

Coastal Mendocino County Storm Water Resource Plan Stakeholder Meeting #2 January 30, 2018



Agenda

- SWRP Overview
- Benefits (Handout)
- Projects and Scores
- Prioritization

Storm Water Resource Plan (SWRP)

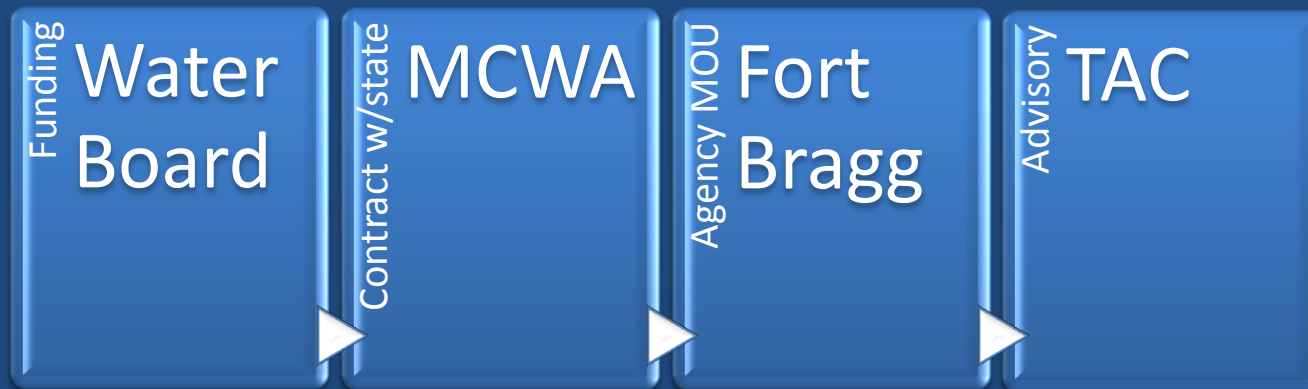
- The SWRP is a plan that outlines the state of our community's watersheds and identifies how the district can improve and protect our rivers, creeks, streams, and groundwater via storm water resource management.
- A SWRP is a requirement for receiving state funds that address projects which capture and re-use storm water runoff, providing improved water quality and quantity for the community.

Proposition 1 Background

- Prop 1 authorized \$7.5 billion in general obligation bonds for water projects including:
 - Surface and groundwater storage
 - Ecosystem and watershed protection and restoration
 - Drinking water protection
- Of the \$7.5 billion, Prop 1 provides \$200 million in grant funds for multi-benefit storm water management projects.

