



August 12, 2020

**TURNKEY RECYCLING & ENVIRONMENTAL ENTERPRISE**

30 Rochester Neck Road  
Rochester, NH 03839  
603 330 2197  
603 330 2130 Fax

Ms. Jamie M. Colby, P.E.  
Waste Management Division  
Department of Environmental Services  
29 Hazen Drive, PO Box 95  
Concord, New Hampshire 03302-0095

RE: Waste Management of New Hampshire, Inc. (WMNH)  
TLR-III (TLR-III) Refuse Disposal Facility  
2020 Landfill Gas (LFG) System Construction  
Replacement Interim Header in Phase 9  
2020 Phase 12 & 13 LFG System Construction

Dear Ms. Colby:

The purpose of this correspondence is to serve as a construction status report for the installation of a replacement interim header in the Phase 9 area of TLR-III and the installation of an additional layer of horizontal collectors within Phases 12 and 13. This correspondence is being provided in accordance with Env-Sw 1104.07(a). The following information is presented in accordance with Env-Sw 1104.07(b):

Facility Identification/Location: Waste Management of New Hampshire, Inc.  
TLR-III Refuse Disposal Facility  
90 Rochester Neck Road  
Rochester, New Hampshire

Permit Number: DES-SW-SP-95-001

The attached status report summarizes construction that occurred at TLR-III on the landfill gas collection system between July 26, 2020 and August 8, 2020. During this reporting period, WMNH completed construction of the replacement interim header in Phase 9 and installed two horizontals that will be part of another layer of horizontal collectors within Phases 12 and 13. During this period, lateral piping off the new header was installed, pressure tested and connected to existing extraction wells. Approximately 1,300 feet of horizontal collector was installed during this period. Figure 2 included in Weston and Sampson's construction status report which is attached shows the scope of work completed on both of these items during this two-week period.

Weston and Sampson is performing Construction Quality Assurance services for the installation of the critical components of this work. Their staff is in regular contact with WMNH staff to ensure they are on-site to review typical pipe installation and backfill practices regularly; all pipe testing

August 12, 2020  
Ms. Jamie Colby  
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and review of project as-builts for conformance with slope requirements. This work will be included within the final project CQA report to be provided to the NH DES for the 2020 landfill management system construction.

If you have any questions regarding this information, please contact me at 330-2140.

Sincerely,

WASTE MANAGEMENT OF NEW HAMPSHIRE, INC.



Anne Reichert, P.E.  
Project Manager

Attachments

cc: Michael Roether – Weston & Sampson (w/ attachments)

# MEMORANDUM

**TO:** Anne Reichert, PE, Waste Management of New Hampshire, Inc.

**FROM:** Michael Roether, PE *MER*

**DATE:** August 12, 2020

**SUBJECT:** Waste Management of New Hampshire, Inc. (WMNH)  
TLR-III Refuse Disposal Facility, Permit# DES-SW-SP-95-001  
2020 Phases 12 & 13 LFG System Construction  
Construction Report #6

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This memorandum provides a summary of the work completed at the TLR-III Refuse Disposal Facility (TLR-III) during construction of the interim Landfill Gas (LFG) System during 2020. This project, *Phases 12 & 13 LFG System Construction*, dated November 2018 was designed by Sanborn Head Associates. A Notice of Intent to Construct was approved by the NHDES on September 27, 2019. Construction of Stage 1 and Stage 2 of this project were completed during 2019. During 2020, construction commenced on Stage 3 in January. In addition to the *Phases 12 & 13 LFG Construction Project*, other incidental construction to the LFG system is included in this construction report.

During this sixth reporting period from July 26, 2020 through August 8, 2020, activity on the interim LFG system included the construction of a Phase 9 header and lateral gas collection system and construction of horizontal gas collectors in the Phase 12/13 area. The Phase 9 collection system was constructed to replace the existing header and lateral pipes that were under-performing. The Phase 12/13 horizontal gas collectors are being installed approximately 30 feet (elevation 290 ft-msl) above the last set of collectors in this area. Refer to Figures 1 and 2 for locations of installed gas systems.

## **Project Team**

The following companies were involved with the construction of the Project during the past reporting period.

