Minor
OPERATION AND MAINTENANCE
Activity Plan 24-009

K-Area Soil Disturbance for Bollards Installation at 715-K in Site Evaluation Area 302

Prepared by: Gregory L Burbage 2/12/24
Gregory L. Burbage, Environmental Compliance Authority, EC & ACP Date

Approved by: 2/12/24
Derek Colligan, Radiological Protection Manager, KAC Date

Approved by: 2/12/24
Andrew Kline, K-Area Operations Manager Date

1. INTRODUCTION

This Operation and Maintenance (O&M) Plan is for the soil disturbance associated with the placement of three (supplemental) bollards around the K-Area gasoline fueling station, 715-K. This O & M Plan will provide a means by which soil/media disturbance can commence within Site Evaluation Areas (SEA) 302, while protecting human health and the environment, and minimizing impacts to long term characterization and remediation efforts. This O&M Plan is characterized as "minor intrusive" because less than 10 percent of the Site Evaluation Area will be excavated/disturbed.

2. AREA DESCRIPTION AND CONDITIONS

The Site Evaluation Area 302 is the K-Area Cooling Water Reservoir (186-K) identified as potential for having metals and radionuclides as being present (historically) in source water from the Savannah River. The Underground Radioactive Materials Area (URMA) associated with the river water basin (186-K) bypass line is approximately 30 feet away from 715-K.

This O & M Plan will direct sampling and O & M managed SEA disturbance activities within the K-Area Complex (KAC) immediately adjacent (north of) the 186-K Cooling Water Reservoir. This soil disturbance is for the installation of three protective bollards (3 ft depth X 1 ft width), and associated work at the 715-K fuel pump station.

These discrete excavation locations will be identified and targeted for sampling by Radiological Protection (RP) in order to ensure that the potential contaminants of concern (primarily radionuclides) are assessed. Safety and health concerns are for personnel exposure to radionuclides. Previous work associated with Site Evaluation Area 302 and those similar within K-Area have not yielded any evidence of radionuclide presence in the environment. Radiological sampling reports will serve as the documents of record for allowance of subject soil disturbances to proceed. All results will be maintained by RP.

3. O&M ACTIVITY

A. O&M Activity Description

The planned soil disturbing activity in SEA 302 primarily involves minor excavation in support of the installation of three new protective bollards in K-Area at 715-K. Aspects of the scope of work include hand digging and bollards installation.

This activity is expected to begin in February of 2024 and complete by end of the calendar year 2024. If this work scope requires significant change for any reason, the SRNS On-Scene Coordinator (OSC) will be contacted to determine if modifications to this O & M Plan are required.

B. O&M Activity Sampling and Monitoring for Health and Safety

Radiological Protection (RP) will perform sampling to support the subject soil disturbing activities that are described in this O & M Plan. There should be no waste associated with this activity in terms of soil, as it is anticipated that it be returned to the local area. However, if soils contaminated by radionuclides are discovered, waste disposition will be performed typical for SRS waste protocol. Given that the soil from SEA 302 is found to be at or below background for radiological constituents, RP will allow for the excavation as described in Section D to proceed.

The work area will be barricaded to ensure that access is controlled.

Worker health and safety will be described and controlled, as required, in the Assisted Hazards Analysis.

C. Health and Safety Plan

The health and safety concern for this O & M Plan primarily involves worker exposure to potential radiological contamination. While there has been no detectible radiological contamination (above background) found in recent soil disturbances in K-Area SEA 302, RP shall be

available for any questions or oversight requested during the process of installation/construction, preparatory activities, and other associated excavations.

D. Characterization and Sampling Plan for the Affected Area within SEA 302

Soil sampling is required for any soil disturbance in this Site Evaluation Area. The soil sampling scope is defined in the *"Soil Sampling Plan for Work Order #1891476, Install Three Bollards in Front of Fuel Station 715-K"* (Ref. 2). It is currently available.

The characterization and sampling record for this minor intrusive O&M activity will be the RP sample data for the presence of radiological contamination in the soil/media.

If any radioactive contamination is found from sampling, the Environmental Compliance Authority (ECA), along with RP and K-Area Complex (KAC) Operations management will devise an alternative plan by which to carry out the excavation and bollards installation. As indicated above, evidence of soil contamination would likely require revision to this O & M Plan, or a possible addendum.

Additionally, the SRNS-OSC shall be notified by the Area ECA, and any additional work scope and sampling from the soil disturbance areas will be completed per SRNS-OSC guidance.

