City of Santa Rosa Offset Credit Proposal for Beretta Dairy BMPs

Credit Proposal Summary

Selected Project:
Installation of three agricultural best management practices (BMPs) at an existing Laguna dairy operation.

Discharge Location in the Laguna:
Roseland Creek discharging into the Laguna approximately 1.1 miles downstream of the Todd Road crossing.

Credit Generating Practices:
BMP #1: Manure stacking pad installation and buffer
BMP #2: Heavy use area buffer, fencing and cattle crossing upgrades
BMP #3: Relocation of heavy use loafing pen

Margin of Safety Factors:

- Edge-of-field calculated loads discounted for overland delivery to the stream
- Bioavailability of total nitrogen (TN) and total phosphorus (TP) in manure compared to wastewater treatment plant (WWTP) effluent

Calculated Credits and Credit Life for Proposed BMPs:

Proposed Crediting Option	BMP Elements	Annual Credits (lbs TP+TN/yr)	Proposed BMP Eligibility Period
BMP #1 Manure Stacking Pad and Buffer	Concrete Stacking Pad	1,194	Long-term (20 years)
	Buffer	300	Long-term (20 years)
BMP #2 Heavy Use Area Upgrades	Fencing and Cattle Crossing	201	Short-term (2.5 years)
	Buffer	84	Long-term (20 years)
BMP #3 Relocate Heavy Use Area	Relocation of use area to interior field	1,119	Long-term (20 years)

Beretta Dairy Project Synopsis:

An examination of the Beretta Dairy by Kieser & Associates, LLC (K&A) on behalf of the City of Santa Rosa in November and December 2011 identified potential nutrient offset credit options through voluntary installation of new practices at this operation. The dairy site is located along Roseland Creek (lat: 38°23'27.15"N, long: 122°46'21.42"W) which discharges to the Laguna de Santa Rosa (Laguna). New practices will result in a reduction of nutrients (total phosphorus and total nitrogen) that can reach the Laguna. The City desires to implement these voluntary practices at the Beretta Dairy to offset annual WWTP discharges to the Laguna. The dairy owner is willing to install these practices under an agreement with the City if the Executive Officer of the Regional Board approves this proposal.

Implemented land management practices are considered eligible for generating nutrient reduction offsets according to Resolution No. R1-2008-0061 (Resolution) and this proposal is submitted for Regional Water Board consideration pursuant to the terms of the Resolution. When offsets are described as pounds of phosphorus and nitrogen reduced per year from land management practices, they are referred to herein as credits. Credit life (i.e., number of years credit would accrue to the City) will depend on the time until these practices are required of the land owner to meet a regulatory requirement or the termination of the agreement with landowner to implement the measure, whichever occurs first. Final crediting calculations are being provided with this proposal in a separate MS Office Excel spreadsheet format. Relevant information on BMP verification and annual reporting are also are included in this formal proposal. The City, working with the Sotoyome RCD, is submitting this formal crediting proposal to the Executive Officer of the Regional Board using site-specific design details provided by a local agricultural engineer, and TN and TP soil test results for the project site. This submission also follows a verbal request from Mr. David Leland of the Regional Board based on their review of an initial concept proposal for the Beretta Dairy. BMP installation will occur in 2012 pending Executive Officer approval of this formal proposal. Following such approval, the City will finalize contracting arrangements with the dairy owner.

This document is submitted to the RWQCB with the permission of the dairy owner, Mr. Doug Beretta. It contains the required information associated with the Resolution.

Introduction

This document describes the Beretta Dairy Nutrient Offset Project (Project) and is intended for consideration by the North Coast Regional Water Quality Control Board (RWQCB or Board) as a basis for Project approval under the Santa Rosa Nutrient Offset Program adopted by the Board with Resolution R1-2008-0061 (Resolution). This proposal is organized according to the Nutrient Offset Program information requirements identified in Attachment 1 to Resolution R1-2008-0061. The Resolution approving the Santa Rosa Nutrient Offset Program and the new dairy General Waste Discharge Requirement (GWDR) Order No. R1-2012-003 and Waiver Order No. R1-2012-0002 from the RWQCB generally define conditions for credit-generating BMP project eligibility and credit life. This formal proposal complies with those conditions and relies on previous discussions with the RWQCB regarding voluntary dairy inspections by Tetra Tech, Inc. on behalf of the RWQCB. It was agreed in a series of meeting discussions between the Regional Board and the City of Santa Rosa that these inspections could serve as a baseline for dairy credit generation. It is on this basis that several BMP eligibility assumptions are made in this section of the credit proposal.

Relevant information is provided in the following sections of this City of Santa Rosa offset project proposal:

- Project location
- Description of N & P practices
- Quantity of N and P Removed/Expected Life of Crediting Practices
- Monitoring and Reporting Plan
- Description of Anticipated CEQA Documentation

Project Location

The Beretta Dairy is located along Roseland Creek (lat: 38°23’27.15”N, long: 122°46’21.42”W) which discharges to the Laguna approximately 1.1 miles downstream of the Todd Road crossing. This area is upstream of Mark West Creek where the City periodically discharges treated wastewater from their Delta Pond in winter when storage capacity is exceeded in wet years.

