

September 12, 2013

PN: 39743921

Mr. John Regan,
Hazardous Waste Remediation Bureau
New Hampshire Department of Environmental Services
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

**RE: Request for Corrective Action Prior to Remedial Action Plan Approval
Exeter Sportsman's Club
Waterworks Pond Road
Exeter, New Hampshire
DES Site #200212050, DES Project #12496**

Dear Mr. Regan:

On behalf of the Town of Exeter (Town) and in accordance with *Env-Or 606.14 Corrective Action Prior to Remedial Action Plan Approval*, URS Corporation (URS) is submitting this request to proceed with remediation of the open portion of the trap range located at the Exeter Sportsmans Club (ESC) on Waterworks Pond Road. Figure 1 depicts the location of the site on a US Geologic Services Topographic map. This request is being made in order to promote more timely remediation of the portion of the site identified in Figure 2, as Area 1.

BACKGROUND

The ESC has operated a trap range at the above referenced location since 1956. CDM conducted soil sampling in August 2002 in support of the development of a water treatment plant. This work included collection of over 300 samples which were used to identify areas of lead contamination in surficial soils and sediment. In November 2006, URS conducted a Site Specific Environmental Assessment which included grid sampling, lead screening with an XRF and analytical analyses to further refining the limits of lead contamination both on and off the Town owned property. The trap range was subsequently closed sometime between 2003 and 2006 when it was discovered that lead shot was present in a tributary to the reservoir and on the ground surface within the forested portion of the site. In April and May of 2013, URS collected additional soil samples from the trap range and the property east of the tributary for lead analysis. In addition, URS collected soil samples from the trap range for analysis of poly aromatic hydrocarbons (PAHs). Samples were collected in the vicinity of CDM sample location PR-1 at depths of 0 to 3" and 9 to 15".

The results of the April and May 2013 lead analyses indicated that lead was not detected in any location above 400 mg/kg. Concentrations of detected lead ranged from 5.1 mg/kg in the sample collected from location A1 to 130 mg/kg in the sample collected from location PR1-4 (See Figure 2). Results of PAH sampling indicate that Benzo[a]Anthracene, Benzo[b]fluoranthene, Benzo[a]Pyrene, Indeno[1,2,3-cd]Pyrene, Dibenz[a,h]Anthracene, and Benzo[g,h,i]perylene were detected in the samples collected from 0 to 3" on the open portion of the trap range at concentrations which exceeded the New Hampshire Risk Characterization and Management Policy (RCMP) Method 1 Soil Standards. URS observed that the area surrounding PR-1 contained clay target fragments and plastic wadding on the ground surface. As such, URS requested the deeper samples collected for lead analysis from 9" to 15" be analyzed for PAHs to assess the depth of the impacts.

The results of the analyses conducted on soils collected from 9 to 15" indicates that PAH were not detected above their respective RCMP Method 1 standards in the samples collected from locations PR1-1, PR1-2 and PR1-4. Results of PAH sampling from the sample collected from 9 to 15" at PR1-3 indicate that Benzo[a]Anthracene, Benzo[b]fluoranthene, Benzo[a]Pyrene, Indeno[1,2,3-cd]Pyrene, Dibenz[a,h]Anthracene, and Benzo[g,h,i]perylene were detected at lower concentrations than the surface samples collected from 0 to 3" but slightly above their respective RCMP Method 1 soil standards. Based on URS' review of the sample descriptions, it appears the samples contained clay target fragments which are believed to be the source of the PAHs. This observation is consistent with the CDM report which stated that test pit excavations were done in the area of PR-1 and clay target fragments were observed at depth. Copies of all laboratory data were provided to the New Hampshire Department of Environmental Services (NHDES) in August 2013.

CDM and URS have sampled over 200 locations for the presence of total lead. Results of the URS investigations are presented graphically on Figure 2 and indicate that the May 2013 sampling did not identify areas of lead impacts above the RCMP Method 1 Soil Standards. As such, the areas requiring lead remediation remain the same as those previously identified by URS in Figure 2.

Although the April and May 2013 investigations focused on the assessment of soil conditions, URS has been collecting groundwater samples from four monitoring wells located around the trap range since 2006. The results of lead and PAH sampling indicate the absence of impacts from lead shot and clay targets in groundwater sampled at the site.

