September 10, 2021

FACT SHEET

PROPOSED MODIFICATION OF NPDES PERMIT NO. GUS040001
MUNICIPAL SEPARATE STORM SEWER SYSTEM
GUAM DEPARTMENT OF PUBLIC WORKS

Draft

Permittee and Mailing Address:
Guam Department of Public Works (DPW)
542 N. Marine Corps Drive
Tamuning, GU 96913

Permitted Facility and Location:
Municipal Separate Storm Sewer
System Operated by the Guam DPW

Contact Person:
Vincent P. Arriola, Director
Guam DPW
(671) 646-3131

SUMMARY: EPA Region 9 is proposing to modify the National Pollutant Discharge Elimination System ("NPDES") permit for discharges from the municipal separate storm sewer system ("MS4") operated by Guam Department of Public Works ("DPW") (NPDES permit No. GUS040001). The discharges regulated by the permit consist primarily of stormwater runoff but could also include certain specified non-stormwater discharges as well.

The MS4 permit for DPW was issued on December 20, 2018 and became effective on February 1, 2019. The permit requires development and implementation of a stormwater management program ("SWMP") including various best management practices ("BMPs") designed to control discharges of pollutants from the MS4 in accordance with a schedule that is set forth in the permit.

In a letter received by Region 9 on March 22, 2021, DPW requested that its permit be modified to extend all the deadlines in the permit by 12 to 18 months (with 18 months preferable). In its request for the extended deadlines, DPW noted the development of the SWMP and implementation of the BMPs had been delayed by adverse effects of the COVID-19

pandemic on DPW operations. Region 9 believes the request is justified and is proposing to extend all deadlines by 18 months.

Region 9 has prepared a draft permit modification as described above and is proposing to issue the permit modification. Additional information about the permit and its requirements can be found in the fact sheet for the existing permit that is attached as Attachment 2 to this fact sheet.

PUBLIC COMMENT PERIOD: Comments on the draft permit modification must be received or postmarked no later than _____, 2021. Public comments on the draft permit modification may be submitted by email to: bromley.eugene@epa.gov. Based on the comments received, Region 9 will prepare a response to comments for the final determination concerning the draft permit modification.

REQUESTS FOR A PUBLIC HEARING: Interested persons may also request a public hearing pursuant to 40 CFR 124.12 concerning the draft permit modification. Requests for a public hearing must be sent or delivered to Eugene Bromley (via email) prior to the close of the comment period. Requests for a public hearing must state the nature of the issues proposed to be raised in the hearing. Pursuant to 40 CFR 124.12, the Regional Administrator shall hold a public hearing if, on the basis of requests, a significant degree of public interest is found to exist in the draft permit modification. If the Regional Administrator decides to hold a public hearing, a public notice of the date, time and place of the hearing will be made at least 30 days prior to the hearing. Any person may provide written or oral statements and data pertaining to the draft permit modification at the public hearing.

FOR FURTHER INFORMATION CONTACT: For further information on the draft permit modification, contact Eugene Bromley, EPA, Region 9, telephone (415) 972-3510, email: Bromley.eugene@epa.gov. Copies of the draft permit modification and the fact sheet will be provided upon request and are also available on Region 9's website at: http://www.epa.gov/region09/water/npdes/pubnotices.html.

ADMINISTRATIVE RECORD: The draft permit modification and other related documents in the administrative record are on file and may be requested by contacting Eugene Bromley at (415) 972-3510 or Bromley.eugene@epa.gov.

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Draft

I Overview of the MS4 Permit

The final MS4 permit for Guam DPW (NPDES permit No. GUS040001) was issued on December 20, 2018 and became effective on February 1, 2019.[1] The discharges regulated by the permit consist primarily of stormwater runoff but could also include certain specified non-stormwater discharges as well. The issuance of the MS4 permit was based on a preliminary designation of the discharges by the Regional Administrator in February 2011, and a final designation in December 2018.

Based on 2000 and 2010 Census results, discharges from the DPW MS4 were not automatically required to obtain NPDES permit authorization in accordance with applicable EPA regulations at 40 CFR 122.32. However, reports such as Guam EPA's 2008 Integrated Report showed that the MS4 discharges were significant contributors of pollutants to waters of the United States that were contributing to water quality impairments. Such discharges may be designated for permitting in accordance with NPDES regulations at 40 CFR 122.26(a)(9)(i)(D); the preliminary and final designations for the DPW discharges were made on this basis.

The MS4 permit requires development and implementation of a SWMP that includes BMPs designed to reduce discharges of pollutants from the MS4 in accordance with the requirements of the Clean Water Act ("CWA"). The BMPs must be developed and implemented in accordance with a schedule that is summarized in Table 5 of the DPW permit.

The permit also requires a monitoring program for MS4 discharges along with various recordkeeping and reporting requirements. Additional information about the permit and its requirements can be found in the fact sheet for the permit that is attached as Attachment 2 to this fact sheet.

II. Draft Permit Modification

In a letter (undated but received by EPA Region 9 on March 22, 2021), DPW requested that its MS4 permit be modified to extend the deadlines in the permit by 12 to 18 months. In its request for the extended deadlines, DPW noted the adverse effects of the COVID-19 pandemic on DPW operations and that development of the SWMP and implementation of the BMPs had been delayed as a result. DPW's letter also noted its preference for an 18-month extension of the deadlines given lingering uncertainties related to the pandemic.

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[1] A similar MS4 permit was also issued on December 18, 2018 for the Department of the Navy (DON) for discharges from the MS4 serving certain military facilities on Guam. The facilities covered by the DON MS4 permit are Naval Base Guam, Apra Heights, Nimitz Hill, Naval Magazine and Naval Hospital and adjacent high school; the DPW permit covers MS4s in the non-military portion of the Island of Guam.

Region 9 acknowledges the adverse effects of the pandemic on DPW's operations and believes that DPW's request is reasonable under such circumstances. We note that with a 12-month extension, the legal authority review would be due August 1, 2021 – a date that has already passed. Considering that factor along with DPW's preference for the 18-month extension and the remaining uncertainties associated with the pandemic, Region 9 is proposing an 18-month extension of all the deadlines in the permit. Table 5 and Part 3.6.14 of the permit summarize the various deadlines in the permit and the specific permit conditions for which the deadlines are applicable. In the draft modified permit, Table 5 and Part 3.6.14 have been revised to reflect the extended deadlines.

NPDES regulations at 40 CFR 122.62(a)(2) provide for modification of a permit during its term based on "new information" that was not available at the time of the permit issuance. The pandemic and the adverse effects of the pandemic on DPW's operations constitute such "new information" that Region 9 believes supports modification of the MS4 permit as proposed.

To better track DPW's progress in complying with the modified deadlines, Region 9 is also proposing to add a requirement for an interim progress report six months prior to the revised deadline for the SWMP. The revised deadline for the SWMP would be August 1, 2022 and the progress report would be due February 1, 2022; this would simply be a brief report summarizing the progress made thus far in completing the permit requirements due on August 1, 2022 and any progress toward completing other permit requirements with later deadlines as well.

Region 9 compared the revised deadlines in the DPW permit with the deadlines for the similar MS4 permit for DON on Guam and for other newly permitted MS4s elsewhere in the country (see Attachment 1). The comparison shows that even with DPW's requested extensions, the revised deadlines in the DPW permit would still be roughly comparable to deadlines in other permits. As such, in response to DPW's request and in recognition of the effects of the pandemic, Region 9 is proposing the 18-month extension of the deadlines in the DPW permit.

III. CWA Section 401 Certification

In accordance with 40 CFR 124.53 and section 401 of the CWA, EPA may not issue a permit modification until certification is granted or waived in accordance with section 401 by the state or territory in which the discharge originates. Certification must be in writing and must include any conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of state or territorial law. The decision to waive, grant, or deny certification is based on the *draft*, not the final "as issued," permit modification. See 40 CFR 124.53(c)-(e).

Region 9 has certified the draft permit modification to the Guam EPA ("GEPA") and requested that GEPA make a written determination regarding certification under CWA section

401, including any specific conditions necessary to assure compliance with applicable requirements. Part 4.5.12 in the draft modified permit has been reserved for any such conditions.

IV. Coastal Zone Management Act Consistency

As noted in the fact sheet for the final permit, the Coastal Zone Management Act ("CZMA") requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state (or territory) Coastal Management Program ("CMP"). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit Region 9 from issuing a permit modification for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the state (or territory) CMP, and the state (or territory) or its designated agency concurs with the certification. In Guam, the CZMA authority is the Guam Bureau of Statistics and Plans ("BSP").

On _____, the permittee provided a certification to the Guam BSP that the draft permit modification complies with the enforceable policies of the Guam CMP; on _____, the Guam BSP concurred with the permittee's certification.

V. Endangered Species Act Requirements

As noted in the fact sheet for the final permit, the ESA requires that Region 9 ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized, funded or carried out by Region 9 is not likely to jeopardize the continued existence of any threatened or endangered species or adversely affect its critical habitat (40 CFR 122.49(c)).

Region 9 has recently prepared a revised biological evaluation ("BE") to continue an informal ESA consultation with the Services. The revised BE has been forwarded to the Services for review and Region 9 is currently in discussions with the Services concerning continuation of the consultation. Region 9 believes that the draft permit modification for the DPW MS4 permit would have no effect on listed species. The delay in implementation of permit requirements will be relatively short in comparison to the overall timeline for the implementation of permit requirements; moreover, as noted earlier, the revised deadlines are comparable to the deadlines for other newly-permitted MS4s elsewhere. Nevertheless, the revised deadlines will be included in the ongoing consultations with the Services concerning the permit overall. Region 9 has provided the Services with a copy of the draft permit modification and fact sheet for review and comment on Region 9's tentative conclusion concerning potential effects on listed species.

VI. Magnuson-Stevens Fishery Conservation and Management Act.

In accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, Federal agencies must

consult with the National Marine Fisheries Service ("NMFS") regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect essential fish habitat ("EFH").

Upon review, EPA has determined that issuance of this draft permit modification will have no adverse effect on EFH. The delay in implementation of permit requirements resulting from the draft permit modification will be relatively short in comparison to the overall timeline for the implementation of permit requirements; moreover, as noted earlier, the revised deadlines are comparable to the deadlines for other newly-permitted MS4s elsewhere.

It should be noted, however, that in the revised BE noted above that was prepared to continue the ESA consultation, Region 9 also included a fresh analysis of the potential effects on EFH. The BE was forwarded to the NMFS EFH office for review as well as the office that oversees ESA. Region 9 has also provided the NMFS EFH office with a copy of the draft permit modification and fact sheet for review and comment as part of Region 9's ongoing discussions with NMFS on the potential effects of the MS4 permit on EFH.

VII. Historic Preservation

The National Historic Preservation Act ("NHPA") requires Federal agencies to take into account the effects of Federal undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places ("NRHP"). The term "Federal undertaking" is defined in the NHPA regulations to include any project, activity, or program under the direct or indirect jurisdiction of a Federal agency that can result in changes in the character or use of historic properties, if any such historic properties are located in the area of potential effects for that project, activity, or program (36 CFR 802(o)). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places (36 CFR 802(e)).

Federal undertakings include EPA's issuance of NPDES permit modifications. The attached fact sheet addresses compliance with the NHPA for the existing MS4 permit (see section 6.3). Region 9 is not aware of any potential effects that the proposed revision of the deadlines for the DPW MS4 permit would have on NHPA compliance.

VIII. Standard Permit Conditions

NPDES regulations at 40 CFR 122.41 and 122.42 require the inclusion of certain standard conditions in all NPDES permits. These conditions are discussed in section 7 of the attached fact sheet for the existing permit. No changes are being proposed for the standard conditions in the draft modified permit.

IX. Expiration Date of the Draft Modified Permit

The expiration date of the draft modified permit is January 31, 2024 and is the same as the existing permit.

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Draft

Attachment 1 – Comparison of Revised Guam DPW Deadlines with Deadlines in Permits for other Newly Permitted MS4s

	BMP Implementation Timeframe for Newly-Permitted Small MS4s (Years)							
Program Element	Guam Navy	Guam DPW	Mass	Texas[1]	New Mexico	Puerto Rico	California	Arizona
Legal Authority Review	2.5	3	N/A	N/A	N/A	N/A	N/A	N/A
Full Legal Authority	2.5	ASAP	3	2	2	5	2	2
SWMP Development	2.5	3.5	1	0.5	0.5	0.5	0.5	1
Public Education Program	2.5	3.5	2	5	1	2	2	1
Illicit Discharges Program	3	5.5	4	5	2	5	2	1
Outfall Evaluation	3	4.5	4	5	2	3	2	0.5
MS4 Map	3	4.5	5	5	1	4	2	4
Catchment Investigations Study	N/A	N/A	13	N/A	N/A	12	N/A	N/A
Construction Site Control Program	2.5	4.5	3	5	1.33	5	2	1
Post-Construction Runoff Program	2.5	4.5	4	5	4	5	2	2
Post-Construction Maintenance Agreements	2.5	N/A	4	5[3]	4	5[3]	2	2
Retrofit Opportunities Report	4	6	6	N/A	N/A	N/A	N/A	N/A
Municipal Pollution Prevention Program								
Maintenance of Stuctural Controls	2.5	10.5[7]	4	5	2	5	3	1
Inventory of DPW Facilities	2.5	5.5	4	5	2	5	2	1
BMP implementation	2.5	7.5	4	5	2	5	4	1
Drainaage System Maintenance	2.5	8.5	4	5	2	5	3	1
Street Sweeping Program	2.5	11.5	4	5[2]	2	5	3	N/A[5]
Catch Basin Cleaning Program	2.5	5.5[8]	4	5[2]	2	5	3	N/A[5]
Pesticides, Herbicides & Fertilizers Program	2.5	9.5	4	5[4]	2	5	2	N/A[5]
Industrial/Commercial Program	3	3.5[6]	N/A	5[4]	N/A	N/A	N/A	N/A
Asset Management Program	3	10.5	N/A	N/A	N/A	N/A	N/A	N/A

1. ASAP, five years maximum
2. Can choose between inlet protection and street sweeping
3. To the extent allowed by law.
4. Only for small MS4s over 100K population
5. BMP not expressly required, but could be part of overall program due within 1 year
6. Only for facilities with new permitted connections to MS4
7. Begin program in 9 years; 50% cleaned in 10 years, completion in 11 years
8. Complete cleaning in seven years

Attachment 2 – Final Fact Sheet for Permit No. GUS040001 for Guam DPW

Draft

December 19, 2018

ADDENDUM TO FACT SHEET

FINAL NPDES PERMIT NO. GUS040001
MUNICIPAL SEPARATE STORM SEWER SYSTEM
GUAM DEPARTMENT OF PUBLIC WORKS

Permittee and Mailing Address: Guam Department of Public Works (DPW)
542 N. Marine Corps Drive
Tamuning, GU 96913

Permitted Facility and Location: Municipal Separate Storm Sewer System Operated by the Guam Department of Public Works

Contact Person: Glenn Leon Guerrero, Director
Guam Department of Public Works
(671) 646-3131

SUMMARY: EPA, Region 9 is issuing a final National Pollutant Discharge Elimination System (NPDES) permit for discharges from the municipal separate storm sewer system (MS4) operated by Guam DPW. The discharges regulated by the permit consist primarily of stormwater runoff, but could also include certain specified non-stormwater discharges as well.

Public notice of Region 9's tentative decision to issue the draft NPDES permit was published in the *Pacific Daily News* on September 28, 2016. During the public comment period which closed on November 28, 2016, Region 9 received written comments from three parties concerning the draft permit. In May 2018, the permittee also provided supplemental comments on a tentative final MS4 permit that Region 9 provided for review in summer 2017. Region 9 prepared separate documents (Response to Public Comments and Response to Supplemental Comments) which discuss the comments received in more detail, Region 9's responses to the comments, and the changes that were made in the final permit in response to the comments. A summary of the changes can be found below.

The fact sheet dated September 2, 2016 for the draft permit is attached (Attachment B) and provides additional information concerning the discharges, effluent limitations and other permit requirements.

The final permit establishes effluent limitations, prohibitions, and other conditions applicable to the discharges authorized by the permit. These conditions are based on the administrative record.

DATES: The effective date of the permit is , and it expires on .

