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ST JULIENS CREEK
5090.3a

IR Site Inspections – 2nd Quarter 2006

St. Juliens Creek Annex, Chesapeake, Virginia

PREPARED FOR: Agnes Sullivan/NAVFAC Mid-Atlantic

INSPECTIONS CONDUCTED BY: Rebekah Ives/CH2M HILL - VBO
Agnes Sullivan/NAVFAC Mid-Atlantic

DATE: July 6, 2006

Introduction

This technical memorandum summarizes the results of the inspections conducted at the active Installation Restoration (IR) sites at St. Juliens Creek Annex (SJCA) on June 7, 2006. The active sites include:

Site 2 – Waste Disposal Area B

Site 4 – Landfill D

Site 5 – Burning Grounds

Site 19 – Building 190

Site 21 – Industrial Area

The following sections summarize the results of the inspections, identify the potential concerns observed, and provide recommendations for resolution by site. The site-specific inspection checklists are included as an attachment.

Site 2 – Waste Disposal Area B

At the time of the inspection, there were no signs of unauthorized intrusive activities within the site or in the vicinity. Soil disturbances in the form of tire ruts were still noted in the field adjacent to monitoring wells SJS02-MW05S and SJS02-MW05D, as they were in the last inspection. However, vegetative re-growth in this area continues to be evident. This area should be assessed during the next quarterly site inspection to ensure the continuation of vegetative re-growth.

IDW derived during the Site 2 deep groundwater pump test was located in the southeast corner of the parking lot adjacent to Site 2. The IDW was properly labeled and pending analysis and disposal.

The site was free of any signs of dumping of chemicals. However, some debris was observed on site, consisting of one wood pallet in the area near SJS02-MW05S and four wood pallets and two wood beams near the southeastern corner of previously demolished Building 130. The pallets were utilized during field investigation activities at Site 21

conducted in November 2005. They will be utilized during upcoming IR site activities and taken off-site at the demobilization of the project.

All of the Site 2 monitoring wells, including casings and bollards were in good condition. Furthermore, the signs indicating the site boundary were in good condition. It was noted that the contact phone number on the signs is outdated; the contact information will be updated by application of decals on July 10, 2006.

Site 4 – Landfill D

At the time of the inspection, there were no signs of unauthorized intrusive activities, IDW storage, or dumping within the site or in the vicinity. The eastern and western drainage ditches were in good condition, free of sediment buildup and blockage. The signs depicting the site boundaries were in good condition, although the sign south of the site within the wetland was hidden by the vegetation. The visible monitoring wells, including casings and bollards, were in good condition and locked. Monitoring well SJS04-MW05S was not visible due to the vegetation.

The soil cover was free of notable defects that would require corrective action to ensure the effectiveness of the remedy. Numerous bare spots were observed throughout the soil cover where vegetative growth has not occurred. The seeding subcontractor will be contacted to discuss whether re-seeding is applicable under the soil cover seeding warranty. The fence was in good condition, with the exception of the left gate. However, the right gate is functioning and in good condition, providing site access. NAVFAC Mid-Atlantic will determine appropriate measures to address the gate.

Site 5 – Burning Grounds

At the time of the inspection, there were no signs of unauthorized intrusive activities and no IDW storage was observed within the site or in the vicinity. The area was free of identifiable concerns. All of the Site 5 monitoring wells, including casings and bollards were in good condition. Furthermore, the signs indicating the site boundary were in good condition. It was noted that the contact phone number on the signs is outdated; the contact information will be updated by application of decals on July 10, 2006.

Site 19 – Building 190

At the time of the inspection, there were no signs of unauthorized intrusive activities and no IDW storage was observed within the site or in the vicinity. Safety fencing is present in the area of the May 2006 removal action and will be removed once the vegetation is fully established. Vegetative growth is evident in this area. No identifiable concerns were observed during the inspection.