Description of N & P Practices

This section provides a brief description of the Beretta Dairy and relevant attributes of this working operation as they apply to BMP eligibility for crediting in the context of the Dairy Waiver program. Proposed BMPs are introduced in the context of credit practice life considering waiver requirements and expected life of practices. Additional BMP details, credit calculations and proposed credit life are introduced in the next section of this proposal entitled, “Quantity of N and P Removed/Expected Life of Crediting Practices”.

Crediting Project Considerations under Dairy Waivers

Three separate BMP project options for offsets are being proposed by the City at the Beretta Dairy. The Beretta Dairy runs approximately 450 head and is expected to qualify for the Dairy Waiver. The considerations below explain how these three BMPs would qualify as offsets in respect to the Dairy Waiver regulations.

Applicable Resolution Language

For potential offset crediting projects at dairies, the City recognizes that the approved Nutrient Offset Program under the Resolution, "prohibits the City from continuing to receive nutrient reduction credits for a project that later becomes subject to additional regulatory controls imposed by the Regional Water Board" (finding 7, page 2). This would apply to practices at Beretta Dairy that would ultimately be required as part of a Waiver.

Applicable Waiver Language

Item 38 of the Waiver (Order No. R1-2012-0003) under the Enrollment Process states that, "The Regional Water Board may give special TMDL nutrient offset dairy projects an alternative schedule for enrollment and submittal of associated documents for a maximum of two years past the due dates in this Order…Also, these projects must be of long-term water quality benefit to the watershed".

Assessment of dairy project eligibility and credit life is therefore determined by which practices are required to comply with the Waiver and consideration of when the dairy becomes formally enrolled. This eligibility and credit life approach was presented to the RWQCB staff on February 22, 2012, and subsequent to this presentation, David Leland of the RWQCB validated that this approach is consistent with the Resolution. As such, the City is proposing for RWQCB consideration and approval nutrient reduction BMP projects for crediting that meet at least one of the following three conditions:

1. BMPs that bring the dairy into compliance with the Waiver application which are minimally eligible to generate credits until the end of the extended enrollment period;
2. BMPs that might otherwise be retired after the extended enrollment period (as in condition 1) except would be eligible for additional credit life where they provide long-term water quality benefit to the watershed; and,
3. BMPs that exceed the level of implementation required in the Waiver which supply credits during and after the extended enrollment period.

Applicable Consideration for Voluntary Dairy Site Assessments

Site-specific decisions regarding BMP eligibility and credit life shall be based on the "Voluntary Assessment Report" (VAR) authored by Tetra Tech, Inc. following their voluntary dairy assessments. This approach is based on discussions with the RWQCB staff in a meeting held on October 31, 2011. Attendees at this meeting included representatives from the North Coast RWQCB, the U. S. Environmental Protection Agency (EPA) and the City of Santa Rosa (City). This group generally agreed

with the RWQCB's suggestion to use the voluntary Tetra Tech, Inc. dairy site assessments for these decisions (where such assessments had been completed). The site assessments inform a Board determination of the BMPs necessary for compliance in GWDR or Waiver Orders. The assessment recommendations inform the dairy producer which BMPs would improve the operation and enhance compliance opportunities.

Site-specific BMP recommendations from a Tetra Tech, Inc. assessment (performed on behalf of the RWQCB) were included in a VAR provided to the Beretta Dairy. Relevant voluntary site assessment recommendations quoted directly from the voluntary site assessment report are:

1. *Continue working with the NRCS to develop the facility's CNMP. The CNMP should describe land application practices implemented at Beretta Dairy and include protocols for land application and associated records that ensure the manure application rates that are reasonable for the crop, soil, climate, special local situations, management system, and type of manure. The CNMP should verify that liquid manure is applied at rates that do not result in surface runoff and minimize percolation to ground water. Such documentation will demonstrate compliance with Title 27 requirements, which will apply to dairies under all three of the dairy program permit types. The draft dairy permits were distributed for public review on October 24, 2011. A recommendation for this dairy to apply for a particular permit type will be given after the permits are finalized.*

2. *Ensure that the clean water diversion northwest of Pond 3 is closed, scraped and reseeded each year prior to the wet weather season to prevent storm water from coming into contact with manure. The dairy should consider additional best management practices in and around this clean water diversion such as permanent fencing or belowground pipe to convey the diversion underneath this heavy use area or provide photo-documentation that additional best management practices are not needed in this area.*

3. *Ensure that manure piled adjacent to ponds is land applied, covered, or moved to a contained area prior to the wet season. The operator may consider other best management practices to ensure that runoff does not transport piled manure away from the production area.*

Key BMP interpretations arise from these VAR recommendations for proposed offset projects at Beretta Dairy. First, the CNMP is listed in site assessment recommendations but is not a requirement of the Waiver program. Instead, the Waiver language lists CNMPs as a recommendation of the Waiver program. (CNMPs are, however, required in the GWDR program.) As noted by Doug Beretta prior to receiving the VAR, his dairy is developing a CNMP with NRCS technical assistance. (Noted here is that the CNMP may include suggestions suitable for additional crediting opportunities beyond the three proposed herein.)

