State of California—Health and Human Services Agency
California Department of Public Health

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TREASURE ISLAND
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SUBJ: CDPH-EMB document review comments for the *Draft Report Scoping Survey of Wastewater Lines Downstream From Former Building 233,* Former Naval Station Treasure Island, San Francisco, California. Issued December 30, 2015.

The California Department of Public Health (CDPH) - EMB has reviewed the subject document and has comments to submit. Please see the attached review comments. This review was performed by Matthew Wright in support of the Interagency Agreement between DTSC and CDPH-EMB.

If you have any questions concerning this review, or if you need additional information, please contact Matthew Wright at (916) 449-5687.

Activity: Review *Draft Report Scoping Survey of Wastewater Lines Downstream From Former Building 233,* Former Naval Station Treasure Island, San Francisco, California. Issued December 30, 2015.

February 12, 2016

The Environmental Management Branch (EMB) of the California Department of Public Health (CDPH) appreciates the opportunity to review the submitted document, *Draft Report Scoping Survey of Wastewater Lines Downstream From Former Building 233,* Former Naval Station Treasure Island, San Francisco, California. Issued December 30, 2015.

General Comments:

1. Please note that CDPH-EMB utilizes Section 30256 in Title 17 of the California Code of Regulations (17 CCR 30256) to render a decision to concur with an unrestricted release. As a result, CDPH-EMB requires a final status survey report that compares the distribution of data from the downstream wastewater lines with applicable reference area datasets.

   Background reference areas were not presented nor applied in this *Draft Report Scoping Survey of Wastewater Lines Downstream From Former Building 233.* This represents a significant departure from the standard practices embodied in Multi-Agency Radiation Survey and Site Investigation Manual, (MARSSIM) NUREG-1575, Revision 1. August 1997.

   Additionally, Section 3.6 APPLICATION OF RADIOLOGICAL SCREENING CRITERIA, page 11 of the ITSI Giblane Final Radiological Management Plan Former Naval Station Treasure Island San Francisco, California, (July 2013), states the following, "The criteria provided in Table 3.1 are NOT intended to be used as the principal means of radiologically clearing buildings, structures, and land areas for unrestricted use. The survey data will be statistically compared to background to determine if residual radioactivity levels are indistinguishable from background."

   Finally, the Final Task-Specific Plan Radiological Survey of Building 3 and Impacted Wastewater Drains Naval Station Treasure Island San Francisco, California; Section 1.4 RADIOLOGICAL SCREENING CRITERIA, page seven, paragraph two, sentence one, states, "The survey data will be statistically compared to background to determine if residual radioactivity levels are indistinguishable from background."

   Please include a comparison of the distribution of data from the surveyed site(s) with applicable reference area datasets.

2. Radiation Work Instructions (RWIs), Task Specific Plans (TSPs) and Field Change Requests (FCNs) are not being communicated clearly and in a timely manner. The Navy has previously committed to timely disclosure in, "Response to Comments on the Draft Radiological Work Plan Radiological Surveys at Various Areas, Former Naval Station Treasure Island, San Francisco, California issued December 24, 2014"; "During project execution, CDPH will be briefed on project status, including deviations from the Work Plan, during regularly scheduled BCT meetings." Please ensure that in the future changes to the original document; which was used to garner CDPH-EMB's approval, are promptly conveyed to CDPH-EMB.

3. All the graphs are of low resolution and cannot be read.

Specific Comments:

4. EXECUTIVE SUMMARY, page one, paragraph two, sentence one, "The Historical Radiological Assessment – Supplemental Technical Memorandum, Naval Station Treasure Island, San Francisco, California (HRASTM) identified the former Building 233 sewer drain and the Avenue M storm sewer line downstream from the former Building 233 as radiologically impacted (TriEco-Tt, 2014)." There appears to be no radiological investigation of the two storm lines which exit the westerly border of Building Site 233 at Northing 2127364.27/Easting 6022996.1 and at Northing 2127271.73/Easting 6023042.79 adjacent to Avenue M. Prior to remediation these storm lines had 20.8 picocurie per gram (pCi/g) Radium 226 (Ra-226) of internal sediment and 123.0 pCi/g Ra-226 of excavation soil respectively. Please explain.

5. EXECUTIVE SUMMARY, page one, paragraph three, sentence two, "The radiological scoping survey objective was to collect data from the wastewater lines and determine if radioactivity is present that exceeds the radiological screening criteria of:

    - picocurie per gram (pCi/g) of volumetric radioactivity above background,

    - 100 disintegrations per minute per 100 square centimeters (dpm/100 cm2) of total surface radioactivity above background".

These values are in fact the exact radiological criteria from Table 3.1 of the ITSI Giblane Final Radiological Management Plan Former Naval Station Treasure Island San Francisco, California, (July 2013), which are NOT intended to be used as the principal means of radiologically clearing buildings, structures, and land areas for unrestricted use. (Emphasis in the original text) Please explain the deviation from the original work plan which was reviewed and approved by CDPH-EMB.

