TETRA TECH

PITT-05-8-046

May 30, 2008

Project No. 112G00352

Mr. Howard Hickey
NAVFAC MW
201 Decatur Avenue
Building 1A, Code EV
Great Lakes, Illinois 60088

Subject: CLEAN Contract No. N62467-04-D-0055
Contract Task Order (CTO) No. 0020

RE: ***Final***
Response to United States Environmental Protection Agency (EPA) E-Mail Comments Dated April 10, 2008 on Interim Measures Work Plan (IMWP) for Solid Waste Management Unit (SWMU) 13 (Mine Fill B)
Naval Surface Warfare Center (NSWC) Crane
Crane, Indiana

Dear Mr. Hickey:

Enclosed for your review and comment are the responses to the April 10, 2008 EPA comments on the SWMU 13 IMWP. These comment responses have been updated to incorporate the April 25, 2008 Navy comments.

Please contact the undersigned at 412-921-8989 (e-mail: Steve.Ruffing@tetratech.com) or Valerie Plachy at 412-921-8389 (e-mail: Valerie.Plachy@tetratech.com) regarding any questions or comments.

Sincerely,

Steven H. Ruffing, PE
Task Order Manager

VJP:SHR/mlg
Enclosure

cc: Mr. Tom Brent, NSWC Crane (letter, attachment, and enclosure)
Mr. Jim Goerdt, Tetra Tech (letter and enclosure)
Mr. Fred Ramser, Tetra Tech, (letter and enclosure)
Ms. Bonnie Capito, NAVFAC Atlantic (PDF copy of letter via e-mail)
Mr. John Trepanowski, Tetra Tech (letter, attachment, and enclosure)
Mr. Ralph Basinski, Tetra Tech (letter, attachment, and enclosure)
Mr. Steve Ruffing, Tetra Tech, (complete copy of the work plan)
Ms. Valerie Plachy, Tetra Tech (letter only)
Mr. Garth Glenn, Tetra Tech (letter only)
Project File – CTO 0020 (Midwest)

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May 30, 2008

RESPONSE TO COMMENTS (RTCs) DATED APRIL 10, 2008
FROM UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)
(E-MAIL FROM PETER RAMANAUSKAS)
ON THE INTERIM MEASURES WORK PLAN (IMWP) RTCs DATED DECEMBER 20, 2007
FOR SWMU 13 – MINE FILL B
NAVAL SURFACE WARFARE CENTER
CRANE, INDIANA

Comments provided by the United State Environmental Protection Agency (USEPA) are shown in bold font. Responses following each EPA comment are shown in regular font. Changes to the IMWP are italicized and enclosed in quotation marks.

EPA-1 (4-10-08) regarding Response to EPA-1b & 1c:
Response 1c does not address the comment. Overall, the text remains confusing with respect to which buildings were known to have PCB use and which buildings are having PCB contaminated soil removed. For example, Section 3 describes work around B-169 and B-171 but does not talk about B-166 while Figure 3-1 shows work proposed around B-166. Some places in the text discuss B-166/171 and others B-169/171. Please describe work taking place at all three buildings and what the sources of PCB were at each building. If a building did not have a source of PCB, describe how PCB came to be located near the building.

Response to EPA-1 (4-10-08): Figures 3-1, 3-2, and 3-3 indicate a fenced area northeast of Building 169 with "0166." This area is a fenced in area where the former Building 166 Therminol Boilers were located. The Therminol Boilers for Building 166 and Building 171 are believed to be the sources of polychlorinated biphenyl (PCB) contamination at SWMU 13 (Mind Fill B). PCB activities did not occur at Building 169. The purpose of referencing Building 169 is as a landmark for the remediation Environmental Multi Award Contractor (EMAC). The Navy believes that it is appropriate to use Building 169 as a landmark because of its location relative to the proposed remediation areas.

For clarification, Figure 3-1, 3-2, and 3-3 (See Attachment 1) have been modified to include a legend for the former foundation pad of the Therminol Boilers rather than fenced areas. Additionally, these figures have been modified to show Building 166.

For further clarification, Section 1.3.2 has been modified to provide additional information on the types of activities that occurred at MFB including activities in Building 169 as follows:

> *"SWMU 13 is located in the central portion of NSWC Crane as shown on Figure 1-1. Figure 1-2 is an aerial photograph of SWMU 13 and Figure 1-3 is a map showing the facility locations at MFB. MFB has been in use since 1941 when NSWC Crane was commissioned, and explosive ordnance was produced at MFB from 1941 until 1973. Since 1973, the facilities at MFB have been used to renovate ordnance and equipment. This IMWP focuses on the PCB-contaminated soils and sediments in the area of Buildings 166, 169, and 171. The therminol boilers located near Buildings 166 and 171 were used to heat oil-containing PCBs. The heated oil was then transported to Buildings 166 and 171 (i.e., the melt buildings), where the oil was used as a heat-transfer medium in the melting of explosive mixtures (Halliburton NUS, 1992).*
>
> *"Building 169 housed inert operations (Halliburton NUS, 1992). The therminol boilers operations were not associated with activities in Building 169 (i.e., no PCB containing materials were associated with activities conducted at Building 169).*
>
> *"The major source of PCB contamination at MFB resulted from the therminol boilers activities associated with Buildings 166 and 171 where oils containing PCBs leaked. The*

therminol boilers, associated equipment, and piping were removed in the mid- to late-1980s and disposed off-site in accordance with TSCA regulations."

