



Central Coast Regional Water Quality Control Board

August 11, 2017

Thomas Christensen
Monterey Peninsula Water Management District
P.O. Box 85
Monterey, CA 93942
Email: Thomas@mpwmd.net

BY ELECTRONIC MAIL

Dear Mr. Christensen:

WATER QUALITY CERTIFICATION NUMBER 32717WQ09 FOR CARMEL RIVER MAINTENANCE AND RESTORATION, MONTEREY COUNTY

Thank you for the opportunity to review your February 23, 2017 application for water quality certification of the Carmel River Maintenance and Restoration Project (Project). The application was completed on March 1, 2017. The project, if implemented as described in your application and with the additional mitigation and other conditions required by this Clean Water Action Section 401 Water Quality Certification (Certification), appears to be protective of beneficial uses of State waters. We are issuing the enclosed Certification. Should new information come to our attention that indicates a water quality problem, we may require additional monitoring and reporting, issue Waste Discharge Requirements, or take other action.

Your Certification application and submitted documents indicate that project activities have the potential to affect beneficial uses and water quality. The Central Coast Regional Water Quality Control Board (Central Coast Water Board) issues this Certification to protect water quality and associated beneficial uses from project activities. We need reports to determine compliance with this Certification. All technical and monitoring reports requested in this Certification, or any time after, are required per Section 13267 of the California Water Code.

Failure to submit reports required by this Certification, or failure to submit a report of technical quality acceptable to the Executive Officer, may subject you to enforcement action per Section 13268 of the California Water Code. The Central Coast Water Board will base enforcement actions on the date of certification. Any person affected by this Central Coast Water Board action may petition the State Water Resources Control Board (State Water Board) to review this action in accordance with California Water Code Section 13320; and Title 23, California Code of Regulations, Sections 2050 and 3867-3869. The State Water Board, Office of Chief Counsel, PO Box 100, Sacramento, CA 95812, must receive the petition within 30 days of the date of this Certification. We will provide upon request copies of the law and regulations applicable to filing petitions.

If you have questions please contact **Kim Sanders** at (805) 542-4771 or via email at ksanders@waterboards.ca.gov, or Phil Hammer at (805) 549-3882. Please mention the above certification number in all future correspondence pertaining to this project.

Sincerely,

for
John M. Robertson
Executive Officer

Enclosure: Action on Request for CWA Section 401 Water Quality Certification

cc: With enclosures

Katerina Galacatos
U.S. Army Corps of Engineers
Email: Katerina.galacatos@usace.army.mil

Julie Vance
California Department of Fish and Wildlife
Email: Julie.Vance@wildlife.ca.gov

Linda Connolly
California Department of Fish and Wildlife
Email: Linda.Connolly@wildlife.ca.gov

401 Program Manager
State Water Resources Control Board
Email: Stateboard401@waterboards.ca.gov

Jennifer Siu
U.S. Environmental Protection Agency
Region 9
Email: siu.jennifer@epa.gov

Ashley Green
Central Coast Water Board
Email: Ashley.Green@waterboards.ca.gov

Kim Sanders
Central Coast Water Board
Email: Kim.Sanders@waterboards.ca.gov

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Action on Request for
Clean Water Act Section 401 Water Quality Certification
for Discharge of Dredged and/or Fill Materials

PROJECT: Carmel River Maintenance and Restoration

APPLICANT: Thomas Christensen
Monterey Peninsula Water Management District
P.O. Box 85
Monterey, CA 93942

ACTION:

1. Order for Standard Certification
2. Order for Technically-Conditioned Certification
3. Order for Denial of Certification

STANDARD CONDITIONS

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment per section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
2. This Certification action is not intended to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed per 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license was being sought.
3. The validity of any non-denial Certification action (Actions 1 and 2) is conditioned upon total payment of the fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

ADMINISTRATIVE CONDITIONS

1. This Certification is subject to the acquisition of all local, regional, state, and federal permits and approvals as required by law. Failure to meet any conditions contained herein or any conditions contained in any other permit or approval issued by the State of California or any subdivision thereof may result in the revocation of this Certification and civil or criminal liability.
2. In the event of a violation or threatened violation of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of Section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
3. In response to a suspected violation of any condition of this Certification, the Central Coast Water Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the Central Coast

Water Board deems appropriate, provided that the burden, including costs, of the reports shall have a reasonable relationship to the need for the reports and the benefits obtained from the reports.

