



Petition before the Massachusetts Energy Facilities Siting Board for

**Analysis in Support of Approval of
Holyoke Gas & Electric's
Liquefied Natural Gas Infrastructure & Resiliency Project**

EFSB 22-07



DECEMBER 7, 2022

Submitted by:
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COMMONWEALTH OF MASSACHUSETTS

ENERGY FACILITIES SITING BOARD

Petition of Holyoke Gas & Electric Department for
Approval to Construct and Operate a New Natural
Gas Storage Facility Pursuant to G.L. c. 164, § 69J

EFSB 22-07

**PETITION OF HOLYOKE GAS & ELECTRIC DEPARTMENT
FOR APPROVAL OF A GAS STORAGE FACILITY**

Now comes Holyoke Gas & Electric Department ("HG&E") and hereby petitions the Energy Facilities Siting Board ("Siting Board"), pursuant to G.L. c. 164, § 69J, for approval to construct, operate and maintain a new liquefied natural gas ("LNG") storage facility in the City of Holyoke ("Project"). The Project will provide needed, additional LNG storage and vaporization capabilities at HG&E's established and operating West Holyoke LNG facility in order to enable HG&E to maintain reliable and economic service for its existing natural gas customers and, potentially, provide incremental natural gas service to facilitate the transition or electrification of customer service on an economic basis while reducing emissions. The Project will incorporate industry best practice and meet or exceed all relevant regulatory or design requirements. In support of this Petition, HG&E respectfully represents as follows:

1. HG&E is a municipal gas and electricity distribution service provider that provides natural gas service to approximately 11,600 customers and electricity service to approximately 18,000 customers in primarily in the City of Holyoke (HG&E also serves a limited number of natural gas and electricity customers in the Town of Southampton).

2. HG&E is represented by James M. Avery, Esq., Pierce Atwood LLP, 100 Summer Street, Boston, Massachusetts 02110.

3. Pursuant to G.L. c. 164, § 69J, a party seeking to construct a “facility” must obtain approval from the Siting Board. Pursuant to G.L. c. 164, § 69G, a jurisdictional facility is defined as a “unit, including associated buildings and structures, designed for and capable of the . . . storage of gas, except such units below a minimum threshold size established by regulation.” The Siting Board’s regulations established a total gas storage capacity of less than 25,000 gallons as being exempt from review. 980 CMR § 1.01(4).

4. The Project includes the installation of an additional tank capable of storing approximately 70,000 gallons of LNG at the site of an existing LNG storage and vaporization facility operated by HG&E for more than fifty years. The proposed new tank constitutes a facility subject to the jurisdiction of the Siting Board. As described in an accompanying analysis (“Analysis”), in coordination with the Project HG&E expects to complete unrelated improvements to existing components of the Facility given the on-site availability of a range of contractors during construction of the Project, including the replacement of the Facility’s existing vaporizer with two new vaporization units so that LNG dispatch is more reliable and service from the Facility is not subject to the failure of a single piece of equipment.

5. In accordance with Section 69J, before approving a petition to construct a proposed energy facility, the Siting Board requires an applicant to justify its proposal in four phases. First, the Siting Board requires the applicant to show that additional energy resources are needed (see Analysis, Section 3.0). Second, the Siting Board requires the applicant to establish that, on balance, its proposed project is superior to alternative approaches in terms of reliability, cost and environmental impact, and in its ability to address the identified need (see Analysis, Section 4.0). Third, the Siting Board requires the applicant to show that it has considered a reasonable range of practical facility siting alternatives and that the proposed site (or route) for the facility is superior to a noticed alternative site (or route) in terms of cost, environmental impact and reliability of supply (see Analysis, Section 5.0). Finally, the applicant

must show that its plans for construction of its new facilities are consistent with the current health, environmental protection and resource use and development policies as developed by the Commonwealth (see Analysis, Section 6.0). As demonstrated throughout the Analysis, the Project satisfies the Siting Board's standards and relevant precedent for jurisdictional facilities.

6. In carrying out its statutory mandate with respect to proposals to construct natural gas pipelines, the Siting Board evaluates whether there is a need for additional natural gas facilities in the Commonwealth to meet reliability, economic efficiency, or environmental objectives. See NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-03/D.P.U. 19-15, at 7 (2021) ("Eversource Andrew Sq./Dewar"); Colonial Gas Company d/b/a National Grid, EFSB 18-01, at 7 (2019) ("Colonial Gas (2019)"); Colonial Gas Company, EFSB 16-01, at 5-6 (2016) ("Colonial Gas (2016)"); Colonial Gas Company, EFSB 05-2, at 5-6 (2006) ("Colonial Gas (2006)"); The Berkshire Gas Company, EFSB 05-1, at 3-4 (2006) ("Berkshire Gas (2006)").

7. As a local municipal natural gas distribution service provider, HG&E's core obligation is to provide safe, reliable, and least-cost gas service to its customers. The Project is needed to provide necessary system reliability and supply security during peak demand periods for a system which is currently served by only a single and limited pipeline system and an existing LNG facility with limited storage capacity that must be refilled during cold weather peaks. The Project may also secure economic and environmental benefits by enabling the targeted addition of new customers to secure economic and environmental benefits; due to limited supply capability, HG&E instituted a moratorium on the addition of new gas customers in 2019.

8. G.L., c. 164, § 69J requires a project proponent to present alternatives to the proposed facility, which may include: (1) other methods of transmitting or storing energy; (2) other sources of electrical power or natural gas; and (3) a reduction of requirements

through load management. See Eversource Andrew Sq./Dewar at 24; Colonial Gas (2019) at 19; Vineyard Wind LLC, EFSB 17- 05/D.P.U. 18-18/18-19, at 16 (2019) ("Vineyard Wind"); Colonial Gas (2016) at 11. In implementing its statutory mandate, the Siting Board requires a petitioner to show that, on balance, its proposed project is superior to alternative approaches in terms of reliability, cost, environmental impact, and ability to meet a previously identified need. See Eversource Andrew Sq./Dewar at 24; Colonial Gas (2019) at 19; Vineyard Wind at 16; Colonial Gas (2016) at 11. In addition, the Siting Board requires a petitioner to consider reliability of supply as part of its showing that the proposed project is superior to alternative project approaches. See Eversource Andrew Sq./Dewar at 24; Colonial Gas (2019) at 19; Vineyard Wind at 13-14; Colonial Gas (2016) at 11; Berkshire Gas (2006) at 12-13.

9. HG&E comprehensively identified and analyzed various project alternatives to address its established need, including" (i) a "no build" alternative; (ii) the Project; (iii) a new LNG facility; (iv) a new distribution pipeline or interconnections with neighboring utilities; (v) the use of compressed natural gas ("CNG"); and (vi) non-pipeline alternatives and emerging technologies, such as energy efficiency and electrification. HG&E considered each of these scenarios and evaluated them based on their ability to meet the identified need; their reliability, environmental impact, and cost; and the extent to which each provided additional reliability benefits to the area. HG&E was well-suited to perform this comprehensive analysis of alternatives because it provides both gas and electricity distribution service. The proposed Project was determined to best meet HG&E's need while balancing reliability, cost, and environmental considerations. The analysis in support of this petition summarizes the need for the Project and the consideration of alternatives in Section 4.0 of the Analysis.

10. HG&E evaluated a number of potential alternatives to the Project, including non-pipeline and pipeline alternatives, including: (1) no-build alternative; (2) the proposed Project; (3) alternative sites for an LNG facility; (4) use of Compressed Natural Gas ("CNG")

or Liquefied Natural Gas ("LNG"); and (5) non-pipeline alternatives and emerging technologies, such as energy efficiency and (6) electrification. HG&E analyzed these potential alternatives according to their ability to meet the identified Project need as well as considerations of reliability, cost and environmental impacts. As demonstrated in Section 4.0 of the Analysis, the Project is the superior alternative and solution to satisfy the Project need, while also appropriately balancing reliability, cost, and environmental impacts.

11. In implementing its statutory mandate to ensure a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost, the Siting Board requires a petitioner to show that its proposed facility is sited at a location that minimizes costs and environmental impacts while ensuring a reliable energy supply. To determine whether such a showing is made, the Siting Board requires a petitioner to demonstrate that the proposed site for the facility is superior to the noticed alternative on the basis of balancing cost, environmental impact and reliability of supply. See Eversource Andrew Sq./Dewar at 44; Colonial Gas (2019) at 42; Vineyard Wind at 35; Colonial Gas (2016) at 29. In order to determine if a petitioner has achieved the proper balance among various environmental impacts and among environmental impacts, cost and reliability, the Siting Board determines if the petitioner has provided sufficient information regarding environmental impacts and potential mitigation measures to enable the Siting Board to make such a determination. The Siting Board then determines whether environmental impacts would be minimized. Similarly, the Siting Board must find that the petitioner has provided sufficient cost and reliability information in order to determine if the appropriate balance among environmental impacts, cost and reliability is achieved. See Eversource Andrew Sq./Dewar at 44-45; Colonial Gas (2019) at 42-43; Vineyard Wind at 35; see also Berkshire Gas (2006) at 31; Colonial Gas (2006) at 59-60.

Accordingly, the Siting Board examines the environmental impacts, reliability and cost of the proposed facilities at a petitioner's preferred site and when appropriate noticed alternative sites, to determine: (1) whether environmental impacts would be minimized; and (2) whether an appropriate balance would be achieved among conflicting environmental impacts as well as among environmental impacts, cost and reliability. In this examination, the Siting Board compares the preferred and alternative sites to determine which is superior with respect to providing a reliable energy supply for the Commonwealth with a minimum impact to the environment at the lowest possible cost. See Eversource Andrew Sq./Dewar at 44-45; Colonial Gas (2019) at 42-43; Vineyard Wind at 35; see also Berkshire Gas (2006) at 31; Colonial Gas (2006) at 59-60.

HG&E conducted a comprehensive analysis of the environmental impacts associated with the Project and will take steps to appropriately minimize and mitigate such impacts. Overall, HG&E's analysis demonstrates that the Project will achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability and cost. The cost, reliability and environmental impacts analyses are set forth in Section 5.0 of the Analysis.

12. HG&E also demonstrates that the construction and operation of the Project is consistent with current health, environmental protection and resource use and development policies as adopted by the Commonwealth, as are more particularly set forth in Section 6.0 of the Analysis.

13. Given the clear superiority of the Project at the West Holyoke Facility and concerns with customer confusion, particularly in Environmental Justice communities where an alternative site was located, HG&E determined a "noticed" alternative is not appropriate and should not be employed in this proceeding.

WHEREFORE, HG&E respectfully requests that the Siting Board, pursuant to G.L. c. 164, § 69J, conduct a public hearing on this Petition and take such other action as may be necessary to: (i) grant the authority to construct and operate the Project as more particularly described in the attached Analysis; (ii) find that the construction of the Project is consistent with current health, environmental, and resource use and development policies as adopted by the Commonwealth and the policies stated in G.L. c. 164, § 69H; and (iii) find that such construction and operation is required in order to provide a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost.

Respectfully Submitted,

HOLYOKE GAS & ELECTRIC DEPARTMENT

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Dated: December 7, 2022

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**MOTION FOR PROTECTIVE TREATMENT
OF CONFIDENTIAL INFORMATION**

Pursuant to 980 CMR, Holyoke Gas & Electric Department ("HG&E") hereby moves that the Energy Facilities Siting Board ("Siting Board") grant protection from public disclosure to certain confidential and proprietary information included within HG&E's petition ("Petition") and analysis filing submitted herewith. Specifically Process Flow Diagrams reflecting existing and proposed equipment at the West Holyoke Facility and contained in Appendix B ("Confidential Materials") which, if disclosed, would reveal sensitive critical energy infrastructure information ("CEII") to the public which could cause harm to HG&E and, in turn, residents of the City of Holyoke ("Holyoke"). In support of this Motion for Protective Treatment of Confidential Information ("CEII Motion"), HG&E states the following:

1. HG&E is a municipal utility organized pursuant to the laws of the Commonwealth of Massachusetts that provides natural gas and electric distribution service to customers in Holyoke and the Town of Southamton.
2. HG&E has included the Confidential Materials within its initial Petition to the Siting Board pursuant to G.L. c. 164, § 69J. The Confidential Materials have been provided in the public docket in a redacted form.
3. The Siting Board is authorized to protect from public disclosure "trade secrets" where such protection is both appropriate and provided by law. 980 CMR 4.01(1).

4. The process flow drawings included in Appendix B contain detailed information relating to design and operation of HG&E's existing LNG facility and also the improvements planned at such site that are the subject of this proceeding. This information could be used to jeopardize public safety and security.

5. The Confidential Materials providing detailed information on an LNG facility and planned improvements, which are not and should not be generally available for the benefit of the public health and safety. HG&E understands that this request will be considered if, and when, such information is requested by a member of the public.

6. In regard to information representing critical energy infrastructure information or otherwise addressing the security of HG&E's infrastructure, the Massachusetts Public Records Law is set forth at G.L. c. 66, § 10 and provides the parameters for public access to documents in the possession of state and local government agencies. G.L. c. 66, § 10. G.L. c. 4, § 7 sets forth definitions of statutory terms used in the General Laws, and Clause 26 of that section contains the definition of the term "public records." The Massachusetts General Court has provided specific protection for certain kinds of utility infrastructure information by excluding such documents from the definition of a "public record." Specifically, "public records" are defined by statute as:

[A]ll books, papers, maps, photographs, recorded tapes, financial statements, statistical tabulations, or other documentary materials or data, regardless of physical form or characteristics, made or received by any officer or employee of any agency, executive office, department, board, commission, bureau, division or authority of the commonwealth, or of any political subdivision thereof, or of any authority established by the general court to serve a public purpose, unless such materials or data fall within the following exemptions:

G.L. c. 4, § 7, clause 26 (emphasis added). Among the various exceptions to a "public record" are:

(n) records, including, but not limited to, blueprints, plans, policies, procedures and schematic drawings, which relate to internal layout and structural elements, security measures, emergency preparedness, threat or vulnerability assessments, or any other records relating to the security or safety of persons

or buildings, structures, facilities, utilities, transportation, cyber security or other infrastructure located within the commonwealth, the disclosure of which, in the reasonable judgment of the record custodian, subject to review by the supervisor of public records under subsection (c) of section 10 of chapter 66, is likely to jeopardize public safety or cyber security.

G.L. c. 4, § 7, clause 26(n) (emphasis added).

7. Similar information was granted protection by the Siting Board or the Department of Public Utilities ("Department"). See, The Berkshire Gas, D.P.U. 14-131. See Hearing Officer Ruling dated November 23, 2015 (Gas System Enhancement Program Plan). The Siting Board has also accorded confidential protection when it found that any public interest to be served by disclosure of information relating to the security or safety of persons or buildings would be "outweighed by the possibility that such disclosure could jeopardize public safety and security." The Berkshire Gas Company, EFSB 99-2A/D.T.E. 99-17A, p. 11 (2003). Disclosure of information with respect to the distribution system that are included in the Confidential Materials similarly present an undue risk to public safety because this information could be used for inappropriate purposes. Therefore, such information must be protected from public disclosure.

Accordingly, for the reasons stated herein, HG&E respectfully requests that the Siting Board grant this CEII Motion consistent with the Siting Board's established protocol for such materials with respect to two Process Flow Diagrams contained in Appendix B. on a permanent basis.

Respectfully submitted,

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Part 2 - Project Communication & Outreach

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Figure 2 - Apremont Highway

Figure 3 - Whiting Farms

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The Holyoke Gas & Electric Department of the City of Holyoke, Massachusetts (HG&E), a municipal utility, submits this Analysis in support of its petition to the Massachusetts Energy Facilities Siting Board (Siting Board) for the approval of the construction of a proposed, new liquefied natural gas (LNG) storage tank (Project) at HG&E's existing peak-shaving facility in the City of Holyoke, Massachusetts (West Holyoke Facility).

HG&E receives firm gas supply (11,800 Dekatherms per day (Dth/d)) from the Tennessee Gas Pipeline Company LLC's (TGP) Northampton Lateral for delivery into its gas distribution system, which currently serves approximately 11,500 customers in the City of Holyoke (Holyoke or the City) and Town of Southamptn (Southampton). This pipeline gas supply is supplemented during the winter/peak gas demand periods with vaporized LNG from the West Holyoke Facility. The Northampton Lateral is capacity-constrained (i.e., no new additional delivery capability may be secured by HG&E) and, as a result, in 2019 HG&E instituted a moratorium on adding new gas customers or incremental load to its system. HG&E relies heavily on the use of the West Holyoke Facility to meet peak gas demand needs for its existing customers, serving over 40% of its peak day demand with LNG. HG&E has limited on-site LNG storage and, assuming the West Holyoke Facility storage capacity is full at the onset of a period of cold weather, can only maintain reliable service to its existing customers for less than two days at or near peak or design conditions.

The existing West Holyoke Facility was originally constructed in 1971 with two 55,000-gallon LNG storage tanks, an LNG tanker truck unloading station and an LNG vaporization system. Major enhancements were made in 1974 with the installation of two additional 55,000-gallon LNG storage tanks (a planned fifth tank was not installed). In 1999 HG&E replaced the original, 20-year old direct-fired LNG vaporization system (which was at the end of its "useful life") with a new, modern remote-heated LNG vaporization system. The West Holyoke Facility has been operated safely by HG&E since its original construction in 1971.

The proposed Project consists of the installation of a fifth LNG storage tank with a nominal capacity of 70,000-gallons to increase on-site storage by 5,000 Dth to a total of 21,000 Dth. The key objective of the Project is to enable HG&E to continue to provide reliable service during cold weather periods by maintaining adequate, on-site storage capacity. The Project will also help maintain stable rates and reduce environmental impacts of the heating sector throughout the energy transition to net zero by 2050 by enabling HG&E to selectively add natural gas service with the aim to reduce consumption of higher emitting fuel when an electric alternative is not feasible. Such targeted gas service will also promote economic development. The proposed scope of work will be located completely within the existing footprint or fence line of the West Holyoke Facility. HG&E has identified certain complementary

improvements at the West Holyoke Facility that will be pursued on a coordinated basis with the Project to secure cost savings and reduce impacts.

Please refer to Figure 1-1 for a USGS map showing the West Holyoke Facility location and Figure 1-2 for an aerial photograph of such site. Please also refer to Figures 1-3(a), 1-3(b), 1-3(c) and 1-3(d) for “bird’s eye” view photographs of the Project Site (with aerial photographs to show perspective).

HG&E has recognized the need for an incremental resource to maintain reliable service on design days or during cold snaps for a number of years. Previously, HG&E sought to address this resource need pursuant to a displacement agreement (MOU) with Columbia Gas of Massachusetts (CMA) whereby CMA would construct new facilities to enable expanded TGP deliveries to HG&E from the TGP mainline while HG&E would, in turn, back off service on the Northampton Lateral, which capacity could be employed to serve other CMA customers to the north. HG&E and CMA executed an agreement describing the terms and conditions of such arrangement. Changing market conditions, however, resulted in differing priorities for CMA and the arrangement has been terminated; an alternative reliability project being pursued by Eversource (formerly CMA) is now before the Siting Board in the Springfield area, which project will not benefit HG&E.

Upon the termination of the MOU with CMA, HG&E reevaluated its resource portfolio and peak demand requirements and confirmed a continuing need for an additional gas supply. HG&E next performed a comprehensive evaluation of potential alternative resources, including in response to changing market conditions subsequent to the execution of the MOU. See Section 4.0. HG&E determined that the Project was, by far, the superior resource alternative. Thereafter, HG&E sought to identify and evaluate a range of sites for additional LNG storage and determined that the expansion of the West Holyoke Facility will meet its identified resource need at the least cost and with minimum environmental impacts. See Section 5.0.

This Analysis demonstrates that the proposed Project reflects a proper balance between economic and reliability factors as well as environmental impact considerations, consistent with state, federal and regional energy policies and local community expectations. The Analysis further demonstrates that the Project was selected as a result of an appropriate site and technology design evaluation and that the environmental impact and costs of the Project are minimized. The Project contributes to a reliable, low cost and diverse regional energy supply with minimal environmental impacts.

The sections that follow will provide additional detail in support of HG&E’s petition , including:

- Section 2.0 - provides a more detailed description of the design of the Project;
- Section 3.0 - outlines the need for the Project;
- Section 4.0 - summarizes the appropriate analysis of alternatives;
- Section 5.0 - details the site selection process for the proposed Project and the most viable alternative sites;
- Section 6.0 - presents detailed environmental analyses and mitigation proposals; and

- Section 7.0 - provides an overview of the Project’s consistency with current health and environmental policies.

1.2 Project Development Schedule

HG&E is pursuing necessary requirements to place the Project in-service prior to the 2025/2026 winter heating season but, given the reliability benefits, will look to compress the Project’s overall schedule, if practicable, in an attempt to move up the completion of the Project to a date prior to the 2024/2025 winter heating season. HG&E believes that this schedule is reasonable given the nature of the Project’s review process; the Siting Board review is the only permit or approval required for the Project.

Pursuant to G.L. c. 164, § 69J, no Applicant shall commence construction of a “facility” unless a petition for approval of construction of that generating facility has been approved by the Siting Board. Pursuant to G.L. c. 164, § 69G, a jurisdictional “facility” is defined as: “a unit, including associated buildings and structures, designed for or capable of the manufacture or storage of gas, except such units below a minimum threshold size as established by regulation.” The Project will include aggregate natural gas storage capacity above the threshold reflected in the Siting Board’s regulations. HG&E therefore believes that the Project is subject to review by the Siting Board.

Notably, the use of the existing West Holyoke Facility site is exempt from any Holyoke filing or permit requirements (including pursuant to Holyoke’s Zoning Ordinance) and is outside of one mile from the nearest Environmental Justice area and, therefore, Massachusetts Environmental Policy Act (MEPA) review requirements will not be triggered. HG&E conducted neighborhood door-to-door canvassing adjacent to the Project area, delivered overview materials to customers detailing the Project, its need and benefits as well as staged a public event in an Environmental Justice neighborhood in Holyoke to raise awareness not only of the Project but of HG&E programs on energy efficiency, clean energy and electric vehicles.

Additionally, the Project will not require any permits from the Massachusetts Department of Environmental Protection (MassDEP) or Holyoke Conservation Commission since there will be no impacts to wetlands, noise or air emissions. No permits or approvals are required for the complementary improvements at the West Holyoke Facility (e.g., berm and vaporizer work) to be completed in coordination with the Project to secure cost savings and reduce impacts.

1.3 Description of the Project

The Project consists of installing a new 70,000-gallon horizontal, shop-fabricated LNG storage tank at the West Holyoke Facility. As noted, four similar LNG storage tanks have been operating at that site for approximately 50 years.

The new tank will be installed within the footprint and perimeter fence line of the existing West Holyoke Facility. The existing components at the West Holyoke Facility, namely the four LNG storage tanks and their associated LNG spill impoundment “dikes,” will largely remain unchanged from their current

design. The Project is described in further detail in Section 2.0 and Appendix B. The Project will meet or exceed all current and relevant regulatory, design and safety requirements. In addition, the Project's design, construction and operations will have very limited incremental impact on the environment and the community. See Section 6.0.

The layout of the West Holyoke Facility, including the process equipment and systems, will continue to be in accordance or compliance with all requisite setbacks and configuration requirements. Necessary structural concrete foundation components will be engineered and designed based on applicable design codes, generally accepted engineering practices and data developed in the field and from a geotechnical evaluation. The new tank will be contained within the existing perimeter security fence with an existing, automated vehicle gate that will continue to provide controlled access and egress to/from the West Holyoke Facility. The existing perimeter security and surveillance system will also continue to be employed to monitor the West Holyoke Facility for unauthorized entry. The Project will meet or exceed all state and federal siting requirements, thus minimizing any impact to the surrounding community.

In designing the Project, HG&E conducted a comprehensive evaluation of the West Holyoke Facility including existing structures and equipment. HG&E recognized that construction work for the Project would require a range of construction experts to be on-site. HG&E evaluated whether this presented an opportunity for any additional work or improvements to existing facilities on a least-cost, minimal impact basis. HG&E identified several tasks that it expects to complete on a coordinated basis: (i) civil work to enhance and restore an existing, but now 50-year old berm; (ii) the coordinated replacement of an older, single vaporizer with two new vaporizers; (iii) the installation of updated controls to enhance efficiency and reduce greenhouse gas (GHG) emissions; (iv) the installation of a new panel for the established fire safety system; and (v) the installation of an upgraded stand-by generator. These tasks, which will be completed regardless of the approval of the Project, will enhance reliability and safety and can be best completed on a coordinated basis in terms of cost and minimizing impacts.

1.4 Community Outreach

In order to ensure the community is engaged and informed throughout Project development, HG&E developed and applied a communication strategy that includes messaging themes, a proposed timeline and a list of action items associated with the Project. HG&E has strong, established relationships with key stakeholders throughout the community, which have and will continue to assist in efforts to move this Project forward and promote and maintain an open dialogue theme. HG&E is a community-owned municipal utility making decisions based on the needs of the local community. Every day, HG&E works to make the quality of life for residents better and more affordable, while assisting in business growth and economic development. In addition, the majority of HG&E employees live within the service territory, which makes the services offered more personal and outreach more impactful.

1.4.1 Community Engagement and Outreach

HG&E has been engaging various stakeholders to discuss the potential solutions for natural gas reliability concerns for many years. Beginning with the canceled CMA arrangement and now with this proposed Project, HG&E has sought to engage stakeholders in describing the merits of reliability projects with a goal of ensuring minimal impact on the surrounding community and that might also enable strategic customer additions. With the Project, HG&E began developing and implementing a communication strategy that includes key stakeholders, community organizations, the general public, employees, elected officials, neighbors/abutters and property owners near the West Holyoke Facility.

In July and August 2022, HG&E developed outreach materials for the Project (some of which are provided in Appendix A), including:

- Website – www.hged.com/LNGProject
- Email Address – LNGProject@hged.com
- Project Flyers (Spanish and English)
- Media Release
- Project Frequently Asked Questions

In late August 2022, HG&E representatives attended a meeting of the Southampton Select Board to discuss natural gas constraints. Similar to other stakeholder groups, the Southampton Select Board was concerned about system reliability but also interested in finding opportunities for additional natural gas capacity in order to avoid new oil and propane system installations that might advance economic development. During this meeting, HG&E's team referred to potential reliability improvements; there was not a specific conversation about the Project at that time as some analyses were ongoing. Subsequently, on October 18, 2022, HG&E provided summary information describing the Project to the Southampton Town Administrator.

On September 7, 2022, HG&E's Gas Superintendent and Director of Marketing & Communications began to canvass the neighborhood surrounding the West Holyoke Facility. The majority of the neighbors have an existing relationship with HG&E personnel and indicated that they were very comfortable with the installation of one additional LNG tank and the coordinated update of the vaporization system. Throughout the week of September 7, 2022, HG&E was able to discuss the Project with approximately three-quarters of the area residents (leaving materials and contact information for the remaining property owners). This focused public engagement was critical in ensuring the abutters would be aware of the Project and any questions or concerns related to the Project were answered immediately by HG&E officials. It was important to HG&E that these direct conversations were the first public engagement with neighbors related to the Project.

Representative Patricia Duffy met with the Manager and Director of Marketing & Communications on September 9, 2022 to discuss a number of topics including the State's Clean Energy Roadmap, HG&E's energy supply and efficiency initiatives, as well as natural gas reliability and the moratorium. During the conversation, HG&E's team presented the Project as part of the ongoing energy transition strategy.

Representative Duffy indicated that she appreciated the need for additional capacity to maintain reliability in order to avoid continued use of high cost and high emission fuels such as oil and propane. In addition, Representative Duffy toured the West Holyoke Facility on Friday, September 30, 2022 along with Juan Anderson-Burgos, Legislative Aide and Holyoke City Councilor.

On September 12, 2022, the Manager, Gas Superintendent and Director of Marketing & Communications attended the Holyoke City Council Finance Committee Meeting to follow up on Councilor Kevin Jourdain's January 4, 2022 City Council Order (see Appendix A), which stated in part "The Holyoke Gas and Electric be requested to take all necessary steps to end the gas moratorium." Mayor Joshua Garcia was also present at the meeting. In addition, Mayor Garcia submitted a letter of support for the Project to the City Council on September 12, 2022 (see Appendix A). During the discussion, HG&E provided an overview of natural gas reliability challenges, the overall known moratorium impact, as well as details on the Project which included a tentative process timeline. Subsequent to this discussion, the City Council voted to note that its January order was complied with and on October 18, 2022 the City Council passed a resolution to support the Project (see Appendix A).

Internal communication is also a critical component in HG&E's strategic communication approach as employees are our biggest advocates. As mentioned previously, many employees live within our service territory and are HG&E customers. Each month HG&E distributes an employee update, which includes important internal information on projects and activities. In September, the employee update included details related to the Project along with an invitation to our annual community public utility celebration.

Elected officials, employees and the public were invited to an annual community event on October 5, 2022 at Veterans Park in Holyoke. Public Power & Public Natural Gas week takes place the first week of October each year, this annual weeklong celebration helps community-owned utilities throughout the country promote the benefits of local utility control. During the community event, participants learned about HG&E's energy efficiency and electrification incentives, air source heat pumps, fuel assistance, electric and natural gas safety, the local power supply portfolio, the Project and much more. In addition, there was music, pumpkin decorating and kids' activities, a food truck and ice cream truck. The community celebration featured many of HG&E's partner organizations, including:

- Marcotte Ford & Gary Rome Hyundai: Displaying electric vehicles and offering test drives and education
- Energy New England: Providing education on electric vehicles and HG&EV incentives
The event is part of National Drive Electric Week, sign up for a test drive by visiting <https://driveelectricweek.org/event?eventid=3577>
- Massachusetts Municipal Wholesale Electric Company (MMWEC): Free residential energy audits and NextZero incentives
- Massachusetts Department of Energy Resources: State EV incentives and tree planting resources
- Valley Bike Share: Electric pedal assist bicycle service
- Holyoke Fire Department: Fire and carbon monoxide safety

- Holyoke Police Department: Community Policing
- One Holyoke CDC: Program information

Local media attended the event to highlight the important work HG&E is doing in the community. The media stories generated from this event are listed below (see also Appendix A):

- Holyoke G&E celebrates and educates on public power and gas (The Reminder Publication), <https://www.thereponder.com/Localnews/holyoke/holyoke-ge-celebrates-and-educates-on-public-power/>
- Holyoke Gas and Electric celebrates Public Power and Natural Gas Week at Veterans Park (Holyoke Media) <https://holyokemedia.org/holyoke-gas-and-electric-celebrates-public-power-and-natural-gas-week-at-veterans-park/>
- Holyoke Gas and Electric shares energy incentives with residents (22News – WWLP) <https://www.wwlp.com/news/local-news/hampden-county/holyoke-gas-and-electric-shares-energy-incentives-with-residents/>

In addition, throughout October 2022, all HG&E customers received Project-related information with their utility bill statement in the monthly edition of HG&E’s Energy Insights newsletter (see Appendix A).

HG&E’s team will remain in close contact with public officials and various stakeholders and will continue to update the website with the latest Project information and details. The following are some of the anticipated milestones HG&E is planning to communicate over the next few months:

- Siting Board Application Submittal
- Public notices being posted and distributed
- Siting Board EFSB Review Status
- Construction Schedule
- Continued Community Engagement Structured Based Upon Project Status and Process

1.5 Project Team

HG&E has assembled an expert team of developers, engineers, environmental scientists, attorneys, financiers and outreach specialists for the Project. The team’s principal organizations are outlined below.

1.5.1 Holyoke Gas & Electric Department

HG&E is a municipal utility owned by the community it serves. Unlike private utilities, it does not answer to shareholders thousands of miles away. Instead, HG&E answers to and serves the best interest of local residents and neighbors. HG&E offers an electric portfolio that in 2021 was 95% carbon-free and is committed to the substantial deployment of clean energy.

HG&E's mission is to provide competitive rates, innovative and sustainable energy solutions, reliable service, excellent customer care and substantial employment of "green energy."

- Established in 1902;
- Provide electric, gas and telecommunication services to 18,000 customers;
- Municipal utility established per G.L. Chapter 164;
- Vertically-integrated, meaning that it owns generation, distribution and transmission;
- 50 MW of hydro-generation capacity;
- 18 MW of installed solar capacity;
- 8 MW/16 Mwh of installed battery energy storage systems;
- Massachusetts designated Green Community since 2010; and
- Thorough energy efficiency and electrification programs (see Section 4.0).

1.5.2 Epsilon Associates, Inc. (Environmental Consultant)

Epsilon Associates is an approximately 70-person engineering and environmental consulting firm based in Maynard, Massachusetts. Epsilon's engineers, scientists, planners and regulatory specialists are engaged in environmental analyses, modeling, licensing and permitting for energy infrastructure projects throughout the northeast. In recent years, Epsilon has worked with clients to complete the permitting for the Northeast Energy Center LNG facility project, Colonial Gas Company d/b/a National Grid Mid-Cape Main Replacement project and the Exelon West Medway II Combustion Turbine Generator project.

1.5.3 Sanborn Head & Associates, Inc. (Engineering Design Consultant)

Sanborn Head is a 160-person, multidisciplinary engineering consulting firm with a resource pool of over 120 technical staff in the areas of process mechanical, electrical, site civil, geotechnical and environmental engineering. They have offices throughout New England and in Pennsylvania and Colorado from which they serve a diverse set of natural gas utility, industrial and commercial clients.

A primary focus of the firm's energy practice is the natural gas industry, serving natural gas utilities and natural gas end users. They also serve clients interested in utilizing non-conventional forms of fuel such as hydrogen, landfill gas and anaerobic digester gas. With focus on the energy sector, Sanborn Head provides technical expertise in core areas such as:

- Natural Gas M&R Facilities Design – Transmission and Distribution
- Code Compliance & Regulatory Services
- LNG/LPG Design & Owner's Engineering Services
- LNG Fire Studies and Code Compliance Audits
- Mechanical/Process Engineering
- Site Civil and Pipeline Engineering
- Electrical, Instrumentation and Controls Engineering

1.5.4 AWCO Engineering & Technical Services, LLC (Owner's Engineer)

AWCO Engineering & Technical Services, LLC (AWCO ETS) specializes in providing engineering and consulting services on natural gas and LNG projects. Building off the founding members' diverse engineering and design, fabrication, construction and operations experience in the natural gas and energy industries, AWCO ETS was formed to provide value added and cost-effective professional services to gas distribution, gas pipeline and project development clients. The co-founder and principal engineer of the company has 30-years of diverse operations, project management, engineering and design and construction experience in the natural gas industry including the permitting, engineering and design and construction of numerous LNG projects in the Northeast and Southeast. He was responsible for successfully executing the engineering, procurement and construction (EPC) services for The Berkshire Gas Company's LNG peak-shaving facility project in Whately, Massachusetts and more recently has been providing Owner's Engineer services on the Northeast Energy Center LNG facility project in Charlton, Massachusetts.

1.5.5 Pierce Atwood LLP (Regulatory and Siting Counsel)

Pierce Atwood LLP is a full-service law firm based in New England. Pierce Atwood attorneys represent a broad range of utilities, developers, aggregators and other stakeholders before the Department and the Siting Board. Pierce Atwood clients include: solar, wind, biomass and other renewable energy firms; developers of natural gas-fired generation facilities; electric and natural gas utilities; wireless telecommunications carriers; and hospitals, government agencies and industrial facilities.

1.6 Conclusion

The Project will provide much needed additional gas storage capacity to enable HG&E to maintain reliable service to its customers during periods of peak demand, particularly during periods of extended cold weather. The Project will also provide an advantage to the community by allowing for some limited and strategic customer additions that will help facilitate HG&E's transition to a net zero future. The need for the Project was determined after the completion of a comprehensive resource evaluation that considered HG&E's existing and forecasted demand and available resources. Once a resource need was confirmed, HG&E identified all resources that might address such need including energy efficiency and a range of facility alternatives. The Project team thereafter conducted a rigorous review of the practical alternatives applying well-accepted screening and evaluation principles and practices. The addition of an LNG tank was determined to be the alternative that addressed reliability at the least-cost and with minimum impacts. Finally, a site analysis was performed applying similarly sophisticated techniques. The preferred Project Site was identified as the existing West Holyoke Facility due to its substantial cost savings, limited impacts and ready compliance with applicable LNG regulations.

The Project will be installed within the existing fence line and footprint of the West Holyoke Facility and was determined to meet all state and federal siting requirements with very limited impacts to the neighboring community. Because the Project is far superior to the other non-pipeline alternatives

analyzed, HG&E has determined that no alternative project sites be included in the notice. The Project will be designed, constructed and operated in a manner that meets or exceeds all relevant regulatory requirements. As such, the Project fully meets the criteria for Siting Board approval.

2.0 PROJECT OVERVIEW

2.1 Project Description

The proposed Project consists of the installation of a new 70,000-gallon horizontal, shop-fabricated LNG storage tank. The proposed LNG storage tank will be installed adjacent to the existing array of four 55,000-gallon LNG storage tanks and within the general vicinity of the location of a previously proposed and approved, but never constructed, fifth LNG storage tank. The new LNG storage tank will be installed within the footprint and perimeter fence line of the existing West Holyoke Facility. A preliminary site layout for the Project and other planned, complementary improvements consisting primarily of the replacement of the existing vaporizer system with a new, redundant system (and related heating equipment) is included as Figure 2-1.

In connection with the proposed Project, limited new associated work is required as follows:

- Civil/Structural
 - A new impoundment “dike” for the proposed LNG storage tank consistent with the requirements of 980 CMR 10.00
 - New foundations for the proposed tank
 - Limited site civil grading and drainage
 - Stormwater runoff management system for the new impervious surfaces including the new impoundment “dike”
- Mechanical
 - New LNG and LNG vapor process piping, manual valves, shutoff valves and associated equipment required to tie in the new LNG storage tank to the existing LNG storage tank piping systems
 - New impoundment sump pump system for the removal of precipitation from the proposed dike
- Instrumentation and Controls
 - Integration of new instrumentation and control devices associated with the new tank to existing systems
- Hazard Mitigation
 - Integration of new fire and combustible gas detection equipment associated with the new tank to existing systems

The planned, complementary improvements include: (i) safety enhancements consisting of the installation of a new fire alarm control panel and improvements to the facility’s process and safety control system; (ii) an enhanced instrument air compression system that will replace the existing natural (power) gas system used to operate process control valves and further reduce GHG emissions at the West Holyoke Facility; and (iii) an upgraded standby electric generator will be installed to provide for further reliability of service at the facility.

In addition, Appendix B provides a further technical description of both the Project and planned, complementary improvements at the West Holyoke Facility.

2.2 Project Equipment

2.2.1 New Storage Tank

The proposed LNG storage tank employs well-accepted, proven and economical technologies that are also consistent with the operations and maintenance of the existing equipment at the West Holyoke Facility by HG&E staff. The decision to employ the horizontal, shop-fabricated LNG storage tank was based in large part upon its similar design to the existing LNG storage tanks which will provide for the continued ease of operation and maintenance of all equipment on a coordinated basis. The only other LNG storage alternative is a vertical, field-erected LNG storage tank which is not economical at the volume proposed for the Project (70,000-gallons). The construction of a vertical, field-erected tank would also have negative visual impacts due to it being taller and would lengthen the construction schedule of the Project. Since the shop-fabricated tank will be manufactured off-site, the on-site construction activities for the Project can be compressed since field construction work can be performed in parallel to the fabrication of the tank, thereby reducing impacts to neighbors.

2.2.2 Operational Systems

The West Holyoke Facility is equipped with multiple systems to support the operation of the current LNG storage equipment. Any necessary interconnection to existing equipment or systems associated with the Project will also be completed in conjunction with the installation of the new LNG storage tank.

The new LNG storage tank and integration equipment will be designed with safety features such as isolation valves, double block and bleed valving, overpressure protection and gas and flame detectors that will meet or exceed all regulatory requirements. The new components will be operated by the existing and qualified staff adhering to the procedures set forth in the operations and maintenance procedures for the West Holyoke Facility, which will be updated to reflect new equipment.

2.2.2.1 LNG Tanker Truck Unloading

LNG inventory is maintained at the West Holyoke Facility pursuant to LNG tanker truck deliveries throughout the year, with higher frequency of deliveries to maintain inventory during the peak season. Currently LNG trucks drive into the secure West Holyoke Facility's unloading station where flexible hoses are connected to the truck and an unloading pump distributes LNG to the LNG tank array. Beyond the installation of limited piping to extend the existing LNG fill piping to the new LNG storage tank, no other changes to the LNG tanker truck unloading system are proposed or required.

2.2.2.2 LNG Boiloff Gas System

The existing boiloff gas handling system manages passively vaporized LNG due to heat transfer into the LNG storage tanks. When the West Holyoke Facility is idle, the tank pressure is maintained with automatic controls on the boiloff gas system. When pressure in a tank reaches a setpoint, the boiloff gas is released into the boiloff gas piping, is warmed in an ambient heat exchanger (HE-300), odorized and sent into the HG&E distribution system. Beyond the extension of the existing boiloff gas piping to the new LNG storage tank, no other changes to the are proposed or required.

2.2.2.3 Pressure Build System

As LNG is discharged from the storage tanks during vaporization, the “pressure build” system is employed to maintain pressure to move LNG from the storage tanks by replacing the volume of LNG utilized for send-out with an equal volume of LNG vapor. The pressure build system consists of standard fan-assisted ambient heat exchangers and LNG flow control valves. A new, enhanced ambient natural convection pressure build coil will be added alongside the proposed LNG storage tank as part of the Project. This is the only change to the system proposed in connection with the Project.

2.2.2.4 Send-Out, Metering, Odorization and Heating Value Adjustment Systems

The boiloff gas and vaporized LNG are metered separately, then combined from each tank into the same line in the West Holyoke Facility yard near the water-glycol heater and pumps area. This single stream is routed to the odorization room where the gas is odorized and where the heating value may be stabilized by the injection of compressed air, if required, to maintain a consistent energy value of the vaporized LNG. No changes to the send-out metering, odorization or energy value adjustment systems will be made or required other than the interconnection of the new LNG storage tank.

2.2.2.5 Safety Systems

The West Holyoke Facility includes multiple safety systems designed to detect hazardous conditions and mitigate their potential consequences. Fire/flame detection, combustible gas detection, fire suppression, back-up power, security and communications systems are currently in place at the West Holyoke Facility. Changes to safety systems associated with the Project are primarily to integrate the new LNG storage tank. Project-related changes along with the complementary safety system enhancements will meet applicable state and federal requirements and are described in the Fire Study. See Appendix C.

2.2.2.6 Coordinated Work for Efficiency or to Reduce Impacts

HG&E conducted a thorough evaluation of the West Holyoke Facility as part of its design. HG&E identified opportunities to enhance and further improve the reliability and safety of the operations at the West Holyoke Facility by being opportunistic and taking advantage of the contractors that will be on-

site for the installation of the proposed tank. For example, civil contractors needed to construct the berm for the proposed tank may also be able to efficiently perform restoration of the existing berms. One berm wall of an existing containment system will be employed as part of the impoundment “dike” for the new LNG storage tank reducing overall impacts as well as securing cost savings. HG&E also plans to perform limited equipment replacement on a coordinated basis to secure an additional reliability enhancement. Specifically, HG&E plans to replace an older vaporizer system with a new redundant system (and related heating equipment). This replacement will enhance the reliability of service in the event of an equipment failure at the current, single vaporizer.

2.3 Equipment Siting Approach

2.3.1 Background

The original West Holyoke Facility was constructed in 1971 and included two LNG storage tanks (referred to by HG&E as tanks T-100 and T-101), each with a capacity of 55,000 gallons. In 1974, two additional tanks were installed and commissioned into service (referred to as tanks T-102 and T-103), each of which also had a capacity of 55,000 gallons. The original West Holyoke Facility design was intended for a total of five LNG storage tanks. Foundations and spill impoundment capacity for a fifth tank were constructed, but the fifth tank was never installed due to changing operational needs and financial considerations. In 1985, the West Holyoke Facility’s impoundment system was enhanced in response to the recommendations of a Fire Study prepared by Litzinger and Co. Engineers primarily to better capture an LNG “design spill” from a leak in the LNG piping adjacent to the tanks. HG&E installed a “sub-impoundment” pit and “broke” the berm wall that previously separated the two tank spill impoundments. A trench to direct LNG spills to the new sub-impoundment located approximately 50-feet north of the tank impoundment area was also added. This work made the two previously separate tank impoundment areas common. See Figure 2-2.

2.3.2 Proposed Impoundment Approach

2.3.2.1 Spill Impoundment

The proposed LNG storage tank (to be referred to by HG&E as T-104) will have its own spill impoundment “dike” that will be independent of the existing LNG storage tank spill impoundment facilities and that will conform with 980 CMR 10.00 which requires an LNG storage tank to have an independent spill impoundment “dike” sized for 150% of the storage tank volume. T-104 will be installed to the north of T-103. The refurbished north berm wall of the T-103 impoundment will also serve the dual and complementary function as the south wall of the T-104 impoundment. Berm walls will be constructed around the west, north and east of T-104. The height of the berm will ensure that a tank spill from T-104 is conveyed to a new remote impoundment, located to the north of T-104 and directly east of the existing remote sub-impoundment. The new impoundment will be sized for 105,000 gallons (150% of total LNG storage volume), in accordance with 980 CMR 10.0. The proposed dimensions of the impoundment facility are 38’L x 38’W x 11’D.

As noted, as part of the Front-End Engineering and Design (FEED) Study performed for the Project, a topographic survey of the existing West Holyoke Facility site was performed. This survey determined that the total volume of the existing LNG spill impoundment “dike” continues to exceed the volume requirement of the West Holyoke Facility’s design criteria (324,700-gallons versus 220,000-gallons). The survey also determined that some of the original walls of the impoundment “dike” have been worn down over time by weather and other causes. HG&E concluded that existing berm walls needed some limited refurbishment. The availability of a range of on-site contractors performing Project-related tasks, including civil work, presented cost and impact reduction opportunities. As such, HG&E proposes to perform limited modifications to the existing LNG storage tank impoundment “dike” system to restore the impoundment system back to its initial design by using contractors that will be on-site during Project construction.

2.4 Construction Schedule and Cost

HG&E is pursuing all necessary and required actions to have the Project in-service prior to the 2025/2026 winter heating season. HG&E contracted with consultants to perform the FEED Study and environmental review for the Project and complementary improvements to support the preparation of this Petition and identify ways to expedite the next phases of the Project, namely the final engineering and design, procurement of major and long lead equipment and construction. The overall time needed to complete the Project is currently estimated at approximately 21 months after the issuance of HG&E’s Final Order by the Siting Board. The actual completion date may vary dependent on the timing of the review by the Siting Board. The equipment procurement schedule is driven by long lead-time items, as over 17 months is needed for the fabrication and delivery of the LNG storage tank. Field construction, commissioning and training will require up to 8 months to complete. See Appendix D.

The total cost for the Project and complementary improvements at the West Holyoke Facility is estimated at about \$7.8 million in 2022 dollars based on an Association for the Advancement of Cost Engineers Class III (+30%/-20% accuracy) cost estimate that was performed as part of the FEED Study. This cost estimate equates to \$4.4 million for the Project and \$3.4 million for the complementary improvements. As HG&E is a municipal utility that sets its own utility rates, HG&E will pursue all opportunities to control costs of the Project and complementary improvements. An expedient review of the Petition by the Siting Board and the early execution of the work will facilitate the more economic provision of incremental and beneficial services to customers, particularly as the Siting Board review is the only permit needed for the Project and no permits are required for the complementary work.

2.5 Safety Planning

HG&E will ensure that the selected contractor develops and implements a comprehensive construction safety plan. See Appendix E. HG&E will enhance its existing West Holyoke Facility Safety Plan to incorporate the additional tank. These plans will be designed to continue to meet or exceed all industry and regulatory standards. Importantly, design and planning will be enhanced by third-party review, including review from public fire and safety officials as well as property owners adjacent to the West

Holyoke Facility as required by 980 CMR 10.04(5). HG&E will also perform annual safety consultations with these adjacent property owners. The West Holyoke Facility's current O&M Plan, including Emergency Procedures, is provided. See Appendix F.

2.6 Site Security

The Project will be located wholly within the existing fence line of the West Holyoke Facility and will not require any modifications to the existing security system. The existing security system meets or exceeds all applicable federal and state regulations. See Appendix F.

The West Holyoke Facility will continue to be surrounded by a "protective enclosure" (security fence) with access off Mueller Road for emergency egress as well as normal operations for LNG trucks, personnel vehicles, construction and maintenance vehicles. Additionally, the security fence is monitored for the presence of unauthorized access through security cameras as well as appropriate motion or similar sensors. HG&E will be able to continue to monitor and record events or activities in "real time." Furthermore, the operators will continue to communicate with the local law enforcement agencies as well as enable direct communication between all on-duty personnel having security responsibilities. The security system alarms and video will continue to be monitored remotely at the HG&E's dispatch center, which has 24/7/365 coverage, when the West Holyoke Facility is not occupied or as a back-up to the operators when the West Holyoke Facility is occupied.

2.7 Staffing

The West Holyoke Facility will continue to be operated and maintained at the same staffing levels that are currently employed. The West Holyoke Facility will continue to be staffed during the summer months for LNG truck offloading operations and preventative maintenance activities and, in the winter, for LNG vaporization operations. During truck offloading and vaporization operations, a minimum of two operators will staff the West Holyoke Facility. When the West Holyoke Facility is not staffed for operations, security, process and hazard alarms will continue to be monitored by the HG&E's 24/7 dispatch center. As required by State regulations, the West Holyoke Facility is inspected daily when not staffed.

The West Holyoke Facility operators will continue to be properly trained and qualified to perform the required duties pertaining to West Holyoke Facility operations in accordance with all applicable federal and state regulations. HG&E will also continue to verify that all West Holyoke Facility personnel are "Fit for Duty" and do not have any physical conditions that would prevent them from executing their assigned duties.

HG&E will continue to maintain all training records of West Holyoke Facility personnel. Such records provide information regarding the training that each employee has received, including whether they have satisfactorily completed the required training programs and have comprehended the contents of the program.

3.0 PROJECT NEED

3.1 Overview of Project Need

HG&E operates and maintains a natural gas distribution system within the City and also serves a portion of Southampton. HG&E is responsible for the safe and reliable delivery of natural gas distribution service to meet the energy needs of more than 11,500 customers. HG&E regularly analyzes its resource portfolio in terms of its ability to provide reliable, least-cost service under existing and forecasted conditions. HG&E develops updated peak day and related forecasts for testing system reliability. HG&E has also recognized the challenges associated with maintaining reliable service during extended periods of design or near design weather or cold snaps.

On a peak winter day, HG&E's distribution system has an existing energy demand of approximately 20,000 Dth. HG&E maintains contracted rights for up to 11,800 Dth/day of firm pipeline capacity from TGP while its remaining gas supply needs must be served by LNG dispatched from the West Holyoke Facility. Therefore, more than 40% of system load is dependent upon peaking service from the West Holyoke Facility. The West Holyoke Facility has less than two days' of on-site storage capacity if faced with peak or near peak demand and less than one day of on-site storage capacity if there is a pipeline curtailment. The Northampton Lateral, a single dead-end pipeline, is the sole supply of pipeline gas to the HG&E distribution system.

HG&E's analyses demonstrate that additional LNG storage capacity (or some other resource such as the CMA MOU) has been and continues to be needed in order to maintain reliable service during peak or near peak demand conditions, particularly in response to the lack of available pipeline capacity and ongoing developments in the natural gas market in the Commonwealth. While this reliability concern is the primary focus, HG&E also recognized that additional environmental and economic benefits might be secured by a resource that also allows HG&E to strategically add customers.

3.2 Overview of Forecast Methodology

HG&E conducts an annual resource plan analysis reflecting observed and forecasted conditions as well as performance during certain conditions, such as more extreme cold weather. HG&E develops a sophisticated peak demand forecast incorporating system baseload demand as well as weather-related demand (i.e., heating load) that is impacted by temperature, as measured in heating degree days (HDD). An HDD represents a measurement designed to quantify the demand for energy to heat a building based on the difference of the mean temperature and a base temperature of 65°F. An important planning standard for HG&E is its design day standard, namely 68 HDD (or -3°F mean temperature) as it represents the peak HDD recently observed in Holyoke. The actual peak day design weather occurred on February 14, 2016 (see Table 3.1). Table 3.1 also shows a number of recent years with near design day weather which confirms the appropriateness of this peak day standard.

While HG&E's peak system load demand has grown substantially since the original installation of the LNG facility in the early 1970's, load growth has not been experienced in recent years given the moratorium. In the last ten years, HG&E's system has continued to see new peak day events occur with the current peak send-out of 19,668 Dth occurring on January 21, 2019, on a day with 63 HDD, a figure well below HG&E's Planning Standard of 68 HDD. In fact, a top 10 send-out day occurred earlier during the same heating season on a day with only 62 HDD. Table 3.1 presents recent natural gas peak events by send-out and winter heating season within HG&E's system and confirms the appropriateness of HG&E's planning standard.

Winter Season	Peak Sendout	HDD on Peak	Peak Date	Day of Week	Peak Events	
					Top 10	Top 30
2012-13	16,942	59.0	1/23/2013	Wednesday	0	2
2013-14	17,407	66.7	1/3/2014	Friday	0	3
2014-15	19,193	63.9	2/15/2015	Sunday	1	6
2015-16	19,476	68.0	2/14/2016	Sunday	2	2
2016-17	16,667	54.0	1/9/2017	Monday	0	0
2017-18	19,657	67.1	1/6/2018	Saturday	5	9
2018-19	19,668	63.0	1/21/2019	Monday	2	4
2019-20	16,287	52.5	12/19/2019	Thursday	0	0
2020-21	16,916	56.2	1/29/2021	Friday	0	1
2021-22	17,104	56.5	1/29/2022	Saturday	0	3

Table 3.1: Natural Gas System Peak Demand Events, by winter heating year with observed peak event, HDD and peak day occurrence. Also shows number of peak events per season within Top 10 and Top 30 of historical send-out.