ADDRESSES: The final permit and other related documents in the administrative record are on file and may be inspected any time between 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding legal holidays, at the following address:

U.S. EPA, Region 9
NPDES Permits Section (WTR-2-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

FOR FURTHER INFORMATION CONTACT: Eugene Bromley, EPA, Region 9, NPDES Permits Section (WTR-2-3), 75 Hawthorne Street, San Francisco, California 94105-3901, telephone (415) 972-3510 or email: bromley.eugene@epa.gov. Copies of the final permit, the Addendum to Fact Sheet and the Response to Public Comments will be provided upon request, and are also available on EPA, Region 9's website at: https://www3.epa.gov/region9/water/npdes/permits.html.

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Attachment A - Geographic Area Covered by MS4 Designation

Attachment B – Fact Sheet for the Draft Permit Dated September 2, 2016

SUPPLEMENTARY INFORMATION

I. Summary of Significant Permit Revisions Based on Comments Received

I.A Summary of Significant Revisions Based on Public Comments on the Original Draft Permit of September 2016, and Leading to the Tentative Final Permit of Summer 2017

Legal Authority

The Guam DPW expressed concern that it did not currently have adequate legal authority or program resources to implement many of the requirements of the draft permit. The Guam DPW suggested certain possible solutions such as pursuing a memorandum of understanding (MOU) with the appropriate Government of Guam entities that have adequate authority to adopt additional regulatory mechanisms (where necessary), or that the permittee initiate legislative action to acquire the necessary legal authority itself. The tentative final permit addressed Guam DPW's concern as described below.

The tentative final permit contained longer implementation schedules for many requirements that rely on establishment of additional local ordinances or authorities. The changes to lengthen time frames were intended to provide additional time for the permittee to secure additional needed authorities and resources.

The tentative final permit provided that within 18 months after the permit effective date, the permittee must review its relevant ordinances or other regulatory mechanisms. To address any deficiencies that are identified in the permittee's legal authority, the permittee must do one or more of following:

Option 1 - request legislation or other mechanisms that would provide Guam DPW with additional legal authority to fully implement all permit requirements, or

Option 2 - enter into a Memorandum of Understanding (MOU) with another entity that would provide that the other entity would implement certain permit requirements on behalf of Guam DPW. If the other entity already has adequate legal authority, the MOU would provide that the other entity would begin implementation upon initiation of the MOU. If necessary, the MOU could also provide that the other entity would seek additional legal authority and then implement a permit requirement on behalf of Guam DPW.

Given the uncertainties in the amount of time that may be necessary for the permittee to address the legal authority issue, the tentative final permit only required that it be addressed as soon as practicable, using the options described above. However, consistent with other MS4 permits, the requirement to implement the permit's provisions was not contingent on establishment of additional legal authorities.

As suggested by the permittee, a permit reopener clause was added to the final permit that provides that the permit may be reopened and modified to require implementation (via either or both options noted above) of permit requirements for which the legal authority analysis identifies deficiencies in the permittee's existing legal authority.

Deadlines for Implementation of Permit Requirements

Guam DPW also expressed concerns regarding the deadlines in the draft permit for implementation of many of the permit requirements. In response, many of the deadlines in the tentative final permit were extended from those in the draft permit. For example, many of the requirements of the draft permit that had been due within 18 months of the permit effective date would be due within two years in the tentative final permit. As another example, the tentative final permit required a retrofit plan with the permit reapplication (180 days prior to permit expiration) rather than three years after the permit effective date as proposed in the draft permit. Additional instances of deadlines that were extended can be found in the Response to Public Comments.

Other Issues

The tentative final permit also included numerous relatively minor edits and clarifications based on comments received from the Guam DPW and Guam EPA. For example, based on comments from the Guam EPA, the final permit includes additional requirements for certain non-stormwater discharges such as dechlorinated swimming pool water and runoff from charity car washes. Per a comment from Guam DPW, the tentative final permit clarified that the permittee need only screen non-priority outfalls at a rate of 20% per year following the start of the implementation phase of the program. These and other revisions are described in more detail in the Response to Public Comments.

I.B Summary of Significant Permit Revisions Based on Permittee Comments on the Tentative Final Permit of Summer 2017

Geographic Area of Permit Coverage

The Guam DPW requested that the geographic area of permit coverage not be restricted (as proposed) to the southern half of Guam and certain drainage basins along the western coast of Guam. Instead, the permittee requested that the permit cover all its operations on the entire Island, thereby avoiding different requirements for areas covered by the permit and those not covered. This change was made in the final permit since it increases the overall effectiveness of the permit in reducing pollutant discharges.

Permit Implementation Deadlines

The Guam DPW requested further extensions of the deadlines that had been proposed in the tentative final permit due to limited resources. After considering the request and the justifications for the request, the deadlines in the final permit were extended as requested.

Limit Permit Requirements to DPW Facilities

The Guam DPW requested that the permit only apply to DPW facilities and operations on Guam rather than to "municipal" operations overall. DPW pointed out that certain municipal facilities on Guam may be operated by other entities such as the Guam Fire Department. This change was made in the final permit. However, the requirement for the legal authority analysis noted above in section I.A was expanded to require an analysis of potential entities and mechanisms for implementation of the permit requirements to all publicly-owned or operated facilities. The permit reopener clause (noted above) provides that the permit could be reopened and modified to include additional requirements based on the results of the legal authority analysis (which is due within 18 months of the permit effective date).

Requirements for Commercial/Industrial Facilities and Long-Term Maintenance of Post-Construction Controls

Citing limitations in its existing legal authority, the Guam DPW requested the deletion of the requirement to ensure long-term maintenance of structural controls included in new developments/redevelopments for post-construction runoff control. For same reason, DPW requested that the requirements for controlling pollutants in runoff from commercial/industrial facilities be limited to those with newly-permitted connections to the DPW MS4. In response to DPW's concern, the final permit was revised as requested. However, the legal authority review noted above was further expanded to require an analysis of potential entities and mechanisms for controlling pollutants in runoff from all existing commercial/industrial facilities discharging to the DPW MS4, and for implementation of a requirement to ensure long-term maintenance of structural controls in new developments/redevelopments.

II. Endangered Species Act Consultations

As noted in the fact sheet, the Endangered Species Act (ESA) requires that Region 9 ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized, funded or carried out by Region 9 is not likely to jeopardize the continued existence of any threatened or endangered species or adversely affect its critical habitat (40 CFR 122.49(c)).

In letters dated February 22, 2017 to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services), Region 9 requested informal consultations concerning the issuance of the MS4 permit for the Guam DPW, and for a separate MS4 permit for the Department of the Navy on Guam. The letters included a biological assessment that concluded that while the proposed actions (of permit issuance) may affect listed species, they were not likely to adversely affect any listed species, or its critical habitat. Region 9 also requested the concurrence of the Services with Region 9's conclusion.

In letters to Region 9 dated June 29, 2017 and October 31, 2017 respectively, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service both requested additional information about the proposed MS4 permits prior to providing the requested concurrences, and

at this time, neither ESA consultation has been concluded. However, in separate analyses included within the administrative records for the permits, Region 9 concluded that issuance of the permits prior to the conclusion of the ESA consultations would be consistent with the provisions of section 7(d) of the ESA. Section 7(d) provides that resource commitments such as permit issuance may occur prior to the conclusion of a consultation provided the action does not foreclose on either the formulation by the Services, or the implementation by Region 9, or any reasonable and prudent alternatives that might recommended by the Services. Region 9 concluded that this would be the case for the NPDES permits. If a consultation ultimately indicates that different permit conditions would be appropriate to protect listed species or critical habitat, Region 9 retains the authority to modify the permits under 40 CFR 122.62(a)(2) to incorporate such alternate conditions. Region 9 is continuing to work with the Services to ensure the consistency of the permits with the ESA and conclude the consultations.

III. CWA Section 401 Certification

As noted in the fact sheet for the draft permit, Region 9 may not issue an NPDES permit until certification is granted or waived in accordance with section 401 of the Clean Water Act (CWA) by the state or territory in which the discharge originates. Certifications may include conditions necessary to assure compliance with applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of state or territorial law.

Part 4.5 of the draft permit was reserved for any additional requirements that might be identified through the section 401 certification process. In a letter dated August 10, 2018, Guam EPA provided Region 9 with its CWA section 401 certification for the Guam DPW permit, including a list of special conditions necessary for the permit. The additional requirements set forth by Guam EPA in its certification have been included in Part 4.5 of the final permit.

IV. Coastal Zone Management Act Consistency

As noted in the fact sheet for the draft permit, the Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state (or territory) Coastal Management Program (CMP). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit Region 9 from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the state (or territory) CMP, and the state (or territory) or its designated agency concurs with the certification. In Guam, the CZMA authority is the Guam Bureau of Statistics and Plans (BSP).

On September 17, 2018, the permittee provided a certification to the Guam BSP that the proposed MS4 discharges comply with the enforceable policies of the Guam CMP; on December 13, 2018, the Guam BSP concurred with the permittee's certification.

V. Final Designation of MS4 Discharges

As noted in the fact sheet for the draft permit, the development and proposed issuance of the MS4 permit was originally based on a preliminary residual designation of the discharges by the Regional Administrator in February 2011. The preliminary determination was based largely

on reports, including Guam EPA's 2008 Integrated Report, showing that the discharges were significant contributors of pollutants to waters of the United States that were contributing to water quality impairments and having a negative impact on important coral resources. The 2011 preliminary designation covered all MS4s serving the Island of Guam, including all Guam DPW facilities. At the time of the 2011 designation, Region 9 also requested a permit application from Guam DPW and opened a public comment period to receive comment on the preliminary designation.

After review of information submitted by the Department of Defense and a site visit by Region 9 in 2015, EPA has determined that the porous soils and extensive use of retention basins in northern Guam result in infrequent surface stormwater discharges from MS4s to the Pacific Ocean. Further, information from Guam EPA's Integrated Reports demonstrates that impaired waters are largely found in southern and western Guam, not in northern Guam. Based on available information, EPA has no reason to believe that MS4 discharges in northern Guam are significant contributors of pollutants to waters of the United States or contribute to water quality impairments. For this reason, EPA has decided to exclude MS4s in northern Guam, including DPW facilities in northern Guam, from the final designation.

However, after considering the comments received on the preliminary designation, and new information that has become available since 2011, the Regional Administrator has concluded that designation of MS4s is appropriate for southern and western Guam where, as noted above, Guam's impaired waters can primarily be found. Recent Integrated Reports, such as the 2018 Report,[1] continue to report that MS4 discharges are contributing to water quality impairments in the geographic area subject to the designation; this area is shown in Attachment A. DPW facilities within this geographic area are covered by the designation. However, as noted above in section I.B, the final permit for Guam DPW covers all DPW MS4s on Guam; this coverage was in response to a request from DPW to avoid two different sets of requirements for geographic areas covered and not covered by the MS4 permit.

Region 9 also concluded that existing local programs to control pollutants in the discharges are inadequate to address the ongoing impairments and absent the designation, the impairments will likely continue. As such, the Regional Administrator on December 19, 2018, finalized the designation of the DPW MS4 discharges. The final designation memorandum is included in the administrative record for the final permit.

[1] Guam EPA. 2018. Guam Environmental Protection Agency 2018 Integrated Report, April 1, 2018.

Attachment A – Geographic Area Covered by MS4 Designation

Attachment B – Fact Sheet for the Draft Permit Dated September 2, 2016

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 2, 2016

FACT SHEET
DRAFT NPDES PERMIT NO. GUS040001
MUNICIPAL SEPARATE STORM SEWER SYSTEM
GUAM DEPARTMENT OF PUBLIC WORKS

Permittee and Mailing Address: Guam Department of Public Works
542 N. Marine Corps Drive
Tamuning, GU 96913

Permitted Facility and Location: Municipal Separate Storm Sewer System Operated
By the Guam Department of Public Works

Contact Person: Carl Quinata
Guam Department of Public Works
(671) 649-3148

SUMMARY: The Guam Department of Public Works (DPW) has applied to the U.S. Environmental Protection Agency, Region 9 for a National Pollutant Discharge Elimination System (NPDES) permit for discharges from the municipal separate storm sewer system (MS4) operated by DPW. The discharges regulated by the permit would consist primarily of stormwater runoff, but could also include certain specified non-stormwater discharges as well.

NPDES permit coverage for the discharges is proposed in accordance with a preliminary residual designation decision made by Region 9 on February 8, 2011, in accordance with section 402(p)(2)(E) and (6) of the Clean Water Act (CWA), and NPDES regulations at 40 CFR 122.26(a)(9)(i)(D). Additional information concerning the rationale for the designation can be found below and in Region 9's residual designation memorandum which can be found in Appendix A.

Region 9 has prepared a draft permit based on the permit application and is proposing to issue the permit. The draft permit requires the implementation of a stormwater management program to control pollutants in the discharges as required by the CWA. Annual reporting is also required to provide information on the status of the implementation of the stormwater management program.

PUBLIC COMMENT PERIOD: Comments on the draft permit must be received or postmarked no later than _____, 2016. Public comments on the draft permit may be

submitted by U.S. Mail to: Environmental Protection Agency, Region 9, Attn: Eugene Bromley, NPDES Permits Section (WTR-2-3), 75 Hawthorne Street, San Francisco, California 94105-3901, or by email to: bromley.eugene@epa.gov. Based on the comments received, Region 9 will prepare a response to comments for the final permit.

REQUESTS FOR A PUBLIC HEARING: Interested persons may also request a public hearing pursuant to 40 CFR 124.11 concerning the draft permit. Requests for a public hearing must be sent or delivered in writing to Eugene Bromley at the above address prior to the close of the comment period. Requests for a public hearing must state the nature of the issues proposed to be raised in the hearing. Pursuant to 40 CFR 124.12, the Regional Administrator shall hold a public hearing if he finds, on the basis of requests, a significant degree of public interest in the draft permit. If the Regional Administrator decides to hold a public hearing, a public notice of the date, time and place of the hearing will be made at least 30 days prior to the hearing. Any person may provide written or oral statements and data pertaining to the draft permit at the public hearing.

FOR FURTHER INFORMATION CONTACT: For further information on the draft permit, contact Eugene Bromley, EPA, Region 9 (WTR-2-3), 75 Hawthorne Street, San Francisco, CA 94105, telephone (415) 972-3510, email: Bromley.eugene@epa.gov. Copies of the draft permit and fact sheet will be provided upon request and are also available on Region 9's website at: http://www.epa.gov/region09/water/npdes/pubnotices.html.

ADMINISTRATIVE RECORD: The draft permit and other related documents in the administrative record are on file and may be inspected any time between 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding legal holidays, at the address shown below.

U.S. EPA, Region 9
NPDES Permits Section (WTR-2-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

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1. Background

Region 9's 2011 designation memorandum (Appendix A) provides an overview of the statutory and regulatory background underlying the draft permit. The memorandum also discusses the factors that led Region 9 to propose designation of the MS4 discharges for permitting under the NPDES permit program. However, some of the information in the 2011 memorandum now needs to be updated. Below we provide this update.

1.1 2010 Census Results

EPA's Phase II regulations for small MS4s (64 FR 68722, December 8, 1999) require MS4 permits for urbanized areas due to higher levels of pollutants in stormwater runoff from concentrated centers of population, and the increased risks to receiving waters from the discharges from such areas. On May 1, 2002 (67 FR 21962), the Census Bureau published a list of urbanized areas based on the 2000 Census. Hagåtña, Guam was included on the list of urbanized areas with a population of 132,000, and ordinarily this would have triggered a requirement for an NPDES permit for the MS4 serving this area. However, on August 23, 2002 (67 FR 54631), the Census Bureau reclassified Hagåtña as urban cluster. Pursuant to an agreement between the Census Bureau and the government of Guam, "all urban areas defined within Guam based on the results of Census 2000 are designated as urban clusters regardless of their total population." 67 FR 54631. As a result, the Hagåtña MS4 no longer required an NPDES permit in accordance with the Phase II regulations. It should be noted, however, that the reclassification was simply a result of the Census Bureau's decision not to apply its criteria for urbanized areas to Guam, rather than any change in the population of the area.

The 2010 census results are now available and show that the population of Guam has increased slightly from the previous census. The principal urban area on Guam (now referred to as Dededo-Machanao-Apotgan) has a population of 139,825 based on the latest census (77 FR 18651, March 27, 2012), which is up from about 132,000 in 2000, and it has again been classified as an urban cluster. The increased population will only increase the risks to receiving waters from pollutants discharged from the MS4.

