Water Resources Protection Elements

APN: 212-015-020

RD1/2, OG1, R1/2/3 Overview

The cultivation site (OG1) does not meet the required minimum setbacks (50-feet) from a surface watercourse/wetland. It is recommended that the cultivation boundary be moved upslope to exceed the minimum setback requirements, buffers be install and riparian restoration be implemented. The following elements describe the specific portions of the recommendations.

Existing and Recommended Cultivation Boundaries (A) (B)

The present cultivation boundary (A) is within the required minimum setback (50-feet) of a Class-III watercourse/wetland. It is recommended that the cultivation boundary be moved upslope (B) to exceed the minimum setback requirements. The removal of this portion of the cultivation site will require remediation and restoration. This includes, but is not limited to: restoring slope and drainage features that protect water quality, revegetation to prevent erosion and surface discharge, and margins that facilitate the transition from developed/cultivated sites to natural riparian zones.

Riparian Buffer (C)

A professional restorationist is recommended for establishing a riparian buffer plan.

Remediation Buffer / Integrated Pest Management (D)

On-contour swales (linear ditches) that evenly distribute water throughout the length of the system due to their on-contour (same elevation, level bed) design. Swale size is determined by the infiltration rate of the native soil (high infiltration rate, smaller volume; low infiltration rate, larger volume). All on-contour swales require redundant, armored overflow points to facilitate discharge during high stormwater events. The material removed to create the swale is deposited on the downslope side to act as a berm with its downslope side shaped to match the natural slope and contour of the land. The berm is an ideal location to plant *Integrated Pest Management* species (*IPM*). The swales should be backfilled with woody, chip material to facilitate the breakdown of nitrogenous runoff. These chips can be spread throughout the cultivation area after the wet season to enhance soil quality for future plant nutrition.

Water Conservation Margin (E)

Exposed, lined ponds experience increased levels of evaporation, algae growth and poor water quality. It is recommended that an upper canopy be established on the south aspect of the pond (R1) to decrease evaporation and algae growth rates and increase water quality. It is further recommended that an egress structure be established to protect wildlife.

Riparian Restoration Zone (F)

A professional restorationist is recommended for establishing a management plan.

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Rainwater Catchment System (G)

Plumb rooftop gutters (RD1, RD2) into jumper tanks that are pumped via 12v-solar system to storage (R1). This will ensure pond fills in less than average rainfall years and provides supplemental volume from summer storm events.

Topographical Drainage (H)

A professional restorationist is recommended for establishing a management plan.

Required Permitted Crossing (I)

Implement crossing strategy per engineer's design. Permits are required. Implementation should be through a licensed professional.

OG2/MS2 Overview

This site has been designed to fit the preexisting natural contours. The gardens have been set into the landscape with hand-work only. There are some small unstable features; however, these do not pose a threat to water quality.

On-Contour Native Herbaceous Plants

Utilizing an A-Frame to determine lines of contour plant native, herbaceous plants that will facilitate infiltration for groundwater recharge as well as slope stabilization.

OG3/MS3/R4 Overview

This site is isolated from the main use areas of the parcel and is limited to a narrow strip of topography along a ridge. Given this isolation, fuel management is of the highest priority.

Fuel Modification (FM)

Road margins and ceilings require fuel modification (see specific agency requirements governing the specs). Activities should be conducted in such a way so as to promote a healthy forest margin of understory species as well as promoting infiltration and slope stabilization from road and slope runoff. The byproduct material from this management can be chipped to provide soil protection and plant nutrition in cultivated sites, remediation of agricultural runoff and greywater systems. The infiltration of rainwater is a key component in recharging groundwater supplies that can have positive, cumulative effects on forest health and in-stream flows.