4. In response to any violation of the conditions of this Certification, the Central Coast Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.
5. The Central Coast Water Board reserves the right to suspend, cancel, or modify and reissue this Certification, after providing notice to the applicant, if the Central Coast Water Board determines that the Project fails to comply with any of the terms or conditions of this Certification.
6. A copy of this Certification, the application, and supporting documentation must be available at the Project site during construction for review by site personnel and agencies. A copy of this Certification must also be provided to the contractor and all subcontractors who will work at the Project site. All personnel performing work on the proposed Project shall be familiar with the content of this Certification and its posted location on the Project site.
7. The Applicant shall grant Central Coast Water Board staff, or an authorized representative, upon presentation of credentials and other documents as may be required by law, permission to enter the Project site at reasonable times, to ensure compliance with the terms and conditions of this Certification and/or to determine the impacts the Project may have on waters of the State.
8. The Applicant must, at all times, fully comply with the application, engineering plans, specifications, and technical reports submitted to support this Certification; all subsequent submittals required as part of this Certification; and the attached Project Information and Conditions. The conditions within this Certification and attachment(s) supersede conflicting provisions within applicant submittals.
9. The Applicant shall notify the Central Coast Water Board within 24 hours of any unauthorized discharge to waters of the U.S. and/or State; measures that were implemented to stop and contain the discharge; measures implemented to clean-up the discharge; the volume and type of materials discharged and recovered; and additional BMPs or other measures that will be implemented to prevent future discharges.
10. This Certification is not transferable to any person except after notice to the Executive Officer of the Central Coast Water Board. The Applicant shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new responsible party containing a specific date for the transfer of this Certification's responsibility and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on.
11. The fee for this project is \$720, with additional annual active discharge fees.
12. This Certification authorizes impacts for five years from the date it is issued only. This Certification remains in effect until MPWMD has achieved all applicable success criteria and complied with all Certification conditions. The MPWMD shall continue to submit annual reports until the MPWMD achieves all applicable success criteria and complies with all conditions.

TECHNICAL CONDITIONS

A. General Conditions

1. The primary goals of the MPWMD in implementing the Project shall be to maintain, repair, and restore river banks, aquatic habitat, and terrestrial habitat, and prevent erosion due to diversion of water into river banks along 18.6 miles of the Carmel River.
2. All personnel who engage in construction and or maintenance activities or their oversight at the project site (superintendent, construction manager, foreman, crew, contractor, biological monitor, etc.) must attend trainings on the conditions of this Certification and how to perform their duties in compliance with those conditions. Every person shall attend a training each year prior to the annual start date of work. Trainings shall be conducted by a qualified individual with expertise in 401 Water Quality Certification conditions and compliance.
3. All MPWMD activities shall be designed to avoid impacts to water quality and beneficial uses as much as possible. Impacts that cannot be avoided shall be minimized as much as possible. The MPWMD shall mitigate all unavoidable impacts.
4. The MPWMD shall not commence each year's maintenance activities until receiving approval of the annual plan by Central Coast Water Board staff.
5. All conditions in this Certification apply to all third party projects implemented by the MPWMD.
6. Groundwater beneficial uses shall not be degraded as a result of the MPWMD's annual routine maintenance activities.
7. Portions of the project that occur below the top of the river bank or in other waters of the State shall be stabilized for the winter prior to October 1 of each year, either by completing construction of those portions of the project (including installation of permanent erosion control measures) or by implementing winterization stabilization measures capable of effectively stabilizing the area and preventing erosion under winter rain and flow conditions generated by the 10-year 24-hour storm event. No construction activities shall be conducted below top of river bank or in other waters of the State during the winter period (October 1 – May 30), unless prior written approval has been obtained from Central Coast Water Board staff. Requests to conduct construction activities below top of river bank or in other waters of the State during the winter period shall be submitted to Central Coast Water Board staff at least 21 days prior to the planned winter period work date. If approval is obtained, the MPWMD shall implement the approved winter work as specified in the Central Coast Water Board staff approval and as described in any documentation submitted by the MPWMD while seeking the approval.
8. Erosion and sediment control measures shall be on site prior to the start of construction and kept on site at all times so they are immediately available for installation in anticipation of rain events.
9. The MPWMD shall implement and maintain an effective combination of erosion and sediment control measures (e.g., revegetation, fiber rolls, erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) to prevent erosion and capture sediment. The MPWMD shall implement and maintain washout, trackout, dust control, and any other applicable source control BMPs.
10. Erosion and sediment control measures and other construction BMPs shall be implemented and maintained in accordance with all specifications governing their proper design, installation, operation, and maintenance.