Site 21 – Industrial Area

At the time of the inspection, evidence of intrusive activities was observed within the site boundary. Construction equipment and two open excavations, also noted during previous site inspections, were present in the vicinity of former Building 201. The northern excavation (approximately 12′ x 8′ x 5′) and southern excavation (approximately 4′ x 4′ x 8′) appeared to be in the same condition as during the previous inspection. Facility Operations personnel

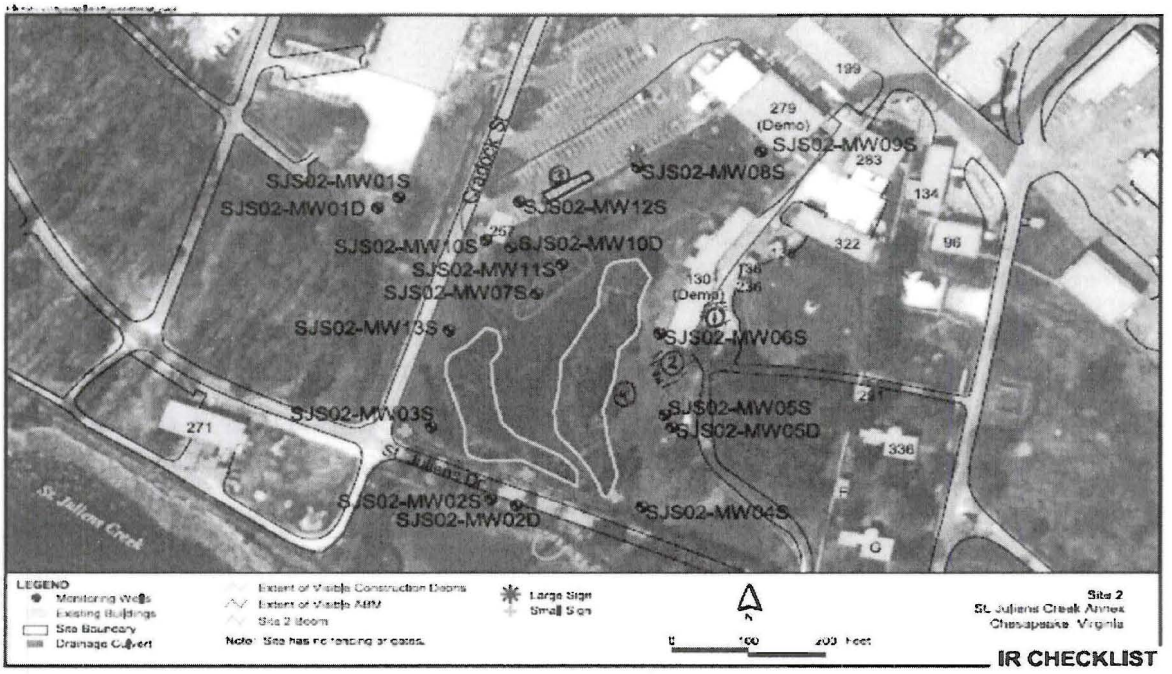
indicated that the excavations are a result of ongoing storm sewer line repairs and will be backfilled when repairs are complete. The extent of the northern excavation will not change, but the southern excavation will be extended approximately 20 feet west into the parking lot towards Building 1556 to repair the drop inlet and connected piping. The excavations are located in an area of potential groundwater contamination. The existing groundwater and storm water analytical data, and a comparison of the groundwater data to non-hazardous disposal criteria were provided to the NAVFAC Mid-Atlantic Remedial Project Manager (RPM). The RPM will coordinate with Facilities Operation as necessary through the remaining repair activities. The RPM requested that signs be placed around the perimeter of the areas of concern indicating the presence of an environmental site. Additional intrusive site activities observed during the inspection consisted of demolition of buildings throughout the site. Construction debris is present around building 247 and the soil has been cleared approximately 3 inches below grade.

At the time of the inspection no IDW storage was observed within the site or in the vicinity and the site monitoring wells were in good condition.

Site 2 - Waste Disposal Area B
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 2 is an unlined waste disposal area, covering approximately 4.4 acres, located at the corner of St. Juliens Drive and Cradock Street in the southwestern portion of the Annex. The waste disposal area began operating in 1921. Initially, refuse was burned onsite and was used to fill an adjacent swampy area. In 1942, an incinerator was installed and replaced the open burning practices. The waste disposal area was closed sometime after 1947. Garbage, acids, and waste ordnance were reportedly disposed at Site 2. Site 2 also contains abrasive blast media (ABM) from ship overhaul and repair operations. In 1989, the site was used for storage of heavy equipment and machinery, including storage of tools, tires, and machinery in sheds and trailers. In the north, Site 2 encompasses the former Site 17, which consisted of a concrete storage pad located just outside Building 279. The building was used as a fork lift maintenance shop. Building 278/279 were demolished in 2003 and the concrete slab remains in-place.

