27 July 2018

David Heislein
United States Army Corps of Engineers – New England District
Virginia Road
Concord, Massachusetts 01742

RE: Biweekly Project Summary
Monitoring Well Installation and Sampling
Durham Meadows Superfund Site
Durham, Connecticut
Contract No.: W912WJ-18-C-0012

Dear David,

This letter report serves as our Biweekly Project Summary of project activities completed during the period 16 July to 27 July 2018 at the Durham Meadows Superfund Site, Durham, Connecticut (**Figure 1**). These tasks were completed by KOMAN Government Solutions LLC (KGS) as part of the Monitoring Well Installation and Sampling project being completed under Contract No. W912WJ-19-C-0012.

MOBILIZATION

KGS mobilized to the site on 16 July 2018. During the week of 16–19 July 2018, a staging area was established at 281 Main Street, Durham and constructed in support of the planned drilling program (**Figure 2**). A staging area plan showing features of the staging area is attached as **Figure 3**. Completed tasks including construction of a privacy wood stockade fence along Main Street, installation of a perimeter chain-link security fence and gate, construction of a crushed stone driveway to reduce tracking of mud onto local streets, installation of an electrical service and delivery of support equipment including an office trailer, furniture, sanitary facilities, a dumpster, and containers for Investigation-Derived Waste (IDW) that will be generated during the monitoring well installation program. Photographs of the staging area are included in the attached Photo Log.

Silt fencing and hale bale installation at locations MW-1, MW-2, MW-3 and MW-6 was completed on 24 July. Up to 50 linear ft of wetlands protection was installed at each location. No wetlands protection measures are deemed necessary at the remaining locations.

Cascade Drilling mobilized to the site on 23 July 2018. The test boring contractor moved one sonic drilling rig and support equipment to the site. A second drill rig mobilization is planned for late July or early August to accelerate the drilling program. The subcontractor constructed a lined decontamination facility at the staging area for washing of drill tooling between individual boring locations. Drilling supplies and equipment are stored in the staging area as a central location.

Prior to mobilization to the drilling location each day, a tailgate Health and Safety briefing is held to discuss job progress, and any safety concerns that KGS or the subcontractors may have identified while completing work.

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BOREHOLE ADVANCEMENT

The drilling program commenced on 24 July 2018. Due to the availability of only one sonic rig, it was determined that borings would be completed through the overburden soils and permanent casing installed, whereupon the rig would move to the next location. This approach allows the grout securing the permanent casing in bedrock to set adequately and avoids time consuming changing of the tooling on the drill rig necessary to drill bedrock between boreholes. Bedrock drilling will commence when a second drill rig becomes available and is mobilized to the site.

Borehole MW-10 (**Figure 2**) was initiated on 24 July. The borehole was completed at a depth of 80 feet below ground surface (bgs). Overburden soil was observed to be silty clay to clay from ground surface (0 ft) to approximately 30 ft bgs. There was no recovery of overburden material from 30 ft to 50 ft bgs. A fine sand was identified at 50 ft bgs, transitioning to glacial till after 60 ft bgs until 75 ft bgs, when bedrock was encountered. Bedrock was identified as a red sandstone/conglomerate. No significant photoionization detector (PID) readings were recorded for the overburden during advancement of the boring. No sheens, odors, staining or other evidence of contamination were observed during the drilling. The permanent 6 in. dia. casing was installed to a depth of 80 ft (5 ft into bedrock). The permanent casing in MW-10 was grouted into bedrock on 25 July. This location is now ready for bedrock drilling.

The drill tooling was decontaminated between boreholes at the staging area. Borehole MW-1 was started on 25 July and advanced to depth of 90 ft bgs. Overburden material was silty clay transitioning to a fine sand and clay. No significant photoionization detector (PID) readings were recorded for the overburden during advancement of the boring. No sheens, odors, staining or other evidence of contamination were observed during the drilling. Depth to bedrock was noted at 85 feet bgs. Bedrock was identified as a massive red sandstone, fine grained, unfractured, fresh, competent, solid core recovery 97%. The permanent 6 in. dia. casing was installed to a depth of 90 ft (5 ft into bedrock). Casing at MW-1 was grouted into bedrock. This location is now ready for bedrock drilling.