1.2 Military Relocation of U.S. Marines to Guam

Another key concern leading to the 2011 designation was the proposed relocation of U.S. Marines from Okinawa to Guam[1], which was projected to increase the total population on Guam, and thereby increase the risks to receiving waters from stormwater discharges. Furthermore, the relocation would be accompanied by a substantial construction program, raising concerns over pollutants, especially sediment, in construction site runoff. In 2012, the relocation plans were

[1] DON. 2010. Final Environmental Impact Statement, Guam and CNMI Military Relocation, July 2010, available at: http://www.guambuildupeis.us/.

scaled back somewhat and time frame extended; the revised relocation plans are described in a draft supplemental EIS prepared in 2014[2] and record of decision finalized in August 2015.[3] While the scope of the relocation has been reduced, it is still projected to increase the population of the Island by about 7,400 new residents, and be accompanied by moderate construction activity. As such, risks to receiving waters from stormwater runoff remain.

1.3 2014 Integrated Report[4] Submitted by the Guam EPA

In support of the proposed designation, Region 9 cited numerous studies including the 2008 Integrated Report submitted by the Guam EPA pursuant to CWA sections 305(b), 303(d) and 314, which concluded that urban runoff and construction site runoff were significant contributors of pollutants to receiving waters of Guam.

In January 2015, the Guam EPA submitted its 2014 Integrated Report which provides an updated assessment. This report continues to show that urban runoff is a significant contributor of pollutants to receiving waters. Appendix B to the Report lists the categories of discharges that are contributing to impairments and urban runoff is frequently cited.

1.4 U.S. EPA Visit to Guam in September 2015

In August 2015, EPA distributed draft MS4 permits for the Department of the Navy (DON)[5] and the Guam DPW. In September 2015, EPA also held a public meeting in Guam to discuss the draft permits, receive feedback from the permittees and other interested parties on the permits, and to get a first-hand look at the storm sewer system and stormwater management on Guam. Region 9 prepared a trip report[6] that summarizes the findings and conclusions from the trip. As discussed below, EPA has made certain revisions to the draft permits based on feedback from the meeting, and the actual observations of the storm sewer system.

During the September 2015 public meeting, DoD presented information regarding facilities in northern Guam where DoD believes most stormwater percolates into the ground due to the porous soil and that actual discharges rarely (if ever) occur. On February 4, 2016, DON submitted written comments on the early draft permit and provided additional information

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[2] DON. 2014. Supplemental Environmental Impact Statement, Guam and Commonwealth of the Northern Mariana Islands Military Relocation (2012 Roadmap Adjustments), April 2014.

[3] DON. 2015. Record of Decision for the Final Supplemental Environmental Impact Statement for Guam and Commonwealth of the Northern Mariana Islands Military Relocation, August 28, 2015.

[4] Guam EPA. 2014. Guam Environmental Protection Agency 2014 Integrated Report, September 30, 2014.

[5] Region 9 is also proposing a separate draft MS4 permit for Guam's Department of Defense (DoD) areas, NPDES permit No. GUS040000. A separate MS4 permit application was submitted by the Department of the Navy for the MS4 serving military areas on Guam.

[6] EPA Region 9. 2015. Trip Summary, NPDES Permit Visit to Island of Guam, October 30, 2015.

describing the geology of the island.[7] EPA viewed DoD facilities in northern Guam, as well as other parts of northern Guam and noted retention or infiltration basins are common features. Based on this information, Region 9 has reconsidered and revised the geographic scope of the proposed MS4 permit for Guam DPW activities in northern Guam. As discussed in section 2.1 below, Region 9 is now focusing on areas most likely to be contributing to the water quality impairments noted in the 2014 Integrated Report.

Stormwater discharges percolating into Guam's porous soils may nevertheless be transported (possibly with pollutants) to surface waters through a groundwater connection. Figure 1 shows the limestone plateau of the northern half of Guam and the line of demarcation (Adelup Fault) separating the southern half of the island where the volcanic upland soils are less permeable. As noted above, given the porous soils in northern Guam, much of the stormwater runoff infiltrates into the ground rather than being discharged. However, the 2014 Integrated Report indicates that stormwater runoff contributes to various water quality impairments even in northern Guam such as impairments to recreational waters in the Hagåtña Bay and Tumon Bay areas. As described below, the revised geographic scope of the permit would allow Guam DPW to better focus its resources on addressing such impairments. Region 9 and Guam EPA will continue to evaluate the potential water quality impacts from stormwater runoff in northern Guam and future requirements for stormwater management may be developed in accordance with the findings of such evaluations.

At the meeting both DoD and the Guam DPW had a general request for more time for implementation of permit requirements. In response, several of the deadlines in the first drafts were extended in the revised draft permits. Part 5.5 of the revised drafts also includes a summary of the deadlines for the various requirements of the permits.

Guam DPW and Guam EPA noted that they both currently have a role in the overall implementation of the local regulatory program for construction site runoff, and concern was expressed that the draft MS4 permit could require changes to existing roles (and be somewhat disruptive as a result). As discussed further in section 3.4 of the revised fact sheet, the draft permit was revised in response to this concern and Region 9 believes the revised permit will allow a continuation of the existing roles.

2. Summary of Permit Conditions

2.1 Permit Area.

Region 9 is proposing to issue an MS4 permit for the Guam DPW MS4 for the entire southern half of Guam.

[7] February 4, 2016 Letter from Mark Bonsavage to Tomas Torres, Water Division Director, EPA Region 9.

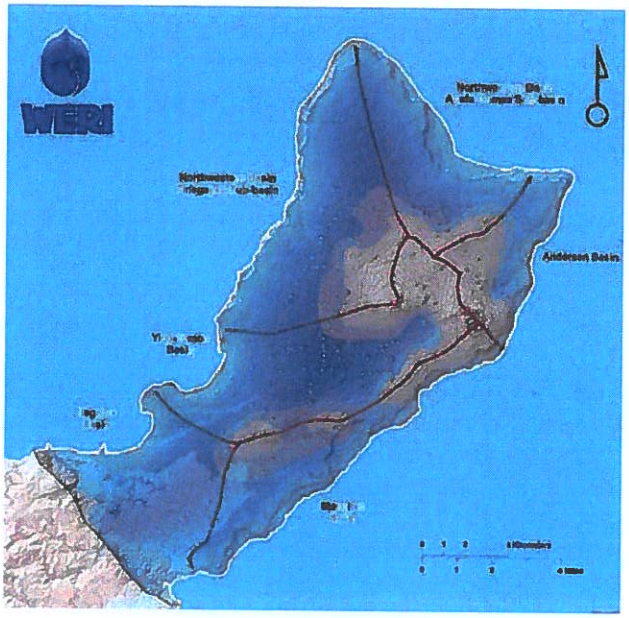

Figure 1 – Limestone Plateau of Northern Guam
Source: 2014 Integrated Report

On the east coast of Guam, the draft permit area would only go as far north as the Pago Watershed which would be included. The Pago Watershed can be seen in Figure 2 from the Guam DPW MS4 permit application. Pago Bay is impaired for bacteria and is covered by the Twenty-Five Beaches Bacteria TMDL.[8] However, there are no other impairments on the east coast of Guam north of Pago Bay; hence, MS4 discharges north of Pago Bay are not proposed to be included.

[8] Guam EPA. 2013. Bacteria TMDLs for Twenty-Five Beaches, Prepared by Tetra Tech, December 2013; the TMDL can be accessed at: http://iaspub.epa.gov/waters10/attains_state.control?p_state=GU

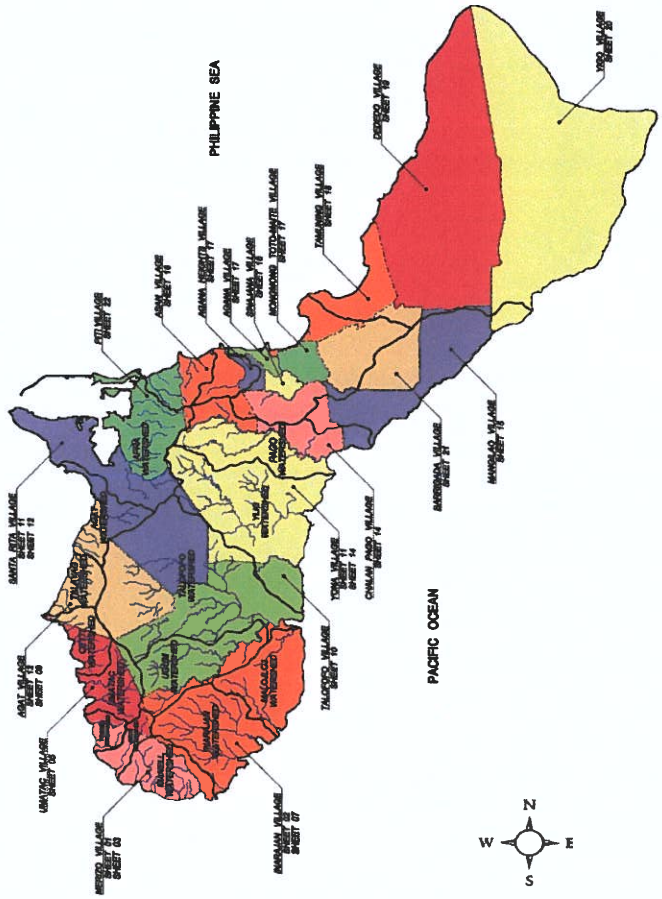

Figure 2 – Watersheds and Villages of Guam
Source: Guam DPW MS4 Permit Application

On the west coast of Guam, numerous beaches in the Hagåtña Bay and Tumon Bay areas are covered by the Twenty-Five Beaches Bacteria TMDL or the Northern Watershed Bacteria TMDL[9] and stormwater runoff is thought to be a significant factor contributing to the impairments despite the porous soils. As such, watersheds along the west coast of northern Guam including the Piti-Asan, Fonte, and Hagåtña Bay watersheds are included. In addition, Tamuning Village is included since it appears to be a likely source of pollutants to Tumon Bay. Region 9 believes that coverage of these areas should be sufficient to address the bacteria and other impairments noted in the 2014 Integrated Report that may be due to stormwater. The areas

[9] Guam EPA. 2009. Development of Guam Northern Watershed Bacteria TMDLs, Prepared by Tetra Tech, December 16, 2009, can be accessed at: http://iaspub.epa.gov/waters10/attains_state.control?p_state=GU

covered (and not covered) by the draft permit are shown in Figure 3 below:

Figure 3 – Area Covered by MS4 Permit

In summary, the following watersheds are included in the draft permit area: Agat, Apra, Cetti, Dandan, Fonte, Geus, Hagåtña, Inaranjan, Mannell, Pago, Piti-Asan, Talayag, Talafolo, Toguan, Ugum, Umatac, and Ylig. In addition, the geographic village limits of the village of Tamuming are included to the extent these limits extent northward beyond the boundaries of the Hagåtña Bay watershed. It should also be noted that the Malojloj watershed in Figure 2 is labeled as the Dandan watershed in the Figure 3 to match the labeling in the Integrated Report.

The draft permit would apply to the MS4 operated by the Guam DPW. The DPW MS4 serves most of the Island of Guam, but does not include areas under the jurisdiction of the Department of Defense (DoD); DoD facilities are shown in Appendix C. The requirements of

this permit would also apply to all additional MS4s under the jurisdiction of the permittee that may be constructed during the term of the permit within the area of permit coverage.

2.2 Authorized Discharges.

Subject to the terms of the permit, during the period beginning the effective date of the permit and lasting through the expiration of the permit, the permittee would be authorized to discharge stormwater and other non-prohibited discharges (see section 2.3 below) from all outfalls of the permittee's regulated MS4.

2.3 Prohibitions – Non-Stormwater Discharges

As noted in section 3.3 below, the permittee must implement an ongoing program of various activities related to the prevention of illicit connections and illegal dumping of pollutants into the MS4. NPDES regulations also clarify that although the permittee must address all types of unpermitted non-stormwater discharges to the MS4, certain types of minor discharges which are listed at 40 CFR 122.34(b)(3)(iii) need not be addressed unless the permittee determines that they are a significant source of pollutants. These requirements regarding the prohibition of unpermitted non-stormwater discharges are included in Part 1.3 of the draft permit. Additional requirements are found in Part 3.3 (Illicit Discharge Detection and Elimination).

Part 1.3.3 of the draft permit also provides that the permittee may develop additional categories of non-stormwater discharges that will not be addressed as illicit discharges. Such discharges must reasonably be expected not to be significant sources of pollutants, based on information available to the permittee or the controls placed on the discharges. This provision is being added to the permit since the list at 40 CFR 122.34(b)(3)(iii) may not be comprehensive.

2.4 Development of a Stormwater Management Program (SWMP)

2.4.1 General Requirements of the CWA

In developing the terms and conditions of the draft permit, Region 9 closely followed the recommendations in EPA's 2010 MS4 Permit Improvement Guide (2010 Guide, EPA 833-R-10-001)[10]; we also made extensive use of suggested permit language in the 2010 Guide. EPA began issuing NPDES permits for MS4s in the early 1990s and the 2010 Guide reflects almost 20 years of experience with these permits.

Since 2001, Region 9 has also been conducting audits of MS4 programs in the four states

[10] Available at: http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf

(Arizona, California, Hawaii and Nevada) that are within Region 9.[11] The audit reports consistently show the need for detailed, measurable permit requirements to provide clarity and to ensure an effective and enforceable permit. This need has also been recognized at the national level, and one of the principal goals of the 2010 Guide, and the suggested permit language in the Guide, was to address this need. As such, Region 9 believes the Guide constitutes an appropriate source of requirements for the draft permit.

In accordance with NPDES regulations at 40 CFR 122.33(b)(2)(i), DPW submitted a proposed SWMP with its MS4 permit application, including numerous best management practices (BMPs) to control pollutants in the discharges. For the draft permit, and following the recommendation of the 2010 Guide, the SWMP does not contain effluent limits; instead, these are found in the permit itself. The technology-related effluent limits are found in Part 3 while the water quality-related effluent limits are found in Part 4. By placing the effluent limits directly in the permit, the limits are available for public review at the time the draft permit is public noticed. This ensures an opportunity for public participation consistent with the 2005 decision by the Second Circuit Court in *Waterkeeper Alliance et al. v. EPA*, 399 F.3d 486, and the 2003 decision by the Ninth Circuit Court in *Environmental Defense Center, Inc. v. EPA*, 344 F.3d 832.

The draft permit does require the development, implementation and enforcement of a SWMP by DPW. The SWMP is a written plan that describes the various BMPs through which the discharger complies with the actual effluent limits in the permit.

2.4.2 Other Requirements for Development of the SWMP

The 2010 Guide includes several other recommendations related to the development of a SWMP. These include ensuring adequate legal authority to implement the permit requirements, development of an enforcement response plan (ERP), and ensuring adequate resources to comply with the permit. The 2010 Guide also provides suggested permit language to address these issues; with minor modifications, the suggested permit language from the 2010 Guide has been incorporated into Parts 2.3, 2.4 and 2.5 of the draft permit.

3. Minimum Control Measures (MCMs)

As noted in Appendix A, the DPW MS4 on Guam is considered to be a Phase II or small MS4. NPDES regulations applicable to Phase II MS4s were promulgated by EPA on December 8, 1999 (64 FR 68722). The Phase II regulations at 40 CFR 122.34(b) set forth the following six MCMs to be included in SWMPs.

- Public Education and Outreach

[11] MS4 audit reports are available: http://www.epa.gov/region9/water/npdes/ms4audits.html.

- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Stormwater Management in New Developments/Redevelopments
- Pollution Prevention/Good Housekeeping for Municipal Operations

The MS4 permit application submitted by DPW includes a proposed SWMP that addresses each of the above MCMs. However, the 2010 Guide provides more detailed program descriptions for the MCMs than DPW's proposed SWMP. In view of the need for permit clarity noted earlier, the draft permit language is largely derived from the 2010 Guide, while also including some of DPW's proposals as well.

The permit language in the 2010 Guide was developed for the situation in which a permit is being reissued, and assumes a continuation of BMPs already being implemented in accordance with the previous permit. The draft permit for DPW would be a first-round permit, and as appropriate, the draft permit provides time for development and implementation of many of the necessary programs. However, for some MCMs such as the construction program, DPW's program is well developed already and the draft permit requires implementation of many of the components of the MCM on the permit effective date.

3.1 Public Education and Outreach

The specific requirements of the draft permit for this MCM were derived for the most part from the 2010 Guide, while also incorporating DPW's suggestions for appropriate target audiences within the jurisdiction of the permittee. The draft permit would require the development of BMPs and measurable goals for the public education program within 18 months of the permit effective date after which program implementation would begin. Given the time necessary to develop appropriate outreach strategies for the activities, Region 9 believes 18 months is reasonable.