Forest Restoration (FR)

Forest should be managed for a healthy matrix of hard and soft woods as well as vertical integration from canopy to ground cover. This includes the processing of forest side cast materials from grading and increased solar insolation activities. The plan must include protocols for managing the presence invasive species as well as their

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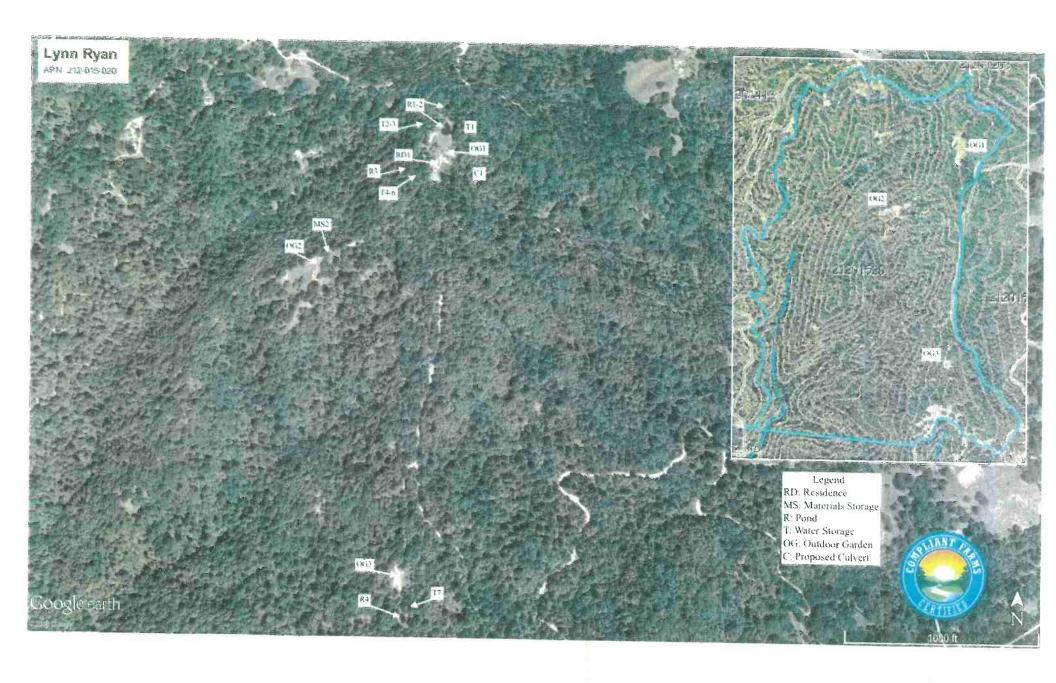
immigration from restoration activities (day-lighting, disturbed soil). The management of buffers beyond the restoration site and prior to the riparian zone must be of natural slope and native vegetation. This will facilitate a tertiary system of discharge protection from surface waters. Utilize large woody debris as velocity dissipators and natural areas of depression as infiltration sites. The infiltration of rainwater is a key component in recharging groundwater supplies that can have positive, cumulative effects on forest health and in-stream flows.

Road Management (RM)

Roads must be managed to prevent the destabilization of slopes, the sedimentation of watercourses and minimize the footprint of forest disturbance. A road assessment by a licensed professional is recommended to identify discharge strategies (i.e. outsloping, inboard ditch with relief culvert, etc.), frequency and location of discharge points and surfacing with high grade aggregate material.

The above are recommendations and not prescriptions of method and manner. Your WRPP provides short term strategies to prevent the discharge of sediment and cultivation related wastes from entering surface waters until permanent systems can be deployed during the appropriate time of year. All recommendations should be engineered and implemented by licensed professionals.