11. At any time of year, the MPWMD shall not conduct construction activities below the top of the river bank or in other waters of the State during rain events or on any day for which the National Weather Service has predicted a 25% or more chance of at least 0.1 inch rain in 24 hours (Predicted Rain Event). The MPWMD shall install effective erosion control, sediment control, and other protective measures no later than the day prior to the Predicted Rain Event, and prior to the start of any rainfall. Construction activities below the top of the river bank or in other waters of the State may resume after the rain has ceased, the National Weather Service predicts clear weather for at least 24 hours, and site conditions are dry enough to continue work without discharge of sediment or other pollutants from the project site. Construction activities does not include vegetation management actions.
12. Any stockpiled project material that is not actively being used during construction shall be covered and surrounded with a linear sediment barrier.
13. The MPWMD shall retain a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur.
14. The MPWMD shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris at an approved site at least weekly.
15. All construction vehicles and equipment used on site shall be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials.
16. The MPWMD shall designate a staging area for equipment and vehicle fueling and storage at least 100 feet away from waterways, in a location where fluids or accidental discharges cannot flow into waterways.
17. All equipment and vehicle fueling and maintenance activities shall occur at least 100 feet away from waterways and in designated staging areas, unless a requested exception on a case-by case basis granted by prior written approval has been obtained from Central Coast Water Board staff.
18. Dewatering and stream diversion measures are not authorized based on the application. If the project requires dewatering or diversion, the MPWMD shall submit detailed dewatering/diversion plans for Central Coast Water Board staff approval at least 21 days prior to any dewatering or diversion. Dewatering or diversion shall not commence until the MPWMD has obtained Central Coast Water Board staff approval of the dewatering/diversion plans. Any dewatering/diversion must be implemented in compliance with approved dewatering/diversion plans.
19. All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the project.
20. If projects authorized via this Certification cause impacts to Carmel River water quality or beneficial uses (erosion, sedimentation, etc.) in subsequent rainy seasons, the MPWMD is responsible for developing and implementing plans for stabilization and prevention of further problems, as well as obtaining all necessary permits.
21. Central Coast Water Board staff shall be notified if mitigations as described in the 401 Water Quality Certification application for this project are altered by the imposition of subsequent permit conditions by any local, state or federal regulatory authority. The MPWMD shall inform Central Coast Water Board staff of any modifications that interfere with compliance with this Certification.

B. Bed and Bank Stabilization Conditions

1. The MPWMD shall use soil bioengineering systems as presented in the Natural Resource Conservation Service (NRCS) manual;¹ California Department of Fish and Game manual;² and the Corps technical note³ when determining river bed or bank stabilization strategies.
2. Vegetation installation shall be the primary means of bank stabilization pursuant to the annual plan reporting requirements of this Certification.
3. The MPWMD shall take steps each year to reduce the potential for installation of hardscape on unstable or eroding Carmel River banks. These steps shall include:
 - a. Determining the cause of bank instability or erosion, including investigating:
 - i. Overland sheet flow and/or concentrated flow from public and private properties onto or through the bank, and
 - ii. Upstream, local, and downstream river factors that contribute to bank instability, such as gravel bars or other in-river features;
 - b. Developing non-hardscape recommendations to address causes of bank instability, (e.g., stopping or reducing flow directed at or over banks, altering gravel bars, and vegetative reinforcement); and
 - c. Implementing the recommended actions to stabilize banks as soon as possible.
4. Building concrete sack walls for any reason is prohibited.
5. Banks shall be re-contoured to match the adjacent bank slope to the extent feasible. If site conditions allow, the bank may be laid back to allow for stabilization as long as the toe of the bank does not encroach into the current channel.
6. Erosion control fabric/mats shall be installed to maintain direct contact with the soil (i.e., rocks should not protrude through the fabric, and fabric must lay flat over substrate).
7. The MPWMD shall use appropriately sized erosion control fabric anchors. Anchors can include U-shaped wire staples, metal geotextiles stake pins, or triangular wooden stakes, and may not be made of petroleum products.
8. Erosion control measure materials, including geotextiles, shall be made of natural fibers that are biodegradable and not photodegradable. No plastic, petroleum-based, or other non-porous material shall be used as part of a permanent erosion control approach.
9. Irrigation tubing shall be removed once the restoration area meets success criteria.
10. All regraded areas, areas disturbed by maintenance, or exposed soil (including access ramps) shall be stabilized by one of the following techniques as soon as feasible after maintenance activities are complete:
 - a. Hydroseeding and bonded fiber matrix application,
 - b. Natural fiber erosion control fabric application, or
 - c. Other equivalent measure that will prevent the soil from entering surface waters.

The channel bed and areas below the ordinary high water mark are exempt from this condition.

¹ Bentrup, Gary, J. Chris Hoag (1998) *The Practical Streambank Bioengineering Guide, User's Guide for Natural Streambank Stabilization Techniques in the Arid and Semi-Arid Great basin and Intermountain West*, USDA NRCS, Was. D.C.

² Flosi, G. et al. (1998) *California Salmonid Stream Habitat Restoration Manual, Third Edition, State of California, The Resources Agency, California Department of Fish and Game Inland Fisheries Division*.

³ Fischenich, J.C. (2001) *Stability Thresholds for Stream Restoration Materials, EMRRP Technical Notes Collection (ERDC TN-EMRRP-SR-29)*, U.S. Army Engineer Research and Development Center, U.S. Army Corps of Engineers, Vicksburg, MS.

11. Access ramps shall be located on previously disturbed areas or areas chosen to avoid impacts to waters of the State as much as possible.