6. EXECUTIVE SUMMARY, page one, paragraph three, sentence two, "Wastewater lines downstream of Building 233 were designated as Class 3 survey units based on their low potential for residual radioactivity above the radiological screening criteria." Radiological survey results documented in the Final Final Status Survey Report Building 233 Site Former Naval Station Treasure Island San Francisco, California, (CBI, 2014) Figure 7, Utility Lines at the Building 233 Site Elevated Sample Results, record 40.8 pCi/g Ra-226 excavation soil within two feet of the man hole located at Northing 2127259.17/Easting 6023136.39 which is located between potholes numbers one and two as represented in this text's, "Figure 5-3 Building 233 Sewer Drain Access Points." While no legend of scale is presented in Figure 5-3 Building 233 Sewer Drain Access Points, these previous radiological survey results seem to clearly fall within the survey boundary presented in this text. Due to the presence of 40.8 pCi/g Ra-226 in the nearby soils previously documented, the survey unit should have been classified as Class 1 and surveyed accordingly.

   Additionally, the Final Task-Specific Plan Radiological Survey of Building 3 and Impacted Wastewater Drains Naval Station Treasure Island San Francisco, California; Section 2.0 SURVEY DESIGN, page nine, Table 4 – Survey Units, Wastewater Drains (Class 1 Area) - designates as a Class 1 Area, "Gravity-fed wastewater pipes (below grade) and associated manholes which drained former (demolished) Buildings 7 and 233 to pump station 6 (5- and 6-inch-diameter pipe)".

   Finally, the Final Task-Specific Plan Radiological Survey of Building 3 and Impacted Wastewater Drains Naval Station Treasure Island San Francisco, California; Section 2.1 CLASSIFICATION, page 10, paragraph one, sentence four states, "The existing gravity-fed wastewater drain piping running downstream from Building 3 and from the former Buildings 7 and 233 is

designated a Class 1 area, as it has been identified as having a reasonable potential for residual radioactivity from historical activities." Please justify the less stringent classification of the survey unit.

7. EXECUTIVE SUMMARY, page two, paragraph two, sentence one, "Radiological survey data results were below the screening criteria, and there were no indications of radioactive contamination based on field observations." Please see comment one.

8. Section 1.1 Objective and Scope, page three, paragraph one, sentence one "The objective of the radiological scoping survey was to collect data from the wastewater lines to determine if radioactivity is present that exceeds the radiological screening criteria." Please see comment one.

9. Section 1.4 Radiological Screening Criteria, page six, Table 1-1 Radiological Screening Criteria. Footnote "C", "An arbitrary value of 20% of the radiological screening criteria was used to compare smear sample results; for conservative simplicity in execution, alpha activity was assumed to be Ra-226." Does this mean that 20% smear dpm/100 cm^2 values are assumed to be the result of alpha contamination? Please clarify.

10. Section 1.5.1 Step 1 – Statement of the Problem, page six, paragraph one, sentence two, "The Navy's objective is to obtain radiological clearance of the wastewater lines downstream from Building 233. Radiological data were needed to determine if radioactivity exceed the radiological screening criteria." Please see comment one.

11. Section 1.5.2 Step 2 – Decision Statement, page seven, paragraph one, sentence two, "The principal study question was: "Is radioactivity present that exceeds the radiological screening criteria?" Please see comment one.

12. Table 1-2 Decision Rules, page eight, column four, 'ELSE", "Compare data to background". Please explain which background data is referred to in this comment; and supply this data as a part of the document along with a description of the data analysis which would be employed in making the comparison.

13. Section 2.3.1 Number of Measurements, page ten, paragraph one, sentence one, "A minimum of 20 static measurements were collected per survey unit. This number of static measurements were developed using the MARSSIM process and is based on the design goals and constraints of the RMP (Attachment 1; ITSI Gilbane, 2013a)." Please supply the worked out equation which determined this value.

14. Section 3.0 DATA COLLECTION, page 11, paragraph one, sentence three, "Radiation work instructions (RWIs) were developed to supplement guidance provided in the RMP and Wastewater Drains TSP (ITSI Gilbane, 2013a and 2013b, respectively)." Please provide the Radiation Work Instructions and Wastewater Drains TSP as appendix(s) to this document.

15. Table 3-2 Detection Sensitivities, page 13, footnote, "d", states "4π detection efficiency assumed". The Model 43-10-1 Alpha/Beta Sample Counter November 2015 product manual details steps to calculate the 4π detection efficiency for this model. Therefore why is the 4π detection efficiency assumed and not calculated?

16. Section 4.0 DATA ANALYSIS, page 16, paragraph one, sentence two, "Static measurement and volumetric sample data from a laboratory were analyzed quantitatively for direct comparison to the radiological screening criteria, and radiological scan data were analyzed qualitatively to determine whether further investigation was necessary." Please see comment one.