3.2 Public Involvement/Participation

This MCM is closely related to the above MCM pertaining to public education/outreach, and the draft permit requirements are a blend of DPW's permit application and the 2010 Guide. As in the case of the MCM for public education/outreach, the draft permit would require that the BMPs and measurable goals for public involvement/participation be developed within the first 18 months of the permit term; implementation would begin 18 months after the permit effective date.

3.3 Illicit Discharge Detection and Elimination (IDDE)

The draft permit requirements for this MCM (Parts 3.3.1 through 3.3.7 of the draft permit) were derived largely from the suggested permit language in the 2010 Guide. However, the Guide leaves some of the specific requirements for the field screening program to the discretion of the permitting authority based on the issues of concern for a particular MS4. The proposed field screening requirements for the draft permit and certain issues related to MS4 mapping are discussed below. Otherwise the permit language closely follows the 2010 Guide.

The draft permit would require that BMPs and measurable goals for the program be developed within two years of the permit effective date; implementation would begin at the start of the third year. DPW's permit application had noted that its legal authority to control illicit discharges may need to be strengthened, but that it already has some authority under existing regulations. The draft permit (Part 2.3.1) provides 18 months to review existing authority, and within four years adopt new ordinances as may be needed. Until then, existing regulations would be used to implement the program.

3.3.1 MS4 Mapping.

As part of the IDDE program, Part 3.3.2 of the draft permit requires that the permittee develop and maintain an accurate map of the storm sewer system. In addition to certain other information recommended by the 2010 Guide, Part 3.3.2.1.6 requires that the permittee identify areas (if area) that do not discharge to a water of the U.S., either directly or through a connection to another operator's MS4. The Guam DPW permit application had noted that an ongoing program is underway to map the MS4.

3.3.2 Field Screening Program.

The 2010 Guide does not provide a specific list of indicator parameters to be sampled for the field screening program; instead the list is developed on a case-by-case basis for the given MS4. The list in the draft permit was derived from the minimum suggested list in the 1999 Phase II MS4 regulations and includes ammonia, conductivity, surfactants and pH. In addition, enterococcus is included given that it is a common constituent of concern in Guam.

The 2010 Guide also recommends that benchmark levels be included that would require follow-up by the permittee if the benchmarks are exceeded. Such benchmarks are include in Table 2 in the draft permit, along with required follow-up procedures in Part 3.3.5. The benchmark values (except for enterococcus) were obtained from the 2004 IDDE manual[12] prepared for EPA by the Center for Watershed Protection. For enterococcus the benchmarks are the same as the water quality standards for Guam found in Table 3 of the draft permit. Field test methods (such as those described in the 2004 IDDE manual) may be used except for

[12] Center for Watershed Protection. 2004. Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, October 2004.

enterococcus (a primary constituent of concern) where sampling and analysis much be conducted in accordance with 40 CFR Part 436.

As suggested by the 2010 Guide, annual screening would be conducted at all priority outfalls that are selected by the permittee in accordance with Part 3.3.3 of the draft permit. And as proposed by DWP's SWMP, a minimum of 20% of all other outfalls would be screened per year.

3.4 Construction Site Runoff Control

The proposed requirements in the draft permit for construction site runoff controls were derived largely from the 2010 Guide. DPW's proposed SWMP notes that permitting procedures and applicable regulations already exist on Guam that address many aspects of controlling pollutants in construction site runoff. These requirements can be found in Guam Soil Erosion and Sediment Control Regulations (Title 22 of Guam Annotated Rules and Regulations (GAR): GEPA, Chapter 10) dated October 2000. To a considerable degree, they also satisfy the intent of the Phase II MS4 regulations for a local regulatory mechanism to require sediment and erosion controls at construction sites. The draft MS4 permit would require the existing program to be continued, and augmented as set forth in Part 3.4.1 through 3.4.6 of the draft permit.

DPW's proposed SWMP touches on other requirements of the Phase II regulations for construction site runoff, but the specifics such as the frequency and timing of the construction site inspections, construction plan review and personnel training are somewhat vague. The 2010 Guide provides more detailed requirements for these aspects of the program that were included in the draft permit. The minimum frequency for site inspections by DPW personnel in the draft permit is quarterly. This is same as the frequency as found in Region 9's draft permit for the military facilities on Guam, NPDES permit No. GUS04000, which was itself derived from the 2015 MS4 permit No. HIS000257 for Navy facilities at Pearl Harbor, HI; the requirements for the Pearl Harbor facility reflect about 20 years of experience for a similar island MS4, and Region 9 believes they are appropriate for Guam. More frequent inspections would also be required if needed for particular projects, based on water quality risks, as determined by the permittee.

Given that the local sediment and erosion control requirements are already available and being implemented, the draft permit requires that the local requirements be implemented immediately upon the effective date of the permit. The draft permit requires that within 18 months of the permit effective date that the proposed SWMP be revised to be consistent with the requirements of the permit. Full implementation would begin 18 months after the effective date of the permit.

Region 9 also recognizes that the Guam EPA currently has a role in the overall program

of construction site runoff control on Guam. Guam DPW's draft SWMP had noted that Guam EPA approves an Erosion Control Plan and an Environmental Protection Plan for a project prior to Guam DPW issuing its Clearing and Grading Permit for the project. As such, Guam EPA helps to ensure effective implementation of Guam Soil Erosion and Sediment Control Regulations as required by the draft permit. It is not the intent of the draft permit to disturb long-standing roles and responsibilities regarding the regulation of construction sites on Guam, and Region 9 believes the draft permit provides for a continuation of existing roles. The Phase II stormwater regulations (40 CFR 122.35) provide that reliance on a third party is a potentially viable option for implementation (or partial implementation) of an MCM such as construction site runoff control. However, notwithstanding any role played by Guam EPA, DPW should note that it remains responsible for implementation of the MCM. The Phase II regulations encourage development of a memorandum of understanding regarding MS4 permit obligations under such circumstances.

3.5 Post-Construction Stormwater Management for New Developments/ Redevelopments

Here again, the proposed requirements for the draft permit were derived largely from the 2010 Guide. The proposed SWMP in DPW's permit application proposes site performance standards for on-site stormwater management consistent with the 2010 Guam Transportation Stormwater Drainage Manual[13] (for transportation and linear projects) and the 2006 CNMI & Guam Stormwater Management Manual[14] for other projects.

As noted earlier, Region 9's MS4 audits have shown the importance of quantitative, measurable requirements in MS4 permits in order to ensure clarity and enforceability. The manuals noted above include quantitative requirements (such as a specific design storm) for post-construction stormwater control measures that are comparable to requirements for other MS4s in Region 9. We believe they are consistent with the intent of the Phase II MS4 regulations and the draft permit requires that the existing requirements be followed upon the permit effective date since they are already well-established and being implemented.

Guam DPW also noted in an email to Region 9[15] that the manuals may be updated during the term of the permit to address climate change, and that project design should not be limited to the 2006 and 2010 manuals. To address this concern, the draft permit provides that updated manuals may be used in place of the existing manuals if they became available during the term of the permit.

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[13] Guam Department of Public Works. 2010. Guam Transportation Stormwater Drainage Manual, August 2010.

[14] Commonwealth of the Northern Mariana Islands and the Territory of Guam. 2006. CNMI and Guam Stormwater Management Manual, prepared by Horsley Witten Group, Inc. October 2006.

[15] Email from Carl Quinata of Guam DPW to Eugene Bromley of EPA Region 9 dated July 6, 2016.

In the selection of post-construction stormwater controls, Region 9 also favors practices that infiltrate, evapotranspire or harvest/reuse stormwater runoff (sometimes referred to as low impact development (LID)) over practices and treat and release the runoff; this is because full capture of the runoff (e.g., through infiltration) will also prevent the discharge of all pollutants in the runoff. This advantage of infiltration is recognized by the 2010 Guam Transportation Stormwater Drainage Manual and such practices are encouraged. However, the 2006 CNMI and Guam Stormwater Management Manual treats the various types of controls more or less equally. To ensure that the advantages and benefits of runoff capture are more fully realized, the draft permit requires that the permittee require such controls when approving projects unless they are demonstrated to be infeasible for a particular project.

DPW's proposed SWMP briefly mentions the development of procedures for other aspects of the program such as inspection and maintenance of post-construction BMPs. However, the 2010 Guide provides more detailed requirements, and its suggested permit language was included in the draft permit, addressing site plan review (Part 3.5.3), long-term maintenance and tracking (Parts 3.5.4 and 3.5.5) and inspections and enforcement (Part 3.5.6).

The 2010 Guide also recommends that retrofit requirements (with a focus on LID) be considered for MS4 permits to better control pollutants in runoff from existing development. LID control measures are more commonly installed in new developments and redevelopments since the controls can be more easily incorporated into a project as it is being constructed. However, the water quality benefits of LID (and other benefits such as groundwater recharge) would also result from the retrofit of LID controls in existing developed areas. For these reason, the 2010 Guide encourages development of retrofit plans and such a requirement has been included in the draft permit based on the suggested permit language in the 2010 Guide.

3.6 Pollution Prevention/Good Housekeeping for Municipal Operations

The draft permit requirements for this MCM were also largely derived from the 2010 Guide. DPW's proposed SWMP does include a brief description of a program to address this MCM. However, the 2010 Guide provides more detailed permit language that was included in the draft permit and that Region 9 believes will ensure a clearer, and more effective and enforceable permit. Permit provisions derived from the 2010 Guide include Part 3.6.2 (municipal facility and controls inventory), Part 3.6.3 (facility assessment), Part 3.6.4 (facility-specific controls and standard operating procedures), Part 3.6.5 (storm sewer maintenance), Part 3.6.6 (street sweeping and cleaning), Part 3.6.7 (maintenance of structural controls), Part 3.6.8 (flood management), Part 3.6.9 (pesticide, herbicide and fertilizer application and management), Part 3.6.10 (training and education), and Part 3.6.11 (contractor requirements and oversight). As in the case of several other MCMs, 18 months are provided to develop BMPs and measurable goals for the program, with implementation beginning 18 months after the permit effective date.

The draft permit includes two additional proposed requirements that were not specifically derived from the 2010 Guide. These are discussed below and are based on emerging Region 9 priorities for the stormwater program and for NPDES permits in general.

3.6.1 Trash Management Plan.

In recent years, Region 9 has been encouraging requirements for the development and implementation of trash management plans in MS4 permits, given the growing concern over the accumulation of marine debris in areas such as the North Pacific Gyre[16], and the listing of various receiving waters as impaired under section 303(d) of the CWA due to trash.[17] Although Guam's 2014 Integrated Report did not include any section 303(d) listings due to trash, Governor Eddie Calvo, in his March 2014 State of the Island address[18], acknowledged that trash and marine debris are a problem for Guam. In a 2010 report[19], the Guam Bureau of Statistics and Plans which is responsible implementing Guam's Coastal Management Program, notes that storm drains in particular are a significant source of marine debris for Guam. Cleanup statistics as reported by the Ocean Conservancy[20] also illustrate the problem of marine debris worldwide and Guam specifically.

Although some of the BMPs in Part 3.6 address trash, Part 3.6.12 of the draft permit requires the development and implementation of a specific plan to reduce discharges of trash from the MS4. The specific requirements for the draft DPW permit were derived from similar requirements in the 2011 and 2015 MS4 permits for the City and County of Honolulu (NPDES No. HIS000002), where Region 9 had worked with the State of Hawaii in developing the permit requirements. The draft DPW permit requires the development of a program to first determine the current or baseline level of trash discharges, then implement BMPs to reduce trash discharges by 50% from baseline level and then to zero along a time schedule (as short as practicable but not to exceed 15 years) to be developed by DPW. A monitoring program would also be required for measuring progress. In developing a suitable program we recommend that DPW consider the trash management plan developed by the City and County of Honolulu.[21] California's recently adopted statewide trash policy[22] would be another potentially useful source of information.

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[16] U.S. EPA Region 9. 2011. Marine Debris in the North Pacific, A Summary of Existing Information and Identification of Data Gaps, November 2011.

[17] For example, see listing data for Hawaii available at: http://ofmpub.epa.gov/waters10/attains_state.control?p_state=HI

[18] Available at: http://governor.guam.gov/2014/03/25/state-island-green-guam-today-tomorrow-2/

[19] Guam Bureau of Statistics and Plans, Section 309 Assessment and Strategy 2011-2015, September 2010.

[20] Ocean Conservancy. 2014. Turning the Tide on Trash, 2014 Report

[21] City and County of Honolulu, Trash Reduction Plan, City and County of Honolulu, National Pollutant Discharge Elimination System (NPDES Permit No. HIS000002, June 2012).

[22] See http://www.waterboards.ca.gov/water_issues/programs/trash_control/documentation.shtml.

Appendix A of the draft permit also includes a definition of the term "trash" which is the same as the definition of "litter" in Article 2 of Chapter 51 (Solid Waste Management and Litter Control) of 10 Guam Code Annotated, Health and Safety. This definition is also very similar to the definition of "trash" in California's statewide trash policy.

3.6.2 Asset Management Plan.

Lastly, Part 3.6.13 of the draft permit requires the development and implementation of an asset management plan (AMP). Region 9 has been emphasizing the development of AMPs in recent years as a useful tool for ensuring consistent performance of water infrastructure systems while minimizing the costs associated with the operation of these systems. The specific provisions of the draft MS4 permit were derived from a 2014 Region 9 AMP guide[23] and include requirements for an inventory of MS4 assets, an identification of the required performance, a plan for maintenance, rehabilitation and replacement of assets, cost projections, and an assessment of climate change impacts.

3.7 Industrial/Commercial Stormwater Sources

Although the Phase II regulations do not specifically address stormwater discharges from industrial/commercial sources, the 2010 Guide recommends that controls for these sources be considered for Phase II MS4 permits. A search of EPA's industrial stormwater discharger database[24] maintained for the multi-sector general permit (MSGP) shows there are a number of industrial facilities on Guam. Travel guides for Guam[25] also show the presence of numerous commercial businesses on Guam including hotels, restaurants and shopping centers that are typical of a municipality, but which may also be sources of pollutants in stormwater runoff.

Given the presence of such industrial/commercial facilities, Region 9 believes BMP requirements are appropriate for the permit to control pollutants in the runoff. The 2010 Guide provides suggested permit language which Region 9 has included in the draft permit, with minor edits to accommodate the specific MS4 involved.

Region 9 recognizes that development of the program will take time, and therefore the draft permit phases in the new requirements. The permit provides two years to develop BMPs and measurable goals for the program. The permittee would begin implementation of the program at the start of the third year of the permit term.

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[23] U.S. EPA Region 9. 2014. Asset Management, Incorporating Asset Management Planning Provisions into NPDES Permits, available at: http://www.epa.gov/region9/water/npdes/asset-mgmnt/index.html, December 2014.

[24] See http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm#NOI

[25] For example see http://www.visitguam.com/

4 Special Conditions

4.1 Total Maximum Daily Load (TMDL) Requirements

4.1.1 Guam Bacteria TMDLs for Twenty-Five Beaches and Northern Watershed Bacteria TMDLs

The Twenty-Five Beaches Bacteria TMDL[26] was approved by EPA on February 20, 2015 and establishes wasteload allocations (WLAs) for enterococcus in various discharges (including stormwater runoff) at 25 beaches primarily in the southern half of the Island of Guam. The Northern Watershed Bacteria TMDL[27] was approved by EPA on March 17, 2010 and establishes the same WLAs for discharges (again including stormwater) near beaches in the Tumon Bay area. The WLAs require compliance with Guam water quality standards (GAR GEPA, Division II - Water Control, Chapter 5) at the discharge point.

DPW's MS4 serves most of the Island of Guam and includes many areas draining to the beaches covered by the bacteria TMDLs. NPDES regulations at 40 CFR 122.44(d)(1)(vii)(B) require effluent limits in permits that are consistent with applicable WLAs. Region 9 recognizes, however, that immediate compliance with enterococcus WLAs may not be practicable for DPW. As such, the draft permit provides an opportunity for the development and implementation of a plan (along with an implementation schedule) for coming into compliance, including a rigorous, quantitative demonstration that the proposed control measures in the plan would ensure compliance with the WLAs; as noted earlier, Region 9's MS4 audits have shown the need for such requirements in the MS4 permits. Submittal of the plan would be required within 12 months of the permit effective date. The plan would be required to achieve compliance as soon as practicable. After submittal of the plan, the permit may be reopened and modified to require implementation of the plan, after considering public comment. If such a plan is not submitted, the WLAs would become effective within 18 months of the permit effective date.

The 2011 MS4 permit for the City and County of Honolulu (CCH) was used as a model in deriving the specific permit language for DPW's Guam permit. For the CCH permit, Region 9 had worked with the State of Hawaii in developing permit language for circumstances similar to those for the DPW permit for Guam.