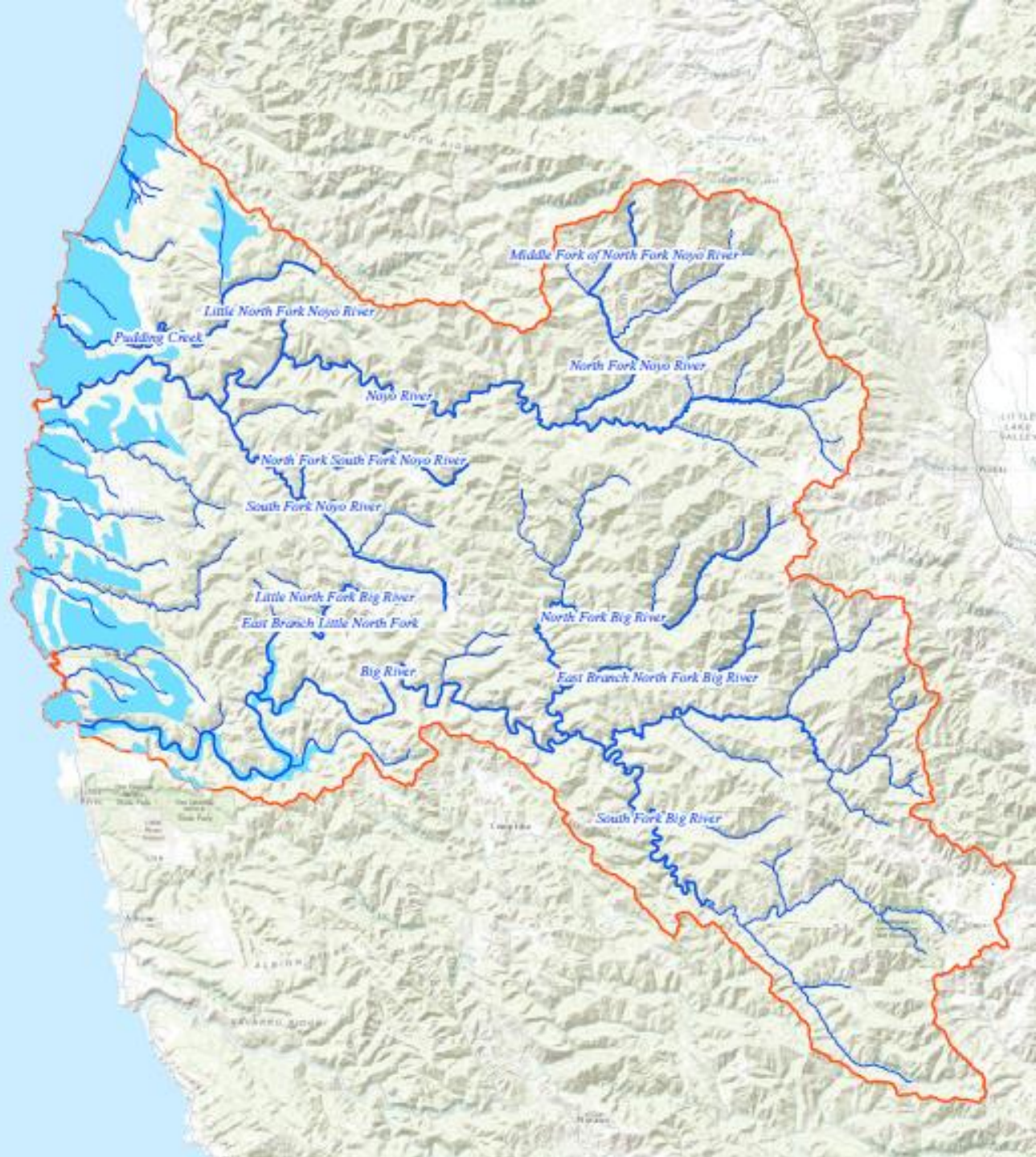
SWRP Grant Update

- \$242,990 grant awarded to the Mendocino County Water Agency
- \$270,045 total effort, including County match
- Identifies projects that capture and re-use storm water runoff to provide multiple benefits.



Areas & Towns Benefitting from SWRP

- Pudding Creek-
Frontal Pacific Ocean
Watershed
- Noyo River
Watershed
- Big River Watershed
- Mendocino
- Fort Bragg
- Casper
- Cleone



Submitted Projects

City of Fort Bragg
WWTP Stormwater
Upgrades

Mendocino County
Facilities LID Retrofits

City of Fort Bragg
Trash Collectors

Georgia-Pacific Mill
Wetland and Stream
Daylighting Project

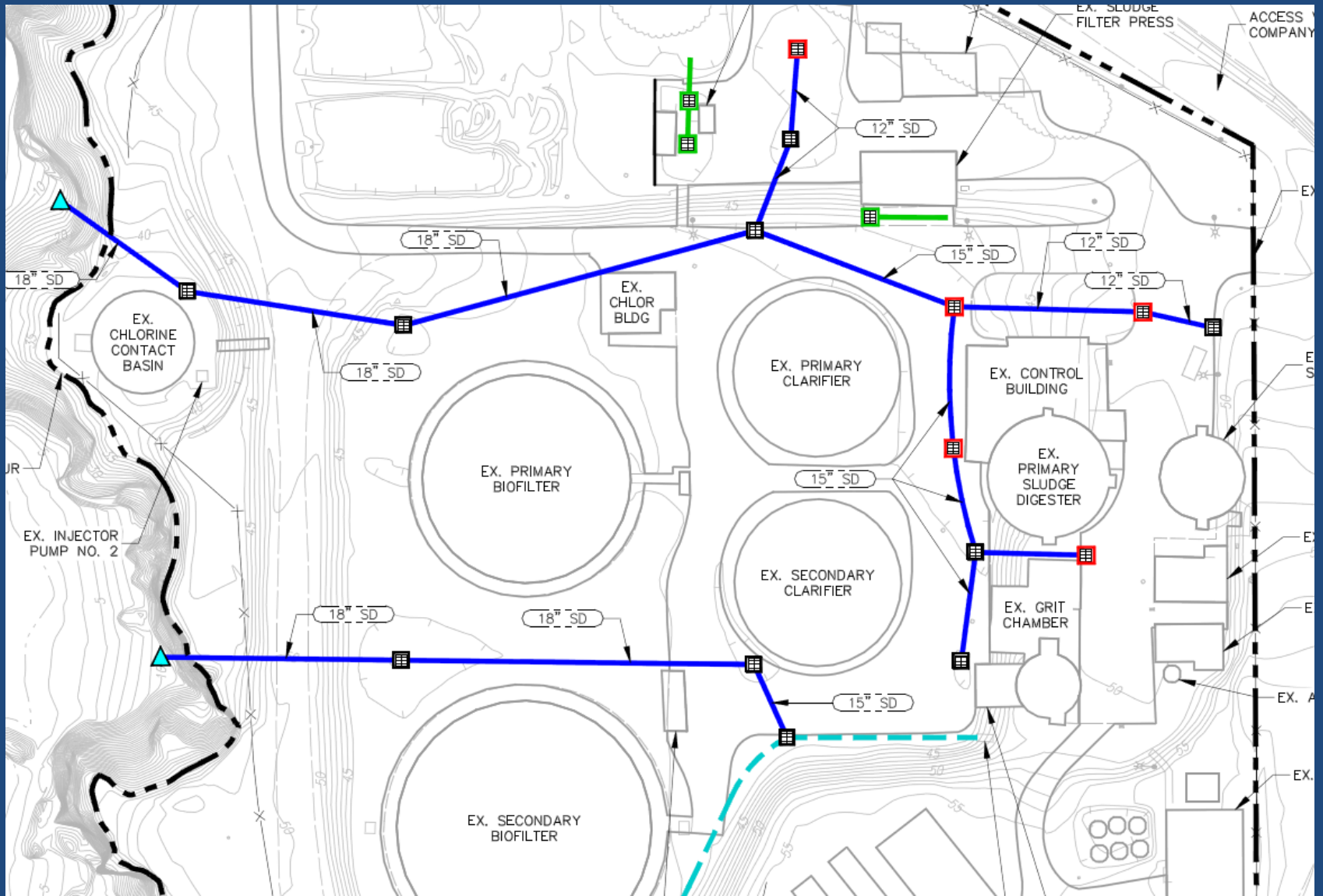
State Parks and Rec.
Legacy Logging Road
Rehabilitation