As is typical for Massachusetts, the peak events are directly related to weather with colder days resulting in increased system demand with the day of the week providing some variable load related to industry and business operations. The lack of an extreme peak event since 2019 is likely attributed to weather conditions, the impact of the pandemic, changes in commercial and industrial customer-demand and the established natural gas moratorium.¹

Table 3.2 presents HG&E's historical design day experience as well as its five-year forecast for system planning demand based upon the application of the design day standard (weather). This table also explains several limited, appropriate adjustments to the peak forecast (i.e., pandemic). Please note that

¹ In 2019, HG&E was forced to self-impose a natural gas moratorium on increases in connected system natural gas load. As a result of the continued system growth without an increase in associated available capacity, HG&E's gas distribution system operates essentially at capacity on a peak winter under the current system configuration.

the forecasted demand reflects the full interruption of all of HG&E's interruptible customers secured to maximize the efficiency of the HG&E system and reliability of service to its firm residential customers.

Winter Season	Design Day		Notes
	HDD	Demand	
2018-19	68	20,328	assumes interruptible load curtailed.
2019-20	68	20,304	assumes interruptible load curtailed.
2020-21	68	18,908	assumes interruptible load curtailed and pandemic impact to business load.
2021-22	68	20,041	assumes interruptible load curtailed and post-pandemic impact to business load.
2022-23	68	20,015	assumes interruptible load curtailed and post-pandemic impact to business load.
2023-24	68	19,999	assumes interruptible load curtailed.
2024-25	68	19,981	assumes interruptible load curtailed.
2025-26	68	19,964	assumes interruptible load curtailed.
2026-27	68	19,942	assumes interruptible load curtailed.

Table 3.2 Design Day Forecast, by Winter Heating Season including 5-year outlook, accounting for peak day savings through energy efficiency improvements and anticipated migration to electrification (based on historical performance).

The annual design day forecast standard also accounts for the existing moratorium, a limited number of new firm baseload customers as well as consumption and business turnover within the gas distribution system and, importantly, the continuing demand reductions from HG&E's aggressive and comprehensive energy efficiency programs.

Another important planning standard that builds off the HG&E peak day forecast is a cold snap. Reliable service in a cold snap is dependent upon the West Holyoke Facility storage tanks being full at the outset of such weather and being regularly replenished with truck deliveries regardless of weather conditions such as snow or ice. In the event of a cold snap (an extended period of design or near design conditions), the West Holyoke Facility is required to supplement system demand on multiple, consecutive days. Consecutive daily operations of the West Holyoke Facility increases the reliance upon LNG trailer transportation to maintain adequate LNG storage volumes and reliable system operations.

HG&E employs a cold snap for planning purposes based upon actual recent experience. Table 3.3 depicts an actual 10-day cold snap model based on locally observed weather and operational data.

Cold Snap	HDD	Demand
Day 1	63.0	18655
Day 2	60.5	17975
Day 3	62.8	18601
Day 4	64.3	19009
Day 5	65.1	19226
Day 6	55.9	16724
Day 7	51.3	15473
Day 8	47.8	14521
Day 9	59.3	17649
Day 10	67.1	19770

Table 3.3 10-Day Cold Snap Planning Standard

Finally, as part of HG&E’s forecasting process, design year LNG needs are also forecasted to ensure sufficient quantities of LNG are procured. In 2015, HG&E dispatched 140,000 Dth of vaporized LNG. This peak historical send-out was considered as an appropriate planning standard for the design winter. HG&E has firm, contract rights to up to five daily deliveries of LNG to maintain storage inventories (which is prudent and appropriate as HG&E accepted an average of three deliveries per day during the 2017/2018 “Polar Vortex” cold snap). HG&E has adequate resources under contract. Moreover, the ability to meet a seasonal peak demand can be satisfied by a range of measures given greater response time. The ability to meet seasonal design requirements was not a critical issue for reliability planning. The primary concerns are the peak day and cold snap.

3.3 Summary of Existing Resource Portfolio

HG&E’s natural gas supply portfolio is made up of both firm pipeline capacity from TGP and LNG, which is stored, vaporized and injected into the distribution system at HG&E’s existing West Holyoke Facility.

HG&E is served from the Northampton Lateral off the TGP 200 line interstate pipeline system with its gate station at the same location as the existing West Holyoke Facility. This is the only point of interconnection HG&E maintains on the TGP system. The Northampton Lateral capacity is fully subscribed and there is no ability to secure incremental supply from the pipeline lateral absent expensive and unlikely improvements to the lateral. Recent regional pipeline projects that would have benefitted HG&E’s region, such as the NED project, have been cancelled and there is no expectation of any new interstate pipeline capacity becoming available to HG&E in the foreseeable future.

The existing West Holyoke Facility was commissioned in 1971 with a total site storage capacity of 220,000 gallons (approximately 16,000 Dth, storage). A fifth tank was reflected in planning for the 1974 plant addition; however, such tank was not installed due to financial constraints at the time. The existing

West Holyoke Facility has been operating safely and reliably for over 50 years. During peak periods (typically the coldest days of the year when all natural gas customers are consuming high levels of energy), the existing LNG facility supplies more than 40% of HG&E's natural gas supply requirements for its customers. The existing facility includes a single vaporizer. HG&E expects to replace its older, single vaporizer with a system that provides redundant capacity in conjunction with the Project to secure cost savings and reduce impacts, while enhancing reliability of service to its customers.

HG&E's current peak day design forecast for the 2022/2023 winter is 20,015 Dth, which means that vaporized LNG from the West Holyoke Facility must account for 8,222 Dth or 41% of this peak design day demand. The LNG requirement for a single design day accounts for approximately 50% of the currently available storage capacity at the West Holyoke Facility assuming, conservatively, that the existing LNG storage tanks are at full capacity at the commencement of such a design day. HG&E would require the delivery of approximately 10 LNG trailers to replenish this amount of LNG volume required during a design day event. It is extremely challenging to secure this number of deliveries given the duration of a "round trip" from perhaps more distant LNG supply sources, as HG&E maintains "firm" contract rights for only five deliveries per day which is appropriate for the nature of its operations.

The use of LNG facilities to supplement natural gas pipeline deliveries has long been established within the Northeastern region of the United States. There are currently 28 operational LNG storage facilities in this region, with a new facility currently under construction in Charlton, Massachusetts (EFSB 18-04/D.P.U. 18-96) that will provide a new source of LNG supply. See Figure 3-1.

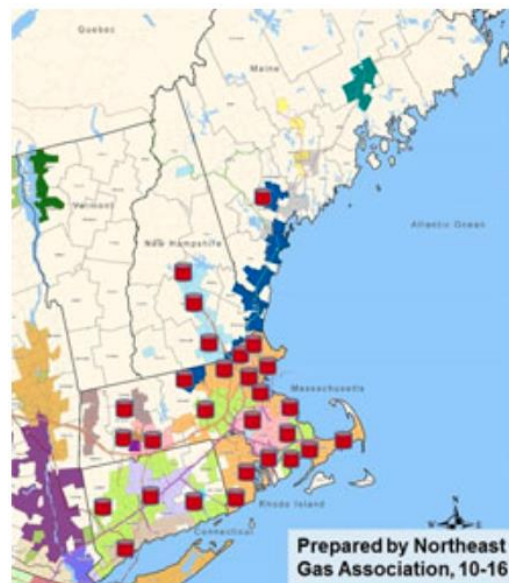


Figure 3-1: LNG storage locations in New England (source Northeast Gas Association)

The industry has relied upon LNG facilities to provide necessary and economical support during periods when pipeline capacity cannot sufficiently meet the energy needs of a connected gas system. According

to the Northeast Gas Association,² in 2021, LNG in New England provided approximately 28% of design day supply for local gas utilities. Notably, HG&E is substantially more dependent upon LNG at peak demand periods than the regional average. Storage capacity among local distribution companies (LDCs) consists of 16 Bcf, not including the Everett, Massachusetts LNG terminal and vaporization capacity for daily send-out was 1.4 Bcf/day.

The Everett LNG terminal, a principal resource for LNG in New England, will be closing in the near term. HG&E has not contracted for supply from the Everett terminal in recent years and has purchased its LNG supply from sources in Pennsylvania and Quebec, Canada to provide its customers with the most competitive pricing. With truck delivery round trips requiring up to 10 hours, there is an increased risk of unanticipated obstacles impacting timely arrival of scheduled LNG tanker trucks for inventory management. The Everett terminal closure is expected to impact Massachusetts LNG deliveries and increase competition for current and future suppliers of LNG.

3.4 Need Analysis

Section 69J provides that the Siting Board should approve a petition to construct if the Board determines that the petition meets certain requirements, including that the plans for the construction of the applicant's projects are consistent with the policies stated in G.L. c. 164, § 69H to provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost. In carrying out its statutory mandate with respect to proposals to construct natural gas facilities, the Siting Board evaluates whether there is a need for additional natural gas facilities in the Commonwealth to meet reliability, economic efficiency, or environmental objectives. Accordingly, the need for a particular facility can be demonstrated by showing need on any (or all) of those three bases.

HG&E experienced a new natural gas peak or design day demand during the 2014-15 winter heating season. This new peak demand day raised concerns with the reliance placed upon the existing West Holyoke Facility. HG&E recognized the need for an additional resource at that time to maintain reliable services and conducted a comprehensive resource analysis. These efforts resulted in HG&E identifying a tentative solution that would address reliability concerns for itself and a neighboring utility's natural gas distribution system. Following extensive analysis and review, HG&E and CMA, now Eversource, executed an MOU in 2017 with respect to a plan that would have provided benefits to meet the energy demands of each respective operator's system.

The MOU obligated HG&E to release its Northampton Lateral capacity to CMA, in exchange for new, incremental pipeline volume to be delivered over an alternative system "back feed" which would have been sourced from a CMA gate station off of the main TGP pipeline. The project would have consisted of approximately six miles of pipe installation by CMA through two cities and a one-mile upgrade of existing infrastructure in Holyoke. Following proposed upgrades to a TGP compressor station on the

²https://www.northeastgas.org/about_lng.php#:~:text=There%20are%20three%20import%20facilities,facility%20offshore%20Cape%20Ann%2C%20MA.

main line, HG&E would also be able to secure new pipeline rights for an additional 5,000 Dth/day of firm daily delivery. This incremental capacity would have resulted in HG&E's pipeline capacity increasing by 42% to 16,800 Dth per day. Based on a new system peak observed in 2016, HG&E's reliance upon the LNG from the West Holyoke Facility would have been reduced considerably. This contractual structure would have reduced the frequency of LNG vaporization operations from an average of 42 times per year to three times per year. The exchange structure would have allowed CMA to lift a natural gas moratorium in its Northampton, Massachusetts and Easthampton, Massachusetts service areas and would have allowed CMA to work with the communities on economic development opportunities including the transition of existing systems from higher emitting fossil fuel sources to cleaner natural gas.

HG&E worked aggressively to advance this alternative; however, the unfortunate incident that occurred in the Merrimack Valley on September 13, 2018, resulted in CMA shifting operational focus away from expansion projects and more towards system reliability projects. This shift in operational strategy led to the eventual cancellation of the MOU in 2019. CMA's Greater Springfield Reliability Project is now under review in docket EFSB 22-05/D.P.U. 22-69 which addresses some of the CMA requirements covered by the MOU. That project, however, does not address HG&E's concerns and requirements. Without this available alternative, HG&E was forced to implement its natural gas moratorium, revisit its reliability analyses and continue to adapt to changing market conditions. The difficulty of advancing pipeline infrastructure projects in the region limits the ability to proceed with projects of this nature in a timely manner. This concept was, however, considered in the evaluation of Project alternatives. See Section 4.0.

HG&E's most recent analysis confirmed the continuing high reliance upon LNG, the continuing and increasing challenges of securing LNG and delivery service during peak conditions and HG&E's very profound operational challenges during cold snaps. HG&E's existing West Holyoke Facility storage capacity is capable of providing less than two days of forecasted supplemental supply for existing customers under typical peak operations (i.e., full pipeline deliveries) without the need for refill; however, in the event of a pipeline interruption, the existing send-out capacity is 20% below total system peak demand for a single day. The analysis of send-out and LNG supply deliveries at the West Holyoke Facility demonstrates that the current reliance upon LNG during peak events and increasing concerns with the ability to restore LNG inventory during cold snaps presents challenge to HG&E's ability to maintain reliable service.

During a 10-day stretch from December 2017 to January 2018 (which weather reflects HG&E's cold snap planning standard), HG&E experienced a total of 597.1 HDDs. Applying this weather data to the current forecast demand model, the risk of the substantial reliance upon HG&E's LNG suppliers to deliver trucked LNG as scheduled during a 10-day cold snap event is clearly evident. This extended event required extensive coordination with regional LNG suppliers beyond HG&E's contract suppliers to secure additional LNG, in part, due to difficulties in securing necessary drivers. HG&E was only able to maintain reliable service by employing strategic "overtakes" from TGP of approximately 500-1000 Dth/day, as

was available and allowed by TGP. Slightly colder weather on Day 6 or Day 7 could have resulted in the loss of service for customers. Reliance on such an approach is not consistent with best operating practices.

Table 3.4 shows the actual daily send-out during this actual 10-day cycle in 2017-18, inclusive of LNG inventory refills to manage reliable system operations. Given the modest change to HG&E's forecast and continuing resource portfolio, this actual experience is essentially identical to how HG&E would be forced to operate under similar conditions in the future.

Cold Snap	HDD	Actual Demand	LNG Vaporized	LNG Trucks	Starting LNG Inventory	Ending LNG Inventory	Notes
Day 1	63.0	18247	5954	5	12,250	10,546	Tanks not full at start of cold snap due to extended period of use prior to peak 10-day cold snap. Employed strategic 500 dth/d TGP overtake.
Day 2	60.5	17620	5330	5	10,546	9,466	Employed strategic 500 dth/d TGP overtake.
Day 3	62.8	17086	4787	6	9,466	9,779	Employed strategic 500 dth/d TGP overtake.
Day 4	64.3	18683	6252	4	9,779	6,926	Employed strategic 500 dth/d TGP overtake.
Day 5	65.1	18623	5829	0	6,926	1,097	Employed strategic emergency 1000 dth/d TGP overtake. Received late authorization from TGP for overtake.
Day 6	55.9	17258	3937	5	1,097	1,410	Employed strategic emergency 1000 dth/d TGP overtake.
Day 7	51.3	15985	2663	10	1,410	7,247	Employed strategic emergency 1000 dth/d TGP overtake. Coordinated receipt of LNG for regional facilities beyond existing contracts.
Day 8	47.8	16191	2873	4	7,247	7,775	Employed strategic emergency 1000 dth/d TGP overtake. Coordinated receipt of LNG for regional facilities beyond existing contracts.
Day 9	59.3	18315	5005	7	7,775	8,720	Employed strategic emergency 1000 dth/d TGP overtake. Coordinated receipt of LNG for regional facilities beyond existing contracts.
Day 10	67.1	19657	6332	5	8,720	6,637	Employed strategic emergency 1000 dth/d TGP overtake.

Table 3.4 10-day Cold Snap System Performance from December 28, 2017 through January 6, 2018.

The strategic TGP “overtakes” were beneficial during this event to maintaining reliable service. However, “overtakes” are dependent upon TGP system operations and availability and cannot be considered a readily available resource. When a similar request to TGP was made in 2019, it was denied due to TGP system constraints. If LNG supply was insufficient and “overtakes” unavailable, the next step would be to curtail customer load beyond the normal interruptible customers and based on criticality of customer need in accordance with HG&E's Emergency Plan. While extended peak events such as this do not occur every year, they occur with enough frequency that HG&E must maintain system preparedness for the occurrence of comparable weather events in order to meet the energy demand of its customers.

An additional planning concern related to the 27-day Northeast “Polar Vortex” from December 2017 to January 2018, HG&E required 89 LNG trailer deliveries to maintain sufficient LNG storage inventory during this period, including one day in which an unprecedented 10 deliveries were offloaded into HG&E's storage tanks. The addition of incremental storage capacity would provide a greater margin and ensure continuing reliable service.

HG&E has recently experienced increasing difficulty in securing firm LNG transportation during the peak winter season. While HG&E's LNG suppliers have been successful, to date, in managing scheduled deliveries around ever-shifting regional weather impacts, the difficulty in transportation scheduling and driver shortages raises concerns over the ability to strategically refill during extended peak events to maintain system reliability. The planned closure of the Everett terminal will increase all parties' dependence upon and competition with respect to, more remote sources of LNG outside of New

England (HG&E has been able to secure cost savings from other, more distant LNG sources). Driver availability is an increasing concern. With the risk of snow or ice delaying deliveries and longer “round trips” between these LNG sources and the West Holyoke Facility, additional storage capacity is needed to be certain to maintain reliable service to HG&E’s customers. In a previous Siting Board case, EFSB 99-2/D.T.E. 99-17, a reliability standard for potential capacity additions at a proposed LNG facility in the nearby Town of Whately (also served off of the constrained Northampton Lateral) was set at up to three peak days of storage capacity. Thus, HG&E’s less than two-day design day storage capacity is not adequate for the long-term provision of reliable service or consistent with precedent and an increase in on-site storage capacity (or some other resource) is needed to maintain reliable service to existing customers.

Again, if HG&E had not been authorized to exceed its daily firm supply from TGP (notably, a similar and subsequent request was denied by TGP), additional challenges in LNG delivery had been encountered or slightly colder weather had been experienced, then the curtailment of service to customers would have been required.

As noted in Section 3.2, HG&E expects to schedule necessary maintenance and improvements to its existing LNG vaporization equipment in parallel with the proposed Project but given that most of the necessary contractors would be on-site to install the proposed additional storage tank. This opportunistic enhancement is the planned replacement of the existing single vaporization and heating system, which now operates without any redundancy. HG&E recognizes the risk associated with a single-point-of-failure through a system without operational redundancy as it raises concerns over reliability during peak demand events. The planned complementary installation of a redundant vaporization system will minimize construction-related impact and further enhance system and service reliability.

While the primary focus of HG&E’s planning efforts are related to maintaining reliable service to existing customers, HG&E has experienced customer frustration as it seeks to implement its planned move to a net zero future in an efficient, orderly and economic manner. HG&E has been forced to decline customer requests seeking cleaner natural gas service leaving them with fuel oil or propane as their only other viable fuel alternative. HG&E believes that it can achieve meaningful, albeit limited, environmental benefits through strategic, incremental natural gas service. Thus, any resource (project) that can also provide some supply relief (in addition to securing the needed reliability enhancement for existing customers) would be preferred.

In sum, HG&E has identified the following resource needs in order for it to provide a necessary and reliable energy supply:

- The need to address concerns relating to its single pipeline supply source and limited LNG storage capacity that affect its ability to meet existing peak day demand or cold snap requirements, particularly in the context of the increasing difficulty in securing timely LNG transportation service.
- Promoting strategic and cost-effective natural gas customer additions to facilitate the transition toward net zero by reducing consumption of higher emitting fuel sources.

3.5 Demand-Side Management Does Not Address Identified Need

HG&E offers a variety of aggressive and effective energy efficiency programs aimed to help customers conserve energy and GHG emissions. HG&E's Green Team reviews potential opportunities on a monthly basis to ensure the programs are balancing current customer needs with the clean energy goals of HG&E. In addition, the team is charged with ensuring each incentive is cost justifiable, comparable to regional utility programs (i.e., MassSave) and do not negatively impact rates for the whole customer base. The Green Team is made up of key employees from throughout the organization and welcomes feedback from customers and local contractors in an effort to continuously improve programs and incentives. The Green Team also promotes a variety of incentives from partner organizations such as the Massachusetts Clean Energy Center's (MassCEC) Decarbonization Pathways program, Springfield Partners for Community Action's Low Income Weatherization Assistance Program, OneHolyoke's Rental Neighborhood Improvement Program, Valley Opportunity Council's Fuel Assistance, MassDevelopment's Pace Program and more. HG&E remains committed to developing innovative, cost justifiable, customer-oriented efficiency programs that will reduce overall energy consumption and reduce its carbon footprint.

These energy efficiency programs have proven successful and result in widespread participation from HG&E's customer base. Since the institution of HG&E's natural gas moratorium, the energy efficiency programs have result in an annual savings of over 4,000 Dth but only a peak gas day reduction of 43 Dth (or less than one percent of LNG send-out on a peak day). While these programs help save energy throughout the year and reduce annual emissions, adoption of these programs is largely driven by customer behavior and individual circumstances (social and economic). To date, the overall impact during a peak natural gas event has been minimal with annual peak day savings only averaging 10 to 15 Dth. Given the limited impact on peak day demand reduction the energy efficiency programs are not seen as a viable alternative to the Project's objective of addressing system reliability for existing customers. To achieve the transition to the Commonwealth's goal of net zero emissions by 2050, HG&E will continue to explore and expand energy efficiency and electrification program offerings in the residential, commercial and industrial sectors. See Appendix G.

4.0 PROJECT ALTERNATIVE ANALYSIS

4.1 Analysis Methodology for Reviewing Project Alternatives

After recognizing that the pipeline interconnection alternative with CMA was no longer feasible, HG&E performed an updated iteration of its project alternative analysis. HG&E employed its expertise and experience in the natural gas and electricity industries to identify and then evaluate a variety of potential alternatives for meeting the established need to ensure the continuing provision of reliable and safe service for its existing natural gas distribution customers. HG&E evaluated these potential alternatives by first considering their ability to meet the identified need and then weighing the reliability, environmental factors and cost considerations of the various, practical alternatives. The alternatives identified and evaluated for their ability to meet the identified need included: (i) a no-build alternative; (ii) the proposed Project; (iii) the development of a second LNG facility; (iv) pipeline alternatives; (v) interconnection with neighboring utilities; (vi) a new propane-air or CNG facility; (vii) expanded energy efficiency or demand response; and (viii) accelerated electrification. HG&E then evaluated three alternatives that were able to theoretically meet the identified reliability need in terms of the ability to secure environmental, economic or reliability benefits.

4.2 Description of Project Alternatives

4.2.1 No-Build Alternative

Under the no-build alternative, no improvements would be made to HG&E's existing West Holyoke Facility or its natural gas distribution system and the identified reliability need described in Section 3.0 would not be met. HG&E must ensure that it is able to continue to provide reliable gas supply to its customers to meet firm customer demand under reasonably foreseeable conditions in an economic and safe manner while mitigating potential environmental impacts. With the no-build alternative, HG&E's approximately 11,500 customers would be dependent upon the increasingly challenging ability to replenish the West Holyoke Facility's LNG storage supply during peak demand periods. A short period of extreme cold weather, even as few as two consecutive days, would jeopardize service reliability to existing customers. Because the no-build alternative would not address the reliability need identified in Section 3.0, it was not considered further.

4.2.2 Proposed Project

The proposed Project was designed to ensure HG&E's continued provision of reliable natural gas distribution service. The Project will expand the existing on-site LNG storage capacity of the West Holyoke Facility enabling HG&E to dispatch LNG to meet demand needs over more extended periods of design weather while managing storage refill operations in a reasonable and prudent manner. An added benefit of the Project will enable HG&E to provide incremental natural gas service and, as a result, reduce emissions by strategically targeting customers likely to employ fuel oil or other fossil fuels while

also providing least cost services as HG&E continues its transition to net zero. Given these factors, this alternative was studied further.

4.2.3 Alternative Locations for Incremental LNG Storage

HG&E recognized that a second, parallel or independent LNG storage facility could potentially be constructed that would meet the identified purpose and need for incremental LNG storage capacity. To evaluate the merits of this alternative, HG&E performed a preliminary site identification process. The site identification process sought to identify parcels at least 10 acres in size so as not to exclude the analysis of potentially suitable alternatives. HG&E recognized that a more preferable LNG alternative would be a single, larger facility rather than two separate smaller facilities. Thus, a portion of the screening analysis focused upon sites of at least 25 acres that are potentially available for acquisition where a larger LNG storage facility could be sited and constructed.

The design of any new “greenfield” LNG storage facility would reflect the characteristics and limitations of the particular site. HG&E identified two alternative sites in Holyoke that were of sufficient size for the design and construction of a new LNG storage facility as well as a third theoretically potential site in Southamptom. These sites are located off Whiting Farm Road (approximately 10.98 acres) and Apremont Highway (approximately 25 acres) in Holyoke and off County Road just north of the Holyoke line in Southamptom (approximately 50 acres). All three potential locations for an alternative LNG facility (as well as a pipeline alternative described below) are depicted on Figure 4-1.¹

The Whiting Farm Road alternative site has a smaller area available for development due to its location closer to the population center of Holyoke and the limited sizes of the parcels. That site would only support a single 70,000-gallon tank together with all other required operational elements including truck unloading, vaporization, odorant and metering equipment. Beyond the capital cost of this alternative, HG&E would incur increased operations and maintenance costs by needing to operate two distinct facilities to meet its natural gas demand.

The Apremont Highway site and the Southamptom site were both large enough to support a larger, field-erected tank with a capacity of approximately 1,700,000 gallons, together with related equipment needed to operate such a facility. Each such facility would be designed to be filled prior to the winter and not require refilling during winter months except during more extreme weather. The West Holyoke Facility would be retired once the Apremont Highway or Southamptom options were constructed and operational.

¹ Two of these sites (both of which are in Holyoke) were necessarily reconsidered during HG&E’s site selection analyses. The West Holyoke Facility is the only available location where needed construction would be limited essentially to the addition of a single tank. See Section 5.0.

The Southampton site was eliminated from further examination by HG&E due to the following constraints:

- The parcel is not currently under the ownership of Holyoke;
- The site would require an approximately 2.5-mile long pipeline extension to tie into the existing HG&E primary gas distribution system at a substantial cost to HG&E and with associated operational challenges given the design and operation of the distribution system;
- Zoning exemptions or a special permit would be required to build the new facility, which would be more challenging than for sites in Holyoke given the Holyoke zoning ordinance and nature of HG&E as a municipal entity;
- The location was the least attractive in terms of truck access and traffic concerns; and
- This alternative project would result in material changes to land use in the area and substantial impacts to the natural environment.

HG&E's initial engineering and design reviews of the two Holyoke alternative sites concluded that these sites would require substantially higher development and operating costs than the proposed Project, far greater construction and permanent impacts to the environment and community as well as additional operational challenges. A new LNG facility at the Whiting Farm Road site would have a capital cost of approximately \$20,500,000 as well as increased annual operating costs over the existing West Holyoke Facility. The Apremont Highway site with the larger, field-erected tank would require capital costs of approximately \$70,150,000 and, due to the nature of the facilities, would have somewhat higher annual operating costs as compared to the West Holyoke Facility. A new LNG facility at the Whiting Farm Road site with a single 70,000-gallon tank would have similar operating costs as the West Holyoke Facility site, approximately doubling existing LNG-related operating costs as two LNG facilities would need to be maintained. The Apremont Highway site would increase LNG-related operating costs over current levels, but this facility would end up as the single LNG facility on the HG&E system. In addition, although any alternative involving added LNG storage provides similar strategic opportunities as HG&E manages its transition toward electrification and a net zero future, HG&E's customers would be exposed to a substantially greater potential stranded cost as such transition moves forward.

The location of all four LNG alternatives is shown in greater detail on Figure 4-2. Aerial photographs of the West Holyoke Facility, the Whiting Farms Road site, the Apremont Highway site and the Southampton site are reflected in Figures 4-3, 4-4, 4-5 and 4-6, respectively.

HG&E concluded that a new LNG storage facility alternative was only practicable at either the Whiting Farm Road or Apremont Highway locations in Holyoke and that these locations should be analyzed further. HG&E recognized that these sites would have substantially higher costs and impacts as compared to the Project. The alternative locations for incremental LNG storage alternative were deemed appropriate for further consideration in HG&E's analysis but were not expected to be superior to the proposed Project.

4.2.4 Pipeline Alternatives

HG&E also evaluated alternative pipeline supply solutions. First, HG&E determined that the addition of a large-scale natural gas transmission pipeline delivering incremental capacity to the region was not an available option. HG&E then considered potential modifications to existing delivery facilities. HG&E is supplied pipeline gas at its sole gate station that ties into the Northampton Lateral. The existing lateral was installed in the 1950s to provide cleaner natural gas to the region as utility systems transitioned away from dirtier manufactured gas. This lateral is currently operating at capacity and cannot provide additional supply without expansion of the TGP system. Installation of a second pipeline parallel and adjacent to the existing Northampton Lateral (“looping”) to facilitate an increase of capacity to HG&E’s gate station was identified and evaluated to address the identified reliability need.

For HG&E’s lateral capacity to be increased, TGP would need to install an approximately 1.7-mile “loop” of large-diameter (minimum 12-inch), coated-steel, high-pressure pipe infrastructure within or alongside the existing TGP lateral right-of-way (ROW). The location of the necessary TGP line is also shown in Figure 4-1. A more detailed USGS map for this alternative is provided in Figure 4-7. This project alternative would substantially impact the neighboring communities of Southwick and Westfield, Massachusetts during construction and would involve acquisition of new easements from affected landowners as well as substantial environmental permitting challenges. The pipeline alternative also involves substantial cost; over the 20-year initial term of the required capacity contract where TGP would recover its costs of lateral expansion, HG&E would be required to pay at least \$70 million in demand fees for capacity and associated carrying costs for necessary commodity (HG&E expects commodity-related costs would be comparable for all practical alternatives). This alternative would also be expected to increase the prospect of substantial stranded costs over time.

While the pipeline alternative could meet the identified reliability need and facilitate the addition of strategic, incremental service, this alternative would have a much higher cost and involve more substantial environmental and community impacts. HG&E elected to continue the evaluation of this alternative but expected it to be a far less attractive alternative as compared to the proposed Project.

4.2.5 Interconnection Alternative

As described, HG&E had previously elected to seek to address its identified reliability need by executing an MOU with CMA. While this original transaction structure is no longer available, HG&E again considered the use of existing natural gas distribution system interconnects with other natural gas utilities in the region for system reliability. An interconnect is a point where two natural gas utilities integrate piping systems for the purpose of natural gas supply through negotiated means. HG&E has and maintains interconnections with two neighboring utility natural gas distribution systems, namely Westfield Gas & Electric (WGE) and Eversource (the former CMA). Utility interconnects are typically designed to permit natural gas flow into each utility’s respective system during emergency events or planned maintenance activities.

While providing a valuable resource to maintain system operations during emergencies or maintenance, the interconnects are not sufficient to provide peak demand relief. These existing interconnections are located at system points where HG&E's gas distribution system operating pressure is higher than at the respective utility's interconnect point. As a result of this pressure differential, HG&E would be required to lower system operating pressure to receive natural gas supply from these interconnects. The need to lower system pressure when operating under peak demand would frustrate this alternative's ability to meet the need as lower pressures impact the operation of system pressure regulating stations and further limit the gas supply to HG&E's customers. In sum, any incremental benefits that might be secured by the interconnection would be more than offset by the consequences of the necessary operational pressure reduction. As such, an interconnection with WGE or Eversource would not effectively address the identified reliability need due to physical and design limitations of existing and available system interconnections. Because the pipeline interconnection alternative would not address the identified reliability need, it was not considered further.

4.2.6 CNG or Propane-Air Alternatives

HG&E also identified and considered the use of CNG or propane-air facilities for injection into HG&E's gas distribution system. CNG is natural gas that is stored under extremely high-pressure and can be used as a supplemental fuel. The CNG must be processed through regulation equipment to lower its pressure before it can be safely injected into HG&E's distribution system. CNG is transported pursuant to tractor trailers and each trailer can hold only approximately 400 Dth and the CNG would need to be processed from the trailer during the entire dispatch operation. To provide the storage capacity offered by the Project, at least 10 trailers would be required to be on-site during a peak demand period. This could be theoretically accomplished by "staging" of trailers or continuous delivery to replace depleted units. The limited storage availability of the trailers and the reliance of continuous trucking during the winter season would not meet the identified reliability need. HG&E will continue to review opportunities to employ CNG for temporary system reinforcement or scheduled maintenance activities.

HG&E also evaluated the alternative of employing a propane-air facility to meet the identified reliability need. Similar to an LNG facility, liquid propane may be vaporized and mixed with air to be injected into a gas distribution system. HG&E previously operated a propane-air system for peaking at the West Holyoke Facility, but that system was decommissioned in 2005 due to increasing natural gas interchangeability concerns. The use of propane-air involves a number of operational challenges, in part due to propane's higher heat content as compared to natural gas. Safe propane-air operations require the employment of an air stabilization system to lower the heat content of the propane vapor to match or complement the energy value of natural gas to avoid safety concerns for downstream users. In addition, the propane-air injection point must be located on the gas distribution system where there is a high demand (flow) and the propane-air mixture can only supplement the existing gas supply up to 50% of the volume in the gas distribution system in order to avoid the risk of damage to customers' gas fired equipment. These same interchangeability issues are not a concern with LNG as it is natural gas in its

liquid form and, thus, there are no limitations with the amount of vaporized LNG that can be injected in the HG&E gas distribution system.

Because neither CNG nor propane-air would address the identified reliability need, these alternatives were not considered further.

4.2.7 Energy Efficiency, Demand Response and Accelerated Electrification

HG&E evaluated energy efficiency programs as a potential alternative to the Project and concluded that expanded energy efficiency measures cannot meet the reliability need identified in Section 3.0. The beneficial load reductions from HG&E's comprehensive energy efficiency programs are already fully reflected in HG&E's determination of its load requirements, effectively reducing such requirements for planning purposes. Beyond this, HG&E, in its resource planning process, identifies and evaluates energy efficiency options on an equal basis with available supply or facility options and incorporates the results of its successful energy efficiency programs into its forecast.

HG&E's energy efficiency programs have been in place for decades and enable HG&E to provide valuable tools, incentives and information to help customers understand and reduce their energy usage. Reductions in customer energy usage have been and will continue to be gained from raising awareness through home energy audits, the replacement of aging systems with the installation of higher efficiency equipment, building efficiency improvements (weatherization) and the use of programmable thermostats to optimize energy use practices. According to the American Gas Association (AGA), the average American home consumes 40% less natural gas than it did 40 years ago, a result of energy efficiency improvements. HG&E estimates that it has achieved actual annual savings of over 4,000 Dth in the last three years. Given peak day non-pipeline requirements, the amount of achieved demand reduction equates to only approximately 43 Dth or less than one percent of LNG send-out. To date, the overall impact during a peak natural gas event has been minimal with annual peak day savings only averaging 10 to 15 Dth.

As a result, energy efficiency measures alone cannot achieve the level of demand reduction necessary to meet the identified need. While energy efficiency remains an attractive option to reduce annual demand and employ natural gas more efficiently, it is not a practical solution for addressing an ongoing system contingency that could involve a loss of supply to a substantial portion of HG&E's customers. Energy efficiency measures will continue to help to reduce demand for natural gas and are reflected in HG&E's current design day forecast, but they do not match the timing, reliability or cost of the added reliability that can be provided by the Project. For these reasons, this alternative was not considered further.

HG&E evaluated demand responses as a potential alternative to meet the identified need. HG&E recognized that demand response programs are at a very preliminary stage of development and not advanced sufficiently to serve as a means to meet the identified need within the projected schedule. For load management or demand response to be a meaningful alternative, there must be an identified firm,

large volume natural gas resource that a customer is willing to reduce service on or interrupt. Several regional utilities are pursuing pilot programs such as the promotion of controllable thermostats. These programs may secure limited demand reductions over a brief period of time, but would not result in sufficient demand reductions to eliminate the need for supplemental natural gas during a protracted cold snap. HG&E will continue to monitor the development of this resource option but determined that demand response would not meet the identified need or schedule and, therefore, was not considered further.

HG&E further evaluated the potential of accelerated system electrification as a Project alternative. Consistent with the Commonwealth's commitment and Holyoke's residents' interest in clean and renewable energy, HG&E has established a pathway to a net zero carbon future. As noted, HG&E already secures a substantial portion of its electricity from renewable and carbon-free resources, including the material deployment of hydro and solar generation as well as electric battery storage. HG&E's role as a provider of both electricity and natural gas service will facilitate this transition on a cost-effective basis and enable HG&E to build upon its record of substantial achievement.

To achieve the Commonwealth's statewide GHG reduction goals, many technologies that currently operate with fossil fuels will need to convert to cleaner sources, such as electricity. HG&E currently offers rebates and other financial incentives for various electrification measures and will continue to explore additional programs to help customers to convert from the highest emitting fossil fuels to electricity.

A major variable to meeting accelerated electrification is that HG&E's electric distribution system will require costly and substantial infrastructure upgrades to accommodate an increase in electric load. Current system forecasts project an increase of up to three times the existing peak summer load with a new system peak load occurring during the winter heating season. The necessary upgrades to HG&E's electric distribution system are expected to be completed over the course of at least 15 to 20 years and are designed mainly to address the electrification of homes and the transportation sector at an estimated cost of \$150 million in 2022 dollars based upon a preliminary or rough estimate. See Appendix H. HG&E is in the process of developing a targeted electrification outreach to residents currently consuming higher emitting fuel sources. This approach requires a financial commitment from the resident and, while incentives and rebate programs are in place, current inflationary impacts are expected to further limit the scale of participation in such a program roll-out. This analysis does not include necessary generation and transmission infrastructure improvements that will be required to satisfy the increased electric demand for the region. As previously mentioned, customers will also require sufficient time to plan for costly, customer-owned system upgrades to be able to switch to electric equipment or appliances.

HG&E will continue to achieve greater and increasing customer participation in future years as implementation costs are reduced and the electric distribution system advances to reliably meet the growing demand. While these electric system upgrades will be strategically implemented, HG&E has an obligation to maintain reliable and least-cost gas distribution service and notes that the small,

incremental capacity available with the proposed Project will enable the immediate displacement of certain fossil fuel uses and the orderly transition to electrification for customers.

Reliance upon electrification is not a comparable alternative to the Project in terms of taking timely and cost-effective actions to enable HG&E to continue to provide reliable service to its existing natural gas customers for the near future and, therefore, this alternative was not considered further.

4.2.8 Conclusions on Initial Analysis of Project Alternatives

HG&E determined that three project alternatives would be able to meet the identified reliability need by providing peak day or cold snap gas capacity and should be examined more comprehensively:

(i) addition of an additional tank at the West Holyoke Facility; (ii) construction of a new LNG facility with added storage capacity; and (iii) expansion of a portion of the Northampton Lateral. These project alternatives all provided additional strategic flexibility for the limited displacement of fuels such as oil that are not available under the ongoing moratorium. These project alternatives were evaluated based upon their comparative cost, reliability or operational benefits and environmental impacts.

4.3 Comprehensive Analysis of Practical Alternatives

4.3.1 Cost Analysis

HG&E performed detailed cost comparison of the three practical alternatives. The proposed Project would cost approximately \$4.4 million to construct. If the cost of certain unrelated improvements to the West Holyoke Facility were included, total construction cost would be approximately \$7.8 million. There would be no material change to HG&E's operating costs of the West Holyoke Facility. The Project was the least cost alternative due to its established ownership, level grade, limited civil and environmental mitigation requirements, existing infrastructure and a more favorable permitting and design process. Given HG&E's plan to incorporate the additional safety and reliability enhancement, HG&E considered all West Holyoke Facility costs in the project alternative analysis.

A new LNG facility that would expand HG&E's peak storage capacity would require a range of complementary equipment including truck-unloading, vaporization, metering, odorant and ancillary electrical and safety systems depending upon the site. HG&E would most likely construct a larger LNG facility at the Apremont Highway alternative site and retire the West Holyoke Facility. Permitting, construction and mitigation costs would be substantially higher. The construction cost of this type of LNG facility with a larger, field-erected tank is estimated at \$70.1 million. Operating costs would be higher than current costs associated with the West Holyoke Facility. A smaller LNG storage facility at Whiting Farm Road would cost approximately \$20.5 million and would be expected to double annual operating costs associated with LNG operations or increase costs by approximately \$720,000. See Figure 5-2 for a summary of capital costs and Figure 5-3 for a comparison of operations costs.

The “looping” of a portion of the Northampton Lateral would cost at least \$70 million based upon a preliminary cost estimate from TGP. HG&E would expect actual costs to be higher at the time of construction. Operating costs would be comparable to current conditions as the West Holyoke Facility would continue to be operated on certain peak days, although fewer truck deliveries would be scheduled during the winter season due to the expanded firm pipeline capacity.

In sum, the proposed Project would be substantially less costly than other practical alternatives. An additional benefit is that the related risk of stranded costs would also be lower with the Project, an important consideration as HG&E continues to transition its customers to expanded electrification and a net zero future.

4.3.2 Reliability and Operational Analysis

The proposed Project and either of the two alternative new LNG facilities would address the identified reliability concern on peak or near peak days by expanding LNG storage capacity on HG&E’s existing system. Thus, reliable service can be maintained if LNG deliveries needed to replenish tank volumes are delayed or affected by adverse weather. This greater flexibility and reliability will ensure the protection of the health and safety of existing natural gas customers. The Northampton Lateral expansion will increase daily available capacity, including on peak or design days. The Northampton Lateral expansion reduces HG&E’s dependence upon LNG deliveries but increases its dependency on a single gas source off that lateral; the Project would enable HG&E to serve its full requirements in the event of a gas supply issues associated with the TGP system. The Project also enjoys one material, additional beneficial feature in that the limited scope of work does not require extensive environmental permitting and may allow HG&E to complete the Project in a more timely manner.

All three alternatives enhance HG&E’s operational flexibility to secure other economic and environmental benefits for customers. All three alternatives enable HG&E to add new customer load, which would be managed strategically to reduce short-term emissions from other fuel sources such as heating oil while also complementing HG&E’s process toward electrification. One means to facilitate electrification is to add to rate stability while needed new investments in the electric distribution infrastructure are pursued, which goal is best advanced with the Project.

HG&E determined that all three practical alternatives are largely comparable in terms of reliability and operational flexibility. The Project at the West Holyoke Facility provides the most flexibility during an energy transition. As electrification adoption increases over the next twenty years, more so in the latter half, natural gas usage is anticipated to decrease. The Project offers scalability that the two alternative sites cannot, particularly related to stranded costs. HG&E can retire aging assets at the West Holyoke facility if system demand is reduced. The Whiting Farm Road LNG storage facility alternative provides some capability in terms of scalability but would involve higher stranded costs. The new LNG storage facility project at Apremont Highway with a larger, field-erected tank would eventually become “oversized” while the pipeline alternative requires execution of long-term contracts.

Although all three practical alternatives are comparable in terms of reliability and operational flexibility, HG&E determined that the Project is superior due to its flexibility and long-term scalability, thereby providing a greater overall operational benefit to HG&E.

4.3.3 Environmental Analysis

HG&E conducted a preliminary analysis of potential environmental impacts followed by detailed and comprehensive comparative analysis based upon a range of factors related to construction and operation. The analysis relied upon mapping resources and field inspections. Appendix L, Figures 1, 2, 3 and 4 contain overlay maps and location depictions for a variety of factors considered in the environmental evaluation of project alternatives.

The Project was not anticipated to have substantial environmental impacts during either construction or operations given the nature of the site and its existing use. There are no wetland resources, cultural resources or rare species concerns at the West Holyoke Facility. Site preparation requirements are minimal based on the existing facility and prepared area for the additional LNG storage tank. The West Holyoke Facility enjoys substantial buffering from abutters and established vegetation which provides screening for the adjacent neighborhood. There is also substantial community acceptance for the West Holyoke Facility given its current and longstanding use. Finally, the Project provides incremental benefits for the consideration of future enhancements such as the employment of renewable natural gas or non-fossil fuels.

A new LNG facility developed on a raw land site would involve more substantial construction and operational impacts as such a facility would likely result in a material change to current land use in the area. More expansive and extensive construction would be required due to the necessary site preparation including clearing of forested areas and grading, increasing impacts during construction. The Apremont Highway site has substantial areas of exposed and subsurface bedrock which would require extensive rock removal through mechanical (hammering) or blasting construction techniques. The sites considered for this alternative would likely be able to be successfully permitted but would take significant time and would also likely result in more substantial impacts to environmental resources and adjacent landowners. For example, the Apremont Highway site would result in impacts to forested land, drinking water supply protection areas and rare species habitat and also be subject to Article 97 provisions (conversion of designated public land). The Whiting Farms Road site would also require substantial site preparation and is located within close proximity to an Environmental Justice population. Community acceptance concerns would also be more substantial with these alternative locations.

The looping of the existing Northampton Lateral would result in substantially greater environmental and landowner impacts than any of the discrete site alternatives. Construction of a 1.7-mile pipeline with a nominal workspace width of 100 feet would result in over 20 acres of new land alteration with approximately half of that maintained as new, permanent right-of-way. This would result in permanent conversion of forested land and modify the existing land uses along the alignment. A portion of the loop

alignment also crosses land with shallow depth to bedrock which would result in blasting or hammering to remove rock. Additionally, the route would impact wetland resource areas as well as a property designated for open space and subject to Article 97 protections. Most importantly, the new pipeline would affect a minimum of 24 properties and, unless routed away from the existing pipeline, would require construction within close proximity to existing residences.

HG&E's comprehensive assessment was that the Project involved, by far, the least construction-related impacts of all practical alternatives and also the least incremental operational impacts.

4.4 Conclusion on Analysis of Alternatives

HG&E identified and evaluated several potential alternatives to meet the identified need to provide additional supply capacity on a peak day or extended periods of cold weather to continue to provide reliable service to its existing natural gas customers. HG&E's analysis considered if each alternative was feasible, could meet the identified need and, for appropriate alternatives, compared the reliability and flexibility of service, potential impact to environmental factors and cost. HG&E's analysis of alternatives considered: (i) the no-build alternative; (ii) the Project; (iii) alternative LNG facility options; (iv) the expansion of the Northampton Lateral; (v) interconnections with neighboring gas distribution systems; (vi) CNG and propane-air; and (vii) energy efficiency, demand response and accelerated or targeted electrification. HG&E's alternative analysis demonstrated that, consistent with the Siting Board's standards and precedent, the proposed Project is the superior alternative to meet the identified need in a reliable, least-cost and least-environmental impact manner.

5.0 SITE SELECTION ANALYSIS

5.1 Standard of Review

Section 69J requires the Siting Board to review alternatives to planned projects including “other site locations.” In implementing this statutory mandate, the Siting Board requires a petitioner to demonstrate that it has considered a reasonable range of practical siting alternatives. To do so, an applicant must satisfy two conditions: (1) the applicant must first establish that it developed and applied a reasonable set of criteria for identifying and evaluating alternative sites in a manner that ensures that it has not overlooked or eliminated any sites that, on balance, are clearly superior to the proposed site; and (2) the applicant must establish that it identified at least two noticed sites or routes with some measure of geographic diversity. However, given that the designation of a noticed alternative site: (a) is not required by statute; (b) necessitates that a project proponent expend significant funds in both developing and supporting a noticed alternative site; and (c) has the potential to raise concern unnecessarily among potential abutters and others in the affected communities, the Siting Board has indicated that a noticed alternative site may not be warranted in all cases.

5.2 Site Selection Process

5.2.1 Overview of Site Identification and Analytical Processes

HG&E applied a comprehensive and rigorous process appropriate to the nature of the Project to identify potential site alternatives, to evaluate appropriate sites and then to select a preferred site or location for the addition of LNG storage capacity. The site evaluation process applied sophisticated engineering and environmental analyses and was confirmed by the consideration of the Siting Board regulation’s performance standards applicable to new LNG facilities. Finally, the process considered the merits of only providing and posting notice of the preferred site or the West Holyoke Facility and to not include the consideration of other locations as “noticed alternative” sites.

The site selection process applied the following primary steps:

- Establish an appropriate study area for site identification and analysis;
- Develop and apply appropriate criteria for identifying and screening potential sites;
- Perform intensive analyses of the most attractive site alternatives;
- Identify the preferred site location based upon cost, reliability and environmental criteria;
- Confirm appropriateness of the most attractive site option by analyzing LNG performance standards applicable to new LNG equipment such as the proposed tank; and
- Evaluate the merits of presenting a “noticed alternative” site given the substantial benefits of the existing West Holyoke Facility site and the potential for unnecessary and significant community concerns associated with alternative sites.

5.2.2 Establishment of Study Area

HG&E recognized the need for additional LNG storage capacity to readily interconnect to its gas distribution system and, preferably, its high-pressure gas distribution system. HG&E also recognized a strong preference for sites in Holyoke rather than the portion of Southampton served by HG&E. The principal determining factors were HG&E's status as a municipal entity as well as operational considerations given the characteristics and principal location of the existing high-pressure gas distribution system and that the majority of HG&E's customers are located in Holyoke. HG&E considered the possibility of sites in Southampton but recognized that potentially suitable sites would face a number of challenges including the need for a lengthy, high pressure, gas distribution main (approximately 2.5 miles in length), zoning and municipal ownership concerns as well as a range of environmental constraints and operational issues including increased traffic. Accordingly, HG&E targeted its search in Holyoke but did extend its search radius to ensure that no clearly superior siting alternative was available in Southampton.

5.2.3 Site Identification and Preliminary Site Analysis

To identify potentially feasible or suitable sites for additional LNG storage, HG&E's first objective was to select appropriate screening criteria and then perform a preliminary analysis to identify the most suitable sites based upon the application of these criteria. The West Holyoke Facility was an obvious and initial site identified for this purpose, particularly in light of HG&E's originally authorized plan to construct five LNG tanks at that location. The West Holyoke Facility offered a range of siting opportunities and benefits that enhance reliability of operations, secure cost savings and reduce potential impacts to landowners and the environment. Nevertheless, HG&E conducted a thorough alternative site analysis to ensure that superior site alternatives for LNG storage operations were not overlooked.

HG&E's Project team developed the following criteria for the established study area within Holyoke:

- Minimum of 10 acres for the shop-fabricated tank project option to allow for adequate space for necessary equipment and relevant exclusion or buffer zones;
- Owned or controlled by Holyoke or knowledge that the parcels are available for acquisition at a reasonable cost;
- On or adjacent to an appropriate portion of the HG&E high-pressure gas distribution system;
- The nature of the area land use and the ongoing or planned activities of abutters as well as favoring sites where the relative distance of the likely location of equipment to abutters was greater, with the expectation that greater distances or screening opportunities would reduce impacts during construction and operation;
- Close proximity to and with readily available access to major roads and highways; and
- Locations that would likely be satisfactory to key stakeholders such as the Holyoke Fire Department and the local community.

As noted, the initial site identification process was applied to the entire municipality of Holyoke, with a substantial preference to sites already under municipal ownership. Given the likely and substantial cost associated with acquisition of a new property and the current benefits of the existing West Holyoke Facility, HG&E did not expect that the costs associated with the acquisition and development of a new parcel for the Project would be financially viable. The Project team, however, completed its due diligence on alternative sites by reviewing and evaluating municipal maps, consulting with other Holyoke municipal departments including the Holyoke Office of Planning and Economic Development and performing extensive site reconnaissance or inspection. The Project team was familiar with the Holyoke study area given its experience managing existing HG&E operations and the fact that most team members were long-time Holyoke residents.

HG&E determined that the West Holyoke Facility had sufficient space to add the proposed LNG storage tank and integrate it and the associated piping with the existing facility equipment. The West Holyoke Facility was also seen as an attractive location operationally due to the presence of existing LNG equipment as well as the location of the existing interconnection with the Northampton Lateral within the property. Additionally, the land use as an LNG storage facility is established and HG&E has existing positive relationships with the surrounding community. The location has appropriate vehicle access and is familiar to the Holyoke Fire Department and other first responders.

Based on the review criteria previously detailed, the Project team identified the following potential alternative sites for a new LNG storage facility to meet the identified need:

- Two parcels with a combined area of 10.98 acres off Whiting Farms Road in the southeastern portion of Holyoke that are currently owned by the Holyoke Economic Development and Industrial Corporation; and
- A 550-acre parcel off Apremont Highway in the southwestern portion of Holyoke just to the east of the West Holyoke Facility that is currently under control of the Holyoke Water Department.

The comparative site analysis was based upon the design requirements for each site. The West Holyoke Facility would involve essentially the addition of a single tank to a site with existing LNG infrastructure. The Whiting Road site would require the addition of all elements of a new LNG facility with only a single 70,000-gallon tank. The Apremont Highway site would support a large, field-erected tank and retirement of the LNG portion of the West Holyoke Facility.

A 49.55-acre parcel off County Road North in Southampton just north of the Holyoke city line that is currently in agricultural use and zoned as Residential Rural was identified as a potential alternative site for a field-erected LNG storage facility similar to the Apremont Highway site. The West Holyoke Facility LNG operation would be decommissioned if this site were able to be developed. This site was eliminated by HG&E as a viable alternative due to the following constraints:

- The parcel is not currently under the ownership of Holyoke;
- The site would require an approximately 2.5 mile long gas main extension to tie into the existing HG&E high-pressure gas distribution system and related operational challenges;

- Zoning exemptions or a special permit from Southamptton would be required to build the new facility; and
- Lastly, the project would have a range of environmental impacts, including land use and traffic.

Whiting Farms Road Site

The Whiting Farms Road site consist of two parcels located between Whiting Farms Road to the east and Route I-91 to the west. In addition, there is a commercial development to the south and Environmental Justice residential areas to the immediate north of the site. This site is currently undeveloped and heavily wooded and expected to be employed for commercial use given its location between an industrial park and two-family residential district. With both parcels combined, this site would be sufficiently sized to comply with the requirements of all applicable LNG siting and operational codes and standards for a smaller shop-fabricated tank facility. The Whiting Farms Road site has some challenges, including substantial clearing, the lack of any existing services and the close proximity to residential and Environmental Justice populations.

Based on the undeveloped and forested nature of the property, there could likely be concerns related to federal and state-listed rare bat species as well as cultural resources. Consultation would need to be initiated with the U.S. Fish and Wildlife Service, Massachusetts Natural Heritage and Endangered Species Program and the Massachusetts Historical Commission. There would likely be time of year restrictions associated with tree clearing to protect the rare bat species (namely, no clearing April through August). These limitations would adversely affect the schedule for construction of the facility.

Apremont Highway Site

The Apremont Highway site is an approximately a 550-acre parcel located east of Apremont Highway and north of Route 202 (Westfield Road) with frontage on both roads, with most of the parcel being undeveloped and heavily forested. The Holyoke Water Department currently operates two water tanks and associated facilities on this parcel with access off Apremont Highway. The parcel is zoned Residential-Agricultural, but zoning in Holyoke allows for municipal utility use. An approximately 25 acre site would need to be subdivided from this parcel to build and operate an entirely new LNG storage facility. There would also be sufficient area to pursue a larger, field-erected LNG storage tank design at the location. This site is more than sufficiently sized to comply with the requirements of applicable LNG siting and operational codes and standards. The Apremont Highway site, though, presents a number of challenges, including the need for substantial grading and clearing, road construction and the complete lack of any existing services.