The second key interpretation is the intent of the use of the words "ensure", "should" and "may" in the VAR. The word "ensure" is interpreted to be a mandatory condition (i.e., a technology/practice requirement) necessary to comply with eligibility requirements of the Waiver (and thus, a limited credit life). In contrast, the use of the words "should" or "may" in front of recommendations indicates a level of effort that exceeds the minimum eligibility requirements to obtain a Waiver (thereby inferring long-term credit life eligibility).

Proposed Credit Eligibility and Credit Life Considerations

Based on these two key interpretations, the City is proposing application of these eligibility and credit life considerations for the three proposed Beretta Dairy BMPs as outlined in Table 1.

Table 1. Proposed eligibility and credit life considerations for Beretta Dairy Offset Credit BMPs.

Proposed Crediting Option	BMP Elements	Recommended in VAR	VAR Language for BMP		Exceeds Current Requirements	Proposed BMP Eligibility Period
			"Ensure"	"Should" or "May"		
BMP #1 Manure Stacking Pad and Buffer	Concrete Stacking Pad	No	No	Yes	Yes	Long-term
	Buffer	Yes	No	Yes	Yes	Long-term
BMP #2 Heavy Use Area Upgrades	Fencing & Cattle Crossing	Yes	Yes	No	No	Short-term
	Buffer	Yes	No	Yes	Yes	Long-term
BMP #3 Relocate Heavy Use Area	Relocation of use area to interior field	No	No	No	Yes	Long-term

K&A observations and evaluation at the Beretta Dairy yielded three opportunities for new BMPs at the dairy that could generate nutrient offset credits under these considerations. Runoff from the Beretta Dairy ultimately reaches Roseland Creek discharging into the Laguna. The credit generating practices for this site include:

BMP #1: Manure stacking pad installation and buffer
BMP #2: Heavy use area buffer, fencing and cattle crossing upgrades
BMP #3: Relocation of heavy use loafing pen

Figure 1 is an aerial view of all three option locations.