C. Gravel or Sandbar Removal Conditions

1. In-channel features (e.g., bars and depositional features) shall be preserved in their location in terms of shape and dimensions wherever possible, but may be reduced in height as long as height reduction does not cause erosion to the river bed or banks.
2. If potential spawning gravels are to be removed to conduct maintenance activities, the gravels shall be carefully removed and stored where maintenance activities will not impact the quality of the gravel. The gravel shall be replaced upon completion of the maintenance activities.

D. Channel Realignment/Meander Alteration Conditions

1. For each proposed realignment action, the MPWMD shall conduct a fluvial geomorphology assessment that describes the potential impacts of the action on stream stability, water quality, and beneficial uses. The assessment shall address the characteristics listed in condition 1.I in the Reporting Conditions section.
2. A two-stage low-flow channel shall be excavated to improve fine sediment transport and create deeper water habitat wherever feasible.
3. Onsite stockpiled project materials such as sediment, soil, mulch, chipped vegetation, gravel, rip rap, or like materials shall be removed from the site within three working days of individual project completion. Stockpiled materials shall be fully contained to prevent any wind transport. During the wet season, stockpiled materials shall be covered and surrounded by a linear sediment barrier.
4. Building materials, sediment, and other maintenance-related materials (including chemicals), shall not be stockpiled or stored where they could spill into or come in contact with the river, a tributary, or where they cover aquatic or riparian vegetation.

E. Vegetation Management Conditions

1. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.
2. Vegetation management activities that could result in the destabilization of river banks or increase sediment input into waters of the State are prohibited.
3. Maintenance actions that include vegetation removal⁴ to allow for debris passage shall only occur if the actions are necessary according to the methodology in the Vegetation and Management Protocol and Scenarios section of the MPWMD's *Guidelines for Vegetation Management and Removal of Deleterious Materials for the Carmel River Riparian Corridor (June 2012)*.
4. Removal of dead or fallen vegetation in quantities that may result in the decline of a population of aquatic species is prohibited.
5. The MPWMD shall not remove more than a total of 0.5 linear mile of vegetation from the river corridor each year.

⁴ Vegetation removal is defined as removal of a plant by separating the above ground portion of the plant from its base (roots), and/or removing the entire plant including all or a portion of the root system.

6. The MPWMD shall not remove more than 50 contiguous feet of shade or cover each year without Central Coast Water Board staff approval. For removal of more than 50 contiguous feet of shade or cover, the MPWMD shall submit an explanation of the need for removal, including images that demonstrate how shade or cover dependent beneficial uses will not be impacted in that particular location.
7. When providing adequate channel capacity to facilitate flow of debris, the MPWMD shall retain native vegetation with a predominantly vertical growth habit, or prune and thin the vegetation rather than remove the vegetation, in order to help preserve the riparian canopy. If pruning or thinning of such vegetation is necessary, the vegetation shall be pruned to only remove branches that cross the direction of flow, while retaining branches that align with direction of flow.
8. Native trees proposed for removal shall be evaluated for potential use in another location within the river.

F. Invasive Plant Removal Conditions

1. Herbicides and pesticides shall not be applied when winds exceed five miles per hour or within 96 hours of forecasted rain.
2. Hand removal of invasive vegetation, rather than application of herbicides, shall be used whenever and wherever possible.
3. All vegetation management activities that could result in the runoff of herbicides that are not registered for aquatic use into waters of the State are prohibited.
4. No individual herbicide shall reach concentrations in the Carmel River that adversely affect beneficial uses (e.g., a concentration greater than the Basin Plan drinking water standard for glyphosate of 0.7 mg/l). There shall be no increase in herbicide concentrations found in bottom sediments or aquatic life.
5. The MPWMD shall apply herbicide only to French broom (*Genista monspessulana*) and giant reed (*Arundo donax*).
6. Any herbicides shall be applied as sparingly as possible and in such a way as to be protective of water quality. If the MPWMD applies herbicide for the control of French broom, the MPWMD shall not apply more than 2.5 gallons annually. If the MPWMD applies herbicide for the control of French broom and giant reed, the MPWMD shall not apply more than 5 gallons annually.
7. The MPWMD and their subcontractors shall apply herbicide in accordance with local agency restrictions and according to the manufacturer label. Application shall be spot applied directly to vegetation using a hand-pumped squirt bottle, and far enough away from any waterbody to prevent discharge or migration to any waterbody. The MPWMD shall use a back-pack with tank style application unit only for application of herbicide to giant reed.
8. Only herbicides that do not contain surfactants shall be used where there is any potential for migration into waters of the state.

MITIGATION MONITORING AND REPORTING CONDITIONS

A. Mitigation Conditions

Impacts to the Carmel River that Require Mitigation

1. The MPWMD shall mitigate for permanent and temporary impacts to water quality and beneficial uses due to:
 - a. Removal of live vegetation;
 - b. Hardscape bank/grade stabilization, including stabilization techniques that include hardscape combined with native vegetation;
 - c. Channel shaping (including channel realignment, alteration of meanders, and any other changes in bed and bank); and
 - d. Any other impacts that cause impacts to water quality and beneficial uses.