EPA-2 (4-10-08): The response does not address the comment. Why was this text removed if it is a valid part of the previous investigations at this SWMU? Please present the requested 1990 TCLP action levels and sampling results of 1985.

Response to EPA-2 (4-10-08): This text was part of the draft Resource Conservation and Recovery Act (RCRA) Facilities Investigation (RFI) Report for MFB. Information regarding the 1990 TCLP action levels could not be located during a review of the historical documentation associated with the 1985 single sample activity (i.e., review of the Initial Assessment Survey). The scope of this interim measures is PCB contamination. Because PCBs are not a RCRA hazardous waste, TCLP for PCBs would not have been run; thus, the 1990 TCLP action levels is not relevant to this interim measures. Therefore, to eliminate confusion, the second paragraph of Section 2.2, Subsection, Initial Assessment Survey, has been deleted from the IMWP.

Additionally, the 1985 data cannot be located. However, review of historical documents indicates that sampling during this time period would have been for explosives and metals, which are not address in this interim measures. For these reasons, the 1985 data cannot be provided.

No additional changes have been made to the IMWP in response to this comment.

EPA-3 (4-10-08) regarding Response to EPA-9a/b/c:
Any further updates on your plans here? What is the status of the building demolitions?

Response to EPA-3 (4-10-08): Building demolition is not within the scope of this interim measures. However, the planning documents for the demolition of the Mine Fill buildings have been approved. The next step will be to remove and dispose of the asbestos containing materials (e.g., transite panels) and to request an air variance from IDEM for the thermal treatment of the explosives contaminated building materials.

Additionally, the Navy is in the process of procuring the required investigation activities to determine the source of PCBs into the Building 171 sump / catch basin. This activity is anticipated to occur in May 2008 prior to EMAC procurement.

No change has been made to the IMWP in response to this comment.

EPA-4 (4-10-08) regarding Response to EPA-9d:
The second bullet in the response discusses off-site disposal of waters containing PCB > 0.5 ug/L. To which off-site facility would this water be sent?

Response to EPA-4 (4-10-08): The off-site disposal facility(ies) are not identified in the IMWP but are provided by the EMAC upon contract award. After contract award, the EMAC will provide information for the disposal facility(ies), which will be incorporated into the Quality Assurance Project Plan.

EPA-5 (4-10-08) regarding Response to EPA-10:
EPA-5a (4-10-08): Referring to the floor drains mentioned in the response, these are floor drains within the tunnel containing the sediment pile? If so, they should be checked to see whether they contain PCB impacted sediments. Are these drains connected to the impacted sump discussed in comment 9?

Response to EPA-5a (4-10-08): Yes, there are "floor drains" within the tunnel that contains the PCB-contaminated sediment pile. As part of the planned investigation discussed in the Response to EPA-3 (4-10-08), the potential connection (physical and environmental) of the Building 171 floor drains to the Building 171 sump / catch basin will be investigated.

EPA-5b (4-10-08): All contact water contained during the sediment removal must be checked for PCB concentration prior to disposal or release regardless of it being filtered.

Response to EPA-5b (4-10-08): As discussed in the Response to EPA-9d of May 16, 2007; it is agreed that the water used to clean the sump and culverts needs to be collected and characterized for proper disposition. Waters that are discharged to surface waters must have PCB concentrations less than 0.5 µg/L. Waters that are disposed off-site must meet the criteria of the disposal facility. As noted in the Comment EPA-9d, all waters used throughout the removal of SWMU 13 contaminated soils will be containerized and characterized for proper disposition. The text has been reviewed and changes have been made as appropriate to detail this requirement.

The IMWP has been updated for the requirement that water collected from the sumps and culverts must be characterized prior to discharge. The total PCB concentration of the characterized water action level is 0.5 micrograms per liter (µg/L). The updated text includes the following two provisions:

- Waters with the total PCB concentration less than 0.5 µg/L can be discharged to a local stabilized drainage channel or storm drain.

- Waters with the total PCB concentration greater than or equal to 0.5 µg/L must be transported off-site for disposal.