4.1.2 Ugum Watershed Sediment TMDL

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[26] Guam EPA. 2013. Bacteria TMDLs for Twenty-Five Beaches, Prepared by Tetra Tech, December 2013; the TMDL can be accessed at: http://iaspub.epa.gov/waters10/attains_state.control?p_state=GU

[27] Guam EPA. 2009. Development of Guam Northern Watershed Bacteria TMDLs, Prepared by Tetra Tech, December 16, 2009, can be accessed at: http://iaspub.epa.gov/waters10/attains_state.control?p_state=GU

EPA has approved one other TMDL for Guam, which is a sediment TMDL[28] for the Ugum Watershed. This TMDL was approved on February 22, 2007, and includes load allocations for sediment discharges from roads that were not subject to an NPDES permit at the time the TMDL was approved. However, the drainage system for these roads would be part of the MS4 operated by the permittee, and included in Region 9's 2011 MS4 designation.[29] As such, the draft permit (Part 4.1.2) requires compliance with the load allocations for road discharges found in Table 7 of the TMDL (Table 3 in the draft permit).

As in the case of the bacteria TMDLs discussed above, Region 9 recognizes that immediate compliance with the sediment TMDL may not be practicable, and the permit provides time for development and implementation of a plan for coming into compliance by DPW.

4.1.3 TMDLs Established After Permit Issuance

The draft permit (Part 4.1.3) provides that if a TMDL is approved for any waterbody into which the permittee discharges and if that TMDL includes a WLA for a discharge from DPW's MS4, EPA may reopen and modify the permit to include the requirements of the TMDL. Monitoring of the discharges may also be required, as appropriate, to ensure compliance with the TMDL. Part 4.1.3 of the draft permit would ensure expeditious implementation through the permit for any TMDLs that may be developed and approved.

4.2 Compliance with Guam Water Quality Standards

Part 4.2 of the draft permit includes a general requirement that the discharges not cause or contribute to exceedances of applicable water quality standards for Guam (22 GAR GEPA, Division II, Water Control, Chapter 5). This requirement would apply to parameters other than those that are subject to TMDLs as described above. Comparable requirements can be found in the 2015 MS4 permit issued by the State of Hawaii Department of Health for the City and County of Honolulu (NPDES permit No. HIS000002). The Honolulu MS4 is similar to the Guam DPW MS4 and Region 9 wishes to ensure consistency in the requirements of the MS4 permits in the Region.

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[28] Guam EPA. 2006. Sediment TMDL, Ugum Watershed, Guam USA, prepared by Tetra Tech and USEPA, October 16, 2006, can be accessed at: http://iaspub.epa.gov/waters10/attains_state.control?p_state=GU

[29] As noted in a November 26, 2014 EPA memorandum "Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs", load allocations in a TMDL become wasteload allocations upon designation of a discharge for NPDES permit coverage. Memo is available at: http://www.epa.gov/npdes/pubs/EPA_SW_TMDL_Memo.pdf

4.3 CWA Section 401 Certification Requirements

In accordance with 40 CFR 124.53 and section 401 of the CWA, EPA may not issue a permit until certification is granted or waived in accordance with section 401 by the state or territory in which the discharge originates. Certification must be in writing and must include any conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of state or territorial law. The decision to waive, grant, or deny certification is based on the *draft*, not the final "as issued," permit. See 40 CFR 124.53(c)-(e).

Region 9 has certified the draft permit to the Guam EPA (GEPA) and requested that GEPA make a written determination regarding certification under CWA section 401, including any specific conditions necessary to assure compliance with applicable requirements. Part 4.5 of the draft permit has been reserved for any such conditions.

5. Monitoring, Evaluation and Reporting Requirements

The 2010 Guide also recommends permit requirements and provides suggested permit language addressing information tracking, discharge monitoring, program effectiveness assessment and reporting. The draft permit incorporates requirements derived from the 2010 Guide as discussed below.

5.1. Information Tracking System

As recommended by the 2010 Guide, Part 5.1 of the draft permit includes a requirement for the development of an information tracking system within the first 18 months of the term of the permit.

5.2 Monitoring Requirements

The proposed SWMP submitted by DPW includes a list of common pollutants of concern in stormwater runoff nationwide, and that are likely to be of concern for Guam as well. Region 9's draft MS4 permit for DoD facilities on Guam includes a similar list of pollutants that was derived from permit requirements for similar military facilities such as the Naval Base at San Diego (NPDES permit No. CAS019169 issued in 2013) and the Naval Base at Pearl Harbor (NPDES permit No. HIS000257 issued in 2015). In addition, the pollutants of concern in the Guam EPA 2014 Integrated Report were considered; PCBs in particular were added to the list based on the 2014 Report. Given the similarity between the DPW's list of pollutants of concern and the list in the draft DoD permit for Guam, Region 9 has included the same list in the DPW

permit that was included in the draft DoD permit. This will also ensure consistency in the monitoring programs.

The draft permit would require monitoring at a minimum of five MS4 outfalls selected by the permittee to be representative of industrial, commercial and residential areas under the jurisdiction of the permittee on Guam. EPA's Phase I stormwater regulations (applicable to MS4s serving a population of 100,000 or more) suggest five to ten outfalls for a monitoring program to characterize the discharges. As noted earlier, the population of the urbanized area on Guam is about 139,000; as such, five outfalls would be consistent with the recommendation in the EPA regulations for an MS4 of this size.

The monitoring frequency proposed for DPW is annual for most pollutants which is the same as the frequency as the draft permit for Guam's DoD facilities (and the same as the MS4 permit for the Navy's Pearl Harbor facility). However, more frequent (quarterly) sampling is proposed for enterococcus given the significance of this pollutant in contributing to the impairment of Guam's receiving waters. The sample type for most pollutants is composite consistent with 40 CFR 122.21(g)(7) for stormwater sampling, except for certain pollutants such as temperature and pH for which composite sampling is not practicable, and grab sampling is required instead.

Given the variety of pollutants that may be present in stormwater runoff, the draft permit also requires whole effluent toxicity (WET) monitoring which measures the aggregate effect of all the pollutants in a discharge. The draft permit requirements for DPW were modeled after other recent permits for Guam facilities such as the 2013 permit for the Agana/Hagatna Sewage Treatment Plant (NPDES permit No. GU0020087). Finally, the permit requires that the permittee monitor for any additional pollutants of concern that may be identified from the source assessment requirements found elsewhere in the permit.

The draft permit would require the development of the monitoring program within 18 months of the permit effective date. Implementation which would begin 18 months after the permit effective date.

5.3 Reporting Requirements

In accordance with 40 CFR 122.34(g)(3), Part 5.4 of the draft permit requires the submittal of an annual report to the permitting authority. The permit language and the specific information to be provided were largely taken from the recommendations of the 2010 Guide. However, the permit must also include provisions implementing the requirements of EPA's new electronic reporting requirements (80 FR 64064) that became effective on December 21, 2015. Under this new rule, MS4 annual reports must be submitted electronically no later than five years after the effective date of the new requirements, i.e., no later than December 21, 2020, using

EPA's NPDES Electronic Reporting Tool (NeT), which provides a secure internet connection. The e-reporting requirement and deadline of December 21, 2020 are incorporated into Part 5.4.4 of the draft permit.

Hard copies of annual reports submitted to EPA prior to electronic submittal using NeT shall be submitted to: Water Enforcement Section II (ENF-3-2), EPA Region 9, 75 Hawthorne Street, San Francisco, CA 94105. Prior to December 21, 2020, the permittee may also elect to electronically submit annual reports instead of hard copies.

The first report is due _____, 2017, covering the activities of the permittee during the period beginning on the effective date of the permit and ending _____, 2017. Subsequent annual reports are due on _____ of each year following 2017 during the remainder of the term of the permit.

6 Other Legal Requirements

6.1 Endangered Species Act Requirements

The Endangered Species Act (ESA) allocates authority to and administers requirements upon Federal agencies regarding threatened or endangered species of fish, wildlife, or plants and habitat of such species that have been designated as critical. Its implementing regulations (50 CFR Part 402) require EPA to ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized, funded or carried out by EPA is not likely to jeopardize the continued existence of any threatened or endangered species or adversely affect its critical habitat (40 CFR 122.49(c)).

Implementing regulations for the ESA establish a process by which Federal agencies consult with one another to ensure that the concerns of both the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) (collectively Services) are addressed. In compliance with the applicable regulations, Region 9, in letters dated April 29, 2015 to the Services, requested initiation of informal consultation and also requested lists of threatened and endangered species for inland areas and nearby coastal waters of Guam.

The intent of the permit is to reduce the discharge of pollutants in stormwater discharges on Guam that have never been subject to the NPDES permit program before; as such, Region 9 believes the implications of the permit issuance will be almost exclusively beneficial for listed species. However, as noted earlier, structural stormwater controls (such as LID features) must be included, as appropriate, in new developments/redevelopments and retrofit projects, in accordance with MCM #5. The construction of such controls may also adversely affect the habitat of endangered or threatened species. To address this issue, Part 4.3 was included in the draft permit that provides that in complying with the requirements of the permit, the permittee

need not construct any structural stormwater controls which could adversely affect endangered or threatened species.

In sum, when EPA issues the final MS4 Permit it will require Guam DPW to begin controlling pollutants in existing stormwater discharges. The effects of this new MS4 Permit are expected to be beneficial to the affected environment due to the reduction of pollutants from current conditions. EPA has initiated informal consultation with the Services under ESA Section 7(a)(2) to explore the potential effects of this action but given the nature of the action (adding pollutant controls to existing discharges), EPA expects the action will not likely adversely affect listed species or designated critical habitat as it is intended to reduce current levels of pollutants in discharges from the MS4 and will have beneficial effects on listed species and designated critical habitats.

6.2 Coastal Zone Management Requirements

The Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Program (CZMA sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit Region 9 from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the state (or territory) Coastal Management Program, and the state (or territory) or its designated agency concurs with the certification. In Guam, the CZMA authority is the Guam Bureau of Statistics and Plans.

On _____, the Guam Bureau of Statistics and Plans concurred with the permittee's certification that the proposed discharge complies with the enforceable policies of the Guam Coastal Management Program.

6.3 Historic Preservation

The National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of Federal undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places (NRHP). The term "Federal undertaking" is defined in the NHPA regulations to include any project, activity, or program under the direct or indirect jurisdiction of a Federal agency that can result in changes in the character or use of historic properties, if any such historic properties are located in the area of potential effects for that project, activity, or program (36 CFR 802(o)). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places (36 CFR 802(e)).

Federal undertakings include EPA's issuance of NPDES permits. The permit application submitted by DPW did not address compliance with the NHPA. Region 9 believes that the only potential effect on historic properties that may be associated with the draft permit would be construction of control measures that involve surface disturbance. Projects disturbing one or more acres would be covered by EPA's 2012 Construction General Permit for construction site runoff (NPDES permit No. GUR120000) which includes procedures (in Appendix E of the construction general permit) to ensure compliance with the NHPA. Appropriate procedures for projects less than one acre can be found in Appendix F of EPA's 2015 Multi-Sector General Permit (MSGP)[30] for industrial stormwater discharges (NPDES permit No. GUR050000). Part 4.4 of the draft MS4 permit includes a requirement that the permittee meet at least one of the discharge eligibility criteria of Appendix E/F prior to commencement of discharges from projects undertaken to comply with the MS4 permit. These requirements will ensure compliance with the NHPA for the MS4 permit.

6.4 Magnuson-Stevens Fishery Conservation and Management Act.

In accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, Federal agencies must consult with NMFS regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect essential fish habitat (EFH). Upon review, EPA has determined that issuance of this draft permit will have no adverse effect on EFH. Any effects of this permit on EFH would be beneficial by imposing restrictions, including management practices, on the discharges authorized by the permit. Prior to issuance of the MS4 permit, the discharges have occurred without restrictions. Region 9 has provided NMFS with a copy of the draft permit and fact sheet for review and comment on Region 9's tentative conclusions concerning potential effects on EFH.

6.5 Executive Order: Environmental Justice

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has developed an environmental justice screening tool (EJSCREEN, available at: http://www2.epa.gov/ejscreen) to help evaluate the potential impact of permitted facilities such as the MS4 and other permitted facilities within the immediate area on local residents. At the

[30] The 2015 MSGP is available at: http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm

present time, however, the screening tool is unable to provide this type of evaluation for Guam. Nevertheless, EPA believes that the MS4 permit will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

7. Standard Permit Conditions

NPDES regulations at 40 CFR 122.41 and 122.42 require the inclusion of certain standard conditions in all NPDES permits. The standard conditions that are proposed for the DPW MS4 permit are found in Appendix B of the draft permit.

Region 9 normally includes these conditions in all NPDES permits, and we also include certain other basic conditions which set forth additional requirements of the CWA. However, based on experiences with MS4 permits in Arizona, and in consideration of the unique nature of stormwater discharges, Region 9 has made a relatively minor clarification in the definition of a "bypass" in standard condition 13.a.1. The Arizona permittees had expressed concern that bypasses consistent with the normal operation of an MS4 might be considered bypasses prohibited by the permit. Region 9 added a clarification that such bypasses would not be considered violations of the permit. We do not believe that this clarification significantly affects the intent of the standard conditions.

8. Expiration Date of the Draft Permit

The expiration date of the proposed permit is _____, 2021.

Appendix A – Region 9 Designation Memorandum

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

February 8, 2011

MEMORANDUM

SUBJECT: Request for Designation of MS4 Discharges on the Island of Guam for NPDES Permit Coverage

FROM: David Smith, Manager
NPDES Permits Office (WTR-5)

Charlotte Withey
Office of Regional Counsel (ORC-2)

THRU: Alexis Strauss, Director
Water Division (WTR-1)

Nancy Marvel, Regional Counsel
Office of Regional Counsel (ORC-1)

TO: Jared Blumenfeld, Regional Administrator

This memorandum recommends designation of the stormwater discharges from all municipal separate storm sewer systems (MS4s) on the Island of Guam for National Pollutant Discharge Elimination System (NPDES) permit coverage.

Pursuant to section 402(p)(2)(E) and (6) of the Clean Water Act (CWA), and 40 CFR § 122.26(a)(9)(i)(D), the EPA Regional Administrator may designate additional stormwater discharges as requiring NPDES permits where he determines that "the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States."

For the reasons outlined below, we conclude that stormwater discharges from MS4s serving the Island of Guam contribute to violations of water quality standards and are a significant contributor of pollutants to waters of the United States. We therefore recommend designation of stormwater discharges from all MS4s serving the Island of Guam.

I. LEGAL BACKGROUND

As part of the Water Quality Act of 1987 (WQA), P.L. 100-4 (Feb. 4, 1987), Congress required EPA to establish permitting requirements for certain stormwater discharges, including discharges from large and medium MS4s. (WQA § 405, codified as CWA § 402(p), 33 U.S.C. § 1342(p)). Congress also gave EPA authority to designate additional stormwater discharges for permitting on a case-by-case basis. *Id.*

A. Current Status of MS4s on Guam under the NPDES Stormwater Regulations

There are currently no regulated MS4s on Guam. EPA's Phase I stormwater regulations (55 FR 47990, November 16, 1990) required NPDES permits for large and medium MS4s, as defined at 40 § CFR 122.26(b)(4) and (7). The regulations included a list of incorporated places (cities) and counties which qualified as large or medium MS4s and required an NPDES permit. (40 CFR § 122, Appendices F through I). Guam has no "counties" or "incorporated places," as defined by the Census Bureau.[1] Thus, no areas of Guam qualified as medium or large MS4s under the Phase I regulations.

EPA's Phase II stormwater regulations (64 FR 68722, December 8, 1999) added a requirement for permitting of small MS4s[2] that are either located in an "urbanized area" under the latest Decennial Census or otherwise designated by the NPDES permitting authority. 40 CFR § 122.32(a). On May 1, 2002 (67 FR 21962), the Census Bureau published a list of urbanized

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[1] *See* Census Bureau, Geographic Areas Reference Manual (Nov. 1994) at 7-19 thru 7-22, available at http://www.census.gov/geo/www/garm.html.