From an environmental perspective, the Apremont Highway site also involves a number of constraints. In addition to similar concerns regarding rare bats and cultural resources as the Whiting Farms Road site, the Apremont Highway site is also encumbered by significant areas of wetland as well as a perennial stream. These areas are protected and regulated by local, state and federal agencies and any activities within or adjacent to these resources would require permits and/or approvals under the Clean

Water Act and the Massachusetts Wetlands Protection Act. The property is also wholly-located within a Surface Water Protection Area associated with public water supply wells as well as Priority / Estimated Habitats of Rare Wildlife. The proposed development of the property for a new LNG facility would require extensive environmental surveys and associated permitting which would likely include mitigation for any Project-related impacts to sensitive environmental resources. Finally, the site is subject to Article 97 requirements affecting both access and cost.

5.2.4 Comprehensive Site Study and Comparison

Subsequent to the initial site evaluation process, HG&E conducted a more rigorous and refined analysis of the specific facilities that would be required at the West Holyoke Facility or the Whiting Farms Road site or the Apremont Highway site. The site evaluation process necessarily reflected the specific equipment requirements and potential limitations at each of these three sites. The primary objective was to identify the preferred location for adding LNG storage given the positive and negative features of each of the three sites. HG&E's Project team conducted a detailed analysis for each potential site alternative in terms of cost, reliability or operational flexibility and environmental impacts.

5.2.4.1 Cost/Economic Analysis

The Project team's cost analysis relied upon internal and external engineering experts familiar with the construction and operation of LNG facilities. HG&E also secured price quotes or estimates from vendors of the major equipment as part of this process. The construction and operating cost comparisons of the site alternatives are based primarily on items or attributes that are expected to be applicable to each site as the facility design is generally comparable between locations. Special "cost considerations" are included in these assessments, where appropriate, such as the expense of any unique design or construction requirement where alternative solutions may be required or other location-specific costs such as tree removal and extensive grading. Appropriate or required impact mitigation measures for each site such as fencing and screening were also estimated and reflected in the cost analysis. Comparative capital and operating cost information is presented in the format described in 980 CMR 10.00. See Figure 5-2 and Figure 5-3.

The proposed LNG tank addition at the existing West Holyoke Facility was, overwhelmingly, the least-cost site alternative in terms of construction and operation that would enable HG&E to meet the identified need. The existing West Holyoke Facility site cost benefits were based on HG&E land ownership, lack of site preparation requirements, limited civil and environmental mitigation requirements, lower incremental operating costs and existing operating infrastructure to support the natural gas distribution system. Both alternative sites are substantially more expensive due to required land acquisition, extensive site preparation, lack of existing infrastructure, the need for more extensive equipment and associated environmental impacts requiring mitigation.

In sum, the existing West Holyoke Facility site is substantially superior site in terms of construction and operating costs.

5.2.4.2 Reliability Analysis

HG&E analyzed the three primary sites in terms of reliability and operational flexibility. HG&E determined that the existing West Holyoke Facility has the most favorable reliability advantages in terms of the provision of service to the existing natural gas distribution system. Necessary operating equipment, facilities, utilities and safety systems are already in place and the operating staff is highly experienced with the operation of the existing facility. The current location, with direct access to the existing TGP meter station, provides an additional benefit in terms of the ability to enhance reliability and safety with simplified operations and response capabilities. The Whiting Farms Road and Apremont Highway sites both require longer gas distribution system connection extensions, as compared to the existing facility with a system connection already in service. The Whiting Farms Road site does, however, have slightly better access to highways facilitating truck deliveries. In sum, the Project team determined that the existing infrastructure associated with the West Holyoke Facility site is superior in terms of reliability and operational considerations, however, the alternative sites, if constructed, would facilitate that provision of reliable service.

5.2.4.3 Environmental Analysis

The Project team employed traditional siting models for the environmental analysis with inputs based upon extensive field and data base investigations. The first, refined model employed a detailed comparative analysis applying a comprehensive range of criteria with specific scores at each location. Engineering and environmental experts participated in this analysis along with additional subject matter experts as needed. Scores were largely developed and assigned based upon a consensus-based process involving the various experts on the Project team. See Figure 5-1.

The comprehensive comparative analysis of evaluation criteria applied 18 separate factors in a manner consistent with sound siting practices and established precedent (zoning was not considered a relevant comparable factor for any site, as HG&E is a municipal utility and municipal facilities are permitted within all zones according to the current municipal ordinance). See, Holyoke City Code of Ordinances, Appendix A, Section 4-3 (B.9). The results of this analysis clearly demonstrates that the existing West Holyoke Facility site is substantially superior to the two alternative sites with respect to potential environmental impacts, as the West Holyoke Facility site was assigned the highest possible score for 17 of the 18 factors. One of the critical factors supporting use of the existing West Holyoke Facility was the existing availability within the developed portion of the property that would limit the need for new land disturbance, site preparation and construction-related impacts. The existing West Holyoke Facility site also minimizes impacts to the surrounding community, as the Project is consistent with the current land use and does not affect any additional landowners. HG&E provides a comprehensive plan to mitigate any construction or operational impacts associated with the Project in Section 6.0.

The existing West Holyoke Facility Site does not contain any recognized environmental conditions or de minimis conditions. An indicative measure of the attractiveness of this site is that no filing requirement is “triggered” pursuant to the Commonwealth’s comprehensive review pursuant to the Massachusetts

Environmental Policy Act (MEPA) program or any other environmental permitting request. Additionally, the Project does not require any additional environmental permits or approvals with respect to natural or cultural resources, air emissions or noise. The Whiting Farms Road and Apremont Highway sites both involved a range of environmental impacts requiring permits or other regulatory approvals.

HG&E also applied a comparative model in the format described in 980 CMR Section 10.02 Figure 5-4 of the Siting Board's regulations. This model requires a summary presentation and analysis of a diverse set of environmental factors coupled with cost and reliability considerations. The application of this model in terms of environmental factors was also based upon a consensus approach by the Project team when possible. This comprehensive analysis demonstrated that the addition of a new LNG storage tank at the existing West Holyoke Facility is substantially superior in terms of minimizing environmental impact, but also that its limited impacts to the environment will be effectively mitigated by design and construction plans. The two alternative sites have extensive environmental impacts and would require additional environmental permits/clearances prior to the commencement of any construction activities.

In sum, siting of the Project at the existing West Holyoke Facility was the substantially superior site alternative with respect to minimization of environmental impacts.

5.2.4.4 Conclusion: Comparative Site Analysis

The existing West Holyoke Facility site is substantially superior to the two identified site alternatives in terms of cost and environmental impacts associated with construction and operation. The existing site is also superior in terms of reliability and operational flexibility. Accordingly, HG&E has determined that the existing West Holyoke Facility site should be evaluated as the preferred location in terms of the ability to meet applicable industry design standards while avoiding and minimizing potential Project-related impacts to the greatest extent practicable.

5.3 Preferred Alternative Site Selection – HG&E and Confirmation of Design Standards

A final and confirmatory evaluation and review of the conclusion of the siting selection analysis was a detailed FEED Study of the West Holyoke Facility location in terms of the ability to comply with regulations applicable to the planned addition of the LNG storage tank (see list below). The principal focus at this stage was to evaluate the requirements and any implications of relevant federal and state LNG siting regulations that are applicable to the Project, including a number extremely conservative requirements within the Siting Board's and federal regulations.

Relevant codes and standards applicable to the Project's design and operation include:

- 980 CMR 10: Massachusetts Siting of Intrastate Liquefied Natural Gas Storage
- 220 CMR 112: Massachusetts Design, Operation, Maintenance and Safety of LNG Plants
- 49 CFR Part 193: Liquefied Natural Gas Facilities: Federal Safety Standards

- NFPA 59A: Standard for Production, Storage and Handling of Liquefied Natural Gas (LNG) (Only applies to Sections of the 2001 and 2006 Editions incorporated by 49 CFR Part 193)

This stage of the site confirmation analysis process involved several distinct steps. First, the Project team recognized that certain sections of National Fire Protection Association (NFPA) 59A provide direction on criteria that should be considered as part of the site selection process in the LNG industry. These criteria were generally similar and confirmatory to factors considered earlier in the process but an express review provided appropriate validation of such efforts. Second, the Project team analyzed and applied the full range of applicable federal and state design and siting regulations, relevant mapping requirements, the definition of specified exclusion zones and, finally, certain other or ancillary requirements to the Project area to ensure compliance would be maintained with these parameters.

The consideration and analysis of these regulatory requirements further confirmed and validated the appropriateness of the merits of adding a LNG storage tank at the existing West Holyoke Facility site as opposed to constructing a new secondary LNG facility at an alternative location. HG&E evaluated and designed the Project at the West Holyoke Facility site to ensure that Siting Board substantive and evidentiary or presentational requirements in applicable regulations will be satisfied. The Siting Board regulations include several requirements that pertain to the design of the Project. The Siting Board's regulations also require the presentation or mapping of certain zones around a proposed project in the course of the approval process, presumably to facilitate siting review. Finally, there are specific procedures for defining areas subject to property control requirements. Appendix I describes compliance with all Siting Board requirements, while the following section provides a detailed recitation of required control areas around the Project. The Project team determined that all relevant standards could be satisfied or exceeded, which confirmed the appropriateness of the addition of a new LNG storage tank at the West Holyoke Facility.

5.3.1 Siting Board Performance Standards with Respect to Site Conditions

Section 10.03 of the Siting Board regulations includes two primary and specific "Performance Standards for Determining Site Sizes." These regulations define areas for a Thermal Radiation Protection Zone as well as a Vapor Dispersion Exclusion Zone. The Thermal Radiation Protection Zone is defined as an area which the Applicant owns or controls surrounding the Facility that is of sufficient size such that the thermal flux levels resulting from an extraordinary fire after a spill, as measured at the outer boundary, cannot exceed the levels specified in the regulations. In addition, any LNG storage tank "dike" cannot be located closer to specified receptors (which distances vary based upon whether the site is within an area zoned for industrial or residential use).

HG&E will employ a new, remote impoundment basin north of the new LNG storage tank where the recessed impoundment will act as the required "dike" structure in accordance with Section 10.04(1) of the Siting Board regulations. The calculation of the thermal radiation protection zones for this alternative was based on this "dike" design as the compliance structure for the Project.

In accordance with 980 CMR 10.03(2), HG&E must also demonstrate that a sufficient area has been provided for vapor dispersion protection to prevent vapor from an extraordinary design spill from crossing the property line of the West Holyoke Facility. The design spill for the newly installed equipment will be collected by a strategically graded system to the new impoundment basin “dike” north of the new LNG storage tank. With the use of a standard vapor fence surrounding the existing West Holyoke Facility, the vapor dispersion exclusion zone will be wholly contained within the property line of the West Holyoke Facility for this preferred alternative.

In sum, the Project design fully meets the performance standards and requirements within the Siting Board’s regulations for the thermal protective zone and the vapor dispersion exclusion zone.

5.3.2 Analysis of Additional Site Design Requirements

In addition to applying the siting criteria requirements of the Siting Board regulations, HG&E evaluated and ensured compliance with other applicable regulatory or siting requirements at the West Holyoke Facility site. Specifically, HG&E has also applied and ensured compliance with the relevant siting criteria under federal regulations pursuant to 49 CFR Part 193 and NFPA 59A as a final confirmation in the siting process. Chapter 2 of the 2001 Edition of NFPA 59A relates to facility siting and layout and is specifically incorporated by citation in 49 CFR Part 193. The NFPA, based upon the long industry history of safe operations, has established criteria for consideration in the siting of LNG facilities. The NFPA standards propose that four key factors or categories be considered when siting an LNG facility, many of which overlap with the factors that HG&E applied earlier in the site selection process. These design criteria are as follows:

- 1) Provision for Minimum Clearances with Respect to Plant Property Lines and Between Equipment.

These requirements were comprehensively satisfied in the Project design and site selection led by the Project team. As described below, all relevant planning or safety “limits” defined under federal or Massachusetts regulations are contained or included entirely within the West Holyoke Facility’s boundaries including the limits defined in the Siting Board’s regulations. Relevant equipment separation guidelines (similar to 980 CMR 10.04(2)) were fully incorporated into the design and configuration of the proposed LNG storage tank, including the tank’s location with respect to existing equipment.

- 2) All-weather Accessibility or On-site Provisions for Personnel Safety and Fire Protection.

Pursuant to 49 CFR Part 193, each operator of an LNG facility must provide and maintain fire protection at LNG facilities according to sections 9.1 through 9.7 and section 9.9 of NFPA 59A-2001. Consistent with standard practice, a detailed evaluation and review of fire protection design and alternatives for the Project was completed, which is also a requirement of 220 CMR 112.40. The proposed design includes, among other features, the addition and expansion of existing automated shut-down systems, sophisticated leak and fire detection systems as well as strategically located on-site emergency equipment. These features will complement the existing and substantial safety features of the West

Holyoke Facility. HG&E prepared a comprehensive Fire Study and Prevention Plan which was reviewed with the Holyoke Fire Department and is provided in Appendix C.

- 3) Within Limits of Practicality, a Plant Shall be Designed in Consideration of Relevant Forces of Nature.

As an initial matter, consistent with good engineering practices, the Project will be designed to meet or exceed applicable “loading” requirements set forth in the Massachusetts Building Code. The Project will also meet the more stringent wind loading requirements set forth in 49 CFR Part 193. The Project team completed a detailed analysis of particular or more severe weather patterns or other natural conditions that theoretically could affect design or operation. The Project team determined that Holyoke does not experience severe weather patterns or other “natural” risks that might require specific enhanced design enhancements.

Average annual weather data specific to Holyoke, Massachusetts derived from USA.com (<http://www.usa.com/01040-ma-weather.htm>)¹ are listed in Table 5-1 below:

Table 5-1: Holyoke, Massachusetts Weather Information

Annual Average	Holyoke Annual Average	United States Annual Average
Annual Average Precipitation	49.9 inches	38.7 inches
Annual Average Snowfall	68.1 inches	23.3 inches
Annual Average Humidity	76.7 %	77.5 %
Annual Average Windspeed	18.6 mph	16.9 mph

This table above demonstrates that Holyoke’s weather is generally consistent with national averages and, as a result, HG&E has satisfied the requirement that severe weather be appropriately considered in the comprehensive design with respect to weather-related factors.

Regardless, the Project will be designed to safely withstand severe weather conditions typically experienced in Massachusetts including those experienced over a 100-year period with respect to stormwater management, flooding and snow removal. The Project will feature a stormwater management system designed to meet the current MassDEP Stormwater Management Standards, which includes analysis and design measures for a 100-year storm event with post-construction runoff rate and volumes lower than pre-construction levels.

In addition, the Project is not subject to other natural hazards more common in other regions, as described below:

Earthquake Index: There have been no recorded historical earthquake events with a magnitude of 3.5 or higher experienced in or near Holyoke, Massachusetts. The earthquake index

¹ Source: <http://www.usa.com/01040-ma-weather.htm>

established for this area is 0.19 compared to the United States average earthquake index of 1.81. The index values are calculated based on data provided by USA.com.

Volcano Index: No known volcanos have been identified in Holyoke, Massachusetts and the index value is 0.0000 compared to the United States average volcano index of 0.0023 (USA.com).

Tornado Index: There have been 52 historical tornado events that had a recorded magnitude of 2 or above found in or near the Holyoke, Massachusetts area over the most recent approximately 70 years. According to USA.com, the tornado index is 138.37, which is close to the United States average tornado index of 136.45.

In sum, HG&E comprehensively considered and accounted for weather and other potential natural hazards in the site evaluation and project design processes.

4) Other Factors Applicable to Site Operations or Surrounding Areas and the Consideration of Appropriate Safety Measures.

Adjacent Activities: HG&E recognized that this criterion is akin to the consideration of surrounding land use, which was considered extensively in earlier phases of the site selection process. The West Holyoke Facility is an active municipal LNG facility that has been in operation since 1971. The site is located adjacent to established energy generation and residential land uses and is located within an area zoned for residential and municipal facility use. The Barnes National Air National Guard Base is located approximately 10,450 feet (1.98 miles) to the southwest of the existing site, well outside the limitations within 49 CFR Part 193 that precludes the construction of an LNG storage tank within a horizontal distance of one mile from the ends or one-quarter mile from the nearest point of a runway, whichever is greater. The existing West Holyoke Facility site is in full compliance with requirements regarding adjacent activity.

Security: This NFPA criterion requires that appropriate security be considered in site selection and, more importantly, design. 49 CFR Part 193 also prescribes the requirements for security at LNG facilities. The existing West Holyoke Facility features security gates, fencing and a state-of-the-art surveillance system and access is controlled to prevent entry by unauthorized people all of which meet or exceed the design and procedural requirements of 49 CFR Part 193 and NFPA 59A.

Safety: The West Holyoke Facility has operated safely for many years and its design and operation meets or exceeds all regulatory requirements. The addition of the proposed LNG tank and integration with existing systems would also be completed to meet or exceed all requirements. HG&E used the FEED Study for the proposed addition of storage capacity to review all current systems that are in full compliance with relevant codes and regulations. HG&E identified enhancements to its control gas system and an upgrade to its fire alarm control panel that would provide additional benefits. While not required, these enhancements provide

additional environmental and safety benefits to the West Holyoke Facility and the surrounding community and will be completed in coordination with the Project.

5.3.3 Satisfaction of Performance Standards

HG&E determined that the planned addition of a new LNG storage tank at the existing West Holyoke Facility will satisfy all applicable performance standards for new LNG equipment.

5.4 No Additional Sites Should be Reflected in Public Comment Notice

HG&E respectfully submits that any notice issued in this proceeding not include a requirement to provide notice of an alternative site or sites. This conclusion is largely dictated by the substantial superiority of the Project Site over any potential alternative site as described herein. The development of notice beyond the Project Site is not warranted because it could require the expenditure of significant funds to complete the steps associated with providing notice and the service of notice for sites not likely to be constructed would likely cause unnecessary concern to potential abutters and stakeholders adjacent to any such alternative site. At least one potential site is in a more densely populated area of Holyoke within Environmental Justice populations. The number of residents that might be concerned with respect to a potential project in their neighborhood that is extremely unlikely to be pursued suggests that including these sites in any notice is not in the public interest.

5.5 Conclusion: Site Selection Process

HG&E determined, based upon the application of sophisticated analytical techniques applying appropriate and reasonable criteria for identifying and evaluating sites, that the development of the Project at the existing West Holyoke Facility is, by far, the most favorable location with respect to minimization of environmental and landowner impacts as well as the least-cost site alternative, while also being superior to the alternative sites in terms of reliability of operations. The Project not only addresses reliability needs for existing customers but also delivers a solution that will contribute to the effective and strategic implementation of HG&E's plans and efforts toward a net zero future. HG&E's efforts to identify and evaluate alternative locations ensured that no clearly superior site has been omitted from consideration. Finally, the results of these analyses suggest that the inclusion of a "noticed" alternative site in this proceeding would be counterproductive and unnecessary.

6.0 Assessment of Potential Environmental Impacts and Mitigation Measures

6.1 Standard of Review

G.L. c. 164, § 69J requires the Siting Board to determine whether the petitioner has shown that the proposed facility minimizes costs and environmental impacts while ensuring a reliable energy supply. The Siting Board is required to determine: (1) whether environmental impacts have been minimized and; (2) whether an appropriate balance would be achieved among conflicting environmental impacts, cost and reliability. To make this determination, Section 69J requires the Siting Board to assess the proposed project's impact in the following areas: land use, water resources (including wetlands), air quality, solid waste, radiation and noise.

The Siting Board assesses any tradeoffs that need to be made among potentially conflicting environmental impacts, particularly where an option for mitigating one type of impact has the effect of increasing another type of impact. An assessment of all impacts of a project is necessary to determine whether an appropriate balance is achieved both among potentially conflicting environmental concerns and between environmental impacts and cost. A project proposal that achieves this balance meets the Siting Board's statutory requirement to minimize environmental impacts. This section provides information on existing environmental resources associated with the existing West Holyoke Facility site, potential impacts to these resources associated with the Project as well as the complementary improvement activities and avoidance and mitigation measures that have been incorporated into the Project design.

The Project and associated work involve minimal impacts given the previously disturbed and maintained nature of the site as well as the existing equipment and operations. The limited nature of impacts associated with the Project is confirmed in that the proposed work does not require any other permits or approvals; the review of the Siting Board is the only permit required. A number of design or mitigation measures will ensure that the West Holyoke Facility continues to operate in a manner that avoids or minimizes impacts.

6.2 Environmental Impacts and Mitigation

6.2.1 Wetland Resource Areas

6.2.1.1 Introduction

Wetlands and waterbodies are regulated as Waters of the United States (WOUS) under Section 401 and 404 of the Federal Clean Water Act (CWA). The U.S. Army Corps of Engineers (USACE) is the primary Federal agency responsible for regulating activities that may impact wetlands and waterbodies. The USACE has defined WOUS to include the following: traditional navigable waters (TNW) of the United States, wetlands, tributaries to navigable waters of the United States (including adjacent wetlands and

lakes and ponds) and interstate waters and their tributaries, including adjacent wetlands (Relatively Permanent Waters, RPWs). In addition, all other waters of the United States not identified above, such as isolated wetlands, intermittent streams and other waters that are not part of a tributary system to interstate waters or to TNWs of the United States are subject to the CWA where the use, degradation or destruction of these waters could affect interstate or foreign commerce. The Siting Board examines direct wetlands alteration, disturbance of wetland buffer zones or coastal wetland resource areas. Specifically, whether and if so, how much of the Project footprint or site access would be located in or result in direct temporary and/or permanent impact to wetlands.

The Massachusetts Wetlands Protection Act (WPA), G.L. c. 131 § 40, protects water-related lands such as wetlands, rivers and streams, floodplains, ponds, estuaries and others and establishes performance standards by which work is conducted in these resource areas. The implementation of the WPA wetlands regulations is delegated, in part, to local Conservation Commissions. Any proposed activity that will remove, fill, dredge, alter, or build upon a protected area or within 100 feet of a protected area (the Buffer Zone), requires the filing of a Notice of Intent. Many Massachusetts communities have local wetlands protection non-zoning bylaws or ordinances that give a municipality the authority to regulate activities in or near wetlands or waterbodies by imposing stronger protective measures than the state WPA. These local laws are administered and enforced by the local Conservation Commission. Each local bylaw or ordinance specifies wetland areas subject to protection and identifies proposed activities that require the filing of a Notice of Intent. Holyoke has a local wetlands protection ordinance with associated regulations.

6.2.1.2 Existing Conditions

For the Project, four parcels that total approximately 25.65 acres were evaluated for the presence of wetland resource areas subject to protection under the Wetlands Protection Act and the Holyoke Wetlands Protection Ordinance. All four parcels (Holyoke Assessor's Map References 182-00-04, 182-00-005, 182-00-007 and 188-00-005) are owned by HG&E and comprise the existing West Holyoke Facility site located within maintained upland areas that are bordered by upland temperate-deciduous forest. Dominant vegetation in the mowed areas and along the fence lines included lowbush blueberry (*Vaccinium angustifolium*), narrow-leaved plantain (*Plantago lanceolata*), red clover (*Trifolium pratense*), dandelion (*Taraxacum officinale*) and bluets (*Houstonia caerulea*). Dominant plant species within the surrounding forest include white pine (*Pinus strobus*), red oak (*Quercus rubra*), black oak (*Quercus nigra*), sugar maple (*Acer saccharinum*), quaking aspen (*Populus tremuloides*) and white birch (*Betula populoides*).

6.2.1.2.1 Desktop Wetland Analysis

Prior to initiating field surveys within the subject properties, HG&E conducted a desktop evaluation to determine the presence of federal, state and locally jurisdictional wetland resource areas. HG&E reviewed both the federal National Wetland Inventory mapping as well as the Massachusetts Department of Environmental Protection (MassDEP) geographic information system (GIS) wetland data

layers and did not identify any wetlands directly within or within 100 feet of the subject properties nor any perennial streams within 200 feet.

6.2.1.2.2 Field Delineation

On behalf of HG&E, wetland scientists conducted a field review of the subject properties on May 18, 2022 to identify and delineate any federal, state and/or locally jurisdictional wetland resource areas present within the West Holyoke Facility site. The field review was conducted in accordance with Section 404 of the federal Clean Water Act, the Massachusetts Wetlands Protection Act and the Holyoke Wetlands Protection Ordinance. The undisturbed areas of the properties did not contain a predominance (50% or more) of wetland indicator plant species nor were any hydric soils identified within the property through use of a hand auger. Based on these conditions, there are no federal, state or locally jurisdictional wetlands within the subject properties or within 100 feet of the site boundaries. In addition, no perennial streams were identified within 200 feet of the site boundaries.

6.2.1.3 Impacts and Mitigation

There are no wetland resource areas within the subject properties or designated workspace areas associated with the Project. Therefore, there will be no wetland impacts or mitigation requirements for the Project.

6.2.1.4 Compliance with Wetland Protection Regulations

There are no wetland resource areas within the subject properties or designated workspace areas associated with the Project. Therefore, none of the federal, state or local regulations pertaining to wetland protection are applicable to the Project.

6.2.2 Water Quality and Water Supply Protection

The Siting Board has historically based its determination regarding water supply upon a demonstration by the applicant of: (1) an agreement for, or documentation of, an adequate water supply for the operational needs of the project; (2) that the required water supply infrastructure exists or can be constructed with minimal environmental impacts; and (3) that historical and projected water withdrawals are within the permitted limits for the water supply source.

The Project will not have a substantial water demand and is not located proximate to any public water resources. Additionally, the existing West Holyoke Facility will continue to have extremely low process and sanitary water uses that will not be increased by the Project nor have material impacts on established water uses. The West Holyoke Facility will also continue to store minimal quantities of oils and other chemicals for process uses.

6.2.2.1 Water Supply Protection

Wellhead protection zones have been established for each public water supply well in the form of a MassDEP designated “Zone Is” and MassDEP designated interim “Zone IIs.” The radius of these zones is determined by the pumping rate of the individual wells and is generally between 100 and 400 feet for Zone I and up to one-half mile for Zone II. The Project is not located in a MassDEP Approved Zone I or Interim Wellhead Protection Area (Zone II) and it is not located in any locally mapped Groundwater Protection Districts.

6.2.2.2 Project Water Demand

6.2.2.2.1 Operational Demand

Incremental water demand for the Project will be negligible and consistent with existing conditions. The additional tank will not require any incremental water usage during operation. Water usage at the West Holyoke Facility will continue to be minimal and overall demand will remain consistent with current usage, namely limited to periodic use associated with the water-glycol heating system. This system, which will be updated with new equipment as a separate but complementary project, will continue to have an initial charge of water associated with a pre-mixed water-glycol solution to the system which will be periodically supplemented during operation of the heater. The total water-glycol system volume is expected to be less than or equal to approximately 2,600 gallons with only limited water requirements to maintain system levels as needed. Additional water demand for fire protection is not required, as the existing fire suppression system is sufficient to cover the Project. Water needs for the existing West Holyoke Facility currently is and will continue to be supplied from an existing private well located within the site to the south of the existing control building. No new water-related infrastructure is required within the site in connection with the addition of the LNG storage tank to meet the West Holyoke Facility’s water demand with the Project.

6.2.2.2.2 Potable Water Demand

Potable water service for the existing West Holyoke Facility is currently provided by the private potable water well as previously described. The Project will not require any additional potable water demand during construction or in connection with the operation of the new LNG storage tank.

6.2.2.3 Project Wastewater Generation

The Project does not include the addition of any sanitary facilities and will not generate any new or incremental wastewater. Wastewater generated by the sanitary facilities within the existing West Holyoke Facility’s control building is discharged directly to a private, on-site wastewater disposal (septic) system. Stormwater discharges associated with the Project will continue to be kept separate and will not be discharged to the sanitary sewer system.

6.2.2.4 Project Chemical Storage and Containment

The West Holyoke Facility currently contains four LNG tanks each with a 55,000-gallon capacity. The tanks are currently situated within a LNG spill containment system. The Project involves the addition of a fifth LNG storage tank with a 70,000-gallon capacity. The new LNG storage tank will be installed within a new, independent spill impoundment “dike” system to contain any spills from the tank or associated piping in accordance with Siting Board and federal LNG specific regulations. As currently performed, any such unlikely discharges will continue to be identified by the operations personnel through frequent inspections of the equipment. HG&E anticipates some limited storage of oil will continue consistent with established practices after the added tank is complete. Oil will continue to be stored in drums or totes that will be located within a building and placed on plastic containment pallets. HG&E will prepare a Spill Prevention Control and Countermeasure (SPCC) plan (or update its existing plan) in conformance with applicable regulations in connection with its final design for the new proposed tank. Based on the above, no releases of hazardous materials to the environment are anticipated in association with the proposed construction and operation of the Project.

During construction, if the total volume of oil (including motor lubricants, greases, gasoline, diesel and other petroleum products) stored at the site exceeds applicable thresholds, the contractor will adhere to the provisions of the SPCC plan. The following general procedures shall be followed during the use and storage of oils on-site for construction.

- Containers shall be in good shape without significant rusting, pitting, or other evidence of deterioration or damage.
- Berms and/or other barriers shall be used to protect stored fuel and oil containers from damage due to construction activities.
- Adequate secondary containment shall be provided for all containers.
- Containers of fuel and oil shall be located on level and stable ground and not in close proximity to storm sewer inlets.
- Site lighting shall be sufficient to discover discharges occurring during the hours of darkness and to prevent discharges from occurring through acts of vandalism.
- Fuel and oil bulk delivery and transfer procedures shall be in accordance with state and federal fuel transfer procedures and a written standard operating procedure.
- No temporary piping shall be used to transfer oil or fuel, only approved hose or dispenser shall be allowed.
- Tanks shall be equipped with overfill prevention equipment consisting of either a high liquid level alarm or high liquid level flow cutoff device set at 95% of the primary tank volume.
- Tank openings shall be securely capped and locked when not in use.
- A spill kit with sufficient sorbent, booms and other cleanup materials shall be located in close proximity to the Project Site during construction.
- Inspections shall be conducted to inspect containers of fuel and oil that are 55 gallons or greater in size for signs of damage, deterioration and oil discharges at least monthly.
- Fuel delivery operations shall adhere to local, federal and MassDOT regulations for the transfer of fuel.

- Any equipment fueling operations shall be conducted during daylight hours or lighting shall be provided.
- All spills shall be cleaned up immediately and reported within eight hours to HG&E. Spills greater than 25 gallons shall be reported immediately to the HG&E, MassDEP and the EPA.

6.2.2.5 Construction Considerations

Project construction will have no long-term impact on drainage or water quality. Dewatering may be necessary in areas where groundwater is encountered or at times when excavated areas are affected by storm water. Based on the geotechnical subsurface investigation performed at the West Holyoke Facility site and the anticipated bottom of foundation elevations, groundwater is not expected to be encountered during construction (See Appendix K).

Should it be necessary, dewatering procedures will include the following:

- Hose intakes will be elevated off the bottom of the excavation to prevent sediment intake;
- Secondary containment of pumps will be used to avoid fuel and contaminants from discharging to the ground; and
- Dewatering locations will be approved by the construction site manager.

An SPCC plan will be implemented by the contractor during construction activities for the Project. The SPCC plan is to ensure that hazardous materials are managed in accordance with federal, state and local regulations. The SPCC plan will provide procedures to prevent hazardous releases (e.g., oil and hydraulic fluid spills or leaks) from occurring and to perform a safe, efficient and timely response in the event of a spill during construction. HG&E has incorporated procedures for refueling construction equipment to ensure proper safety and spill prevention.

6.2.2.6 Conclusions

The Project is expected to and will be designed to have no adverse effect on water resources. The West Holyoke Facility will continue to require minimal water use during operation, does not require any new volumes of potable water and does not generate any wastewater. The existing well within the property has sufficient capacity to supply the West Holyoke Facility's water needs after completion of the Project. The new LNG storage tank associated with the Project has been sited within an LNG spill containment "dike" area with concrete berms which will be separate and independent from the containment system associated with the existing LNG storage tanks and will be sufficient to hold any liquids that may be released from the new LNG storage tank.

6.2.3 Floodplain

The FEMA National Flood Hazard Layer was examined for the presence of regulated floodplains and floodways in the West Holyoke Facility site. No such regulated areas are present within ¼-mile of the

existing facility site or proposed workspace areas. Therefore, the Project will have no adverse effect on designated floodplain areas.

6.2.4 Stormwater Management

The Siting Board examines whether an applicant has a comprehensive plan for minimizing impacts resulting from stormwater-related discharges, i.e., runoff resulting from rainfall events and snow melt. Stormwater runoff impacts at the West Holyoke Facility site will be minimized by the Project, consistent with incorporation of the applicable standards of the MassDEP Stormwater Policy. Steps to minimize impacts include ensuring that the post-development stormwater discharge rate is at or below the pre-development rate, ensuring the annual groundwater recharge will approximate the existing site conditions, controlling suspended solids and eliminating the exposure of chemical and oil-containing materials to stormwater.

6.2.4.1 MassDEP Stormwater Management Standards

MassDEP has issued the Massachusetts Stormwater Handbook, as well as Stormwater Management Standards pursuant to the Wetlands Protection Act, G.L. c. 131 § 40 and the Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, to promote increased stormwater recharge, the treatment of more runoff from polluting land uses, low impact development techniques, pollution prevention, the removal of illicit discharges to stormwater management systems and improved operation and maintenance of stormwater Best Management Practices (BMPs).

The Project is estimated to disturb approximately 31,000 square feet (0.71-acres) which is under the one-acre threshold of new land disturbance and, therefore, does not require a USEPA Construction General Permit (CGP) for Stormwater Discharges from Construction Sites. Regardless, the Project will comply with the Massachusetts Stormwater Standards. The effect of redirected stormwater was analyzed and is presented in the Stormwater Management Report included as Appendix J. The goal of stormwater design is to limit the predicted, peak-post-development flow leaving the site to levels that are equal to or less than the predicted, peak-pre-development flow. The stormwater management solution for this Project was designed to meet or exceed requirements set forth in the Massachusetts Stormwater Handbook BMPs and the MassDEP's Stormwater Management Standards.

An infiltration basin with inflows from the new LNG storage tank's spill impoundment "dike" system basin sump pump was designed to incorporate two BMPs. The first BMP is an oil grit separator to prevent fines ingress to the basin. Second, a sediment forebay is also implemented as a final pre-treatment for stormwater before it enters the infiltration basin. Models of this system were executed using HydroCAD and indicated that the predicted, peak post-development flows are less than the predicted pre-development flows for the 2-year, 10-year and 100-year, 24-hour storm events at the discharge locations. In sum, the Project has been designed in compliance with the performance standards of the MassDEP Stormwater Management Policy and will not result in any increases in

stormwater rate or runoff within the site. No stormwater-related approvals or reviews are required in connection with the Project.

6.2.4.2 Construction Considerations

HG&E's objective is to minimize the potential for erosion and sedimentation impact during construction and to effectively restore any disturbed areas. HG&E will meet these objectives by implementing standard and appropriate erosion and sediment control measures. In general, the measures are designed to minimize erosion and sedimentation by:

- Minimizing the quantity and duration of soil exposure;
- Protecting areas of critical concern during construction by redirecting and reducing the velocity of runoff;
- Installing and maintaining erosion and sediment control measures during construction;
- Stabilizing exposed areas where required as soon as possible following construction; and
- Inspecting the construction route and maintaining erosion and sediment controls as necessary until final stabilization is achieved.

It will be the responsibility of the contractor to implement and maintain erosion and sediment control measures during construction as required by local and state regulations.

6.2.5 Solid and Hazardous Waste

6.2.5.1 Phase I Environmental Site Assessment

HG&E completed an ASTM Phase I Environmental Site Assessment (ESA) of the West Holyoke Facility site in general conformance with the scope and limitations of ASTM Standards E1527-13. The purpose of the Phase I ESA was to:

- Identify: 1) recognized environmental conditions (RECs), defined by ASTM as the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; 2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or 3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.
- Identify historical RECs (HRECs), defined by ASTM as a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations).
- Identify controlled RECs (CRECs), defined by ASTM as a recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or

- petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations). Identify de minimis conditions, defined by ASTM as a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a de minimis condition is not an REC nor a CREC.

The following findings were made regarding features, activities, uses and conditions that may indicate the presence or likely presence of hazardous substances or petroleum products at or within close proximity to the Project Site.

Recognized Environmental Conditions (RECs)

Based on the evaluation of current Project Site conditions and review of available property records, no RECs, defined as evidence of past, current, or future potential releases of oil and hazardous material (OHM) were identified in the Project Site. While the West Holyoke Facility site was previously used as propane-air facility and currently has four LNG storage tanks and associated equipment (including a vaporizer and boilers), propane and LNG are not a defined hazardous substance pursuant to CERCLA 42 U.S.C. Section 9601(14). Therefore, the prior use of the West Holyoke Facility site as a propane-air facility and the current use as an LNG facility are not considered a REC per ASTM Standards E1527-13 and E1527-21.

Historic Recognized Environmental Conditions

No HRECs, defined as evidence of a past release of OHM that has achieved regulatory closure without the use of required controls or conditions (e.g., Activity and Use Limitations [AULs], engineering controls etc.) were identified in the Project area or the existing West Holyoke Facility site.

Controlled Recognized Environmental Conditions

No CRECs, defined as a past release of OHM that has achieved regulatory closure with the use of required controls or conditions (e.g., AULs, engineering controls, etc.) were identified in the Project area or the existing West Holyoke Facility site.

De Minimis Conditions

A de minimis condition is defined by ASTM as a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a de minimis condition is not an REC nor a CREC. GEI did not identify any de minimis conditions in the Project area or at the West Holyoke Facility site.

Based on these findings, it was determined that a Phase II ESA is not warranted for the Project.

6.2.5.2 Construction and Operation

Any wastes generated during demolition, site preparation, construction and operation of the Project or the complementary enhancement work will be transported offsite in accordance with local, state and federal guidelines and regulations. There will be limited waste generated with the Project. During Project construction, equipment and other materials such as brick or concrete will be removed. HG&E will implement measures to minimize the generation of solid and other waste and will encourage recycling of debris to the extent possible. As necessary, separate containers will be provided for recyclable materials that will be picked up by a recycling contractor or the solid waste disposal contractor for proper processing and recycling. Any non-recyclable solid wastes will be transported to a licensed solid waste landfill. During operation of the new LNG storage tank, solid or hazardous waste streams are not expected to be generated on a regular basis, as is currently the case at the West Holyoke Facility.

6.2.6 Rare and Endangered Species

6.2.6.1 Federal

According to the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation website, two threatened species may be present within the Project area: the northern long-eared bat (NLEB) (*Myotis septentrionalis*) and monarch butterfly (*Danaus plexippus*). The Project is located within a White-Nose Syndrome Zone per Final 4(d) Rule;¹ however, the existing West Holyoke Facility site is disturbed and does not contain any known NLEB hibernaculum or suitable monarch butterfly habitat. The Project will not require tree clearing, therefore additional consultation with USFWS regarding federally listed rare species or migratory birds is not required.

6.2.6.2 State

In Massachusetts, the Natural Heritage and Endangered Species Program (NHESP) inventories estimated habitats of rare wildlife (EH) and priority habitats of rare species (PH). The EH are protected under the Massachusetts Wetlands Protection Act (G.L. c. 131, § 40), which identifies habitat areas of rare wetland wildlife species. The PH are based on the known geographical extent of habitat for State listed rare species of plants and animals and are protected under the Massachusetts Endangered Species Act. Review of the EH and PH data layers identified an area of Priority / Estimated Habitat (PH 1178) that extends across the eastern portion of lot 182-00-007. This lot is not currently within the boundaries of the workspace associated with the Project, therefore, no impacts to state-listed rare species are anticipated.

In June 2022, HG&E initiated consultation with NHESP through submittal of a Rare Species Information Form to determine the specific species present within the mapped habitat. On July 18, 2022, NHESP

¹ U.S. Counties within 150 miles of positive counties/districts (data as of 6/30/2017).

provided a formal response indicating that the species present is a 'Data Sensitive Species' and 'highly susceptible to collection' and therefore cannot be released without a release being agreed to in writing by NHESP (see Figure 6-1). However, since no work associated with the Project is proposed directly within the mapped habitat, no additional consultation with NHESP is required.

6.2.6.3 Vernal Pools

The NHESP has a certification program for vernal pools which affords them protection under the WPA should they occur within a Bordering Vegetated Wetland. Vernal pools are depressional aquatic resource basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent materials. Pools usually support one or more indicator species, including wood frog (*Rana sylvatica*), spotted salamander (*Ambystoma maculatum*), blue-spotted salamander (*Ambystoma laterale*), marbled salamander (*Ambystoma opacum*), Jefferson's salamander (*Ambystoma jeffersonianum*) and fairy shrimp (*Eubranchipus spp.*); however, they should preclude sustainable populations of predatory fish. The certification process requires documentation of breeding activity by one or more of the species (by egg masses or tadpoles/larvae) during the early growing season.

No certified vernal pools or potential vernal pools as mapped by NHESP are located within or immediately adjacent to the Project area or West Holyoke Facility site.

6.2.7 Topography, Geology and Soils

The West Holyoke Facility site has been previously disturbed through the development and continuing operation of the existing LNG facility. Past site preparation associated with development has created a level surface across the site, so there is little to no topographic variation within the Project area. The ground surface within the existing West Holyoke Facility is relatively level with existing ground surface elevations ranging from approximately elevation (El.) 277 to 279 feet based on an Existing Conditions Survey prepared by WSP USA, Inc., dated May 25, 2022. Minimal surface disturbance or grading is required for the Project and these will not result in significant topographic changes.

According to published geologic mapping titled "Surficial Materials Map of the Mount Tom Quadrangle, Massachusetts (1:24,000 scale)" by Janet R. Stone and Mary L. DiGiacomo-Cohen, 2018 and "Bedrock Geologic Map of Massachusetts (1:250,000 scale)" (Goldsmith, et al., 1983), the subsurface materials at the West Holyoke Facility site are mapped as coarse deposits over sedimentary bedrock. The coarse deposits are generally described as poorly to well-graded sand and gravel of varying proportions and is underlain by sedimentary bedrock described as reddish-brown to pale red arkosic sandstone and siltstone, gray sandstone, gray mudstone and black shale.

The soil survey for Hampden County was reviewed to identify the soil types present within the Project area and none of the soil units were deemed hydric (i.e., wetland soils). The main soil type underlying the West Holyoke Facility site is 253A: Hinckley loamy sand, 0 to 3 percent slopes, which is a deep, excessively

drained soil formed in glaciofluvial material, with an average depth of 60 inches to the water table. The soil type was confirmed through subsurface investigations completed within the West Holyoke Facility site (see Appendix K). Based on the soil conditions within the site, HG&E does not anticipate any concerns associated with soil limitations (shallow depth to bedrock, shallow groundwater, etc.) that could adversely affect the construction or operation of the Project.

6.3 Human / Community Impacts and Mitigation

6.3.1 Air Quality and Health

6.3.1.1 Applicable Regulatory Requirements

A new 70,000-gallon aboveground LNG storage tank will be added to a set of four existing 55,000-gallon aboveground LNG storage tanks. Safety Data Sheets for LNG indicate that methane and ethane are its primary components, with any other components being present at approximately 1% by volume. 310 CMR 7.01 excludes methane and ethane from the definition of Volatile Organic Compound (VOC). LNG storage tank contents are stored at very low temperature and correspondingly low vapor pressure. As a consequence, it would not be feasible for the tank to emit one ton of VOC per year. The planned, additional LNG storage tank is therefore exempt from air permitting under the “de-minimis” condition of 310 CMR 7.02(2), as with the existing four LNG storage tanks.

Similarly, the planned, additional LNG storage tank is exempt from 40 CFR Subpart Kb, “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984”. This regulation applies to storage tanks with a capacity over 151 m³ (39,890 gallons) that store Volatile Organic Liquids (VOLs) with a maximum true vapor pressure over 3.5 kPa. LNG is not subject to Subpart Kb since methane and ethane are also excluded from the definition of “Volatile Organic Liquid.”

The Project will only generate temporary construction-related emissions. There will be no new emissions associated with the regular operation of the new LNG storage tank. Therefore, modeling and testing for pollutants is not required.

6.3.1.2 Air Emissions/Quality Mitigation Measures During Construction

Construction – Fugitive Dust and Odor

To minimize the potential for airborne dust from earth disturbing activities, HG&E will require its contractors to place water trucks with misters in or near the work areas during construction activities and utilize them as appropriate when conditions require. In addition, if it is necessary to stockpile excavated soil on the site, it will be covered with plastic sheeting or a similar barrier to minimize the potential for the release of dust or for soil migration from the work area. There also will be installation of anti-tracking pads at construction entrances and regular sweeping of the pavement of adjacent

roadway surfaces during the construction period to minimize the potential for construction traffic to generate dust and particulate matter.

Construction – Engine Emissions

Consistent with MassDEP air quality regulations (310 CMR 7) and best industry practices including the Clean Air Construction Initiative, fuel-powered construction equipment will be managed as follows:

- All contractors shall use ultra-low-sulfur diesel (ULSD) fuel in diesel-powered non-road vehicles. ULSD has a maximum sulfur content of 15 parts per million compared to 500 parts per million for low-sulfur diesel fuel (a 97 percent reduction).
- All non-road engines used on the construction site shall meet the applicable non-road engine standard limitations per 40 CFR 1039, Appendix I (formerly 40 CFR 89.112).
- All contractors shall utilize the best available technology for reducing the emission of PM and NO_x for diesel-powered non-road vehicles. To minimize air emissions from equipment operation, HG&E will direct its contractors to retrofit any diesel-powered, non-road construction equipment rated 50 horsepower or above, whose engine is not certified to United States Environmental Protection Agency (USEPA) Tier 4 standards and that will be used for 30 days or more over the course of the Project, with USEPA-verified (or equivalent) emission control devices (e.g., oxidation catalysts or other comparable technologies).
- All diesel-powered, non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of project construction shall have EPA-verified (or equivalent) emission control devices, such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) installed on the exhaust system side of the diesel combustion engine.
- All contractors shall turn off diesel combustion engines on construction equipment not in active use and on dump trucks that are idling while waiting to load or unload material for five minutes or more.
- All contractors shall establish a staging zone for trucks that are waiting to load or unload material at the work zone in a location where diesel emissions from the trucks will not be noticeable to the public.
- All contractors shall locate construction equipment away from sensitive receptors such as residents and passersby, fresh air intakes to buildings, air conditioners and windows.

To minimize the potential for airborne dust from earth disturbing activities, HG&E will require its contractors to place water trucks with misters in or near the work areas during construction activities and utilize them as appropriate. In addition, excavated soils will be stockpiled and covered with plastic sheeting or similar barrier to minimize the potential for the release of dust and for soil migration from the work area. There also will be installation of antitracking pads and regular sweeping of the pavement of the West Holyoke Facility driveway and Mueller Road during the construction period to minimize the potential for construction traffic to generate dust and particulate matter.

6.3.2 Noise Impacts and Sound Mitigation Measures

Operational sound from Project equipment will continue to comply with MassDEP standards at all residential receptors. The additional LNG storage tank will not emit any noise during regular operation. Therefore, the only potential Project-related noise impacts will be temporary and associated with construction. HG&E has incorporated measures into the Project design and implementation to ensure that construction-related noise is minimized such that it will not affect adjacent property owners.

6.3.2.1 Regulatory Requirements

Federal Noise Guidelines

The EPA identifies safe levels of environmental noise exposure in a document intended to “provide State and Local governments as well as the Federal Government and the private sector with an informational point of departure for the purpose of decision making.”² While the EPA has no regulation governing environmental noise, the agency has conducted several extensive studies to identify the effects of sound level on public health and welfare. This publication remains the authoritative study based on a large sampling of community reaction to noise. The EPA sound level guidelines do not provide an absolute measure of noise impact, but rather a consensus on potential activity interference, human health and welfare effects and annoyance. Since these protective levels were derived without concern for technical or economic feasibility and contain a margin of safety to ensure their protective value, they should not be viewed as standards, criteria, regulations, or goals. Rather, EPA has stated that they should be viewed as levels below which there is no reason to suspect that the general population will be at risk from any of the identified effects of noise.³

The EPA recommends that sound levels outdoors in *residential* areas and in other places in which quiet is a basis for use, not exceed a day-night sound level (L_{dn}) of 55 dBA to “protect the public health and welfare with an adequate margin of safety,” the standard set out in the Noise Control Act of 1972.⁴ The EPA also suggests an L_{eq} of 70 dBA (24-hour) limit to avoid adverse effects on public health and safety at publicly accessible property lines or extents of work areas where extended public exposure is possible.⁵ These levels are identified as desirable to protect against speech interference and sleep disturbance for residential, educational and healthcare areas.

As set forth below, the existing West Holyoke Facility meets and will continue to meet all requirements of the EPA noise guidelines subsequent to completion of the Project.

² U.S. EPA, Information on Levels of Environmental Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, Document EPA-550/9-74-004, March, 1974. (“Document EPA-550/9-74-004”)

³ Document EPA-550/9-74-004, at 4.

⁴ *Id.*, Noise Control Act of 1972, 42 USC 4904(a)(2).

⁵ That is, to protect against hearing damage, one’s 24-hour noise exposure should not exceed 70 dBA.

Massachusetts State Regulations

The MassDEP regulates noise under its Air Pollution Control regulations. In these regulations, an “air contaminant” is defined to include sound and a condition of “air pollution” includes the presence of an air contaminant in such concentration and duration as to “cause a nuisance” or “unreasonably interfere with the comfortable enjoyment of life and property.” (310 CMR 7.00)

MassDEP’s regulations at 310 CMR 7.10 prohibit “unnecessary emissions” of noise. MassDEP Division of Air Quality Control (DAQC) Policy Statement 90-001 (February 1, 1990) (MassDEP Noise Policy) interprets a violation of this noise regulation to have occurred if the source causes either:

- 1) An increase in the broadband sound pressure level of more than 10 dBA above the ambient; or
- 2) A “pure tone” condition.

“Ambient” is defined as the background A-weighted sound level that is exceeded 90% of the time, measured during equipment operating hours (L_{90}). A “pure tone” condition occurs when any octave band sound pressure level exceeds both of the two adjacent octave band sound pressure levels by 3 dB or more.

These noise limits are MassDEP policy and are applicable both at the property line and at the nearest residences. As a policy and not regulation, the MassDEP has waived these limits in certain cases at property line locations where the adjacent land uses are not considered noise sensitive, such as an adjacent industrial parcel.

The new LNG storage tank will not emit sound during regular operations and is fully compliant with applicable state regulations regarding noise.

Holyoke Noise Requirements

The Holyoke Code of Ordinances (Supplement 38 – July 12, 2022), Chapter 38, Article III regulates noise at the local level. Section 38-73 is a general prohibition on nuisance noise within the city. Section 38-72(a) prohibits “unreasonable” or “excessive” and states “Subject to the provisions of this article, the creation of any unreasonably loud, disturbing and unnecessary noise is prohibited. Noise of such character, intensity and duration as to be detrimental to the life or health of any individual or contrary to the public welfare is prohibited.”

Section 38-73(a)(4) applies to construction, demolition or excavation and states the following:

The erection, including excavating, demolition, alteration or repair, of any building further than between 7:00 a.m. and 6:00 p.m. on weekdays, except in case of an urgent necessity in the interest of public safety and then only with a permit from the board of public works, which permit may be renewed for a period of three days or less while the emergency continues.

HG&E has committed to complying with Section 38-73(a)(4) during construction of the Project.

6.3.2.2 Construction Considerations

Though increased community sound levels are an inherent consequence of construction activities, every reasonable effort will be made to minimize noise impacts during Project construction. Table 6.3-1 provides typical construction equipment noise levels.

Table 6.3-1 Typical Construction Equipment Sound Levels (CA/T Equipment Noise Emissions and Acoustical Usage Factors Database a,b)			
Equipment Description	Lmax at 50 ft, dBA, slow	Impact Device?^c	Acoustic Use Factor^d
All other equipment > 5 HP	85	No	50%
Backhoe	80	No	40%
Compactor (ground)	80	No	20%
Compressor (air)	80	No	40%
Drum Mixer	80	No	50%
Dump Truck	84	No	40%
Excavator	85	No	40%
Flat Bed Truck	84	No	40%
Front End Loader	80	No	40 %
Generator	82	No	50 %
Generator (<25 KVA, VMS signs)	70	No	50 %
Grader	85	No	40 %
Man Lift	85	No	20 %

Construction noise mitigation measures are expected to include:

- Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- Replacing specific construction operations and techniques with less noisy ones, where feasible;
- Selecting the quietest equipment alternatives, where feasible;
- Scheduling construction activities during daylight hours;
- Turning off idling equipment; and
- Locating noisy equipment at locations that protect sensitive locations through shielding or distance.

6.3.2.3 Sound Mitigation Measures

There are no new sound generating sources associated with the Project. Therefore, the Project complies with all applicable noise regulations and performance standards and no sound mitigation measures are required.

6.3.3 Traffic Management

6.3.3.1 Traffic Impact During Construction

Construction is estimated to last 31 weeks during the spring, summer and fall months. Table 6.3-2 summarizes the approximate frequency and vehicle types expected to support the Project.

Table 6.3-2 Traffic and Frequency Expected During Construction	
Approximate Frequency	Description
Daily	Civilian and work vehicles to transport workers, tooling and small supplies.
Bi-Weekly	Transport trailers to deliver and pick up specialized equipment including but not limited to excavation equipment.
Weekly	Transport trailers and delivery trucks to deliver materials including but not limited to: piping; rebar; and structural steel.
High frequency during foundation construction	Special bulk materials transport and delivery trucks including but not limited to cement trucks.
Single Delivery	Special delivery truck for 110'-6" long LNG storage tank.
Single Delivery	Cranes for pick/place of materials and large equipment.
Single Delivery	Nitrogen truck(s) (commissioning phase only).
High frequency towards end of construction	Dump trucks to support excavation and extract net cuts (1,300 yards estimated). While there may be opportunities to locate cuts at the West Holyoke Facility site, it is assumed the net cut is transported off site.
High frequency towards end of construction	Traffic due to commissioning is likely to consist mostly of civilian and work vehicles with exception of tank cooldown efforts which may require a bulk nitrogen truck.

