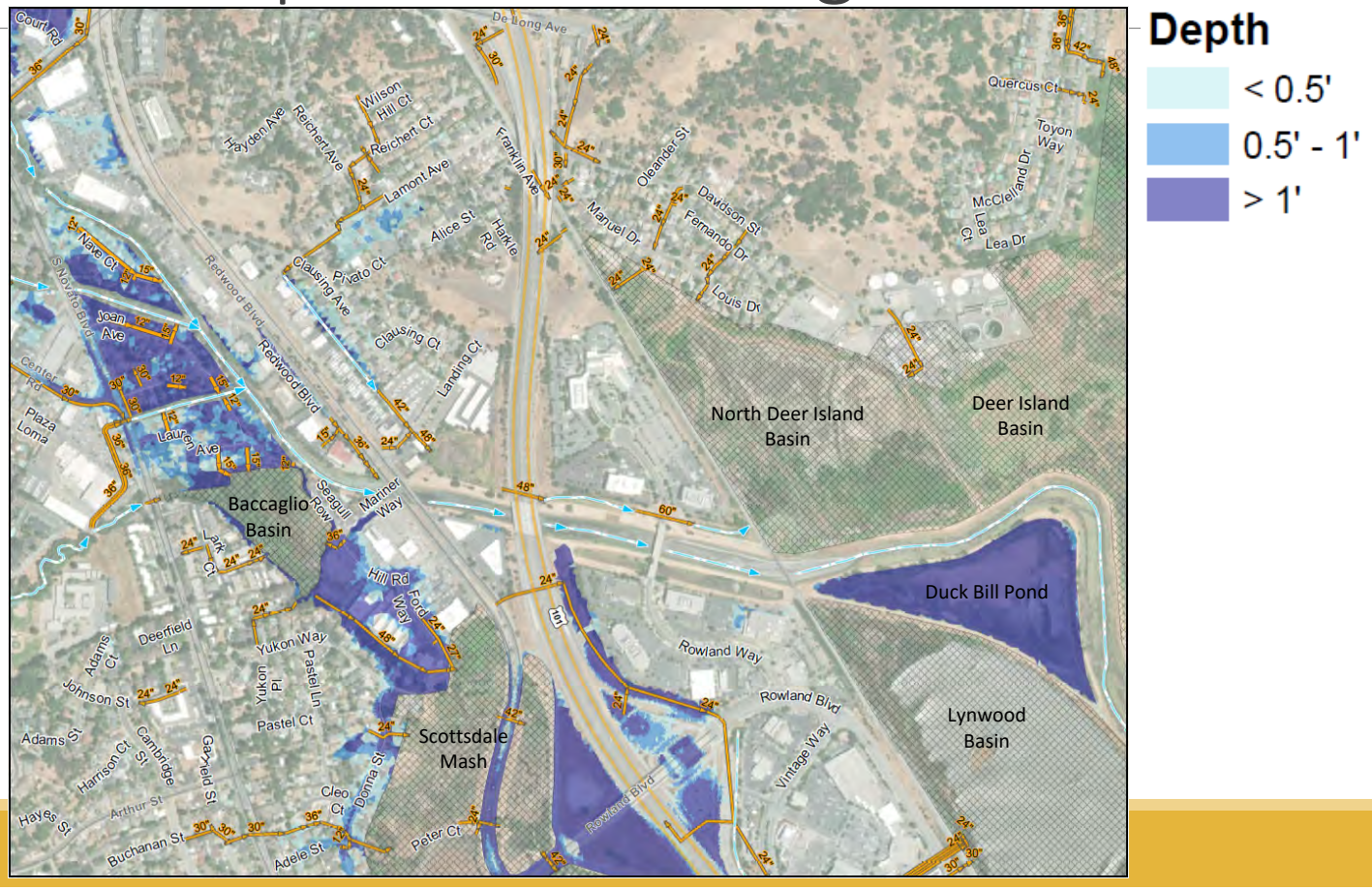
Possible Flood Mitigation Measure – Weir + ABSL Diversion + Flap Gates: Existing 10-Year