- Design Consultant: Sanborn Head Associates  
Concord, New Hampshire

- Earthwork and Pipe: WMNH Gas Operations Personnel (WMNH)  
Rochester, New Hampshire  
  
Sargent Corporation (Sargent)  
Stillwater, Maine
- Layout and As-built Survey: WMNH Gas Operations Personnel  
Rochester, New Hampshire
- CQA Consultant: Weston & Sampson Engineers  
(Weston & Sampson)  
Portsmouth, New Hampshire

### **Installation of Horizontal Collectors**

During this past period, WMNH gas operations personnel and Sargent continued construction of a system of horizontal gas collectors located in the Phase 12/13 area. Sargent was contracted to assist with the construction of the collectors. These collectors are being installed in the active fill area at an approximate elevation of 290 ft-msl. It is anticipated that a total of eight collectors will be installed at this elevation. A total of 1,330 linear feet of collection trench was installed. An additional 240 linear feet of 6" solid lateral pipe was installed to connect the collection trenches to the connection locations. During the past period, the following two collectors were installed.

- HC-1213
- HC-1214

The horizontal landfill gas collectors were constructed in the field. A 3-foot wide trench was dug approximately 3 to 4 feet deep. Stone drain sumps (3 feet wide x 3 feet long x 3 feet deep) were installed approximately every 75 linear feet along the bottom of the collection trench to facilitate drainage of condensate and leachate. Approximately 12-inches of 1-1/2-inch stone were placed in the trench. Perforated 6-inch HDPE SDR-17 pipe was placed on the stone and backfilled with more stone to approximately 6-inches above the pipe. A nonwoven geotextile was then installed on top of the stone. The remainder of the trench was backfilled with onsite soils and/or cover material to match the existing grade. Refer to Figures 1 and 2 for the layout of the collectors and Table 1 for additional details on the installation of the collectors.

### **Installation of Gas Header & Lateral Pipe**

During this past period, the WMNH gas operations personnel completed the construction of a replacement gas collection system located in Phase 9. This replacement system includes header and lateral pipe to 17 existing vertical gas collection wells. The replacement system consists of

12-inch, 8-inch and 6-inch HDPE pipe. Below is summary of pipe installed during the past period.

- 8-inch lateral: 200 linear feet
- 6-inch lateral: 100 linear feet

The installation of gas conveyance pipe involved the excavation of a trench into previously placed solid waste. After the trench was excavated, a 6-inch layer of pipe-bedding material consisting of granular soil was placed in the trench. The pipe was then placed in the trench and surveyed to check that its vertical alignment met minimum slope requirements of 5% and for as-built records. Granular fill was used to backfill around and above the pipes. A minimum of a 6 to 12-inch lift of granular fill soil was used to backfill over the pipes. The remainder of the trench was backfilled with granular fill and intermediate cover soils to return the area to its original grade and cover type. Details and additional information on the installed pipes are presented in Table 2.

### **Construction Quality Assurance**

Weston & Sampson is currently providing part-time on-site construction quality assurance (CQA) for the LGMS construction during the past reporting period. Activities observed during this past period include pipe layout, fusing of HDPE pipe, testing of pipe systems, the installation of HDPE header and lateral pipes, and the installation of horizontal gas collectors.

A LGMS construction certification report will be produced at the end of 2020 and will include all stages of the interim gas system construction during 2020. The certification report will include a summary of construction activities, as-built well construction logs, record drawings, project modifications, construction reports and certification that the project was completed as designed.

### **Design Modifications**

During the past reporting period, there were no major modifications to the interim gas collection system. Minor modifications include the layout and installation locations of gas pipe. These minor modifications will be shown on the surveyed as-built drawings.