The drill tooling was decontaminated between boreholes. Borehole MW-6 was started on 27 July and advanced to depth of 33 ft bgs where solid bedrock is believed to have been encountered at the end of the day. This depth to bedrock is significantly shallower than the depth to bedrock encountered in the previous fairground well locations. No sheens, odors, staining or other evidence of contamination were observed during the drilling. Depth to bedrock at this boring location will be confirmed and the permanent casing installed on Monday, 30 July.

WATER USAGE AND INVESTIGATION-DERIVED WASTE (IDW)

The Town of Durham has supplied a potable water supply at the fairgrounds in support of the drilling operation. As of 27 July, approximately 2,300 gallons of potable water has been used during the drilling of the overburden soils.

IDW generated during the drilling is consolidated and stored at the staging area in a frac tank and roll-off container. There is no evidence of contamination of soil or water at this time. The IDW will be tested, profiled, and disposed accordingly during the course of the project.

A total of eleven (11) 55-gallon drums of drill soil cuttings have been consolidated in the roll-off container for disposal. In addition, 1,155 gallons of drill water and decon water have been stored in the frac tank at the staging area.

DELAYS AND SCHEDULE DEVIATIONS

At this time, there have been no significant delays or schedule deviations. There have been no reported accidents or other health and safety incidents on the job.

Depth to bedrock in the fairground boreholes completed to date has been greater than originally estimated. This increased depth requires additional steel casing to be secured. Cascade drilling has ordered additional casing in support of the project. A delay associated with securing additional casing is not expected. Due to rig delays on another job, Cascade Drilling is actively seeking out a second drilling rig to mobilize to the Durham project. This will allow bedrock drilling to be initiated on the fairgrounds boreholes.

FIELD ACTIVITIES PLANNED FOR THE FOLLOWING TWO WEEKS

Due to unforeseen circumstances on an unrelated Cascade drilling project, a second drill rig is not yet available to support the Durham Meadows project. Cascade is actively seeking out a second drill rig and formulating an approach and solution such that the Durham project schedule is not impacted. One approach being considered is to supply a mini-sonic drill rig capable of drilling overburden, but not deep bedrock drilling, to work ahead of the current sonic rig. The existing sonic rig would then be retooled to drill bedrock at the fairgrounds locations.

A two week look ahead schedule is attached. The schedule is dependent on the availability of drilling equipment and is subject to change.