EPA-5c (4-10-08): Sediments must be tested for PCB concentration for disposal characterization prior to any consolidation. > 50 ppm and < 50 ppm materials should be kept segregated.

Response to EPA-5b (4-10-08): All initial characterization of soil and sediments is based on the in situ characterization. The segregation and off-site disposal of excavated material will be based on in-place soil and sediment concentrations. Soil and sediments containing total-PCB concentrations greater than 50 mg/kg will be stockpiled separately and transported and disposed at a TSCA regulated landfill. No in-place sediments have been identified at concentrations greater than 50 mg/kg.

Based on the available analytical data, 6 sample locations contain total-PCBs at concentrations that exceed 50 mg/kg. Figures 3-1, 3-2, and 3-3 have been revised to indicate the locations of the soils that must be stockpiled separately for disposal at a TSCA regulated landfill. Additionally, the text and volume tables have been updated to indicate the inclusion of material to be disposed at a TSCA regulated landfill. Additional sampling for disposal will be performed based upon requirements of the selected landfill.

Numerous revisions to the IMWP text have been made in response to this comment for the primary work and Options 1 and 2. Language revisions will be similar to the following:

- Off-Site Disposal of Soils – Excavated soil containing PCBs will be disposed at an appropriate off-site facility based on the in-place (in-situ) concentration of PCBs. Soils with in-situ PCB concentrations greater than or equal to 50 ppm (50 milligrams per kilogram (mg/kg)) will be surgically removed and segregated from soils with in-situ PCB concentrations less than 50 ppm. Soils with PCB concentrations greater than or equal to 50 ppm will be disposed in a TSCA-approved or RCRA landfill. Soils with PCB concentrations less than 50 ppm will be disposed at an NSWC Crane-approved solid waste landfill.

EPA-6 (4-10-08) regarding Response to EPA-16:
The Navy must take confirmation floor samples. The configuration of the drainage channel or excavation does not eliminate the requirement for confirmation sampling. Please propose a confirmation floor sampling plan.

Response to EPA-6(4-10-08): The excavation shape related to the drainage channel excavation is an irregular shape (see Figure 3-4 in Attachment 2). As a result of the irregular shape, verification samples will be collected from the exposed exaction floor of the channel overflow areas located on each side of the "V / U" shaped channel. Within the "V / U" shaped channel one verification sample will be collected from each of the exposed surface defining the sides of this "V / U" shaped excavation. To illustrate the locations of verification sample collection, a new figure (Figure 5-1 see Attachment 3) has been added to the text and is provide as part of this response to comment document.

As stated in Section 3.5.5 of the QAPP, "The goal of confirmation sampling is to obtain samples that are representative of residual soils at the boundaries of the excavation." The QAPP sampling frequency of 1 composite sample for every 30 foot by 30 foot (or 1 composite sample for every 900 square feet).

Due to contamination concerns, the Navy is proposing for the SWMU 13 IMWP the following sampling frequency for collection of composite confirmation samples:

- For the soil excavation areas, every 25 foot by 25 foot (e.g., 1 composite sample for every 625 square feet).

- For the channel excavation area of the drainage trenches, every 100 foot of excavation length. These excavations are approximately 6 foot by 100 foot (see Figure 3-4) (e.g., 1 composite sampler per 600 square foot).

- For the channel-overflow excavation area of the drainage trenches, every 100 foot of excavation length. These excavations are approximately 5 foot by 100 foot (see Figure 3-4) (e.g., 1 composite sampler per 500 square foot).

The Navy believes that these sampling frequencies are appropriate to this remedial activity. However, this sampling frequency is based on the specifics of this remediation event and may not be appropriate for future remediation activities at SWMU 13. Therefore, the language associated with these increased sampling frequencies has been incorporated into the IMWP and the QAPP has not been modified.

In addition, the 2nd bullet, subtitled "Drainage Channel Excavation Areas," has been added to Section 5.2 as follows.

- *"Drainage Channel Excavation Areas - Verification samples will be collected from the excavation sidewalls and floors. Due to the irregular shape of the drainage channel excavation (see Figure 3-4), two verification samples will be collected from the exposed overflow floor areas located on each side of the channel (i.e., from the channel overflow areas) and two verification samples will be collected form the exposed surfaces of the drainage channel (Figure 5-1). Verification samples will be composite samples as described in the QAPP (TtNUS, 2006). These four composite samples make up one set of verification samples. At a minimum, one set of verification samples will be collected from each drainage channel segment and for every 100 linear feet of drainage channel excavation. In the event that a drainage pipe is encountered during the drainage channel excavation process, the frequency of verification sample collection will be increased to one set of verification samples for every 25 linear feet of drainage channel excavation. Therefore, based on the proposed length of drainage channel excavation within 100 feet downstream of the piping outlet areas, if drainage pipes are not encountered, seven sets*