Activities that Do Not Require Mitigation

1. Bank stabilization that is achieved through the use of native vegetation (i.e., no hardscape is used to stabilize the bank).
2. Bank stabilization that includes hardscape, but also improves habitat quality, and does not impact fluvial geomorphology.
 - a. To determine if there will be an improvement in habitat quality, the MPWMD shall provide an evaluation of the existing habitat to be impacted by stabilization and anticipated habitat quality after stabilization. If the existing site is of lesser quality than the anticipated site after successful stabilization, and a non-biodegradable geotextile fabric is not placed on the stabilization site, the stabilization site will not require mitigation.
 - i. The MPWMD shall develop a methodology for evaluating existing and anticipated habitat quality. The MPWMD shall consider the use of CRAM as their primary assessment method. The MPWMD's methodology shall include an assessment of how the stabilization project will impact the chemical nature of the water quality and the following biological and physical characteristics: approximate percent cover, density, species diversity, and health of vegetation; approximate extent of current shade and cover; wildlife niches including use and availability of nesting, roosting, and spawning habitat; and overall structural complexity of the site in terms of height and girth of plants, presence of woody debris, boulders, and cobble, and bank morphology.
 - b. To determine if fluvial geomorphology will be impacted, the MPWMD must assess at least the parameters listed in condition 1.I in the Reporting Conditions section. Mitigation is required if the MPWMD finds that fluvial geomorphological processes will be impacted. If impacts to fluvial geomorphological processes are not anticipated, but occur within five years of mitigation installation, mitigation is required when the impacts are discovered.

Required Mitigation for Removal of Live Vegetation, Hardscape Bank Stabilization or Channel Shaping

1. Permanent wetland impacts shall be mitigated at a ratio of 3:1 (area created to area impacted). Temporary wetland impacts shall be mitigated at a ratio of 2:1 (impacted area restored to preconstruction conditions, plus restoration or enhancement of additional wetland area to bring the total mitigation to the 2:1 ratio).

2. Permanent riparian impacts shall be mitigated at a ratio of 2:1 (area created to area impacted). Temporary riparian impacts shall be mitigated at a ratio of 1:1 (impacted area restored to preconstruction or better conditions).
3. Required mitigation for removal of live trees that occur within impacted wetland and riparian areas:
 - a. Removal of trees (not including cottonwood (*Populus* spp.) and willow species (*Salix* spp.)) with trunks measuring greater than three inches and up to ten inches diameter at breast height (dbh) shall be mitigated at a ratio of 2:1. Removal of trees with a dbh greater than ten inches shall be mitigated at a ratio of 3:1. Mitigation shall be determined on the basis of species if dbh is in excess of two feet, subject to approval by Central Coast Water Board staff.
 - b. Removal of cottonwood and willow trees with a less than six inch dbh shall be mitigated via the wetland and riparian habitat area ratios identified in 1 and 2 in the Required Mitigation for Removal of Live Vegetation, Hardscape Bank Stabilization or Channel Shaping section. Removal of cottonwood and willow trees with a six to ten inch dbh shall be mitigated at a ratio of 2:1. Removal of cottonwood and willow trees with a dbh in excess of ten inches shall be mitigated at a ratio of 3:1. Mitigation shall be determined on a case by case basis if a cottonwood or willow tree dbh is in excess of two feet, subject to approval by Central Coast Water Board staff.
 - c. If the required number of trees will not fit within a required wetland or riparian mitigation area pursuant to 2 in General Mitigation Conditions, the MPWMD shall find additional land to plant the required trees.
4. Mitigation for impacts to beneficial uses shall occur in the following locations in order of preference: a. At the site of the impact area; b. Elsewhere in the Carmel River corridor; or c. Within the Carmel River watershed. If mitigation projects in these locations are not feasible, the MPWMD may partner with other entities to participate in Carmel River watershed based restoration. The MPWMD shall propose the mitigation in their annual plan and must obtain Central Coast Water Board staff approval.
 - a. Watershed based mitigation projects are projects that provide restorative watershed solutions by a local agency, municipality, creek/river protection group, school, resource conservation district, or similar, and may include: headwater-area erosion control, invasive plant removal, lagoon enhancement, or fish passage projects. Post Construction Stormwater Treatment/Low Impact Development projects that are not required by the State Water Board's Phase II Municipal Stormwater Permit may also be considered for mitigation projects.
 - b. If the MPWMD would like to use invasive plant removal as mitigation for removal of live vegetation or bank stabilization, the MPWMD shall either:
 - i. Remove invasive plants and replace them with native wetland or riparian vegetation at a 1:1 ratio (area of invasive plants replaced with native vegetation to area of wetland/riparian vegetation permanently impacted);
 - ii. Remove invasive plants and actively suppress invasive plants in the same location for five years at a 1:1 ratio (area of invasive plants removed to area of riparian vegetation permanently or temporarily impacted). This option shall only apply if the invasive plants are removed from an area in which the MPWMD cannot install plants due to site restraints such as a gravel substrate; or
 - iii. Propose an alternate invasive plant removal project for mitigation credit. The alternative project and corresponding mitigation credit must be approved by Central Coast Water Board staff.