[2] "Small MS4" is defined as all separate storm sewers that are:

> (i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
> (ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.
> (iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

40 CFR 122.26(b)(16).

areas based on the 2000 census.[3] Hagåtña, Guam was included on the list of urbanized areas with a population of 132,000, and ordinarily this would have triggered a requirement for an NPDES permit for the MS4 serving this area. However, on August 23, 2002 (67 FR 54631), the Census Bureau reclassified Hagåtña as urban clusters.[4] As a result, the Hagåtña MS4 no longer required an NPDES permit in accordance with the Phase II regulations. It should be noted, however, that the reclassification was simply a result of the Census Bureau's decision not to apply its criteria for urbanized areas to Guam.[5]

B. Standard for Designation

Small MS4s may be designated for NPDES permits pursuant to three different provisions of the stormwater regulations.

Pursuant to 40 CFR §§ 122.26(a)(9)(i)(A), 122.32(a)(2) and 123.35(b), small MS4s may be designated based upon a determination that a stormwater discharge from the small MS4 "results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts." 40 CFR § 123.35(b)(i).

Under 40 CFR § 122.26(a)(9)(i)(C), stormwater discharges may be designated where the Regional Administrator determines "that stormwater controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern . . ." 40 CFR § 122.26(a)(9)(i)(C).

Finally, under 40 CFR § 122.26(a)(9)(i)(D), the Regional Administrator may designate a stormwater discharge or category of discharges where he determines that: "the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States."

While this memorandum proposes designation only pursuant to 40 CFR § 122.26(a)(9)(i)(D), reference is made to the other designation provisions in order to inform the application of § 122.26(a)(9)(i)(D) to the facts in this case.

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[3] For Census 2000, the Census adopted the following definition of an urbanized area: "contiguous, densely settled census block groups (BGs) and census blocks that meet minimum population density requirements, along with adjacent densely settled census blocks that together encompass a population of at least 50,000 people." 67 Fed. Reg. 11663, 11667.

[4] For Census 2000, the definition of an "urban cluster" is identical to that of an "urbanized area" except that the population of a cluster is at least 2,500 people, but fewer than 50,000 people." *Id.*

[5] Pursuant to an agreement between the Census Bureau and the government of Guam, "all urban areas defined within Guam based on the results of Census 2000 are designated as urban clusters regardless of their total population." 67 FR 54631.

An EPA memorandum entitled *Designation of Stormwater Discharges for Immediate Permitting* (August 8, 1990), available at: http://cfpub.epa.gov/npdes/pubs.cfm?program_id=6) (Designation Memo) provides guidance on designations of stormwater discharges for permitting. Although the Designation Memo was written prior to the promulgation of the Phase I and II regulations, the current standard for making a designation under 122.26(a)(9)(i)(D) is virtually identical to the standard provided for in CWA § 402(p)(2)(E), upon which the Guidance was based. The only substantive difference between the two is that section 122.26(a)(9)(i)(D) allows for designation of a "category of discharges within a geographic area" as well as designation of individual stormwater discharges, whereas section 402(p)(2)(E) only provides for the latter. Despite this difference, the Designation Memo still provides useful guidance on the appropriate factors to be considered when making a designation.

The Designation Memo recommends immediate designation of any discharges known or suspected to:

1. contribute to a violation of a water quality standard for a waterbody segment listed under section 304(l)(1)(B), or contribute significant amounts of pollutants to any waterbody segment listed under sections 304(l)(1)(A), 319(a)(1), or 314(a)(1)(F);
2. contribute significant amounts of pollutants to waters of the United States, including sensitive wetlands, drinking water sources, estuaries, lakes, scenic rivers/streams, or near coastal areas that are highly valued natural resources;
3. originate from municipal separate storm sewer systems that have, or are suspected of having, process waste or sanitary wastes discharged to them; or
4. originate from municipal separate storm sewer systems that are suspected of containing a significant contribution of pollutants.

Designation Memo at 3-4.

Further guidance on appropriate factors to be considered in designating MS4s for NPDES permitting in particular is provided by the Phase II regulations at 40 CFR § 123.35(b). As noted above, we do not specifically rely on this provision. Nonetheless, we believe it is appropriate to look at section 123.35(b)(1)(ii), EPA's recommended designation criteria for MS4s, as guidance. In particular, when examining "other significant water quality impacts", permitting authorities are advised to consider "discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contributor of pollutants to waters of the United States, and ineffective protection of water quality by other programs." 40 CFR 123.35(b)(1)(ii).

II. FACTUAL BACKGROUND

A. General Characteristics of Stormwater Discharges from MS4s

Discharges from MS4s are comprised primarily of urban stormwater.[6] Such discharges typically contain elevated concentrations of pollutants that collect on impervious surfaces, such as city streets, driveways, parking lots, and sidewalks. The first national assessment of urban runoff quality was undertaken for the *Nationwide Urban Runoff Program (NURP)* study in the late 1970s and early 1980s. Overall, data from the NURP study indicated that discharges from separate storm sewer systems draining runoff from residential, commercial, and light industrial areas carried more than 10 times the annual loadings of total suspended solids (TSS) than discharges from municipal sewage treatment plants that provide secondary treatment. The NURP study also indicated that runoff from residential and commercial areas carried somewhat higher annual loadings of chemical oxygen demand (COD), total lead, and total copper than effluent from secondary treatment plants, as well as high levels of bacteria during warm weather conditions. 65 Fed. Reg. at 68725. More recently, discharge monitoring data from medium and large MS4s has been compiled in the National Stormwater Quality Database (NSQD) (Pitt, et al. 2008).[7] Although the NQSD data indicate significant variations in pollutant loadings among different land uses, the data affirm the significance of discharges from MS4s as contributors of pollutants to waters of the United States. For example, the median TSS concentration for all samples was 62.0 mg/L, more than double the 30-day average limit of 30 mg/L for discharges from municipal sewage treatment plants that provide secondary treatment. The median fecal coliform concentration was 4300 mpn/100 mL, which exceeds the former National Recommended Water Quality Criteria (NRWQC) for bathing waters by an order of magnitude.[8]

B. General Water Quality Impacts of Urban Stormwater Discharges on Guam

The 2008 Integrated Report submitted by the Guam EPA pursuant to CWA sections 305(b), 303(d) and 314 (Guam EPA, 2008) provides an assessment of water quality in and around Guam, including current water quality impairments and sources which contribute to the impairments. The Integrated Report concludes that overall, stormwater runoff from urban areas and construction sites is a significant contributor of pollutants to receiving waters (sections

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[6] The term "urban stormwater" is not defined by regulation, nor does it appear in the text of EPA's stormwater regulations. Consistent with EPA's usage in the preamble to the Phase I and II regulations, the term is used in this document to refer to runoff from urban areas, including residential, commercial, industrial and mixed-use areas, which is discharged through storm sewers. See, e.g. 64 Fed. Reg. at 68725.

[7] Available at http://unix.eng.ua.edu/~rpitt/Research/ms4/Paper/Mainms4paper.html .

[8] *See* EPA's Redbook, Quality Criteria for Water (July 1976) at 79, available at http://water.epa.gov/scitech/swguidance/waterquality/standards/current/index.cfm. EPA now recommends the use of enterococci, rather than fecal coliform, as a bacterial indicator, but there is insufficient data available on average levels of enterococci in urban stormwater to make a meaningful comparison between these levels and the current NRWQC for enterococci.

II.B.3.2 and II.B.3.4 of the Integrated Report). Further information on the overall water quality effects of urban stormwater on Guam is provided in the CNMI and Guam Stormwater Management Manual (Stormwater Manual) (Horsley Witten Group, Inc., 2006). The Stormwater Manual stresses the role of urban stormwater as a contributor of sediments (total suspended solids or TSS), nutrients (nitrogen and phosphorus), and pathogens (bacteria and viruses) to receiving waters in and around Guam.

The principal source of urban runoff in a given area is the MS4 given the definition of a municipal separate storm sewer at 40 CFR 122.26(b)(8); thus, the assessment in the Integrated Report concerning the effects of urban runoff supports the designation of the MS4s on Guam for stormwater permitting.

More information and specific water quality impacts of discharges from MS4s are discussed in section IV0 below.

C. Planned Relocation of U.S. Marines to Guam from Okinawa

The DoD is currently planning to relocate approximately 8,600 U.S Marines and 9,000 dependents from Okinawa to Guam as part of an international agreement with Japan. Additional information is available in a final environmental impact statement (FEIS) prepared for the relocations (Navy, 2010b).[9] In addition, approximately 600 U.S. Army personnel and 900 dependents will be relocated. At the conclusion of the construction phase, the total population increase on Guam stemming from the relocation is estimated to be about 33,000 including military personnel, civilian military workers and workers in jobs induced by the relocation. At the height of the construction phase, the population increase is estimated at about 79,000. As noted above, the population of the urban area on Guam based on the 2000 census was 132,000; the 2000 census lists the total population of Guam as 155,000. As of 2009, the Government of Guam estimates total Island population at about 178,000.

The relocation will be accompanied by the construction of numerous new facilities (such as housing, retail, schools, utilities and training facilities) to accommodate the new personnel. New construction is expected both on and off-base. Substantial upgrades to the off-base road network on Guam will also be needed. A recent report (Parsons Transportation Group, Inc, 2010) describes the needed upgrades, which include widening and strengthening of existing roads in addition to construction of new roads. Both this construction and the ongoing intensified use of the road network would increase the quantity of pollutants discharged in stormwater from the roadways and the risks to receiving waters from the stormwater runoff.

[9] The FEIS and related documents are available at http://www.guambuildupeis.us/.

III. SCOPE OF PROPOSED DESIGNATION

As noted above, 40 CFR § 122.26(a)(9)(i)(D) allows for designation of a category of discharges within a geographic area, based upon a determination that the category "contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." In this case, it is appropriate to designate all discharges from MS4s, as defined at 40 CFR § 122.26(b)(18), on Guam.[10] The area covered by this designation will generally coincide with areas on Guam that are urban in character, but will extend somewhat beyond the urbanized clusters as delineated by the 2000 Census. In addition, since the designation is intended to cover future MS4s as well as existing MS4s, it will include MS4s serving all future publicly owned and/or operated storm sewer systems defined as small MS4s, such as storm sewer systems to be constructed to serve new or expanded DoD facilities, and associated road networks.

The inclusion of areas of new development (i.e., future MS4s) outside of the existing urbanized clusters in the designation is important because much of the new development on the island, including many of the new DoD facilities, is expected to be located outside the existing urban clusters and would not be subject to the permit if the designation were limited to the current urban clusters. Attachment 1 shows the urban area for Guam as determined by the Census Bureau. This map also shows other urban areas as identified by the Government of Guam, existing military facilities, major roads, and rivers, streams and marine waters with impaired water quality. Attachment 2 shows the anticipated future land use in northern and central Guam (Guam Bureau of Statistics and Plans, 2009a), and Attachments 3A and 3B shows the existing and proposed military facilities on Guam. A comparison of these maps shows much of the anticipated new development is expected to occur outside the urban clusters delineated by the Census Bureau. As discussed above, the Integrated Report concluded that urban runoff which is discharged from Guam's MS4s is a significant source of pollutants to local receiving waters, and it is important to address the discharges from the new MS4s as well as the existing MS4s. As illustrated in Attachment 1, impaired waters are located in and adjacent to urban clusters as defined by the Census Bureau, and in many other areas of Guam further from these urban clusters. This map illustrates the importance of addressing all MS4s, and not just MS4s in existing urban clusters, to protect and restore Guam's impaired waters.

IV. BASIS FOR DESIGNATION

While relatively little water quality information has been collected on Guam, the available data indicate that stormwater discharges from MS4s both (1) contribute to violations of water quality standards and (2) are a significant contributor of pollutants to waters of the United States, pursuant to 40 CFR § 122.26(a)(9)(i)(D).

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[10] Since there are no large or medium MS4s on Guam, all of the designated discharges would be considered small MS4s, as defined at 40 CFR § 122.26(b)(16)-(17).

A. Contribution of Discharges from MS4s to Violations of Water Quality Standards on Guam

As noted above, Guam's Integrated Report lists numerous beaches and coastal areas on the CWA section 303(d) list of impaired waters due to the exceedances of bacteria standards (see Attachment 1). On March 17, 2010, EPA approved the Guam Northern Watershed Bacteria TMDLs (GNWB TMDL),[11] which are intended to address exceedances of water quality standards for bacteria which are currently occurring at seventeen of Guam's most popular recreational beaches. (Tetra Tech, Inc., 2009). The GNWB TMDL notes that stormwater runoff contributes to the impairment of all seventeen GNWB beaches. (GNWB TMDLs Table 5-2 at 21). Although the exact contribution of stormwater discharges varies among the individual beaches, the GNWB TMDLs emphasize the central role that stormwater discharges play in causing exceedances of the geometric mean (chronic) water quality criterion for bacteria and recommends that, "[e]fforts to achieve Northern Guam Beach TMDL targets based on the geometric mean should focus on storm water discharges to Hagåtña Bay." (GNWB TMDL at 24).

The GNWB TMDL does not distinguish among different types of unpermitted stormwater discharges, so it is not possible to ascertain the exact contribution of discharges from MS4s, as opposed to nonpoint source discharges.[12] However, the TMDL explicitly points out the absence of MS4 permitting requirements on Guam and notes that, "[d]esignation of the urban portions of Guam to be subject to NPDES MS4 permit requirements is an option that would strengthen the stormwater management program relative to TMDL implementation." (GNWB TMDL at 216).

Similarly, the monitoring results reported in the Integrated Report show exceedances of bacteria standards at monitoring stations both adjacent to the Hagåtña urban clusters and at other locations with MS4s as well. Appendix A of the Integrated Report shows the locations of Guam EPA's recreational beach monitoring stations. Some locations with exceedances (e.g., Tumon Bay) are adjacent to the Hagåtña urban clusters, but exceedances are also commonly reported at locations adjacent to MS4s outside this area (e.g., Inarajan Bay, Merizo Pier and Togcha Beach), which are adjacent to the MS4s serving the communities of Inarajan, Merizo, and Agat (see

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[11] The official title of the GNWB TMDLs is "DRAFT Development of Guam Northern Watershed Bacteria TMDLs" (Dec. 16, 2009), available at http://www.epa.gov/waters/tmdldocs/Guam_NW_Beach_TMDL_--_2009-12-16_%20jtc.pdf. EPA approved the GNWB TMDLs on March 17, 2010. *See Letter from Alexis Strauss to Lorilee Chrisostomo* (March 17, 2010). Although they are technically seventeen distinct TMDLs, they are referred to collectively as the GNWB TMDL in this document.

[12] In addition, the GNWB TMDL does not specify whether unpermitted point source stormwater discharges are subject to waste load allocations (WLAs) or load allocations (LAs). However, because the TMDL assigns the same concentration-based values to all WLAs and LAs, the actual concentration limits are the same regardless of the form of allocation.

Attachment 1). These results provide support for the broad geographic designation, as described above, of all MS4 discharges on Guam.

On November 12, 2010, EPA published an update[13] to its 2002 guidance memorandum concerning the incorporation of requirements of TMDLs for stormwater discharges into NPDES permits. Among other new recommendations, the updated memorandum expresses concern NPDES permitting authorities have only rarely used the designation authority provided by the CWA and NPDES regulations to permit and more effectively control pollutants in stormwater discharges which are significant enough to be assigned a load allocation in a TMDL, but are not otherwise subject to NPDES permitting under existing regulations. As described above, this is the situation for the stormwater discharges covered by the GNWB TMDL, and designation would be consistent with the guidance in the November 12, 2010 updated memorandum. This memorandum also clarifies stormwater discharges which may be considered loads allocations in a TMDL would be reclassified as wasteload allocations once they become subject to an NPDES permit.

B. MS4s on Guam as a Significant Contributor of Pollutants to Waters of the United States

In addition to identifying that discharges from MS4s on Guam are contributing to violations of bacteria standards on Guam, the available data also indicate that these discharges are collectively a significant contributor of pollutants to U.S. waters.

The most comprehensive study of stormwater pollutant loadings on Guam was conducted during the 1970s (Zolan, *et al.*, 1978a, Zolan, 1981). Urban runoff was collected over an 18-month period from ponding basins and storm drains at various locations in northern Guam and analyzed for common water quality parameters. Overall, the study concluded that urban runoff discharging into coastal areas contained (1) high levels of solids and chlorides, (2) levels of total and fecal coliform bacteria exceeding the GWQS,[14] and (3) concentrations of nitrate-nitrogen exceeding the GWQS nitrogen limit for nearshore waters. As noted earlier, the 2008 Integrated Report concludes stormwater discharges from MS4s continue to contain significant loadings of pollutants which are discharged to Guam's receiving waters.