Route planning for delivery of the LNG storage tank will be completed after the Project approval and purchase of the tank; however, it is anticipated that the tank will be delivered to the West Holyoke Facility site using the interstate highway system (namely Routes I-90 and I-91 in Massachusetts), State Route 202 and then a short distance on the Holyoke streets of Apremont Highway and Mueller Road.

Construction personnel parking is anticipated to be established either in a designated area at the West Holyoke Facility site with access/egress via Mueller Road or at a remote location where workers can be shuttled to the site. Any remote parking areas and/or contractor staging/laydown areas will be located within previously developed and disturbed areas in proximity to the West Holyoke Facility site.

6.3.3.2 Traffic Impact During Operation

Approximately 100 LNG trucks transit into and out of the West Holyoke Facility per year (0.27 trips per day) to offload LNG to support the existing West Holyoke Facility operation and customer demand. After the construction of the Project, a modest increase of tanker truck deliveries is expected in the summer months (approximately seven additional truck deliveries) for filling of the LNG storage tanks prior to the winter season. A slight decrease in truck deliveries (approximately five less truck deliveries) is expected during the winter dependent on weather, customer demand and pipeline supply availability. Over the next ten years, a gradual increase in the total annual LNG deliveries is estimated to increase by 0.08 trips per day. Following this peak, LNG deliveries are expected to gradually decrease back to current levels and even lower as HG&E implements its Clean Energy Commitment (see Appendix G). Thus, during the continuing operation of the West Holyoke Facility with the additional LNG storage tank, there will be a negligible change in the peak daily and hourly LNG truck traffic to and from the West Holyoke Facility.

6.3.3.3 Conclusions

Traffic impacts due to construction and operation of the Project will be minimal and consistent with existing operations. No delays to local traffic should be experienced except possibly for the one-time delivery of the new LNG storage tank or where the LNG trucks may need to travel on local roadways, or when there is an occasional oversized vehicle. In these scenarios, HG&E will work with the City to manage any occasional, unexpected local traffic impacts as necessary and appropriate.

6.3.4 Historic and Archaeological Resources

Review of potential Project related impacts on historic properties and cultural resources pursuant to Section 106 of the National Historic Preservation Act is coordinated at the state level by the Massachusetts Historical Commission (MHC). HG&E completed a cultural resource sensitivity assessment and due diligence to identify historic architectural properties and archaeological sites on and in the vicinity of the West Holyoke Facility site. Properties were identified through a search of the MHC Inventory of the Historic and Archaeological Assets of the Commonwealth. The entire West Holyoke Facility site has been previously disturbed through the construction and operation of the existing facility; therefore, the potential presence of subsurface cultural resources is low and does not warrant

additional investigation. In summary, this assessment concluded that there are no historic or archaeological resources on the West Holyoke Facility site and the site has “limited” archaeological sensitivity. To confirm this determination, HG&E initiated formal consultation with MHC through the submission of a Project Notification Form (PNF). The MHC response is pending.

6.3.5 Socioeconomics

The socioeconomics of the area are conducive to this Project. The area includes a variety of land uses, including residential, utility and agricultural. The Project will not place a strain on City services or local police and fire departments since the installation of the new LNG storage tank will not substantially change the existing operations of the West Holyoke Facility. The West Holyoke Facility will remain consistent with state and regional planning documents. The Project will facilitate the provision of socioeconomic and environmental benefits to Holyoke and surrounding municipalities including contributing to energy requirements and improving the supply of natural gas.

6.3.5.1 Regional Land Use

Holyoke contains a mixture of urban, suburban and rural areas. The urban portions of the City, located along the Interstate 91 corridor contain commercial and industrial land uses as well as high-density residential development. Further west of the interstate, the land use quickly transitions to single-family residential development interspersed with undeveloped land and agricultural land. These land uses are predominant within the area of the West Holyoke Facility site.

6.3.5.2 Current Site Conditions and Zoning

The West Holyoke Facility site is located within Holyoke, Hampden County, Massachusetts. The site is located at 91 Mueller Road as shown on Figure 1-1. According to Holyoke Assessor’s office, the West Holyoke Facility site address consists of two parcels (182-00-004 and 182-00-005) with a combined area of approximately 18.82 acres. The proposed Project will be located within the existing fenced West Holyoke Facility spanning both parcels with an overall area of approximately 4.5 acres. The West Holyoke Facility is bordered by solar fields to the north and west, an undeveloped wooded area and a few residential parcels to the east and several residential parcels to the south.

The West Holyoke Facility site is zoned as Agriculture and Single-Family Residence (RA). HG&E is a municipal entity and municipal facilities are allowed uses within a RA zone. General performance standards for this type of facility require screening with plants or other suitable materials to minimize potential visual impacts from adjoining properties or adjacent streets. The existing West Holyoke Facility screening, especially from Mueller Road, is anticipated to fulfill these requirements. The West Holyoke Facility was obtained by the City and designated for use by HG&E as an LNG facility. No additional zoning approval is required for the Project.

6.3.5.3 Consistency with State and Regional Planning Documents

Massachusetts Executive Order 385

The Project is consistent with Executive Order 385, “Planning for Growth” (E.O. 385), which expressly seeks to promote sustainable economic development in the Commonwealth. The proposed Project will clearly meet the dual objectives of EO 385 of promoting economic activity that is supported by adequate infrastructure and which does not result in avoidable loss of environmental quality and resources. The proposed Project already has adequate infrastructure to support it. The proposed Project is located within the existing fenced, disturbed West Holyoke Facility site. The Project will not affect any rare species habitat or wetlands and has been designed in accordance with industry standards to ensure minimization of potential air and noise impacts. The Project will also promote strategic economic development by providing additional peak volumes of natural gas necessary to support residential, commercial and industrial development within the City and region when cost-effective viable energy alternatives are not available. See Section 7.0 for additional information regarding potential economic growth opportunities associated with the Project.

Pioneer Valley Planning Commission

The Project is consistent with the Pioneer Valley Planning Commission’s (PVPC) Plan for Progress as well as its Climate Action and Clean Energy Plan. Part of the PVPC’s regional economic strategies is to increase use of clean energy to reduce business costs and improve the environment. An action step identified by PVPC for this strategy is ‘While steadily increasing the generation of affordable clean energy, at the same time take steps to increase the supply of natural gas that can keep energy costs affordable to businesses and institutions throughout the Pioneer Valley.’ This action step dovetails well with HG&E’s Clean Energy Commitment. See Appendix G.

HG&E has achieved incredible GHG emission reductions over the last 30 years and is committed to continue down a path towards a sustainable future. To achieve net zero emissions by 2050, per the state target outlined in 2020, the community, state and country will need to make significant strides in energy, transportation, building design and all other aspects of this transition. At the very heart of this conversation, HG&E will work closely with the community and focus on the mission to provide customers with competitive rates, innovative and sustainable energy solutions, reliable service and excellent customer care. The Project helps to meet the current demand for natural gas in the region to keep energy costs affordable while simultaneously upgrading its existing electric system in anticipation of further electrification of the building and transportation sector over the next 15 to 20 years.

6.3.5.4 Existing Socioeconomics

Originally settled in 1655 and incorporated as a City in 1873 with an area of 22.8 square miles, Holyoke is located in Hampden County, approximately five miles north of Springfield. It is bordered by the Towns

of Southampton, Westfield, Easthampton, Hadley, Chicopee and West Springfield. According to the US Census Bureau, Holyoke's 2021 population was 37,929, a decrease of approximately 5 percent since 2010. According to the 2010 Census, there are 15,464 housing units in the City and the median value between 2016 and 2020 was \$197,700. Median household family income between 2016 and 2020 was \$42,537, with the majority of residents employed in manufacturing, technology, professional and related occupations (the state-wide median income at the time was \$64,994). Town land uses are generally a mix of residential, commercial, agriculture and open space.

6.3.5.5 City Government

Holyoke's local government is led by a Mayor and a City Council. The majority of the City's budget revenue is obtained through property taxes, with approximately 75 percent of those property taxes are from residential properties. The Project represents an opportunity to improve its energy infrastructure and promote additional residential and commercial development within the City which would, in turn, improve the municipal tax base.

6.3.5.6 Environmental Justice Policy

There are no mapped Environmental Justice populations within one mile of the West Holyoke Facility site. There are several mapped areas of Environmental Justice populations to the east and south of the property in Holyoke, Chicopee, West Springfield and Westfield, Massachusetts that are within five miles of the site, however, the Project does not impact air quality or have other environmental impacts that would disproportionately affect these populations. The Project does not qualify for MEPA's enhanced public involvement protocols or enhanced analysis of potential project impacts on environmental justice populations. The closest mapped Environmental Justice population is on the west side of Old Stage Road in Westfield and is approximately 1.1 miles from the West Holyoke Facility site. This Environmental Justice population is based on income where at least 25% of households have a median household income 65% or less than the state median household income. The project falls well outside of any Environmental Justice populations in Holyoke, but HG&E's standard is to engage and communicate with the entire community in order to be inclusive and transparent as it relates to ongoing energy projects. Twenty-nine of Holyoke's thirty-seven block groups are considered Environmental Justice populations by the Commonwealth. These block groups have been designated as Environmental Justice populations based on all three factors the state considers: income, English language isolation (no one older than 14 speaks English well in the home) and minority. Over the last few months, the Project has been well communicated in Spanish and English throughout the community. See Appendix A; see also Section 7.0.

6.3.5.7 Community and Economic Benefits

The Project will result in important benefits for the Commonwealth, Western Massachusetts and Holyoke. There are four categories of socioeconomic benefits derived from the Project:

- Maintenance of safe and reliable, cost-effective service to existing natural gas customers;
- Facilitation of an orderly transition from fossil fuels while securing emissions reductions and cost savings during such transition;
- Local financial and economic benefits due to availability of targeted, strategic incremental service;
- Limited short term construction cost benefits; and
- Environmental benefits in reduced emissions.

The need for reliable natural gas service to the community cannot be understated. Customers currently and will continue to rely on natural gas to meet critical energy needs, particularly during regional winter heating seasons. Disruptions of service during extreme cold weather would place the health and safety of numerous Holyoke residents at risk and likely would result in substantial economic consequences in terms of both property damage (e.g., frozen pipes) or business interruptions. The Project seeks to address reliability concerns to enable HG&E to continue to provide reliable service to its existing customers.

Local Financial and Economic Benefits

The Project will enable the provision of targeted incremental natural gas service to existing and future customers and will allow HG&E to lift its existing moratorium on new gas load to strategically promote economic development. This incremental service could result in new residential and commercial development, as well as expansion of existing operations, in Holyoke and surrounding municipalities thereby providing additional tax revenues.

Energy Cost Benefits

Sections 3.0 and 4.0 of this analysis shows that the Project may provide energy cost benefits to HG&E's existing customers and opportunities for savings through the incremental increase in natural gas service. The Project will provide a less expensive fuel source than alternative fossil fuels such as oil and propane, would reduce potential price volatility, would better enable HG&E to optimize its existing gas supply resources already supported by customers and would provide additional system and peak demand reliability.

Short-Term Construction Cost Benefits

During the construction period, there will be approximately 25 to 50 professional and craft labor personnel engaged in various activities associated with the Project. Local contract labor will provide some operation and maintenance services. These personnel will provide a short-term economic benefit to the community through employment opportunities and spending at local businesses and restaurants.

Environmental Benefits

The Project has been sited at the existing West Holyoke Facility site and will avoid impacts to natural resources such as forested land, wetlands and rare species habitat. The operation of the Project will not have an adverse effect on existing air quality or noise and will have a negligible effect on traffic. The Project also has the additional benefit of “building a bridge” to a net zero carbon future by promoting strategic and cost-effective natural gas customer additions to facilitate the transition toward electrification (by reducing consumption of higher emitting fuel sources such as oil) that are currently not available due to the established moratorium.

6.3.6 Visual Impacts and Mitigation

6.3.6.1 Overview

The overall visual impact of the Project will be minimal and, based on the visual analysis described below, will remain consistent with the existing West Holyoke Facility and surrounding land use or slightly reduced. The West Holyoke Facility is currently surrounded by an 8-foot perimeter fence fitted with 6-foot slats which currently serves as a vapor barrier and visual buffer. The Project will increase the fence slat height to eight feet alongside the west fence line at the rear of the LNG storage tanks and the northeast fence line alongside the tanks which will increase the height of the visual buffer. The existing tree cover surrounding much of the site to the south and east also minimizes visual impacts from nearby residences. See Figures 6-2, 6-3, 6-4 and 6-5 for photographs of the existing West Holyoke Facility and surrounding area from the perspective shown on each Figure’s accompanying aerial photograph. Please note that Figure 6-2 also shows a rendering of the likely view of the proposed fifth tank.

6.3.6.2 Project Context

The West Holyoke Facility site is located adjacent to an existing solar farm to the north and west, undeveloped forested land and a natural gas pipeline easement to the east/northeast and residential development to the south. The site and adjacent lands to the north, south and west are generally flat, although the topography rises fairly sharply (approximately 25 to 50 feet in elevation) to the east.

6.3.6.3 Project Components

The main component of the Project, the horizontal LNG storage tank, has been designed to be installed at a similar height as the existing four horizontal tanks at the West Holyoke Facility site and will be located to the north of the existing tanks, which is the furthest point away from Mueller Road. As such, the installation of the new tank will have minimal visual impacts to the neighboring community. Average site elevation in the area of the West Holyoke Facility is 279' above sea level. The top of the proposed LNG storage tank will be at or below the elevation of the existing LNG tanks. As such, the installation of the new tank will have minimal visual impacts to the neighboring community.

6.3.6.4 Conclusions

The overall visual impact will be consistent with the existing facility. As is currently the case, portions of certain tanks may be visible from nearby residences during the fall and winter. The existing tree canopy will continue to provide additional screening of the West Holyoke Facility from nearby residences to the south. The extension of the perimeter fence slats alongside a portion of the facility will provide an increased visual buffer over existing conditions and further minimize potential visual impacts. The Project will have only minimal visual impacts from existing conditions.

6.4 Complementary Facility Improvements

Although not subject to Siting Board review as part of the Project, HG&E will be performing limited improvements at the West Holyoke Facility concurrent with construction of the Project. These improvements include restoration of an existing containment berm and replacement of an older vaporizer system with a new, redundant system (and related heating equipment) as well as further enhancements consisting of the installation of a new fire alarm control panel and improvements to the facility's process and safety control systems. In addition, an enhanced instrument air compression system will be installed that will replace the existing natural (power) gas system used to operate process control valves and further reduce GHG emissions at the West Holyoke Facility. These improvements will further enhance the service reliability of the operations of the West Holyoke Facility and overall safety. As with the Project, this work associated with the vaporizer system improvements and other enhancements will occur within the existing fence line of the West Holyoke Facility. Since the complementary improvements are a concurrent activity, HG&E analyzed the potential associated environmental impacts and determined:

- No impacts to water resources, wetlands or waterbodies – the proposed work will occur wholly within the existing West Holyoke Facility site and is not located within 100 feet of a wetland, 200 feet of a perennial stream or any designated surface or drinking water protection areas;
- No impacts to rare species or cultural resources – the proposed work is not located within an NHESP-identified habitat of rare species. The location of the new equipment is located within an area that is previously disturbed and does not have the potential presence of subsurface cultural resources;
- No exceedance of air emission thresholds – the construction and operation of the vaporization system improvements, similar to the new LNG storage tank, are exempt from air permitting under the “de-minimis” condition of 310 CMR 7.02(2).
- No exceedance of noise thresholds – the vaporization system improvements will not result in a new noise source that will exceed the existing sound condition of the facility. Operational noise will be similar to existing conditions and will not result in a significant increase in sound levels at the nearest noise sensitive areas.
- The vaporization system improvements will not have adverse visual effects on the surrounding community. The highest point of the discharge piping will be flanges located approximately 21 feet above the surrounding grade which is consistent with

existing structures within the West Holyoke Facility and will have a similar visual profile as existing conditions (see Figure 6-2).

- No new stormwater discharges will result from the vaporization system improvements – the existing stormwater management facilities within the site along with the proposed stormwater management improvements associated with the Project have been designed to include the portion of the West Holyoke Facility site where the vaporization system improvements will occur.
- Enhancements to the fire detection system through the installation of a new fire alarm control panel will not result in increased emissions or noise but the facility will benefit from the consolidation of existing and new fire detection equipment within a central system.
- The replacement of the existing natural gas-powered control systems with an instrument air system. Existing control gas systems utilize natural for motive pressures to activate valves. Replacement with an instrument air system reduces the potential for natural gas leaks and resultant fugitive emissions while also enhancing safety.
- Because the enhancements to the vaporization system and valve actuation systems will result in an increase in the electrical load for plant operation, a new emergency back-up generator and transfer switch will be installed. This change will not exceed any noise or emissions permit requirements.

Based on HG&E's analysis, the complementary system improvements that will occur concurrent with the Project will not result in any adverse environmental impacts and will not require any regulatory permits or approvals aside from HG&E's standard reporting procedures.

7.0 CONSISTENCY WITH CURRENT HEALTH, ENVIRONMENTAL PROTECTION AND RESOURCE USE AND DEVELOPMENT POLICIES OF THE COMMONWEALTH

7.1 Introduction

G.L. c. 164, § 69J states, inter alia, that the Siting Board shall approve a petition to construct a project if it determines that “plans for expansion and construction of the applicant’s new facilities are consistent with current health, environmental protection and resource use and development policies as adopted by the Commonwealth.” As discussed in more detail throughout this analysis, the Project is consistent with the health, environmental protection and resource use and development policies of the Commonwealth including G.L. c. 164 and the more recent Global Warming Solutions Act (GWSA) (c. 298 of the Acts of 2008).

7.2 Health Policies

G.L. c. 164, § 69J requires the Siting Board to review projects to “provide a necessary energy supply for the Commonwealth with a minimum impact on the environment at lowest possible cost.” This requirement expresses the Legislature’s view that adequate, economical and reliable gas and electricity distribution service are essential to the health, safety and welfare of residents of the Commonwealth. The Project will be consistent with this legislatively articulated policy by ensuring reliable and safe distribution service to HG&E’s existing gas customers.

In addition, as discussed above, all design, construction and operational activities will be conducted in accordance with applicable governmental and industry standards such as the Siting Board, PHMSA, the NFPA, the OSHA regulations, regulations of the Siting Board (980 CMR 10.00) and the MassDPU (220 CMR 112.00) and will therefore have no adverse health effects. Please see Appendix I for a list of cross-references within this analysis to all substantive and presentational requirements of 980 CMR 10.00.

Finally, the fact that no other environmental permits are associated with the Project or any complementary work is also a strong indicator that the Project has been designed to avoid effects to health, safety and welfare of residents and will support health policies.

7.3 Environmental Protection Policies

The Project is consistent with the Commonwealth’s environmental protection policies as stated in Chapter 164 and in other state and local environmental policies as described below.

7.3.1 Global Warming Solutions Act

The GWSA, enacted in August 2008, is a comprehensive statutory framework designed to address climate change in Massachusetts. St. 2008, c. 298. The GWSA mandates that the Commonwealth reduce its GHG emissions by 10 to 25 percent below 1990 levels by 2020 and by at least 80 percent below 1990 levels by 2050. G.L. c. 21N, §3(b). More recent policy developments, following the hearings and briefs in this proceeding, have both increased and accelerated the Commonwealth's GHG emissions reduction targets.

- On April 22, 2020, pursuant to the GWSA, the Secretary of Energy and Environmental Affairs (Secretary) issued a “Determination of Statewide Emissions Limit for 2050” (Determination), which established a “net zero” level of statewide greenhouse gas emissions. The Determination defined net zero as “A level of statewide greenhouse gas emissions that is equal in quantity to the amount of carbon dioxide or its equivalent that is removed from the atmosphere and stored annually by, or attributable to, the Commonwealth; provided, however, that in no event shall the level of emissions be greater than a level that is 85 percent below the 1990 level” (Determination at 4). On June 30, 2022, the Secretary issued the Clean Energy and Climate Plan for 2025 and 2030 (2025/2030 CECP). The 2025/2030 CECP adopted the interim 2025 statewide GHG emissions limit of 33 percent below 1990 level and the 2030 GHG emissions limit of 50 percent below 1990 level.
- Also on December 30, 2020, the Secretary issued the “Massachusetts 2050 Decarbonization Roadmap” (2050 Roadmap). Based on its analysis of a range of potential pathways, the 2050 Roadmap finds that the most cost-effective, low-risk pathways to net zero GHG emissions share core elements, including a balanced clean energy portfolio anchored by a significant offshore wind resource, more interstate transmission, widespread electrification of transportation, building heat and hot water and cost-effective replacement of equipment, infrastructure and systems that use fossil fuels (2050 Roadmap at 21-26).
- The state legislature enacted and, on March 26, 2021, Governor Baker signed new, comprehensive, climate change legislation: “An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy” (Climate Roadmap Act). The Climate Roadmap Act requires “a 2050 statewide emissions limit that achieves at least net zero statewide greenhouse gas emissions” and that “in no event shall the level of emissions in 2050 be higher than a level 85 per cent below the 1990 level.” G.L. c. 21N, § 3(b).

The overriding goal and policy of the 2025/2030 CECP and Climate Roadmap Act is the reduction of GHG emissions in the Commonwealth over time, to the point where, in 2050, Massachusetts will achieve net zero GHG emissions. This legislature envisions implementation of that goal primarily through decarbonization of major sectors of the economy, such as transportation and residential heating, that currently rely on fossil-fueled energy sources such as oil and gas. The 2050 Roadmap describes pathways the Commonwealth could take to achieve the goal of reaching net zero emissions in 2050, stating that policy strategies are needed “to carefully manage ongoing and future investments in the gas distribution system [...] and manage the orderly and equitable drawdown of fossil fuel use and infrastructure [...] needed to ensure equitable outcomes.” However, the 2050 Roadmap also notes that “[h]igher costs

cannot be borne by the consumers least able to pay and steps must be taken to provide for an orderly and equitable transition” (2050 Roadmap at 53).¹

The 2050 Roadmap specifically notes that there will continue to be significant economic and certain environmental benefits associated with the appropriate use of natural gas, including meeting electricity need when intermittent renewable resources are insufficient to meet increasing electric generation demands - even with the attainment of net zero carbon emissions in 2050 (2050 Roadmap at 63-65). In the immediate future, the continued conversion of oil heating customers, to either natural gas, or optimally, heat pump technologies, will help to achieve carbon reduction benefits.

The Project will ensure reliable service and also facilitate strategic customer additions to achieve carbon reductions. The Project is an integral component of HG&E’s ongoing plan to achieve net zero goals associated with its system. The Climate Roadmap Act itself contemplates that natural gas will remain a necessary component of the state’s energy resources in the near-term, as the state transitions over the next three decades to a net zero GHG emissions economy, which is reflected in HG&E’s Clean Energy Commitment (see Appendix G). Indeed, the 2025/2030 CECP expressly recognizes the importance of “coordinated planning” between gas and electric distribution providers in a given community whereby electrification can proceed in a manner that will “ensure reliability of both the natural gas and electricity systems while advancing the transmission and protecting all ratepayers from significant cost burdens, particularly those who are most vulnerable to those increases.” (p. 61)

In addition to providing a needed and reliable, temporary, energy “bridge” during the state’s transition away from a fossil-fuel-based economy, the Project will provide other likely benefits to the Commonwealth that are consistent with and supportive of, the policy aims of the 2025/2030 CECP and Roadmap Act. The Project will allow HG&E to maximize the use and efficiency of its existing gas supply infrastructure, as compared to constructing new, more substantial gas infrastructure with its associated cost and environmental impacts.

The Project is consistent with the climate change and emissions reduction policies of the Commonwealth. The Project and HG&E’s Clean Energy Commitment is consistent with pathways the Commonwealth could take to achieve net zero emissions by 2050, as described in the 2050 Roadmap and Climate Roadmap Act and will promote progress toward the 2050 net zero emissions target.

¹ The Department is considering this transition in D.P.U. 20-80. The Department has stated that it opened its inquiry to examine the role of Massachusetts gas local distribution companies (LDCs) in helping the Commonwealth to achieve its 2050 climate goals.

7.3.2 Environmental Justice Policy

In January 2017, EEA updated its Environmental Justice Policy (2017 EJ Policy) and, as noted above, the Climate Roadmap Act was enacted in March 2021. The Climate Roadmap Act sets forth environmental justice principles to protect rights to a clean and healthy environment, regardless of race, color, income, class, handicap, gender identity, sexual orientation, national origin, ethnicity or ancestry, religious belief, or English language proficiency. To promote that goal, the Climate Roadmap Act requires the meaningful involvement of environmental justice populations and requires additional measures to improve public participation, such as providing translation services and public notices in English and any other language spoken by a significant number of the affected environmental justice population. St. 2021, c. 8, § 60.

The Project does not exceed a MEPA ENF threshold for air, solid or hazardous waste, or wastewater and sewage sludge treatment and disposal and therefore does not trigger MEPA review or enhanced public participation or enhanced analysis of impacts and mitigation under the 2017 EJ Policy. Therefore, the Project did not trigger the 2017 EJ Policy's provisions for enhanced public participation (Section 16) and/or enhanced analysis of impacts and mitigation (Section 17) under MEPA's review. Relatedly, the Project did not trigger Section 20 of the 2017 EJ Policy, otherwise requiring for enhanced public participation and/or enhanced analysis of impacts and mitigation under the Siting Board's review.

HG&E will translate into Spanish and publish the Public Comment Hearing Notice in a Spanish language newspaper. HG&E also held a public event in an Environmental Justice neighborhood to raise awareness of HG&E's energy efficiency and electrification incentives, air source heat pumps, fuel assistance, electric and natural gas safety, the local power supply portfolio, the Project and much more. In addition, throughout October 2022, all HG&E customers received Project information with their utility bill statement in the monthly edition of HG&E's Energy Insights newsletter, available in English and Spanish. See Appendix A.

HG&E Project outreach and review was conducted in accordance with, and in the spirit of, and thus is consistent with, any applicable Environmental Justice policies in effect during the course of the development of the Project.

7.3.3 Resource Use and Development Policies

Pursuant to the Commonwealth's Smart Growth/Smart Energy policy, EEA established Sustainable Development Principles. Among the principles are: (1) supporting the revitalization of city centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources and integrates uses; (2) encouraging reuse of existing sites, structures and infrastructure; (3) protecting environmentally sensitive lands, natural resources, critical habitats, wetlands and water resources and cultural and historic landscapes; and (4) increasing the quantity, quality and accessibility of open spaces and recreational opportunities.

Land use impacts would be minimized through siting of the Project within the existing West Holyoke Facility while avoiding impacts to other resources or areas. Thus, the construction and operation of the Project is consistent with resource use and development policies of the Commonwealth particularly in light of planned impact avoidance and mitigation measures detailed within Section 6.0.

7.3.4 Balancing Environmental Impacts

A facility that achieves the appropriate balance thereby meets the Siting Board's statutory requirement to minimize environmental impacts at the lowest possible cost. (See NSTAR Gas Company, 13 DOMSB at 181 (2001); MMWEC Decision, 12 DOMSB at 127; Berkshire Gas Decision, 9 DOMSB at 40 (1999); BEC Co Decision, 6 DOMSB at 287 (1997). To determine if a petitioner has achieved the proper balance among environmental impacts, cost and reliability, the Siting Board first determines if the petitioner has provided sufficient information regarding environmental impacts and potential mitigation measures to make such a determination. The Siting Board then determines whether environmental impacts are minimized. Similarly, the Siting Board evaluates whether the petitioner has provided sufficient cost information to determine if the appropriate balance among environmental, cost and reliability has been achieved. See NSTAR Gas Company, 13 DOMSB at 181; MMWEC Decision, 12 DOMSB at 128; NEPCo Decision, 7 DOMSB at 384 (1998); Commonwealth Electric Company, 5 DOMSB 273 at 337 (1997).

As fully demonstrated in Section 6.0, HG&E mitigates environmental impacts associated with the construction, operation and maintenance of the proposed Project, consistent with cost minimization. As such, the Project is consistent with the environmental policies of the Commonwealth.

7.4 Resource Use and Development

The Project will be constructed and operated in compliance with Massachusetts's policies regarding resource use and development. Specifically, the Project will store and supply LNG that will be used to enhance, strengthen and better utilize the Commonwealth's and HG&E's already established natural gas supply system. The Project will also allow HG&E to more efficiently operate its natural gas and potentially electricity generating resources, thereby enhancing the safety, health and welfare of the Commonwealth's citizens and economy. The Project will comply with all federal, state and local regulations pertaining to the handling of hazardous materials.

APPENDIX A, PART 1 – PROJECT COMMUNICATION PLAN AND OUTREACH SUMMARY

Public Outreach Planning

In order to ensure the community is engaged and informed so that HG&E can identify and address potential concerns, HG&E has developed and implemented a communication strategy that includes messaging, timeline, and action items. As a municipal utility, HG&E values and maintains strong, established relationships with key stakeholders throughout the community, which will assist in efforts to move the conversation forward with respect to the Project. HG&E will maintain open lines of communication and will continue to work in coordination with neighbors, elected officials, and stakeholders throughout the various stages of the Project.

HG&E has been in close communication with the community related to reliability concerns that the system is experiencing during periods of peak demand. We have been straightforward and consistent about our commitment to finding a resilient solution that would assist the community in meeting long-term clean energy targets and will continue this approach throughout this process. This document represents a detailed and thoroughly-considered planned approach to engaging with stakeholders. HG&E will review and modify this document as needed to ensure the valid needs and concerns of the community and stakeholders are appropriately identified and addressed.

Energy Conservation & Reliability Communications

As part of HG&E's ongoing customer communication, HG&E engages the public in a variety of ways as it relates to the energy conservation and gas system reliability, including:

- Customer Surveys (2019, 2022)
- Monthly Public Meetings: <https://www.hged.com/about/mission-vision/commission/agendas-minutes.aspx>
- Monthly Newsletters (see Annual Schedule Example): <https://www.hged.com/news/newsletter-archive.aspx>
- Safety & Conservation Program (Schools & Senior Engagement): <https://www.hged.com/community-environment/education/default.aspx>
- Fall Public Power & Natural Gas Event: <https://www.hged.com/news/2022/08/celebrate-ppngw.aspx>

In the fall of 2022, the LNG Infrastructure & Resiliency Project was be integrated into these outreach strategies.

LNG Project Key Stakeholder & Outreach Timeline *(subject to modification and enhancement as the Project moves forward)*

The Project is anticipated to take 3 years to complete from design to permitting to commercial operation. Outlined below is a draft timeline for outreach and engagement that complements various stages of the Project. Please find associated materials in Appendix G, Attachment 2.

August 2022

- Strategy & Communication Material Development
 - Photography
 - Develop website
 - Email address compilation
 - Project flyer preparation
 - Media release
- Key Stakeholder Initial Outreach on Project Details (Holyoke, Southampton, Westfield)
 - Elected official outreach
 - Police and Fire Departments
 - Related internal staff discussions (Green Team, Staff)

September 2022

- Key Stakeholder Outreach (Holyoke, Southampton, Westfield)
 - Continue elected official engagement
 - HG&E employee notification
 - Neighborhood and abutter canvassing
- City Council Finance Committee Meeting – September 12, 6:30 pm
 - In response to: On January 4, 2022, the Holyoke City Council filed an order stating “The Holyoke Gas and Electric be requested to take all necessary steps to end the gas moratorium. That they report back to the City Council by April 1, 2022 on their recommended plan of action including potential time table to bring the moratorium to an end.” This order was received and sent to the City Council Finance Committee awaiting feedback from HG&E on a potential solution. The Project, while intended to address reliability for existing customers, will facilitate the targeted addition of certain incremental customers.
- Continuing public discussion
- Website go-live

October 2022

- Community Outreach (Spanish & English)
 - October Newsletter – distribute project overview to all HG&E customers
 - Public Power & Natural Gas Week
 - Highlight project
 - Project table at annual Public Utility Event on Oct 5
 - Share project with key community organizations as well as event partners
 - Engage District Councilor to assist with identification and invitation to West Holyoke neighbors for discussion
- Engage Key Community Organizations & Stakeholders
- Screen for EJ Populations
 - Conduct certain steps (language) consistent with EJ even if not technically required
 - Seek out language/translation opportunities
 - Conduct meetings/outreach in accommodating times and with available translators
- Secured Indications of Support
 - Letters of Support – Mayor, City Council, Economic Development, Neighbors, Community Organizations
 - Chamber of Commerce, Property Ownership Group, Taxpayers Association, Others

November 2022

- EFSB Application Submittal
 - Maintain continued engagement with public officials and the community throughout the process.
 - Public Notice (Spanish & English)
 - Post at City Hall, Libraries
 - Letter with EFSB to property owners – Expected to include all addresses within .5 mile of the facility
 - Update website

November 2022 – January 2024

- EFSB Review Process Commences
- Continue to engage key stakeholders, there will be notifications to stakeholders on the status of the EFSB process.
 - HG&E customers interested in NG capacity/retaining existing gas service
 - Property Owner Group
 - OneHolyoke
 - Nueva

- Holyoke Chamber
- Taxpayers Association
- Commonwealth Energy Officials
- DOER Commissioner
- Environmental and Customer Groups
 - Chamber; LEAN
- Currently 250 potential customers requesting natural gas service that were denied since moratorium implemented in 2019.
- Public Comment Hearing (likely January 2023)

January 2024 – June 2026

- Procurement, Construction, Commissioning

Materials: HG&E will develop materials that include a Project description outlining the reliability goals and objectives of the new LNG tank. An important point of emphasis is that all development will be completed within the existing footprint of the current facility. These materials will all be available in Spanish and English.

- Website
 - Overview
 - Map
 - Photos
 - FAQs
 - Timeline/Status, including EFSB process updates
 - Contact
- Direct Mail
- Maintain “point of contact” to address concerns associated with customers (email and telephone)
- Periodic reports in newsletters
- Outreach materials

APPENDIX A, PART 2- PROJECT COMMUNICATION & OUTREACH

In this section, please find an overview of HG&E's communication and outreach activity as it relates to the proposed LNG Infrastructure & Resiliency Project. These actions were set forth by the original Communication Plan which is outlined in Appendix A.

Correspondence Type	Initial Date	Initial Time	Final Date (if applicable)	To	From	Additional Parties	Subject	Page #	Meeting Link
Email	8/5/2022	11:17:00 AM	8/30/2022	Town Administrator Ed Gibson	HG&E Manager James Lavelle	Brain Roy, HG&E Gas Superintendent; Kate Sullivan Craven, HG&E Director of Marketing & Communications	Select Board Presentation	3,4	
Public Meeting	8/30/2022	6:00:00 PM		Southampton Select Board	HG&E Manager James Lavelle, Gas Superintendent Brian Roy	Southampton Town Administrator, General Public, Invited Guests	Select Board Meeting	5 to 9	https://www.youtube.com/watch?v=c84uyE16opA
Email	8/31/2022	8:54 AM		James Lavelle, HG&E Manager	Kevin Jourdain, Holyoke At-Large City Councilor		Update	10	
Public Meeting	9/1/2022	6:30 PM		City Council	General Public		Holyoke City Council Special Meeting	11 to 52	https://youtu.be/9V3o21xvint
Email	9/7/2022	11:50 AM		HG&E Manager James Lavelle, HG&E Gas Superintendent Brian Roy	HG&E Director of Marketing & Communications Kate Sullivan Craven		LNG Facility Neighborhood Outreach 9/7 4 - 5:30 pm	53-54	
Email	9/7/2022	2:37 PM		HGE Customer Accounts	HG&E Director of Marketing & Communications Kate Sullivan Craven	HG&E Gas Superintendent Brian Roy	LNG Update - Customer Inquiries	55	
Neighborhood Canvassing	9/7/2022	4 PM - 6 PM		18 Abutters and Neighbors	HG&E Gas Superintendent Brian Roy, HG&E Director of Marketing & Communications Kate Sullivan Craven		West Holyoke LNG Facility Update	56-61	
Meeting	9/9/2022	12:00 PM		State Representative Patricia Duffy	HG&E Manager James Lavelle	HG&E Director of Marketing & Communications Kate Sullivan Craven	Legislative Discussion - HG&E		
Email	9/9/2022	3:27 PM		HG&E Gas Superintendent Brian Roy	HG&E Director of Marketing & Communications Kate Sullivan Craven		Conversation with Rep Duffy - LNG	62	
Media	9/12/2022			Interested Media	HG&E		HG&E Proposes Small Expansion and Improved Resiliency of Existing LNG Storage	63,64	
Email	9/12/2022	10:06 AM		Beacon Technologies (HG&E's website vendor)	HG&E Director of Marketing & Communications Kate Sullivan Craven		Short URL	65	https://www.hg&e.com/news/1461646/short-url
Email	9/12/2022	4:12 PM	9/13/2022	Ward 5 Councilor Linda Vacon	HG&E Director of Marketing & Communications Kate Sullivan Craven	HG&E Manager James Lavelle, HG&E Gas Superintendent Brian Roy	West Holyoke LNG Facility Flyer	66 to 69	
Letter	9/12/2022			City of Holyoke City Council	Holyoke Mayor Garcia		Letter of Support	70	
Public Meeting	9/12/2022	6:30 PM		Holyoke City Council Finance Committee	HG&E Manager James Lavelle, Gas Superintendent Brian Roy, HG&E Director of Marketing & Communications Kate Sullivan Craven	Holyoke City Council, General Public	Finance Committee Meeting	71 to 73	https://youtu.be/3_m8U1qaz9U
Media Story	9/13/2022	12:24 PM			MassLive		Holyoke Gas & Electric proposes tank project to ease natural gas moratorium		https://www.masslive.com/news/2022/09/holyoke-gas-electric-proposes-tank-project-05/
Email	9/13/2022	1:07 PM		Holyoke City Council Finance Committee Chairman and Councilmembers	HG&E Director of Marketing & Communications Kate Sullivan Craven	Councilors - Peter Tallman, Joseph McGivern, Linda Vacon, Kevin Jourdain; HG&E Manager James Lavelle, HG&E Gas Superintendent Brian Roy	HG&E LNG Resiliency Project	74	
Email	9/14/2022	10:56 AM		HG&E Employees (All)	HG&E Director of Marketing & Communications Kate Sullivan Craven		Employee Update - September	75	
Email	9/14/2022	11:23 AM		Senator Velis	HG&E Manager James Lavelle	Legislative Aide Katie Verra, Legislative Aide Caitlyn Letourneau	Meeting with Senator Velis/Project Overview	76, 77	
Email	9/15/2022	1:01 PM		State Representative Patricia Duffy	HG&E Director of Marketing & Communications Kate Sullivan Craven	HG&E Manager James Lavelle, HG&E Gas Superintendent Brian Roy, City Councilor and State Legislative Aide Juan Anderson - Burgos	Thank You & West Holyoke LNG Tour	78 to 80	
Email	9/26/2022	11:43 AM		Holyoke City Councilors, Mayor Garcia, Representative Duffy, Senator Velis, Economic Development Director Aaron Vega, School Superintendent Anthony Soto, Holyoke YMCA Staff, Holyoke Boys & Girls Club Staff, OneHolyoke Staff	HG&E Director of Marketing & Communications Kate Sullivan Craven	HG&E Energy Efficiency Coordinator Sophie Theroux	You're invited: Public Utility Celebration on Oct 5	81	
Event Listing	9/26/2022			Holyoke Community	HG&E Director of Marketing & Communications Kate Sullivan Craven		Celebrate Public Power & Public Natural Gas		https://www.exploreholyokeye.com/event/celebrate-public-power-public-natural-gas/
Email	9/28/2022	9:28 AM		Ward 5 Councilor Linda Vacon	HG&E Director of Marketing & Communications Kate Sullivan Craven	HG&E Gas Superintendent Brian Roy	Fw: You're invited: Public Utility Celebration on Oct 5	82, 83	
Email	9/28/2022	2:15 PM		HG&E Gas Division Clerk Emily Ortiz	HG&E Director of Marketing & Communications Kate Sullivan Craven		Translation Request - LNG & Newsletter	84 to 92	
Media	9/30/2022	1:12 PM		Facebook Audience	City Councilor and State Legislative Aide Juan Anderson-Burgos		LNG Storage Tour	93	
Email	9/30/2022	1:15 PM		State Representative Patricia Duffy, City Councilor and State Legislative Aide Juan Anderson-Burgos	HG&E Director of Marketing & Communications Kate Sullivan Craven	HG&E Manager James Lavelle, HG&E Gas Superintendent Brian Roy	Thank you - West Holyoke LNG Facility	94	
Public Meeting	10/4/2022	7:00 PM		City Council	City Council President Todd McGee		Holyoke City Council (Resolution to Support HG&E's LNG Project)	95 to 105	https://youtu.be/72LWT-F5haQ
Event	10/5/2022	4-6 PM		HG&E Customers	HG&E		Public Power & Public Natural Gas Celebration		https://www.hg&e.com/news/2022/08/celebrate-public-power
Media	10/5/2022				Holyoke Media		HOLYOKE GAS AND ELECTRIC CELEBRATES PUBLIC POWER AND NATURAL GAS WEEK AT VETERANS PARK		https://holyokeye.com/news/2022/08/celebrate-public-power-and-natural-gas-week-at-veterans-park/
Email	10/6/2022	12:05		Holyoke City Clerk Brenna Murphy McGee	HG&E Director of Marketing & Communications Kate Sullivan Craven		CC Letter re LNG - Mayor Garcia	106	

Email	10/8/2022	9:58		Ward 5 Councilor Linda Vacon	HG&E Director of Marketing & Communications Kate Sullivan Craven		Citizen Forum flyer	107	
Newsletter	10/10/2022		11/8/2022	All HG&E Customers	HG&E		Energy Insights - October 2022		https://www.hgeid.com/newsroom/newsletters/archive.aspx
Public Meeting	10/12/2022	6:00 PM		Holyoke City Council Public Service Committee	City Council President Todd McGee, Committee Chairman Tallman		Public Service Committee Meeting (Resolution to Support HG&E's LNG Project)	108, 109	https://youtu.be/3mmbc1V18QY
Email	10/14/2022	9:32	10/19/2022	HG&E Manager James Lavelle, HG&E Gas Superintendent Brian Roy	HG&E Director of Marketing & Communications Kate Sullivan Craven		Re: City Council Update	110	
Letter	10/18/2022			Southampton Town Administrator Ed Gibson	HG&E Manager James Lavelle		EFSB Filing - LNG Project	111, 112	
Letter	10/18/2022			Westfield Mayor Michael McCabe	HG&E Manager James Lavelle		EFSB Filing - LNG Project	113, 114	
Letter	10/18/2022			Westfield City Council President Onyski	HG&E Manager James Lavelle		EFSB Filing - LNG Project	115, 116	
Public Meeting	10/18/2022	7:00 PM		Holyoke City Council	City Council President Todd McGee	HG&E Manager James Lavelle, Holyoke Mayor Joshua Garcia	Holyoke City Council Meeting (A RESOLUTION SUPPORTING HG&E'S GAS INFRASTRUCTURE & RESILIENCY PROJECT AND INCREASED RELIABILITY OF THE LOCAL GAS DISTRIBUTION SYSTEM)	117 to 147	https://youtu.be/4pW6DdGd0k
Internal Memo	10/20/2022			File	HG&E Director of Marketing & Communications Kate Sullivan Craven		Public Power & Public Natural Gas Week Celebration Overview	148 to 155	
Email	11/10/2022			Ward 4 Councilor David Bartley	Email Distribution List (including James Lavelle and Kate Craven)		HOLYOKE UPdates	156, 157	

From: James Lavelle/Holyoke
To: Brian Roy/Holyoke@Holyoke G&E
Cc: Kate Sullivan/Holyoke@Holyoke G&E

Date: Wednesday, August 24, 2022 05:20PM
Subject: FW: Select Board Presentation

History: ➡ This message has been replied to.

FYI

-----Forwarded by James Lavelle/Holyoke on 08/24/2022 05:20PM -----

To: <jlavelle@hged.com>
From: "Ed Gibson" <townadministrator@townofsouthampton.org>
Date: 08/24/2022 04:08PM
Cc: <broy@hged.com>
Subject: FW: Select Board Presentation

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Jim,

I hope you are well . I am following up with a few questions the Select Board members have asked to be addressed during your presentation on August 30th to the Select Board.

1. Please describe the protocols your company is currently following that are designed to protect the environment and reduce the impact of climate change.
2. What are your company's long-term goals that will reverse, or significantly reduce, the devastating environmental impact? What is your target achievement date, i.e. 10 years, 20 years?
3. What industry-based research projects is your company pursuing to find ways to utilize energy more efficiently and effectively?
4. Are you currently installing new gas lines in Southampton? If not, when do you anticipate restarting?

Thanks Jim. Please let me know if you have any questions.

Ed

Edward J. Gibson
Town Administrator/Chief Financial Officer
Town of Southampton
210 College Highway, Suite 7
Southampton, MA 01073
(413) 529-0106

***Please note we are closed on Fridays.**

From: Ed Gibson <townadministrator@townofsouthampton.org>
Sent: Friday, August 5, 2022 3:23 PM
To: 'jlavelle@hged.com' <jlavelle@hged.com>
Cc: 'broy@hged.com' <broy@hged.com>
Subject: RE: Select Board Presentation

Hi Jim,
Will follow up with further information for you. Then meetings start at 6:00 PM and I anticipate that your presentation would probably occur around 6:30 PM. The Select board Meeting are In-Person.

Thanks again and I hope you have a good weekend!

Ed

Edward J. Gibson
Town Administrator/Chief Financial Officer
Town of Southampton
210 College Highway, Suite 7
Southampton, MA 01073
(413) 529-0106

****Please note we are closed on Fridays.***

From: jlavelle@hged.com <jlavelle@hged.com>
Sent: Friday, August 5, 2022 11:17 AM
To: townadministrator@townofsouthampton.org
Cc: broy@hged.com
Subject: Select Board Presentation

Hi Ed,

Following up on our phone conversation from earlier today. Brian Roy, HG&E Gas Superintendent, and myself will be available to meet with the select board on August 30th. If you could please forward the time of the meeting when you get a chance, and also let us know if the meeting will be in-person or via zoom, that would be helpful.

Thanks and I look forward to connecting on the 30th.

Take care and enjoy the weekend,
Jim

James M. Lavelle
General Manager
Holyoke Gas & Electric
99 Suffolk Street
Holyoke, MA 01040

Meeting of Southamptton, MA Selectboard Tuesday August 30, 2022 6 PM EDT

Town Hall-1st fl mtg rm
210 College Hwy

TOWN OF SOUTHAMPTON
SELECT BOARD AGENDA
Tuesday, August 30, 2022 AT 6:00 PM

Town Hall
1st Floor Meeting Room
210 College Highway, Southamptton, MA 01073

Pledge of Allegiance

- Call to Order

“Open Time for the Public”

The Select Board reserves a portion of its meetings for public comment and encourages participation as follows:

- Open time is a time when town residents can bring matters before the Select Board that require a minimum of discussion and are not on the agenda.
- Please try to keep your comments short and to the point. Plan on being allowed up to five minutes per person, not per topic, to speak at any meeting under open time, only.
- If it appears that the topic(s) being discussed will consume longer than the five minutes allocated then, at the discretion of the Chair, the matter will be placed on an upcoming Select Board meeting agenda.
- If you believe that your topic will require more time or desire to make a more formal presentation than is allowed under these guidelines, please contact the Town Administrator to ask to be put on a future agenda so that we can properly allocate enough time.
- You are free to ask questions or to make your point for all to consider. However, engaging in active debate with the Select Board or audience members will not be allowed. All comments and questions must be directed to the Chair of the Board.
- All remarks must be respectful and courteous, free of name-calling and personal attacks. Inappropriate language will not be tolerated.

Public Hearings

None

Presentations

- Representative Kelly Pease, Massachusetts House and District Update

Reports to the Select Board

- Eversource – Joe Mitchell
- Holyoke Gas & Electric – Jim Lavelle & Brian Roy

Reports

- Town Administrator Report
- Select Board
- Ad Hoc Grant Committee

Appointments/Resignations

- Nancy Ruscio – Resignation – Council on Aging Board, effective immediately
- Carol Goulet – Resignation - Library – Substitute
- Bob Barcomb – Resignation – Greenway Committee

New Business: Action/Discussion

- Approval of Employee Short term Disability – Extension
- Chapter 61 Land – Right of First Refusal – Fomer Road
- Animal Control – Westfield Intermunicipal Agreement
- Temporary Animal Control Contract -Westfield Intermunicipal Agreement
- Complete Streets Fund – Planning Board
- Public Safety Building Committee – Amended Charge
- Open Space Committee – Amended Charge
- FY 2022 Revenue & Expenditure Reports
- FY 2023 Expenditure Report
- ARPA Expense Report
- Review New ARPA Applications
- Risk Assessment Policy – 2nd Reading
- Assistant Town Accountant – Update
- FY 2022 Financial Audit Planning – Next Steps

- Any other necessary business that cannot await the next regular September 13th Select Board Meeting.

Old Business:

- COVID-19 Update
- East Street Bridge – Update
- VoIP – Update

Signatures

- Personnel Change Forms (PCF - PRF)
- Assessor

PCF – David Zagorski, continuation of temp Interim Principal Assessor, P-T, Non-Benefitted

- Board of Health

PCF – Geraldine Swanson – change of hours, 3 additional/wk.

- Highway

PCF – Jeremy LaRochelle – Emergency Appointment, Equip Operator, Reinstatement, Full Time

PCF – Jeremy LaRochelle – Equip Operator, Reinstatement, Full Time Benefitted, \$22.92/hr.

- PCF – Highway Department, Patrick Wright Employee Change - Separation

- Library

PCF – Carol Goulet – substitute, resignation

PRF – Substitute – replacement – as needed

PRF – Library Director – Full-Time, Benefitted 35 hours per week

- Fire/EMS

PCF – Fire/EMS, Cynthia Morton, Part Time Non-Benefitted, as needed Paramedic/EMS assistant

PCF – Fire/EMS, Timothy O’Keefe, Part Time Non-Benefitted, as needed Paramedic/Quality Assurance

- Police

PCF – Lauren Salomao -Police Dispatcher – Part-Time, Non-Benefitted

PCF – Ryan Holmes – Police Officer – Leave of Absence 8/25/2022 to 9/25/2022

Licenses/Permits

- Madison Philbrook – One Day Wine & Malt – Conant Park Pavilion – Sept. 18, 2022 1 PM to 4 PM, Baby Shower

Warrants

- W22-3V -\$5,202.00 Vendor Payable Warrant
- W22-29A \$523.42 Vendor Payable Warrant
- W22-29V \$-\$523.42 Vendor Payable Warrant
- W22-55 \$529,447.49 Vendor Payable Warrant
- W23-2 \$1,397,424.14 Vendor Payable Warrant with HC Retirement & MIIA Ins.
- P23-3 \$280,188.90 Payroll Warrant
- PD23-3 \$47,121.37 Payroll Deduction Warrant
- PD23-3A \$157,846.08 Payroll Deduction Warrant with Retirement
- W23-4 \$246,040.72 Vendor Payable Warrant
- P23-5 \$282,891.89 Payroll Warrant
- P23-5C \$1,953.19 Payroll Warrant
- P23-5V -\$1,953.19 Payroll Warrant
- W23-6 \$1,522,181.92 Vendor Payable Warrant with Regional School Assessment
- P23-7 \$264,853.81 Payroll Warrant
- PD23-7 \$44,686.36 Payroll Deduction Warrant
- W22-13 A \$21,217.17 Vendor Payable Warrant
- W23-8 \$276,312.59 Vendor Payable Warrant

Other Documents requiring Signatures

- None

Minutes to Approve

- May 10, 2022
- June 21, 2022

Pending Items

- Old Town Hall
- Clearwater Woodland Boundary - Update
- DOER – Green Community Grant
- East Street East Section VHB TIP Proposal

Calendar & Announcements

- Select Board Meetings September 13th & 27th

Executive Sessions – Select Board

- MGL c. 30A Sec 21 (a) # 3 – To discuss strategy with respect

to collective bargaining or litigation if an open meeting may have a detrimental effect on the bargaining or litigating position of the public body and the chair so declares. (Police)

- MGL c. 30A Sec 21 (a) #7 To comply with, or act under the authority of, any general or special law or federal grant-in-aid requirements. Approval of Executive Session Minutes, Feb. 22, 2022, April 19, 2022, May 3, 2022.

Select Board to adjourn Executive Session

To: <jlavelle@hged.com>

From: "Kevin Jourdain" <Kevin.Jourdain@verizon.net>

Date: 08/31/2022 08:54AM

Subject: Update

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Jim,

Just wanted to let you know that the gas moratorium update order will be received by the Council at tomorrow's special meeting and sent to Finance. Finance will be meeting on it on September 12 at 630pm so if you and your team could please be ready for then you will be the main event for that night.

Thanks

Kevin

For the latest information about **COVID-19 (novel coronavirus) Recovery**, click here to visit our dedicated page. ([//departments/coronavirus-response/](https://departments/coronavirus-response/))

Click here to sign up for city emergency alerts - including community event alerts, Fire Department notifications, law enforcement alerts, general information alerts, and public works notifications (<https://member.everbridge.net/index/453003085611624/#/signup>)

Please be advised that in observance of the Thanksgiving holiday, city offices be closed beginning at 12 p.m. on Wednesday, November 23rd and through the day on Thursday, November 24th and Friday, November 25th.

The City of Holyoke wishes everyone a Happy Thanksgiving!

Holyoke City Council Special Meeting September 1, 2022

Sep
1
2022

6:30 pm ▶ City Hall Holyoke

536 Dwight St, Holyoke 01040

 Share

Agenda

Minutes

Video

Contact Information

[Status updates for orders \(https://www.holyoke.org/city-council-orders-september-1-2022/\)](https://www.holyoke.org/city-council-orders-september-1-2022/)

Pursuant to the Massachusetts Open Meeting Law, G.L. c. 30A, §§ 18-25,
and Chapter 22 of the Acts of 2022
notice is hereby given that there will be special meeting of the
Holyoke City Council

Thursday, September 1, 2022
6:30 PM

Meeting will take place at Holyoke City Hall, 536 Dwight St
and can also be accessed remotely via www.zoom.us

<https://us02web.zoom.us/j/81812668171?pwd=bjlyOFdUc3hpMUNCWDBUNTUVZmpvUT09>
Meeting ID: 818 1266 8171 Meeting Passcode: 821503 or by call in at 1 (646) 558-8656 with
same Meeting ID and Passcode.