Site 2 is currently a swampy area covered with brush, trees, and grass. A water body directly connected to St. Juliens Creek is located in the center of Site 2. This inlet from the creek is tidally influenced and drains surface water from adjoining land, including Site 2, into the creek. Construction debris (concrete and brick), as well as ABM, are visible at the site. There are signs posted around the perimeter of the site.



IR CHECKLIST

Comments: (Provide related question number for each comment)

(1) - 4 wood pallets & 2 wood beams - Quest. #3
(2) - fire ruts - Quest. #3
(3) - IDW tank truck - Quest. #2
(4) - wood pallet - Quest. #3

		Yes	No
	General Questionnaire		
1	Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose.	X	
2	Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below:		X

Investigative Derived Waste
Purge water from Site 2
January 28, 2003
Do not handle, analysis pending
Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120

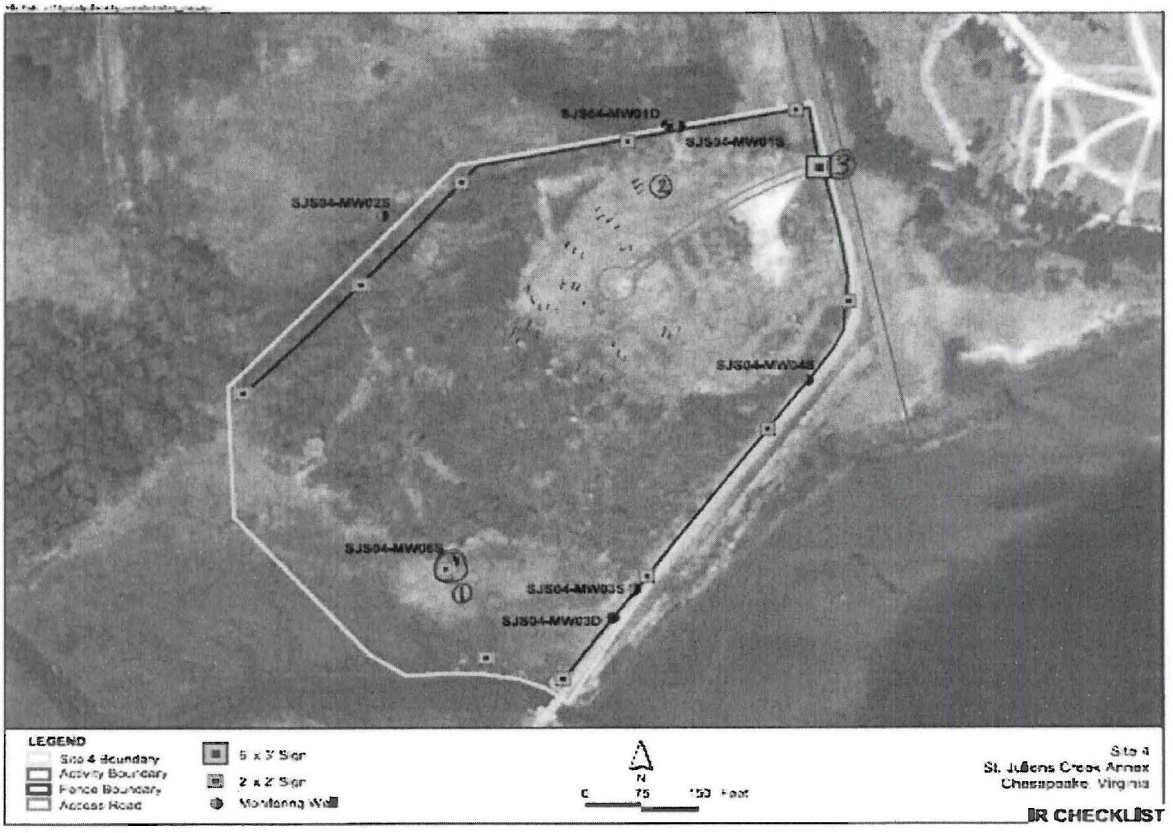
3	Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.		X
	Site Specific Questionnaire		
4	Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s).	X	
5	Are the signs, in good condition (letters visible, and standing upright)? If no, describe condition of the signs, mark location(s) on map, and notify activiy coordinator.	X	