A more recent study (Denton, *et al.*, 1998) focused on loadings of nutrients (nitrogen and phosphorous) and heavy metals in stormwater collected from various retention sites and one storm drain servicing a hotel in northern Guam. Despite significant spatial and temporal variations, the study found overall relatively low loadings of nutrients and heavy metals in the stormwater retention sites (in comparison to sampling results elsewhere in the world). However, samples taken from the hotel storm drain were "generally enriched in all detectable components with some samples containing particularly high levels of phosphorus (up to 482 mg/l), which may result from landscaping practices or other activities at the hotel. In the 1998 report and in

[13] Updated memorandum dated November 12, 2010 is available at: http://cfpub.epa.gov/npdes/whatsnew.cfm?program_id=6

[14] The current GWQS use enterococci rather than fecal or total coliform as a bacterial indicator for all marine waters.

subsequent publications (Denton, *et al.*, 2005, 2007), the authors proposed that phosphorus discharges from hotel runoff may be a significant factor contributing to algal blooms in Tumon Bay. However, the authors also noted that most hotels along the bay discharge their stormwater to infiltration chambers rather than directly to waters of the United States or the MS4; phosphorus reaches Tumon Bay via groundwater transport from the infiltration basins. Nevertheless, the data provide an indication of the types and concentrations of pollutants present in urban stormwater on Guam generally and in runoff from landscaped areas in particular.

C. Other Considerations

There are several other considerations that weigh in favor of designation of stormwater discharges from MS4s on Guam. As noted in section 0 above, EPA guidance recommends consideration of various factors in determining whether to designate an MS4 discharge for permitting. Of particular relevance to Guam are the following factors: discharge to sensitive waters, high growth or growth potential, contiguity to an urbanized area, and significant contributor of pollutants to waters of the United States. The overall significance of discharges from MS4s as a contributor of pollutants is discussed in section 0 above. The remaining factors are addressed below.

1. Sensitive Receiving Waters

Coral reefs surround nearly the entire Island of Guam and are "extremely valuable in terms of marine life, aesthetics, food supply, recreation and protection of Guam's highly erodible shorelines." (Integrated Report, Executive Summary at 2). The Government of Guam in its Coral Reef Initiative (see http://allislandscorals.org) has stated the Island's coral reefs are under stress and recommends better control of land-based sources of pollution including stormwater runoff. In a summary report on the status of coral reefs around Guam, the Guam Bureau of Statistics and Plans concludes the top threats to Guam's reefs include sedimentation from upland soil erosion and stormwater runoff and associated pollutants (Guam Bureau of Statistics and Plans, 2009b). Sediment from stormwater runoff can smother coral while excess nutrients and freshwater itself can interfere with the life cycle of coral (Guam Bureau of Statistics and Plans, 2008). The CNMI and Guam Stormwater Management Manual (Stormwater Manual)(Horsley Witten Group, Inc., 2006) also indicates sediment from stormwater runoff is the most significant threat to the coral reefs around Guam.

As described in section II.A above, discharges of stormwater from MS4s typically contain high levels of sediment. It is therefore highly probable that stormwater discharges from MS4s on Guam are contributing to the sedimentation of coral reefs around Guam. The fact coral reefs "surround" almost the entire Island also firmly supports a broad geographic designation of the MS4s on the Island (including developing areas and the full existing MS4) to ensure adequate control of pollutants in stormwater discharges to protect the corals.

2. High Growth Potential

As noted above, the proposed military relocation is expected to temporarily increase the population of Guam by 79,000 at the height of the construction phase, and to permanently increase the population by about 33,000. This would constitute a substantial increase to Guam's current population of about 178,000 and clearly makes Guam an area of "high growth potential."

The relocation would also be accompanied by a large construction program. The Main Cantonment area alone for the Marines (the area where housing, retail, schools and similar facilities would be located) would be about 2,500 acres in size. Construction site runoff from sites disturbing one or more acres on Guam is regulated under EPA's general NPDES permit for construction sites (73 FR 40338, July 14, 2008); see: http://cfpub.epa.gov/npdes/stormwater/const.cfm. An NPDES permit issued for the MS4s on Guam would enhance the effectiveness of the sediment and erosion control program on Guam by requiring the MS4s to impose a program to control pollutants in construction site runoff within the permitted area. The authorities with jurisdiction over these MS4s are uniquely placed to impose requirements to ensure the reduction of pollutant loadings that are expected to accompany this development during construction. Given the concerns noted in the Integrated Report regarding construction site runoff, this factor provides further support for the designation.

3. Contiguity

The locations of the existing and proposed military facilities in relation to the existing urban clusters identified by the Census Bureau and other urban areas on Guam can be seen by comparing the map in Attachment 1 with Figures 1.2-1 and 2.1-1, respectively, in the FEIS (also reproduced in Attachments 3A and 3B). The maps also show that all the other existing and proposed facilities are either adjacent to the urban area on Guam, or in close proximity, including the largest facilities such as the existing Apra Naval Base, Anderson AFB and the proposed Main Cantonment area for the Marines. This contiguity can be expected to compound the effects of the discharges from the urban areas, the military facilities and associated street and road networks.

In particular, stormwater discharges from these newly developed areas will not only contribute pollutant loadings during the construction phase, but will also continue to contribute pollutants once built out. Designation early in the development process will enhance pollutant removal potential, as it is also widely recognized there is greater potential for incorporating stormwater BMPs into new developments than in retrofitting BMPs into developed areas (55 FR 48055, November 16, 1990).

D. Additional Benefits of Designation

Groundwater is the principal source of drinking water on Guam, and is therefore another highly valued resource. Stormwater Management Manual at 1-17. Given the highly permeable soils overlying the principal aquifer (the North Guam Lens Aquifer which provides 70-80% of Guam's water supply and has been designated a sole source aquifer), the Manual stresses the importance of avoiding contamination of the aquifer as a result of infiltration of contaminated stormwater. The Navy in its FEIS for its Mariana Islands Range Complex (Navy, 2010a) argues implementation of the stormwater pollution prevention plan at Anderson AFB (which overlies the aquifer) has prevented extensive groundwater contamination. Nevertheless, the FEIS notes some wells were contaminated volatile organic compounds such as trichloroethylene and tetrachloroethylene, demonstrating the risks of groundwater contamination by surface water pollution should not be discounted.

Stormwater management under the NDPES permit program may consider potential effects of discharges to surface waters, and also the potential effects on groundwater resources, especially in areas with highly permeable soils such as those in Northern Guam, or when management techniques such as infiltration are used to minimize pollutant discharges to surface waters (see EPA's menu of stormwater best management practices (BMPs) at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm). Guam's 2008 Integrated Report cites urban runoff as one of the major threats to groundwater resources on Guam. We expect the MS4 permit would result in additional attention given to the potential effects of urban runoff on groundwater resources in Guam (and additional efforts to mitigate the effects), and thereby better ensure the protection of Guam's important groundwater resources.

V. DESIGNATION PROCEDURE AND PERMIT APPLICATION REQUIREMENTS

Since there are a relatively small number of permittees, we believe individual permits are appropriate; the likely permittees would be Guam Department of Public Works for the non-DoD areas of the Island, while DoD agencies (the U.S. Navy and possibly other agencies as well) would be the permittees for the DoD facilities.

The statutory and regulatory provisions governing issuance and review of individual permits and related actions provide guidance as to the procedures for issuing residual designations and associated permits. Based upon these provisions, we recommend that the Regional Administrator simultaneously (1) provide public notice and take comment on a "preliminary residual designation" (this document) and (2) specifically notify and provide permit application forms to the operators of the preliminarily-designated discharges. The operators of designated discharges would then need to submit permit applications within 180 days of the receipt of this notice, unless permission for a later date is granted by the Regional Administrator. 40 CFR §§ 122.26(a)(9)(iii) & 124.52(c). After receipt of these applications, the Region would issue and take comment on draft individual permits for designated discharges under 40 CFR § 124.6(d). The comment period on the preliminary residual designation would remain open through the close of the comment period on the individual permits. The Region would then issue

a final residual designation and final permits to designated dischargers, along with response to comments. 40 CFR §§ 122.26(a)(9)(i)(C) & (D), 124.15 & 124.17. Designated dischargers (or other interested parties who commented on the preliminary designation and/or draft permit(s)) could then petition the Environmental Appeals Board (EAB) for review of the designation, the determination to require individual permits and/or the permits themselves. 40 CFR §§ 124.19(a) & 124.52(c).

Since the facilities to be permitted in this case are essentially Phase II MS4s, the permit application regulations for Phase II MS4s at 40 CFR § 122.33(b)(2)(i) provide appropriate permit application requirements; these requirements include:

1. A storm water management program (SWMP) including BMPs addressing each of the six minimum control measures set forth at 40 CFR § 122.34(b)(1) through (6), designed to reduce the discharge of pollutants to the maximum extent practicable and protect water quality;
2. Measurable goals for each of the BMPs proposed for the SWMP including, as appropriate, the time frame for implementation of the BMPs;
3. An estimate of the square mileage served by the small MS4; and
4. The person or persons responsible for implementing or coordinating the SWMP.

The permit applications must also include the information required by 40 CFR § 122.21(f) (see Attachment 4).

We anticipate requesting submittal of the applications within 180 days of notification in accordance with 40 CFR § 122.52(c). After receipt of the permit applications, we will prepare and public notice draft NPDES permits for the discharges. Permit requirements will be developed to address the impacts of the discharges on the water resources of Guam. Following review of public comments, we would issue final permits and finalize the designation.

VI. CONCLUSION

For the reasons outlined above, we believe this proposed designation is appropriate under the CWA and its implementing regulations, and therefore recommend your approval. Upon approval of the designation of the stormwater discharges specified above for an NPDES permit, Region 9 will notify the dischargers that their discharges have been preliminarily designated, and require permit applications in accordance with 40 CFR § 124.52.

VII. AUTHORIZING SIGNATURE

Based on the analysis set forth in this memo, it is my preliminary determination that stormwater discharges from MS4s serving the Island of Guam contribute to violations of water quality standards and are a significant contributor of pollutants to waters of the United States. I am therefore issuing a preliminary residual designation of these discharges pursuant to section 402(p)(2)(E) and (6) of the Clean Water Act and 40 CFR § 122.26(a)(9)(i)(D).

February 8, 2011 /s/

Date Approval: Jared Blumenfeld, Regional Administrator

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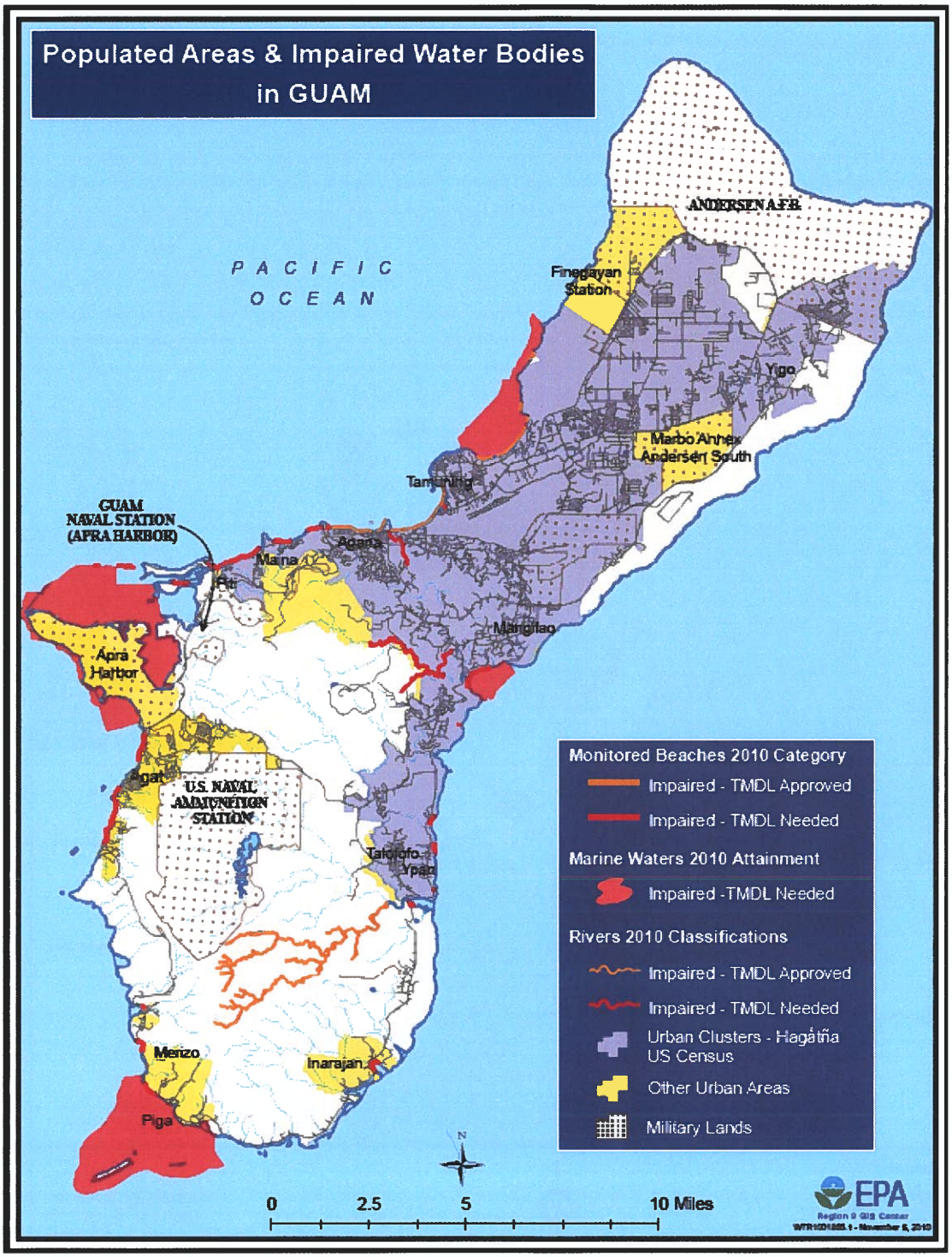
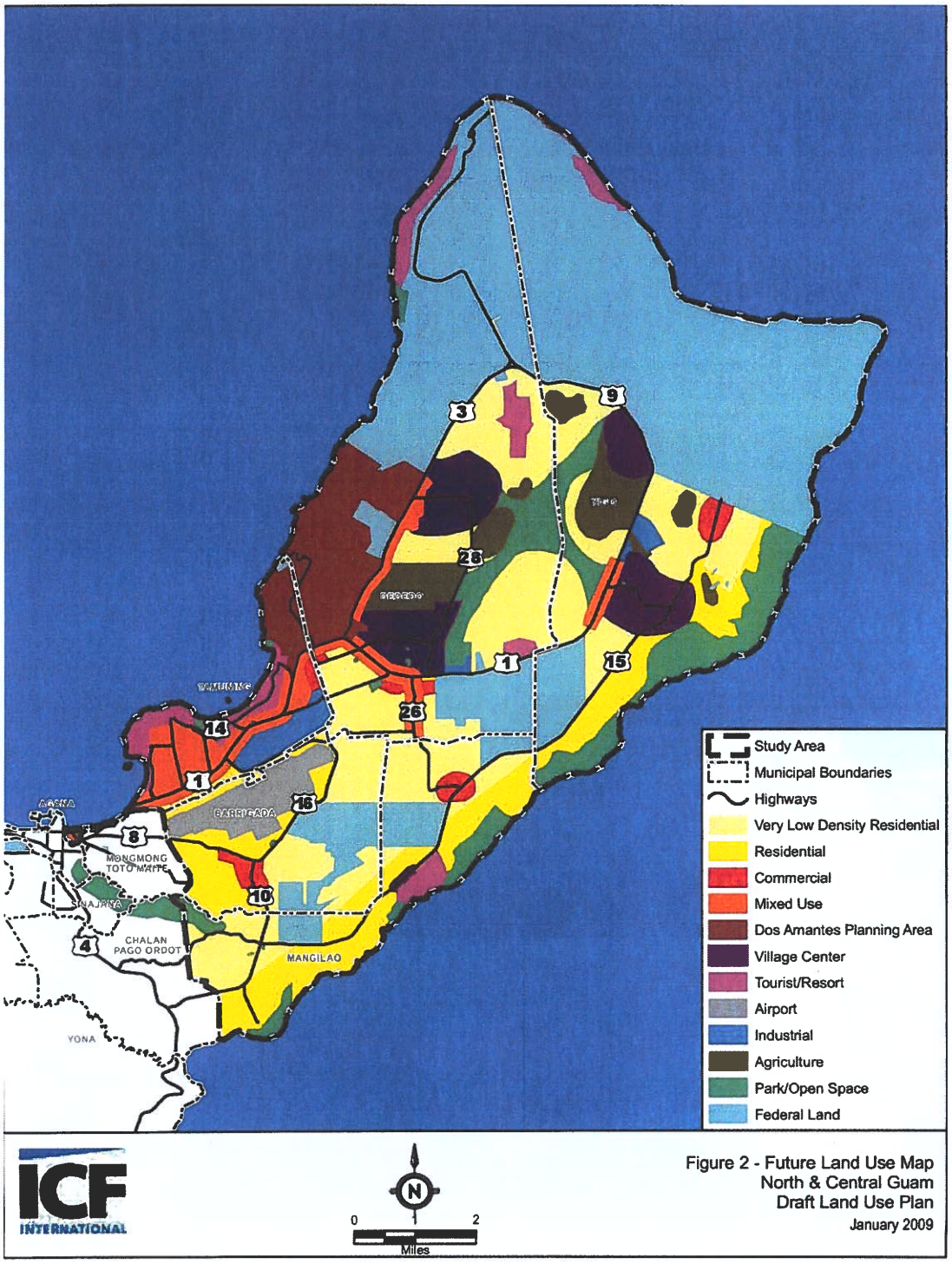
Attachment 1



Attachment 2 - Future Land Use in Northern and Central Guam
(Guam Bureau of Statistics and Plans, 2009)



Attachment 3 – Military Facilities on Guam Designated for MS4 Permitting

The FEIS accompanying DoD's proposed relocation of U.S. Marines from Okinawa to Guam includes a list of existing and proposed military facilities on the Island. These facilities are all designated for NPDES permitting as MS4s. The list of existing and proposed facilities follows below. Figure 1.2-1 from the FEIS (Attachment A) shows the locations of the existing facilities; Figure 2.1-1 from the FEIS (Attachment B) shows the locations of the proposed facilities.