PROPOSED WORK PLAN

URS understands that the ESC plans to construct an 8 foot high berm along the southern edge of the small bore range in the fall of 2013. Figure 3 depicts the location of the proposed berm along the small bore range. According to this plan prepared by Millennium Engineering, Inc. for the ESC dated November 26, 2012, URS estimates that the berm will require 1,200 cubic yards of fill material. URS recommends that the top 15 inches of soil which contains lead shot and intermittent clay target fragments, be removed from the open portion of the trap range and that these soils be reused as core soils in the berm construction. In addition, in the immediate vicinity of PR1-3, URS recommends soil excavation to 24 inches or until clay target fragments are no longer visible. Reusing impacted soils from the trap range is permitted under the Resource Conservation Recovery Act (RCRA) and will eliminate the need to import 500 to 700 cubic yards of off-site materials. According to the United States Environmental Protection Agency's (EPA) guidance document entitled Best management practices for Lead at Outdoor Shooting Ranges – EPA-902-B-01-001 "soil from berms and shot fall zones may be moved to another portion of the range for such reasons as addressing potential environmental impacts (e.g. runoff), altering the layout to address safety concerns, or allowing different types of shooting activities. The EPA goes on to say if the lead is not removed from the soil, written records of the activities should be maintained indefinitely as they will be necessary in subsequent construction or range closure. Consolidation of the 500 to 700 cubic yards of soil to create a berm along the east side of the small bore range meets both the criteria of reducing the area for potential runoff and altering the layout to address safety concerns. Consolidating the soils from the trap range into the berm will decrease the surface area exposure from 15,000 square feet to 4,700 square feet of berm. Further, the consolidated soils will be covered with a minimum of three inches of loam and will be seeded to support a vegetated cover.



In addition to the lead and PAH impacted soil, the open portion of the trap range contains a berm of broken clay targets that appears to be 8 to 10 feet wide by 70 to 80 feet long which is approximately 30 cubic yards of targets. These targets are regulated as solid waste and would be loaded into a roll off container for off-site disposal. Once the excavation has been completed and the clay target berm disposed of off-site, the area would be backfilled, loamed and seeded for unrestricted use by the ESC. URS understands that ESC would like to use the area for archery and would not use the area as a trap range until such time as all shot can be contained within Area 1.

ALTERNATIVE WORK PLAN

In identifying the proposed work plan described above, URS also reviewed alternative methods for addressing the lead and PAH impacted soil in Area 1. The alternative to reusing the soil is excavating the impacted soils and clay targets and transporting them for off-site disposal. Prior to transportation, the soils would need to be stabilized, treated, and tested on-site, before clearance could be attained for disposal at the Turnkey Landfill in Rochester, NH. On-site treatment was quoted by Waste Management at a cost of \$50 per ton and transportation and disposal costs to the Turnkey Landfill were quoted to be \$90 per ton. Assuming an approximate weight of 1.35 tons per cubic yard of dry sand, the total costs for treatment, transportation, and disposal for soil excavated from Area 1 would be approximately \$132,300. This cost assumes the soil would pass the Toxic Characteristic Leaching Procedure (TCLP) analytical test. If the soil were to fail the TCLP test, it would be required to be transported to a RCRA landfill where the cost for transportation and disposal is estimated to be \$300 per ton or about \$283,500. Note that these costs do not include the cost to excavate the soil and the cost to backfill the area.

Given the significant costs associated with off-site transportation and disposal, URS recommends on-site reuse of the soils as a feasible, cost-effective solution to addressing the impacted soils identified in Area 1.

PROPOSED SCHEDULE

| Activity | Date |
|--|-----------------------|
| Complete Request to Remediate Trap Range | September 2013 |
| Receive NHDES Approval | October 2013 |
| Construct Berm and backfill Range | November 2013 |
| Estimate the costs for completing and implementing the RAP for Areas 2 and 3 | October 2013 |
| Present Costs to Budget Committee | November 2013 |
| Incorporate Cost into Town Budget | January 2014 |
| Town Approval of Budget | March 2014 |
| Initiation of RAP | April 2014 |
| Completion of RAP | May 2014 |
| DES Approval of RAP | July 2014 |
| Implementation of RAP | August/September 2014 |