of samples, consisting of four verification samples per set, will be collected from the proposed SWMU 13 drainage channel excavation areas. The verification samples will be analyzed for PCBs. The results of these verification samples will be evaluated to determine whether PCB contamination remains in the exposed surface soil at concentrations greater than 1 mg/kg. In the event that a verification sample result exceeds 1 mg/kg (from floor samples or sidewall samples), the Navy may direct that the excavation be extended in the appropriate direction(s to remove this soil). The extent of additional excavation will depend on the location and concentration of the exceedances. Additional verification samples will be collected following any additional excavation. Excavation expansion may continue until verification samples indicate that PCB concentrations are less than 1 mg/kg. The length of drainage channel excavation is based on the results of the RFI and 2006 sediment-sampling events. The results of the verification sample will not increase the length of drainage channel excavation areas."

This revised text indicates a change in the sampling frequency that was presented in the March 2007 version of the Interim Measures Work Plan. The text in the March 2007 version indicated the collection of 1 set of verification samples for every 25 feet of drainage channel excavation. Because the PCB contamination within the drainage channel excavation areas is well defined, the Navy is proposing revising the sampling intervals for the drainage channel excavation to every 100 feet of drainage channel excavation, with the exceptions identified in the proposed replacement text.

Additionally, the following reference has been added to the IMWP:

"TtNUS, 2006. Quality Assurance Project Plan for SWMUs 8, 15, 18, 19, 20 and The Old Gun Tub Storage Lot for Interim Measures at SWMU 7 (Old Rifle Range), SWMU 8 (Building 106 Pond), SWMU 13 (Mine Fill B) and SWMU 17 (PCB Burial/Pole Yard) Addendum No. 1, Naval Surface Warfare Center Crane Division, Crane, Indiana. November."

EPA-7 (4-10-08) New Comment:
Section 5.3 mentions a QAPP Addendum which will support this work. Has that been submitted to us?

Response to EPA-7 (4-10-08): Yes, the QAPP associated with this project is Addendum No. 1 to the QAPP for SWMUs 8, 15, 18, 19, 20 and The Old Gun Tub Storage Lot for Interim Measures at SWMU 7 (Old Rifle Range), SWMU 8 (Building 106 Pond), SWMU 13 (Mine Fill B) and SWMU 17 (PCB Burial/Pole Yard) dated November 2006. This QAPP addendum was approved by EPA on November 17, 2006.

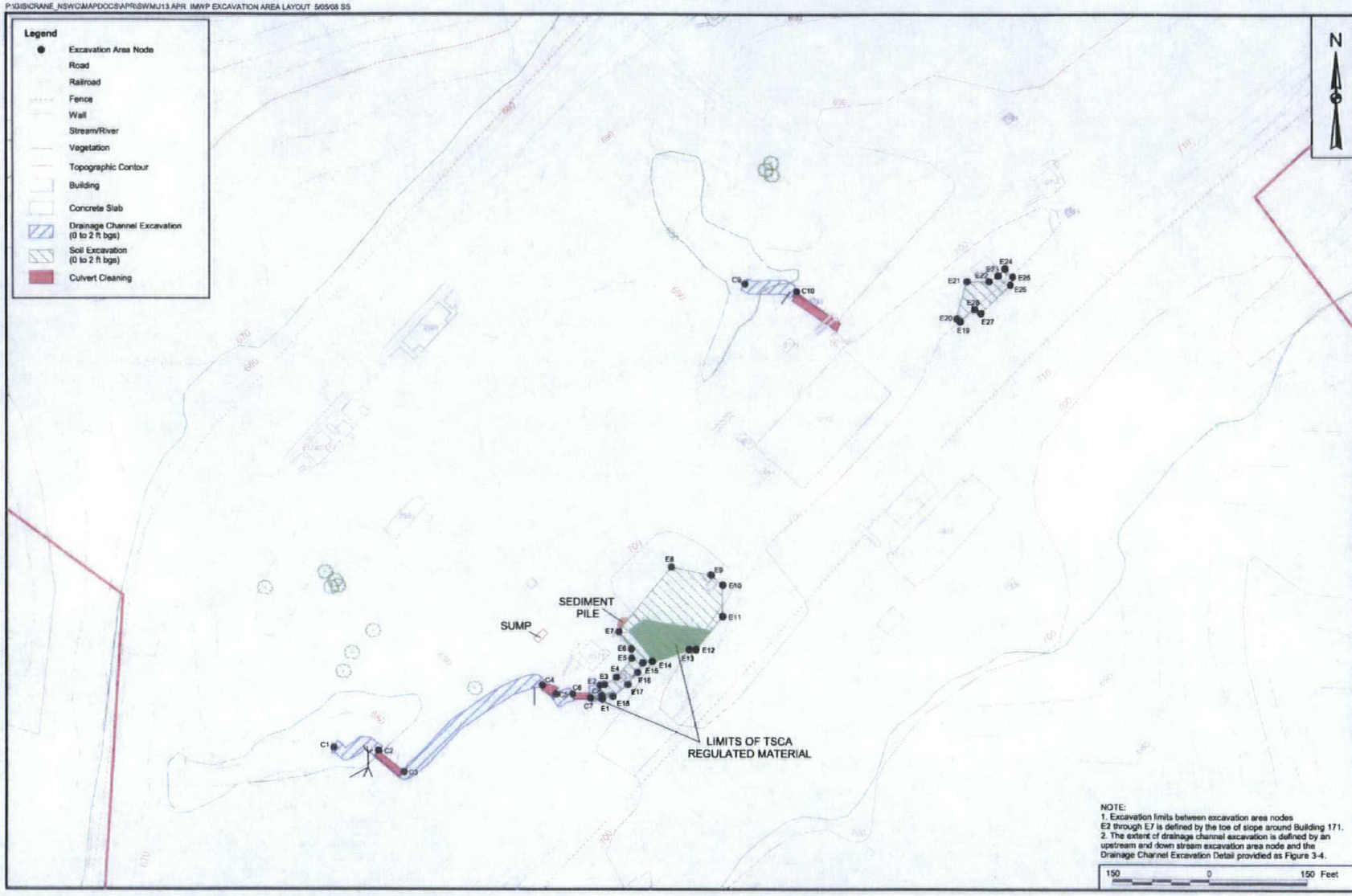
EPA-8 (4-10-08) New Comment:
Finally, don't worry about the need to submit as self-implementing under TSCA. That wouldn't apply in this case anyway as you are doing sediment removal. I'll continue to coordinate this with TSCA on my end.