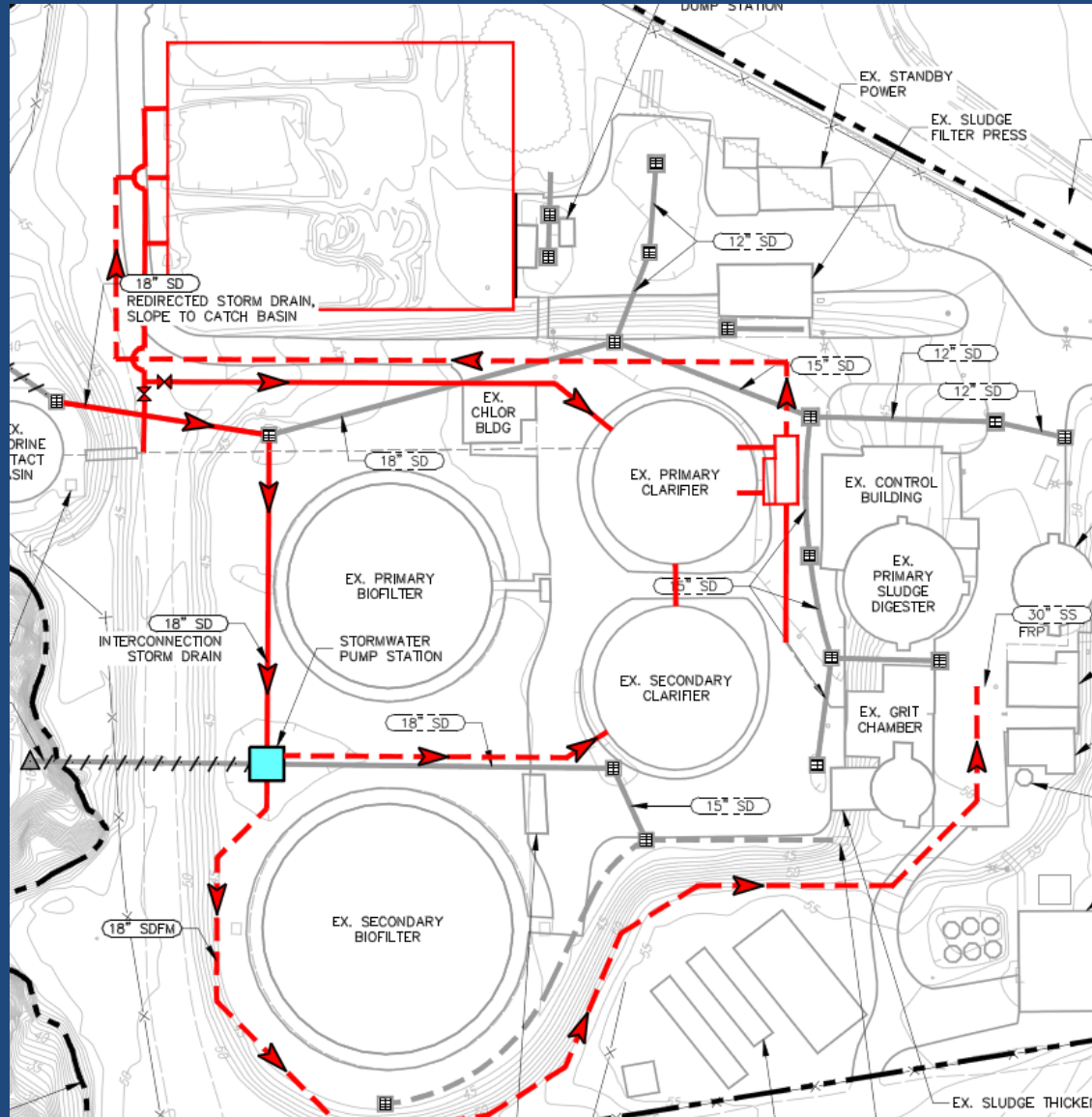
Mendocino County
Company Ranch Road
Legacy Logging Road
Rehabilitation