Mitigation for Repeat Impacts⁵

Mitigation need only occur once in the ten-year span from 2012 (the date the previous Certification for this Project was issued) to 2022 for repeat impacts in the same location.

Mitigation Credit for Future Impacts

The MPWMD may use restoration sites or mitigation sites that are over planted (more plants are installed than are required) as credit for future impacts. The restoration or mitigation sites, reason the restoration or mitigation was implemented, and status of the site shall be clearly tracked in a separate section of the annual report.

Mitigation Success Criteria

1. Wetland and riparian vegetation mitigation that occurs in floodplain areas shall meet the following performance criteria:
 - a. 70% survival of installed vegetation by species, by the end of the first year; and
 - b. 50% native species cover, or 70% survival of installed vegetation by species, by the end of the fifth year.
2. Wetland and riparian vegetation mitigation that occurs on river banks shall meet the following performance criteria:
 - a. 30% native species cover, and 70% survival of installed vegetation by species by the end of the first year; and
 - b. 85% native species cover, and 70% survival of installed vegetation by species by the end of the fifth year.
3. In the event of poor plant survival or failure to meet performance criteria, corrective measures shall be implemented, including replanting to achieve the performance criteria. Such remedial measures shall continue for as long as is necessary to ensure that the performance criteria are achieved.

General Mitigation Conditions

1. Mitigation shall compensate for the loss of habitat and habitat function due to the maintenance activity.
2. All mitigation vegetation shall be installed in the following densities: Vegetation on bare streambanks shall be planted at a density of 3 to 4 feet on center or closer if the species and conditions allow. On flood plains, vegetation shall be planted at a density of 5 to 10 feet on center.
3. The MPWMD shall include at least the same dominant tree, shrub, and understory species that were present at the site before impact in their bank stabilization or mitigation site plant palette.
4. If soil moisture is deficient, new vegetation shall be supplied with supplemental water until vegetation is established.

B. Project Site Monitoring Conditions

1. A qualified monitor (the MPWMD biologist or other biologist) shall be onsite during maintenance and/or construction activities ensuring implementation of best management

⁵ Impacts that occur in the same location as in a previous year.

practices and protection of water quality. The monitor shall halt work if necessary to ensure compliance with this Certification and to protect water quality and beneficial uses.

2. The MPWMD shall visually inspect bank or bed stabilization, gravel/sandbar removal, and channel meander alteration sites as follows following construction: Visually inspect the site during the rainy season for five years to ensure excessive erosion, stream instability, or other water quality problems are not occurring at the site, or up or downstream of the site, as a result of the work. If a water quality problem is occurring, contact the Central Coast Water Board staff member overseeing the Project within three working days. The Central Coast Water Board may require the submittal of a Violation of Compliance with Water Quality Standards Report. Additional permits may be required to carry out any necessary site remediation.

C. Mitigation Monitoring Conditions

1. Monitor compensatory mitigation sites for five years.
2. If success criteria are not achieved within five years, continue annual monitoring and maintenance until success criteria are achieved.
3. Compensatory mitigation monitoring shall include assessment of growth, survival, percent cover, general health and stature, signs of reproduction, progress towards achieving success criteria, and any other measures identified in the Mitigation Success Criteria section.

D. Reporting Conditions

1. Annual Plan

For each year during which this Certification is valid, the MPWMD shall identify all river maintenance activities within Waters of the State in an annual plan, and shall submit the annual plan to Central Coast Water Board staff by June 1 of each year. Each annual plan shall include:

- a. Title page that includes the words *annual plan*, the project name as found on this Certification, the current date, Certification Number and the Applicant's name.
- b. All proposed river maintenance activities.
- c. A detailed project description of individual proposed bank stabilization, channel realignment, and vegetation management activities.
- d. Considered alternatives for all hardscape bank installation/channel realignment activities, and if appropriate, an explanation of why the alternatives are not feasible for achieving Project goals.
- e. Locations, photos, and quantity of material to be removed and/or discharged for all vegetation management.
- f. Locations, plans (plan view, elevation view, and cross section), photos, and size of each bank stabilization/channel realignment activity (including volume, area, and linear foot measurements).
- g. Total size of proposed impacts on the river, including total volume, area, and linear foot measurements of fill and excavated material.
- h. Site conditions at all bank stabilization and grade stabilization sites.
- i. For each proposed bank stabilization or other project that uses hardscape materials:
 - i. The flows for which the project is designed, the return period of those flows, and the shear stress and velocity of those flows;