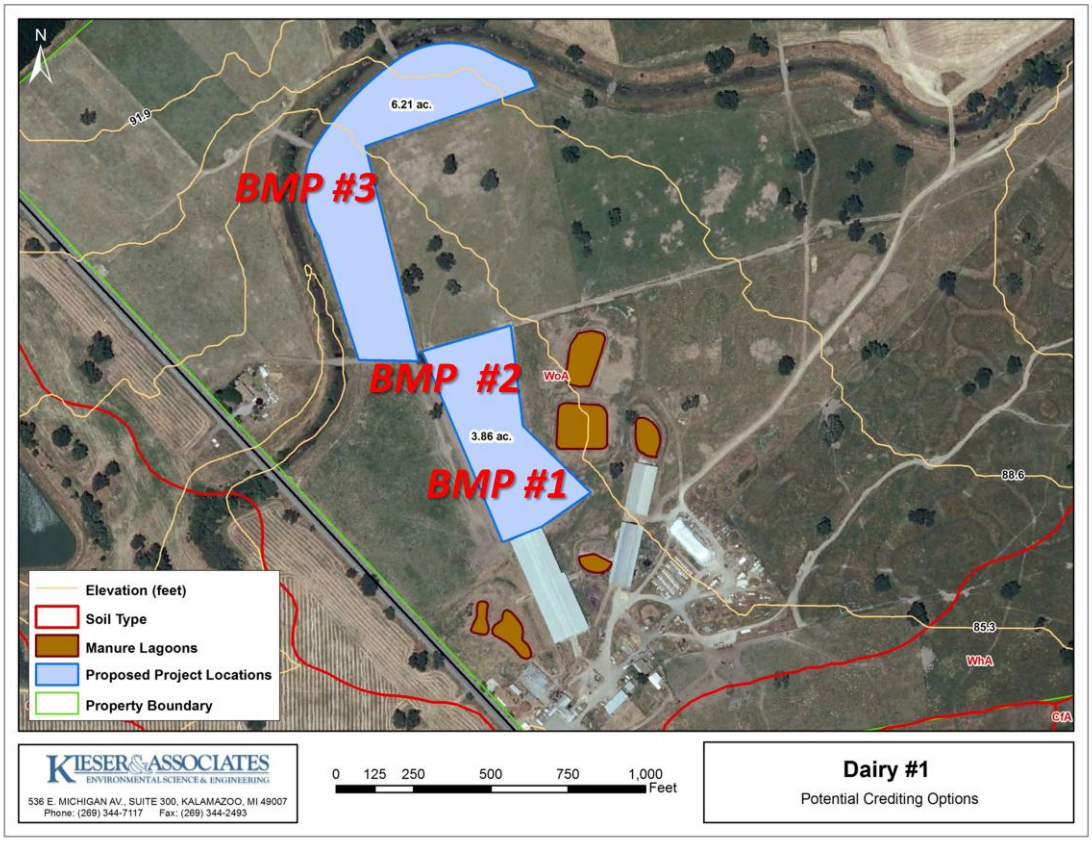

Figure 1. Location of the three options for installation of new BMPs to generate nutrient offset credits.

Quantity of N and P Removed/Expected Life of Crediting Practices

The three proposed crediting options and associated credit calculations are presented in this section. Calculations also include expected life of credit forecast in the previous section (as related to Dairy Waiver conditions, the life of practice, facility life or the owner's maintenance commitment with the City). The reduction of TP and TN is dependent on the source (manure rate and timing) being controlled and the BMP type. The separately submitted MS Office Excel spreadsheet presents a summary of the credit calculations examined for dairy applications in the context of stipulations in the Resolution. It highlights the various applications considered for the Beretta Dairy using credit calculations approved by the Commonwealth of Pennsylvania for their approved Water Quality Trading program. Because of the complexity of various site-specific conditions and a lack of readily applicable and published BMP load calculations and/or efficiency factors for dairies, the state-approved credit calculator with relatively direct applicability was used here. These calculations are commonly referred to as the, "Pennsylvania Credit Calculator" for nitrogen[1] and phosphorus[2] associated with animal operations. These calculations

[1] Pennsylvania Department of Environmental Protection, 2007. Nitrogen Credit Calculation Form, Effective December 4, 2007. Available at: http://www.dep.state.pa.us/river/nutrienttrading/calculations/index.htm.

were previously introduced to and discussed with the Regional Board over a series of meetings leading up to this proposal. It is anticipated by the City of Santa Rosa that additional and specific discussions regarding these calculations may be necessary for crediting proposal approval.

BMP #1 — Concrete Manure Stacking Pad

This BMP involves installation of a large manure stacking pad to capture runoff and leachate generated when solids are dewatered after they are removed from the main lagoon that serves a large free stall barn. Figure 2 is an aerial view of the free stall barn (A) and the adjacent manure lagoon (B). Currently, the operation empties the lagoon by agitating the waste and pumping off the liquid portion. The remaining solids are stacked next to the lagoon to allow for additional dewatering at point (C). Later the solids are hauled off for land application. The proposed option will add a manure stacking pad that captures and redirects all leachate and precipitation in contact with the waste back into the lagoon in this same area. Prior to the wet season, the stacking pad will be cleaned off and allowed to drain clean water into the water conveyance (D – blue line) which will be protected by a fenced/grass buffer (E). The grass buffer will utilize occasional flash grazing management techniques in order to maintain a robust, healthy vegetative stand. If a more strategically placed stacking pad can be constructed on the south side of the lagoon (B) on existing concrete surfaces already draining to the lagoon, alternative designs will be discussed with the Regional Board before final installation as appropriate. This alternative location on the opposite side of the lagoon is more distant from water conveyances which could additionally reduce potential nutrient runoff from reaching the Laguna, improve manure management and better serve operational needs of the dairy. Final engineering assessment and design is pending Executive Officer approval of this crediting proposal.

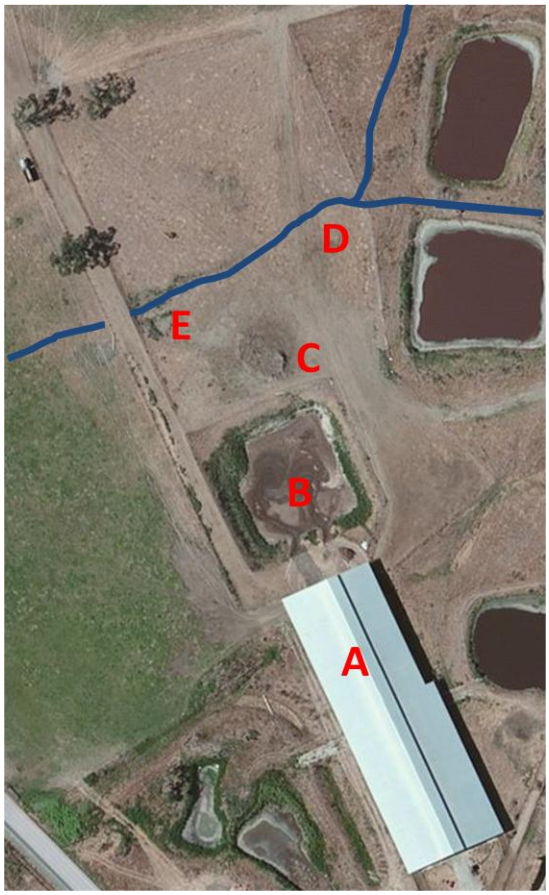

Figure 2. Current manure dewatering site for a larger manure lagoon serving the free stall milking cow barn. [Manure from a free stall barn (A) is placed in a manure lagoon (B). The method to empty the lagoon includes drawing off the liquids then placing the remaining wet solids next to the lagoon to dewater (C). The project proposal is to install a manure stacking pad to redirect all leachate and precipitation in contact with waste back into the lagoon.] (Photo Credit: Bing Maps)