E. Contaminated Materials Management and/or Disposal

The disposition of any waste materials generated during this activity will be contingent upon sample results. If SEA 302 soil/media are determined to be "clean," normal waste disposal practices may be applied, as determined by the KAC Waste ECA. If contaminated, however, RP will advise soils/media/equipment disposition, in coordination with Waste Certification Engineering and the ECA. These options would be explored and fully described in a revised O & M Plan (or addendum).

Contaminated waste should be characterized and disposed of as "Radioactive Waste" under current SRNS/KAC Waste Management

procedures, or deconned, if deemed appropriate by RP and the SRNS-OSC.

F. Environmental Plans and Permit Modification Requests

The soil disturbing aspect of this task is not expected to involve environmental plans/permits or other required maintenance and inspections, except for potential erosion control practices.

The Site Use/Site Clearance Permit process will be addressed prior to soil disturbance initiation, as needed.

4. CONTINGENCY PLAN

If at any time during the implementation of the activity, the conditions change, such that the activity is no longer considered "minor" (is greater than 10% of the waste unit area impacted or disturbed) or any other unanticipated event occurs, the Facility Operations Manager or the ECA shall:

- Immediately notify the SRNS-OSC. The SRNS-OSC will notify the DOE-OSC.

- Contain and stabilize the area, investigate as necessary to determine the necessary change in the activity plan, secure the area and stop work.

- Update the SRNS-OSC as to the findings and the requested path forward. The SRNS-OSC will communicate the information to the DOE-OSC and obtain concurrence on the path forward.

5. DOCUMENTATION & REPORTING

The Facility Operations Manager or the ECA will transmit the following close-out documentation to the SRNS-OSC by the 20th day of the month following the month that the land disturbing activity was completed:

- the signed O&M Plan,

- any sampling and characterization data collected,

- quantity of contaminated materials generated, and

- treatment, storage, and disposal location of contaminated material.

References

1. WSRC-RP-96-45, Savannah River Site Plan for Performing Maintenance in Federal Facility Agreement Area (O&M) Plan (U), December 15, 1996.

2. *Soil Sampling Plan for Work Order #1891476, Install Three Bollards in Front of Fuel Station 715-K.*

Soil Sampling Plan for work order #1891476
Install three (3) bollards in front of fuel station 715-K

Purpose

The purpose of this sampling plan is to determine the radiological conditions of the soil during the installation of three (3) bollards at the 715-K fuel station. The scope will involve the excavation and rebar placement to support the bollards. This plan includes the location of soil samples, the depth of sampling and the amount of soil samples to be taken and analyzed per manual 5Q 1.2, Procedure 303. The details for the planned excavations and sampling are as follows:

There will be three (3) bollards installed – Approximate depth is 3 feet. This area will be sampled in 3 locations with four (4) samples taken at each location – equaling a total of 12 samples. The depths will be taken at 1-6", 6-18", 18-30" and 30-36".

Prerequisites

- A pre-job review of the sampling plan is required with all sampling personnel prior to the start of sampling activities.
- Prior to any soil disturbance at each sample location, an exposure rate reading will be performed with a Bicron Micro REM and direct probe. If elevated readings are detected, immediately contact the SOM and RPD FLM prior to proceeding.

Sampling Plan

1. If any item / material does not meet unconditional radiological release limits of <20 dpm alpha/100cm2, <200 dpm beta-gamma/100cm2, ND dpm alpha direct probe and ND dpm beta-gamma direct probe – Stop work, survey personnel, post the area per radiological survey results and contact the SOM and RPD FLM for a path forward.
2. Perform direct probe survey for alpha and beta-gamma emitters of each sample location. Indicate results and location on the survey diagram as described in procedure 5Q1.2 – 485. If elevated readings are detected – Stop work, put area in safe condition and contact the SOM and RPD FLM for path forward.
3. If no elevated survey results above instrument back grounds are detected, soil samples will be taken from each location. RPD to analyze soil samples and provide results for Construction Services. Soil samples will be analyzed per appropriate sections of procedure 5Q 1.2 – 485.
4. Repeat this collection process for each location.
5. As soil is being excavated by hand, randomly probe soil.