City of Fort Bragg

WWTP Stormwater Upgrades







City of Fort Bragg WWTP Stormwater Upgrades

- Gravity Storm Drain Improvements (245 feet)
- Force Main Improvements (450 feet)
- 15-foot x 15-foot Wet Well and (3) Submersible Pumps
- Negative Declaration Completed / Shovel Ready
- Total Estimated Cost \$560,000
- City of Fort Bragg Match Funds Available?



City of Fort Bragg

WWTP Stormwater Upgrades

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Water Quality	3	Primary	Nonpoint Source Reduction	3
		Primary	Decreased Turbidity	1
		Primary	Increased Filtration and Treatment of Runoff	2
		Primary	Decreased Sediment Loading	3
Community	2	Primary	Employment Opportunities	1
Flood Management	1	Primary	Reduce Stormwater Runoff and Volume	2
		Secondary	Reduced Sewer Outflow	1
		Secondary	Decreased Flood Risk	1



City of Fort Bragg

WWTP Stormwater Upgrades

Technical Score: 64

Table 14. TAC scores for City of Fort Bragg's WWTP Stormwater Upgrades

Description	Score (1-10)
Environmental Benefit	5.5
Technical Feasibility	7.0
Economic Feasibility	6.3
Community and Partner Involvement	4.5
Shovel Readiness	7.3
CEQA Preparation	7.7
Match Funding	7.7
Bonus Points	4.5

TAC Score: 50.5

Total: 114.5



Avila Center

Rain Gardens & Infiltration Trench



790 S. Franklin Street
Fort Bragg

Benefit Table

Primary

In-Stream flow improvement
Reduce storm water run-off
rate and volume

Secondary

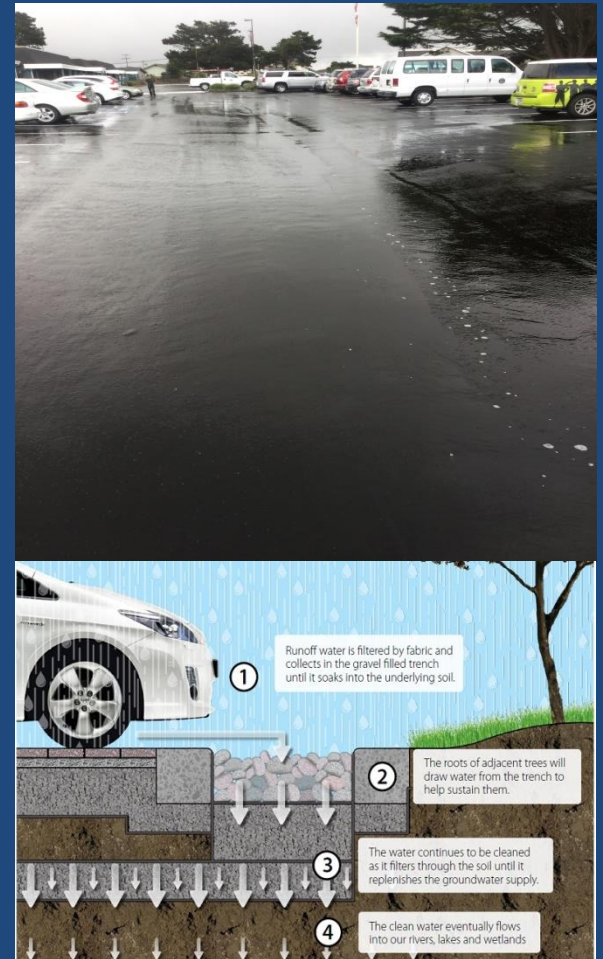
Re-establishment of natural
hydrographs
Re-establishment of
groundwater supply

Cost

\$80,000.00

Metric

Annual Rainfall – 43 inches
Impervious Area – 1.5 acres
Volume Captured (85th
percentile) – 4.6 Acre-Feet
per Year
Cost per Acre-Foot (over 20
years) - \$868.00





Planning & Building Services

Infiltration Trench & Landscaping



120 W. Fir Street
Fort Bragg

Benefit Table

Primary

In-Stream flow improvement
Reduce storm water run-off
rate and volume

Secondary

Re-establishment of natural
hydrographs
Re-establishment of
groundwater supply

Cost

\$56,000.00

Metric

Annual Rainfall – 43 inches
Impervious Area - .4 acres
Volume Captured (85th
percentile) – 1.2 Acre-Feet
per Year (AFY)
Cost per Acre-Foot (over 20
years) - \$2,292.00