Agenda

LAIID ON THE TABLE

1.The Committee on Ordinance to whom was referred an order that the City Council amend Holyoke Zoning Ordinances to correct the site plan review process in Section 7.10.6.5(b). Recommended that the order be adopted.

2. The Committee on Ordinance to whom was referred an order That until residents are offered an opportunity to meet IN THE NEIGHBORHOOD with public officials and public board members, who are making decisions with little to zero neighborhood input, the City shall not spend any funds or incur any costs for any new buildings including any school. Recommended that the order be adopted.

PETITIONS

3. To the CITY COUNCIL of Holyoke, Massachusetts.

The GAS AND ELECTRIC DEPARTMENT requests permission to locate a line of wires, cables, poles and fixtures, including the necessary sustaining and protecting fixtures, along and across the following public way or ways:

- One (1) 35' pole in the Essex St alley way between Beech St & Oak St, Holyoke MA

Wherefore it prays that after due notice and hearing as provided by law, it be granted a location for and permission to erect and maintain a line of wires, cable and poles, together with such sustaining and protecting fixtures as it may find necessary, said poles to be erected substantially in accordance with the plan filed herewith marked HG&E Dept. No.133-6S and Dated 08/19/2022.

Also, for permission to lay and maintain underground services, cables and wires in the above or intersecting public ways for the purpose of making connections with such poles and buildings as it may desire for distributing purposes.

Your petitioner agrees to reserve space at a suitable point on each of said poles for the fire, police, telecommunications, and control signal wires belonging to the municipality and used by it exclusively for municipal purposes.

REPORTS OF COMMITTEES

4. Ordinance Committee Reports.

4A. The Committee on Ordinance to whom was referred an order From AACO Realty Corp. letter regarding 380 Dwight St. Holyoke 420 LLC (failure to enforce city ordinances-Complaint Recommended that the order be referred to the Law Department to coordinate with the Building Commissioner to investigate the matter and report their findings back to the committee.

4B. The Committee on Ordinance to whom was referred an order Resident on 326 Elm St. would like handicap sign on the side of his house removed as it is no longer needed.
Recommended that the order be adopted.

4C. The Committee on Ordinance to whom was referred an order Special Permit Application for Carefully Curated LLC at 420 Race St (028-07-014) to reutilize the building as a recreational adult use marijuana manufacturing establishment.

Recommended that the order be adopted with the following conditions:

1. That the owner of the building always pay the commercial property tax rate to the extent allowed by federal, state, and local laws for the duration of the Special Permit.
2. That the business retains a minimum 30% Holyoke residents for non-security jobs.
3. That the hiring preference be given to security personnel that are retired Holyoke police or are a retired member of another police department that now lives in the city of Holyoke.
4. There shall be no marijuana consumption allowed on site.
5. That the hours of operation be set according to City ordinances.
6. That the applicant must abide by Massachusetts General Laws and guidance's from the Cannabis Control Commission.
7. That the petitioner/applicant shall conform with city and state health laws, rules, and regulations, including odor nuisance controls, for the duration of the permit.
8. That the response letter to the Planning Department dated 8-23-22 be accepted by the Planning Department or the applicant will meet any further open items for the Planning Department.

4D. The Committee on Ordinance to whom was referred an order That Appendix A of sec 2-35 of our ordinances be amended to add the positions of Assistant Procurement Officer and Grant Manager for the Police Department.

Recommended that the order be adopted.

4E. The Committee on Ordinance to whom was referred an order that Ordinance 26-33 Emergency Management Director be examined and updated to reflect the current responsibilities of the position

Recommended that the order be adopted

4F. The Committee on Ordinance to whom was referred an order that Sec 86-321 of the City's Parking Ordinance be amended by striking the following section:

Northampton St.

East

A point 20 feet North of Corser St.

A point 200 feet North of Corser St.

2 hour parking 8:00 a.m. to 8:00 p.m. Monday through Saturday

Recommended that the order be adopted as amended, adjusting the measurements of the section to be amended in the parking ordinance.

4G. The Committee on Ordinance to whom was referred an order that the City Council vote to amend section 7.10 to include the following definitions, which reflect the language from the state's Cannabis Control Commission:

Marijuana Courier: an entity licensed to deliver finished marijuana products, marijuana accessories and branded goods directly to consumers from a licensed marijuana retailer. It cannot wholesale, warehouse, process, repack, or white label these products. A Marijuana Courier does not require a City Council Special Permit but does need to obtain a business certificate from the City Clerk's office.

Marijuana Delivery Operator: an entity licensed to purchase at wholesale and warehouse finished marijuana products acquired from a licensed marijuana cultivator, marijuana product manufacturer, microbusiness or craft marijuana cooperative, and white label, sell, and deliver finished marijuana products, marijuana accessories and marijuana branded goods directly to consumers, but is not authorized to repack, marijuana or marijuana products, or operate a storefront under this license.

Recommended that the order be adopted as amended, removing the reference to a special permit in the Marijuana Courier definition

4H. The Committee on Ordinance to whom was referred an order That the Health Director, Building Commissioner and any other relevant city official meet ASAP with the Ordinance Committee to discuss odor mitigation at marijuana entities in Holyoke for the purpose of a) amending city ordinances and/or b) adding language to the list of conditions typically added to the Marijuana Special Permit.

Recommended that the order be adopted.

4I. The Committee on Ordinance to whom was referred an order to have handicapped sign removed from 402 Pleasant St, per new owner request.

Recommended that the order has been complied with.

4J. The Committee on Ordinance to whom was referred an order Zone change application from R2 to BH for Dennis Bolduc at 474 Pleasant St (091-00-062 & 063) to develop into museum, restaurant, and motorcycle dealership
Recommended that the order be adopted.

5. Finance Committee Reports

5A. The Committee on Finance to whom was referred an order From the Acting City Treasurer, Sharon Bittner-Willis. Most recent statements showing the balance for our stabilization accounts
Awaiting disposition

5B. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "2022 MASSTRAILS GRANT, \$50,000, \$12,500 MATCH THROUGH CANNABIS IMPACT STABILIZATION FUND, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.
Awaiting disposition

5C. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FFY19 PROJECT SAFE NEIGHBORHOODS PROGRAM, \$64,850, NO MATCH " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.
Awaiting disposition

5D. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY2023 STATE 911 DEPARTMENT SUPPORT AND INCENTIVE GRANT, \$246,443, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.
Awaiting disposition

5E. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "PVPC FY23 CT RIVER CLEANUP FUNDING, \$512,000, NO MATCH, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant
Awaiting disposition

5F. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE HUNDRED FIFTY THOUSAND AND 00/100 Dollars (\$150,000) as follows
FROM:

12101-51107 PATROLMEN \$150,000

TOTAL: \$150,000

TO:

12101-51300 OVERTIME \$150,000

TOTAL: \$150,000

Awaiting disposition

5G. The Committee on Finance to whom was referred an order that \$12,500 be transferred from the Cannabis Impact & Innovation Fund to OPED to be the match to the MassTrails Grant for continued planning on South Main Street Corridor Improvement Plans.

See executive summary and presentation at this link

<https://www.holyoke.org/springdale-corridor-main-st-project/>

Awaiting disposition

5H. The Committee on Finance to whom was referred an order to use \$2,017,526.96 of the ARPA revenue loss as a funding source to the FY2023 budget

Awaiting disposition

6. Public Safety Committee Reports

6A. The Committee on Public Safety to whom was referred an order That the Fire Chief and Fire Commission please provide the following information to the City Council within 30 days: Do any fire personnel of all ranks work second jobs that exceed 30 hours per week? If yes, how many? How does the department manage those second full-time obligations when Ordinance 2-35 states that fire class of the public safety group are supposed to be working a 48 hour schedule? After the report is received, please invite in the Chief and Commission to discuss if appropriate. Recommended that the order has been complied with

6B. The Committee on Public Safety to whom was referred an order that the lines on Rt 202 on the closed right hand lane going toward Westfield be painted ASAP. Two lanes are being used as travel lanes creating a safety hazard.

Recommended that the order has been complied with

7. Public Service Committee Reports

7A. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Beth Gosselin, 1070 Northampton St. to serve on the Local Historic Commission (Fairfield Avenue) effective July 1, 2022: Ms. Gosselin will serve a two year term; said term will expire on July 1, 2024.

Recommended that the appointment be confirmed

7B. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Lauren Niles, 40 Lexington Ave. to serve as an Alternate of the Planning Board for the City of Holyoke: Ms. Niles will serve a one-year term; said term will expire on July 1, 2023

Recommended that the appointment be confirmed

7C. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Lauren Niles, 40 Lexington Ave. to serve on the Local Historic District Commission (Fairfield Avenue): Ms. Niles will serve a three year term; said term will expire on July 1, 2025

Recommended that the appointment be confirmed

7D. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia, letter appointing Ms. Jessica Lebron-Martinez, 102 Brown Ave. to serve as a member on the Commission on Disabilities for the City of Holyoke: Ms. Lebron-Martinez will serve a three year term; Said term will expire on March 2025

Recommended that the appointment be confirmed

7E. The Committee on Public Service to whom was referred an order In accordance with the new Tourism Advisory Committee (TAC) Ordinance, in reference to the composition of the initial appointed committee that a Holyoke City Councilor be appointed to the committee. (for reference see the section from the ordinance below)

The initial Committee shall be comprised of one representative appointed annually by each of the following agencies which total seven (7) members:

(a) The Holyoke Local Cultural Council; (b) The Greater Holyoke Chamber of Commerce; (c) The Greater Springfield Convention & Visitors Bureau; (d) The Holyoke Office of Planning and Economic Development; (e) The Holyoke City Council; (f) The Holyoke Historical Commission; and (g) The Wistariahurst Museum.

Recommended that the order be referred to the City Council President to make an appointment

7F. The Committee on Public Service to whom was referred an order that interviews begin for candidates for Interim Treasurer position.

Recommended that the order has been complied with

8. Development and Governmental Relations Committee Reports

8A. The Committee on Development and Governmental Relations to whom was referred an order Special Permit Application for Betlai, LLC c/o Edison Yee to reuse the existing building and abutting parking lot for the proposed development of a White Hut restaurant at 825 Hampden St & Pleasant St (092-00-111 & 112)

Recommended that the order be adopted.

MOTIONS, ORDERS, AND RESOLUTIONS

9. JOURDAIN, MCGIVERIN -- Ordered, that pursuant to the January 4, 2022 order, which was unanimously approved by the City Council, the HG&E appear before the Finance Committee to give an update on their progress.

The January 4, 2022 Order adopted by the City Council read as follows: "The Holyoke Gas and Electric be requested to take all necessary steps to end the gas moratorium. That they report back to the City Council by April 1, 2022 on their recommended plan of action including potential time table to bring the moratorium to an end. "

10. VACON -- Ordered, That DPW representatives and our Auditor provide a financial review of the sewer enterprise fund for 2023 and anticipated financials for 2024, with a projected impact on the sewer fee, to a joint meeting of the Ordinance and Finance committees

11. VACON -- Ordered, That Mayor Garcia be given the authority to hire a DPW director above mid range up to no more than max without needing further approval from CC due to special circumstances

12. MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: EMPLOYEE BENEFIT COSTS EVALUATION & RECOMMENDATION, \$25,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

13. MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: MUNIS EMPLOYEE SELF SERVICE IMPLEMENTATION, \$29,475, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

14. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, SIXTY TWO THOUSAND AND 00/100 Dollars (\$62,000) as follows:

FROM:

12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000

12401-51201 PAY PROPERTY MAINT/DEMO SUPER 7,000

TOTAL: \$62,000

TO:

12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000

12401-51101 PAY-BUILDING COMMISSIONER 7,000

TOTAL: \$62,000

15. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND AND 00/100 Dollars (\$1,000) as follows:

FROM:

15101-51203 SUBSTITUTE NURSES \$1,000

TOTAL: \$1,000

TO:

15101-51300 OVERTIME \$1,000

TOTAL: \$1,000

16. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, FIVE THOUSAND TWO HUNDRED THREE AND 74/100 Dollars (\$5,203.74) as follows:

FROM:

12201-51105 FIREFIGHTER \$2,340.12

12201-51104 LIEUTENANT 2,863.62

TOTAL: \$5,203.74

TO:

12201-51180 INJURED ON DUTY \$5,203.74

TOTAL: \$5,203.74

17. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND ONE HUNDRED EIGHTY ONE AND 09/100 Dollars (\$1,181.09) as follows:

FROM:

12201-51105 FIREFIGHTERS \$1,181.09

TOTAL: \$1,181.09

TO:

12201-51180 INJURED ON DUTY \$1,181.09

TOTAL: \$1,181.09

18. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, EIGHTEEN THOUSAND THREE HUNDRED TWENTY TWO AND 10/100 Dollars (\$18,322.10) as follows:

FROM:

12101-51104 LIEUTENANT \$3,883.22

12101-51105 SERGEANT 6,723.80

12101-51107 PATROLMEN 7,715.08

TOTAL: \$18,322.10

TO:

12101-51180 INJURED ON DUTY \$18,322.10

TOTAL: \$18,322.10

19. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY THOUSAND THREE HUNDRED SIXTEEN AND 45/100 Dollars (\$20,316.45) as follows:

FROM:

12101-51104 LIEUTENANT \$3,883.22

12101-51105 SERGEANT 6,723.80

12101-51107 PATROLMEN 9,709.43

TOTAL: \$20,316.45

TO:

12101-51180 INJURED ON DUTY \$20,316.45

TOTAL: \$20,316.45

20. MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 LIBRARY SERVICES & TECHNOLOGY ACT (LSTA) - STRENGTH IN FAMILIES, \$10,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

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SPECIAL MEETING OF THE CITY COUNCIL

September 1, 2022

The meeting was called to order by President McGee at 6:40 PM

The Clerk called the roll. Absent members: 0 Present Members in Person 6 (Bartley, Jourdain, McGee, McGiverin, Murphy-Romboletti, Vacon). Present Members Remote 6 (Anderson-Burgos, Givner, Maldonado Velez, I. Rivera, J. Rivera, Tallman)

The Pledge of Allegiance was recited.

The name of Councilor Anderson-Burgos was called to head the roll call voting.

President McGee made a motion to take a roll call vote that for the purposes of the meeting would be applicable to all motions to receive and refer, remove items from the table, place items on the table, package items together, or suspend the rules unless there is an objection. Councilor Vacon seconded the motion. Motion passed on a call of the roll of the yeas and nays--Yeas 11--Nays 0--Absent 1 (Tallman).

President McGee wished a happy birthday to Councilor Bartley.

Councilor Jourdain made a point of order. He noted that Councilor Puello's name had not been called during the roll call. He then stated that it had been brought to his attention that Mr. Puello had been expelled from the membership and was seeking an understanding as to why. He then stated that it should be reported to the membership if a member of the body had been removed. He then stated that he believed there had not been a resignation, but that Mr. Puello had been removed. He then asked what the basis was for the removal. He also stated it would bring into question all of the votes that would be taken place. He then stated his understanding that it had something to do with a crime. He then asked what crime Mr. Puello had been convicted of. He noted that the Council had been judicious in not getting involved in the process Mr. Puello was working through with his situation in Rhode Island. He then stated his understanding that the process was not complete, but a decision had been made to remove him, citing section 46 of the charter. He suggested that if the decision was not lawful, it would jeopardize anything that would be handled that evening. Noting that the body had not been provided any information, he asked what was going on.

President McGee stated that it had not been brought up because there was nothing on the agenda to address it. He then stated that as it was being brought up as a point of order, the Law Department could address the matter.

Motion was made and seconded to suspend the necessary rules to allow the Law Department to address the Council.

Councilor McGiverin suggestion the need for caution, noting that council members police themselves. He stated that they were not there for the purposes of discussing what was happening with one councilor. He noted that he had received a text message prior to the Finance Committee meeting the day before informing him that Mr. Puello was resigning. He stated that while he agreed they should know if he was removed, they should not be discussing facts.

President McGee reiterated that he had not brought forward the information because the matter was not on the agenda. He then suggested caution on what people say as there was a pending legal matter.

Atty Degnan clarified that the councilor had not been removed and that is why a legal opinion had not been provided. She then stated that they received information that Tuesday which brought into question section 46 of the city charter. She then stated that the information served to render the Ward 2 seat vacant. She further stated that they could not say why due to the pending criminal matter and with consideration for the civil rights of the person. She stated that given the Law Department opinion, any votes taken could be jeopardized and that is why the decision was made. She emphasized she could not go into greater depth.

Councilor Jourdain emphasized that removing a sitting city councilor from office by virtue of claiming a violation of the city charter was a major ordeal. He noted it had similarities to a situation several months back.

Councilor I. Rivera suggested that his previous situation not be brought up.

President McGee emphasized that it was a sensitive issue, and that councilors should be careful of what they say because it was a pending legal matter.

Councilor Jourdain stated that a sitting city councilor being removed, citing section 46 of the charter, could only happen if the person was convicted of a crime punishable by imprisonment. He asked who was making the decision and what were the facts in support of the decision. He emphasized that the person's constituents had a right to know what the city was alleging that he did. He then questioned the idea that they could not be told what led to the councilor losing his seat. He emphasized that they needed facts and people had a right to know if someone was removed for cause. He reiterated that the charter stated that there needed to be conviction of a crime. He further stated that the public had a right to know. He stated that while he would not comment on the legal process in Rhode Island, he was concerned that Holyoke was following the law to assure that the city would not be liable for an action against the city for depriving someone of their constitutional rights, as well as the disenfranchisement of the people who elected him. He further asked for the legal justification for not informing the public the grounds for removal.

Atty Degnan stated that Mr. Puello knew of the charges and knew what happened. She stated she was not trying to keep information away, but that they needed to be careful not to violate his rights by stating the details publicly. She reiterated that Mr. Puello knew what was happening.

Councilor Vacon asked who raised the question and who had standing to cause the action. She suggested that it did not come from the City Council.

Atty Degnan stated that the Law Department needed to look at the matter, and in looking at the charter, the information they learned of caused them to make the decision.

Councilor Vacon emphasized that only the City Council, the mayor, and department heads in some circumstances have the ability to ask for legal opinions. She then asked who asked for the opinion that led to the decision that the seat was vacant.

Atty Degnan stated that it was Atty Lisa Ball.

Councilor McGiverin noted that it was established that the City Council could not do anything. Further noting that this was the first time the Council was being notified that the seat was vacant, he asked the City Clerk had been notified the seat was vacant.

President McGee stated she was.

Councilor McGiverin asked how she was notified.

President McGee stated a letter was sent to her.

Councilor I. Rivera expressed concern that they were not allowed to speak on the matter the last time this was brought up but that there was a 15 to 20 minute discussion happening at this time. He emphasized that the special meeting was not for this matter. He asked that the meeting move forward with the items actually on the agenda. He suggested that anyone with questions should address those through emails and phone calls.

President McGee stated that while no item was on the agenda, there was a legal question asked by motion.

Councilor Jourdain reiterated that he had a point of order, which are allowed under the rules that govern the meetings. He further stated that a member had been excluded from the meeting for unknown grounds. He expressed expectation that the body would receive a legal opinion justifying the Law Department's authority to vacate members. He questioned what grounds the Law Department could remove a sitting member. He then made a motion to request a legal opinion for discussion later, as well as a request to understand the authority the Law Department had to decide to vacate the seat. Councilor Vacon seconded the motion. He then emphasized that the issue was not about what was communicated to Mr. Puello but what the public had a right to know. He stated that there should be an explanation of the facts. He also noted that the charter states that it is the City Council that is the determiner of the qualifications of its members. He then reiterated his motion requesting a legal opinion.

President McGee asked if the discussion would happen in executive session.

Councilor Jourdain stated he would refer to the Council President. He then suggested they should get the legal opinion first.

President McGee asked if the legal opinion should only be discussed in executive session.

Councilor Jourdain suggested that he not release it until he determines if it should be.

President McGee clarified if the request was to put the opinion in an executive session.

Councilor Jourdain stated his request was for a legal opinion and he would defer to others if it should be in executive session.

Councilor McGiverin asked for a reading of the letter that was sent to the City Clerk,

President McGee asked the Law Department if he could read it, noting it was labeled Personal and Confidential.

Atty Degnan stated they had been concerned about dissemination, but it was general enough to be read. She then noted that if the matter was discussed in executive session, the minutes would eventually be released. She then reiterated that they were handling the matter in a way meant to protect Mr. Puello.

President McGee asked to clarify that he could read the letter given to the City Clerk.

City Clerk Murphy President McGee noted that the letter became public record when it was submitted to her office.

President McGee read from the letter:

September 1, 2022.

Hand delivered to William Puello

958 Main Street

Holyoke, MA

Re: Ward 2 vacancy

Dear Mr. Puello:

I am writing to you regarding information that this office received on Tuesday, August 30, 2022, and its' applicability to Section 46 of the City Charter; which reads as follows:

“Any office established under or by this act, except the office of superintendent of schools, shall become vacant if the incumbent ceases to be a resident of the city. The conviction of the incumbent of any such office of a crime punishable by imprisonment shall operate to create a vacancy in the office held by him.” In light of the information that this office received, and as discussed with you on August 31, 2022, your seat as Ward 2 City Councilor has been vacant since August 10, 2022. I have informed the City Clerk to expect your letter of resignation that you offered to submit on August 31, 2022.

Please know that the City will not be seeking to recover payments or benefits given to you prior to the date of this letter, but given that your seat is vacant, the City, as of the date of this letter, will not be paying you the stipend paid to City Councilor nor will you be eligible for any other benefits that you may have been receiving as a City Councilor.

It is unfortunate that these circumstances created a vacancy of your seat as a Holyoke City Councilor.

Very truly yours,

Kathleen E. Degnan

Assistant City Solicitor”

Councilor Givner asked if something could be read to justify what was happening. She then noted that they previously brought up Mr. Puello’s absence when he was not able to attend and were told that there was nothing they could do about it, and that the Law Department was not handling the matter. She then asked that the meeting move forward.

Councilor Jourdain noted that while the letter was helpful, it did not state any facts for the benefit of the public, specifically what the crimes were and what was the reasoning for the removal. He then reiterated his request for a legal opinion describing the basis for the removal.

President McGee stated an executive session would be called to get an update.

Councilor Jourdain asked that something be provided in writing in advance of an executive session.

President McGee stated that it would be provided.

Councilor Jourdain stated he would prefer to be able to prepare and review the grounds.

Councilor McGiverin suggested caution, noting that the individual would have a right to be in the meeting if it were a personnel issue.

Councilor J. Rivera noted that the residents of Ward 2 had gone 4-5 months without any notice of what was happening with Mr. Puello. She stated that it should not be an issue during this meeting.

Councilor Anderson-Burgos stated that he was not interested in participating in any part of the discussion.

Motion requesting a legal opinion passed on a show of hands vote.

LAI

(31:30)

Motion was made and seconded to remove item 1 from the table.

The Committee on Ordinance to whom was referred an order that the City Council amend Holyoke Zoning Ordinances to correct the site plan review process in Section 7.10.6.5(b).

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon noted that the legal draft provided included this order as well as two other orders also related to the marijuana ordinance. stated that the order was a cleanup of the ordinance that had included major site plan review. She then stated that the Planning Director confirmed that the marijuana impact fee

funds would be used for the salary of the department's employee handling reviews of marijuana establishments. She further clarified that the change was to remove major site plan review while leaving in other review functions.

Councilor McGiverin asked to clarify if the vote was just on the changes related to this order or all three changes.

Councilor Vacon stated it would only be for this order.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

Motion was made and seconded to remove item 2 from the table.

The Committee on Ordinance to whom was referred an order That until residents are offered an opportunity to meet IN THE NEIGHBORHOOD with public officials and public board members, who are making decisions with little to zero neighborhood input, the City shall not spend any funds or incur any costs for any new buildings including any school.
Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon stated that after much back and forth in committee, there was agreement that there should be a process to assure those most affected would be informed before funding was approved by the Council. She added that it would need to happen well before approval, noting that all the things that would affect a neighborhood would happen before a vote on funding. She then stated that the meetings would remain in the arena of open meeting law under the jurisdiction of the City Council. She added that the meeting should take place well before appropriation of funds. She noted that it was intended to assure those most affected would get notification but would also be open to the larger public.

Councilor Bartley noted that there had great discussion and input. He then stated the point was to get a meeting in the neighborhood while not being exclusive to the neighborhood. He then stated that with the impact to the neighbors, there was no good reason not to take an extra step to have a meeting as close as possible to a site. He suggested that 6-12 people showing up at a meeting was not truly representative and that his hope was that this ordinance would lead to more feedback.

Councilor McGiverin expressed that while it shouldn't require an ordinance, neighborhood meetings are important, especially with large projects. He then suggested that it should not be at the time the funds are being asked for but should happen first before site plan review and design phases. He stated that by the time requests come to Council all those decisions have been made.

Councilor Vacon clarified that the legal language did specify that it would happen during the design phase.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 10--Nays 1 (McGiverin)--Absent 1 (I. Rivera).

PETITIONS

(41:55)

To the CITY COUNCIL of Holyoke, Massachusetts.

The GAS AND ELECTRIC DEPARTMENT requests permission to locate a line of wires, cables, poles and fixtures, including the necessary sustaining and protecting fixtures, along and across the following public way or ways:

- One (1) 35' pole in the Essex St alley way between Beech St & Oak St, Holyoke MA

Wherefore it prays that after due notice and hearing as provided by law, it be granted a location for and permission to erect and maintain a line of wires, cable and poles, together with such sustaining and protecting fixtures as it may find necessary, said poles to be erected substantially in accordance with the plan filed herewith marked HG&E Dept. No.133-6S and Dated 08/19/2022.

Also, for permission to lay and maintain underground services, cables and wires in the above or intersecting public ways for the purpose of making connections with such poles and buildings as it may desire for distributing purposes.

Your petitioner agrees to reserve space at a suitable point on each of said poles for the fire, police, telecommunications, and control signal wires belonging to the municipality and used by it exclusively for municipal purposes.

---> Received and public hearing Scheduled for October 4th.

REPORTS OF COMMITTEES

(42:25)

The Committee on Ordinance to whom was referred an order From AACO Realty Corp. letter regarding 380 Dwight St. Holyoke 420 LLC (failure to enforce city ordinances-Complaint Have considered the same and recommended that the order be referred to the Law Department to coordinate with the Building Commissioner to investigate the matter and report their findings back to the committee.

DISCUSSION:

Councilor Vacon noted that it was an unusual circumstance. She then stated that it was an issue between a tenant and a landlord, but also related to their special permit. She then emphasized that it was not the job of the committee to hear complaints. She then stated that they had addressed the process, determining that the Law Department can coordinate with department heads to address complaints where they should be properly addressed. She then stated that they would need to hear back from the department. She further noted that she advised the special permit holder that any changes to the terms of their special permit would need to come back to the Council for amendment. She then noted that relative to signs, it was clarified that the sign ordinance prevails where the marijuana ordinance does not. She also noted that two other special permit holders did recently have amendments approved and it would need to be equitable how ordinances are followed through on.

Councilor McGiverin reiterated that the Council was not an enforcement body but if any such body was not doing their job, it was appropriate that it was brought to the City Council's attention. He then asked to clarify that vote on the item would not be agreeing or disagreeing with the complaint but only stating that the correct department look at the complaint.

Councilor Vacon confirmed that was accurate.

---> Report of Committee received and recommendation Adopted.

The Committee on Ordinance to whom was referred an order Resident on 326 Elm St. would like handicap sign on the side of his house removed as it is no longer needed.
Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon stated that the sign was no longer needed.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

The Committee on Ordinance to whom was referred an order Special Permit Application for Carefully Curated LLC at 420 Race St (028-07-014) to reutilize the building as a recreational adult use marijuana manufacturing establishment.

Have considered the same and recommended that the order be adopted with the following conditions:

1. That the owner of the building always pay the commercial property tax rate to the extent allowed by federal, state, and local laws for the duration of the Special Permit.
2. That the business retains a minimum 30% Holyoke residents for non-security jobs.
3. That the hiring preference be given to security personnel that are retired Holyoke police or are a retired member of another police department that now lives in the city of Holyoke.
4. There shall be no marijuana consumption allowed on site.
5. That the hours of operation be set according to City ordinances.
6. That the applicant must abide by Massachusetts General Laws and guidance's from the Cannabis Control Commission.
7. That the petitioner/applicant shall conform with city and state health laws, rules, and regulations, including odor nuisance controls, for the duration of the permit.
8. That the response letter to the Planning Department dated 8-23-22 be accepted by the Planning Department or the applicant will meet any further open items for the Planning Department.

UNDER DISCUSSION:

Councilor Vacon stated that relative to condition 8, they received a follow up letter from the Planning Department confirming that all open items were addressed other than a remaining item related to how the backup would be powered at the site. She noted the applicant agreed to follow up on that item, adding that they verbally stated that it would be battery backup. She further stated that the application was otherwise complete.

---> Report of Committee received and recommendation Adopted on a call of the roll of the yeas and nays--Yeas 11--Nays 0--Absent 0--Abstain 1 (Murphy-Romboletti). Councilor Murphy-Romboletti did not participate in the discussion or vote on this item.

The Committee on Ordinance to whom was referred an order That Appendix A of sec 2-35 of our ordinances be amended to add the positions of Assistant Procurement Officer and Grant Manager for the Police Department.

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon noted that the Council had previously approved the positions and that this was the last step to assure they were in the ordinances so that the departments could fill them.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 11--Nays 0--Absent 1 (I. Rivera).

The Committee on Ordinance to whom was referred an order that Ordinance 26-33 Emergency Management Director be examined and updated to reflect the current responsibilities of the position Have considered the same and recommended that the order be adopted

UNDER DISCUSSION:

Councilor Vacon asked to confirm that the legal form the President had included a stipend amount of \$4,000.

President McGee confirmed that it did.

Councilor Vacon stated that the current Emergency Management Director reviewed the specifics of the position. She noted that it had previously been a full time position, had nearly been eliminated, and was currently part time paid by a stipend. She then stated the goal was to be more precise about the role and the responsibilities of the role.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

The Committee on Ordinance to whom was referred an order that Sec 86-321 of the City's Parking Ordinance be amended by striking the following section:

Northampton St.

East

A point 20 feet North of Corser St.

A point 200 feet North of Corser St.

2 hour parking 8:00 a.m. to 8:00 p.m. Monday through Saturday

Have considered the same and recommended that the order be adopted as amended, adjusting the measurements of the section to be amended in the parking ordinance.

UNDER DISCUSSION:

Councilor Vacon stated that the language was amended to accomplish what was needed, keeping the no parking signs in front of the bank while removing them from in front of the dentist office.

Councilor Tallman commended Councilor Bartley and Councilor Anderson-Burgos for working to address an issue that had been ongoing for some time.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

The Committee on Ordinance to whom was referred an order that the City Council vote to amend section 7.10 to include the following definitions, which reflect the language from the state's Cannabis Control Commission:

Marijuana Courier: an entity licensed to deliver finished marijuana products, marijuana accessories and branded goods directly to consumers from a licensed marijuana retailer. It cannot wholesale, warehouse, process, repackage, or white label these products. A Marijuana Courier does not require a City Council Special Permit but does need to obtain a business certificate from the City Clerk's office.

Marijuana Delivery Operator: an entity licensed to purchase at wholesale and warehouse finished

marijuana products acquired from a licensed marijuana cultivator, marijuana product manufacturer, microbusiness or craft marijuana cooperative, and white label, sell, and deliver finished marijuana products, marijuana accessories and marijuana branded goods directly to consumers, but is not authorized to repackage marijuana or marijuana products, or operate a storefront under this license. Have considered the same and recommended that the order be adopted as amended, removing the reference to a special permit in the Marijuana Courier definition

UNDER DISCUSSION:

Councilor Vacon stated that the order was amending the marijuana ordinance to add definitions to align with the Cannabis Control Commission, clarifying the differences between one type of delivery and another.

Councilor Bartley stated that he would not support the order which would carve an exception from requiring a City Council special permit for one type of marijuana business.

Councilor Vacon stated that sentence had been eliminated.

Councilor Bartley stated that the order showed the sentence providing the exemption.

Councilor Vacon clarified that the recommendation stated, "as amended," and the legal form had that sentence removed.

President McGee, taking explanation from the Admin Asst, noted that the agenda showed the language of the original order. He noted that the legal form provided the definition of the marijuana courier without the sentence referring to an exemption from being required to get a special permit.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

The Committee on Ordinance to whom was referred an order That the Health Director, Building Commissioner and any other relevant city official meet ASAP with the Ordinance Committee to discuss odor mitigation at marijuana entities in Holyoke for the purpose of a) amending city ordinances and/or b) adding language to the list of conditions typically added to the Marijuana Special Permit. Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon stated that the matter was discussed over several meetings, with much information submitted through the public hearings. She then stated that the matter of odor was an ongoing issue being addressed within the industry in states that had allowed usage much longer than Massachusetts. She then stated that the Law Department was asked to draft a legal form that would cause the ordinance to address the issue specifically and that people applying for permits would need to follow the best practices as they evolve. She further added that compliance would be through the Board of Health rather than the Building Commission. She noted the intent was to balance the interests of the businesses and any abutting residents and businesses.

Councilor McGiverin asked if the Board of Health Director agreed that his department could do this.

Councilor Vacon confirmed that he did.

Councilor McGiverin noted that much of what the Board of Health does was governed by state law rather than directly by city ordinances.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 10--Nays 1 (Maldonado Velez)--Absent 1 (I. Rivera).

The Committee on Ordinance to whom was referred an order to have handicapped sign removed from 402 Pleasant St, per new owner request.

Have considered the same and recommended that the order has been complied with.

UNDER DISCUSSION:

Councilor Vacon stated that the matter had already been addressed and this was filed as a duplicate.

---> Report of Committee received and recommendation Adopted.

The Committee on Ordinance to whom was referred an order Zone change application from R2 to BH for Dennis Bolduc at 474 Pleasant St (091-00-062 & 063) to develop into museum, restaurant, and motorcycle dealership

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon stated that the area already had a lot of businesses and exciting new business development. She then stated that the concept was unique to the area and the city. She further stated that following discussion of the nature of the business, taking in feedback from abutters, hearing the answers to questions that were raised, as well as the ward councilor reaching out to residents, the committee recommended passing the zone change.

Councilor Bartley stated that the buyer and sellers were a great group of individuals who put on great presentation in expressing their desire to make this go forward. He noted that another project was also happening at the property diagonal to this one. He further stated that these projects were great for the city. He also commended several of the businesses that had helped anchor the neighborhood for many years.

Councilor Givner stated that the meetings had gone very well with very little opposition to the project. She also noted she had heard that corporate staff from Indian Motorcycle had visited the property the day before and were fired up about the project.

Councilor Jourdain emphasized the importance of preserving the church building. He further emphasized the challenge of reuses of properties like this. He commended Mr. Bolduc for taking the leadership on creating the museum, restaurant, and dealership business. He added that it would help the previous owners move on with their next situation. He also noted it was fantastic that a White Hut would also be opening across the street, emphasizing that they would bring in new taxes as well as providing great services and redevelopment for the citizens.

Councilor Murphy-Romboletti stated that while she would vote in favor, she had concerns that the project was different than the nearby White Hut project as that zoning was already conforming. She then suggested that the Council should not be zone changing for a project. She further suggested that the project was not a guarantee, but it probably was going to happen. She emphasized that she was business friendly but had concerns that it could be a slippery slope as it would be the only BH zoning in the area.

Councilor Tallman stated that it would be a great project that would add to the businesses already in the area as well as others coming in. He also stated that it was a great way of repurposing the church building, as well as bringing in tax dollars and jobs.

Councilor McGiverin emphasized that zone changes are typically about use. He then stated that it was the proposal from the developer that would justify the zone change in that it would not be detrimental to the neighborhood but would enhance it. He suggested that it was unlikely that any types of businesses they would not want, such as gas stations, would buy the building to tear it down in order to develop the property.

Councilor Maldonado Velez stated that even if the specifics of the project were taken out of the equation, he would still be okay with the other uses allowed under the BH zone, noting that Route 202 was a state highway. He also noted that there other BH zoned parcels nearby. He also noted that Mr. Bolduc would need to come back to the City Council for a special permit, allowing for additional checks and balances.

Councilor I. Rivera stated that his support was not specifically for the use but noted that there were a variety of zones similar to BH in the area. He expressed his vision that the section of Holyoke could continue to become more bustling in the future. He then stated that zoning rules and regulations are intended to help the city provide the best quality of life and residents and businesses.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

(1:20:45)

The Committee on Finance to whom was referred an order From the Acting City Treasurer, Sharon Bittner-Willis. Most recent statements showing the balance for our stabilization accounts Have considered the same and recommended that the order has been complied with.

UNDER DISCUSSION:

Councilor McGiverin stated that the fund known as the stabilization fund was divided into two parts, each based on when and how they were invested by different treasurers. He then stated that the two funds added up to a little over \$9 million after \$1 million was transferred earlier in the year into a new fund known as the capital stabilization fund. He noted there were some recent hits to the fund due to market impacts. He added that there was a 4th fund for the impact fee funds from the marijuana industry, which had a balance of around \$3.5 million at the time.

Councilor Jourdain stated that he would plan to file an order for the next meeting to have Flynn Financial, the city's investment partner, to present to the City Council on the types of investments the city's funds were in, risks and rewards, and to assure the relationship between the Treasurer's office and the Council was regularly fostered.

---> Report of Committee received and recommendation Adopted.

Motion was made and seconded to suspend the necessary rules to take up items 5B and 5G as a package.

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "2022 MASSTRAILS GRANT, \$50,000, \$12,500 MATCH THROUGH CANNABIS IMPACT STABILIZATION FUND, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant. Have considered the same and recommended that the order be adopted.

---> Report of Committee received and referred to the Finance Committee.

The Committee on Finance to whom was referred an order that \$12,500 be transferred from the Cannabis Impact & Innovation Fund to OPED to be the match to the MassTrails Grant for continued planning on South Main Street Corridor Improvement Plans.

See executive summary and presentation at this link

<https://www.holyoke.org/springdale-corridor-main-st-project/>

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor McGiverin stated that the grant was for a phase of MassTrails grants from the state specifically to be used for the Springdale area as Route 5 goes into Main Street. He further stated the project was in the design phase. He then stated that the grant would require a match, noting that the OPED Director was proposing using \$12,500 from marijuana impact fee funds for the match. He then stated that the committee was developed to discuss how those impact fee funds would be used. He emphasized that there were time constraints on getting this project started.

Councilor Bartley expressed his belief that this project was a plan to remove one of the lanes on Riverdale Street in front of Providence Hospital as well as remove some of the parking along Main Street. He then asked if this was that project.

Councilor McGiverin stated that he did not believe the city had agreed to the lane shutdown in front of Providence Hospital where the city line begins. He noted that West Springfield had agreed to it. He recalled that former Ward 2 councilor, Terry Murphy, engaged in a lot of discussion about the parking and how it would work when he was serving as Acting Mayor. He then stated that it was the project he was talking about but that the city had not agreed to all of the ideas put forward by the state.

Councilor Bartley recalled that the former Ward 2 councilor made his opposition very clear if the project would impact parking. He then stated that previous City Engineer had not given a straight answer but it seemed clear that the project would take away parking along the east side of Main Street. He also expressed concern that one of the two lanes in front of Providence Hospital would be closed. He also expressed concern that they would be asked to spend additional funds in the future. He also noted that it was made clear that the proposed changes would negatively impact Ward 2. He also stated that there was already a large shoulder that relatively few bicyclists used, adding that it did not even connect to the West Side rail trail. He expressed his intent to vote against the order.

Councilor Vacon stated that it had not been made clear what the design was. She then asked if they had the ability within the grant to change the design if it included the details that Councilor Bartley was alluding to or were they at the mercy of outside influences.

Councilor McGiverin expressed agreement with the concerns expressed by Councilor Bartley, especially about the removal of on street parking. He then stated that the grant would not bring the project to 100% but would move it closer to the completion phase. He then suggested tabling the order to get clarification on the questions being posed. He then stated that the city should have final say of the design before it would be implemented even if the Council was agreeing with the purpose of the study. He suggested that the order could be sent back to committee to get an answer to the questions.

Councilor Jourdain stated that would be a wise decision. He then asked for a copy of the design being proposed.

---> Report of Committee received and referred to the Finance Committee.

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FFY19 PROJECT SAFE NEIGHBORHOODS PROGRAM, \$64,850, NO MATCH " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor McGiverin stated that the grant would provide funding for the ShotSpotter program. He stated that Chief Pratt was in support of the grant and the program. He added Sgt Viruet from the Springfield Police Department joined the discussion as the person who oversees the use of the program in their city. He further added that two representatives from ShotSpotter were also in attendance. He then stated that the grant would cover the cost of bringing it into the city for 1 square mile, broken up between licensing and training members of the Police Department. He then stated that the proposal would be for 2 square miles, noting that Mayor Garcia planned to use ARPA funds for the cost of the additional area. He farther stated that the mayor was in support of the program and intended to bring it into the city one way or another. He then stated that the vendor's lead person was Ron Teachman. He then explained that the program was a technical tool to enhance safety within the city. He added that they learned that about 80% of calls of gunfire comes from within the planned area of its implementation. He the stated that the average call from a civilian was about 780 feet from where a shooting occurred, giving no information to the responding officers as to what to expect, such as neighborhood geography or the number of shooters or shots fired. He stated that the heat technology would allow the Police Department to give immediate information to responding officers, connecting them to Google to see a street map and topography, as well as the number of shots fired and how many individuals. He further noted that Springfield started with 4 miles and had recently increased it to 9 miles. He then stated that the vendor recognized that smaller cities have similar issues as larger cities and had worked out their cost formula that makes more sense for a smaller city. He also stated that the part of discussion focused on why they chose the specific area for implementation, noting that it encompassed almost all of Ward 1, a portion of Ward 2, and half of Ward 4. He further noted the concerns were that these low income neighborhoods, and majority black and brown neighborhoods compared to other neighborhoods in the city. He then stated that the argument was that these neighborhoods deserve the safety of ShotSpotter and the fact that the history of gun shots come mostly from within the planned 2 mile radius. He added that they could look to expand beyond this area if the city was happy with the program. He also noted the trauma that comes with youth living in these areas.

Councilor I. Rivera expressed his intent to vote no on the grant. He noted that he grew up in the Flats, a neighborhood where this would be placed. He stated that he had witnessed shootings and had been shot at. He stated he had not heard anything from the people in the community he had spoken to. He suggested that if meetings were going to be held when public buildings are proposed, communities should be given a chance to speak if programs such as this are going to be implemented in their neighborhoods. He also suggested that it would violate the 4th Amendment and would constitute illegal searches and seizures. He noted that there were a variety of lawsuits against ShotSpotter, including in Chicago. He suggested that the best policing would be community policing, having officers in the streets. He then suggested that gadgets may be cool but were expensive and ineffective. He noted that Springfield took several years before they were able to use the technology in an effective and efficient way, to figure out how to use it in a way that would benefit them. He then questioned spending money on things that would not be effective instead of investing in programs that would prevent a lot of these issues. He suggested that the Police Department did not have the capacity to successfully implement the technology. He further noted that a peer-reviewed ACLU article suggested that the technology had an 88% false alarm rate in Chicago. He expressed further concern that nobody was brought in to present a counterargument.

Councilor Murphy-Romboletti noted that she learned in doing research that Chicago was being sued as recently as July. She then stated that it was problematic that it would not be made available in all of the densely populated parts of the city. She then recognized that the vote was about accepting a grant, not about accepting or approving of the platform. She then expressed a hope that the effectiveness will be looked at after a couple years of it being in place. She also expressed a hope that the information being provided was transparent and not from salespeople who would just tell the city what they want to hear. She stated that she would support the order, noting that the city had been awarded the grant and would not initially be on the hook for the cost. She further stated that public safety was important and this would be another tool, but that the service should be held to a high standard.

Councilor Givner suggested that while the presentation was great and the information was useful, she was skeptical of a company representing and selling itself to the city. She further stated that she was also skeptical of a private company getting municipal funds as its main financing source. She noted it would be in their best interest to share their best news. She suggested that there should be a two year study to assure the product proves to be helpful. She then stated her intent to support the grant, adding that she believed there were additional steps that should be taken such as body cameras for police.

Councilor Anderson-Burgos expressed his intent to vote no on the grant. He suggested that it would be a waste of money. He then stated that he had initially under the assumption that the technology would come with cameras but understood that it would be based on the sounds of a gun. He suggested that by the time a gun is shot, nobody would stick around. He suggested that a grant should go to having police cameras on their body. He also suggested that this was a grab for state funds and was not what Holyoke needed.

Councilor McGiverin noted that Mr. Teachman was the former Chief of Police in New Bedford, Massachusetts as well as in South Bend, Indiana. He emphasized the great insight Mr. Teachman provided. He also stated that Sgt Viruet from Springfield explained that it had worked incredibly positively in their city. He also noted the technology is used in the courtroom with forensic sciences and is used to testify. He also stated that the lawsuit in Chicago was brought by an individual who was accused of a crime. He also noted that Springfield initially had their own doubts. He added that they drove a truck with sand around the city and fired shots into the sand to test out the technology. He emphasized that the technology was about protection of officers and protection of neighborhoods.

Councilor Vacon stated that the compelling details for her were that the mayor had been determined to address where 80% of the shots fired were occurring. She also noted that the police waste a lot of time and effort on trying to find where shots occurred on the few occasions when people actually called. She further stated that the testimony from the Sergeant in Springfield had been most compelling because he walked them through their process from initially doubting it, testing it, working it, and now to the point of being universally accepted by their police force. She noted they had proved the benefits to safety in their city. She questioned why Holyoke should wait until the violence gets worse. She also suggested that the city could take advantage of the experience Springfield had with it.

Councilor Jourdain commended the mayor for coming up with the idea. He also noted that the technology had the support of many officials, including U.S. Attorney Rachel Rollins. He added that 135 cities had adopted ShotSpotter in their communities. He also noted that when Springfield tested it out, they did 18 shots around the city. He emphasized that there was not a single call from a resident reporting a gunshot. She suggested that residents have a lot of reasons that don't call to report gunshots. He also noted that Holyoke had 379 gunshots called in from January 2019 to August 2021. He suggested that considering only about 20% of shots get called in, there was likely 60 shots fired in the city per month. He also noted the U.S. Attorneys office had advocated for Holyoke to get the grant, noting the city had a high amount of gunfire per capita for the size of the city. He also recalled a story about a gunshot victim who was only found because of the technology. He also emphasized that crime was a major issue of concern to residents. He also noted that the dispatcher screens out 98% of calls, providing significant mitigation of

false calls. He recognized that there were good points being made that data needed to be reviewed to assure that the city was getting the full value.

Councilor Maldonado Velez stated that he would be voting no but expected that the grant would end up going through. He noted that while Springfield started using ShotSpotter in 2008, the Department of Justice had determined that Springfield had been using excessive force with their residents. He suggested that it would send more police to black and brown communities. He also suggested that the presentation was a lot of fearmongering, showing guns appearing all over a map. He also noted that he lived in the area described as a red zone, suggesting that there should be shots going through his window all the time. He also stated that ShotSpotter was a for profit company who were there to send police to gunshots, adding that they would not be in business if there wasn't a gun problem to respond to. He suggested that they were not in the business of keeping people safe but to keep the cycle going of arresting people over and over again. He also stated that this would not stop police from being tasked with doing stuff that they should not be doing and did not want to be doing. He suggested a real conversation needed to take place to consider what really is public safety. He stated that police are there to react to things, adding that ShotSpotter would not reduce gunshots. He also expressed concern that when someone gets shot, the situations are always characterized as gang violence because they were with the wrong crowd. He stated that more needed to be done to prevent violence. He also stated there needed to be a cultural change on what policing is. He recalled the recent Patronales de Holyoke event attracted a lot of people from outside of Holyoke, but many Holyokers chose not to go, believing there would be gunshots at the event. He stated that it was 4 days of music and community, noting that the only situation that happened was individuals from outside of Holyoke trying to take advantage of the situation. He also emphasized that the event had the community and the police working together instead of against each other. He also recalled being asked by a police officer about why he was in an unsafe area when he was in his own neighborhood. He suggested that this required a cultural shift that ShotSpotter would not fix.

Councilor I. Rivera asked councilors to review the video of the presentation during the Finance Committee meeting. He emphasized that the Sgt Viruet explained that it took time for their city to get to the point they were at where ShotSpotter was working efficiently. He also noted that when Springfield tested out the system by firing into a sand, it was because ShotSpotter had not been out to recalibrate the system in a couple years, forcing them to do it themselves. He suggested that looking back after 2 years would not be enough because it would be 2 years of learning and the data would not mean anything. He further stated that people from outside those neighborhoods may be scared but those who live there were thriving. He then stated that fearmongering would not work on him.

Councilor Bartley expressed his support for the grant. He also recalled that the technology was brought before the City Council 10 years earlier by the former Ward 2 councilor, Anthony Soto.

Councilor Tallman stated that it had been an excellent presentation given at the Finance Committee meeting. He noted Springfield's decision to increase from their initial 3 miles to 9 miles. He also stated that he had spoken to several retired police officers who believed this would be effective tool for the department to use to protect neighborhoods. He also emphasized the importance of a U.S. Attorney believing it to be an important tool for Holyoke to use. He also noted the value of evaluating it after 2 years to see if it works.

Councilor McGiverin recalled a situation 20 years earlier when Officer John DiNapoli responded to a call of an individual walking down the street waving a gun, eventually leading to Officer DiNapoli being shot and killed. He suggested that while ShotSpotter may not have stopped that from happening, it could prevent another officer from going down in the line of duty or change the outcome of an innocent civilian being shot. He further stated that gunfire in the city illegal and that the service would be a tool to enhance the safety of neighborhoods, adding that it had been a proven technical tool. He then suggested that it isn't found to work, they can change their minds.

Motion was made and seconded to suspend the necessary rules to allow Councilor I. Rivera to speak for a third time.

Councilor I. Rivera expressed a hope that the Council would have the same attitude when it comes to education or teachers needing more money. She suggested that the situation was bogus.

Councilor Anderson-Burgos noted that the device was called ShotSpotter, not Shot Stopper. He stated he would rather see funds to uplift the community, to reach out to individuals who feel the need to have guns and fire them at other people. He reiterated that it would not stop shots from being fired. He then took exception to Officer DiNapoli being brought up and being used.

Councilor Maldonado Velez stated that safety comes in many ways, such as housing, food, education, jobs, and safe streets. He further suggested that public safety needed to be about focusing on holes in the street and abandoned buildings. He then stated that the country had no issue arresting people, noting that we had 25% of the world's prison population while having 4% of the world's population. He suggested that we have an issue seeing the goodness in people and not seeing the issues that lead people to act in some ways. He reiterated that ShotSpotter was about reacting to situations and not creating a world that would actually be safe. He further suggested that the city has enough police presence but not effective policing. He then questioned the implication that nobody is calling when shots are fired.

Councilor Tallman asked for the vote to be moved forward. He stated that he respected the concerns of those who planned to vote no, but he believed it would be an effective tool and something that had been proven to be effective in several communities around the country.

Councilor Vacon stated that the benefit of the system would include deterrence. She further stated that looking at prevention was great, they needed to deal with the reality that we have a community where there was a lot of illegal gunfire happening. She suggested that we can continue to do what was ineffective or try something new.

Councilor Jourdain noted that he asked if shots were going down in communities where ShotSpotter was implemented, and the answer was yes. He further noted that the criminal elements in Springfield had become concerned about where the ShotSpotters were, understanding the effectiveness of the device on getting police presence to them quickly. He stated that the total number of shots was decreasing. He also suggested that there was a false choice between addressing social needs and fixing the social determinants of crime versus intervention to save people and catch perpetrators of gun violence. He suggested it would be naïve to think that the city does not need to do both. He further stated that every person illegally shooting a gun needed to be locked up and off the street. He also stated that he was a strong supporter of finding the resources to understand and address the systemic causes of crime. He reiterated that a "this or that" argument was a false choice.

Councilor Givner stated that while she was skeptical of private companies, she would be supporting the grant. She also questioned the implication that those with concerns were not supporting the mayor. She stated that she wanted to assure that taking 2 years of information was taken seriously.

Motion was made and seconded to suspend the necessary rules to allow Councilor McGiverin to speak for a third time.

Councilor McGiverin clarified that he invoked Officer DiNapoli to make the point that when an officer respond to gunfire, they are in imminent danger. He further stated that ShotSpotter would give them more advance knowledge of the situation they would be walking into, such as number of shooters and topography of the area around them.

Motion was made and seconded to suspend the necessary rules to allow Councilor Maldonado Velez to speak for a third time.

Councilor Maldonado Velez noted that trauma was mentioned earlier. He stated that as someone who grew up in the Flats, he heard talk during the presentation about gangs. He then suggested that the police is a gang. He stated that they were there to protect each other and to go into the community with force. He stated that while he might be seen as a good guy, someone who has a job and went to college, he saw the police as a reminder for him to stay in his place as a Latino. He then expressed concern about a tool that would send more police into the community, adding that it was not a tool to protect people. He suggested that the police had not been there to protect community for a long time. He clarified that individual police officers were still humans behind a uniform but the entity of the Police Department do not need more tools. He suggested they needed to figure out their mismanagement of money and that the police audit should be done first.

Councilor Bartley suggested that the statement just made was one of the most irresponsible comments he had heard in 10 years. He then questioned the suggestion of not giving the police more tools but instead to limit the number of tools they have. He then emphatically stated that calling them a gang should not go unanswered, adding that it was a loathsome comment.

---> Report of Committee passed two readings and Denied on a call of the roll of the yeas and nays--Yeas 8--Nays 4 (Anderson-Burgos, Maldonado Velez, I. Rivera, J. Rivera)--Absent 0.

Motion was made and seconded to reconsider the previous action.

Motion was made, seconded, and thirded to ask for a roll call vote.

Motion passed on a call of the roll of the yeas and nays--Yeas 8--Nays 4 (Anderson-Burgos, Maldonado Velez, I. Rivera, J. Rivera)--Absent 0.

Councilor Jourdain noted that the Law Department's determination of a missing vote due to one council seat being vacant may come up.