Inspection performed by: (Print and sign) Rebekah Ives Rebekah Ives
Date: 6/07/06

Site 4 - Landfill D
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 4 (Landfill D) covers an estimated 10.1 acres in the northeastern portion of the Annex just north of the confluence of Blows Creek and the Southern Branch of the Elizabeth River. The site is located on fill material that reportedly originated from the Southern Branch of the Elizabeth River. The first indication of activity at Site 4 is a trench identified on a historical aerial photograph from 1961. The original trench and others were filled with trash, wet garbage, and soil from subsequent trenches. It is not known how many trenches were eventually dug, but based on a review of historical aerial photographs, there appear to be only two. Around 1970, sanitary landfill operations began at Site 4 in the marshes of Blows Creek. Disposal included primarily trash and wet garbage. Sanitary landfill operations continued until 1976, at which time trash and garbage were hauled to an off-site facility and inert construction material was continued to be disposed of at Site 4 until 1981. The wastes managed were primarily trash, wet garbage, construction material, and out-dated civil defense materials. Some solvents, acids, bases, and polychlorinated biphenyls (PCBs) were reportedly disposed. Wastes disposed of at Site 4 were esti

The Selected Remedy for Site 4; soil cover, surface and wetland debris removal, and eastern drainage ditch removal; was completed in 2005. Fencing is installed around the perimeter of the site with signs posted.



IR CHECKLIST

Comments: (Provide related question number for each comment)

① - Unable to visually locate sign due to vegetation - Quest. 5

② - Bare spots are present throughout soil cover where vegetative regrowth has not occurred - Quest. 8

③ - Left side of fence will not open

		Yes	No
General Questionnaire			
1	Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose.	X	
2	Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste Purge water from Site 4 January 28, 2003 Do not handle, analysis pending Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120	X	
3	Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.	X	
Site Specific Questionnaire			
4	Are the drainage ditches, as depicted on the figure, in good condition (free of sediment buildup and debris)? If no, describe condition of the drainage ditch, mark deficient location(s) on map, and notify activity coordinator.	X	
5	Are the signs, depicted on the figure, in good condition (letters still visible, and standing upright)? If no, describe condition of the signs, mark location(s) on map, and notify activity coordinator.		X
6	Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s).	X	
7	Is the soil cover free of notable defects that would require corrective action to ensure the effectiveness of the remedy?	X	
8	Is the site free of signs of stressed vegetation or bare spots that may lead to erosion of the soil cover?		X
9	In the case of a sever weather event, is the integrity of the soil cover intact (no erosion by surface runoff)?	X	

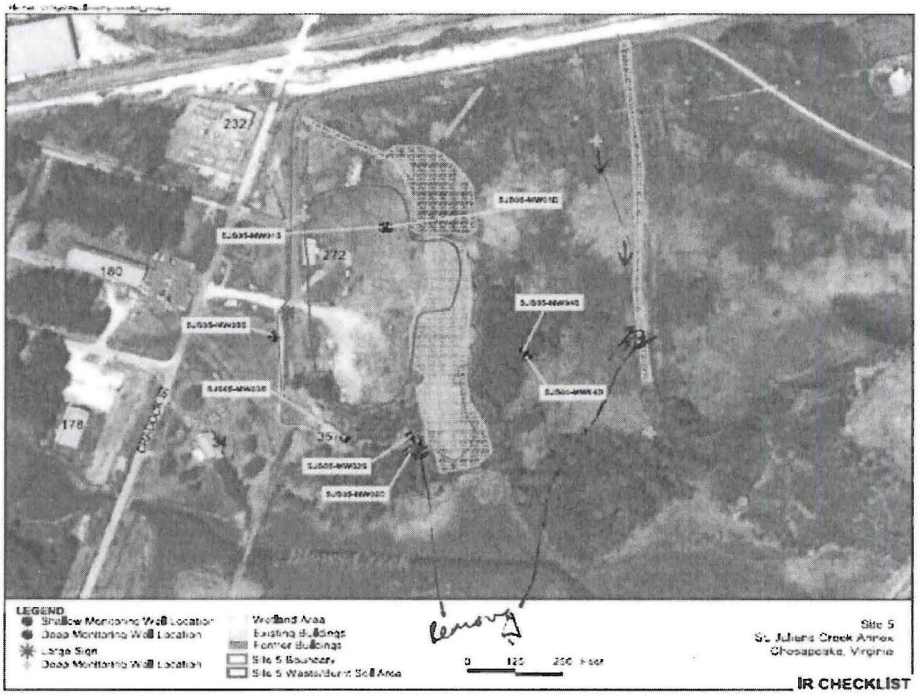
Inspection performed by: (Print and sign) Rebekah Ives Rebekah Ives