[2] Pennsylvania Department of Environmental Protection, 2008. Draft Phosphorus and Sediment Credit Calculation Form, Effective January 30, 2008. Available at: http://www.dep.state.pa.us/river/nutrienttrading/calculations/index.htm.

BMP #1 Credit Calculations

The Pennsylvania credit calculation for pastures was adapted for heavy use areas. The method calculates the before (current condition) and after (BMP installed) TP and TN loading of particulate and dissolved nutrient fractions. Pennsylvania estimation of fertilizer and manure applied to the soils uses typical operational practices and rates.

Site-specific credit calculations consider:

- Area served
- Pond solids dewatered during dry season
- Solids scraped and hauled away for land applied before wet season
- Soil erosion rate calculated by RUSLE
- Enriched soil nutrient content from manure and leachate deposits

To account for appropriate considerations for a Margin of Safety, the following discount factors were applied to preliminary credit calculations (as percent remaining nutrients reaching Roseland Creek):

- Concrete Stacking pad:
    - Edge-of-field factor = 49.5% (calculated at 30 feet)
    - Bioavailability Factors:
        - TP = 94.5 %
        - TN = 85%
- Buffer:
    - Edge-of-field factor = 49.5% (calculated at 30 feet)
    - Bioavailability Factors:
        - TP = 94.5 %
        - TN = 85%

In addition, several conservative factors are introduced by the soil nutrient test method applied to this BMP. The first conservative factor is that the credit calculator requires a manure nutrient input for estimation of applied manure availability. For this BMP, the nutrient concentrations used in the calculation were based instead on soil nutrient concentrations. Using the soil test results in place of the manure test results is conservative because the nutrient concentrations are further diluted by inert soil particles. The second conservative factor is the timing of soil sample collection. The samples were collected from the site on April 19, 2012. By this date the wet season was almost over after several months of rain. The rains and resulting runoff during the season most likely reduced the nutrient concentration in the soil when compared to concentrations present in the fall, prior to the wet season. Both of these factors combine to create a conservative approach in calculating credits for this site.

Table 2 provides a summary of the proposed TP and TN annual credits for the actions associated with BMP site #1. A minimum credit life of 20 years is proposed for this BMP reflecting the expected life of

an engineered concrete manure stacking pad, and long-term maintenance of the buffer under agreement by the owner with the City.

Table 2. Proposed credits (combined pounds of TP + TN) calculated for BMP #1.

Proposed Crediting Option	BMP Elements	Annual TP Credits in lbs/yr (% of combined total)	Annual TN Credits in lbs/yr (% of combined total)	Annual Combined Credits (lbs TP+TN/yr)	Proposed BMP Eligibility Period
BMP #1 Concrete Stacking Pad	Concrete Stacking Pad	184 (15.4%)	1,010 (84.6%)	1,194	Long-term (20 years)
	Buffer	7 (2.4%)	293 (97.6%)	300	Long-term (20 years)

BMP #2 — Heavy Use Area Buffer and Cattle Crossing

This option adds a buffer and culvert cattle crossing for protection of a clean water diversion crossing a heavy use area. Currently, the heavy use area is used as a milk cow loafing and staging pen. Figure 3 is an aerial view of the heavy use loafing pen. The BMP #2 location currently surrounds the BMP #1 stacking pad. Under current operations, cows are released to this area for about five hours after milking. The cattle are staged in this pen while waiting to be released into grazing pastures. Approximately 140 cows utilize this pen for approximately five hours per day. The loafing pen, outlined in black in Figure 3, covers 3.1 acres.

The current dairy practices to protect water quality in the adjacent waterway are to scrape the heavy use area prior to the wet season and remove cow access during the wet season. The practices are identified in the VAR. The VAR also indicates the operator "should" consider additional practices such as fencing or below ground pipe "or" provide photos which indicate these practices are not necessary. The site enhancements proposed for offsets include the VAR recommendations of a fence and buried pipe as a crossing. In addition, a well managed buffer is being implemented. This buffer exceeds the stated considerations in the report. Figure 3 illustrates the installed fenced buffer (area outlined in red dotted line) and cattle crossing (culvert in black, animal traffic in orange). The grass buffer will utilize occasional flash grazing management techniques in order to maintain a robust, healthy vegetative stand. (The proposed large manure stacking pad from BMP #1 is indicated as a white box inside the proposed buffer.)