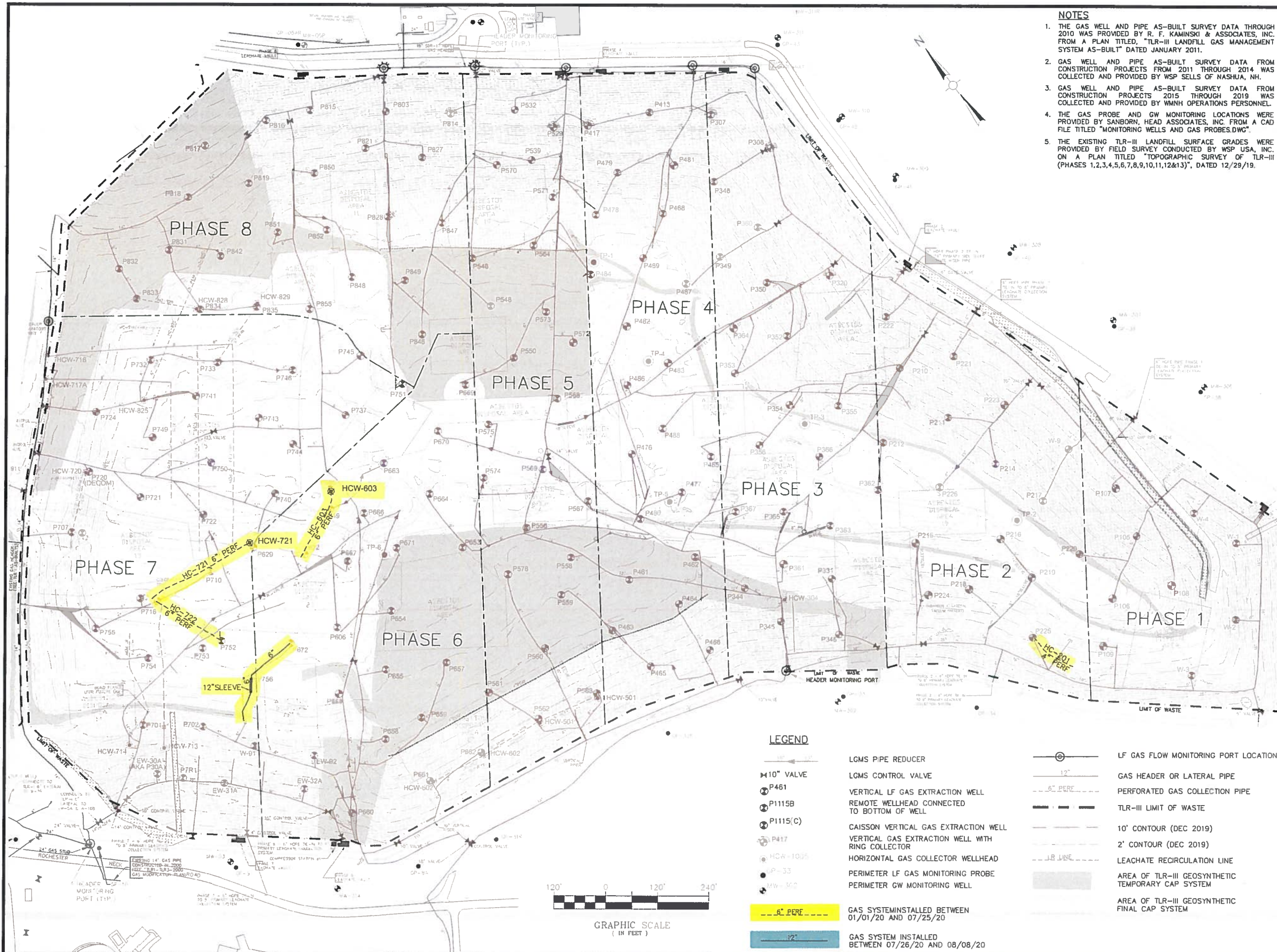
### **Construction Damage**

There was no construction damage during this past reporting period.

### **Schedule**

The installation of the horizontal gas collectors will continue during August 2020. It is expected that the installation of the next phase of vertical gas wells will commence during the fall of 2020. An updated schedule will be provided in the next construction report. All work will be documented by Weston & Sampson.





- NOTES**
1. THE GAS WELL AND PIPE AS-BUILT SURVEY DATA THROUGH 2010 WAS PROVIDED BY R. F. KAMINSKI & ASSOCIATES, INC. FROM A PLAN TITLED, "TLR-III LANDFILL GAS MANAGEMENT SYSTEM AS-BUILT" DATED JANUARY 2011.
  2. GAS WELL AND PIPE AS-BUILT SURVEY DATA FROM CONSTRUCTION PROJECTS FROM 2011 THROUGH 2014 WAS COLLECTED AND PROVIDED BY WSP SELLS OF NASHUA, NH.
  3. GAS WELL AND PIPE AS-BUILT SURVEY DATA FROM CONSTRUCTION PROJECTS 2015 THROUGH 2019 WAS COLLECTED AND PROVIDED BY WMNH OPERATIONS PERSONNEL.
  4. THE GAS PROBE AND GW MONITORING LOCATIONS WERE PROVIDED BY SANBORN, HEAD ASSOCIATES, INC. FROM A CAD FILE TITLED "MONITORING WELLS AND GAS PROBES.DWG".
  5. THE EXISTING TLR-III LANDFILL SURFACE GRADES WERE PROVIDED BY FIELD SURVEY CONDUCTED BY WSP USA, INC. ON A PLAN TITLED "TOPOGRAPHIC SURVEY OF TLR-III (PHASES 1,2,3,4,5,6,7,8,9,10,11,12&13)", DATED 12/29/19.