County DOT Yard

Infiltration Trench

120 E. Bush Street
Fort Bragg

Benefit Table

Primary

In-Stream flow improvement
Reduce stormwater run-off
rate and volume

Secondary

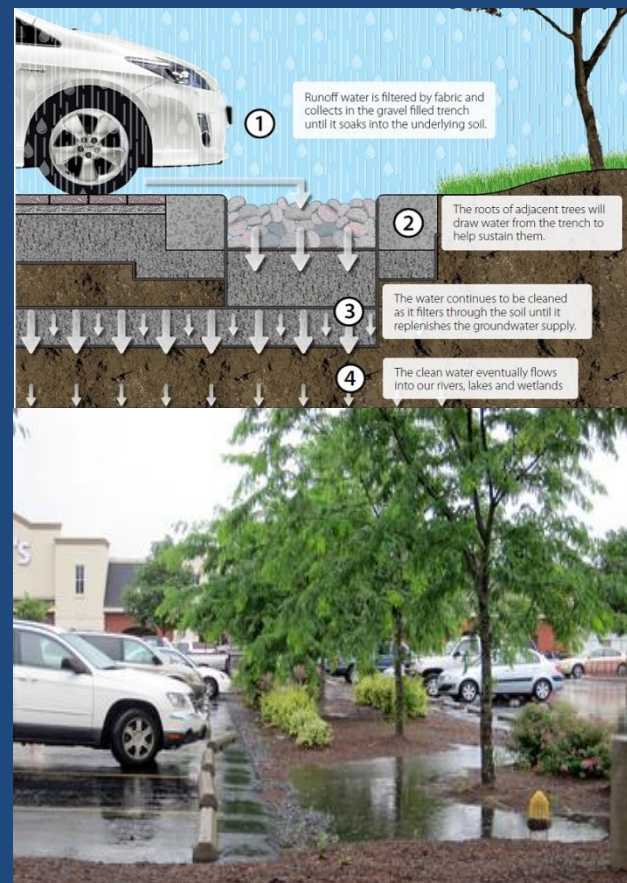
Re-establishment of natural
hydrographs
Re-establishment of
groundwater supply

Cost

\$35,691.50

Metric

Annual Rainfall – 43 inches
Impervious Area - .2 acres
Volume Captured (85th
percentile) – .6 Acre-Feet per
Year (AFY)
Cost per Acre-Foot (over 20
years) - \$2,432.00





County Library

Infiltration Trench

499 E. Laurel Street
Fort Bragg

Benefit Table

Primary

In-Stream flow improvement
Reduce storm water run-off
rate and volume

Secondary

Re-establishment of natural
hydrographs
Re-establishment of
groundwater supply

Cost

\$13,299.00

Metric

Annual Rainfall – 43 inches
Impervious Area - .1 acres
Volume Captured (85th
percentile) – .30 Acre-Feet
per Year (AFY)
Cost per Acre-Foot (over 20
years) - \$2,400.00





County of Mendocino

Facilities LID Retrofits

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Environmental	3	Primary	In-Stream Flow Improvement	3
		Secondary	Reestablishment of Natural Hydrographs	3
Water Supply	3	Primary	Groundwater Supply	3
		Secondary	Water Conservation	3
Community	2	Primary	Employment Opportunities	1
Water Quality	3	Primary	Increased Filtration or Treatment of Runoff	2



County of Mendocino

Facilities LID Retrofits

Technical Score: 70

Table 17. TAC scores for DOT – County Facilities Project – LID Retrofits

Description	Score (1-10)
Environmental Benefit	7.5
Technical Feasibility	8.0
Economic Feasibility	7.8
Community and Partner Involvement	6.2
Shovel Readiness	5.7
CEQA Preparation	5.5
Match Funding	6.2
Bonus Points	5.3