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Site Triage Plan 2017 APN: 212-015-020

Season: W (winter), Sp (spring), Su (summer), F (fall), A (all), V (various)

| System | Element | Site Code | Notes | Season | Completed |
|----------------------|----------------------------|--------------|---|--------|-----------|
| Assessments | Roads | C1 | Grading, surface and discharge points. | Ą | |
| | Riparian Restoration | C/F/H | Slope, discharge and vegetation. | A | |
| | Ponds | R1-3 | Grading per county code. | A | |
| Cultivation Sites | Hydrologic Connectivity | OG1 | Maintain hydrologic disconnection with the headwall of the Class-III stream. | A | |
| | Spoils | OG1 | Establish a processing site and plan for all spoils and used soil that is greater than 200-feet from any watercourse. | A | |
| | Fertigation Tank | OG1 | Install mulch-basin at fertigation tank to process clean out. | A | |
| Developed Site | Human Waste | ОН | Begin longterm planning for septic system. | A | |
| | Blackwater | RD1 | Kitchen sink discharge is too close to headwall of Class-III stream. Relocation and updated system is required. | A | |
| . • | Greywater | RD1 | Shower, bathroom sink and laundry requires mulch-basin and set backs from surface waters. | A | |
| Water System | Data | OG1 | Determine total volume of irrigation storage required for 180-day forbearance period. | A | |
| | Rainwater Catchment | RD1 RD2 | Install catchment system at al structures and plumb to irrigation storage. | A | |

This is a guiding framework for best management practices related to private, rural properties. Its purpose is to provide the client with information to design systems based on environmental compliance and permaculture principals. This document does not replace the official documents required by governing agencies. These are recommendations only and not prescriptions for method or manner. All work should be designed and implemented by licensed professionals. We accept no liability for owner-build work based on this management plan.

| | | | Standard Conditions Compliance Requirements - 2017 | 451 | | |
|-------------------|--------------------------|-------------------------------------|--|--------------------|-----------------------|--------------------|
| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
| 1. Site | Maintenance, E | rosion Control and | Drainage Feature | ting to the second | | |
| All OG2 OG3 | Roads Satellite Road | Road Maintenance Other Corridors | Triage Items Full road assessment by a licensed professional. Monitoring, Maintenance and Protocols Hand-dig water bars at frequent intervals to discharge road runoff into protected discharge points. Lay straw-flake checkdams or straw wattles at frequent intervals to discharge road runoff into protected discharge points. Seed margins and discharge points with erosion mix per manufacturers instructions and mulch with straw. Clear in-board ditches and the head of relief culverts of accumulated sediment dams and only enough vegetative debris to facilitate functionality. Install small, rock checkdams in in-board ditches as a sediment control device. Install trash-rack at the head of the relief culvert. Design See Water Resources Protection Elements document. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | | |

| | | | Permanent Strategies Implement road drainage, discharge and maintenance per licensed professional's assessment. Road elements to include but not limited to: Shape and grade road to outslope to continually shed stormwater so as not to overwhelm in-board drainage features. Increase number of rolling dips and/or other discharge stategies. Upgrade size of ditch relief culvert per assessment. Surface road with appropriate, high quality rock. Revegetate margins with native species. Decommission roads and other corridors based on Cannabis Cultivation Site Matrix results. Decommissioning to include regrading to natural slope and revegetating with native species. Temporary erosion control strategies must be implemented before and immediately after earthworks. | | September 2018 | |
|-------------------------------------|---|------------------|--|---|----------------|--|
| All OG1 OG2 RD1 MS1 MS2 MS3 OG1 OG2 | Roads Satellite Road Developed Sites Cultivation Site | Discharge Points | Triage Items Assessment by a licensed professional. Monitoring, Maintenance and Protocols Utilize riprap or large woody debris at points of discharge to prevent erosion and disperse flow to promote infiltration. Install straw bales or straw wattles per erosion prevention protocol. Establish revegetation protocol. Design See Water Resources Protection Elements document. See attached documents Satellite Roads and Disturbed Soil Management documents for more information. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | 2 | | |