Project:  
WASTE MANAGEMENT OF NEW HAMPSHIRE

**WM**  
WASTE MANAGEMENT

TURNKEY RECYCLING & ENVIRONMENTAL ENTERPRISE

90 ROCHESTER NECK ROAD  
ROCHESTER, NH 03839

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Revisions

No.	Date	Description

Issued For

No.	Date	Description

Scale

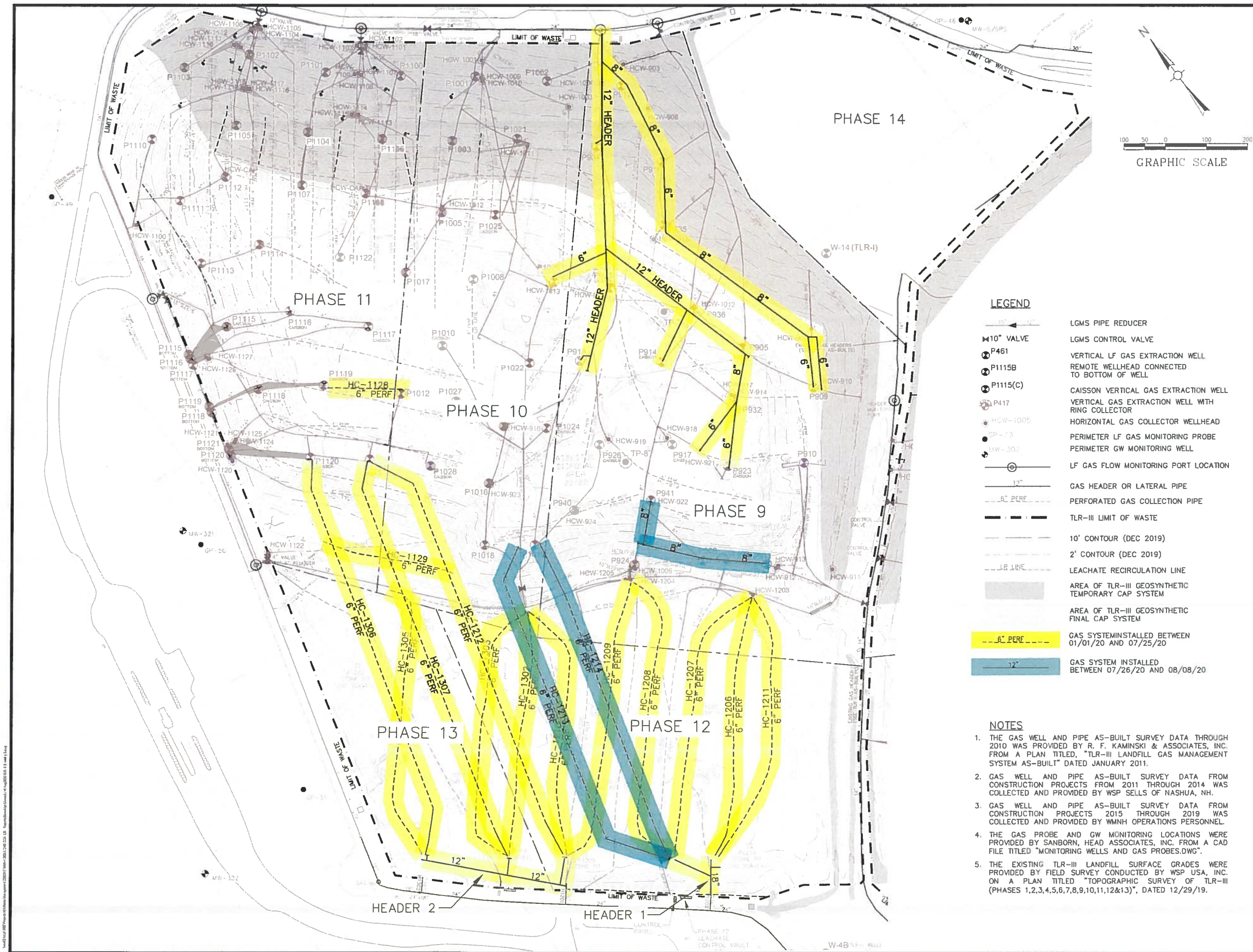
Scale	AS SHOWN
Date	08/12/2022
Drawn By	MER
Reviewed By	MER
Approved By	