Response to EPA-3 (4-10-08): EPA comment is noted.

ATTACHMENT 1

FIGURES 3-1, 3-2, AND 3-3

P:\GIS\CRANE_NSWC\MAPDOCS\APR\SWMU13.APR IMWP EXCAVATION AREA LAYOUT 5/05/08 SS



CONTRACT NO. 112G00352

APPROVED BY ____ DATE ____

APPROVED BY ____ DATE ____

DRAWING NO. FIGURE 3 - 1

REV 0

IMWP EXCAVATION AREAS
SWMU 13 - MINE FILL B
INTERIM MEASURES WORK PLAN
NSWC CRANE
CRANE, INDIANA

NUSFAC

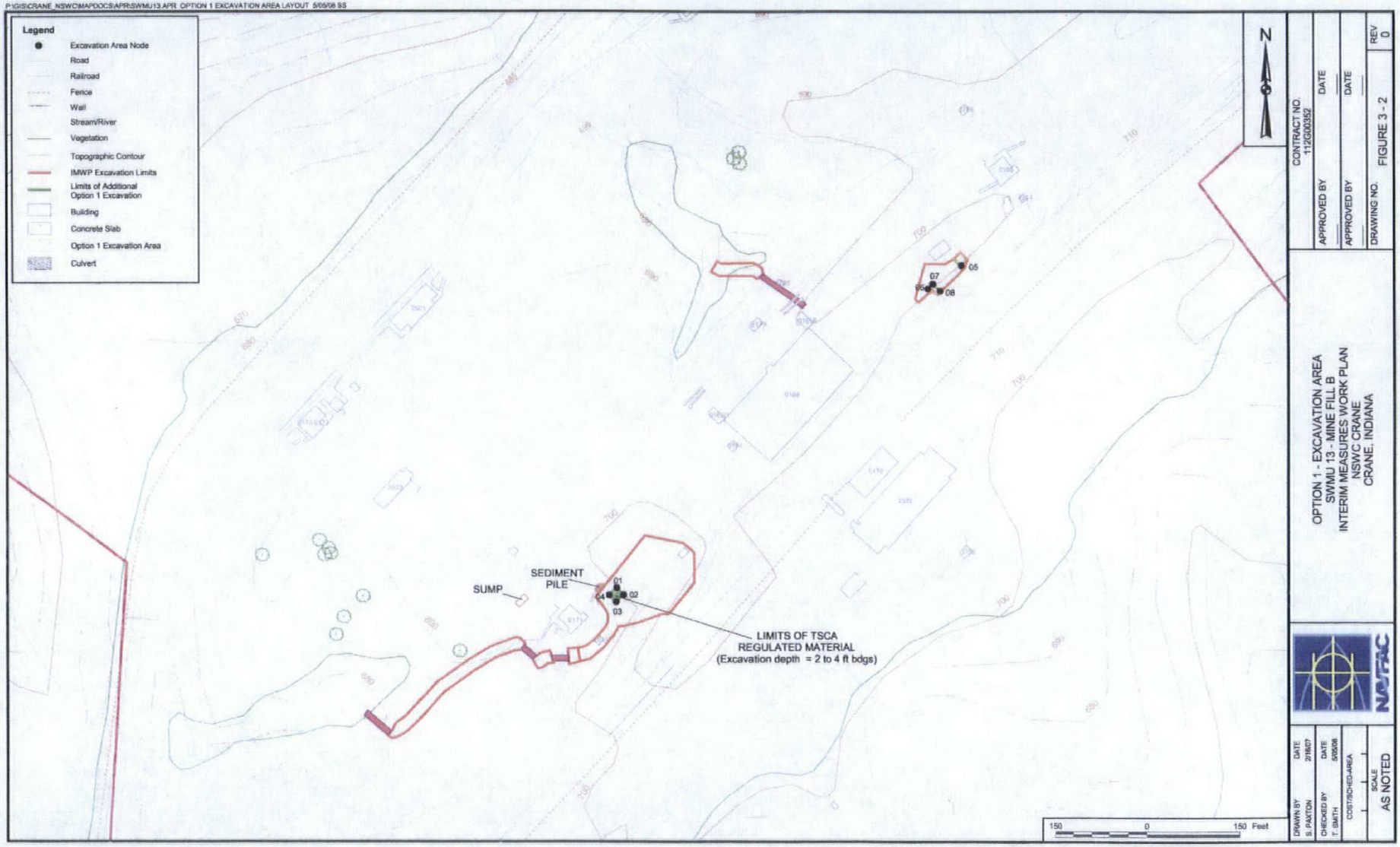
DRAWN BY S. PAXTON DATE 2/16/07

CHECKED BY T. SMITH DATE 5/05/08

COST/SCHED-AREA

SCALE AS NOTED

P:\GIS\CRANE_NSWC\MAPDOCS\APR\SWMU13.APR OPTION 1 EXCAVATION AREA LAYOUT 5/05/08 SS



CONTRACT NO. 11/2/00/352

APPROVED BY ____ DATE ____