TAC Score: 52.2

Total: 122.2



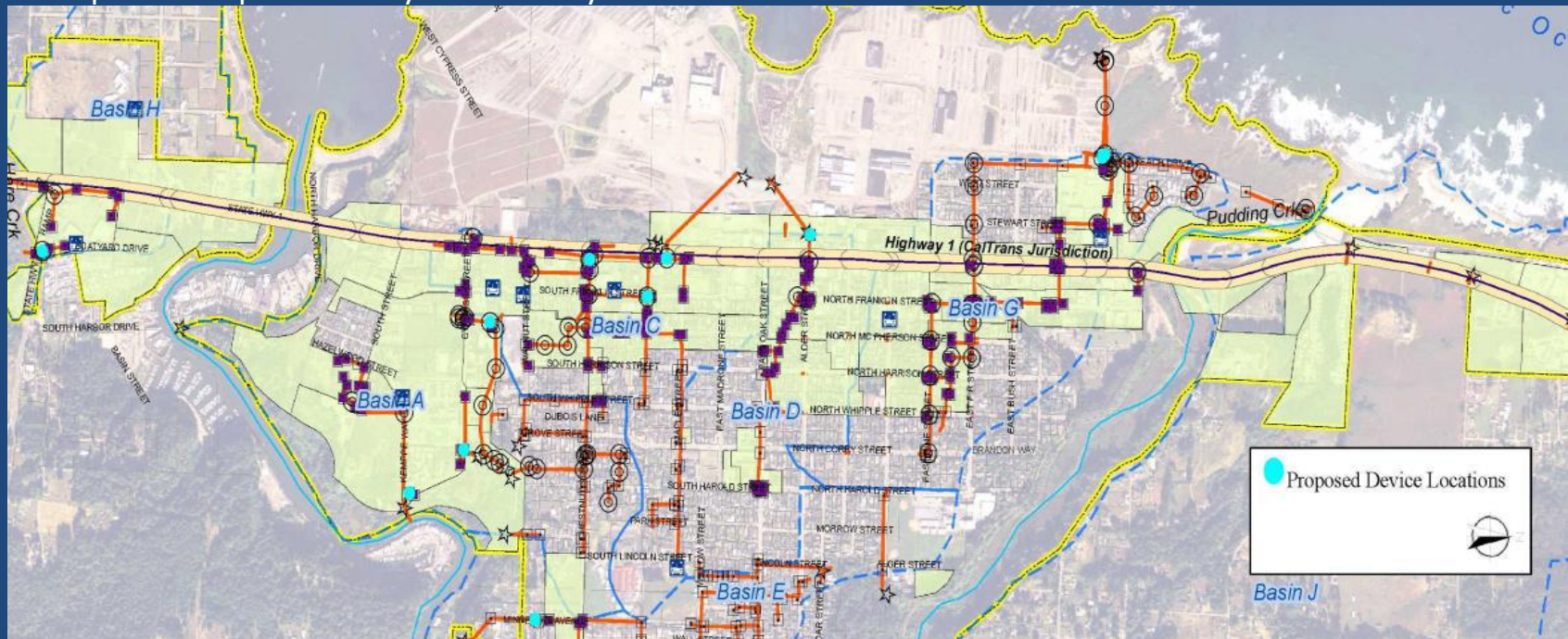
City of Fort Bragg

Trash Capture Devices

Multiple Locations, Fort Bragg

- 12 devices strategically placed to ensure 100% capture of trash runoff from highest trash generating areas.
- Traps particles as small as 5mm.
- Devices designed to treat 1-year, 1-hour storm events.
- 10% Compliance required each year over 10 years

Primary Benefits	Secondary Benefits	Total Cost (over 10 years)
<ul style="list-style-type: none">• Increased filtration & treatment of runoff• Employment opportunities	<ul style="list-style-type: none">• Trash reduction• Improvement of habitats for aquatic species	\$300,000.00 Including each device & maintenance





City of Fort Bragg Trash Capture Devices

Multiple Locations, Fort Bragg





City of Fort Bragg

Trash Capture Devices

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Environmental	3	Primary	Trash Reduction	3
		Secondary	Improvement of Fish & Wildlife Habitat	3
Water Quality	3	Primary	Nonpoint Source Reduction	3
		Primary	Increased Filtration or Treatment of Runoff	2
Community	2	Primary	Employment Opportunities	1
		Secondary	Public Education	2
		Secondary	Youth Education Programs	1



City of Fort Bragg

Trash Capture Devices

Technical Score: 129

Table 12. TAC scores for the City of Fort Bragg Trash Capture project

Description	Score (1-10)
Environmental Benefit	8.0
Technical Feasibility	8.5
Economic Feasibility	7.3
Community and Partner Involvement	6.0
Shovel Readiness	9.0
CEQA Preparation	9.0
Match Funding	8.5
Bonus Points	6.2

TAC Score: 62.5

Total: 191.5

Noyo Headlands

GP Mill Site Redevelopment



Project goal is to re-adopt practical pathways to a revitalized network of above-ground creeks and wetlands that receive and process storm water where the surface expression corresponds to below-ground aquifers, or deviates from them to protect important infrastructure, bends around a Native American cultural site, or meanders away instead of through residues of buried industrial poisons to ensure the most promising results for ecological and public health.

Primary Benefits	Secondary Benefits	Estimated Cost
<ul style="list-style-type: none">• Creation of new wetlands• Decreased flood risk• Employment opportunities• Increased urban green space	<ul style="list-style-type: none">• Community involvement• Improved public use areas• Provide carbon sink• Re-establish natural hydrograph	\$250,000 - \$300,000



Noyo Headlands - Georgia-Pacific Mill

Wetland and Stream Daylighting Project

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Environmental	3	Primary	In-Stream Flow Improvement	3
		Primary	Wetland Creation	3
		Primary	Riparian Enhancement	2
		Secondary	Fish & Wildlife Habitat Protection and Improvement	3
		Secondary	Reestablishment of Natural Hydrographs	3
		Secondary	Creation of New Open Spaces and Wildlife Corridors	2
		Secondary	Reduced Energy Use/Greenhouse Gas Emission/Provide Carbon Sink	1