Date: 06/07/06

Site 5 - Burning Grounds
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 5 is the former Burning Grounds consisting of approximately 21 acres adjacent to Cradock Street in the northern portion of the Annex. The site is located on fill material that reportedly originated from the Southern Branch of the Elizabeth River. The exact start and closure dates of the Burning Grounds are unknown, although it reportedly operated between the 1930s and 1970s, during which time waste ordnance materials were disposed by open burning. In 1977, the ground surface at Site 5 was burned with straw, diced, and burned again in an effort to remediate the soil. Wastes disposed include ordnance materials such as black powder (mixture of charcoal, nitrate, and sulfur), smokeless powder (nitrocellulose), Explosive D (ammonium picrate), Composition A-3 (contains RDX and wax), tetryl, trinitrotoluene (TNT), and fuzes. Other wastes consisted of carbon tetrachloride, trichloroethene, paint sludge, pesticides, and various types of refuse. The amount of ordnance disposed of varied from year to year and there is insufficient information to calculate waste volume.

The site currently consists of an open field with the central portion overgrown with phragmites. A significant portion of the southwest area of the site is covered with a layer of gravel. Surface water at Site 5 drains either naturally or through unlined shallow man-made drainage ditches to tidally influenced Blows Creek, which eventually meets with the Southern Branch of the Elizabeth River. There are signs posted around the perimeter of the site.



IR CHECKLIST

Comments: (Provide related question number for each comment)

Note: signs in good condition

		Yes	No
	General Questionnaire		
1	Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose.	X	
2	Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste Purge water from Site 5 January 28, 2003 Do not handle, analysis pending Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120	X	
3	Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.	X	
	Site Specific Questionnaire		
4	Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s).	X	