APPROVED BY ____ DATE ____

DRAWING NO. FIGURE 3 - 2

REV 0

OPTION 1 - EXCAVATION AREA
SWMU 13 - MINE FILL B
INTERIM MEASURES WORK PLAN
NSWC CRANE
CRANE, INDIANA

NAVFAC

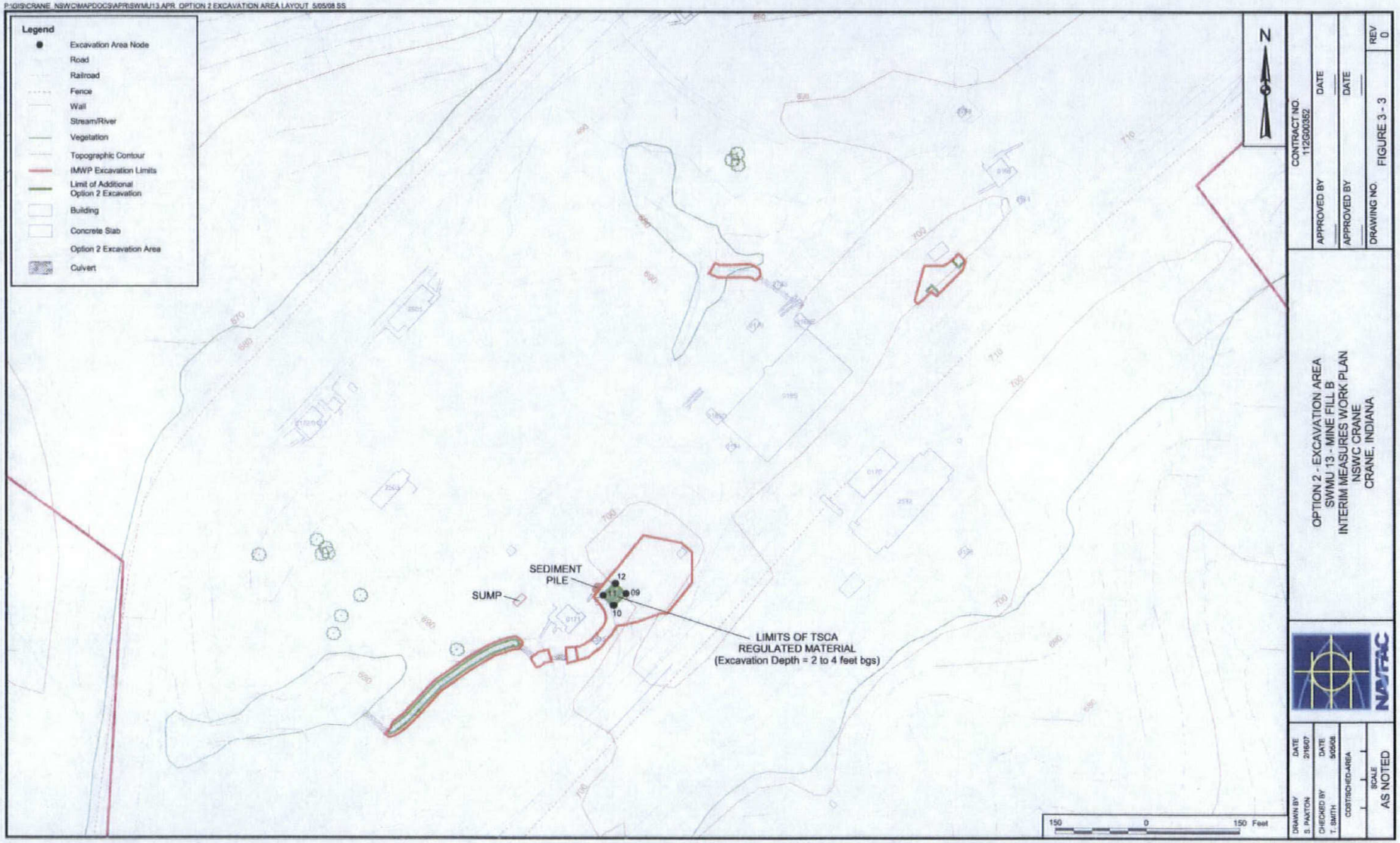
DRAWN BY S. PAXTON DATE 2/18/07

CHECKED BY T. SMITH DATE 5/05/08

COST/SCHED-AREA

SCALE AS NOTED

P:\GIS\CRANE_NSWC\MAPDOCS\APR\SWMU13.APR, OPTION 2 EXCAVATION AREA LAYOUT, 5/05/08 SS



CONTRACT NO. 112G00352

APPROVED BY ___ DATE ___

APPROVED BY ___ DATE ___

DRAWING NO. FIGURE 3 - 3

REV 0

OPTION 2 - EXCAVATION AREA
SWMU 13 - MINE FILL B
INTERIM MEASURES WORK PLAN
NSWC CRANE
CRANE, INDIANA

NAVFAC

DRAWN BY S. PAXTON DATE 2/16/07