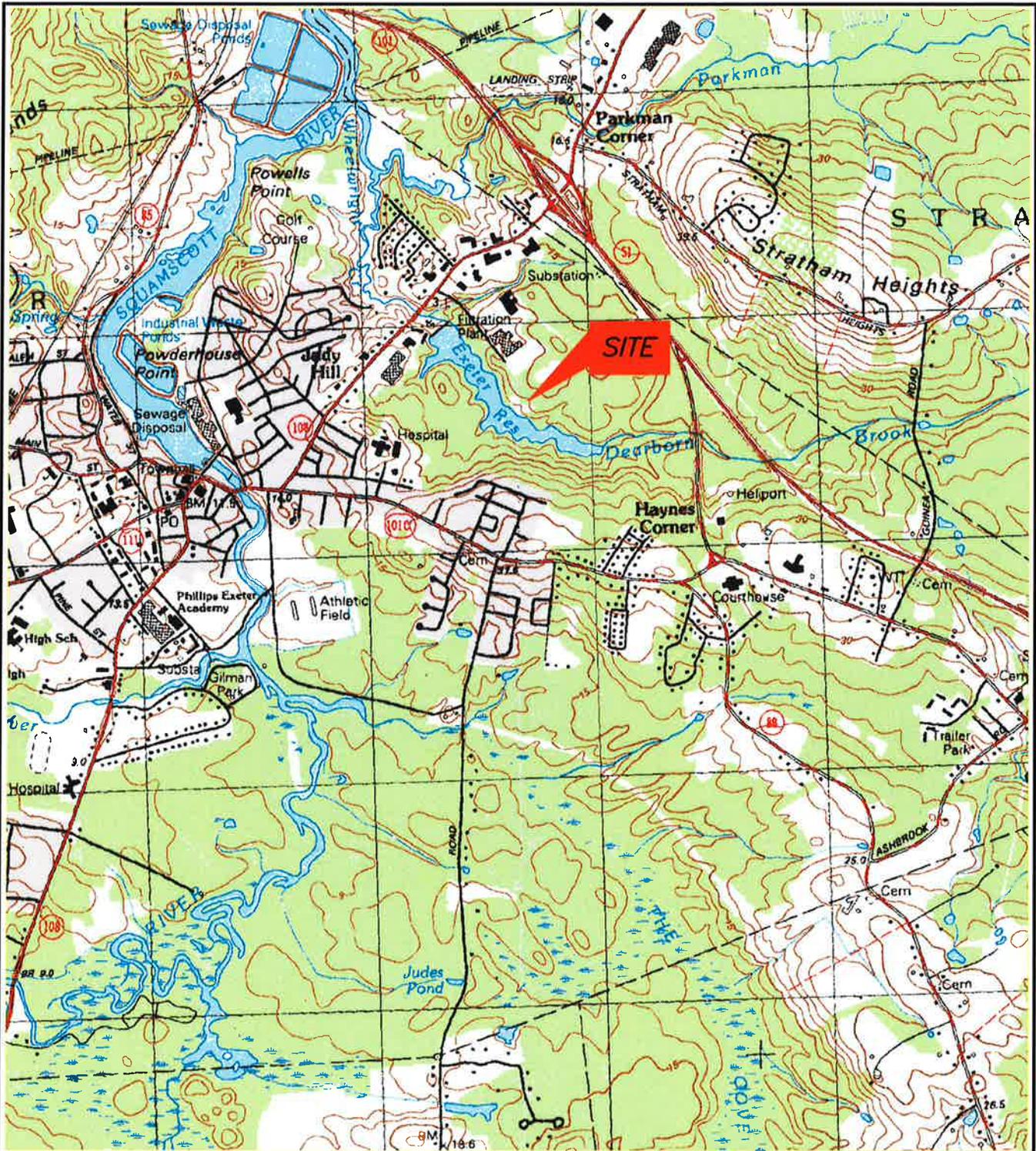
URS appreciates the NHDES' consideration of our request. If you have any questions about the scope of work, or require additional information, please contact either of the undersigned at 603-893-0616.



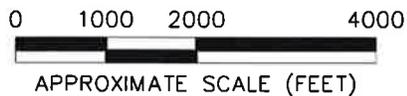
Sincerely,
URS Corporation

Gary Garfield
Gary Garfield, PE LSP
Principal Engineer

Tina L Merritt
Tina Merritt
Project Manager



SOURCES:
 USGS EXETER, NH QUADRANGLES
 7.5 MINUTE SERIES TOPOGRAPHIC MAPS
 DATED 1985



SITE LOCATION MAP

EXETER SPORTSMAN'S CLUB
 PORTSMOUTH AVENUE
 EXETER, NEW HAMPSHIRE

CLIENT MASSACHUSETTS HIGHWAY DEPARTMENT



5 Industrial Way
 Salem, New Hampshire 03079
 TEL: (603) 893-0616
 FAX: (603) 893-6240
 http://www.urscorp.com

| | | | | | |
|-------|-------|----------|-----|----------|----------|
| SCALE | NTS | DRAWN BY | BCL | JOB NO. | 39742396 |
| DATE | 10/06 | APPR. BY | ALP | FIG. NO. | 1 |