- ii. The least invasive bank stabilization material that will withstand the shear stress based on Table 2, Permissible Shear and Velocity for Selected Lining Materials, in the Corps' technical note, cited in footnote 3 of this Certification;
 - iii. Quantitative demonstration of why non-hardscape means of stabilization are infeasible; and
 - iv. Images with aerial view (including immediately adjacent land use) and bank/water view of area to be stabilized.
- j. The information used to evaluate habitat quality for all proposed bank stabilization sites that the MPWMD concludes will provide an improvement in habitat quality, do not impact fluvial geomorphology, and therefore do not require mitigation. The information shall include, but not be limited to, the results of the assessment of how the stabilization project will impact the chemical nature of the water quality and the following biological and physical characteristics: approximate percent cover, density, species diversity, and health of vegetation; approximate extent of current shade and cover; wildlife niches including use and availability of nesting, roosting, and spawning habitat; and overall structural complexity of the site in terms of height and girth of plants, presence of woody debris and boulders or cobble, and bank morphology.
- k. For all stabilization sites that the MPWMD wants to use as credit, provide the habitat quality evaluation and the current status of the site (in progress or deemed complete).
- l. A fluvial geomorphology assessment that describes the potential impacts for each proposed hardscape stabilization or channel realignment including:
- i. The response of river flow to stabilization structures or channel shaping, including potential resultant undercutting or erosion to upstream, opposite, and/or downstream banks and bed;
 - ii. The response of river morphology to changes in flow velocity and channel capacity, cross section, length, or gradient;
 - iii. Impacts on vegetation and aquatic habitat resulting from changes in river flow and morphology; and
 - iv. Impacts at the hardscape site such as undercutting or erosion directly adjacent to the hardscape.
- m. Identification of potential impacts to beneficial uses or functions (temporary and permanent) due to proposed maintenance activities.
- n. Total number and species of trees proposed for removal during maintenance activities that have trunks measuring three inches or greater dbh.
- o. A mitigation plan including, but not limited to, identification of the mitigation site location; explanation of why the site was selected; description of hydrology of the site; demonstration that the site is available for the MPWMD's use; identification of implementation schedule, plant ratios, and palette; explanation how MPWMD plans to protect the site until it is successful; and explanation how mitigation will replace lost beneficial uses.
- p. The functions and quantity of vegetation that the MPWMD proposes to remove each year for the purpose of debris passage.
- q. Location of staging area and verification that it is at least 100 feet from the waterbody.
- r. Details of all BMPs that will be implemented to prevent pollutants from being discharged into waters of the State.

- s. The name and credentials of the:
 - i. Registered civil engineer designing all bank stabilization projects; and
 - ii. Fluvial geomorphologist, hydrologist or equivalent, reviewing the design of all bank stabilization projects.
- t. Confirmation of the use of the MPWMD's *Guidelines for Vegetation Management and Removal of Deleterious Materials for the Carmel River Riparian Corridor (June 2012)*, to determine the quantity of vegetation to be removed.
- u. The proposed steps the MPWMD will take each year to reduce the potential for installation of hardscape to stabilize the river banks.
- v. A summary of the MPWMD's proposed responsibilities and actions in restoration/enhancement projects to be implemented as a result of a partnership with other agencies within the Carmel River watershed, if required as mitigation.

2. Annual Report

Submit an annual report for all Project actions and mitigations by May 31 of each year, beginning with May of 2018. The report shall identify all actions taken throughout a maintenance year prior to and as close to the May 31 date as possible. Each annual report shall include:

- a. A title page that includes the words *annual report*, the project name as found on this Certification, the current date, Certification Number, the Applicant's name and the following two numbers: Reg Measure ID: 411968, and Place ID: 833163.
- b. Photos taken at Project sites prior to and after Project completion and annually thereafter at consistently identified locations from which stability of the site and mitigation areas are clearly visible, for a period of five years.
- c. General as-built specifications for all bank stabilization or channel realignment projects if different from proposed specifications.
- d. The status of the effectiveness of all hardscape bank stabilization treatments installed under this Certification, including answers to the following questions:
 - i. Is sediment actively eroding at the project site beyond expected natural rates?
 - ii. Is the bank stabilization treatment causing other undesired impacts in the treatment area, upstream or downstream of the project site?
 - iii. Did flow velocity and channel capacity, cross section, length, or gradient change as a result of the stabilization or realignment treatment?
 - iv. Were there impacts on vegetation and aquatic habitat resulting from changes in waterbody flow and morphology?
- e. Results of 1 and 2 in the Project Site Monitoring Conditions section.
- f. For each bank stabilization site, the number and type of species planted and total area restored.
- g. The quantity of vegetation removed each year for the purpose of debris passage, if different from that proposed.
- h. Success of vegetation installed at all mitigation sites including a comparison of on-site conditions with criteria in the Mitigation Success Criteria section.
- i. A table that includes:⁶

⁶ All bulleted conditions under i in the Annual Report section exclude cottonwood and willow species of less than six inches dbh.