Motion was made and seconded to lay item 5C on the table.

---> Report of Committee received and Laid on the table.

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "PVPC FY23 CT RIVER CLEANUP FUNDING, \$512,000, NO MATCH, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor McGiverin stated that the grant would be for CSO projects, which were mandated under the Clear Air Act. He noted it was an unfunded mandated except when federal dollars were provided to clean up spillage of sewage into the Connecticut River. He then stated that Holyoke was nearing the 60% mark of the required projects. He then stated that this grant would be used to complete the design phase of the River Terrace project. He noted that there had been a spill due to drain issues not long ago. He further stated that the grant would also be used to finalize the Jackson Street CSO project.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--Yeas 11--Nays 0--Absent 1 (Vacon).

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY2023 STATE 911 DEPARTMENT SUPPORT AND INCENTIVE GRANT, \$246,443, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

Have considered the same and recommended that the order be referred to the Auditor.

UNDER DISCUSSION:

Councilor McGiverin stated that the item was a duplicate that was already voted on and could be returned to the Auditor.

---> Report of Committee received and recommendation Adopted.

The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE HUNDRED FIFTY THOUSAND AND 00/100 Dollars (\$150,000) as follows

FROM:

12101-51107	PATROLMEN	\$150,000
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TOTAL: \$150,000

TO:

12101-51300	OVERTIME	\$150,000
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TOTAL: \$150,000

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor McGiverin noted that the City Council had been working with the Police Department for several years to track and understand their overtime use. He then stated that this request was due to the department having gone through a quarter that included summer vacation time. He noted that the line item began with \$250,000 at the beginning of the fiscal year. He added that the average pay period was over \$40,000 in overtime needs, attributed to many things such as the department running with 82 of the 92 officers budgeted for. He noted that 7 officers were in the academy that would be graduating soon, as well as 2 that had graduated recently. He then expressed an expectation they would return to 92 before the end of the fiscal year. He then noted they had gotten it down to \$36,000 of overtime per pay period, reiterating that the increase was due to summer vacations being scheduled. He then commended the department for making sure that shifts were covered even without enough officers, sometimes with mandatory overtime.

Councilor I. Rivera expressed his intent not to support the transfer. He further stated that with a new fiscal year, the Police Department needed to focus more on better management of overtime. He also suggested that the numbers did not add up, noting that they had been given a budget covering 92 officers and were transferring from that budget into overtime. He then questioned that when they reach 92 officers, where would they have the money for the additional officers. He suggested that although the transfer was likely to pass, he believed they needed to do better forecasting and future planning and could not continue to transfer in and out. His following statements in inaudible due to technical difficulties.

Councilor Vacon recalled that during the budget process, the Auditor explains that the positions needed to be funded regardless of if grant funding was coming or if there were open positions. She also stated that the Council knew the Police Department would be seeking the transfer due to open positions. She suggested that budgetary rules should be visited in the future but that this transfer was a matter of accounting and not accountability.

Councilor Maldonado Velez expressed his intent not to support the transfer. He then expressed concern about his previous comment being called reckless and suggested that the same councilor had made many reckless comments over ten and a half years. He then stated that the definition of a gang was a group of people, and that anyone with other perceptions of the word was on them. He then suggested that this particular gang asking for the transfer had savaged the community, particularly the black and brown community. He suggested they needed to fix their <expletive>.

Councilor McGiverin stated that part of the reason for the surplus in the line item for patrol officers was due to a grant reimbursing the salary. He further emphasized that the grant could not be used until the salary was spent. He noted the same thing happens with a number of line items where grants can be used to reimburse salaries. He also noted the Police Chief and the Mayor had asked for more than the \$250,000 the City Council approved for them. He further stated that he would agree with concerns if the department a full complement of 92 officers and were still asking for this overtime transfer so early in the fiscal year. He also emphasized that they needed officers on duty 24/7 and that there were additional demands on the department. He also suggested that the overtime dollars were being spent wisely and for public safety reasons.

Councilor I. Rivera, in reference to the point about the release of grant funds, he noted that the use of grant funds was not new. He then expressed his understanding that when the grant funds are released, the additional funds in the salary line item should be returned to the city. He then stated that his vote was about making a statement that they need a better plan, reiterating his expectation that the transfer was going to pass without his vote. He suggested that the department develop a financial forecast.

Councilor Tallman emphasized that policing work and safety costs money. He further stated that the whole community, not just the black and brown community, needed to be protected. He then stated that this type of transfer was not new, noting that officers regularly have to cover extra shifts, sometimes when they do not want to. He expressed his support for the transfer, noting it was not unusual. He also stated that the Chief had been transparent in what the department's needs were. He also stated that the city was one community and that he did not want to hear talk about black and brown communities.

Councilor Vacon emphasized that the transfer was within their budget and that they were not asking for more money. She then stated that anyone in leadership of the city characterizing the Police Department as a gang was beyond offensive. She further emphasized that they were there for the whole city. She then noted that studies showed the vast majority of people go to work to do the best job, adding that every group had a few bad apples. She further stated that characterizing the entire Police Department as a gang was ridiculous.

Councilor Maldonado Velez agreed that Holyoke was one city. He then suggested that for many years, policies in the city had been effective to specific populations, adding that this had been a part of the history of the country. He further stated that the country had been built on using police force to keep "others" in check and in line. He then clarified that his use of the term black and brown communities was to paint a picture that did not appear to be clear to his white colleagues on the Council.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 9--Nays 2 (Maldonado Velez, I. Rivera)--Absent 1 (J. Rivera).

The Committee on Finance to whom was referred an order to use \$2,017,526.96 of the ARPA revenue loss as a funding source to the FY2023 budget
Have considered the same and recommended that the order be adopted.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

(3:03:15)

The Committee on Public Safety to whom was referred an order That the Fire Chief and Fire Commission please provide the following information to the City Council within 30 days: Do any fire personnel of all ranks work second jobs that exceed 30 hours per week? If yes, how many? How does the department manage those second full-time obligations when Ordinance 2-35 states that fire class of the public safety group are supposed to be working a 48 hour schedule? After the report is received, please invite in the Chief and Commission to discuss if appropriate.

Have considered the same and recommended that the order has been complied with

UNDER DISCUSSION:

Councilor I. Rivera, noting that Councilor Jourdain had not been able to speak on the order during the committee meeting, deferred to him to explain his intent. He then suggested another order could be filed. He further stated that he considered that it should remain tabled but that the Law Department had their own concerns.

Councilor Jourdain stated that he would rewrite the order for more clarification. He then suggested that if the Law Department had any questions, concerns, or issues with an order, they should contact the councilor filing the order. He added that they could recommend changes to the wording. He then expressed concern that letters and opinions are addressed to councilors without first speaking to the councilor. He expressed further concern that the Law Department's letter stated that they found no basis for the order. He suggested that he could have given them the basis if they had called him. He then stated that the order was filed as part of many coming data requests relative to several departments on the issue of getting to the root causes of workplace injuries. He suggested that one of the obvious causes of such injuries was workplace fatigue. He further suggested that if an employee was working 48 hours per the ordinance, as well as working other full time jobs, the question was if they, their coworkers, and members of the public are safe working 90 hours a week. He noted that throughout the year, there are almost always at least 3 firefighters out on injury, with \$1 million a year being spent on workplace injury and accident claims. He reiterated that he would rework the order to talk about workplace fatigue and injuries. He then emphasized that the Council cannot be afraid about asking difficult questions that nobody was asking. He clarified that the issue was not a gotcha issue but about assuring that everybody is safe. He also suggested that it was not an invasion of privacy but about protecting residents and workers in the department. He then expressed his intent to discuss how reduce risk, incident reports, drug testing policies, to assure everyone is safe, to protect lost time, city funds, but most importantly to assure everyone is okay.

Councilor Givner noted that during the meeting, there was a question of privacy regarding the way the order was written. She then recognized that nobody would argue that safety issues should be addressed and that there was no intention to just dismiss the order, adding that the Law Department just had concerns about privacy and asking for the information in this way. She suggested that they should be able to get the requested information if it rewritten.

Councilor Vacon suggested that a new order should include a request to review of the historic success or lack of success in the 24 hour shifts with the Fire Department.

---> Report of Committee received and recommendation Adopted.

The Committee on Public Safety to whom was referred an order that the lines on Rt 202 on the closed right hand lane going toward Westfield be painted ASAP. Two lanes are being used as travel lanes

creating a safety hazard.

Have considered the same and recommended that the order has been complied with

UNDER DISCUSSION:

Councilor I. Rivera stated that the City Engineer explained that the road was on their list of line painting, noting that they had a lot on their plate.

Councilor Vacon stated that while she accepted that it was complied with during the meeting, it was one of the most dangerous non-signalized intersections in the city and that she had been since informed that the painting will not be fully implemented until the spring. She emphasized that there had been many accidents and fatalities on the road. She then suggested that the order be tabled with the City Council. She further emphasized that it was an ASAP issue and could not wait a few months until someone else gets killed. She noted that half of the crosswalks had been painted while others had not, adding a suggestion that lines in the road should be painted at the same time. She then stated that the right lane ends at the top of the hill at the intersection with Apremont Highway, but vehicles are continuing to pass on the right beyond that intersection. She also stated that she contacted DPW and followed up with them again before filing the order, adding that she was optimistic after the Engineer assured the committee it would be done before the City Council meeting. She reiterated her request that the order be tabled with the City Council.

Councilor Bartley made a motion to instruct the Administrative Assistant to send a communication to the DPW Superintendent and Public Works Commissioners expressing the urgency of the matter. Councilor Vacon seconded the motion.

Councilor Jourdain suggested that the motion also request that they attend the next City Council meeting so that they can explain to citizens why the matter had not been addressed. He also expressed concern that if they wait too long, they'll then come back and say it's too cold and would then have to wait until spring.

Councilor Bartley amended his motion to invite the Superintendent and Commissioners to the next City Council meeting.

Councilor Givner expressed respect for Councilor Vacon's frustration. She noted that there was a corner at Sargeant and Sycamore where cars keep driving onto a woman's front lawn. She noted that while the answers they were getting were unacceptable, it appeared to be out of the control of those in power if there were not enough employees to paint the lines. She suggested that there needed to be more focus on hiring people, noting that citywide painting was supposed to be done annually. She suggested that issues anywhere in the city be addressed as citywide issues.

Councilor Vacon clarified that when she has advocated Ward 5 issues, she has also advocated for safety issues through the entire city. She further stated that a very dangerous issue that had been studied and determined as one of the worst areas, they should try to address it.

Motion to instruct the Administrative Assistant to send the requested communication approved.

---> Report of Committee received and Laid on the Table.

(3:21:10)

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Beth Gosselin, 1070 Northampton St. to serve on the Local Historic Commission (Fairfield Avenue) effective July 1, 2022: Ms. Gosselin will serve a two year term; said term will expire on July 1,

2024.

Have considered the same and recommended that the appointment be confirmed

UNDER DISCUSSION:

Councilor Tallman stated that Ms Gosselin had recently moved into a historic home in Holyoke, wanted to get involved in the community, and responded to a call for more people in the community to volunteer for different commissions. He noted she was very happy living in Holyoke and was excited to start work on this commission.

---> Report of Committee received and appointment confirmed.

Motion was made and seconded to suspend the necessary rules to take up items 7B and 7C as a package.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Lauren Niles, 40 Lexington Ave. to serve as an Alternate of the Planning Board for the City of Holyoke: Ms. Niles will serve a one-year term; said term will expire on July 1, 2023
Have considered the same and recommended that the appointment be confirmed

---> Report of Committee received and appointment confirmed.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Lauren Niles, 40 Lexington Ave. to serve on the Local Historic District Commission (Fairfield Avenue): Ms. Niles will serve a three year term; said term will expire on July 1, 2025
Have considered the same and recommended that the appointment be confirmed

UNDER DISCUSSION:

Councilor Tallman stated that Ms. Niles had been to a couple meetings for both boards already. He noted that she would be an alternate on the Planning Board. He then stated that she was willing to serve and had some of the background down from the two boards. He noted that several councilors asked some very good questions during the meeting.

---> Report of Committee received and appointment confirmed.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia, letter appointing Ms. Jessica Lebron-Martinez, 102 Brown Ave. to serve as a member on the Commission on Disabilities for the City of Holyoke: Ms. Lebron-Martinez will serve a three year term; Said term will expire on March 2025
Have considered the same and recommended that the appointment be confirmed

UNDER DISCUSSION:

Councilor Tallman stated that Ms. Lebron-Martinez had been involved with human services and was willing to get more involved in the community. He also that she was originally from Holyoke and had come back to the city 4 years earlier, had the extra time, and was interested in serving.

---> Report of Committee received and appointment confirmed.

The Committee on Public Service to whom was referred an order In accordance with the new Tourism Advisory Committee (TAC) Ordinance, in reference to the composition of the initial appointed committee that a Holyoke City Councilor be appointed to the committee. (for reference see the section from the ordinance below)

The initial Committee shall be comprised of one representative appointed annually by each of the following agencies which total seven (7) members:

(a) The Holyoke Local Cultural Council; (b) The Greater Holyoke Chamber of Commerce; (c) The Greater Springfield Convention & Visitors Bureau; (d) The Holyoke Office of Planning and Economic Development; (e) The Holyoke City Council; (f) The Holyoke Historical Commission; and (g) The Wistariahurst Museum.

Have considered the same and recommended that the order be referred to the City Council President to make an appointment

UNDER DISCUSSION:

Councilor Tallman stated that the order was discussed and that it was up to the City Council President to seek volunteers and pick someone.

President McGee stated that an email reminder would be sent out the following day to ask for a volunteer from the Council.

---> Report of Committee received and recommendation Adopted.

The Committee on Public Service to whom was referred an order that interviews begin for candidates for Interim Treasurer position.

Have considered the same and recommended that the order has been complied with

UNDER DISCUSSION:

Councilor Tallman stated that Rory Casey, Amie Chrzanowski, and Michael Hanson were interviewed for the position. He noted several good questions were asked by councilors. He further stated they were asked questions regarding their experience, their familiarity with Munis, their position with reconciling, and their opinion of the potential that the job may change within a couple years.

Councilor McGiverin noted that he had learned several additional candidates had applied for the position that they were not made aware of. He also emphasized that this was a charter position requiring that a person already live in the city rather than move to the city. He further stated that several of the candidates that they were not informed about did not live in the city. He then noted that Mr. Hanson did not live in the city, adding that he was qualified, knowledgeable, well informed, and probably would have been a good Acting Treasurer but lived in Gettysburg, Pennsylvania. He further stated that Mr. Hanson owned a condo in the city which had been purchased for his daughter who was starting a bakery in Amherst. He noted Mr. Hanson was willing to use that condo if he were selected. He then expressed a concern that if selected, Mr. Hanson could not be sworn in until he became a resident. He then asked why the decision was made not to forward the information for all of the candidates. He also emphasized that their job as a Council was to try to do the best on behalf of what the voters would do if the candidates were on a ballot. He then expressed discomfort for balloting without having those questions answered.

Councilor Givner asked for clarification regarding other candidates that applied that were not residents. She then asked why their information should be forwarded if they automatically did not qualify to serve in the position.

President McGee clarified that the issue was not that they did not qualify, noting they could move to Holyoke. He further stated that his instruction had been that HR should send everything over when

resumes come in and it was the City Council's job to do the vetting from there. He further noted that while there was a posted deadline for applying, someone did not need to apply for members to vote for them.

Councilor Givner asked how a person qualified if qualification required living in the city.

President McGee stated that if they get the position, they would have a timeframe to move to the city.

Councilor Jourdain echoed Councilor McGiverin's concerns. He then emphasized that they had only gotten the filter of 4 candidates, noting that one of them had dropped out the day of the interviews. He then stated that Mr. Hanson made clear to him that he already owned property in Holyoke and would move to the city if he was selected. He then suggested that there needed to be consistency in strictly following the rule to assure all department heads are residents at the time of appointment. He also noted that there was a state statute stating that a position becomes vacant if a city's residency requirement is not followed. He further stated that all candidates should have been put forward to the Council, reiterating that councilors can vote for anyone they want, including those that didn't apply and those that live out of town. He then expressed that he should have a right to know anyone that wanted his support for the position, suggesting that the issue was grounds for tabling the item. He also stated that any deadlines are just a method for speeding up applications, adding that they can continue to keep taking them and that the real deadline was up to the point that the Council votes on the position.

Councilor Murphy-Romboletti noted that the mayor was in attendance who may be able to speak on the procedure that took place.

Motion was made and seconded to suspend the necessary rules to allow Mayor Garcia to address the Council.

Mayor Garcia stated that when candidates applied, they were told that there was a residency requirement, and some chose not to go forward as they did not intent to move to the city of Holyoke. He also noted one of those candidates only wanted to work 15-20 hours a week.

Jourdan stated that he was good with that explanation. He then asked if they got all of the applications for anyone that was willing to move to Holyoke.

Mayor Garcia confirmed that nobody was excluded that was willing to move to Holyoke. He noted that Personnel Director, Kelly Curran, was online and could speak, noting she was the one who communicated with the candidates.

Councilor Bartley stated that he had not known some people were excluded, but accepted the explanation just given. He then noted that one candidate, a Holyoke resident, dropped out right before. He also stated that this process was similar to that of filling the recent vacancy of the Ward 3 School Committee seat in that there deadline was just a made up date. He suggested that such deadlines should not be used again unless a valid rule was in place. He stated it should be clear in advertising that councilmembers can vote for whomever they choose the night of the meeting. He emphasized that artificial deadlines do not help anyone, especially the candidates. He also stated that councilors should be given an opportunity to ask additional questions of any candidate if they had any, even potentially referring the item back to committee.

President McGee clarified that deadlines were not designed to be problematic, although they could be, but to put out to people to get them to apply.

Councilor Bartley clarified that his intent was not to apply fault to anyone but to ask that any future advertising make clear that councilors can choose anyone they want up to the time of the vote.

Councilor Tallman noted one person dropped out the day before and another lived out of the city who wanted to work part time, adding that we needed more than a part time treasurer. He noted that anyone who wanted the job could have and did call several councilors. He suggested that the vote should go

forward that evening, noting that the current Acting Treasurer, Sharon Bittner-Willis, was needed back in the Auditor's office.

Councilor McGiverin clarified that his concerns were not about the Personnel Director or the other candidates but about the fact that the reasons given for excluding the others leads him to question why Mr. Hanson was brought forward as he was also a non-resident. He noted that Mr. Hanson clearly stated that he lived in Gettysburg, Pennsylvania and bought a place in Holyoke for his daughter and could utilize the condo if he were to get the position. He then noted that he found Mr. Hanson to be more than qualified, but could not be sworn in until he moved, noting that it was an appointment to an elected position. He further stated that some may read the charter to state that he would have to be a resident before being selected, noting that candidates can't run for office and decide to move after getting elected.

Councilor Jourdain suggested that it would be legitimate to vote for any of the 3 candidates, or anyone else. He then stated that he would vote for Mr. Hanson. He then stated that the office needed a serious, qualified person. He further stated that his resume compared to the others was night and day, noting that the other two had no substantial financial experience and only high school diplomas versus Mr. Hanson who was a retired CPA, had an MBA, and years of finance experience. He added that Mr. Hanson was willing to move to the city, his wife wanted to be in Holyoke to help their daughter run the bakery in Amherst. He then noted that he also asked if Mr. Hanson would run for the position the following year, and that he said he would, that he hoped people got to know him and would consider voting for him. He then stated that Rory Casey was a good man, had tried to contribute to a lot around City Hall, and involved in a number of matters, was committed to the City of Holyoke, but just was not as qualified as Mr. Hanson. He noted that the office had experienced several issues over the last decade and the Council owed it to the citizens of Holyoke to vote for the most qualified candidate.

Councilor Maldonado Velez read from the City Charter:

"No person shall be eligible to any of the offices of the city government, except superintendent of schools, unless he is a citizen and has been a resident of the city for at least two years."

He then suggested getting the Law Department's input on this matter, noting that it appeared someone needed to be a resident for at least two years to be eligible for this position.

Motion was made and seconded to suspend the necessary rules to allow the Law Department to address the Council.

Atty Bissonnette stated that the Charter was specific that they must be a resident on the day they are elected, on the day they file papers, and a period before that, but definitely had to be a resident of Holyoke when their term begins. He noted that the mayor's temporary appointment could be a non-resident due to being subject to state law which superseded the city's charter and ordinances. He further stated that the appointment could be allowed to run its course before the City Council's appointment begins their term. He suggested that it would not serve as a way around the two year requirement.

Councilor Maldonado Velez asked to clarify that Mr. Hanson would have had to be a resident for two years from the date of appointment.

Atty Bissonnette stated that knowing Mr. Hanson had a unit in the city, if he owned it for at least the past two years, that coupled with his intent to remain may be enough to satisfy the requirement, adding that it may require seeing the deed to the condo.

Councilor Vacon stated that they had gone through the process of hiring consultants to work with the Treasurer's office to reconcile issues and get new procedures into place and had received assurances that the procedures would remain in place going forward. She added that the same reconciliation problems continued. She then stated that the department needed fresh eyes who knows what they are looking at. She also noted that she did follow up with the candidate relative to the temporary nature of the position, and he expressed his interest in the position whether it is temporary, gets modified, or remains as an elected position. She stated that her vote would be for the most qualified person who would bring

the needed knowledge and skills, adding that the consultant could help him where he is lacking in specific government experience.

Councilor Murphy-Romboletti expressed her hope that a vote could be taken soon, noting the importance of stability in the office. She also expressed concern for pursuing the route of bringing in someone without much municipal experience, emphasizing that a municipality is not a business. She further stated that it would be concerning to hire someone who doesn't understand Munis or municipal government.

President McGee noted that he met with the mayor and the outside group helping the Treasurer's office catch up and understood they would be around for every day no matter who was there to help the office catch up and assure everyone was on the same page. He suggested that the mayor could speak to provide more details.

Mayor Garcia stated that they were currently negotiating a contract with the consultant who would be offering training. He then noted there was an opportunity to change the course for longer term sustainability. He further noted that there was a proposal in committee to consider changing the charter, and to potentially put up any changes to a vote of the city. He then suggested that a lack of many strong candidates was due to too many unknowns for the position. He then stated that any of the available candidates, as well as the department, would continue to have the consultants that can help them catch up and implement a plan.

Councilor I. Rivera stated that he spoke with Mr. Hanson a few days earlier, noting that there was a concern around the position eventually being eliminated because he was talking about moving his family. He then expressed some discomfort in voting for him without knowing if the residency would become an issue.

Councilor Jourdain emphasized the important thing to note about section 45 of the charter was that it applied to all the offices of the city. He then asked if that was actually really happening. He noted there was a vote for Assessor recently where all of the candidates were from out of town. He noted they hadn't even needed to vote on it as it was just for a staff position. He then questioned if two year residency is being checked for various city offices. He then suggested it could be a long list of offices that were not following section 45. He then emphasized that Mr. Hanson was willing to move to the city.

Councilor Anderson-Burgos questioned how much the position paid, and suggested it was a high risk for someone to move their family for a position that may not be there soon. He then noted that they did not know for certain if the deed to the condo was in order. He further suggested that there was value to workers who have already been around City Hall and have developed working relationships with people already.

Councilor McGiverin suggested that section 45 was simple to explain. He noted that Atty Bissonnette explained that the mayor can appoint someone temporarily according to Mass General Laws. He further emphasized that residency is key to the City Council's appointee. He questioned if someone who bought a condo on a lake in Vermont could then run for governor. He emphasized that all 3 were qualified, with 2 of them having experience in City Hall and specifically in the Treasurer's office.

---> Motion was made and seconded to go to the first ballot for Interim City Treasurer. Rory Casey received 9 votes (Anderson-Burgos, Givner, Maldonado Velez, McGee, McGiverin, Murphy-Romboletti, I. Rivera, J. Rivera, Tallman). Michael Hanson received 3 votes (Bartley, Jourdain, Vacon). Rory Casey appointed as Interim City Treasurer.

(4:05:50)

The Committee on Development and Governmental Relations to whom was referred an order Special Permit Application for Betlai, LLC c/o Edison Yee to reuse the existing building and abutting parking lot for the proposed development of a White Hut restaurant at 825 Hampden St & Pleasant St (092-00-111 & 112)

Have considered the same and recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Murphy-Romboletti stated that they applied for a fast food special permit and were planning to use the existing building. She noted they provided all the information to make sure it meets the needs of the special permit requirements. She also stated that they applied for a parking reduction to 16 spots with the Planning Board, noting it would normally require 47 spots. She further stated that they discussed a Planning Board condition that they have a 6 month lookback to make sure that the parking is adequate. She noted that the Planning Board letter was provided, which explained that the applicant was expected to provide a 6 month update to the Planning Board and they would determine at that time if there was enough parking. She noted that the planned to do regular maintenance on the property, paying close attention to the exterior. She then stated that they planned to have similar hours to their location in West Springfield, opening at 6:30 a.m., closing at 6 p.m. in the winter, and closing at 7 p.m. in the summer. She noted they planned to open in the spring of 2023. She added that they planned to have a patio outside. She further stated that the business would provide about 15 jobs.

Councilor Bartley stated that the petitioner had recently been granted a zone change from R2 to BL. He noted that restaurants require a special permit in the BL zone. He then recognized that the layers of government that businesses are required to navigate can be overwhelming, but special permits are not to provide roadblocks but to give councilors more time and a chance to dive deeper into the application. He then noted that when it was brought up that the Planning Board was asking for a 6 month lookback, he asked how they planned to assess it. He further emphasized that the Planning Board placed the responsibility to assess it on the business to assess if they have enough parking. He then emphasized the importance of the applicant assess what they need. He also noted the question came up that they would make sure their employees were parking off site, adding that they assured they would. He then stated that they chose not to place any conditions on the special permit, knowing that the petitioner was a quality business that could be trusted. He further emphasized that without a special permit, councilors would not have the opportunity to ask such questions. He then thanked the Yee family for their investment in the city.

Councilor McGiverin emphasized the importance of the applicant being a known developer. He stated that it was a building they would not want to see remain vacant. He noted there was opportunity to find additional parking across the street.

Councilor Vacon stated that she was in strong favor of the special permit being granted.

Councilor Tallman expressed his support for the project, adding that the area of the city was coming to life with multiple new businesses opening.

President McGee noted that he was approached by the Yee family early on, asking him what he thought about their plan. He further stated that he told them it would be phenomenal to bring the White Hut to the area. He also stated that the were proactive on their plan from the start, thinking about closing time and further considering the interests of the residents of the area.

Report of Committee received and recommendation Adopted on a call of the roll of the yeas and nays--
Yeas 12--Nays 0--Absent 0.

MOTIONS, ORDERS, AND RESOLUTIONS

(4:17:05)

JOURDAIN, MCGIVERIN -- Ordered, that pursuant to the January 4, 2022 order, which was unanimously approved by the City Council, the HG&E appear before the Finance Committee to give an update on their progress.

The January 4, 2022 Order adopted by the City Council read as follows: "The Holyoke Gas and Electric be requested to take all necessary steps to end the gas moratorium. That they report back to the City Council by April 1, 2022 on their recommended plan of action including potential time table to bring the moratorium to an end. "

--->Received and referred to the Finance Committee.

VACON -- Ordered, That DPW representatives and our Auditor provide a financial review of the sewer enterprise fund for 2023 and anticipated financials for 2024, with a projected impact on the sewer fee, to a joint meeting of the Ordinance and Finance committees

Councilor Vacon stated that the request was to meet jointly.

---> Received and referred to the Ordinance Committee and the Finance Committee.

VACON -- Ordered, That Mayor Garcia be given the authority to hire a DPW director above mid range up to no more than max without needing further approval from CC due to special circumstances

Councilor Vacon stated that when the previous ordinance language was passed, it did not meet the exact intent of the order, adding that this one would. She further stated that the intent was to give the flexibility to the mayor but the legal form stipulated that it would need to come back to the City Council. She then stated that she would prefer not to wait until October 4th, noting the rules required it to go through the Ordinance Committee. She then suggested the City Council recess for 5 minutes, allow the Ordinance Committee to meet briefly, approve it, and then come back to allow the City Council to approve it.

Motion was made and seconded to call a brief recess.

Councilor Jourdain made a point or order. He then asked if the suggestion was compliant with the open meeting law to call an unannounced Ordinance Committee meeting to take up one item with no notice to the public.

Motion was made and seconded to suspend the necessary rules to allow the Law Department to address the Council.

Atty Bissonnette stated that they could not. He then suggested that they could pass it through all of its stages on the written recommendation of the mayor as it was a financial order.

Councilor Jourdain noted there was also a state law allowing all of the readings of an ordinance change to pass in one night if there was no objection.

Councilor Vacon stated that there was already an ordinance passed allowing the mayor to exceed the mid-range, but the legal language required the mayor to come back to the City Council for permission to do it.

Councilor Jourdain asked to clarify that the intent was to amend the ordinance.

Councilor Vacon confirmed that was correct.

Councilor Jourdain asked if the other order was in committee.

President McGee clarified that it was already taken up and approved.

Councilor Jourdain emphasized that the new ordinance change could not be voted on because they did not have legal form.

---> Received and referred to the Ordinance Committee.

Motion was made and seconded to suspend the necessary rules to take up items 12 through 15 and 20 as a package.

MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: EMPLOYEE BENEFIT COSTS EVALUATION & RECOMMENDATION, \$25,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

---> Received and referred to the Finance Committee.

MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: MUNIS EMPLOYEE SELF SERVICE IMPLEMENTATION, \$29,475, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

---> Received and referred to the Finance Committee.

MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, SIXTY TWO THOUSAND AND 00/100 Dollars (\$62,000) as follows:

FROM:

12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000

12401-51201 PAY PROPERTY MAINT/DEMO SUPER 7,000

TOTAL: \$62,000

TO:

12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000

12401-51101 PAY-BUILDING COMMISSIONER 7,000

TOTAL: \$62,000

---> Received and referred to the Finance Committee.

MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND AND 00/100 Dollars (\$1,000) as follows:

FROM:

15101-51203 SUBSTITUTE NURSES \$1,000

TOTAL: \$1,000

TO:

15101-51300 OVERTIME \$1,000

TOTAL: \$1,000

---> Received and referred to the Finance Committee.

MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 LIBRARY SERVICES & TECHNOLOGY ACT (LSTA) - STRENGTH IN FAMILIES, \$10,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

---> Received and referred to the Finance Committee.

Motion was made and seconded to suspend the necessary rules to take up items 16 through 19 as a package.

MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, FIVE THOUSAND TWO HUNDRED THREE AND 74/100 Dollars (\$5,203.74) as follows:

FROM:

12201-51105 FIREFIGHTER \$2,340.12

12201-51104 LIEUTENANT 2,863.62

TOTAL: \$5,203.74

TO:

12201-51180 INJURED ON DUTY \$5,203.74

TOTAL: \$5,203.74

---> Passed two readings and Adopted on a call of the roll of the yeas and nays--Yeas 11--Nays 0--
Absent 1 (Bartley).

MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND ONE HUNDRED EIGHTY ONE AND 09/100 Dollars (\$1,181.09) as follows:

FROM:

12201-51105 FIREFIGHTERS \$1,181.09

TOTAL: \$1,181.09

TO:

12201-51180 INJURED ON DUTY \$1,181.09

TOTAL: \$1,181.09

---> Passed two readings and Adopted on a call of the roll of the yeas and nays--Yeas 11--Nays 0--
Absent 1 (Bartley).

MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, EIGHTEEN THOUSAND THREE HUNDRED TWENTY TWO AND 10/100 Dollars (\$18,322.10) as follows:

FROM:

12101-51104 LIEUTENANT \$3,883.22

12101-51105 SERGEANT 6,723.80

12101-51107 PATROLMEN 7,715.08

TOTAL: \$18,322.10

TO:

12101-51180 INJURED ON DUTY \$18,322.10

TOTAL: \$18,322.10

---> Passed two readings and Adopted on a call of the yeas and nays--Yeas 11--Nays 0--
Absent 1 (Bartley).

MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023,
TWENTY THOUSAND THREE HUNDRED SIXTEEN AND 45/100 Dollars (\$20,316.45) as follows:

FROM:

12101-51104 LIEUTENANT \$3,883.22

12101-51105 SERGEANT 6,723.80

12101-51107 PATROLMEN 9,709.43

TOTAL: \$20,316.45

TO:

12101-51180 INJURED ON DUTY \$20,316.45

TOTAL: \$20,316.45

UNDER DISCUSSION:

Councilor McGiverin stated that this was a standard accounting procedure to keep track of public safety employees being paid their salary while out of work due to being injured on duty.

Councilor Vacon repeated her previous request to understand why one sergeant was still out due to being injured on duty and not in another category.

President McGee stated he would call the Police Chief the following day.

---> Passed two readings and Adopted on a call of the yeas and nays--Yeas 10--Nays 0--
Absent 2 (Bartley, Maldonado Velez).

Adjourned at 11:07 PM

A handwritten signature in black ink that reads "Brenna Murphy McHee". The script is cursive and fluid, with the first letters of each name being capitalized and prominent.

City Clerk

From: Brian Roy/Holyoke
To: Kate Sullivan/Holyoke@Holyoke G&E
Cc: James Lavelle/Holyoke@Holyoke G&E

Date: Wednesday, September 07, 2022 02:20PM
Subject: Re: LNG Facility Neighborhood Outreach | 9/7 | 4 - 5:30 pm

Kate,

Here is the customer list for canvassing this afternoon with notes.

Thanks,

Brian Roy

Gas Superintendent
Holyoke Gas & Electric
99 Suffolk Street
Holyoke, MA 01040
Tel: 413.536.9346
Web: www.hged.com

-----Kate Sullivan/Holyoke wrote: -----

To: James Lavelle/Holyoke@Holyoke G&E, Brian Roy/Holyoke@Holyoke G&E
From: Kate Sullivan/Holyoke
Date: 09/07/2022 11:50AM
Subject: LNG Facility Neighborhood Outreach | 9/7 | 4 - 5:30 pm

Hi Jim,

Please see the high-level talking points for this evenings neighborhood outreach.

Goal: Connect with neighbors of LNG facility to get feedback on current operations and provide an update on future enhancements

- Greeting/Introductions
- Short overview of HG&E's natural gas portfolio (LNG/Pipeline) and challenges that lead to moratorium
- CC Order (Jan 2022) and Resolution (July 2019), customer interest, survey
- LNG Infrastructure & Resiliency Project Overview
 - Provide advanced notice before CC meeting
- Describe upcoming public process – will work with Ward Councilor to plan a neighborhood discussion
- Request feedback on current operations
- Share contact information and stress HG&E's availability to discuss the project

If a customer is not home, we will leave behind the attached letter with our contact information. Also, for those that are available we will bring images to help explain the proposed enhancements.

Let me know if you have any feedback or suggestions.

Thanks!

Kate Sullivan Craven

Director of Marketing & Communications

Holyoke Gas & Electric

99 Suffolk Street, Holyoke, MA 01040

Phone: (413) 536-9333

Email: ksullivan@hged.com

Web: www.hged.com

[attachment "090722 LNG Letter - Neighbors.pdf" removed by Brian Roy/Holyoke]

Attachments:

Neighborhood Canvassing Notes.xlsx

From: Kate Sullivan/Holyoke
To: HGE Customer Accounts/Holyoke@Holyoke G&E
Cc: Brian Roy/Holyoke@Holyoke G&E

Date: Wednesday, September 07, 2022 02:37PM
Subject: LNG Update - Customer Inquiries

Good afternoon,

This afternoon Brian Roy and I will be out talking to customers on Mueller and County Road about our LNG facility in West Holyoke. If you receive any calls related to LNG, please direct them to me or Brian.

Thanks! Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

Inter-Office Memorandum

To: File

From: Brian Roy, Gas Superintendent

Date: September 8, 2022

Subject: LNG Infrastructure & Resiliency Project – Holyoke Neighborhood Outreach

On Wednesday, September 7, 2022, Kate Craven, Director of Marketing & Communications, and I canvassed the neighborhood around the West Holyoke LNG Facility to provide residents with an update on the facility, the moratorium and the upcoming LNG Infrastructure & Resiliency Project. Of the eighteen (18) homes visited, successful contract was made with ten (10) residents, while the remaining homes were door tagged with a “Sorry we missed you” notice. Attached is a summary of the outreach effort broken down address.

Neighborhood Canvassing Notes

#	Street	Owner	9/7 Outreach Notes	Follow-up Notes
251	Apremont Highway	[REDACTED]	Not home - left packet	
10	Mueller Road	[REDACTED]	Supportive	
23	Mueller Road	[REDACTED]	Supportive	
26	Mueller Road	[REDACTED]	Not home - left packet	
37	Mueller Road	[REDACTED]	Not home - left packet	
40	Mueller Road	[REDACTED]	Not home - left packet	Looked to be vacant for renovation.
45	Mueller Road	[REDACTED]	Supportive	
50	Mueller Road	[REDACTED]	Supportive - discussed solar panels around LNG site.	
53	Mueller Road	[REDACTED]	Not home - left packet	
58	Mueller Road	[REDACTED]	Supportive - great project that supports economic development	
59	Mueller Road	[REDACTED]	Supportive - Interested in additional capacity for water heating, follow-up with free winter check up information	
71	Mueller Road	[REDACTED]	Supportive - HG&E is a great neighbor	
72	Mueller Road	[REDACTED]	Supportive	
530	County Road	[REDACTED]	Not home - left packet	Customer followed up with an email and scheduled meeting with Brian Roy on 9/8 at 4 pm
540	County Road	[REDACTED]	Not home - left packet	Spoke to Kate via phone on 9/8. Fully supportive of the project.
550	County Road	[REDACTED]	Supportive - Suggested neighbor would like gas (552 County)	
552	County Road	[REDACTED]	Not home - left packet	
554	County Road	[REDACTED]	Supportive	
18 total				

Not Home – Packet Left Locations



530 County Road, Holyoke



552 County Road, Holyoke



540 County Road, Holyoke



26 Mueller Road, Holyoke



37 Mueller Road, Holyoke



53 Mueller Road, Holyoke



40 Mueller Road, Holyoke



251 Apremont Highway, Holyoke

LNG Facility Update



September 7, 2022

Subject: Neighborhood Update - HG&E's LNG Facility

Dear HG&E Customer,

Sorry we missed you this afternoon! As a neighbor of HG&E's West Holyoke Liquefied Natural Gas (LNG) Project, we stopped by to discuss the facility with you and your neighbors. LNG is an important part of HG&E's overall energy system, ensuring safe and reliable services are available when customers need it the most.

Please contact us when you have a moment so we can provide a brief update on LNG and get your feedback on existing operations as well as potential future enhancements.

Sincerely,
-Your Neighbors at HG&E

Contact Us:

Brian Roy
Gas Superintendent
(413) 536- 9346
broy@hged.com

Kate Sullivan Craven
Director of Marketing & Communications
(413) 536- 9333
ksullivan@hged.com

Actualización de las Instalaciones de LNG



7 de septiembre de 2022

Asunto: Actualización del vecindario - Instalaciones de LNG de HG&E

Estimado cliente de HG&E,

¡Sentimos no haberlo visto hoy! Como vecino del proyecto de HG&E de gas natural licuado (LNG) en West Holyoke, nos detuvimos para hablar sobre las instalaciones con usted y sus vecinos. El GNL es una parte importante del sistema de energía general de HG&E, lo que garantiza que los servicios seguros y confiables estén disponibles cuando los clientes más los necesitan.

Comuníquese con nosotros cuando tenga un momento para que podamos brindarle una breve actualización sobre el LNG y recibir sus comentarios sobre las operaciones existentes, así como sobre posibles mejoras futuras.

Sinceramente,
-Tus vecinos en HG&E

Contáctenos::

Brian Roy
Superintendente de gas
(413) 536- 9346
broy@hged.com

Kate Sullivan Craven
Directora de Marketing y Comunicaciones
(413) 536- 9333
ksullivan@hged.com

From: Kate Sullivan/Holyoke
To: Brian Roy/Holyoke@Holyoke G&E

Date: Friday, September 09, 2022 03:27PM
Subject: Conversation with Rep Duffy - LNG

Hi Brian!

Today Jim and I met with Representative Duffy and discussed several items, including the LNG project and our pathway to net-zero. She was very supportive of the LNG enhancements as proposed and requested a tour of the facility at the end of September. We can coordinate that over the next few weeks.

Thank you!
Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com



For Immediate Release

Contact: Kate Sullivan Craven
Communications, HG&E
(413) 536-9333
ksullivan@hged.com

HG&E Proposes Small Expansion and Improved Resiliency of Existing LNG Storage

Holyoke— Holyoke Gas & Electric (HG&E) has announced plans to install an additional Liquefied Natural Gas (LNG) tank at its existing facility to augment HG&E's natural gas energy portfolio in order to continue to reliably meet Holyoke energy customers' needs over the next 20 plus years.

HG&E's LNG Infrastructure & Resiliency Project is designed to add one 70,000-gallon LNG storage tank and replace the existing vaporization system to the existing LNG storage facility in West Holyoke, abutting a large solar array. There are currently four storage tanks at the facility, which was originally designed for a fifth tank.

HG&E officials say the installation of a new LNG tank and infrastructure will be contained within the existing fence line requiring no alterations to the surrounding environment and will be designed to meet or exceed all applicable regulations to ensure environmental and public safety. HG&E will submit an application for approval of the project to the Massachusetts Energy Facilities Siting Board. Throughout the fall, HG&E will also reach out and engage abutters, stakeholders and the general public at large in an effort to answer any questions about the project.

Existing natural gas peak demand in Holyoke is 25% greater than the current available storage capacity. The addition of the tank will result in HG&E sufficiently meeting existing customer demand while improving the resiliency of the facility by ensuring backup capacity is available in the event of a pipeline interruption. Historically, the role of the LNG facility was to support peak day demand while also providing 100% of the system's load in the event of a pipeline interruption. Given current climate risks and reliance on a single pipeline provider, the proposed tank will allow HG&E to have one full day of storage onsite, based on today's demand.

Holyoke is currently operating under a natural gas moratorium and there is insufficient pipeline capacity in the area to deliver additional natural gas to the city. The addition of the storage tank will help meet current customer needs on peak demand or cold days.

According to James Lavelle, Manager of Holyoke Gas & Electric, “HG&E is committed to providing cost competitive, reliable services to our customers while taking the necessary steps, such as the addition of LNG storage at our existing facility, to reduce our reliance on a single pipeline supplier. At the same time, we take great pride in the fact that our diverse portfolio provides our customers with 95% carbon-free electricity. This project will enhance what we have already achieved as we work toward a carbon-free future.”

The addition of the new tank will improve system reliability, modernize safety mechanisms, and allow for some modest incremental increases in natural gas when electrification is not feasible, Lavelle said. We have seen countless customers adding oil and propane systems, which are detrimental to the community and are more harmful to the environment than natural gas or modern electric technologies.

Regionally, LNG facilities are increasingly critical to meet the energy needs of the New England States. ISO-New England recently issued a problem statement and call to action to the Department of Energy outlining the importance of fuel supplies to the reliability of New England’s electric grid and natural gas customers. As the region transitions to a clean energy future, we must ensure the continued operation of established facilities to maintain reliable electric and natural gas service until carbon-free and renewable sources of energy have the ability to meet peak demand within the region.

For 50 years, HG&E has used LNG during periods of high demand to meet the needs of customers. In 1971 the LNG plant was installed as part of an overall strategy to reduce dependence on one supply source for peak day volumes. The facility also reduced purchased gas costs and increased reliability. Over time, system needs have exceeded pipeline capacity and the LNG plant allows HG&E to serve all residential and commercial customers without interruption.

HG&E natural gas customers are served by Tennessee Gas Pipeline’s Northampton Lateral, which has become severely constrained due to a dramatic increase in demand over the last two decades. There has been no corresponding increase in pipeline capacity to deliver additional supply to western Massachusetts.

Formed in 1902, HG&E is a municipally-owned utility company providing electricity, natural gas, district steam and fiber optic internet services to over 18,000 customers. Its mission is to provide competitive energy rates, reliable service, and excellent customer service.

From: Kate Sullivan/Holyoke
To: support@beacontechnologies.com

Date: Monday, September 12, 2022 10:06AM
Subject: Short URL

Good morning,

We are launching a project tomorrow and will need a redirect created in the morning. The test page has been created, but the page will not go live until tomorrow morning. Can you create this short URL and have it available for the live site by tomorrow at 8:30 am?

TEST PAGE – <https://hged.beacontest.com/news/LNG/lng-project.aspx>
Short URL – www.hged.com/LNGProject

Thank you!

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

From: Kate Sullivan/Holyoke
To: lindavac@aol.com
Bcc: Brian Roy/Holyoke@Holyoke G&E

Date: Tuesday, September 13, 2022 09:51AM
Subject: Re: West Holyoke LNG Facility Flyer

Thank you Linda, we really appreciate your support! When you have a moment, can you add me to the distribution list for neighborhood updates? If you need any additional information, please let me know!

It is nice to be settled in, we love it! I hope you had nice trip!:)

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

----- Original message -----

From: "Linda Vacon" <lindavac@aol.com>
To: KSullivan@hged.com
Cc:
Subject: Re: West Holyoke LNG Facility Flyer
Date: Mon, Sep 12, 2022 5:21 PM

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Kate,

Thanks for the follow up.

We just returned from being out of town for a few days and so far I have had one constituent reach out...and he is fine with the project.

Re: my update, I can work with your flyer and include the website link. No need to create another summary!

Thank you,

Linda

PS Hope you are enjoying your "new" home. It must feel good to be settled in. 😊

Sent from my iPhone
City Councilor Ward 5
Linda Vacon

C:210-6077

On Sep 12, 2022, at 4:12 PM, KSullivan@hged.com wrote:

Good afternoon Councilor Vacon,

I hope you had a great weekend! I am following up on your recent conversation with Jim regarding the proposed LNG enhancements in West Holyoke. We look forward to meeting with the Finance Committee this evening to provide an update, but I wanted to send along the attached flyer and let you know the webpage will be available tomorrow morning – www.hged.com/LNGProject.

Last week, we spent some time canvassing and talking to neighbors about the facility as well as the proposed LNG enhancements. The neighbors we spoke to were supportive of the project and HG&E. In October, we plan to send project information to all HG&E customers as part of our monthly customer newsletter and begin to build awareness about the proposed enhancements. I believe you distribute an occasional email blast or newsletter to your constituents in Ward 5, this would be a great way to get the message out within the neighborhood. If it is helpful, we can prepare an overview of the project to incorporate or you are welcome to share the flyer and/or webpage.

Please let me know if you have any questions or need any additional information.

Thank you!

Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

LNG Infrastructure & Resiliency Project Overview



Holyoke Gas & Electric (HG&E) is proposing to install one additional Liquid Natural Gas (LNG) storage tank and upgrade the monitoring and control system at the existing LNG storage facility to enhance natural gas system reliability and facility safety.

What is Proposed?

HG&E is proposing to install one new 70,000-gallon LNG storage tank at an existing LNG facility and upgrade monitoring and control systems in order to enhance system reliability and safety. There are currently four storage tanks at the facility, in operation since 1971, located in West Holyoke nestled in a large solar installation. The additional controls will provide redundancy and enhanced safety mechanisms.

In order to reliably meet customers' energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke facility.

Why LNG?

As a way to ensure reliable energy service to Holyoke residences and businesses, HG&E augments its energy portfolio with LNG. For over 50 years, HG&E has safely operated the Holyoke facility and used LNG, stored in secure tanks, to meet the energy needs of our customers during periods of high demand.

The ability to safely store and utilize LNG when system demand is high allows for uninterrupted service when pipeline demand is at capacity. In addition, LNG offers HG&E diversity and flexibility within the natural gas portfolio, reducing our dependence on a single pipeline source and fluctuating market costs.

Where is the Facility?

The LNG facility is located in West Holyoke, adjacent to HG&E's solar projects. The tank would be installed within the existing fence line, requiring no permanent alterations to the surrounding environment and in compliance with all applicable regulations to ensure system, environmental and public safety.

What are the Benefits?

HG&E's natural gas portfolio is made up of both firm pipeline capacity from the Tennessee Gas Pipeline and liquefied natural gas (LNG), which is stored at HG&E's West Holyoke LNG Facility. Historically, the facility was developed to provide supply back-up in the event of a pipeline interruption or constraint and afford customers with the most reliable service. Currently, under peak demand HG&E's system consumes 20,000 dth of gas per day. The existing LNG facility is capable of storing approximately 16,000 dth. Existing demand is 25% greater than available storage capacity. The addition would increase storage capacity to approximately 21,000 dth, sufficient to meet existing customer demand without curtailing firm gas customers in the event of a pipeline interruption.

This project, in combination with aggressive energy efficiency programs, will allow customers to apply for natural gas service when converting from oil or propane. HG&E will evaluate each application and work closely with customers to ensure there is not a viable, cost comparable alternate solution that better positions the community to meet the State's clean energy goals.

A Non-Pipeline Solution That Will Support Holyoke's Energy Transition

While natural gas is cleaner, more plentiful, and less costly than other fossil fuels, there is insufficient pipeline capacity in our region to deliver additional load. Recent proposals to expand natural gas pipelines that would increase natural gas capacity in the region have been met with opposition. Current pipeline constraints are causing significant adverse environmental and economic impacts on local ratepayers, resulting in customers turning to less efficient fuels, such as oil and propane to meet their energy needs.

Infrastructure additions to increase storage at the existing LNG facility offers a **non-pipeline solution** to enhance the reliability and resiliency of HG&E's natural gas system. In addition, this project is a critical component of HG&E's overall energy transition and strategic grid modernization strategy. Natural gas will play a key role in the transition to a carbon-free future as it currently provides a lower emissions and lower cost solution for HG&E customers while other clean heating technologies become more efficient and affordable.

Well on Our Way to a Carbon-Free Future

HG&E is committed to providing cost competitive, reliable services to our customers while taking the necessary steps to balance customers' current utility needs with the low-carbon energy future.

Our diverse portfolio offers customers 95% carbon-free electricity as well as natural gas, among the least carbon-emitting fuels. The facility is a unique resource that allows HG&E diversity and flexibility within the natural gas portfolio - reducing our dependence on a single pipeline source and increasing reliability.



This project fits within our long-term clean energy goals and allows for a manageable, cost-effective transition to a cleaner future.
Visit HG&E's Clean Energy Dashboard for more information at www.hged.com.

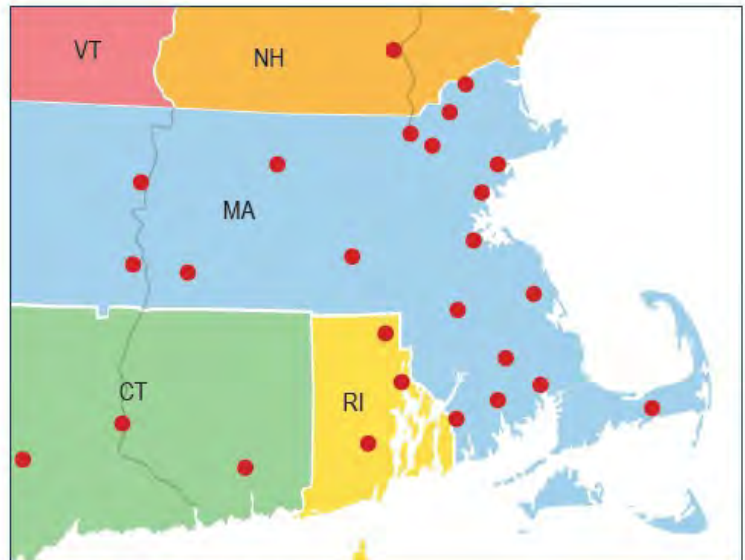
The Process

HG&E will be engaging the community this fall, followed by a prequalification meeting with the Massachusetts Energy Facilities Siting Board (EFSB).

Initial Project Timeline:

- September/October 2022 – Inform and engage Holyoke community and all stakeholders
- November 2022 – EFSB Application Submittal
- November 2022 – January 2024 – EFSB Review Process
- January 2024 – June 2025 – Procurement, Construction, Commissioning

Pending approvals, it is currently estimated that the project will take two years to construct and complete.



Northeast LNG Plants

This map shows the abundance of LNG facilities in the region to provide reliable energy to the Northeast. HG&E natural gas customers are served by Tennessee Gas Pipeline's Northampton Lateral, which has become severely constrained due to a dramatic increase in demand over the last two decades. With no corresponding increase in pipeline capacity to deliver additional supply to the region, the Holyoke LNG facility provides necessary reliability to meet the needs of our customers.

Learn more, ask questions, contact us:
LNGproject@hged.com or visit www.hged.com/LNGProject



MAYOR JOSHUA A. GARCIA
CITY OF HOLYOKE

September 12, 2022

Holyoke City Council
Attention: Finance Committee
536 Dwight St
Holyoke, MA 01040

Dear Chairman McGiverin,

I am writing to express my support for Holyoke Gas & Electric's (HG&E) proposed LNG Infrastructure & Resiliency Project in West Holyoke, which will add one LNG storage tank within the existing facility footprint.

Today, Holyoke is at a critical turning point with companies expanding, developers investing, and residents moving in — not out. Due to a significant increase in natural gas demand over the past several years, with no corresponding increase in infrastructure, the natural gas system in Holyoke is operating at capacity. The lack of natural gas availability has had a considerable impact on economic development and our collective sustainability efforts.

Currently, on a peak day, the natural gas system demand exceeds capacity, which caused HG&E to implement a moratorium on new services in 2019. Since becoming Mayor, this issue has been a top priority and I have been working closely with HG&E to find a practical solution that can adapt over time with the changing needs of the community. At present, I am concerned that property owners are installing new propane and oil heating systems, which are higher emitting fuels, when natural gas is not available and an electric alternative is not feasible.

The LNG Infrastructure & Resiliency Project proposes to add an LNG storage tank to HG&E's existing LNG facility in West Holyoke. In operation since 1971, the facility currently has four storage tanks, but was originally designed and approved for five tanks. By installing the fifth tank within the existing facility footprint, HG&E will have the ability to reliably meet customer energy needs over the next 20+ years.

From an environmental perspective, the project will reduce the carbon impact of the heating sector and provide the necessary time for strategic electrification of the local transmission and distribution system. This project will also give residents and businesses time to plan and implement electric technologies, as the community transitions away from fuels with the highest emissions. In addition to aggressive efficiency and electrification programs, this non-pipeline solution will support Holyoke's energy transition goals and provides a bridge to net-zero emissions by 2050.