I. Existing Facilities

A. Existing Navy Facilities

1) Naval Base at Apra Harbor
2) Naval Computer and Telecommunications Station (NCTS), Finegayan
3) Family housing/community support areas at Apra Heights, Nimitz Hill and NCTS, Finegayan
4) Sasa Valley and Tenjo Vista fuel farms
5) Naval magazine Apra Heights
6) Naval Hospital and adjacent high school
7) Military operations on urban terrain training range
8) Navy golf course at Barrigada

B. Existing Air Force Facilities

1) Anderson Air Force Base
2) Anderson South
3) Barrigada (Air Force)
4) Mount Santa Rosa communications facility

C. Existing Army Facilities

1) Training facility for Guam Army National Guard and Army reserves at Barrigada and Dededo

II. New Facilities

A. Main Cantonment Area

1) Headquarters and administrative areas
2) Base operations
3) Bachelor's Quarters and temporary lodging
4) Family housing
5) Educational facilities

6) Quality of life functions

B. Waterfront Area

1) Amphibious task force ship berthing
2) Embarkation and cargo ship inspection and staging area
3) LCAC/AAV laydown area
4) Apra Harbor medical/dental clinic
5) Military working dog kennels; USCG wharf and support facilities

C. Anderson AFB Area

1) Air embarkation
2) ACE beddown

D. Training Areas

1) Training range complex
2) Ammunition storage
3) Non-firing ranges
4) Aviation training
5) Command, control and simulation

Attachment 3A – Existing Military Facilities on Guam

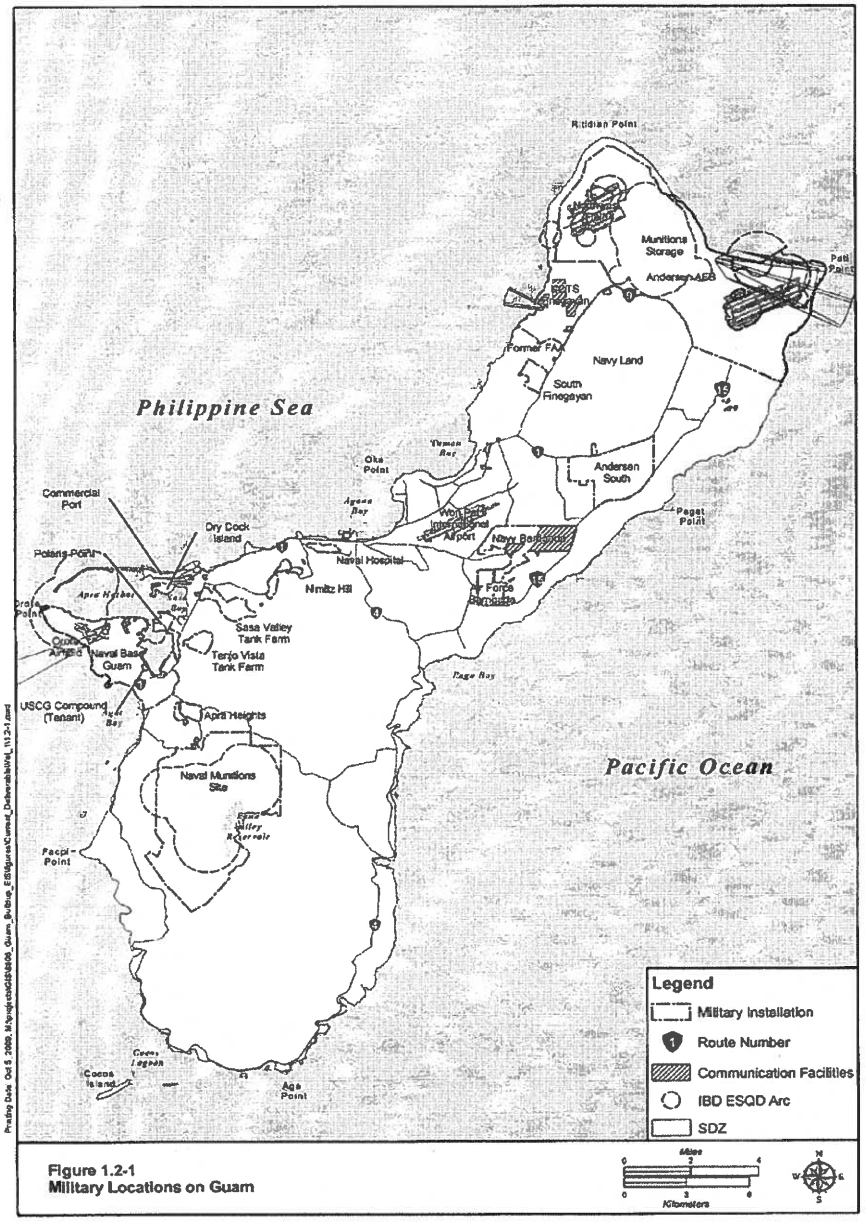


Figure 1.2-1
Military Locations on Guam

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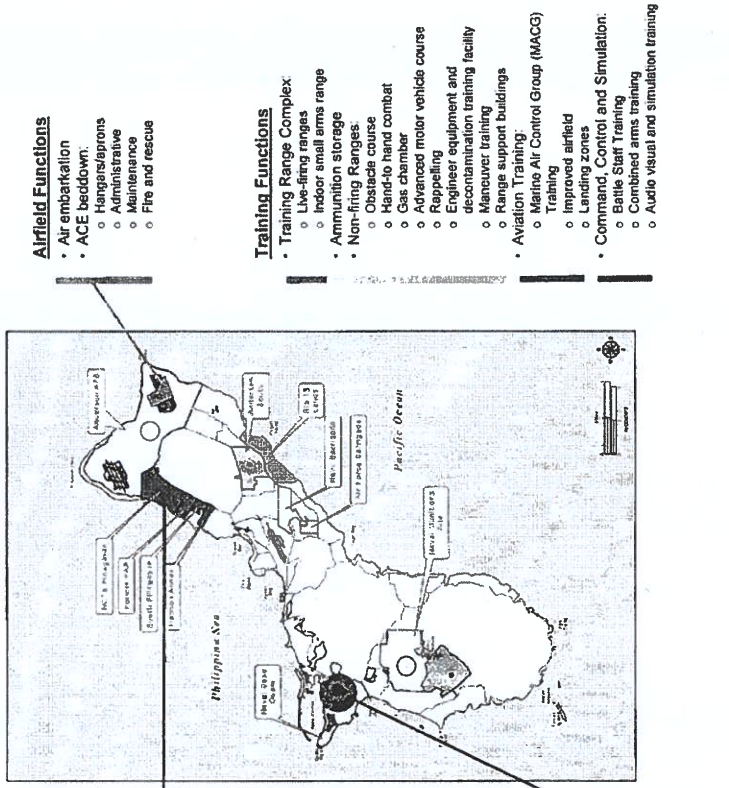
Attachment 3B – Proposed Military Facilities on Guam

Figure 2.1-1 Overview of Proposed Facility Construction and Operations on Guam



Attachment 4 - Information Required by 40 CFR 122.21(f)

(1) The activities conducted by the applicant which require it to obtain an NPDES permit.

(2) Name, mailing address, and location of the facility for which the application is submitted.

(3) Up to four Standard Industrial Classification (SIC) codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(5) Whether the facility is located on Indian lands.

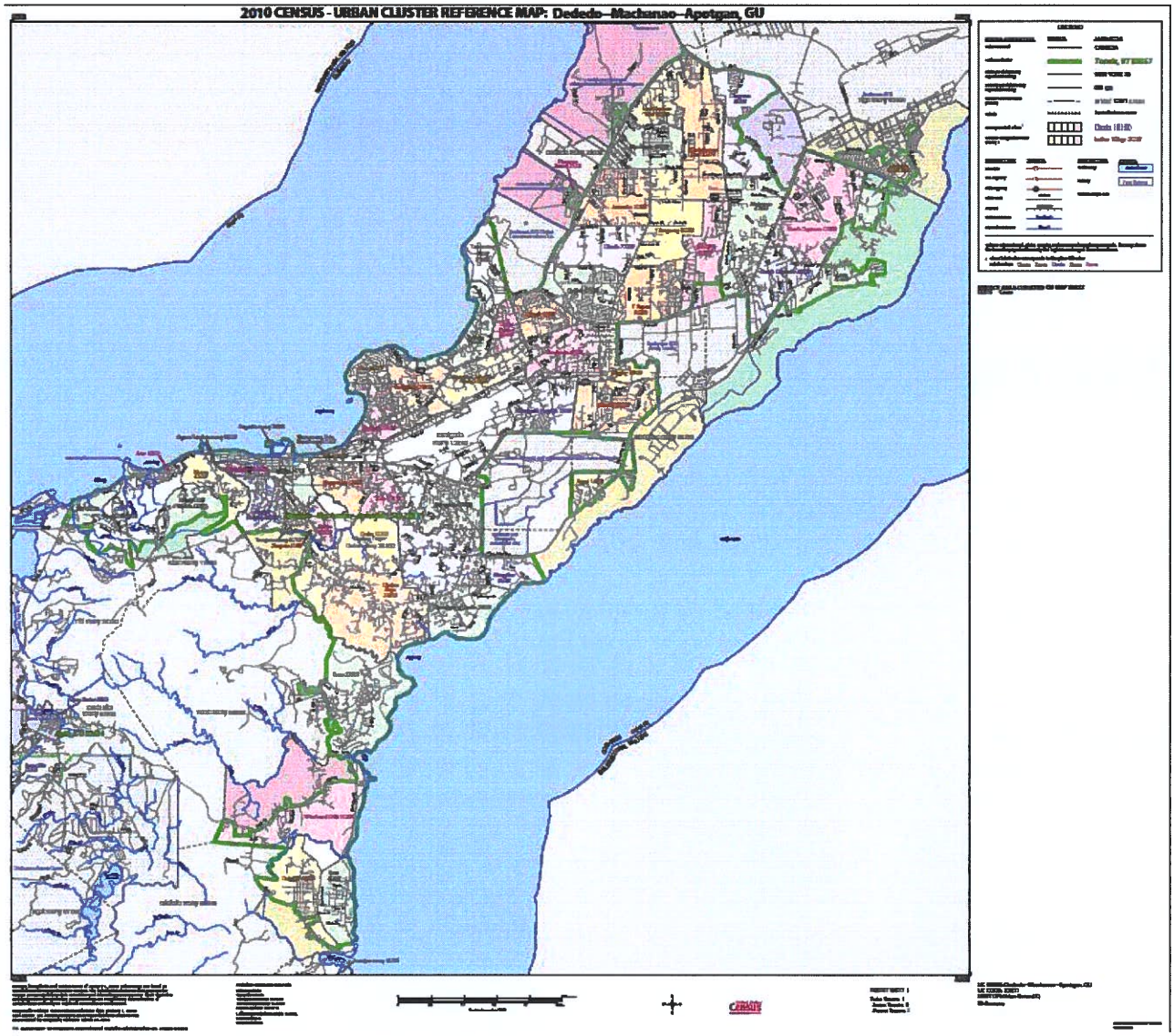
(6) A listing of all permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA).
(ii) Underground Injection Control (UIC) program under the Safe Drinking Water Act (SDWA).
(iii) NPDES program under the Clean Water Act (CWA).
(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA)
(v) Nonattainment program under the CAA.
(vi) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the CAA.
(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.
(viii) Dredge or fill permits under section 404 of CWA.
(ix) Other relevant environmental permits, including State permits.

(7) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

(8) A brief description of the nature of the business.

Appendix B – Guam Urban Cluster (2010 Census)



Appendix C – DoD Existing Facilities on Guam

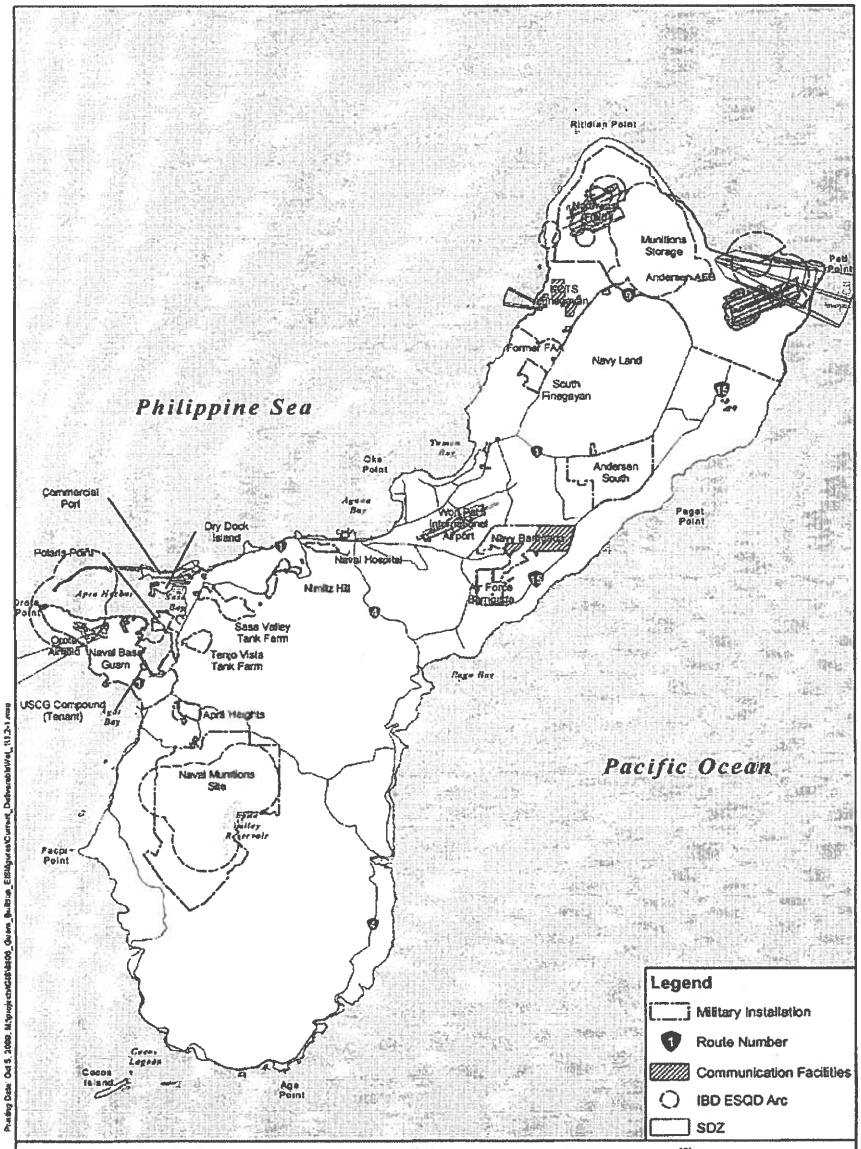


Figure 1.2-1
Military Locations on Guam

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