CHECKED BY T. SMITH DATE 5/05/08

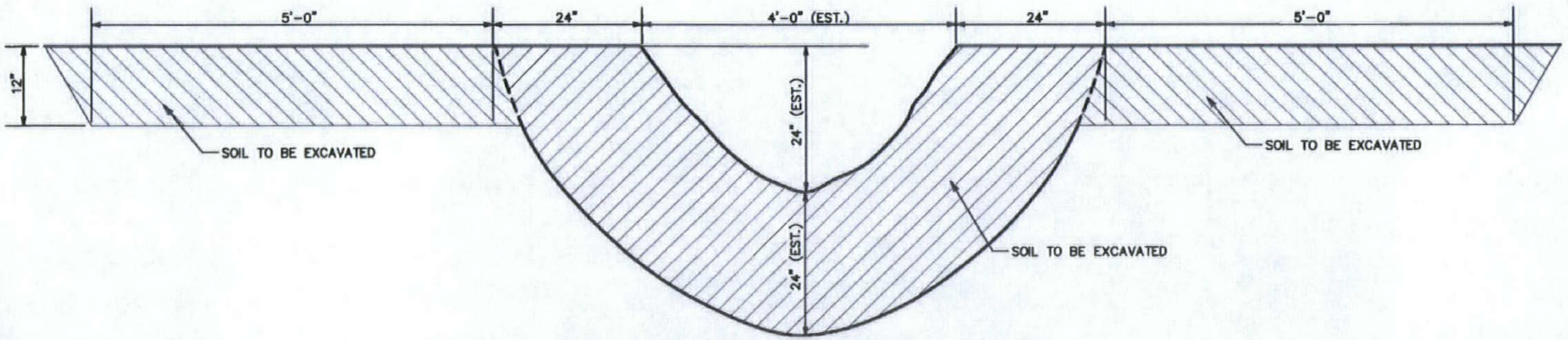
CDS/TSCHED-AREA

SCALE AS NOTED

ATTACHMENT 2

FIGURE 3-4

ACAD: 0352CD08.dwg 05/07/08 MF PIT



DRAINAGE CHANNEL EXCAVATION

LEGEND:

CHANNEL EXCAVATION

CHANNEL OVERFLOW EXCAVATION

NOTES:

1. BRUSH HOG EXCAVATION AREA TO EXPOSE TOP OF DRAINAGE CHANNEL BANKS.
2. DRAINAGE CHANNEL DIMENSIONS INDICATE AVERAGE OF DRAINAGE CHANNEL FIELD MEASUREMENTS.
3. FOR PORTION OF CHANNEL WITHOUT WELL DEFINED LIMITS, THE NAVY REPRESENTATIVE WILL INDICATE THE REQUIRED INITIAL EXCAVATION LIMITS.
4. ASIDE FROM THE ESTIMATED DRAINAGE CHANNEL DIMENSIONS, PROVIDED DIMENSIONS DELINIATE THE EXTENT OF EXCAVATION.