Over the next few months, HG&E will be connecting with the community to provide updates on this project and will be available to answer questions. As part of the process, HG&E will submit a petition to the Massachusetts Energy Facilities Siting Board (EFSB) which will kick off an open and public process before the end of the year.

I appreciate your attention to this matter and I would be happy to discuss further at your convenience.

Sincerely,


Mayor Joshua A. Garcia

For the latest information about **COVID-19 (novel coronavirus) Recovery**, click here to visit our dedicated page <https://member.everbridge.net/index/453003085611624/#/signup>
(/departments/coronavirus-response/)

Click here to sign up for city emergency alerts -including community event alerts, Fire Department notifications, law enforcement alerts, general information alerts, and public works notifications (<https://member.everbridge.net/index/453003085611624/#/signup>)

Please be advised that in observance of the Thanksgiving holiday, city offices be closed beginning at 12 p.m. on Wednesday, November 23rd and through the day on Thursday, November 24th and Friday, November 25th.

The City of Holyoke wishes everyone a Happy Thanksgiving!

Finance Committee Meeting September 12, 2022

Sep
12
2022

6:30 pm ▶ City Hall Holyoke

536 Dwight St, Holyoke 01040

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City Council Holyoke Massachusetts

**Pursuant to the Massachusetts Open Meeting Law, G.L. c. 30A, §§ 18-25,
and Chapter 22 of the Acts of 2022,
notice is hereby given of a meeting of the committee on
Finance**

Monday, September 12, 2022
6:30 PM

Meeting to take place at
Holyoke City Hall, 536 Dwight St
and can be accessed remotely on Zoom Meetings
Per order of the Chair: Joseph McGiverin

Remote access via www.zoom.us

<https://us02web.zoom.us/j/81464781856?pwd=dVpnOGZ4eTFKdGwMFM4WGxDWVFJdz09>

Meeting ID: 814 6478 1856 Meeting Passcode: 398959 or by call in at 1 (646) 558-8656 with the same Meeting ID and Passcode.

Agenda

Item 1: 8-2-22 MCGIVERIN --that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "2022 MASSTRAILS GRANT, \$50,000, \$12,500 MATCH THROUGH CANNABIS IMPACT STABILIZATION FUND, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

*Referred back to committee 9-1-22

Item 2: 8-2-22 MCGIVERIN --Order that \$12,500 be transferred from the Cannabis Impact & Innovation Fund to OPED to be the match to the MassTrails Grant for continued planning on South Main Street Corridor Improvement Plans.

See executive summary and presentation at this link

<https://www.holyoke.org/springdale-corridor-main-st-project/>

*Referred back to committee 9-1-22

Item 3: 9-1-22 JOURDAIN, MCGIVERIN -- Ordered, that pursuant to the January 4, 2022 order, which was unanimously approved by the City Council, the HG&E appear before the Finance Committee to give an update on their progress.

The January 4, 2022 Order adopted by the City Council read as follows: "The Holyoke Gas and Electric be requested to take all necessary steps to end the gas moratorium. That they report back to the City Council by April 1, 2022 on their recommended plan of action including potential time table to bring the moratorium to an end. "

Item 4: 9-1-22 MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, SIXTY TWO THOUSAND AND 00/100 Dollars (\$62,000) as follows:

FROM:

12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000

12401-51201 PAY PROPERTY MAINT/DEMO SUPER 7,000

TOTAL: \$62,000

TO:

12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000

12401-51101 PAY-BUILDING COMMISSIONER 7,000

TOTAL: \$62,000

Item 5: 9-1-22 MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND AND 00/100 Dollars (\$1,000) as follows:

FROM:

15101-51203 SUBSTITUTE NURSES \$1,000

TOTAL: \$1,000

TO:

15101-51300 OVERTIME \$1,000

TOTAL: \$1,000

Item 6: 9-1-22 MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 LIBRARY SERVICES & TECHNOLOGY ACT (LSTA) - STRENGTH IN FAMILIES, \$10,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

Item 7: 9-1-22 MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: EMPLOYEE BENEFIT COSTS EVALUATION & RECOMMENDATION, \$25,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

Item 8: 9-1-22 MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: MUNIS EMPLOYEE SELF SERVICE IMPLEMENTATION, \$29,475, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

Item 9: 8-2-22 JOURDAIN, ANDERSON-BURGOS, RIVERA_I -- That the City Council conduct a comprehensive study of employee safety for the benefit of our Holyoke municipal employees and our taxpayers. The City Council should invite in the Personnel Director, our Workers' Comp representatives, Mayor, law department, department heads, union leadership, and others as needed to gather all of the information we need to study the root causes of employee injuries, how they are handled, how are they mitigated, how are we handling risk management to avoid future losses. Our goal should be to keep employees safe, reduce lost hours, productivity and overall cost to the city. We need to collect all relevant data including a prior 3 year report tracking injury claims, workers' comp claims, injured on duty claims, and related. Ideally, the City Council will produce a report within 6 months on its findings in conjunction with all key stakeholders.

Administrative Assistant: Jeffery Anderson-Burgos

The listing of matters are those reasonably anticipated by the chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items may also be brought up for discussion to the extent permitted by law. Also one or two items may require the committee to enter into executive session at this meeting. Agenda subject to change up to two business days (48 hours) prior to posted meeting time.

♥ Helpful

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City of Holyoke

536 Dwight Street
Holyoke, MA 01040
Phone: (413) 322-5510
Hours: 8:30am – 4:30pm
Monday – Friday

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From: "Kevin Jourdain" <Kevin.Jourdain@verizon.net>
To: <ksullivan@hged.com>, <ziggy413@aol.com>, <ptallman1957@comcast.net>, <lindavac@aol.com>
Cc: <broy@hged.com>, <jlavelle@hged.com>

Date: Tuesday, September 13, 2022 02:46PM
Subject: RE: HG&E LNG Resiliency Project

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.
Thank you Holyoke G&E! Great job!

From: ksullivan@hged.com [mailto:ksullivan@hged.com]
Sent: Tuesday, September 13, 2022 1:07 PM
To: ziggy413@aol.com; kevin.jourdain@verizon.net; ptallman1957@comcast.net; lindavac@aol.com
Cc: broy@hged.com; jlavelle@hged.com
Subject: HG&E LNG Resiliency Project

Good afternoon Chairman McGiverin and Councilmembers,

Thank you for inviting HG&E to the City Council Finance Committee meeting last night to provide an update on the natural gas moratorium. We appreciate your feedback on the proposed LNG Resiliency Project at our West Holyoke Facility. As a follow-up to our conversation, I wanted to share the project website (www.hged.com/LNGProject) where the council and constituents can find additional information about the proposed facility enhancements. Per your request, please see the image I shared last night attached. We will continue to keep the webpage updated as we move through the EFSB process this fall/winter.

In addition, I'd like to invite you all to a Public Utility event HG&E is hosting on October 5th at Veterans Park from 4-6pm, where we will have information on the LNG Project available for the community. We'll also provide a look at some of HG&E's energy efficiency opportunities, share some tips on electric and natural gas safety, educate attendees on the local power supply portfolio, offer electric vehicle test drives, and provide a variety of fun activities for kids. I will be sending an invitation to the full council over the next few weeks.

If you have any questions or need additional information, please let me know.

Best regards,
Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

From: Kate Sullivan/Holyoke
To: Department
Bcc: Kate Sullivan/Holyoke

Date: Wednesday, September 14, 2022 10:56AM
Subject: Employee Update - September

Hello Colleagues,

I hope this email finds you well! Please see a few updates below.

September Newsletter

At your convenience, please review the [monthly newsletter](#) which highlights our 2022 Cadet Engineers, outlines weatherization incentives, and provides a customer notice related to gas meter inspections.

Public Power & Natural Gas Week Event – October 5

Our upcoming Public Power & Natural Gas Week Event will be held at Veterans Park on October 5 from 4–6 pm and will include a variety of tables with HG&E program information, electric vehicle test drives, food truck, ice cream, kids activities, music, and much more! Hope you and your families can join us!

LNG Infrastructure & Resiliency Project

This week, HG&E met with the City Council to provide an update on the natural gas moratorium and proposed a plan to increase the liquified natural gas (LNG) storage capacity at our West Holyoke LNG Facility in order to ensure reliable and safe service for our customers. In addition to aggressive [efficiency and electrification programs](#), this solution supports Holyoke's energy transition goals and provides a bridge to net-zero emissions by 2050. In operation since the early 1970s, the current site has four storage tanks installed with a footprint for a fifth tank. HG&E will be bringing this potential solution to the Mass Energy Facility Siting Board (EFSB), which will include a public process with several opportunities for feedback and discussion. If you have any questions or would like additional information, please visit www.hged.com/LNGProject or contact me (ext 333).

Big E Salute to Holyoke – September 20

Next Tuesday is Holyoke Day at the Big E. If any HG&E employees are interested in participating in the parade, please let me know and I can provide additional detail.

Thank you for reviewing this information and enjoy the rest of the week!

–Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

From: James Lavelle/Holyoke
To: "Verra, Katie (SEN)" <Katie.Verra@masenate.gov>
Cc: "Letourneau, Caitlyn (SEN)" <Caitlyn.Letourneau@masenate.gov>
Bcc: Kate Sullivan/Holyoke

Date: Thursday, September 22, 2022 10:19AM
Subject: Re: Meeting with Senator Velis

Thanks very much for the reply Katie.

Hi Caitlyn, as an FYI, we are giving a tour of the LNG facility to Rep. Duffy on Friday September 30th at 10:30 AM. Please let me know if Sen. Velis is available on that date and is able to join the tour and I'll be happy to send directions to the facility. If he is not available on that date, we are happy to work around his schedule if he would like to take a tour at some other time.

Thanks and take care,
Jim

-----"Verra, Katie (SEN)" <Katie.Verra@masenate.gov> wrote: -----

To: "jlavelle@hged.com" <jlavelle@hged.com>
From: "Verra, Katie (SEN)" <Katie.Verra@masenate.gov>
Date: 09/22/2022 09:58AM
Cc: "Letourneau, Caitlyn (SEN)" <Caitlyn.Letourneau@masenate.gov>
Subject: Re: Meeting with Senator Velis

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Hi Jim,

Thanks for following up and sorry for the delayed response.

Appreciate you sending this information our way. Please keep us updated on the EFSB process. I'm ccing, Caitlyn, to see if we have time for the Senator to tour the facility. She will reach out!

Best,
Katie

From: "jlavelle@hged.com" <jlavelle@hged.com>
Date: Thursday, September 22, 2022 at 9:42 AM
To: "Verra, Katie (SEN)" <Katie.Verra@masenate.gov>
Subject: Re: Meeting with Senator Velis

Hi Katie,

Resending the email below that I sent last week in case you did not see it.

Thanks
Jim

-----Forwarded by James Lavelle/Holyoke on 09/22/2022 09:41AM -----

To: "Verra, Katie (SEN)" <Katie.Verra@masenate.gov>
From: James Lavelle/Holyoke
Date: 09/14/2022 11:23AM
Subject: Re: [External]: Re: Meeting with Senator Velis

(See attached file: WestHolyokeLNG 2.jpg)

Hi Katie,

I hope this note finds you well.

I met with you and Sen. Velis almost two years ago to discuss the natural gas moratorium in Holyoke. At that time I committed to keep the Senator informed on any progress on the matter. HG&E is preparing to file for approval from the Massachusetts Energy Facilities Siting Board (EFSB) in November to increase our Liquid Natural Gas (LNG) storage capacity at our LNG Facility in West Holyoke. We currently have 220,000 gallons (four tanks) of storage at that site and are proposing to add 70,000 gallons (one additional tank) at the existing site and within the existing facility footprint. The facility was originally designed for a fifth tank in the mid-1970's, but it was not installed, likely due to budgetary constraints at that time. If approved this additional storage would allow HG&E to accept requests for natural gas service in Holyoke and Southampton.

From a construction standpoint, this is not really a major project, but due to the fact that we are adding over 25,000 gallons of storage, it must be approved by the EFSB. The EFSB process also requires that we notify

abutters within 0.5 miles of the HG&E LNG Facility about the project. There are residents in Holyoke (approx. 290), Southamptton (approx. 195) and Westfield (approx. 52) that reside within the 0.5 mile radius of the LNG facility. The current plan is send notification to abutters in the mid-November time frame after the EFSB application is submitted. The EFSB board will also hold local hearings on the project and accept public input from interested parties.

I am reaching out to let you know that we are available to provide any information that you would like on this project and to offer Senator Velis a tour of the existing LNG facility if hear would be interested. I have attached a photo of the existing facility for your information and additional information on the project can be found on our HG&E website at: (www.hged.com/LNGProject) .

Please let me know if you would like any additional information on this, or if you would like to setup a meeting to discuss further.

Thanks very much,

Jim Lavelle
General Manager
Holyoke Gas & Electric
99 Suffolk Street
Holyoke, MA 01040
P:(413)536-9311

From: "Anderson-Burgos, Juan (HOU)" <Juan.Anderson-Burgos@mahouse.gov>
To: "ksullivan@hged.com" <ksullivan@hged.com>
Cc: "broy@hged.com" <broy@hged.com>, "jlavelle@hged.com" <jlavelle@hged.com>, "Duffy, Patricia - Rep. (HOU)" <Patricia.Duffy@mahouse.gov>

Date: Monday, September 19, 2022 10:23AM
Subject: RE: Thank You & West Holyoke LNG Tour

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.
Hello Kate,

Weekend was great. Hope you enjoyed yours.

All set on this end and it's already in the calendar. Once you have the details feel free to send them along. Looking forward to this.

Be well,

Juan Anderson-Burgos
Legislative Aide to
State Representative Patricia Duffy
Fifth Hampden District
District office: 413-529-4307
164 Race St., Suite 105
Holyoke 01040
juan.anderson-burgos@mahouse.gov

From: ksullivan@hged.com <ksullivan@hged.com>
Sent: Monday, September 19, 2022 9:30 AM
To: Duffy, Patricia - Rep. (HOU) <Patricia.Duffy@mahouse.gov>
Cc: broy@hged.com; jlavelle@hged.com; Anderson-Burgos, Juan (HOU) <Juan.Anderson-Burgos@mahouse.gov>
Subject: Re: Thank You & West Holyoke LNG Tour

You don't often get email from ksullivan@hged.com. [Learn why this is important](#)

Good morning Pat & Juan,

Hope you had a wonderful weekend! Our team is available on Friday, September 30 at 10:30 am. If that works for you, I will send a calendar invitation with directions to the facility.

Let me know when you have a moment.

Thank you!
Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

----- Original message -----

From: "Duffy, Patricia - Rep. (HOU)" <Patricia.Duffy@mahouse.gov>
To: "ksullivan@hged.com" <ksullivan@hged.com>
Cc: "jlavelle@hged.com" <jlavelle@hged.com>, "broy@hged.com" <broy@hged.com>, "Anderson-Burgos, Juan (HOU)" <Juan.Anderson-Burgos@mahouse.gov>
Subject: Re: Thank You & West Holyoke LNG Tour
Date: Thu, Sep 15, 2022 3:05 PM

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.
Kate:

Thank you so much for the information and the potential dates. These particular times just happen to not work but I do have availability on Thursday, September 29th or Friday, September 30th. The following week I'm actually

heading out of town so if the 29th or the 30th aren't good, I've copied Juan here and, between the two of you, I'm sure we'll find a good time after my return.

thanks again!
Pat

Patricia Duffy
State Representative
Fifth Hampden District
District office: 413-529-4307
164 Race St., Suite 105
Holyoke 01040

From: ksullivan@hged.com <ksullivan@hged.com>
Sent: Thursday, September 15, 2022 1:01 PM
To: Duffy, Patricia - Rep. (HOU) <Patricia.Duffy@mahouse.gov>
Cc: jlavelle@hged.com <jlavelle@hged.com>; broy@hged.com <broy@hged.com>
Subject: Thank You & West Holyoke LNG Tour

Good afternoon Representative Duffy,

Thank you for taking the time to meet with us last Friday to discuss current and future energy opportunities, as well as challenges. We appreciate your feedback and interest in the proposed LNG facility enhancements in West Holyoke. As a follow-up to our conversation, I wanted to share the project webpage, www.hged.com/LNGProject, and set up a tour of the LNG facility at your convenience. Please see potential dates and times below.

- Friday, 9/23 at 1 pm
- Monday, 9/26 at 10:30 am or 1 pm
- Wednesday, 9/28 at 11 am or 1:30 pm

If these times do not work for you, let me know and we can provide more options.

Thank you for your ongoing support!

-Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

Meeting

From:
Chair:
Invite:

Kate Sullivan/Holyoke
Kate Sullivan/Holyoke
Brian Roy/Holyoke@Holyoke G&E, James Lavelle/Holyoke@Holyoke G&E, juan.anderson-burgos@mahouse.gov, patricia.duffy@mahouse.gov

Subject:
Location:
Date:
Time zone:
Categories:

LNG Facility Tour
HG&E's LNG Facility, 91 Mueller Road, Holyoke, MA 01040
Fri 09/30/2022
Eastern

Time:
Duration:

10:30AM
01h 00m

☐ Mark private
☒ Request response

☐ Mark Available

Facility Address: 91 Mueller Road, Holyoke, MA 01040

Take a right immediately after 59 Mueller Road and proceed to the gate.

If you have any issues, please contact me via cell, (413) 313-3504.

From: Kate Sullivan/Holyoke
To: Kate Sullivan/Holyoke@Holyoke G&E
Cc: Sophie Theroux/Holyoke@Holyoke G&E
Bcc: jennyriveraward1citycouncil@gmail.com, Bartleyforward3@gmail.com, Kocayne4Holyoke@gmail.com, mcgeetodd@yahoo.com, kevin.jourdain@verizon.net, maldonadovelez413@gmail.com, tessaforholyoke@gmail.com, israelrivera4holyoke@gmail.com, ziggy43@aol.com, lindavac@aol.com, Ptallman1957@comcast.net, jandersonburgos@gmail.com, juan.anderson-burgos@mahouse.gov, john.velis@mahouse.gov, Caitlyn.Letourneau@masenate.gov, Anderson-BurgosJ@holyoke.org, Patricia.Duffy@mahouse.gov, vegaa@holyoke.org, garciaj@holyoke.org, ortizn@holyoke.org, sagarcia@hps.holyoke.ma.us, asoto@hps.holyoke.ma.us, jchartier@holyokeymca.org, AMann@hbgc.org, michael.moriarty@oneholyoke.org, ed.caisse@shsni.org

Date: Monday, September 26, 2022 11:43AM
Subject: You're invited: Public Utility Celebration on Oct 5

Good morning,

Holyoke Gas & Electric (HG&E) is inviting you, your constituents, and the local community to celebrate Public Power & Public Natural Gas Week on October 5 from 4 – 6 PM at Veterans Park. This free event will feature a little something for the entire family!

Customers can learn more about HG&E's energy efficiency and electrification incentives, air source heat pumps, electric and natural gas safety, the local power supply portfolio, and so much more. In addition, there will be music, pumpkin decorating and kids' activities, a food truck and ice cream truck!

This community celebration will feature many of HG&E's partner organizations, including:

- Marcotte Ford & Gary Rome Hyundai: Displaying electric vehicles and offering test drives and education.
- Energy New England: Providing education on electric vehicles and HG&EV incentives. This event is part of National Drive Electric Week, sign up for a test drive by visiting <https://driveelectricweek.org/event?eventid=3577>
- Massachusetts Municipal Wholesale Electric Company (MMWEC): Free residential energy audits and NextZero incentives
- Massachusetts Department of Energy Resources: State EV incentives and tree planting resources
- Valley Bike Share: Electric pedal assist bicycle service
- Holyoke Fire Department: Fire and carbon monoxide safety
- Holyoke Police Department: Community Policing
- Valley Opportunity Council: Heating Assistance program and other services
- One Holyoke CDC: Program information
- Greater Holyoke Chamber of Commerce: Business incentives and community information
- And more!

Each October, community-owned utilities throughout the country celebrate Public Power & Public Natural Gas Week, collectively providing electricity and natural gas services to millions of Americans. This annual nationwide event is intended to build public awareness about the value of having a community-owned utility. Public Power & Public Natural Gas Week is a national, annual event sponsored in conjunction with the American Public Power Association (APPA) and the American Public Gas Association (APGA).

Hope you will be able to join us. Let me know if you have any questions!
–Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

From: Kate Sullivan/Holyoke
To: lindavac@aol.com
Bcc: Brian Roy/Holyoke@Holyoke G&E

Date: Wednesday, September 28, 2022 09:28AM
Subject: Fw: You're invited: Public Utility Celebration on Oct 5

Good morning Councilor Vacon,

Hope you are having a great week! I wanted to follow-up on this invitation and let you know we will have a table at the October 5th event dedicated to the LNG Infrastructure & Resiliency project. If any of your constituents are interested in learning more, we would love to have them attend.

Let me know if you have any questions or need additional information!

Best regards,
 Kate

Kate Sullivan Craven
 Director of Marketing & Communications
 Holyoke Gas & Electric
 99 Suffolk Street, Holyoke, MA 01040
 Phone: (413) 536-9333
 Email: ksullivan@hged.com
 Web: www.hged.com

----- Original message -----

From: Kate Sullivan/Holyoke
 To: Kate Sullivan/Holyoke
 Cc: Sophie Theroux/Holyoke
 Subject: You're invited: Public Utility Celebration on Oct 5
 Date: Mon, Sep 26, 2022 11:43 AM

Good morning,

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- Valley Bike Share: Electric pedal assist bicycle service
- Holyoke Fire Department: Fire and carbon monoxide safety
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- Valley Opportunity Council: Heating Assistance program and other services
- One Holyoke CDC: Program information
- Greater Holyoke Chamber of Commerce: Business incentives and community information
- And more!

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Hope you will be able to join us. Let me know if you have any questions!
 –Kate

Kate Sullivan Craven

Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

From: Kate Sullivan/Holyoke
To: Emily Ortiz-Santos/Holyoke@Holyoke G&E

Date: Wednesday, September 28, 2022 02:15PM
Subject: Translation Request - LNG & Newsletter

Hi Emily!

Do you mind reviewing the translated October newsletter and LNG fact sheet?

Thank you in advance!
Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

Attachments:

091422 OCT Draft.pdf	091422 OCT Draft - SPANISH.pdf	LNG Sell Sheet - ALT KSC (5) - SPANISH.pdf	LNG FLYER HGE (5).pdf
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Infraestructura de LNG y Proyecto de Resiliencia Resumen



Holyoke Gas & Electric (HG&E) propone instalar un tanque de almacenamiento de gas natural licuado (LNG) adicional y actualizar el sistema de monitoreo y control en la instalación de almacenamiento de LNG existente para mejorar la confiabilidad del sistema de gas natural y la seguridad de la instalación.

¿Qué se Propone?

HG&E propone instalar un nuevo tanque de almacenamiento de LNG de 70 000 galones en una instalación de GNL existente y actualizar los sistemas de monitoreo y control para mejorar la confiabilidad y seguridad del sistema. Actualmente hay cuatro tanques de almacenamiento en la instalación, en funcionamiento desde 1971, ubicados en West Holyoke enclavados en una gran instalación solar. Los controles adicionales proporcionarán redundancia y mecanismos de seguridad mejorados.

Para satisfacer de forma fiable las necesidades energéticas de los clientes durante los próximos 20 años, HG&E ha desarrollado una solución sin gasoductos que aumentaría nuestra capacidad de almacenamiento de GNL dentro del espacio existente de las instalaciones de West Holyoke.

¿Por qué LNG?

Como una forma de garantizar un servicio de energía confiable para las residencias y empresas de Holyoke, HG&E aumenta su cartera de energía con GNL. Durante más de 50 años, HG&E ha operado de forma segura las instalaciones de Holyoke y ha utilizado LNG, almacenado en tanques seguros, para satisfacer las necesidades energéticas de nuestros clientes durante los períodos de alta demanda.

La capacidad de almacenar y utilizar LNG de forma segura cuando la demanda del sistema es alta permite un servicio ininterrumpido cuando la demanda del gasoducto está al máximo de su capacidad. Además, el LNG ofrece a HG&E diversidad y flexibilidad dentro de la cartera de gas natural, lo que reduce nuestra dependencia de una sola fuente de gasoductos y los costos fluctuantes del mercado.

¿Dónde está la instalación?

La instalación de LNG está ubicada en West Holyoke, junto a los proyectos solares de HG&E. El tanque se instalaría dentro de la línea de cerco existente, sin requerir alteraciones permanentes en el entorno circundante y de conformidad con todas las reglamentaciones aplicables para garantizar la seguridad del sistema, ambiental y pública.

¿Cuales son los beneficios?

El portafolio de gas natural de HG&E se compone tanto de la capacidad firme del gasoducto de Tennessee Gas Pipeline como del LNG, que se almacena en la instalación de LNG de West Holyoke de HG&E. Históricamente, la instalación se desarrolló para brindar respaldo de suministro en caso de una interrupción o limitación de la tubería y brindar a los clientes el servicio más confiable. Actualmente, en condiciones de máxima demanda, el sistema de HG&E consume 20 000 dth de gas por día. La instalación de LNG existente es capaz de almacenar aproximadamente 16.000 dth. La demanda existente es un 25% mayor que la capacidad de almacenamiento disponible. La adición aumentaría la capacidad de almacenamiento a aproximadamente 21.000 dth, suficiente para satisfacer la demanda de los clientes existentes sin reducir los clientes de gas en firme en caso de una interrupción del gasoducto.

Este proyecto, en combinación con programas agresivos de eficiencia energética, permitirá a los clientes solicitar el servicio de gas natural cuando se conviertan de petróleo o propano. HG&E evaluará cada aplicación y trabajará en estrecha colaboración con los clientes para garantizar que no haya una solución alternativa viable y de costo comparable que posicione mejor a la comunidad para cumplir con los objetivos de energía limpia del Estado.

Proyecto de infraestructura y resiliencia de HG&E LNG



Una solución sin gasoductos que respaldará la transición energética de Holyoke

Si bien el gas natural es más limpio, más abundante y menos costoso que otros combustibles fósiles, la capacidad de los gasoductos en nuestra región es insuficiente para entregar una carga adicional. Las propuestas recientes para expandir las tuberías de gas natural que aumentarían la capacidad de gas natural en la región han encontrado oposición. Las limitaciones actuales de los oleoductos están causando impactos ambientales y económicos adversos significativos en los contribuyentes locales, lo que hace que los clientes recurran a combustibles menos eficientes, como el petróleo y el propano, para satisfacer sus necesidades energéticas.

Las adiciones a la infraestructura para aumentar el almacenamiento en la instalación de LNG existente ofrecen una solución sin gasoductos para mejorar la confiabilidad y la capacidad de recuperación del sistema de gas natural de HG&E. Además, este proyecto es un componente crítico de la transición energética general y la estrategia estratégica de modernización de la red de HG&E. El gas natural desempeñará un papel clave en la transición hacia un futuro libre de carbono, ya que actualmente proporciona una solución de menores emisiones y menor costo para los clientes de HG&E, mientras que otras tecnologías de calefacción limpia se vuelven más eficientes y asequibles.

Bien en nuestro camino hacia un futuro libre de carbono

HG&E se compromete a brindar servicios confiables y competitivos en costos a nuestros clientes mientras toma las medidas necesarias para equilibrar las necesidades actuales de servicios públicos de los clientes con el futuro de la energía baja en carbono.

Nuestra cartera diversa ofrece a los clientes electricidad 95 % libre de carbono, así como gas natural, entre los combustibles que emiten menos carbono. La instalación es un recurso único que permite a HG&E diversidad y flexibilidad dentro de la cartera de gas natural, lo que reduce nuestra dependencia en una sola fuente de tubería y aumentando la confiabilidad.



Este proyecto se ajusta a nuestros objetivos de energía limpia a largo plazo y permite una transición manejable y rentable hacia un futuro limpio. Si tiene alguna pregunta o desea información adicional, visite hged.com/LNGProject.

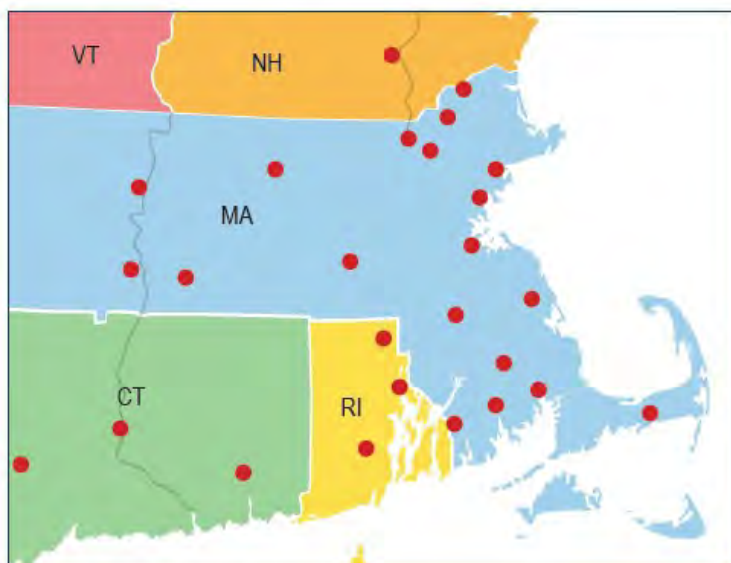
El proceso

HG&E involucrará a la comunidad este otoño, seguido de una reunión de precalificación con la Junta de ubicación de instalaciones de energía de Massachusetts (EFSB).

Cronograma inicial del proyecto:

- Septiembre/octubre de 2022: informar e involucrar a la comunidad de Holyoke y a todas las partes interesadas
- Noviembre de 2022: presentación de la solicitud del EFSB
- Noviembre 2022 – Enero 2024 – Proceso de revisión del EFSB
- Enero de 2024 – Junio de 2025 – Adquisiciones, Construcción, Puesta en marcha

En espera de las aprobaciones, actualmente se estima que el proyecto tardará dos años en construirse y completarse.



Plantas de LNG del Noreste

Este mapa muestra la abundancia de instalaciones de LNG en la región para proporcionar energía confiable al noreste. Los clientes de gas natural de HG&E son atendidos en el Nothampton Lateral de Tennessee Gas Pipeline, que se ha visto severamente limitado debido a los dramáticos aumentos en la demanda durante las últimas dos décadas. Sin un aumento correspondiente en la capacidad de popleline para entregar suministro adicional a la región, la instalación de LNG de Holyoke brinda la confiabilidad necesaria para satisfacer las necesidades de nuestros clientes.

**Obtenga más información, haga preguntas, contáctenos:
LNGproject@hged.com o visite www.hged.com/LNGProject**

LNG Infrastructure & Resiliency Project Overview



Holyoke Gas & Electric (HG&E) is proposing to install one additional Liquid Natural Gas (LNG) storage tank and upgrade the monitoring and control system at the existing LNG storage facility to enhance natural gas system reliability and facility safety.

What is Proposed?

HG&E is proposing to install one new 70,000-gallon LNG storage tank at an existing LNG facility and upgrade monitoring and control systems in order to enhance system reliability and safety. There are currently four storage tanks at the facility, in operation since 1971, located in West Holyoke nestled in a large solar installation. The additional controls will provide redundancy and enhanced safety mechanisms.

In order to reliably meet customers' energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke facility.

Why LNG?

As a way to ensure reliable energy service to Holyoke residences and businesses, HG&E augments its energy portfolio with LNG. For over 50 years, HG&E has safely operated the Holyoke facility and used LNG, stored in secure tanks, to meet the energy needs of our customers during periods of high demand.

The ability to safely store and utilize LNG when system demand is high allows for uninterrupted service when pipeline demand is at capacity. In addition, LNG offers HG&E diversity and flexibility within the natural gas portfolio, reducing our dependence on a single pipeline source and fluctuating market costs.

Where is the Facility?

The LNG facility is located in West Holyoke, adjacent to HG&E's solar projects. The tank would be installed within the existing fence line, requiring no permanent alterations to the surrounding environment and in compliance with all applicable regulations to ensure system, environmental and public safety.

What are the Benefits?

HG&E's natural gas portfolio is made up of both firm pipeline capacity from the Tennessee Gas Pipeline and liquefied natural gas (LNG), which is stored at HG&E's West Holyoke LNG Facility. Historically, the facility was developed to provide supply back-up in the event of a pipeline interruption or constraint and afford customers with the most reliable service. Currently, under peak demand HG&E's system consumes 20,000 dth of gas per day. The existing LNG facility is capable of storing approximately 16,000 dth. Existing demand is 25% greater than available storage capacity. The addition would increase storage capacity to approximately 21,000 dth, sufficient to meet existing customer demand without curtailing firm gas customers in the event of a pipeline interruption.

This project, in combination with aggressive energy efficiency programs, will allow customers to apply for natural gas service when converting from oil or propane. HG&E will evaluate each application and work closely with customers to ensure there is not a viable, cost comparable alternate solution that better positions the community to meet the State's clean energy goals.

A Non-Pipeline Solution That Will Support Holyoke's Energy Transition

While natural gas is cleaner, more plentiful, and less costly than other fossil fuels, there is insufficient pipeline capacity in our region to deliver additional load. Recent proposals to expand natural gas pipelines that would increase natural gas capacity in the region have been met with opposition. Current pipeline constraints are causing significant adverse environmental and economic impacts on local ratepayers, resulting in customers turning to less efficient fuels, such as oil and propane to meet their energy needs.

Infrastructure additions to increase storage at the existing LNG facility offers a **non-pipeline solution** to enhance the reliability and resiliency of HG&E's natural gas system. In addition, this project is a critical component of HG&E's overall energy transition and strategic grid modernization strategy. Natural gas will play a key role in the transition to a carbon-free future as it currently provides a lower emissions and lower cost solution for HG&E customers while other clean heating technologies become more efficient and affordable.

Well on Our Way to a Carbon-Free Future

HG&E is committed to providing cost competitive, reliable services to our customers while taking the necessary steps to balance customers' current utility needs with the low-carbon energy future.

Our diverse portfolio offers customers 95% carbon-free electricity as well as natural gas, among the least carbon-emitting fuels. The facility is a unique resource that allows HG&E diversity and flexibility within the natural gas portfolio - reducing our dependence on a single pipeline source and increasing reliability.



This project fits within our long-term clean energy goals and allows for a manageable, cost-effective transition to a cleaner future.
Visit HG&E's Clean Energy Dashboard for more information at www.hged.com.

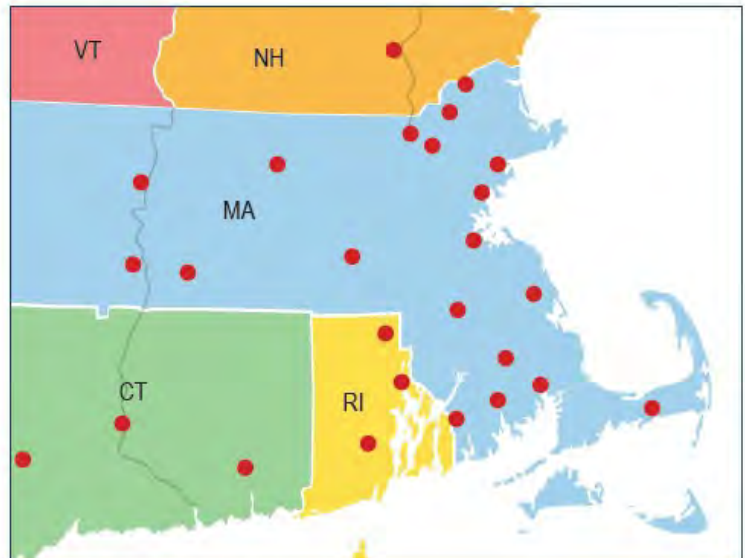
The Process

HG&E will be engaging the community this fall, followed by a prequalification meeting with the Massachusetts Energy Facilities Siting Board (EFSB).

Initial Project Timeline:

- September/October 2022 – Inform and engage Holyoke community and all stakeholders
- November 2022 – EFSB Application Submittal
- November 2022 – January 2024 – EFSB Review Process
- January 2024 – June 2025 – Procurement, Construction, Commissioning

Pending approvals, it is currently estimated that the project will take two years to construct and complete.



Northeast LNG Plants

This map shows the abundance of LNG facilities in the region to provide reliable energy to the Northeast. HG&E natural gas customers are served by Tennessee Gas Pipeline's Northampton Lateral, which has become severely constrained due to a dramatic increase in demand over the last two decades. With no corresponding increase in pipeline capacity to deliver additional supply to the region, the Holyoke LNG facility provides necessary reliability to meet the needs of our customers.

Learn more, ask questions, contact us:
LNGproject@hged.com or visit www.hged.com/LNGProject

Octubre de 2022

Un boletín para clientes de Holyoke Gas & Electric

Infraestructura de LNG y Proyecto de Resiliencia Resumen

LNGProject@hged.com - hged.com/LNGProject

Holyoke Gas & Electric (HG&E) propone instalar un tanque de almacenamiento de gas natural licuado (LNG) adicional y actualizar el sistema de monitoreo y control en la instalación de almacenamiento de LNG de West Holyoke existente para mejorar la confiabilidad y seguridad del sistema de gas natural.

¿Qué se Propone?

HG&E propone instalar un nuevo tanque de almacenamiento de LNG de 70 000 galones en una instalación de LNG existente y actualizar los sistemas de monitoreo y control para mejorar la confiabilidad y seguridad del sistema. Actualmente hay cuatro tanques de almacenamiento en la instalación, en funcionamiento desde 1971, ubicados en West Holyoke enclavados en una gran instalación solar. Los controles adicionales proporcionarán redundancia y mecanismos de seguridad mejorados.

Para satisfacer de forma fiable las necesidades energéticas de los clientes durante los próximos 20 años, HG&E ha desarrollado una solución sin gasoductos que aumentaría nuestra capacidad de almacenamiento de LNG dentro del espacio existente de las instalaciones de West Holyoke.

¿Por qué LNG?

Como una forma de garantizar un servicio de energía confiable para las residencias y empresas de Holyoke, HG&E aumenta su cartera de energía con LNG. Durante más de 50 años, HG&E ha operado de forma segura las instalaciones de Holyoke y ha utilizado LNG, almacenado en tanques seguros, para satisfacer las necesidades energéticas de nuestros clientes durante los períodos de alta demanda.

La capacidad de almacenar y utilizar LNG de forma segura cuando la demanda del sistema es alta permite un servicio ininterrumpido cuando la demanda del gasoducto está al máximo de su capacidad. Además, el LNG ofrece a HG&E diversidad y flexibilidad dentro de la cartera de gas natural, lo que reduce nuestra dependencia de una sola fuente de gasoductos y los costos fluctuantes del mercado.

¿Cuales son los beneficios?

El portfolio de gas natural de HG&E se compone tanto de la capacidad firme de gasoductos del Tennessee Gas Pipeline como LNG, que se almacena en la instalación de LNG de West Holyoke de HG&E. Históricamente, la instalación se desarrolló para brindar respaldo de suministro en caso de una interrupción o limitación de la tubería y brindar a los clientes el servicio más confiable. Actualmente, en condiciones de máxima demanda, el sistema de HG&E consume 20 000 dth de gas por día. La instalación de LNG existente es capaz de almacenar aproximadamente 16.000 dth. La demanda existente es un 25% mayor que la capacidad de almacenamiento disponible. La adición aumentaría la capacidad de almacenamiento a aproximadamente 21.000 dth, suficiente para satisfacer la demanda de los clientes existentes sin reducir los clientes de gas en firme en caso de una interrupción del gasoducto.

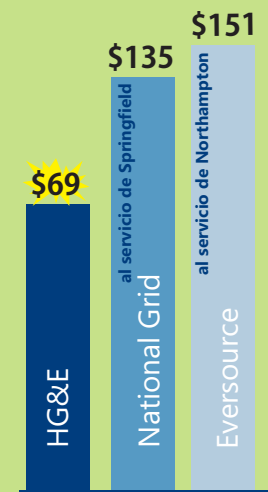
Este proyecto, en combinación con programas agresivos de eficiencia energética, permitirá a los clientes solicitar el servicio de gas natural cuando se conviertan de petróleo o propano. HG&E evaluará cada aplicación y trabajará en estrecha colaboración con los clientes para garantizar que no haya una solución alternativa viable y de costo comparable que posicione mejor a la comunidad para cumplir con los objetivos de energía limpia del Estado.

El proceso

HG&E traerá esta posible solución a la Junta de ubicación de instalaciones de energía de Massachusetts, que incluirá un proceso público con varias oportunidades para comentarios y debates. Los plazos de actualización se publicarán en el sitio web de HG&E.

COMPARACIONES DE TARIFAS

TARIFA ELÉCTRICA MÁS BAJA



Septiembre de 2022: Cliente residencial que consume 500 kwh / mes. Los montos mostrados incluyen todos los descuentos y utilizan el precio de suministro de generación predeterminado fijo.

TASA DE GAS NATURAL MÁS BAJA



Septiembre de 2022: Cliente residencial que consume 28 CCF / mes. Las cantidades mostradas incluyen todos los descuentos.

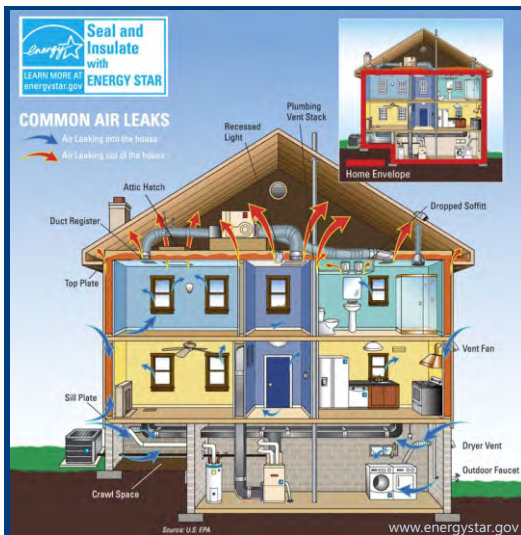
Este proyecto se ajusta a nuestros objetivos de energía limpia a largo plazo y permite una transición manejable y rentable hacia un futuro limpio. Si tiene alguna pregunta o desea información adicional, visite hged.com/LNGProject.

Auditorías Energéticas Residenciales

PREPARA TU CASA PARA LAS TEMPORADAS DE INVIERNO

HG&E ofrece auditorías de energía residencial gratuitas que pueden mostrar a los propietarios cómo reducir sus facturas de energía. Una auditoría de energía implica que un asesor de energía profesional vaya a su hogar e identifique formas en las que puede ahorrar en su factura mensual. El asesor de energía responderá sus preguntas sobre aislamiento, equipos de calefacción y electrodomésticos, y lo ayudará a determinar las áreas de mejora.

Para programar una auditoría de energía del hogar sin costo para usted, comuníquese con nuestro socio de servicios de energía, NextZero, directamente a su número gratuito: (888) 333-7525 o visite www.hged.com/audit



¡Solicite hoy para asistencia de calefacción!

Valley Opportunity Council (VOC)
(413) 552-1548 | valleyopp.com

Traducción al español disponible

El Programa de Asistencia de Combustible de VOC, LIHEAP, atiende a hogares elegibles por ingresos en todo el condado de Hampden. Ubicado en Holyoke en 300 High Street y un sitio de divulgación en el Holyoke Council on Aging.

¿Qué es Fuel Assistance?

Fuel Assistance es un programa financiado por el gobierno federal que ayuda a los hogares de bajos ingresos a pagar una parte de sus facturas de calefacción durante los meses de invierno (de noviembre a abril).

¿Cómo me inscribo?

VOC ha facilitado la aplicación desde la comodidad de su hogar. Llame al (413) 552-1548 para presentar su solicitud hoy y los documentos se pueden enviar por correo electrónico a fuelassistance@valleyopp.com.

¿Cuándo debo aplicar?

¡Aplica ya! La financiación no está garantizada y se distribuye por orden de llegada.

¿Debo pagar mis facturas de calefacción?

Es importante realizar los pagos de su factura de calefacción, incluso después de solicitar Fuel Assistance, ya que es posible que el monto de su beneficio no cubra la totalidad de su factura de calefacción durante la temporada de calefacción.

¿Cuánto de mi factura será cubierto?

La asistencia de combustible cubrirá SOLAMENTE la calefacción. Como cliente de HG&E, debe saber que su electricidad (a excepción de la calefacción eléctrica) no estará cubierta por este programa. NO deje de pagar su factura durante los meses de invierno. Este programa no cubre toda la factura, solo la parte de la calefacción.

¿Cómo sabré si soy aprobado?

Recibirá una carta de VOC para indicarle si está aprobado o no. Si tiene alguna pregunta, haga un seguimiento con VOC para determinar el estado de su solicitud.



Otros recursos:

Way Finders

(413) 538-5630 | wayfinders.org

Veterans Financial Assistance

(413) 538-5630 | holyoke.org

211 First Call for Help (United Way)

211 / mass211.org

Residential Assistance for Families in Transition

(413) 233-1500 | haphousing.org

Holyoke Council on Aging

(413) 322-5625 | holyoke.org

Springfield Partners for Community Action

(413) 263-6500 | springfieldpartnersinc.com

Distrigas | Citizens Energy

(866) GAS-9918 | citizensenergy.com

Council of Churches of Greater Springfield

(413) 733-2149

Salvation Army Good Neighbor Energy Fund

(800) 262-1320 | magoodneighbor.org

Holyoke Gas & Electric
EFSB 22-07
Appendix A, Part 2
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EMPOWERING YOUR WORLD

Oficina Principal de HG&E
99 Suffolk Street
Holyoke, MA 01040
(413) 536-9300
www.hged.com

Horario de atención al cliente:
Monday - Friday
8:30 a.m. - 4:30 p.m.

Contactar Servicio al Cliente:
(413) 536-9300
Customer_Accounts@hged.com

Comunicaciones de marketing:
Kate Sullivan Craven
ksullivan@hged.com

Opciones de Pago

Pago en línea
www.hged.com/payonline

Pago telefónico
(413) 536-9300 (Option 5)

Drive Thru/Walk Up
99 Suffolk Street
Holyoke, MA 01040
(413) 536-9300

Correo
P.O. Box 4165
Woburn, MA 01888-4165

Cajas de entrega
• HG&E, 99 Suffolk Street
• C-Mart, 1500 Northampton Street
• DB Mart, 494 Westfield Road
• Stop & Shop, 28 Lincoln Street
• Stop & Shop, 2265 Northampton Street

Cierres de Vacaciones

Veterans' Day
viernes, 11 de noviembre

Thanksgiving Day
jueves, 24 de noviembre

Comisionados

Francis J. Hoey, III
James A. Sutter
Marcos A. Marrero

Gerente

James M. Lavelle

REVISE SU BUZON ESTE MES .PARA GAS NATURAL IMPORTANTE INFORMACIÓN DE SEGURIDAD. VISITE HGED.COM/SAFETY PARA MÁS DETALLES

ENERGY INSIGHTS

OCTOBER 2022

A newsletter for residential customers
of Holyoke Gas & Electric

Holyoke Gas & Electric
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For a Spanish version of this piece, please visit www.hged.com/newsletter.
Para obtener una versión en español de este artículo, visite www.hged.com/newsletter.

LNG Infrastructure & Resiliency Project Overview

LNGProject@hged.com - hged.com/LNGProject

Holyoke Gas & Electric (HG&E) is proposing to install one additional Liquid Natural Gas (LNG) storage tank and upgrade the monitoring and control system at the existing West Holyoke LNG storage facility to enhance natural gas system reliability and safety.

What is Proposed?

HG&E is proposing to install one new 70,000-gallon LNG storage tank at an existing LNG facility and upgrade monitoring and control systems in order to enhance system reliability and safety. There are currently four storage tanks at the facility, in operation since 1971, located in West Holyoke nestled in a large solar installation. The additional controls will provide redundancy and enhanced safety mechanisms.

In order to reliably meet customers' energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke facility.

Why LNG?

As a way to ensure reliable energy service to Holyoke residences and businesses, HG&E augments its energy portfolio with LNG. For over 50 years, HG&E has safely operated the Holyoke facility and used LNG, stored in secure tanks, to meet the energy needs of our customers during periods of high demand.

The ability to safely store and utilize LNG when system demand is high allows for uninterrupted service when pipeline demand is at capacity. In addition, LNG offers HG&E diversity and flexibility within the natural gas portfolio, reducing our dependence on a single pipeline source and fluctuating market costs.

What are the Benefits?

HG&E's natural gas portfolio is made up of both firm pipeline capacity from the Tennessee Gas Pipeline and liquefied natural gas (LNG), which is stored at HG&E's West Holyoke LNG Facility. Historically, the facility was developed to provide supply back-up in the event of a pipeline interruption or constraint and afford customers with the most reliable service. Currently, under peak demand HG&E's system consumes 20,000 dth of gas per day. The existing LNG facility is capable of storing approximately 16,000 dth. Existing demand is 25% greater than available storage capacity. The addition would increase storage capacity to approximately 21,000 dth, sufficient to meet existing customer demand without curtailing firm gas customers in the event of a pipeline interruption.

This project, in combination with aggressive energy efficiency programs, will allow customers to apply for natural gas service when converting from oil or propane. HG&E will evaluate each application and work closely with customers to ensure there is not a viable, cost comparable alternate solution that better positions the community to meet the State's clean energy goals.

The Process

HG&E will be bringing this potential solution to the Massachusetts Energy Facility Siting Board, which will include a public process with several opportunities for feedback and discussion. Update timelines will be posted on HG&E's website.



This project fits within our long-term clean energy goals and allows for a manageable, cost-effective transition to a cleaner future.
Visit HG&E's Clean Energy Dashboard for more information at www.hged.com.

If you have any questions or would like additional information,
please visit hged.com/LNGProject.

RATE COMPARISONS

LOWEST ELECTRIC RATE



September 2022: Residential customer consuming 500 kWh/month. Amounts shown include all discounts and use the fixed default generation supply price.

LOWEST NATURAL GAS RATE



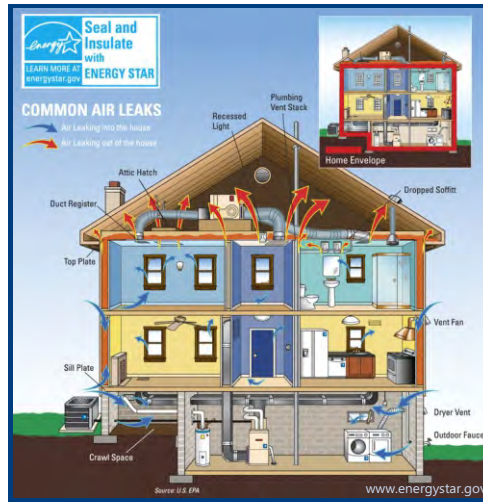
September 2022: Residential customer consuming 28 CCF/month. Amounts shown include all discounts.

Residential Energy Audits

PREPARE YOUR HOME FOR THE WINTER SEASONS

HG&E offers free residential energy audits that can show homeowners how to lower their energy bills. An energy audit involves a professional energy advisor coming to your home and identifying ways that you can save on your monthly bill. The energy advisor will answer your questions about insulation, heating equipment and appliances, and help you determine areas for improvement.

To arrange for a home energy audit at no cost to you contact our energy services partner, NextZero, directly at their toll-free number: (888) 333-7525 or visit www.hged.com/audit.



Apply Today for Heating Assistance!

Valley Opportunity Council (VOC)
(413) 552-1548 | valleyopp.com

Spanish Translation Available

VOC's Fuel Assistance Program, LIHEAP, serves income eligible households throughout Hampden County. Located in Holyoke at 300 High Street and an outreach site at the Holyoke Council on Aging.

What is Fuel Assistance?

Fuel Assistance is a federally funded program that helps low income households pay for a portion of their heating bills during the winter months (November thru April).

How do I apply?

VOC has made it easy to apply from the comfort of your home. Call (413) 552-1548 to apply today and documents can be emailed to fuelassistance@valleyopp.com.

When should I apply?

Apply now! The funding is not guaranteed and is distributed on a first come, first serve basis.

Should I pay my heating bills?

It is important to make payments on your heating bill, even after applying for Fuel Assistance, as your benefit amount may not cover your entire heating bill for the heating season.

How much of my bill will be covered?

Fuel Assistance will cover heat ONLY. As a customer of HG&E you need to know your electricity (with the exception of electric heat) will not be covered by this program. Please do NOT stop paying your bill over the winter months. This program does not cover your entire bill, just the heating portion.

How will I know if I am approved?

You will receive a letter from VOC to indicate whether or not you are approved. If you have any questions, please follow-up with VOC to determine the status of your application.



Other Resources:

Way Finders

(413) 538-5630 | wayfinders.org

Veterans Financial Assistance

(413) 538-5630 | holyoke.org

211 First Call for Help (United Way)
211 / mass211.org

Residential Assistance for Families in Transition

(413) 233-1500 | haphousing.org

Holyoke Council on Aging

(413) 322-5625 | holyoke.org

Springfield Partners for Community Action

(413) 263-6500 | springfieldpartnersinc.com

Distrigas | Citizens Energy

(866) GAS-9918 | citizensenergy.com

Council of Churches of Greater Springfield

(413) 733-2149

Salvation Army Good Neighbor Energy Fund

(800) 262-1320 | magoodneighbor.org

HG&E Main Office
99 Suffolk Street
Holyoke, MA 01040
(413) 536-9300
www.hged.com

Customer Service Hours:
Monday - Friday
8:30 am - 4:30 pm

Contact Customer Service:
(413) 536-9300
Customer_Accounts@hged.com

Marketing/Communications:
Kate Sullivan Craven
ksullivan@hged.com

Payment Options

Online Payment
www.hged.com/payonline

Phone Payment
(413) 536-9300 (Option 5)

Drive Thru/Walk In
99 Suffolk Street
Holyoke, MA 01040
(413) 536-9300

Mail
P.O. Box 4165
Woburn, MA 01888-4165

Holyoke Drop Boxes
HG&E, 99 Suffolk Street
C-Mart, 1500 Northampton Street
DB Mart, 494 Westfield Road
Stop & Shop, 28 Lincoln Street
Stop & Shop, 2265 Northampton Street

Holiday Closings

Veterans' Day
Friday, November 11

Thanksgiving Day
Thursday, November 24

Commissioners

Francis J. Hoey, III
Marcos A. Marrero
James A. Sutter

Manager

James M. Lavelle



CHECK YOUR MAILBOX THIS MONTH FOR IMPORTANT NATURAL GAS SAFETY INFORMATION. VISIT HGED.COM/SAFETY FOR DETAILS.