Sincerely,
KOMAN Government Solutions, LLC

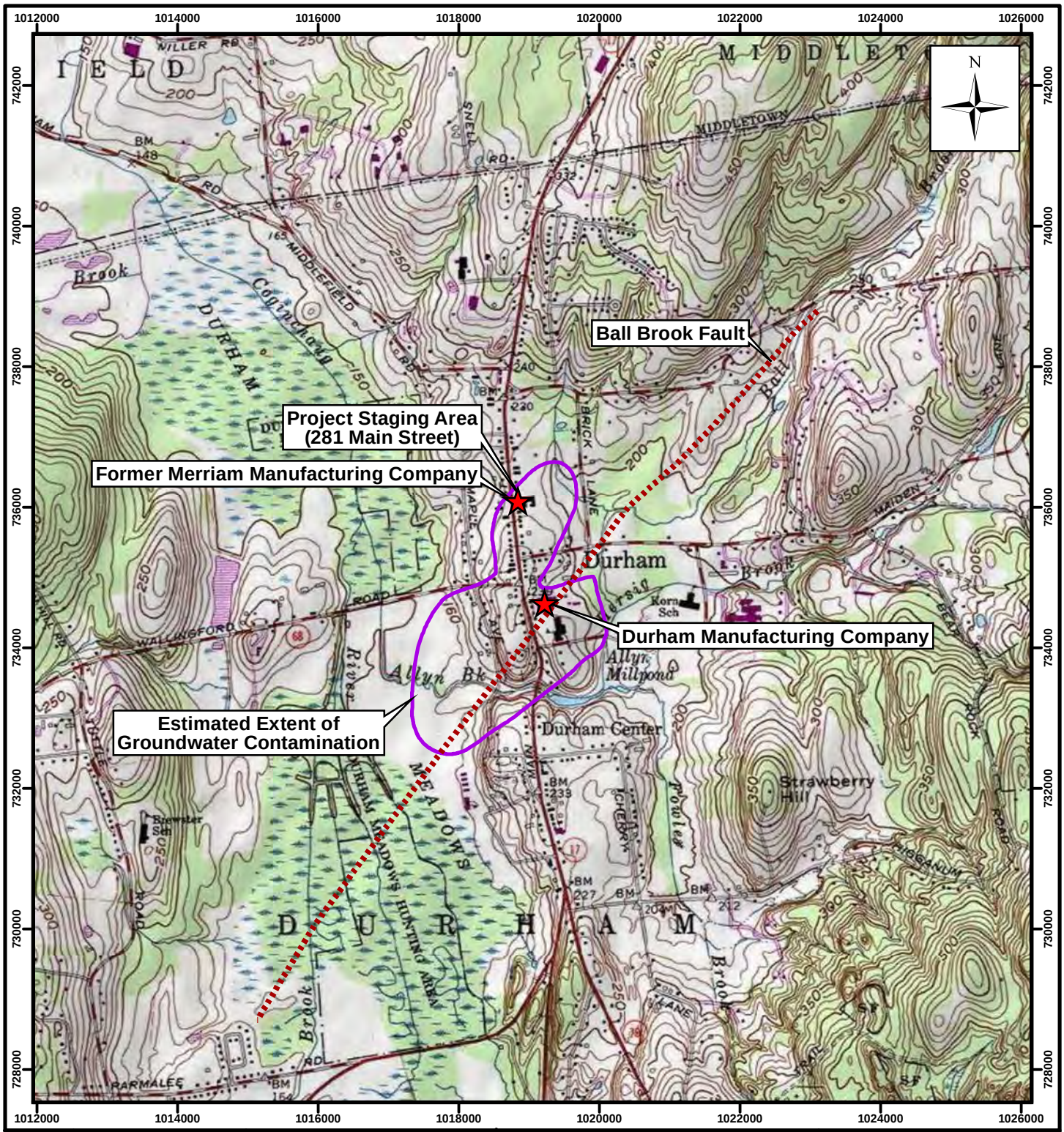
John P. Fitzgerald, PG
Project Manager

Attachments

Figure 1 – Site Location
Figure 2 – Site Plan
Figure 3 – Staging Area Plan

Two Week Look Ahead Schedule – (subject to change)

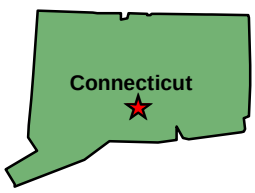
Photo Log



Contract No.	1026-122
Description	Facility Location Map, Durham, Connecticut
Coordinate System	NAD_1983, State Plane, Connecticut, in feet
Sources	Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed 7.5" Quadrangles; Middletown and Durham, Connecticut