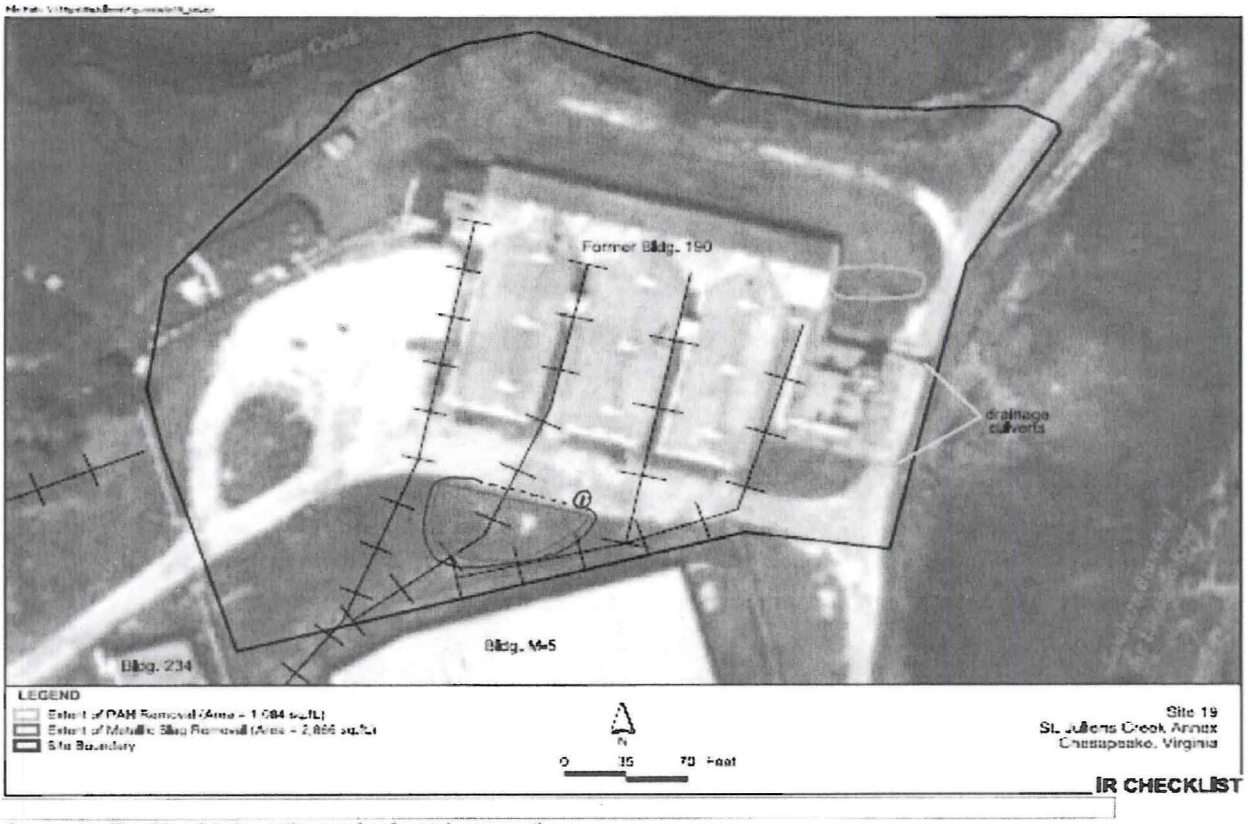
Inspection performed by: (Print and sign)

Date:

Site 19 - Building 190
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Former Building 190 is located just south of the confluence of Blows Creek and the Southern Branch of the Elizabeth River. Building 190 was constructed in 1942 as the Integrated Logistics Overhaul and Outfitting building and was connected to a rail line. The building was reportedly used for loading explosives into ammunition; including Explosive D and Composition A-3; until the 1970s. Building 190 was demolished in 2000. There are two concrete drainage channels, originating from the former Building 190 location, leading to the Southern Branch of the Elizabeth River and a drainage to Blows Creek.

A Removal Action was conducted in May of 2006 to remove an area of metallic slag and an area of elevated poycyclic aromatic hydrocarbons. The excavations have been backfilled and seeded and are currently surrounded by safety fencing to prevent access while the vegetation is established. No environmental hazards reamin on site and the site will be closed with No Further Action in 2006.



IR CHECKLIST

Comments: (Provide related question number for each comment)

① Orange safety fencing partially intact; vegetative re-growth is doing quite well + safety fence has served its purpose. - Quest. 1.

General Questionnaire

		Yes	No
1	Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose.	X	
2	Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below:	X	
3	Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.	X	

Investigative Derived Waste
Soil cuttings from Site 19
January 28, 2003
Do not handle, analysis pending
Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120