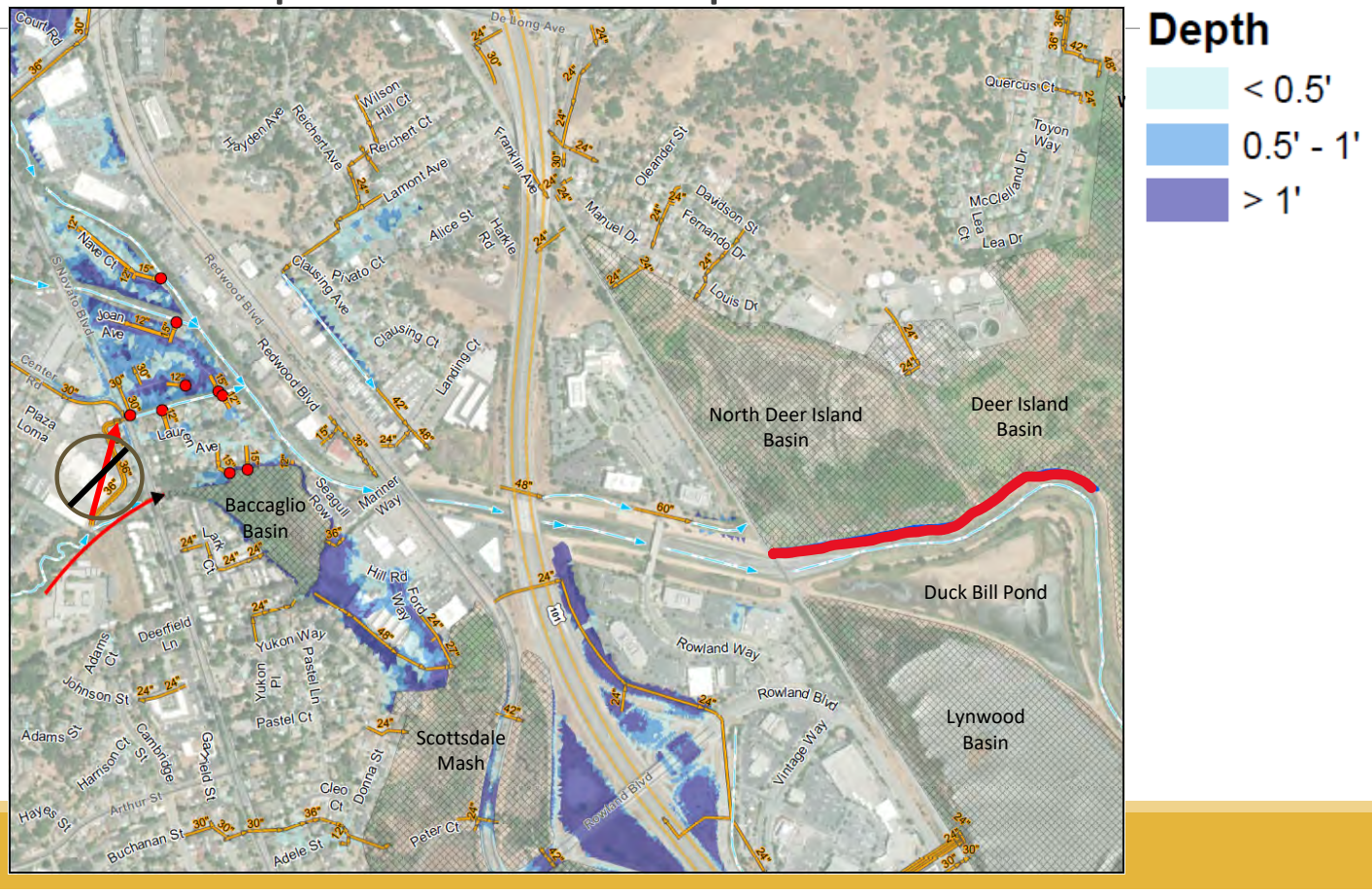
Possible Flood Mitigation Measure – Weir + ABSL Diversion + Flap Gates: Proposed 10-Year



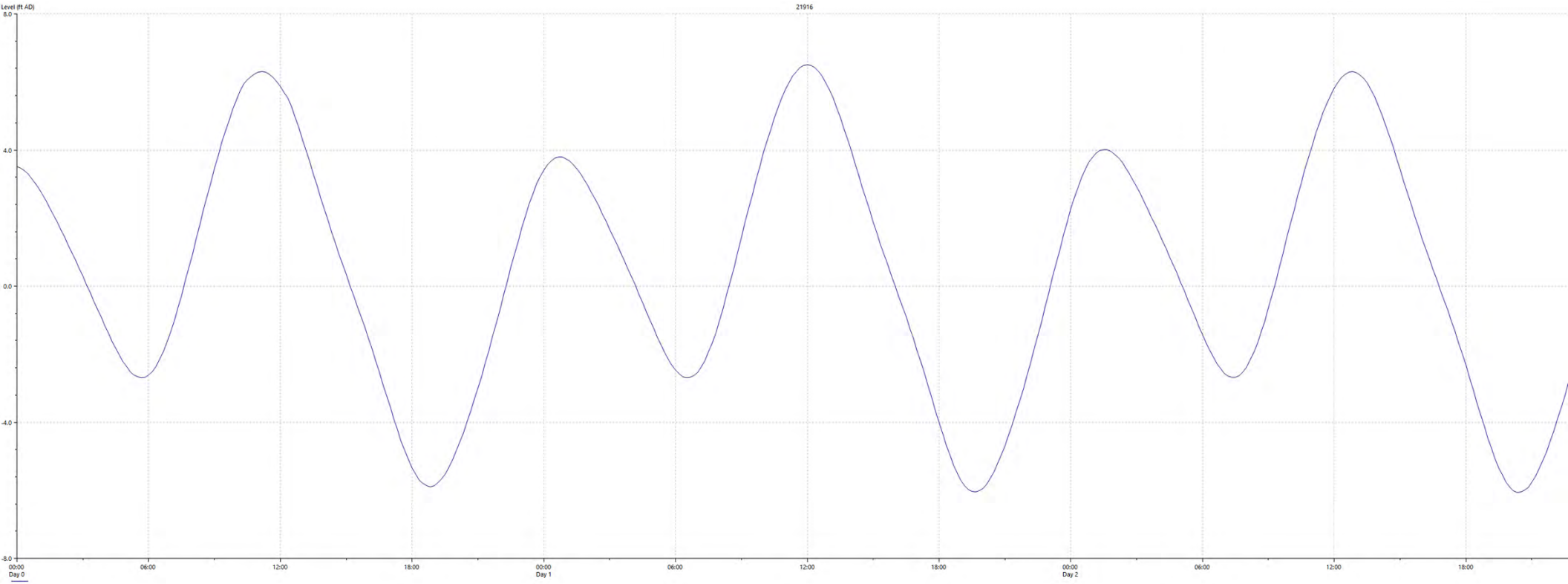
Possible Flood Mitigation Measure – Weir + ABSL Diversion + Flap Gates: Existing 50-Year