DB	Date	Rev.	Date	App. By

Area of Detail



Site Location Map

Monitoring Well Installation and Sampling

Durham Meadows Superfund Site

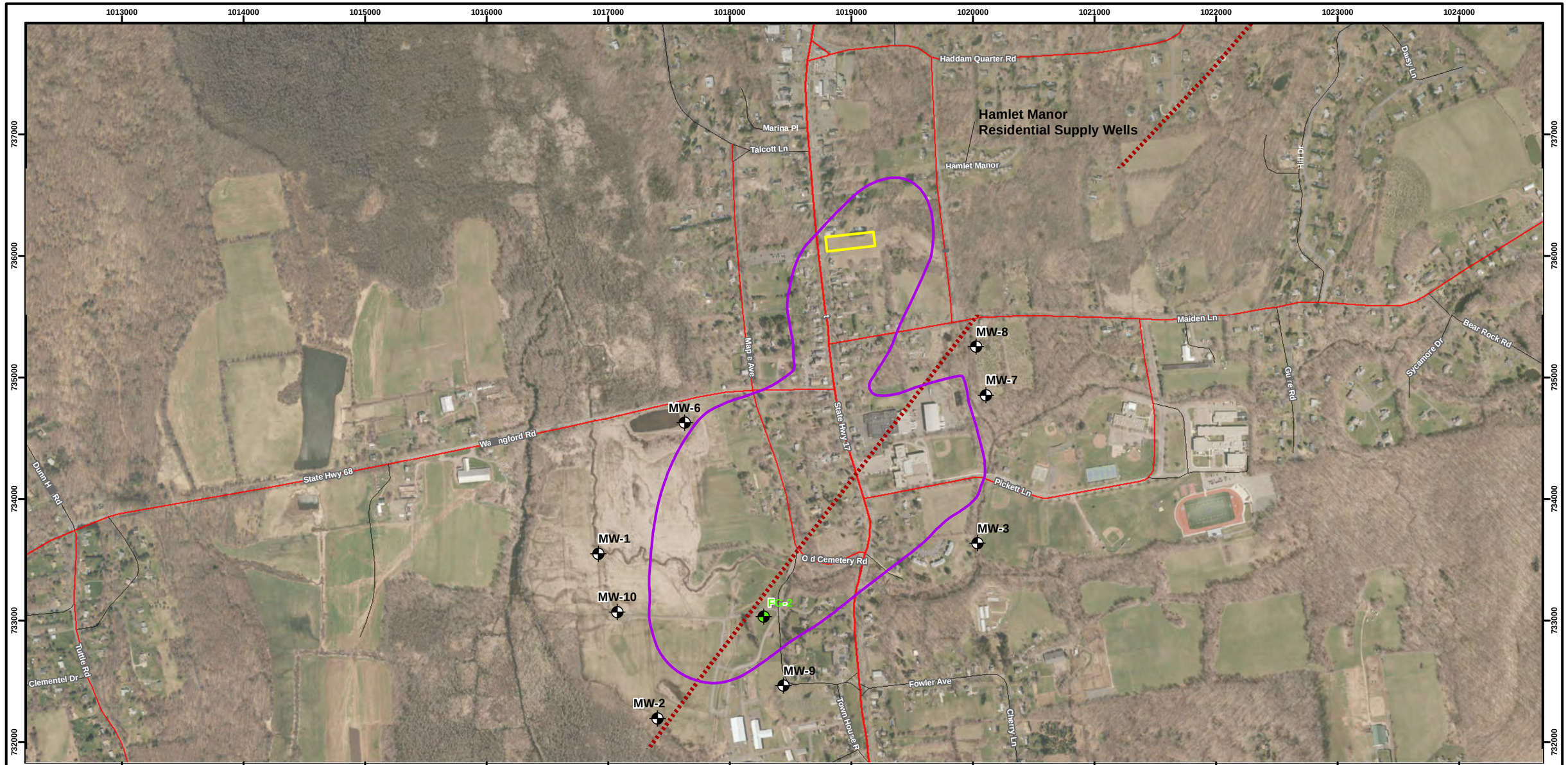
Figure 1

KGS

Durham Meadows Superfund Site
Durham, Connecticut

File: DMS_Durham_CT_F1_SLM.mxd

0 1,000 2,000 Feet



Contract No.	1026-122
Description	GW MW Map Durham, Connecticut
Coordinate System	NAD_1983, State Plane, Connecticut, in feet
Sources	Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

DB	Date	Rev.	Date	App. By

Legend

- Project Staging Area (281 Main Street)
- Ball Brook Fault
- Estimated Extent of Groundwater Contamination
- Monitoring Well Location
- Existing Fairground Monitoring Well
- Proposed Monitoring Well (Not to be Completed at this Time)

Transportation

- Primary Route
- Secondary Route
- Local Road

N

0 400 800 Feet

Area of Detail

Site Plan

Monitoring Well Installation and Sampling

Durham Meadows Superfund Site

Figure 2

KGS

Durham Meadows Superfund Site
Durham, Connecticut

File: DMS_Durham_CT_F3_MW_FG.mxd
Date: 06/29/2018

N
W E
S

220
219
218
217
216
215

Exclusive Lease Limit

Electrical "Stick"

6ft Stockade Fence
(40 ft)

Overhead
Wires

6ft Stockade Fence
(120 ft)