17. Section 5.1 Survey Unit, Figure 5-1, page 17, Building 233 Sewer Drain Map; the piping within the scope of the radiological surveys presented in this map appear to conflict with the boundaries shown in Figure 5-3, page 19, Building 233 Sewer Drain Access Points. Please explain.

18. Section 5.2 DATA COLLECTION, page 18, paragraph two, sentence five, "Since the Building 233 sewer drain is no longer in service, the backhoe bucket was used to remove a small segment of intact pipe at an access point in lieu of the surveyor entering the excavation." Please clarify at which access point(s) (pot holes) segments of intact pipes were removed.

19. Section 5.2 DATA COLLECTION, page 18, paragraph two, sentence six, "A field change request was prepared to document this modified approach (Field

Change Request 03, dated 28 April 2014; Appendix A)." Please see comment number two.

20. Section 5.2 DATA COLLECTION, page 19, paragraph two, sentence one, "A series of three manholes and four potholes was used to gain access to the pipe and soil surrounding the Building 233 sewer drain." CDPH-EMB strongly believes that due to the presence of 40.8 pCi/g Ra-226 in the nearby excavation soils previously documented in the Final Final Status Survey Report Building 233 Site Former Naval Station Treasure Island San Francisco, California, (CBI, 2014) Figure 7, Utility Lines at the Building 233 Site Elevated Sample Results; as being between potholes one and two; that more comprehensive , Class 1, surveying of the soils adjacent to this line, from origin to terminus, are mandated to demonstrate that the adjacent soils are in fact free of Ra-226.

    Additionally, please note that Final Task-Specific Plan Radiological Survey of Building 3 and Impacted Wastewater Drains Naval Station Treasure Island San Francisco, California, Section 3.3 IMPACTED WASTEWATER DRAIN SURVEYS, page 17 paragraph two, sentence seven, requires that, "Soil samples will be collected adjacent to and/or beneath drain piping at random locations and, if evident, where cracked or broken piping may have leaked." Localized excavation (e.g., pot holing), direct push (e.g., Geoprobe), directional soil boring, or similar methods can be used to collect soil samples without entry into an excavation; please explain why no random soil samples were collected adjacent and/or beneath drain piping at random locations.

21. Sections 5.3 Gross Gamma Scans, page 20, paragraph one, sentence one, and Section 5.5 Data Assessment, page 21, paragraph one, sentence five; both address the same subject, "The pipe and manhole readings were approximately 7 to 10 times the instrument background readings; these data are reasonable as naturally occurring radioactivity is found in clay pipe and brick". Please supply supporting data which demonstrates the reasonability of the increased manhole and pipe readings.

22. Section 6.2 DATA COLLECTION, page 23, paragraph two, sentence two, "A combination of video inspection, gross gamma scans, and alpha/beta static measurements were collected to determine the radiological condition of the

storm sewer line." Please provide CDPH-EMB an opportunity to review video inspection records and images.

23. Section 6.2 DATA COLLECTION, page 24, paragraph two, sentence four, "No soil sample adjacent to and/or beneath the drainpipe were collected as visual inspection indicated that no leakage had occurred." Please note that Final Task-Specific Plan Radiological Survey of Building 3 and Impacted Wastewater Drains Naval Station Treasure Island San Francisco, California, Section 3.3 IMPACTED WASTEWATER DRAIN SURVEYS, page 17 paragraph two, sentence seven, requires that, "Soil samples will be collected adjacent to and/or beneath drain piping at random locations and, if evident, where cracked or broken piping may have leaked." Please explain why random soil samples were not collected.

24. Appendix A, Field Change Request 03, page one, Recommended Solution, paragraph two, sentence two, "To eliminate the difficulties in trying to access the buried section of pipe, removing it from service, and having the surveyor enter the excavation, it is recommended that the piping upstream, i.e., vertical drain lines accessible from the roof and/or within the building, be surveyed and a sediment sample be collected at the downstream manhole next to the lift station." Building 233 was demolished and removed January, 2011; please explain how, "...piping upstream, i.e., vertical drain lines accessible from the roof and/or within the building..." will be surveyed.

25. Appendix A, Field Change Request 03, page two, this page apparently has not been completed. There are no signatures for the Giblane Technical Reviewer or for the Gilbane Project Manager. None of the check boxes have been completed so it is impossible to determine whether or not the Giblane Technical Reviewer and the Gilbane Project Manager have rejected or approved the Field Change Request. Sections three, four and five of the form have no entries; so that Client Approval, Final Resolution, and Verification of Approved Changes Have Been Implemented; have not been addressed. Please present to CDPH-EMB the completed form or explain how this Field Change Request could have been implemented in the absence of a signed, verified, completed form.