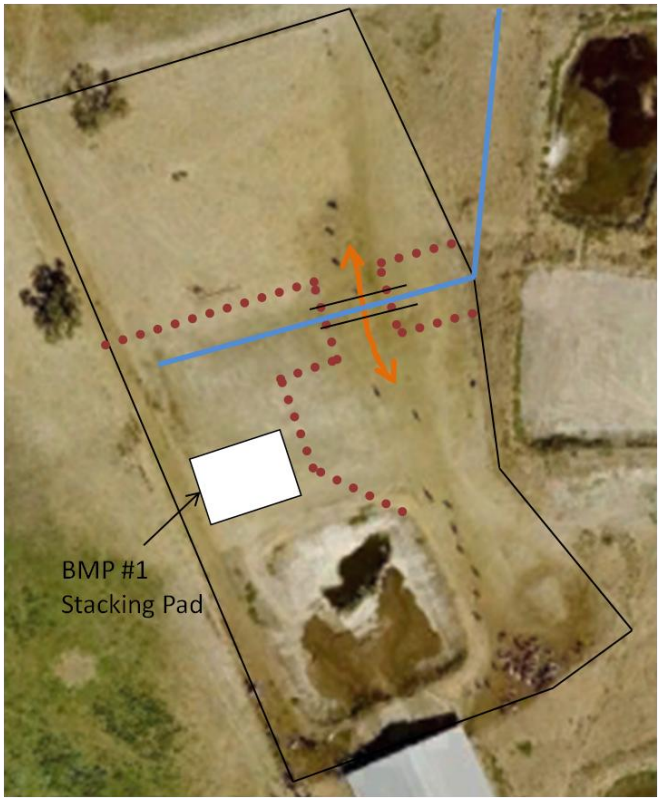

Figure 3. A dairy heavy use milk cow loafing area. (Photo Credit Google Earth, taken on October 6, 2007)

BMP #2 Credit Calculations

The Pennsylvania credit calculation for pastures was adapted for heavy use areas. The method calculates the before (current condition) and after (BMP installed) TP and TN loading of particulate and dissolved nutrient fractions. Pennsylvania estimation of fertilizer and manure applied to the soils considers typical operational practices and rates.

Site-specific credit calculations consider:

- Manure deposited in heavy use area
- Time of animals in the field
- Days per year in typical dry season
- Tons per acre of manure applied
- Remnant manure after scraping
- Nitrogen available for release from remnant manure
- Soil erosion rates for heavy use area
- Buffer treatment efficiency

To account for appropriate considerations for a Margin of Safety, the following discount factors were applied to the credit calculations (as percent remaining nutrients reaching Roseland Creek):

- Fencing and Cattle Crossing
    - Edge-of-field factor: Before 100% ; After = 49.5% (calculated at 30 feet)
    - Bioavailability Factors:
        - TP = 94.5 %
        - TN = 85%
- Buffer:
    - Edge-of-field factor = 49.5% (calculated at 30 feet)
    - Bioavailability Factors:
        - TP = 94.5 %
        - TN = 85%

The conservative calculation factors applied to BMP #1 also apply to BMP #2. These conservative factors include using soil nutrient concentrations in place of manure nutrient concentrations and lower nutrient

concentrations collected from soils after the wet season. The credit calculation results are provided in Table 3.

Table 3. Preliminary credits (combined pounds of TP + TP) calculated for BMP #2.

Proposed Crediting Option	BMP Elements	Annual TP Credits in lbs/yr (% of combined total)	Annual TN Credits in lbs/yr (% of combined total)	Annual Combined Credits (lbs TP+TN/yr)	Proposed BMP Eligibility Period
BMP #2 Heavy Use Area Upgrades	Fencing and Cattle Crossing	86 (40.5%)	115 (59.5%)	201	Short-term (2.5 years)
	Buffer	34 (42.8%)	50 (57.2%)	84	Long-term (20 years)

A credit life of 2.5 years is assumed for the fence and crossing because these appear in the VAR prepared by Tetra Tech, Inc. As such, these would expire at that conclusion of the extend enrollment period for the waiver. A life of 20 years is proposed for the buffer as it is above and beyond what is required and will be maintained.

BMP #3 — Relocation of Heavy Use Loafing Pen

The proposed BMP will enhance and protect Roseland Creek by relocating a heavy use loafing pen to a remote field. The heavy use area is a staging area for milk cows before being released into nearby rotational grazing paddocks. The existing loafing pen is located adjacent to Roseland Creek and has a creek bank length of approximately 1,900 feet. The heavy use area has a small setback to Roseland Creek which acts as an unmaintained buffer. However, the area also is served by several cattle crossings which are necessary to operate the rotational paddocks on the other side of Roseland Creek (see Figure 4). The cattle crossings allow concentrated runoff to reach the creek. This BMP relocates this heavy use area to an interior field and converts the heavy use area to rotational grazing paddocks.