Noyo Headlands - Georgia-Pacific Mill

Wetland and Stream Daylighting Project

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Water Quality	3	Primary	Nonpoint Source Reduction	3
Community	2	Primary	Employment Opportunities	1
		Primary	Recreational Area Development	1
		Secondary	Public Education	2
		Secondary	Youth Education Programs	1
Flood Management	1	Primary	Reduce Stormwater Runoff Rate & Volume	2
		Secondary	Reduced Sewer Outflow	1
			Decreased Flood Risk	1

Noyo Headlands - Georgia-Pacific Mill

Wetland and Stream Daylighting Project

Technical Score: 113

Table 19. TAC Scores for the Georgia-Pacific Mill Wetland project

Description	Score (1-10)
Environmental Benefit	9.4
Technical Feasibility	7.1
Economic Feasibility	4.4
Community and Partner Involvement	8.1
Shovel Readiness	3.3
CEQA Preparation	5.3
Match Funding	4.6
Bonus Points	7.1

TAC Score: 49.3

Total: 162.4

Company Ranch Road

Sediment Reduction Project



Installation of additional ditch relief culverts

Above: Inlet with rock headwall, notched ditch block and temporary sediment control wattle.

Below: Outlet with flume extension to rock energy dissipater



The DIRT database indicates that some 2,150 cubic yards of sediment may be prevented from entering the Noyo River over a 10 year period as a result of sediment reduction treatments on Company Ranch Road. Proposed work includes: installing 6 new ditch relief culverts, upsizing 5 stream crossing culverts, replacement of 6 ditch relief culverts and other sediment reduction treatments such as outsloping, rolling grade breaks, removal of outside berm, repair of erosion areas and rock surfacing.

Project benefits of a more hydrologically transparent road are; improved road conditions for residences of Company Ranch Road and the traveling public, decreased maintenance costs as a result of storm proofing treatments, and enhanced protection of identified beneficial uses.

Primary Benefits	Secondary Benefits	Estimated Cost
<ul style="list-style-type: none"> Decreased flood risk Employment opportunities Increased filtration of runoff Instream flow improvement 	<ul style="list-style-type: none"> Nonpoint source pollution control Re-establishment of natural hydrograph 	\$450,000 for construction



Outside berm removed in 2012 to existing road elevations. Reestablishing the crown in 2013 has recreated an outside berm that needs to be brought down.



Completed road section after berm removal, reshaping and rock surfacing. A crowned road surface with inside ditch was retained as opposed to out-sloping due to public safety concerns.



Mendocino County

Company Ranch Road - Sediment Reduction Project

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Environmental	3	Primary	In-Stream Flow Improvement	3
		Primary	Riparian Enhancement	2
		Secondary	Fish & Wildlife Habitat Protection and Improvement	3
		Secondary	Reestablishment of Natural Hydrographs	3



Mendocino County

Company Ranch Road - Sediment Reduction Project

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Water Quality	3	Primary	Nonpoint Source Reduction	3
		Primary	Decreased Turbidity	1
		Primary	Decreased Sediment Loading	2
Community	2	Primary	Employment Opportunities	1
Flood Management	1	Primary	Reduce Stormwater Runoff Rate & Volume	2
		Secondary	Decreased Flood Risk	1



Mendocino County

Company Ranch Road - Sediment Reduction Project

Technical Score: 80.3

Table 8. TAC Scores for Company Ranch Road Project

Description	Score (1-10)
Environmental Benefit	8.2
Technical Feasibility	8.7
Economic Feasibility	5.8
Community and Partner Involvement	5.3
Shovel Readiness	5.7
CEQA Preparation	4.2
Match Funding	6.3
Bonus Points	5.2