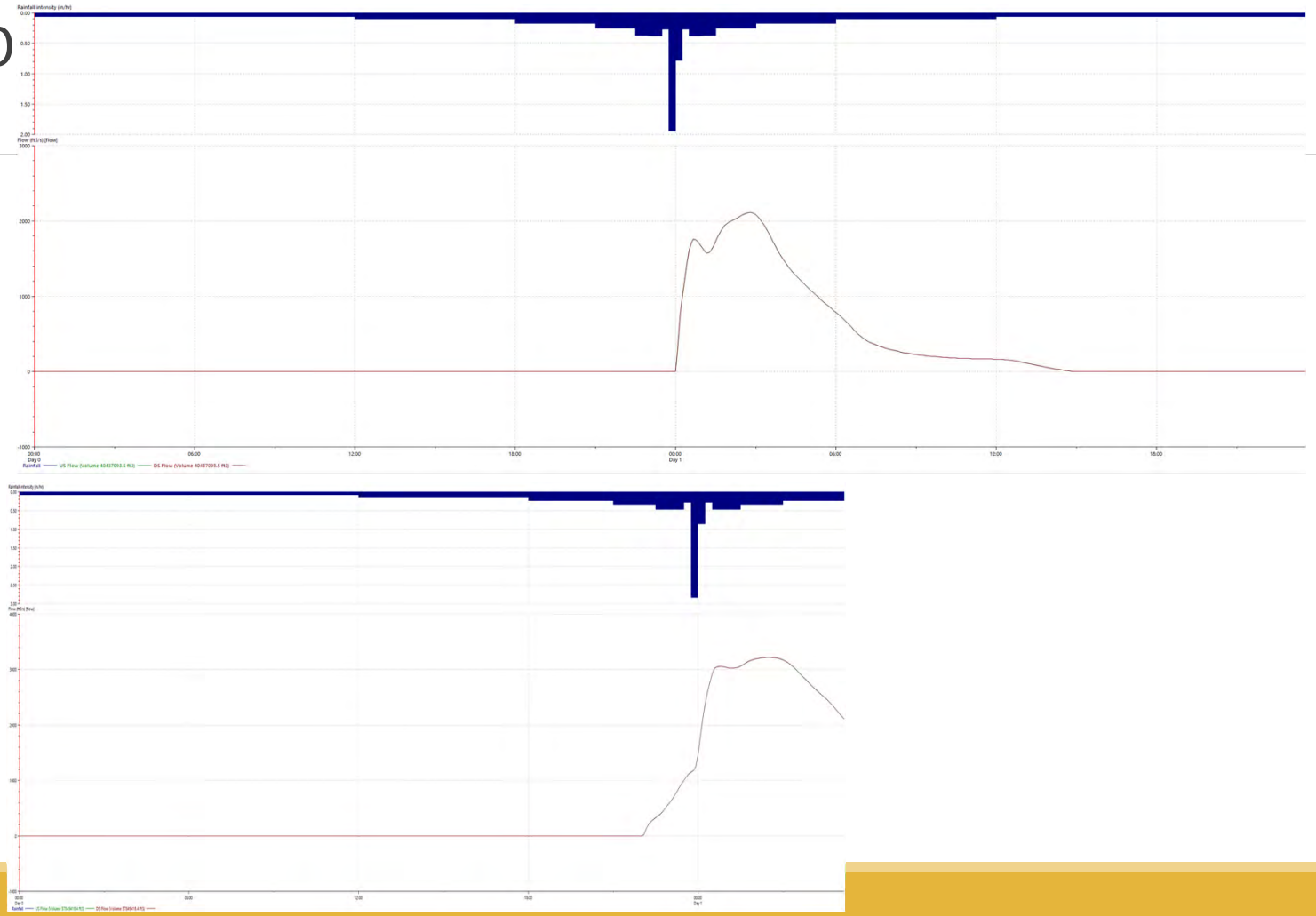
Possible Flood Mitigation Measure – Weir + ABSL Diversion + Flap Gates: Proposed 50-Year



MHHW Boundary Conditions



Hydrograp



Novato Creek WSE @ Weir