- Each removed tree that has a greater than three inch dbh.
 - The number and species of trees planted for each tree removed that has a greater than three inch dbh.
 - Total number of trees installed as mitigation for trees removed with a greater than three inch dbh.
- j. Identification of created or restored beneficial uses and functions as a result of mitigation activities, and a general assessment of health of the mitigation site.
 - k. If there were any repeat impact sites for which mitigation is in progress or has been deemed successful, a record of the mitigation site (location, date mitigation was implemented, and if appropriate, date mitigation was deemed successful).
 - l. For all bank stabilization sites that did not require mitigation, MPWMD's evaluation of the habitat quality of the bank stabilization site.
 - m. Verification of "no net loss" of wetlands impacted via MPWMD maintenance activities at the end of the five-year mitigation period for each impacted wetland site.
 - n. The steps taken each year to reduce the potential for installation of hardscape to stabilize the river bank, including efforts to address sources of destabilization.
 - o. A summary of the MPWMD's completed actions in restoration/enhancement projects implemented as a result of a partnership with other agencies within the Carmel River watershed, if required as mitigation, and an explanation of how their specific actions improved water quality and beneficial uses.
3. In the event remedial mitigation is necessary, remedial mitigation (e.g., plant installation) shall be monitored and reported each year for a five-year period following implementation (five years of growth), unless success criteria is achieved earlier, to ensure that the project is successful.

CENTRAL COAST WATER BOARD CONTACT PERSON:

Kim Sanders
(805) 542-4771
ksanders@waterboards.ca.gov

Please refer to the above certification number when corresponding with the Central Coast Water Board concerning this project.

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that as long as all the conditions listed in this Certification are met, any discharge from the Carmel River Maintenance and Restoration Project shall comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated pursuant to State Water Board Water Quality Order No. 2003-0017-DWQ, which requires compliance with all conditions of this Certification.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the Applicant's project description and the attached Project Information

and Conditions, and (b) compliance with all applicable requirements of the Central Coast Water Board's policies and Water Quality Control Plan (Basin Plan).

for _____
John M. Robertson
Executive Officer
Central Coast Water Board

August 11, 2017
Date

PROJECT INFORMATION AND CONDITIONS

Application Date	Received: February 23, 2017 Completed: March 1, 2017
Applicant	Thomas Christensen Monterey Peninsula Water Management District P.O. Box 85 Monterey, CA 93942 Email: Thomas@mpwmd.net (831) 238-2547
Applicant Representatives	Self-represented
Project Name	Carmel River Maintenance and Restoration
Application Number	32717WQ09
Type of Project	Routine Channel and Flood Control Maintenance Activities by Local Agencies
Project Location	Carmel Valley Latitude: various Longitude: various
County	Monterey
Receiving Water(s)	Carmel River 307.00 Carmel River Hydrologic Unit
Waterbody Type	River
Designated Beneficial Uses	Municipal and Domestic Supply (MUN) Agricultural Supply (AGR) Industrial Service Supply (IND) Ground Water Recharge (GWR) Water Contact Recreation (REC-1) Non-Contact Recreation (REC-2) Wildlife Habitat (WILD) Cold Fresh Water Habitat (COLD) Warm Fresh Water Habitat (WARM) Migration of Aquatic Organisms (MIGR) Spawning, Reproduction, and/or Early Development (SPWN) Preservation of Biological Habitats of Special Significance (BIOL) Rare, Threatened or Endangered Species (RARE) Freshwater Replenishment (FRSH) Commercial and Sport Fishing (COMM)
Project Description (purpose/goal)	The purpose of this project is to maintain, repair, and restore river banks, aquatic habitat, and terrestrial habitat along 18.6 miles of the Carmel River. Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff understands that the project includes the following activities: 1. Removing limited vegetation and debris from the active channel;

	<ol style="list-style-type: none"> 2. Installing limited erosion protection in unstable, degraded areas; 3. Restoring the river channel in unstable areas; and 4. Maintaining or repairing previously authorized restoration projects.
U.S. Army Corps of Engineers Permit No	RGP 24460S
Dept. of Fish and Wildlife Streambed Alteration Agreement	SAA May 5, 2014. File No. No. 1600-2013-0053-R4
Status of CEQA Compliance	Final Environmental Impact Report, Water Allocation Program, Five-Year Mitigation Program for Option V 16,700 AF Cal-Am Production Lead Agency: MPWMD
Total Certification Fee	\$720, with annual active discharge fee (fee code 84)
Area of Disturbance	The disturbance area may vary year to year, but shall not exceed a total of 0.5 mile vegetation removal and 0.7 mile of channel realignment and stabilization projects per year.
Fill/Excavation Area	The fill and excavation area may vary year to year, but shall not exceed a total of 0.7 mile of channel realignment and stabilization projects per year that may include excavation and or fill.
Excavation Volume	The excavation volume may vary year to year, but shall not exceed the volume necessary to complete the actions bounded by the area of disturbance thresholds.
Fill Volume	The fill volume may vary year to year, but shall not exceed the volume necessary to complete the actions bounded by the area of disturbance thresholds.