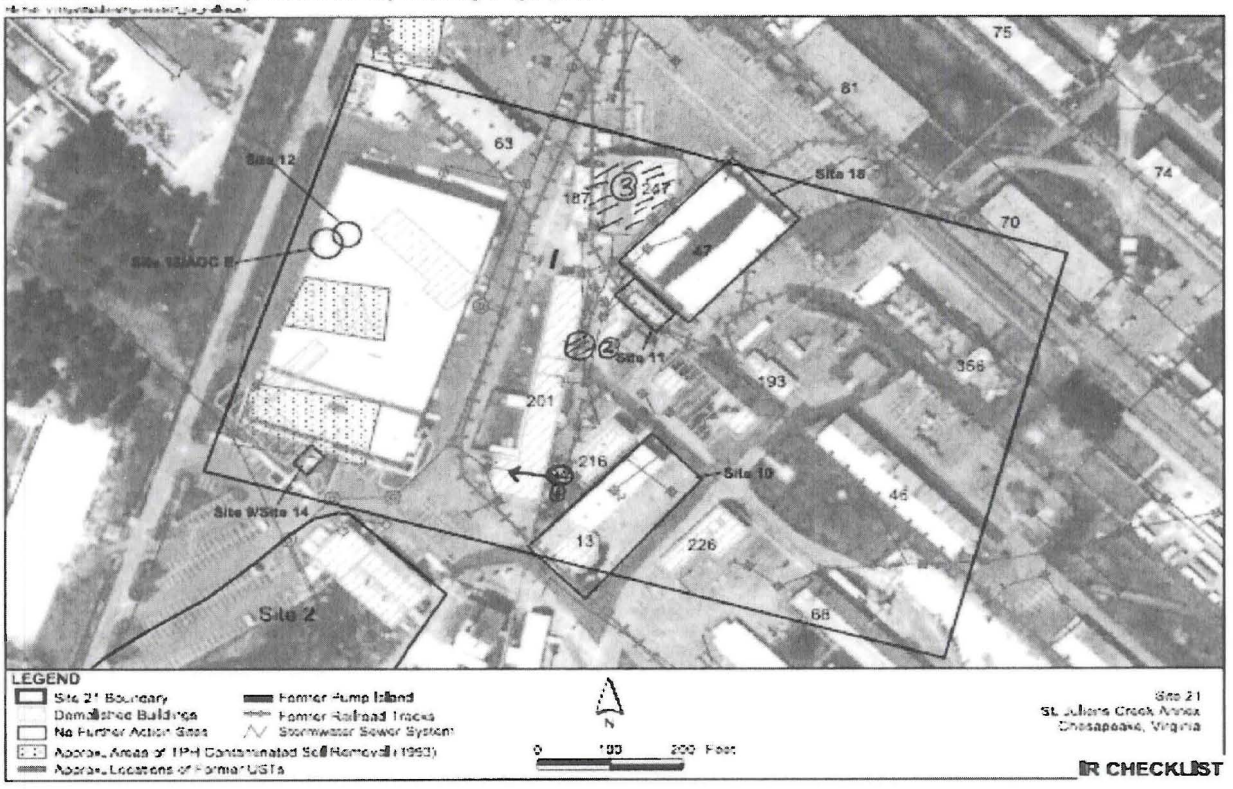
Inspection performed by: (Print and sign) Rebekah Ives Rebekah Ives

Date: 6/07/06

Site 21 - ~~Building 187~~ Industrial Area
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 21 is located is located in a former industrial area in the central portion of the annex. Buildings at Site 21 were historically used as machine, vehicle, and locomotive maintenance shops; electrical shops; and munitions loading facilities. Outdoor areas at Site 21 were useed for equipment and chemical storage. Several of these buildings and/or their surrounding areas were designated as former IR sites. Additionally, a fuel service station was previously located just south of Building 187. The existing buildings and the Site 21 area are currently used for storage and maintenance activities. Building 1556 was constructe in 1992 and is currently used as the MARMC warehouse. Many of the older buildings at the site have been demolished. A storm sewer system runs through the site and drains to a downstream inlet (IR Site 2) to St. Juliens Creek.

The site currently consists of an industrial area, primarily asphalt-paved. Elevated concentrations of TCE are present in shallow groundwater and storm water in the Site 21 vicinity. There is currently no fencing or signs posted.



IR CHECKLIST

Comments: (Provide related question number for each comment)

① - Replacing / repairing drop inlet + 20' west toward parking lot. - Quest #1

② - Replacing drop inlet - quest #1

③ - Continuing demo + construction debris, soil cleared slightly (approx. 3" below grade) - Quest. #1

General Questionnaire

		Yes	No
1	Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose.		X
2	Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste / Purge water from Site 21 / January 28, 2003 / Do not handle, analysis pending / Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120	X	
3	Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.	X	

Site Specific Questionnaire

4	Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s).	X	

Inspection performed by: (Print and sign) Rebekah Ives Rebekah Ives

Date: 6/7/06