WSP Project No. ENG20-0317  
WSP File No. TLR-III LGMS CQA

2020 TLR-III LGMS CONSTRUCTION PROGRESS PHASES 1 - 8

FIGURE 1





Project:  
WASTE MANAGEMENT OF NEW HAMPSHIRE



TURNKEY RECYCLING &  
ENVIRONMENTAL ENTERPRISE  
90 ROCHESTER NECK ROAD  
ROCHESTER, NH 03639



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Consultants:

Revisions:

No.	Date	Description

Scale:

Revised For:

**PROGRESS UPDATE**

Scale: AS SHOWN

Date: 07/28/2022

Drawn By: MER

Reviewed By: MER

Approved By:

WSS Project No: ENG26A00X

WSS File No: TLR-III LGMS COA

Drawing Title:

**2020 TLR-III LGMS  
CONSTRUCTION  
PROGRESS  
PHASES 9 - 14**

Sheet Number:

**FIGURE 2**

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**TABLE 2**  
**Installation of Gas Header and Lateral Pipe**  
**2020 LFG System Construction**  
**Construction through August 08, 2020**

LGMS Component	Description	Quantity	Comment
Header-1	Stage 3, Header 1 system located in Phase 12	90 LF 18" HDPE SDR-17 Solid Pipe 26 LF 12" HDPE SDR-17 Solid Pipe 110 LF 8" HDPE SDR-17 Solid Pipe 204 LF 6" HDPE SDR-17 Solid Pipe	Installation complete 3/18/20; tested on 3/18/20. Construction to continue after Phase 12 is filled
Header-2	Stage 3, Header 2 System Located in Phase 13	348 LF 12" HDPE SDR-17 Solid Pipe 127 LF 8" HDPE SDR-17 Solid Pipe 85 LF 6" HDPE SDR-17 Solid Pipe	Installation complete 3/26/20; tested on 3/26/20. Construction to continue after Phase 13 is filled
Gas Well Lateral	6" Lateral Pipe to Gas Wells P756 and P672	284 LF 6" HDPE SDR-17 Solid Pipe	Installed 02/20/20
Phase 9 Header	Replacement 12" Gas Header Located in Phase 9	820 LF 12" HDPE SDR-26 Solid Pipe	Installation complete on 07/08/20. Tested 7/17/20
Phase 9 Header	Replacement 12" Gas Header Located in Phase 9	440 LF 12" HDPE SDR-26 Solid Pipe	Installation complete on 07/13/20. Tested 7/17/20
Phase 9 Lateral	8" Lateral Pipe to Gas Wells P912	75 LF 8" HDPE SDR-17 Solid Pipe	Installation complete on 07/09/20. Tested 7/17/20
Phase 9 Lateral	8" Lateral Pipe to Gas Wells P916	210 LF 8" HDPE SDR-17 Solid Pipe	Installation complete on 07/09/20. Tested 7/17/20
Phase 9 Lateral	8" Lateral Pipe to HC-907	435 LF 8" HDPE SDR-17 Solid Pipe	Installation complete on 07/15/20. Tested 7/17/20
Phase 9 Lateral	8" Lateral Pipe to Well P-932	130 LF 8" HDPE SDR-17 Solid Pipe	Installation complete on 07/09/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P913	30 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/10/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P1026	140 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/10/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P925	10 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/09/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P934	10 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/09/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P935	160 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/09/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P914	140 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/14/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P923	150 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/14/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P917	145 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/15/20. Tested 7/17/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P909	130 LF 6" HDPE SDR-17 Solid Pipe	Remote Lateral. Installation complete on 07/16/20
Phase 9 Lateral	6" Lateral Pipe to Horizontal Gas Collector HC-910	130 LF 6" HDPE SDR-17 Solid Pipe	Installation complete on 07/16/20.
Phase 9 Lateral	8" Lateral Pipe to Gas Wells P911 and P908	200 LF 8" HDPE SDR-17 Solid Pipe	Installation complete and tested on 07/30/20
Phase 9 Lateral	6" Lateral Pipe to Gas Well P909	100 LF 6" HDPE SDR-17 Solid Pipe	Installation complete and tested on 07/30/20