The water quality benefits are associated with two significant factors. The first factor is moving the site to a remote location thus reducing the edge-of-field delivery ratio. This ratio can be reduced because of the greater upland attenuation of nutrients that occurs as the distance from surface water increases. The second factor is the conversion of land use from denuded soils for the majority of the year to rotational paddocks, which remain in perennial vegetation and act as a permanent buffer. The operation runs approximately 140 cows loafing in this heavy use area for five hours a day for 198 days in a typical year. Current nutrient management practices at the site include the existing buffer, scraping the pen prior to the wet season (collected manure enriched soils are land applied) and limiting cow access during the wet season.

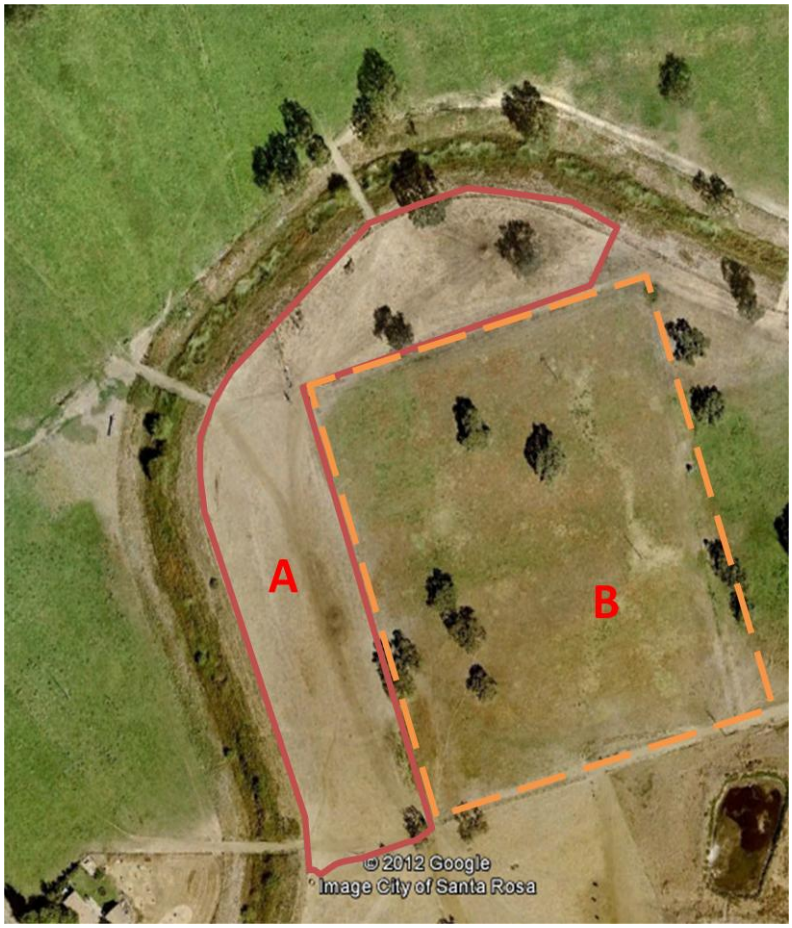

Figure 4. Relocation of heavy use area. (Area A outlined in red is currently used to stage cows prior to release into rotational grazing paddocks located both across Roseland Creek and in adjacent fields to the east. This BMP will relocate the heavy use activities into an equivalent area in field B. Area A will be converted into rotational grazing paddocks with limited cattle travel lanes. Currently, cows utilize this pen from April 1 to October 15 of every year. The loafing area is 6.2 acres and has five pour points into Roseland Creek.) (Photo Credit Google Earth, taken on October 5, 2007.)

BMP #3 Credit Calculations

The Pennsylvania credit calculation for pastures was adapted for heavy use areas. The method calculates the before (current condition) and after (BMP installed) TP and TN loading of particulate and dissolved nutrient fractions. The Pennsylvania estimation of fertilizer and manure applied to the soils considers typical operational practices and rates. Site-specific credit calculations consider:

- Manure deposited in heavy use area
- Time of animals in field per day
- Days per year in typical dry season
- Tons per acre of manure applied
- Nitrogen available for release from remnant manure
- Soil erosion rates for heavy use area considering disturbed soils
- Buffer treatment efficiency
- Distance new area is from Roseland Creek

To account for appropriate considerations for a Margin of Safety, the following discount factors were applied to the credit calculations (as percent remaining nutrients reaching Roseland Creek):

- Relocation of use area to interior field
    - Edge-of-field factor: Before = 100%, After = 33.4% (as calculated at 200 feet)
    - Bioavailability factors
        - TP = 94.5 %
        - TN = 85%

The conservative calculation factors applied to BMP #1 also apply to BMP #2. These conservative factors include using soil nutrient concentrations in place of manure nutrient concentrations and lower nutrient concentrations collected from soils after the wet season.