| | | | Permanent Strategies Implement discharge strategies per licensed professional's assessment. Discharge elements to include but not limited to: Armor the outflow end of discharge point and install a velocity dissipater. Replace waterbars with rolling dips. Increase frequency of discharge points. Install infiltration basins at points of discharge. Install on-contour swales to promote infiltration and surface flow disconnection. Implement revegetation protocol. Temporary erosion control strategies must be implemented before and immediately after earthworks. | | September 2018 | |
|--------------------------|---------------------|---------------|--|---|----------------|--|
| All | Roads | Hydrologic | Triage Items | 2 | | |
| OG1 OG2 | Satellite Road | Disconnection | Assessment by a licensed professional. Monitoring, Maintenance and Protocols Reestablish connectivity with designed discharge strategy (i.e. install | | | |
| RD1 MS1 MS2 MS3 | Developed Sites | , | waterbar to reconnect road runoff with in-board ditch). Protect discharge point with checkdam, straw flakes, large woody debris, etc. to slow the flow of discharge and allow sediment to fall out of suspension. Hand-dig water bars at frequent intervals to discharge road runoff into | | | |
| OG1 OG2 | Cultivation Site | | protected discharge points. Lay straw-flake checkdams or straw wattles at frequent intervals to discharge road runoff into protected discharge points. Establish straw-flakes or straw wattles along the entire perimeter of developed or cultivated sites (flats) at all potential points of hydrologic connectivity. | | | |
| | | | Design See Water Resources Protection Elements document. Establish revegetation protocol. See attached documents Satellite Roads and Disturbed Soil Management documents for more information. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | | |

| | | | Permanent Strategies Implement hydrologic disconnection strategies per licensed professional's assessment. Disconnection elements to include but not limited to: Replace waterbars with rolling dips. Install infiltration basins at points of discharge. Increase frequency of discharge points. Regrade flats to shed stormwater into protected infiltration areas. Implement revegetation protocol. | September 2018 | |
|-------------------|----------------------|-------------------------|---|----------------|--|
| MS1 MS2 MS3 | Materials Storage | Stockpiled Materials | Triage Items Monitoring, Maintenance and Protocols Utilize secure structure for potentially hazardous materials (materials that pose a threat to water quality). Organize benign materials (materials that do not pose a threat to water quality). Remove refuse and other unwanted materials from the property and dispose of offsite at an appropriate disposal facility. Process byproducts related to road/site maintenance. Design See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | |
| | | | Permanent Strategies | On Going | |

| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
|--------------|--|--|---|--------------------|-----------------------|--------------------|
| 2. Stre | am Crossing Ma | intenance | | Bright Hall | | |
| C1 | Culverts Fords Topographical Drainages | Hydrologic Calculations Organism Passage Functionality | Triage Items Assessment by a licensed professional. Monitoring, Maintenance and Protocols Ensure that road surfaces approaching the crossing drain into protected discharge points prior to watercourse. Remove vegetative debris from the head of the culvert. Design Establish revegetation protocol for bank of riparian zone. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. Permanent Strategies Implement stream crossing maintenance strategies or upgrade per licensed professional's assessment. Assure that pipe diameter will facilitate a 100-year storm event and is sufficient for the passage of aquatic life during all life stages. Crossing elements to include but not limited to: Increase basin size at culvert head and protect with riprap. Install riprap at the toe of the culvert to reduce erosive force. Surface road with appropriate, high quality rock. Ensure that road surfaces approaching the crossing drain into protected discharge points prior to watercourse. Install critical dip or other redundant system to protect the fill prism in the event of a plugged crossing. Implement revegetation protocol for riparian zone. | 1 | September 2018 | |

| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
|---|---|---|---|--------------------|-----------------------|--------------------|
| 3. Ripa | rian and Wetlai | nd Protection and M | lanagement | 1648 | (4) 45 4 | |
| OG1 OG2 OG3 C1 R1 R2 R3 | Cultivation Site Crossing Grading Unstable Feature | Setbacks Buffers Hydrologic Disconnection Functionality | Triage Items Soil nutrition testing to guide feeding regiment to prevent the overuse of fertilizers and amendments thus preventing excessive leaching. Monitoring, Maintenance and Protocols Deploy temporary strategies to disconnect cultivation site from surface water via surface runoff. Mulch all exposed and disturbed soil including pathways, slope faces and pads or deploy other forms of erosion prevention. Relocate fertigation system to a site greater than 200-feet from a watercourse. Design See Water Resources Protection Elements document. See attached document Cannabis Cultivation Site Matrix, Cannabis | | | |
| | | | Cultivation Buffers, and Site Design for Cannabis Cultivation for more information. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. Permanent Strategies Install remediation buffer at all downslope points of discharge to riparian zones. | | On Going | |
| | | | Install remediation basin at fertigation tank to process discharge from clean out. | | | |

| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
|-----------------------------------|---|-------------------------------------|--|--------------------|-----------------------|--------------------|
| 4. Spoi | ls Management | | | | | |
| OG1 OG2 OG3 | Soil and Spoils Processing Site Cultivation Site | Discharge Setbacks Forest Side Cast | Triage Items Cultivation related spoils can not be burned. Monitoring, Maintenance and Protocols Contain used soil pile with a straw bale or wattle perimeter. Seed and mulch or tarp used soil pile. Contain non-compostable byproducts, such as rock-wool rooting medium, to be disposed of properly offsite. Design See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | | |
| | | | Permanent Strategies Establish a 3-tiered composting system for vegetative byproducts. Rip compacted soils prior to placing spoils to promote the infiltration of tailwater. | | On Going | |
| Site Code 5. Wate | Map Point Description er Storage and U | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
| POD | Point of | Water Quality | Triage Items | | | eper en la company |
| TT | Diversion Transfer Tank | Wetland Protection | Assessment of storage pond (levee and slope stability, spillway) by a licensed professional. Install a water meter and collect monthly data. Separate domestic use | , | | |
| T R1 R2 R3 OG1 OG2 | Water Storage Cultivation Site | Water Conservation | from agricultural use. Monitoring, Maintenance and Protocols Check organism exclusion device for functionality. Mulch all exposed soil to reduce evaporative rates. Design Assessment for microclimate enhancement plan. Assessment for Living Soils style of cultivation to reduce irrigation. See attached documents for more information related to short term | | | |
| OG3 | Farme 2017 | | strategies for protecting water quality. • See attached documents for information related to monitoring requirements. APN: 212-015-020-000 | | | Dana 7 at 46 |

| | | | Permanent Strategies Install irrigation system so that water is applied at the root zone to promote deep, wide root growth. Replace plastic valves at tank with metal gate valves. Manifold tanks greater than 3,000-gallons internally. Install rainwater catchment system at all structures and plumb to main storage. Install rainwater harvesting systems on the upslope perimeter and within the the cultivation site to recharge groundwater supplies. Implement microclimate enhancement plan. Implement Living Soils design plan. | | On Going | |
|-------------------|--------------------------|-----------------------|--|--|-----------------------|--------------------|
| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
| 6. Irrig | gation Runoff | | | 10 to 10 to | | |
| OG1 OG2 OG3 | Cultivation Site | Discharge | Triage Items Monitor irrigation volumes to avoid runoff. Monitoring, Maintenance and Protocols Soil nutrition testing to guide feeding regiment to prevent the overuse of fertilizers and amendments thus preventing excessive leaching. Maintain and update irrigation system to prevent leaks. Employ rain-triggered shutoff devices for automated irrigation systems. Mulch all exposed soil including planting areas, pathways and pads. Design See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | THE STATE OF THE S | | |
| | | | Permanent Strategies Install remediation buffer at at all downslope points of discharge. | | On Going | |