TAC Score: 49.4

Total: 129.6

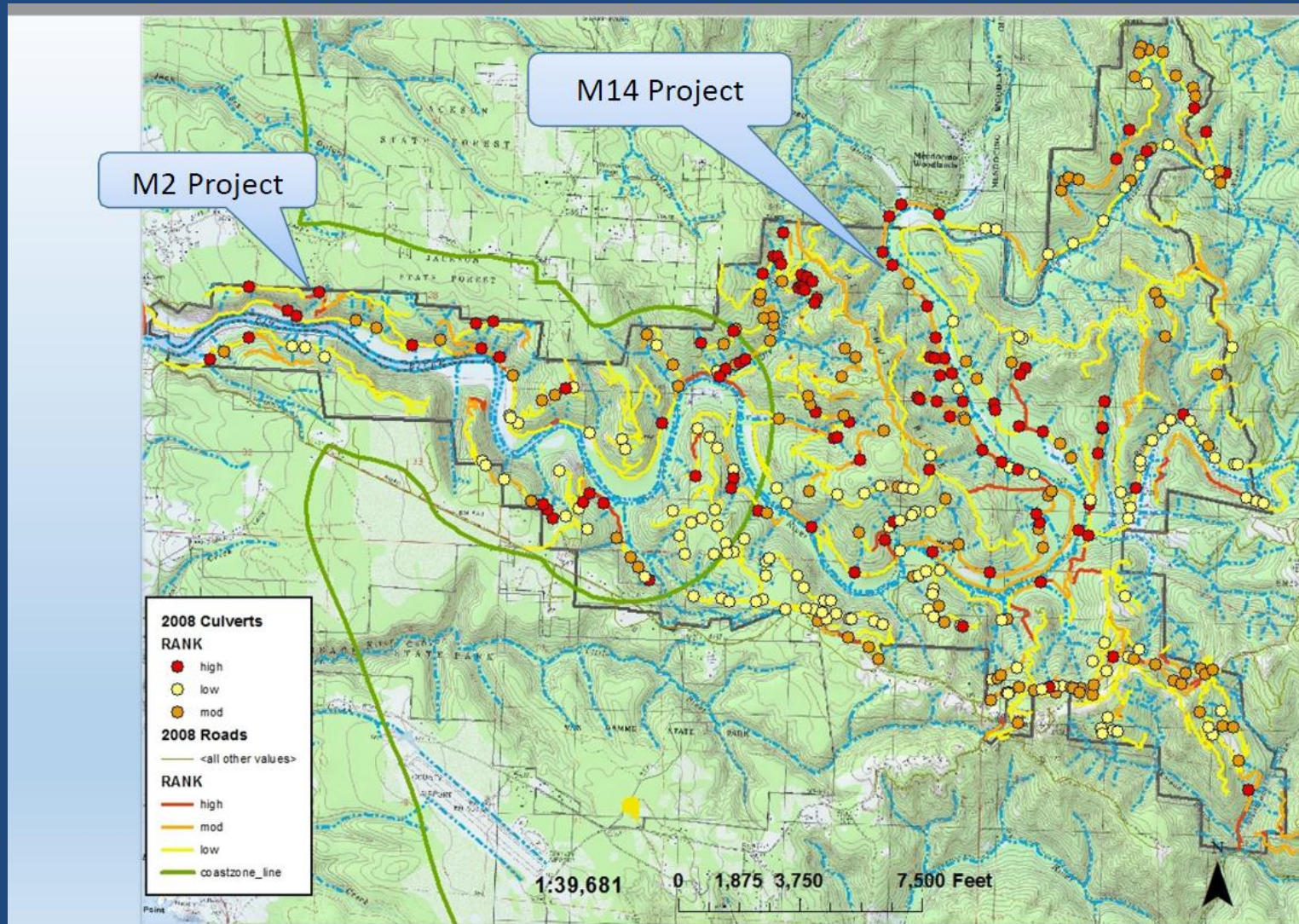
State Parks and Recreation Big River Watershed Sediment Reduction Project

Big River Watershed

- 115,886 acres in Mendocino County
- State Parks owns 7,315 acres



State Parks and Recreation Big River Watershed Sediment Reduction Project



State Parks and Recreation

Big River Watershed - Sediment Reduction Project

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Environmental	3	Primary	In-Stream Flow Improvement	3
		Primary	Riparian Enhancement	2
		Secondary	Fish & Wildlife Habitat Protection and Improvement	3
		Secondary	Reestablishment of Natural Hydrographs	3
Water Supply	3	Primary	Surface Water Supply	3

State Parks and Recreation

Big River Watershed - Sediment Reduction Project

Benefit Category	Benefit Category Weight	Benefit Type	Benefit	Benefit Weight
Water Quality	3	Primary	Nonpoint Source Reduction	3
		Primary	Decreased Turbidity	1
		Primary	Decreased Sediment Loading	2
Community	2	Primary	Employment Opportunities	1
Flood Management	1	Primary	Reduce Stormwater Runoff Rate & Volume	2
		Secondary	Decreased Flood Risk	1

State Parks and Recreation

Big River Watershed - Sediment Reduction Project

Technical Score: 149.52

Table 22. TAC scores for the State Park Legacy Logging Road Rehabilitation project

Description	Score (1-10)
Environmental Benefit	9.3
Technical Feasibility	8.3
Economic Feasibility	7.3
Community and Partner Involvement	7.4
Shovel Readiness	5.3
CEQA Preparation	6.9
Match Funding	7.3
Bonus Points	6.1

TAC Score: 57.9

Total: 207.4

Project Ranking

Table 23. Ranking and scores for projects

Ranking	Project	Total Score
1	State Parks – Legacy Logging Road Rehabilitation	207.4
2	City of Fort Bragg – Trash Capture	191.5
3	NHUDG – Georgia-Pacific Mill Wetland	162.4
4	DOT – Company Ranch Road	129.6
5	DOT – County Facilities LID	122.2
6	City of Fort Bragg – WWTP Stormwater Upgrades	114.5

Thank You