6. All samples will be saved and stored until RPD management directs the release and disposal of soil samples.

Attachment:

1. Diagram of work area.

Prepared by:- Page A Courtney 2/12/24

Page Courtney, NMM RPD ALARA Coordinator, K-Area

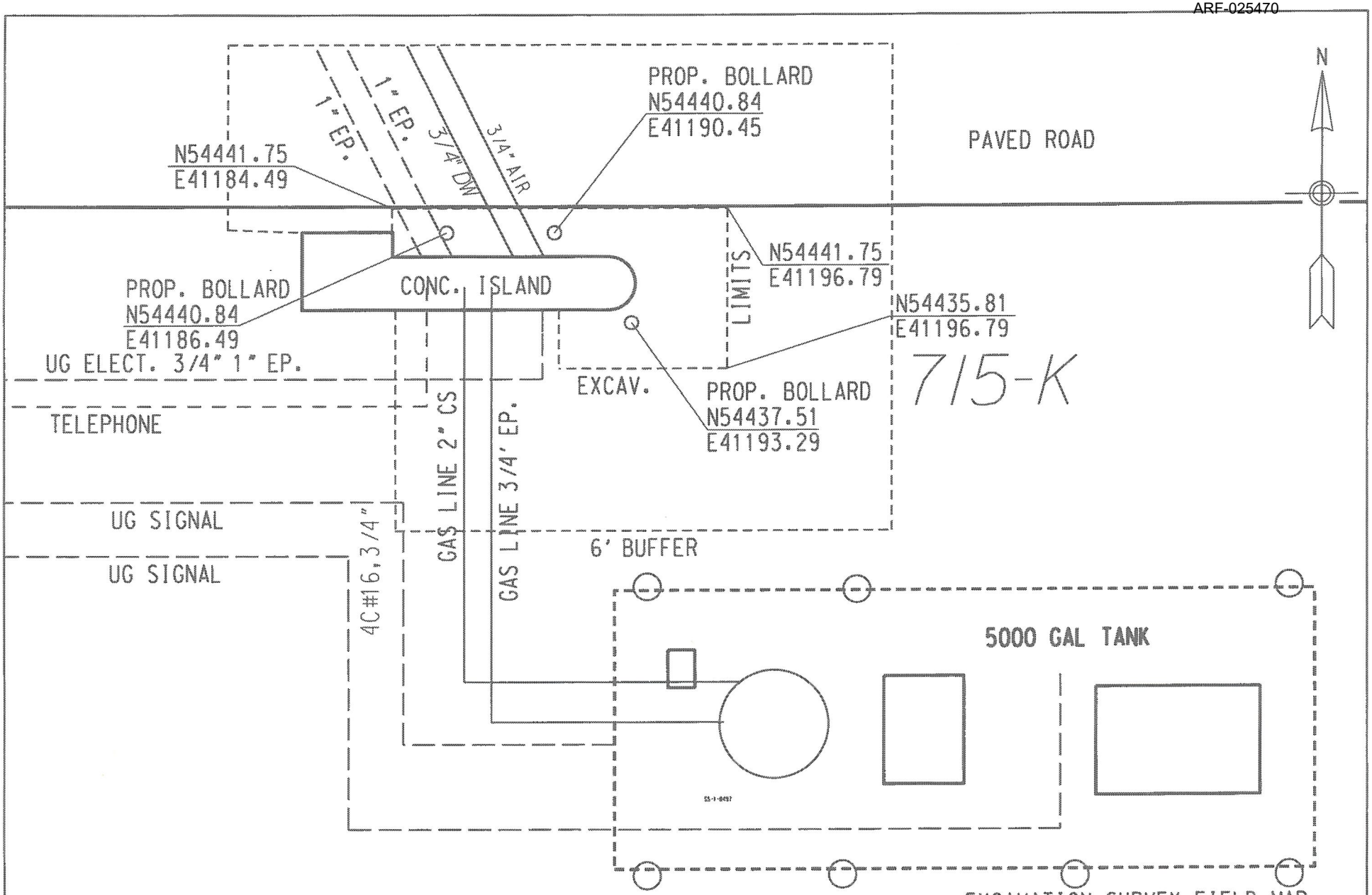
Approved by: 2/12/24

Derek Colligan, NMM RPD Manager, K-Area

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Andrew Kline, NMM Operations Manager, K-Area

ARF-025470



NOTE: NOTIFY SITE SURVEY PRIOR TO BACKFILL. ASBUILTS NEED TO BE OBTAINED PER MANUAL ID PROCEDURE 3.02, FOR SITE CLEARANCE CLOSURE PERMIT APPROVAL

NOTE: SCALE SHOWN ON THIS DRAWING IS ONLY APPLICABLE WHEN PLOTTED AT 8½" x 11" (ACTUAL DRAWING SIZE)

EXCAVATION SURVEY FIELD MAP
TO INSTALL BOLLARDS
PREPARED BY SRNS LAYOUT 7-5262
SCALE 1" = 5' OCTOBER 9, 2023
REF DWG AS NOTED SITE MAP SHEET 0611
JOB ID:100923