DRAWN BY MF	DATE 4/7/08	DRAINAGE CHANNEL EXCAVATION DETAIL SWMU 13 - MINE FILL B INTERIM MEASURES WORK PLAN NSWC CRANE CRANE, INDIANA	CONTRACT NO. 0352
CHECKED BY	DATE		OWNER NO. 0020
REVISED BY	DATE		APPROVED BY / DATE
SCALE NOT TO SCALE			DRAWING NO. FIGURE 3-4 / REV. 0

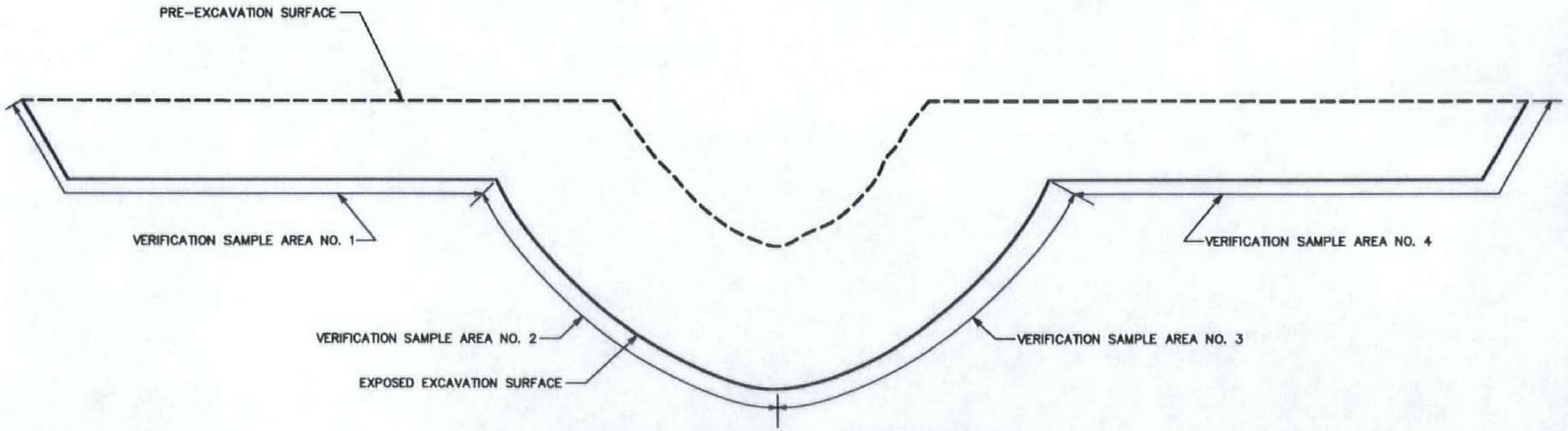
NAVFAC

FORM CADD NO. TTNUS-SH.DWG - REV 1 - 9/10/98

ATTACHMENT 3

FIGURE 5-1

ACAD:0352CD08.dwg 05/08/08 MF PIT



DRAINAGE CHANNEL EXCAVATION

NOTE:

FOR EVERY 100 FEET OF DRAINAGE CHANNEL EXCAVATION, ONE SET OF FOUR VERIFICATION SAMPLES WILL BE COLLECTED. A MINIMUM OF ONE SET OF FOUR VERIFICATION SAMPLES WILL BE COLLECTED FROM EACH DRAINAGE CHANNEL SEGMENT. AS AN EXCEPTION, IF DRAINAGE PIPES ARE ENCOUNTERED (EXPOSED) DURING EXCAVATION WITHIN THE DRAINAGE CHANNELS THE SAMPLING FREQUENCY WILL BE INCREASED TO ONE SET OF FOUR FOR EVERY 25 FEET OF DRAINAGE CHANNEL FROM THE DRAINAGE PIPE DISCHARGE LOCATION TO A DISTANCE OF 100 FEET DOWN STREAM OF THE DISCHARGE LOCATION.

DRAWN BY MF	DATE 4/7/08	DRAINAGE CHANNEL VERIFICATION SAMPLING SWMU 13 - MINE FILL B INTERIM MEASURES WORK PLAN NSWC CRANE CRANE, INDIANA	CONTRACT NO. 0352
CHECKED BY	DATE		OWNER NO. 0020
REVISED BY	DATE		APPROVED BY / DATE
SCALE NOT TO SCALE			DRAWING NO. FIGURE 5-1 / REV. 0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98