Main Street

Existing Power Pole

6ft Stockade Fence
(55 ft)

Subgrade
Electrical Conduit

Proposed Trailer Area
(10 ft x 40 ft)

Temporary Crushed Stone Driveway
(24 ft x 120 ft)

Proposed IDW Area
(20 ft x 75 ft)

Staging Area Entrance

Shared Access Easement

Crushed Stone Driveway to Remain
(12 ft x 175 ft)

Existing Trees

References: © 2017 Google. Google Earth. 7/23/17.. CONNECTICUT DEPARTMENT of ENERGY and ENVIRONMENTAL PROTECTION. 2016.

File: DMS_Durham_CT_StagingAreas.mxd Date: 7/2/2018

Staging Area Plan

Monitoring Well Installation and Sampling
Durham Meadows Superfund
Site 281 Main Street, Durham, Connecticut

0 20 40
Feet

Date:
07/16/2018

Figure
3

KGS

Two Week Look Ahead Schedule
Monitoring Well Installation and Sampling
Durham Meadows Superfund Site, Durham, CT

MW Location	Activity	Staff	Equipment	Comments	7/23/2018	7/24/2018	7/25/2018	7/26/2018	7/27/2018	7/28/2018	7/29/2018	7/30/2018	7/31/2018	8/1/2018	8/2/2018	8/3/2018	8/4/2018	8/5/2018	8/6/2018	8/7/2018	8/8/2018	8/9/2018	8/10/2018	8/11/2018	8/12/2018	8/13/2018
MW-10	OB drilling	Brett	Rig 1			X																				
Multiple	Silt fence/clearing	Kevin				X																				
MW-10	Set surface casing	Brett	Rig 1			X	X																			
MW-1	OB drilling, set casing	Brett	Rig 1				X	X																		
MW-6	OB drilling, set casing	Brett	Rig 1						X			X														
MW-9	OB drilling, set casing	Kevin	Rig 1										X	X												
MW-2	OB drilling, set casing	Kevin	Rig 1												X	X										
MW-10	Bedrock drilling	Brett	Rig 2																X	X						
MW-10	Borehole grab samples	Brett	Rig 2																		X					
MW-10	Install transducer	Brett	Rig 2																		X					
MW-3	OB drilling, set casing	Kevin	Rig 1																X	X						
MW-1	Bedrock drilling	Brett	Rig 2																			X	X			
MW-1	Borehole grab samples	Brett	Rig 2																				X			
MW-1	Install transducer	Brett	Rig 2																				X			
MW-7	OB drilling, set casing	Kevin	Rig 1	If access available																	X	X				
MW-8	OB drilling, set casing	Kevin	Rig 1	If access available																			X			X

Photo Log

Monitoring Well Installation and Sampling

Durham Meadows Superfund Site

Durham, Connecticut

Biweekly Report

Date: July 16 - 27, 2018

Durham Meadows
Photo Log: 27 July 2018

	
Staging Area – Driveway Construction	**Main Street Privacy Fence**

Durham Meadows
Photo Log: 27 July 2018

	
Frac tank for IDW storage (water).	**Roll-off container for IDW storage (soil/rock).**

Durham Meadows
Photo Log: 27 July 2018

	
Trench for underground electric service.	**Project Field Office**

Durham Meadows
Photo Log: 27 July 2018

	
Containerizing overburden cuttings - MW-10.	**Water Collection MW-10.**

Durham Meadows
Photo Log: 27 July 2018

Drilling overburden with 9-inch temporary casing - MW-10.

Durham Meadows
Photo Log: 27 July 2018

	
Installing permanent 6-inch casing – MW-10.	**Installing permanent 6-inch casing – MW-10.**

Durham Meadows
Photo Log: 27 July 2018

Soil drill cuttings consolidation in Staging Area roll-off container.

Durham Meadows
Photo Log: 27 July 2018

Silt fence and hay bale installation - MW-1.

Durham Meadows
Photo Log: 27 July 2018

	
Installing permanent 6-inch casing – MW-1.	**Overburden drilling – MW-6.**

Durham Meadows
Photo Log: 27 July 2018

Overburden Drilling - MW-6.