**TABLE 1**  
**Installation of Horizontal Gas Collectors**  
**2020 LFG System Construction**  
**Construction through August 08, 2020**

LGMS Component	Description	Quantity	Comment
HC-603	Phase 6 Horizontal Gas Collector	<u>0</u> LF 6" HDPE SDR-17 Solid Pipe <u>213</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/09/20
HC-701	Phase 7 Horizontal Gas Collector	<u>0</u> LF 6" HDPE SDR-17 Solid Pipe <u>337</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/10/20
HC-1211	Phase 12 Horizontal Gas Collector	<u>36</u> LF 6" HDPE SDR-17 Solid Pipe <u>636</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/14/20
HC-1206	Phase 12 Horizontal Gas Collector	<u>76</u> LF 6" HDPE SDR-17 Solid Pipe <u>564</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/15/20
HC-1207	Phase 12 Horizontal Gas Collector	<u>13</u> LF 6" HDPE SDR-17 Solid Pipe <u>674</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/17/20
HC-1208	Phase 12 Horizontal Gas Collector	<u>5</u> LF 6" HDPE SDR-17 Solid Pipe <u>735</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/28/20
HC-1209	Phase 12 Horizontal Gas Collector	<u>2</u> LF 6" HDPE SDR-17 Solid Pipe <u>300</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 01/31/20
HC-925	Phase 9 Horizontal Gas Collector	<u>0</u> LF 6" HDPE SDR-17 Solid Pipe <u>150</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 02/20/20
HC-1013	Phase 10 Horizontal Gas Collector	<u>0</u> LF 6" HDPE SDR-17 Solid Pipe <u>180</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 02/20/20
HC-1210	Phase 12 Horizontal Gas Collector	<u>2</u> LF 6" HDPE SDR-17 Solid Pipe <u>636</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 02/24/20
HC-1302	Phase 13 Horizontal Gas Collector	<u>4</u> LF 6" HDPE SDR-17 Solid Pipe <u>593</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 02/25/20
HC-1303	Phase 13 Horizontal Gas Collector	<u>5</u> LF 6" HDPE SDR-17 Solid Pipe <u>672</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 02/26/20
HC-1305	Phase 13 Horizontal Gas Collector	<u>4</u> LF 6" HDPE SDR-17 Solid Pipe <u>688</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 02/27/20
HC-201	Phase 1 Horizontal Gas Collector	<u>20</u> LF 4" HDPE SDR-17 Solid Pipe <u>100</u> LF 4" HDPE SDR-17 Perforated Pipe	Installed 04/08/20; Installed as corrective action for Q1-20 SEM exceedance
HC-1129	Phase 10/11 Area Horizontal Gas Collector	<u>40</u> LF 6" HDPE SDR-17 Solid Pipe <u>360</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 04/08/20; not online; This collector was initially labelled HC-1128, but changed to HC-1129 on 6/16/20
HC-722	Phase 7 Horizontal Gas Collector	<u>0</u> LF 6" HDPE SDR-17 Solid Pipe <u>180</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 05/27/20; Installed as a corrective action for Q1-20 SEM Exceedance
HC-1128	Phase 10/11 Area Horizontal Gas Collector	<u>0</u> LF 6" HDPE SDR-17 Solid Pipe <u>200</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 05/28/20; Installed as a corrective action for Q1-20 SEM Exceedance
HC-1306	Phase 13 Horizontal Gas Collector	<u>180</u> LF 6" HDPE SDR-17 Solid Pipe <u>830</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 07/22/20; Not nline
HC-1307	Phase 13 Horizontal Gas Collector	<u>130</u> LF 6" HDPE SDR-17 Solid Pipe <u>890</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 07/23/20; Not online
HC-1212	Phase 12 Horizontal Gas Collector	<u>160</u> LF 6" HDPE SDR-17 Solid Pipe <u>840</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 07/24/20; Not online
HC-1213	Phase 12 Horizontal Gas Collector	<u>160</u> LF 6" HDPE SDR-17 Solid Pipe <u>680</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 07/31/20; Not online
HC-1214	Phase 12 Horizontal Gas Collector	<u>80</u> LF 6" HDPE SDR-17 Solid Pipe <u>650</u> LF 6" HDPE SDR-17 Perforated Pipe	Installed 08/03/20; Not online