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| Site Code 7. Fert | Map Point Description ilizers and Soil A | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
|--|--|--|---|--------------------|-----------------------|-----------------|
| OG1 OG2 OG3 MS1 MS2 MS3 | Cultivation Site Materials Storage | Discharge Secure Storage Inventory and Application Rates | Triage Items • Utilize a secure storage facility for all cultivation related materials. Monitoring, Maintenance and Protocols • Place all liquid-based materials in secondary containment (totes). • Products shall be labeled properly and applied according to the label. • Periodically calibrate application equipment. • Post inventory of cultivation related materials with application rates. • Store spill-kit at each storage facility. Design • Assessment for Living Soils style of cultivation to reduce offsite inputs. • See attached documents for more information related to short term strategies for protecting water quality. • See attached documents for information related to monitoring requirements. Permanent Strategies • Install remediation basin for fertigation system discharge/clean-out. • Install anti-backflow devices on fertigation systems. • Implement Living Soils design plan. | | On Going | |

| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
|--|---|--|---|--------------------|-----------------------|--------------------|
| 8. Pest | icides and Herb | icides | | | 444 | |
| OG1 OG2 OG3 MS1 MS2 MS3 | Cultivation Site Materials Storage | Discharge Secure Storage Inventory and Application Rates | Triage Items Utilize a secure storage facility for all cultivation related materials. Monitoring, Maintenance and Protocols Place all liquid-based materials in secondary containment (totes). Products shall be labeled properly and applied according to the label. Periodically calibrate application equipment. Post inventory of cultivation related materials with application rates. Store spill-kit at each storage facility. Design Develop an Integrated Pest Management program to replace packaged products. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | | |
| | *************************************** | The state of the s | Permanent Strategies • Implement Integrated Pest Management program. | | On Going | |
| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
| 9. Petr | oleum Products | and Other Chemica | als | | | |
| MS1 MS2 MS3 | Materials Storage | Discharge Secure Storage Inventory Spill Protocol | Triage Items Utilize a secure storage facility for all petroleum-based materials. Store spill-kit at each storage facility. Provide appropriate fire prevention strategies and fire suppression equipment at each facility. Monitoring, Maintenance and Protocols Place all liquid-based materials in secondary containment (totes). Assess solar battery system for leaks. Design See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | | |

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|-------------------|---|-----------------------|--|--------------------|-----------------------|--------------------|--|--|
| | - | | Permanent Strategies • | | On Going | | | |
| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date | | |
| 10. Cu | ltivation Relate | d Wastes | | 1 | 84 | | | |
| OG1 OG2 OG3 | Soil and Spoils Processing Site Cultivation Site | Discharge Processing | Triage Items Establish a 3-tiered composting system for vegetative byproducts. Monitoring, Maintenance and Protocols Contain used soil pile with a straw bale or wattle perimeter. Seed and mulch or tarp used soil pile. Contain non-compostable byproducts such as rock-wool rooting medium to be disposed of properly offsite. Design Establish a soil management plan for the purpose of reducing off-site soil. See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. Permanent Strategies Rip compacted soils prior to placing spoils to promote the infiltration of tailwater. Implement living-soils management for the purpose of eliminating the need for off-site soil. | | On Going | | | |

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| Site Code | Map Point Description | Standard Condition | Recommendations | Action Priority | Permanent Strategy | Completion Date |
|--|------------------------------|-----------------------|---|--------------------|-----------------------|--------------------|
| 11. Refuse and Human Waste | | | | | | |
| MS1 MS2 MS3 | Residence Materials Storage | Discharge Containment | Triage Items Utilize a secure storage facility for all refuse to be disposed of offsite. Assessment of permanent human-waste facility (septic system). Relocate greywater and blackwater system to at site greater than 200-feet from a watercourse. Design See attached documents for more information related to short term strategies for protecting water quality. See attached documents for information related to monitoring requirements. | | | |
| LALL COLUMN TO THE COLUMN TO T | | | Permanent Strategies Install mulch basin at greywater system discharge point. Installation of permanent human-waste facility (septic system,). | | On Going | |