Preliminary credits calculated for this BMP are provided in Table 4. A credit life of 20 years is proposed based on an expected operation and maintenance agreement for this voluntary implementation action.

Table 4. Proposed credits (combined pounds of TP + TN) calculated for BMP #3.

Proposed Crediting Option	BMP Elements	Annual TP Credits in lbs/yr (% of combined total)	Annual TN Credits in lbs/yr (% of combined total)	Annual Combined Credits (lbs TP+TN/yr)	Proposed BMP Eligibility Period
BMP #3 Relocate Heavy Use Area	Relocation of use area to interior field	174 (15.5%)	945 (84.5%)	1,119	Long-term (20 years)

Monitoring and Reporting Plans

This section outlines the proposed monitoring and reporting plan that the City proposes to implement if this proposal is approved the Regional Board Executive Officer. Expected agreements between the various parties that will be enlisted to ensure this plan is followed are also identified herein.

Monitoring and Reporting

The City will require all BMPs implemented for offset credits to be maintained to NRCS standards and/or specific engineering designs to ensure nutrient reductions and water quality benefits continue throughout the life of the contract period (either short-term or long-term). This will be accomplished through annual site inspections to verify the proper operation and maintenance of each BMP. Similar to other environmental trading programs in the nation, the following verification protocol is proposed:

- Annual site visit to inspect and confirm operation and maintenance of BMP prior to the appropriate season of expected operation (as applicable).
    - RCD or other authorized agent will visit the BMP site.
    - Agent will inspect all components of the BMP and surrounding area to ensure proper function /operation (using final engineering specifications).
    - Agent will document BMP operation and maintenance through forms and photographs.
    - Any deficiencies must be noted on the inspection documentation.
    - All site inspection documentation must be submitted to the City within a set period following inspection.
- Deficiencies
    - All deficiencies will be reported to the land owner immediately after the City receives the inspection documentation.
    - These must be appropriately corrected to previously specified conditions within 60 days of discovery, or within 90 days if an alternative improvement is necessary to avoid future failures. (The Regional Board will be notified of this latter condition where applicable.)
    - Temporary BMPs considered acceptable under the Waiver Order will be installed within 15 days of the City's receipt of inspection documentation.
    - Agent must complete a second site visit to verify all deficiencies have been corrected.
- Verification letter stating the BMP passed the annual inspection will be included in the City's annual report to RWQCB.
- Verification letters for all BMPs will be forwarded to the RWQCB as proof that offset credits are being maintained.

Agreements for Implementation

The City anticipates entering into several agreements to fully implement, verify and monitor the proposed BMP projects at the Beretta Dairy, once RWQCB approval is obtained. The City will rely on written agreements for the following activities:

- Project implementation oversight
- Engineering
- Construction
- Long-term maintenance
- Annual site inspections

The City will likely enter into an agreement with the Sotoyome RCD to oversee implementation of the BMPs and provide annual BMP verification. For implementation, this will involve the RCD contracting directly with an engineer to design the BMPs and a separate contractor for BMP construction. The City will enter into a long-term agreement with the dairy operator/land owner, Mr. Doug Beretta, to maintain the BMPs and ensure continued nutrient reductions and water quality benefits for the life of the practice.

Description of Anticipated CEQA Documentation

Final engineering design of the BMPs will provide further information on whether permits may be necessary to implement the proposed projects. The Soyotome RCD anticipates no need for a permit from the US Army Corps of Engineers or other California State Resource Agencies due to the location of the project. A permit from the Sonoma County Permit and Resource Management Department or Water Agency will depend on the final design (e.g., amount of excavation involved in BMP implementation). The RCD will be responsible for obtaining all permits related to the BMP projects. If permits are required, the RCD will submit a "mitigated negative declaration" as appropriate to ensure proper practices are used for excavation and work within a waterway to assure no significant, negative impact to the environment.

Section 15168(c)(2) of the CEQA Guidelines provides that "If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required." The Discharge Compliance Project (DCP) EIR evaluated an Enhanced Nutrient Removal (ENR) component at a program-level. The EIR Project Description for the ENR component specifically includes manure management at up to eight dairies and agricultural land management in the Laguna Watershed. The Beretta Dairy Nutrient Removal Project is entirely consistent with the Project Description for the ENR component in the DCP EIR. Further, the City has evaluated whether the Beretta Dairy Nutrient Removal Project would have new effects that are greater than those identified in the DCP EIR and that, pursuant to Section 15162 of the CEQA Guidelines, would be new significant impacts or significant impacts of a substantially more severe nature. The evaluation found no new significant impacts or significant impacts of a substantially more severe nature beyond those impacts already identified for the ENR component in the DCP EIR. And, therefore, the Berretta Dairy Nutrient Removal Project is adequately evaluated by the program-level review in the DCP EIR, and no subsequent environmental document is required.