Juan Anderson-Burgos is with Pat Duffy.

September 30 at 1:12 PM · 🌐

Holyoke Gas & Electric

EFSB 22-07

Appendix A, Part 2

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Today Representative Duffy toured the HG&E LNG facility where the proposed enhancements to add a new 70,000-gallon LNG storage tank that will allow Holyoke residents who don't have the gas option to apply for it. For more information please visit:

<https://hged.com/news/LNG/default.aspx>



From: "Anderson-Burgos, Juan (HOU)" <Juan.Anderson-Burgos@mahouse.gov>
To: "ksullivan@hged.com" <ksullivan@hged.com>

Date: Friday, September 30, 2022 06:32PM
Subject: RE: Thank you - West Holyoke LNG Facility

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Thank you! It was so great to see you...2 days in a row! 😊

Looking forward to the amazing work ahead of us.

Have a beautiful weekend.

Juan Anderson-Burgos
Legislative Aide to
State Representative Patricia Duffy
Fifth Hampden District
District office: 413-529-4307
164 Race St., Suite 105
Holyoke 01040
juan.anderson-burgos@mahouse.gov

From: ksullivan@hged.com <ksullivan@hged.com>
Sent: Friday, September 30, 2022 1:15 PM
To: Duffy, Patricia - Rep. (HOU) <Patricia.Duffy@mahouse.gov>; Anderson-Burgos, Juan (HOU) <Juan.Anderson-Burgos@mahouse.gov>
Cc: broy@hged.com; jlavelle@hged.com
Subject: Thank you - West Holyoke LNG Facility

Good afternoon Pat & Juan,

On behalf of our team, I'd like to thank you for taking the time to visit our West Holyoke LNG Plant this morning. As mentioned, this facility is a critical part of our current natural gas operation and will be instrumental in Holyoke's long-term energy strategy. We look forward to further engaging with the community and stakeholders as the EFSB process progresses this fall/winter.

In addition, we will discuss potential legislative opportunities for the January filing and develop a plan for a regional MLP conversation over the winter.

If you have any questions, please reach out anytime.

Have a great weekend (and vacation)!

Kate

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

For the latest information about **COVID-19 (novel coronavirus) Recovery**, [click here to visit our dedicated page](#).
(/departments/coronavirus-response/)

Click here to sign up for city emergency alerts -including community event alerts, Fire Department notifications, law enforcement alerts, general information alerts, and public works notifications (<https://member.everbridge.net/index/453003085611624/#/signup>)

Please be advised that in observance of the Thanksgiving holiday, city offices be closed beginning at 12 p.m. on Wednesday, November 23rd and through the day on Thursday, November 24th and Friday, November 25th.

The City of Holyoke wishes everyone a Happy Thanksgiving!

Holyoke City Council Meeting October 4, 2022

Oct
4
2022

7:00 pm ▶ City Hall Holyoke

536 Dwight St, Holyoke 01040

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[Status updates for orders \(https://www.holyoke.org/city-council-orders-october-4-2022/\)](https://www.holyoke.org/city-council-orders-october-4-2022/)

Meeting will take place at Holyoke City Hall, 536 Dwight St and can also be accessed remotely via www.zoom.us

<https://us02web.zoom.us/j/86901020711?pwd=b3RFbzlLZlF6YUVVc1ZvTjdzV09BZz09>

Meeting ID: 869 0102 0711 Meeting Passcode: 086807 or by call in at 1 (646) 558-8656 with same Meeting ID and Passcode.

Live Spanish interpretation will be available on local access channel 15 using the television's SAP option, through the live stream on the city website, as well as on the Zoom feed by clicking the interpretation option and choosing Spanish.

AGENDA FOR THE CITY COUNCIL

October 4, 2022

PUBLIC HEARING

1. To the CITY COUNCIL of Holyoke, Massachusetts.

The GAS AND ELECTRIC DEPARTMENT requests permission to locate a line of wires, cables, poles and fixtures, including the necessary sustaining and protecting fixtures, along and across the following public way or ways:

- One (1) 35' pole in the Essex St alley way between Beech St & Oak St, Holyoke MA

LAI D ON THE TABLE

2. The Committee on Finance to whom was referred an order From Lisa Ball, Acting City Solicitor, letter re: Fire Chief's Contract Recommended that the order is in compliance pending passage of the budget
3. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FFY19 PROJECT SAFE NEIGHBORHOODS PROGRAM, \$64,850, NO MATCH " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

4. The Committee on Ordinance to whom was referred an order that following the adoption of a resolution in support of the district, that the Ordinance Committee work with the mayor and the appropriate city and state departments to adopt an ordinance creating a Puerto Rican Cultural District within the City of Holyoke. Recommended that the order be adopted.
5. The Committee on Ordinance to whom was referred an order that the City Council consider updating the Demolition Delay ordinance with changes proposed by the Historical Commission Recommended that the order be adopted as amended
6. The Committee on Public Safety to whom was referred an order that the lines on Rt 202 on the closed right hand lane going toward Westfield be painted ASAP. Two lanes are being used as travel lanes creating a safety hazard. Recommended that the order has been complied with

COMMUNICATIONS

7. From Mayor Joshua A. Garcia letter of Veto regarding following order:
That until residents are offered an opportunity to meet IN THE NEIGHBORHOOD with public officials and public board members, who are making decisions with little to zero neighborhood input, the City shall not spend any funds or incur any costs for any new buildings including any school.
8. From Mayor Joshua A. Garcia, letter of veto regarding Councilor Jourdain's order from February 15, 2022:
That the City Council adopt an ordinance that requires all department heads and employees to electronically track (i.e. Munis or other such system as determined by the Personnel Department) all time off accrued and used on a monthly basis. They are also required to report all time off requests, approvals, denials and usage tracking centrally to the Personnel department on a monthly basis. The personnel department shall ensure compliance with city time off policies. Any employee or department head who knowingly provides false information on the reporting of time shall be subject to discipline up to and including termination. They shall also be subject to restitution and/or other civil fine as may be established by ordinance.
9. From Mayor Joshua A. Garcia letter appointing Ms. Gabriela Alcantara Pohls, 589 Pleasant St. 4R, to serve as a member of the Historical Commission for the City of Holyoke: Ms. Alcantara Pohls will replace Mr. Harry Montalvo and will serve Mr. Montalvo's remainder term; said term will expire on October 1, 2023.
10. From Mayor Joshua A. Garcia letter appointing Ms. Lizabeth Rodriguez, 193 Brown Ave. to serve as a member of the Historical Commission for the City of Holyoke: Ms. Rodriguez will replace Ms. Frances Welson and will serve Ms. Welson's remainder term; said term will expire on April 16, 2024.
11. From Mayor Joshua A. Garcia letter re-appointing Mr. Joshua Knox, 40 Morgan St. to serve as a member of the Board of Appeals for the City of Holyoke: Mr. Knox will serve a three year term; said term will expire on July 1, 2025.
12. From Mayor Joshua A. Garcia letter appointing Mr. Jesus Espinosa, 79 Lynch Dr. to serve as a Commissioner of the Soldier's Memorial for the City of Holyoke: Mr. Espinosa will replace Mr. Robert K. MacKay and will serve the remainder of his term; said term will expire on September 30, 2023.
13. From Mayor Joshua A. Garcia letter appointing Ms. Julia Santiago, 51 Longwood Ave. to serve as a member on the Library Board of Directors for the City of Holyoke: Ms. Santiago will replace Ms. Kelly Curran and will serve the remainder term; said term will expire on February 2025.
14. From Mayor Joshua A. Garcia letter expressing Support for Holyoke Gas & Electric proposed LNG Infrastructure & Resiliency Project in West Holyoke.
15. From Mayor Joshua A. Garcia, letter electing to contract Cataldo Ambulance Service Inc. of Somerville, Mass., for Emergency Ambulance Services in Holyoke. The effective date of separation from Action Ambulance Service Inc. is October 1, 2022.
16. From Mayor Joshua A. Garcia, Executive Order for Sec. 18-35 Regulation of blighted and vacant buildings.
17. From Brenna Murphy McGee, MMC and Jeffery Anderson-Burgos, Admin. Ass't. to City Council minutes from August 2, & September 1, 2022.

18. From Tanya Wdowiak, City Auditor, Purchase Agreement for Police Cruisers, Lease Schedule No 1 and Master lease purchase agreement.
19. Memorandum of Agreement Between City of Holyoke and the Professional Supervisors Union (PSA), and Damian Cote, employed as the Building Commissioner effective July 1, 2022 to June 30, 2023.
20. Memorandum of Agreement between the City of Holyoke and Professional Supervisors Union (PSA) to add Zoning Official Position effective July 1, 2022 - June 30, 2023.
21. Agreement between The Board of Public Works of the City of Holyoke and United Food and Commercial Workers Local 1459, effective July 1, 2022 - June 30, 2025.
22. From David R. Pratt Chief of Police letter regarding remarks made on the September 1, 2022 City Council meeting.
23. From Office of Planning and Development letter re: Zoning text change 50% living space follow up.
24. From Office of Planning and Economic Development letter from Holyoke Historical Commission thanking the City Council for the Majority vote in favor of the new Preservation of Historic Building Ordinance, on August 2, 2022.
25. From Office of Planning & Economic Development letter regarding Incident during Ordinance Committee and Planning Board Joint public hearing on August 23, 2022.
26. From Holyoke Public Schools. Middle School Update from August to October 2022.
27. Petition for Speed hump for Hillside Ave
28. From Blossom Flower LLC notice of Community Outreach Meeting for a proposed marijuana product manufacturer at 1 Cabot St.
29. From Evergreen Industries LLC, 1 Cabot St. notice of a Community Outreach Meeting on September 16, 2022.
30. From Holyoke Parks & Recreation minutes of April 5 and May 9, 2022.
31. From Board of Fire Commission minutes of July 21, and August 30, 2022.
32. From MassDOT letter re: removal of application for electronic billboard permit from September 8, 2022 agenda from Lamar Central Outdoor LLC.

PETITIONS

33. Petition of Chevonne Ann Machuca, 47 Hitchcock St. for a street vendor license on Race St.
34. Petition for a new Marijuana Manufacturing Establishment at 109 Lyman St. for Small Wonder Cultivation LLC.
35. Petition for a new Marijuana Manufacturing Establishment at 420 Race St. Suite 1A for Upper Echelon Cultivation LLC
36. Petition of Sidikson Mamadjonov for a renewal of a second hand license at 50 Holyoke St.
37. Petition of Helson Morales for a special permit for a driveway in front yard (6.1.8.1) at 2 Orchard St.

REPORTS OF COMMITTEES

38. Ordinance Committee Reports (if any)

38A. The Committee on Ordinance to whom was referred an order That an ordinance be created to allow for a Fire Chief contract and that this ordinance also establish a salary range for the position (Min/Mid/Max) Recommended that the order be adopted, as amended to include the language that "any contract awarded under this ordinance is subject to appropriation by the City Council."

38B. The Committee on Ordinance to whom was referred an order Zone change application from DR to BH for Daniel Laflamme at 41 Temple St (085-00-012) to operate a truck repair shop in a district zoned DR so that the business can be conforming. Recommended that the order be adopted.

38C. The Committee on Joint Committee of City Council and School to whom was referred an order That the school Receiver Mr. Anthony Soto and his team be requested to explore the steps, costs and federal reimbursements associated with re-establishing the Air Force Junior Reserve

Officer Training Corps or similar sister service program in the public schools. It is additionally requested that interest be measured to determine student body support for such a program. Recommended that the order has been complied with.

38D. The Committee on Ordinance to whom was referred an order Amend the zoning ordinance to read any home construction in a residential zone shall be greater than 50% living space. A special permit from CC is required if the home construction will have 50% or less living space. Recently home plans have been approved and it has been communicated from the Building Commissioner that our current residential zoning allows for construction of a home that is 80% garage and 20% living space. Recommended that the order be denied.

38E. The Committee on Ordinance to whom was referred an order That Mayor Garcia be given the authority to hire a DPW director above mid range up to no more than max without needing further approval from CC due to special circumstances Recommended that the order be adopted, as amended to stipulate that these special circumstances would expire when the next DPW Director is hired.

39. Finance Committee Reports (if any)

39A. The Committee on Finance to whom was referred an order Order that \$12,500 be transferred from the Cannabis Impact & Innovation Fund to OPED to be the match to the MassTrails Grant for continued planning on South Main Street Corridor Improvement Plans. See executive summary and presentation at this link <https://www.holyoke.org/springdale-corridor-main-st-project/> Recommended that the order be adopted.

39B. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "2022 MASSTRAILS GRANT, \$50,000, \$12,500 MATCH THROUGH CANNABIS IMPACT STABILIZATION FUND, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant. Recommended that the order be adopted

39C. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: EMPLOYEE BENEFIT COSTS EVALUATION & RECOMMENDATION, \$25,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant. Recommended that the order be adopted.

39D. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 BEST PRACTICES COMPACT PROGRAM: MUNIS EMPLOYEE SELF SERVICE IMPLEMENTATION, \$29,475, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant. Recommended that the order be adopted.

39E. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY23 LIBRARY SERVICES & TECHNOLOGY ACT (LSTA) - STRENGTH IN FAMILIES, \$10,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant. Recommended that the order be adopted.

39F. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND AND 00/100 Dollars (\$1,000) as follows:

FROM:

15101-51203 SUBSTITUTE NURSES \$1,000

TOTAL: \$1,000

TO:
15101-51300 OVERTIME \$1,000
TOTAL: \$1,000 Recommended that the order be adopted.

39G. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, SIXTY TWO THOUSAND AND 00/100 Dollars (\$62,000) as follows:

FROM:
12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000
12401-51201 PAY PROPERTY MAINT/DEMO SUPER 7,000
TOTAL: \$62,000
TO:
12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000
12401-51101 PAY-BUILDING COMMISSIONER 7,000
TOTAL: \$62,000 Recommended that the order be adopted.

39H. The Committee on Finance to whom was referred an order that pursuant to the January 4, 2022 order, which was unanimously approved by the City Council, the HG&E appear before the Finance Committee to give an update on their progress.

The January 4, 2022 Order adopted by the City Council read as follows: "The Holyoke Gas and Electric be requested to take all necessary steps to end the gas moratorium. That they report back to the City Council by April 1, 2022 on their recommended plan of action including potential time table to bring the moratorium to an end." Recommended that the order has been complied with

40. Public Safety Committee Reports (if any)

40A. The Committee on Public Safety to whom was referred an order Communication from Councilor Maldonado-Velez regarding 988 number: https://namimass.org/wp-content/uploads/MAMHNAMEFact_988ImplementationH2081S1274.pdf Recommended that the order has been complied with

40B. The Committee on Public Safety to whom was referred an order That the Police Chief and Fire Chief have Baby Safe Haven signage at all manned police and fire stations and ensure effective procedures are in place to comply with Chapter 227 of the Acts of 2004. Recommended that the order has been complied with.

40C. The Committee on Public Safety to whom was referred an order That the Police Chief, Fire Chief, and a representative of the Holyoke Medical Center be invited to appear at the Public Safety Committee to discuss and review the Baby Safe Haven law as it relates to the City of Holyoke. Please provide any statistics on how many infants have been received since the law took effect if available. Recommended that the order has been complied with.

40D. The Committee on Public Safety to whom was referred an order that the public safety committee meet with representatives from ROCA to discuss the benefits of the program both to the participants and the city, and to see if there are other things that ROCA and the city might partner to do. Recommended that the order has been complied with.

40E. The Committee on Public Safety to whom was referred an order that traffic flow on Kane and Vermont Street be evaluated to reduce congestion during pick up and drop off times at McMahon School and b) that buses be routed from Homestead Ave rather than Vermont Street and c) consider the number of buses needed as it appears fewer students are using the bus service.
Recommended that the order has been complied with.

41. Public Service Committee Reports (if any)

42. Development and Governmental Relations Committee Reports (if any)

43. Charter and Rules Committee Reports (if any)

44. Joint City Council and School Committee Reports (if any)

MOTIONS, ORDERS, AND RESOLUTIONS

45. MALDONADO-VELEZ, ANDERSON-BURGOS, GIVNER--Ordered, that the Superintendent provide feedback on how the department is handling reports of teachers using the "N word" in front of students. Refer to Joint CC and SC Committee
46. MALDONADO-VELEZ --Ordered, that the city provide an update on any antiracism and diversity training already in place for employees, and update on how it can be improved. Refer to Personnel, Public Safety, and Joint SC and CC Committee
47. MALDONADO-VELEZ, RIVERA_I --Ordered, that the Mayor create and fund a Public Safety Department, suggesting a beginning budget of \$500,000 for FY24. Refer to Mayor, Public Safety.
48. MALDONADO-VELEZ, RIVERA_I --Ordered, that an RFP be created to study a community responder model type program that is outside of the Police Dept but works in collaboration with that department as one of several contributing partners. Refer to Public Safety.
49. MALDONADO-VELEZ --Ordered, that a fund be created to implement a series of studies rotating between city departments each year to study best practices and methods of implementation for improvement of processes. Our city should constantly be seeking to improve how the public is served and that requires regularly looking at internal processes. Refer to Charter and Rules, Ordinance
50. MCGEE, ANDERSON-BURGOS --Order that the DPW install a crosswalk area and signal on 141 at the entrance to the reservoir.
51. MCGEE --To explore creating a zoning and code enforcement position in the building department.
52. MCGEE --Order that DPW patch up the potholes on Lincoln Street as soon as possible.
53. MCGEE --Order that DPW place Lincoln street on the resurfacing list of street to get done.
54. MCGEE, TALLMAN --that the City Council adopt the attached resolution "Back from the Brink"
55. MCGEE --Order that the DPW/forestry trim the tree on Jefferson near 3 George Street and review to see if the tree has to be taken down.
56. MCGEE --Order that the DPW/forestry trim the branches along Hampton knolls that are over hanging the street
57. MCGEE --Order that DPW put in the temporary speed bumps on Hampton knolls.
58. MCGEE --Order that the DPW repair the broken swings and equipment at all the parks in the city. Also, that new wood chips be places in the parks. Several parks in the city have broken parts that are a danger to the children and a liability to the city.
59. MCGEE --That Department heads be given the authority to hire Schedule A positions above mid-range up to no more than max without needing further approval from CC due to special circumstances.
60. MCGEE --That the City Solicitor be given the authority to hire a paralegal above mid range up to no more than max without needing further approval from CC due to special circumstances.
61. MCGEE --That the Polling Places for each of the voting precincts in the City of Holyoke for the State Election to be held Tuesday, Nov.8, 2022 be and the same are hereby designated as follows:
ORDENA, que los lugares para cada recinto en la Ciudad de Holyoke para la Eleccion Estatal que se llevaran a cabo el Martes, 8 de Noviembre 2022, sea y al igual, por este medio designado lo siguiente:
WARD ONE BARRIO UNO
PRECINCT A –Rosary Towers Recreation Room 21 Bowers St..
RECINTO A –Rosary Towers Recreation Room 21 de la Calle Bowers
PRECINCT B –City Hall (Basement) 536 Dwight St.
RECINTO B –City Hall (Basement) 536 de la Calle Dwight
WARD TWO BARRIO DOS
PRECINCT A –Morgan School Gym, South Bridge St. Entrance only
RECINTO A –Gimnasio de la Escuela Morgan, en la Calle So. Bridge solamente
PRECINCT B –Falcetti Towers, 475 Maple St.
RECINTO B –Falcetti Towers, 475 de la Calle Maple
WARD THREE BARRIO TRES

PRECINCT A&B – Metcalf School Gym, 2019 Northampton St..
 RECINTO A&B – Gimnasio de la Escuela Metcalf, 2019 de la Calle Northampton
 WARD FOUR BARRIOS CUATRO
 PRECINCT A&B – St. Paul's Church Parish Center, Appleton St.
 RECINTO A&B – St. Paul's Church Parish Center, en la Calle Appleton
 WARD FIVE BARRIOS CINCO
 PRECINCT A – Lt. Elmer J. McMahon School Gym, Kane Rd.
 RECINTO A – Gimnasio de la Escuela McMahon, en la Calle Kane
 PRECINCT B – Maurice A. Donahue School Gym, Whiting Farms Rd.
 RECINTO B – Gimnasio de la Escuela Donahue, en la Calle Whiting Farms
 WARD SIX BARRIO SEIS
 PRECINCT A&B – Sullivan School, 400 Jarvis Ave.
 RECINTO A&B – Escuela Sullivan, 400 de la calle Jarvis
 WARD SEVEN BARRIO SIETE
 PRECINCT A&B – E. N. White School Gym, 1 Jefferson St.
 RECINTO A&B – Gimnasio de la Escuela E. N. White, 1 de la Calle Jefferson

62. MCGEE -- That the State Election in the City of Holyoke for the choice of State Officers be and the same is hereby called to be held on Tuesday, November 8, 2022, in the several polling places designated by the City Council.
- The polls will be opened at 7:00AM, and remain open continuously thereafter until 8:00PM, when the polls will be closed, and all the voters will in the several precincts in which they are entitled to vote, between said hours, give in their votes for:
- Que las Elecciones Estatales para la nominacion de candidatos del Partido Politico para las oficinas que seran ocupadas en la Eleccion del Estado en el ano 2018, sea y illos de por este medio llamado a que lleve a cabo en la Ciudad de Holyoke el Martes, 6 de Noviembre, 2018, en los varios lugares de votacion, como designado por el concejo municipal. Las urnas seran abiertas a las 7:00AM, y permaneceran abiertas continuamente de alli en adelante hasta las 8:00PM cuanda las urnas sean cerrada, y todas los votantes de los partidos politico en los varios lugares de votacion en el cual ellos tienen derecho a votar, entredicha horas ceder sus votos para la nominacion de candidatos del partido politico para las siguientes oficinas:
- Governor & Lt. Governor - Gobernador y Vice Gobernador
 Attorney General - Fiscal General
 Secretary of State - Secretario de Estado
 Treasurer - Tesorero
 Auditor - Auditor
 Representative in Congress – Representante en el Congreso
 Councillor - Concejal
 Senator in General Court – Senador de la Legislatura Estatal
 Representative in General Court – Representante de la Legislatura Estatal
 District Attorney - Fiscal de Distrito
 Register of Deeds - Jefe del Registro de Escrituras Publicas
 Question #1 - Pregunta #1
 Question #2 - Pregunta #2
 Question #3 - Pregunta #3
 Question #4 - Pregunta #4
63. MCGIVERIN -- that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY2023 MUNICIPAL ROAD SAFETY PROGRAM, \$35,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.
64. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY THREE THOUSAND SIX HUNDRED SEVENTY EIGHT AND 36/100 Dollars (\$23,678.36) as follows:
- FROM:
- | | | |
|-------------|------------|-------------|
| 12101-51104 | LIEUTENANT | \$3,883.22 |
| 12101-51105 | SERGEANT | 10,085.70 |
| 12101-51107 | PATROLMAN | 9,709.44 |
| TOTAL: | | \$23,678.36 |

TO:

12101-51180 INJURED ON DUTY \$23,678.36

TOTAL: \$23,678.36

65. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY ONE THOUSAND FIVE HUNDRED FORTY SIX AND 53/100 Dollars (\$21,546.53) as follows:

FROM:

12101-51104 LIEUTENANT \$3,883.22

12101-51105 SERGEANT 6,723.80

12101-51107 PATROLMEN 10,939.51

TOTAL: \$21,546.53

TO:

12101-51180 INJURED ON DUTY \$21,546.53

TOTAL: \$21,546.53

66. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, EIGHT HUNDRED FORTY THREE AND 64/100 Dollars (\$843.64) as follows:

FROM:

12201-51105 FIREFIGHTERS \$843.64

TOTAL: \$843.64

TO:

12201-51180 INJURED ON DUTY \$843.64

TOTAL: \$843.64

67. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE THOUSAND NINE HUNDRED EIGHTY EIGHT AND 62/100 Dollars (\$1,988.62) as follows:

FROM:

12201-51105 FIREFIGHTERS \$1,988.62

TOTAL: \$1,988.62

TO:

12201-51180 INJURED ON DUTY \$1,988.62

TOTAL: \$1,988.62

68. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, TEN THOUSAND AND 00/100 Dollars (\$10,000.00) as follows:

FROM:

12401-51110 PAY-LOCAL INSPECTOR \$10,000.00

TOTAL: \$10,000.00

TO:

12401-51110 OTHER CONTRACTED SERVICES \$10,000.00

TOTAL: \$10,000.00

69. MCGIVERIN -- that the amount of NINE THOUSAND SEVEN HUNDRED FIVE AND 00/100 Dollars (\$9,705.00) be authorized from the IT Department's PROFESSIONAL CONSULTING (11552-53010), TWENTY THOUSAND FOUR HUNDRED FIFTY SEVEN AND 00/100 Dollars (\$) be authorized from the POLICE/FIRE NETWORK ADMINISTRATION (11552-53020) appropriation in fiscal year 2023 for services rendered in fiscal year 2022 which were unencumbered at the 2022 fiscal year end.

70. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, FIFTY FIVE THOUSAND AND 00/100 Dollars (\$55,000.00) as follows:

FROM:

12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000.00

TOTAL: \$55,000.00

TO:

12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000.00

TOTAL: \$55,000.00

71. MCGIVERIN -- that there be and is hereby appropriated by transfer in the fiscal year 2023, SEVEN THOUSAND AND 00/100 Dollars (\$7,000.00) as follows:

FROM:

12401-51201 PAY PROPERTY MAINT/DEMO SUPER \$7,000.00

TOTAL: \$7,000.00

TO:

12401-51101 PAY-BUILDING COMMISSIONER \$7,000.00

TOTAL: \$7,000.00

72. MCGIVERIN -- that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "GREENING THE GATEWAY CITIES PARTNERSHIP, \$20,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.
73. MCGIVERIN -- that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "GREENING THE GATEWAY CITIES IMPLEMENTATION, \$100,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.
74. MURPHY-ROMBOLETTI -- That the Honorable City Council, in accordance with M.G.L. ch. 30B and the Holyoke Procurement Ordinance, vote that the City of Holyoke accept the proposal and sell the surplus properties at 297, 301 & 303 Elm Street for \$25,800.00 to Carrie and Arthur Naatz. The properties are contiguous parcels of vacant land on Elm Street at the corner of Sargeant Street and described by Assessor's records as:
297 Elm Street (Assessors Map 004, Block 04, Parcel 005)
Approximately 6,360 square feet in size
Zoned Downtown Residential (DR)
Assessed value is \$34,700.
301 Elm Street (Assessors Map 004, Block 04, Parcel 006)
Approximately 6,316 square feet in size
Zoned Downtown Residential (DR)
Assessed value is \$34,700
303 Elm Street (Assessors Map 004, Block 04, Parcel 007)
Approximately 8,276 square feet in size.
Zoned Downtown Residential (DR)
Assessed value is \$35,000.
75. MURPHY-ROMBOLETTI -- That the City of Holyoke, through its Honorable City Council and Honorable Mayor, hereby petitions the Massachusetts General Court to enact legislation "Establishing an Appointed Treasurer for the City of Holyoke" in the form set forth below; provided, however, that the General Court may reasonably vary the form and substance of the requested legislation within the scope of the general public objectives of this petition. "An Act Establishing an Appointed Treasurer for the City of Holyoke" - This act proposes to change the City Treasurer from an elected position to an appointed one; the appointment will be made by the Mayor, with approval of the City Council, for a term not to exceed five (5) years and qualifications for the position may be established by ordinance. If adopted, the Treasurer elected in the 2023 municipal election will fill the vacancy in the office for the remaining two (2) years, and a Treasurer will be appointed to the position following the expiration of that term in January 2026 or sooner if the office is vacated.
76. MURPHY-ROMBOLETTI -- Ordered that the City examine and study the Schedule A increases that were recommended by the salary study completed in 2014, so that we can implement salary adjustments that are competitive and more aligned with neighboring municipalities in order to retract and retain City employees.
77. MURPHY-ROMBOLETTI -- Ordered that the Committee on Development and Government Relations invite representatives from the Worcester Red Sox to learn more about its "Town Takeover" initiative in the 2023 season.
78. RIVERA_J -- That a handicap sign be placed in front of 16 East Court, for Hector Reyes, placard #PL1430356.
79. RIVERA_J -- That a handicap sign be placed in front of 8 West Court for Maria Malave.
80. RIVERA_J -- Order that we make Samosett Street a one way heading east
81. RIVERA_J, MALDONADO-VELEZ -- Order that we install raised crosswalks, or other calming measures, on Main Street between Hamilton Street & Sargeant Street and Cabot Street & Spring Street. Refer to Public Safety.
82. VACON, JOURDAIN, MCGIVERIN -- amend ordinances to include that the Police and Fire Chief contractual salaries are subject to appropriation.

83. VACON -- that the crosswalk at McMahon school be painted and branches trimmed away from the flashing light, as well as any remaining unpainted crosswalks and lines in streets in Ward 5 be painted ASAP as this is a safety hazard.
84. VACON -- that our City Engineer evaluate and determine the installation of a crosswalk. The crossing guard stands on the corner of Kane Road and Knollwood Circle. This is a request from school staff and our School Committee member.
85. VACON -- that "No Engine Brakes" signs be placed on Lower Westfield road near #72 AND on Rt 202 near Sunset Rd. (traveling toward Homestead Ave).
86. VACON -- That the speed feedback trailer be placed on Apremont Hwy near #154 to let drivers see their speed when traveling down the hill.
87. ANDERSON-BURGOS -- Order that the handicap parking located at 29 Belvidere Ave be removed. Per constituent request.
88. ANDERSON-BURGOS -- That the DPW repaint the 3 stop markers located at the intersection of Hillside Ave and Claremont Ave.
89. BARTLEY, GIVNER, JOURDAIN, RIVERA_I -- The Mayor please fund the concrete removal and rebuild of the pad site for the South St. PVTa bus shelter near Sav-a-Lot. Per PVTa's engineer, the estimated City cost should be \$2,000.00
90. BARTLEY, JOURDAIN, MCGEE, TALLMAN -- The city engineer please recommend on-street parking improvements on the north-side of South St. between 485 South St. (Elmwood Towers) and Russell Terrace and the south-side of South St. from Taino's Restaurant to the old fire station. (Order is suggested by local business owners.) Refer to Public Safety and Mayor.
91. BARTLEY, JOURDAIN, MCGEE TALLMAN -- That a Proclamation be bestowed upon the Jericho Bureau for Exceptional Children and Adults commemorating its 50th Anniversary of serving the Greater Holyoke community with love, patience and understanding.
92. BARTLEY, VACON -- Request a communication from the Planning Board and/or the Law Dept. documenting legal fees incurred by the City of Holyoke as a result of the actions and votes pertaining to Dunkin Donuts/Log Cabin (and any other petitioners) of the Planning Board. Please respond within 30 days and please update the council every quarter. Refer to Planning, Legal and City Auditor.
93. GIVNER -- with special support from our blind residents and advocates, Order that a light signal with crossing sounds be installed at location of existing cross to Stop n Shop on Hampden St at Clinton Ave.
-Request to City Engineer, DPW, and copy to Public Safety
94. GIVNER -- Order that Zoning Ordinance 4.4.6 "Location of Accessory Structures" be updated to align with zoning in our neighboring municipalities in an effort to allow more flexibility on residential lots. -Send to Ordinance and request Building Commissioner study be shared with all City Council members.
95. GIVNER -- Order that crosswalks be repainted across Main Street at Hamilton st, along with added signs reflecting state law that requires cars to stop for pedestrians in crosswalks. -Request to DPW and copy to Public Safety
96. GIVNER -- Order that the signals division of the fire department implement a light delay at Hamden & Linden streets to help avoid incidents. -Request to the Fire Department and copy to Public Safety
97. GIVNER, ANDERSON-BURGOS -- Collaborative order to create "don't block the box" Painting and signage to accommodate traffic flow on Beach St at CVS entrance/exit. -Request to DPW and copy to Public Safety
98. GIVNER -- Order that the "no parking" sign be removed on one side of the curve at O'Connor Ave bend to add parking while keeping the corner safe and passable for service and emergency vehicles. -Request to DPW and copy to Public Safety
99. GIVNER -- Order to install city-wide signage reflecting state law that requires cars to stop for pedestrians in crosswalks. -Request to DPW and copy to Public Safety
100. GIVNER, MALDONADO-VELEZ -- Ordered, that a no parking sign be placed in front of 5 Whiting Avenue at the request of the residents.
101. JOURDAIN, BARTLEY, VACON -- Ordered, that the City Council adopt a Resolution of strong support of the Holyoke Police Department. As Councilors, we appreciate the difficult and often dangerous job they have to serve and protect the people and property of Holyoke. We

believe this Resolution of strong support and solidarity also reflects the strong support and appreciation shared by the vast majority of our residents.

102. JOURDAIN, MCGIVERIN -- Ordered, that the Treasurer and Flynn Financial please appear before the Finance Committee to discuss how our Stabilization Funds are being invested. The City Council would also like to receive quarterly financial statements on these investments going forward. In advance of the meeting, please provide us the financial statements for the period July 1, 2019-June 30, 2022 so we can be prepared for the meeting and our discussion. Please also provide us any applicable regulations or rules from the state related to how Stabilization funds may be invested.

Addendum:

LATE FILES FROM PREVIOUS MEETING

A. MCGIVERIN -- Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "PVPC FY23 CT RIVER CLEANUP FUNDING, \$512,000, NO MATCH, " grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

B. MCGIVERIN -- Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, ONE HUNDRED FIFTY THOUSAND AND 00/100 Dollars (\$150,000) as follows

FROM:

12101-51107 PATROLMEN \$150,000

TOTAL: \$150,000

TO:

12101-51300 OVERTIME \$150,000

TOTAL: \$150,000

C. From Holyoke Waste Management Study Group, July 25th, 2022 Meeting Minutes

D. GIVNER -- Order to amend the Holyoke Zoning Ordinance to reflect the following: |

(1) Sec 4.3, amend table to allow Motor Vehicle Sales (use) in BG by Special Permit (CC).

E. GIVNER -- Order to amend the Holyoke Zoning Ordinance to reflect the following:

(2) Section 7.2.13, amend text by adding the BG zone to the others currently listed (BH, IG, BE).

F. GIVNER -- Order to amend the Holyoke Zoning Ordinance to reflect the following:

(3) Create a new Special Permit for allowing the non-conforming use in a historic structure in BG zone.

G. GIVNER -- Order to amend the Holyoke Zoning Ordinance to reflect the following:

(54) a zone change to BG for the parcels 091-00-062 & 091-00-063 (a future SP condition item could be, to join both parcels by ANR).

H. From Holyoke Police Department Mill Town Agriculture Security Plan for 1 Cabot St.

I. From Jackie Glasheen, Holyoke Public Schools, Communication regarding first day of school coinciding with Primary election

J. From Tanya Wdowiak, City Auditor, Updated Tax Recap form and Final Cherry Sheet


The listing of matters are those reasonably anticipated by the chair which may be discussed at the meeting.

Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law

City Clerk

From: "Brenna McGee" <mcgeeb@holyoke.org>
To: ksullivan@hged.com

Date: Thursday, October 06, 2022 01:18PM
Subject: Re: CC Letter Re LNG - Mayor Garcia

History:  This message has been replied to and forwarded.

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.
Yes, Todd told me! Sounded fun!

I have attached the letter. Have fun in Maine this weekend!
Brenna

Brenna Murphy McGee, MMC

City Clerk/Registrar of Voters/Records Access Officer
Vice President of the Massachusetts City Clerk's Association
City of Holyoke, Massachusetts
536 Dwight Street, Room #2
Holyoke, MA 01040
(T) 413-322-5520
(F) 413-322-5521

Please visit www.holyoke.org for a listing of city departments, contact information

On Thu, Oct 6, 2022 at 12:05 PM <ksullivan@hged.com> wrote:

Hi Brenna!

Hope your week is going well! The kids came to our public power event last night, rainy but fun! I cannot access the city website at the moment. If you have a second, can you send me a copy of the letter Mayor Garcia filed with CC as part of this week's meeting?

This was the communication listed on the agenda – 14. From Mayor Joshua A. Garcia letter expressing Support for Holyoke Gas & Electric proposed LNG Infrastructure & Resiliency Project in West Holyoke.

Thank you in advance!

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

Attachments:

From Mayor Garcia letter of support for HGE proposed LNG project.pdf

From: Kate Sullivan/Holyoke
To: lindavac@aol.com

Date: Tuesday, October 11, 2022 08:48AM
Subject: Re: Fwd: Citizen Forum flyer

Thank you Linda! If you'd like us to attend any of these events, please let me know. Also, feel free to provide my contact information of anyone has questions about the LNG project or they can visit www.hged.com/LNGProject.

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

----- Original message -----

From: "Linda Vacon" <lindavac@aol.com>
To: "Kate Sullivan" <ksullivan@hged.com>
Cc:
Subject: Fwd: Citizen Forum flyer
Date: Sat, Oct 8, 2022 9:58 AM

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Kate:

Please see flyer for my meeting. I have now added you to my list....excuse any formatting errors!

Linda

Sent from my iPhone
City Councilor Ward 5
Linda Vacon

C:210-6077

Begin forwarded message:

From: lindavac@aol.com
Date: October 8, 2022 at 9:49:37 AM EDT
To: lindavac@aol.com
Subject: Citizen Forum flyer
Reply-To: lindavac@aol.com

Please see attached flyer. Linda

Your Ward 5 City Councilor
Linda Vacon
533-6498 or 210-6077

For the latest information about **COVID-19 (novel coronavirus) Recovery**, [click here to visit our dedicated page](#)
(/departments/coronavirus-response/)

Click here to sign up for city emergency alerts -including community event alerts, Fire Department notifications, law enforcement alerts, general information alerts, and public works notifications (<https://member.everbridge.net/index/453003085611624/#/signup>)

Please be advised that in observance of the Thanksgiving holiday, city offices be closed beginning at 12 p.m. on Wednesday, November 23rd and through the day on Thursday, November 24th and Friday, November 25th.

The City of Holyoke wishes everyone a Happy Thanksgiving!

Public Service Committee Meeting October 12, 2022

Oct
12
2022

6:00 pm ▶ City Hall Holyoke

536 Dwight St, Holyoke 01040

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City Council

Holyoke Massachusetts

Pursuant to the Massachusetts Open Meeting Law, G.L. c. 30A, §§ 18-25,

Chapter 22 of the Acts of 2022,

notice is hereby given of a meeting of the committee on

Public Service

Wednesday, October 12, 2022

6:00 PM

Meeting to take place at

Holyoke City Hall, 536 Dwight St

and can be accessed remotely on Zoom Meetings

Per order of the Chair: Peter Tallman

Remote access via www.zoom.us

<https://us02web.zoom.us/j/86352012209?pwd=N2VRdGdnenJFNjhFL0xqRDhFMVowQT09>

Meeting ID: 863 5201 2209 Meeting Passcode: 986473 or by call in at 1 (646) 558-8656 with the same Meeting ID and Passcode.

Agenda

Item 1: 10-4-22 From Mayor Joshua A. Garcia letter appointing Ms. Gabriela Alcantara Pohls, 589 Pleasant St. 4R, to serve as a member of the Historical Commission for the City of Holyoke: Ms. Alcantara Pohls will replace Mr. Harry Montalvo and will serve Mr. Montalvo's remainder term; said term will expire on October 1, 2023.

Item 2: 10-4-22 From Mayor Joshua A. Garcia letter appointing Ms. Lizabeth Rodriguez, 193 Brown Ave. to serve as a member of the Historical Commission for the City of Holyoke: Ms. Rodriguez will replace Ms Frances Welton and will serve Ms. Welton's remainder term; said term will expire on April 16, 2024.

Item 3: 10-4-22 From Mayor Joshua A. Garcia letter re-appointing Mr. Joshua Knox, 40 Morgan St. to serve as a member of the Board of Appeals for the City of Holyoke: Mr. Knox will serve a three year term; said term will expire on July 1, 2025.

- Item 4: 10-4-22 From Mayor Joshua A. Garcia letter appointing Mr. Jesus Espinosa, 79 Lynch Dr. to serve as a Commissioner of the Soldier's Memorial for the City of Holyoke: Mr. Espinosa will replace Mr. Robert K. MacKay and will serve the remainder of his term: said term will expire on September 30, 2023.
- Item 5: 10-4-22 From Mayor Joshua A. Garcia letter appointing Ms. Julia Santiago, 51 Longwood Ave. to serve as a member on the Library Board of Directors for the City of Holyoke: Ms. Santiago will replace Ms. Kelly Curran and will serve the remainder term; said term will expire on February 2025.
- Item 6: 10-4-22 MCGEE, TALLMAN --that the City Council adopt the attached resolution "Back from the Brink"
- Item 7: 10-4-22 MCGEE -- Ordered, that the City Council receive and adopt the HG&E resolution to support the installation of the 5th gas tank of the LNG project.

Administrative Assistant: Jeffery Anderson-Burgos

The listing of matters are those reasonably anticipated by the chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items may also be brought up for discussion to the extent permitted by law. Also one or two items may require the committee to enter into executive session at this meeting. Agenda subject to change up to two business days (48 hours) prior to posted meeting time.

Posted October 5, 2022 3:30 PM

♥ Helpful

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A Size

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(<https://www.holyoke.org/personnel-employment-opportunities/>)

City of Holyoke

536 Dwight Street
Holyoke, MA 01040
Phone: (413) 322-5510
Hours: 8:30am – 4:30pm
Monday – Friday

From: Kate Sullivan/Holyoke
To: James Lavelle/Holyoke@Holyoke G&E, Brian Roy/Holyoke@Holyoke G&E

Date: Wednesday, October 19, 2022 07:40AM
Subject: Re: City Council Update

Good morning,

FYI – The resolution was supported unanimously at the CC meeting last night.

Thanks!

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com

----- Original message -----

From: Kate Sullivan/Holyoke
To: James Lavelle/Holyoke, Brian Roy/Holyoke
Cc:
Subject: City Council Update
Date: Fri, Oct 14, 2022 9:32 AM

Good morning,

Quick update, the Public Service committee (Puello, Tallman, Barley – McGiverin was also present) unanimously approved the resolution to support the LNG project, see Masslive story (<https://www.masslive.com/news/2022/10/after-interviews-holyoke-city-council-proceeds-with-some-mayoral-board-appointees.html>). Hopefully we will have the official resolution from the full council before our EFSB filing.

Thanks!

Kate Sullivan Craven
Director of Marketing & Communications
Holyoke Gas & Electric
99 Suffolk Street, Holyoke, MA 01040
Phone: (413) 536-9333
Email: ksullivan@hged.com
Web: www.hged.com



Francis J. Hoey, III

James A. Sutter

Marcos A. Marrero

Manager:

James M. Lavelle

October 18, 2022

Ed Gibson, Town Administrator
Southampton Town Hall
210 College Highway, Suite 7
Southampton, MA 01073

Dear Mr. Gibson:

The City of Holyoke Gas & Electric (HG&E) is planning to submit a petition to the Massachusetts Energy Facility Siting Board (EFSB) in Q4 2022 to make a modest increase to HG&E's Liquid Natural Gas (LNG) storage facility located in West Holyoke. As part of the petition process, HG&E is required to notify residents within ½-mile of the proposed project. Due to the proximity of the LNG facility, approximately 200 Southampton residents fall within this notification zone and HG&E wanted you to be aware that we will be reaching out to them to notify them of the proposed project. If you or any of your constituents have questions at any point on this project, feel free to reach out to us at the contact information provided below.

As you are aware, Holyoke Gas & Electric (HG&E) is a municipal utility supplying natural gas, electric and telecommunication services to our community, which includes a portion of Southampton. HG&E is continuously evaluating solutions that further enhance system reliability and safety, in balance with our long-term clean energy goals.

As you are aware, in 2019, HG&E instituted a moratorium on new natural gas load as our system is operating at capacity on peak days. HG&E's natural gas portfolio is made up of both firm pipeline capacity from the Tennessee Gas Pipeline and liquefied natural gas (LNG) which is stored at HG&E's West Holyoke LNG Facility on Mueller Road. Currently, on a peak day, the system demand exceeds HG&E's firm pipeline allowances and the LNG plant is running at capacity. In order to reliably meet customer energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke LNG facility, which has been safely operating since 1971. There are currently four LNG storage tanks on-site, and HG&E is proposing to install a fifth tank, which is consistent with the approved original site design. The LNG project is an important component of HG&E's plan to advance our shared climate goals and will yield many benefits, including:

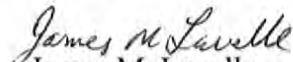
- Provides a more reliable peaking solution given current climate and other threats
- Modernizes and enhances the LNG facility safety mechanisms
- Helps maintain stable rates during the clean energy transition

- Reduces environmental impacts of the local heating sector by accommodating the conversion of oil and propane systems to cleaner options.
- Provides necessary time for strategic electrification (both customer and utility impact)
- Allows pursuance of economic development opportunities in order to increase jobs and benefit the overall community
- This project, in combination with aggressive energy efficiency programs, will allow customers to apply for natural gas service when converting from oil or propane and when an electric alternative is not viable

For the most up-to-date information on this project, please visit www.hged.com/lngproject. Should you or any members of your community have questions on this project, please feel free to direct them to our project website or have them contact us at lngproject@hged.com or (413) 536-9300.

HG&E appreciates your time on this matter and remains open to any discussions you wish to have on this proposed reliability project.

Sincerely,


James M. Lavelle
General Manager



October 18, 2022

Mayor Michael McCabe
City of Westfield City Hall, Room 202
59 Court Street
Westfield, MA 01085

To the Honorable Mayor McCabe:

The City of Holyoke Gas & Electric (HG&E) is planning to submit a petition to the Massachusetts Energy Facility Siting Board (EFSB) in Q4 2022 to make a modest increase to HG&E's Liquid Natural Gas (LNG) storage facility located in West Holyoke. As part of the petition process, HG&E is required to notify residents within ½-mile of the proposed project. Due to the proximity of the LNG facility, some Westfield residents located in Ward 6A will fall within this notification zone. HG&E wanted to raise your awareness of this project and provide you with key contact information should you or any of your constituents have a question related to this project. I have been in contact with Thomas Flaherty, General Manager of Westfield Gas & Electric, regarding this project and will keep him updated as the project progresses.

Holyoke Gas & Electric (HG&E) is a municipal utility, like Westfield Gas & Electric, supplying natural gas, electric and telecommunication services to our community. HG&E is continuously evaluating solutions that further enhance system reliability and safety, in balance with our long-term clean energy goals.

As you may be aware, in 2019, HG&E instituted a moratorium on new natural gas load as our system is operating at capacity on peak days. HG&E's natural gas portfolio is made up of both firm pipeline capacity from the Tennessee Gas Pipeline and liquefied natural gas (LNG) which is stored at HG&E's West Holyoke LNG Facility on Mueller Road. Currently, on a peak day, the system demand exceeds HG&E's firm pipeline allowances and LNG plant is running at capacity. In order to reliably meet customer energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke LNG facility, which has been in operation since 1971. There are currently four LNG storage tanks on-site, and HG&E is proposing to install a fifth tank, which is consistent with the approved original site design. The LNG project is an important component of HG&E's plan to advance our shared climate goals and will yield many benefits including:

- Provides a more reliable peaking resource given current climate and other threats
- Modernizes and enhances the LNG facility safety mechanisms


- Helps maintain stable rates during the clean energy transition
- Reduces environmental impacts of the local heating sector by accommodating oil and propane system conversions.
- Provides necessary time for strategic electrification (both customer and utility impact).
- Allows pursuance of economic development opportunities to increase jobs and benefits for the overall community

For the most up-to-date information on this project, please visit www.hged.com/lngproject.

Should you or any members of your community have questions on this project, please feel free to direct them to our project website or have them contact us at lngproject@hged.com or (413) 536-9300.

HG&E appreciates your time on this matter and remains open to any discussions you wish to have on this proposed reliability project.

Sincerely,


James M. Lavelle
General Manager



October 18, 2022

Councilor William Onyski
37 Hillcrest Circle
Westfield, MA 01085

Dear Councilor Onyski:

The City of Holyoke Gas & Electric (HG&E) is planning to submit a petition to the Massachusetts Energy Facility Siting Board (EFSB) in Q4 2022 to make a modest increase to HG&E's Liquid Natural Gas (LNG) storage facility located in West Holyoke. As part of the petition process, HG&E is required to notify residents within ½-mile of the proposed project. Due to the proximity of the LNG facility, some Westfield residents located in Ward 6A will fall within this notification zone. HG&E wanted to raise your awareness of this project and provide you with key contact information should you or any of your constituents have a question related to this project. I have been in contact with Thomas Flaherty, General Manager of Westfield Gas & Electric, regarding this project and will keep him updated as the project progresses.

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- Provides a more reliable peaking resource given current climate and other threats
- Modernizes and enhances the LNG facility safety mechanisms
- Helps maintain stable rates during the clean energy transition

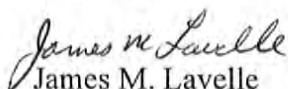
- Reduces environmental impacts of the local heating sector by accommodating oil and propane system conversions.
- Provides necessary time for strategic electrification (both customer and utility impact).
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For the most up-to-date information on this project, please visit www.hged.com/lngproject.

Should you or any members of your community have questions on this project, please feel free to direct them to our project website or have them contact us at lngproject@hged.com or (413) 536-9300.

HG&E appreciates your time on this matter and remains open to any discussions you wish to have on this proposed reliability project.

Sincerely,


James M. Lavelle
General Manager

For the latest information about **COVID-19 (novel coronavirus) Recovery**, [click here to visit our dedicated page](#)
(/departments/coronavirus-response/)

Click here to sign up for city emergency alerts -including community event alerts, Fire Department notifications, law enforcement alerts, general information alerts, and public works notifications (<https://member.everbridge.net/index/453003085611624/#/signup>)

Please be advised that in observance of the Thanksgiving holiday, city offices be closed beginning at 12 p.m. on Wednesday, November 23rd and through the day on Thursday, November 24th and Friday, November 25th.

The City of Holyoke wishes everyone a Happy Thanksgiving!

Holyoke City Council Meeting October 18, 2022

Oct
18
2022

7:00 pm ▶ City Hall Holyoke

536 Dwight St, Holyoke 01040

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[Status updates for orders \(https://www.holyoke.org/city-council-orders-october-18-2022/\)](https://www.holyoke.org/city-council-orders-october-18-2022/)

[El Consejo Municipal 18 de Octubre 2022 \(https://youtu.be/OLlggPdyYWc\)](https://youtu.be/OLlggPdyYWc)

Meeting will take place at Holyoke City Hall, 536 Dwight St

and can also be accessed remotely via www.zoom.us

<https://us02web.zoom.us/j/83671497990?pwd=bHZVdk5vV3QvdFZsODlFRkE2RzVZQT09>

Meeting ID: 836 7149 7990 Meeting Passcode: 308475 or by call in at 1 (646) 558-8656 with same Meeting ID and Passcode.

Live Spanish interpretation will be available on local access channel 15 using the television's SAP option, through the live stream on the city website, as well as on the Zoom feed by clicking the interpretation option and choosing Spanish.

AGENDA FOR THE CITY COUNCIL

October 18, 2022

LAID ON THE TABLE

1. The Committee on Ordinance to whom was referred an order that following the adoption of a resolution in support of the district, that the Ordinance Committee work with the mayor and the appropriate city and state departments to adopt an ordinance creating a Puerto Rican Cultural District within the City of Holyoke. Recommended that the order be adopted.

2. The Committee on Ordinance to whom was referred an order Zone change application from DR to BH for Daniel Laflamme at 41 Temple St (085-00-012) to operate a truck repair shop in a district zoned DR so that the business can be conforming. Recommended that the order be adopted.

PUBLIC COMMENT

COMMUNICATIONS

3. From Mayor Joshua A. Garcia letter appointing Joseph Charles Mazzola, 332 Pleasant St. to serve as a member of the Local Historic Commission for the City of Holyoke: Mr. Mazzola will serve a three year term; said term will expire October 1, 2024.

4. From Tanya Wdowiak, City Auditor, Supplemental Budget FY2023 Council Appropriations.
5. From Tanya Wdowiak, City Auditor, YTD Reports for General Fund and Sewer 2023.
6. From Brenna Murphy McGee, MMC & Jeffery Anderson-Burgos, Admin. Ass't. To City Council minutes of October 4, 2022.
7. Petition for Speed Humps for Laurel Street.
8. Petition from Holyoke Citizens requesting a public meeting to discuss the conditions of our rental units and the increased rents impacting our community.
9. From Board of Appeals regular and public hearing minutes of July 26, August 21, 2018 & October 28 , November 18, 2021.
10. Board of Appeals public hearing minutes for Kevin Flynn, 5 Lindor Heights from July 26, August 21 & September 19, 2018.
11. From Board of Appeals Public hearing minutes for David Urbanski, 53 Roland St. from October 28, and November 18, 2021.
12. From Board of Appeals Public Hearing Minutes for Patrick Sullivan, 555 West Cherry St. for July 26, August 21, 2018.

PETITIONS

13. Petition for a special permit for Valley Opportunity Council Inc. to extend and alter a pre-existing nonconforming structure at 348 Chestnut/48-52 Franklin Sts.

PRESIDENT'S REPORT

REPORTS OF COMMITTEES

14. Ordinance Committee Reports (if any)
15. Finance Committee Reports (if any)
- 15A. The Committee on Finance to whom was referred an order From Mayor Joshua A. Garcia, letter electing to contract Cataldo Ambulance Service Inc. of Somerville, Mass., for Emergency Ambulance Services in Holyoke. The effective date of separation from Action Ambulance Service Inc, is October 1, 2022 Awaiting disposition
- 15B. The Committee on Finance to whom was referred an order From Tanya Wdowiak, City Auditor, Purchase Agreement for Police Cruisers, Lease Schedule No 1 and Master lease purchase agreement Awaiting disposition
- 15C. The Committee on Finance to whom was referred an order Memorandum of Agreement Between City of Holyoke and the Professional Supervisors Union (PSA), and Damian Cote, employed as the Building Commissioner effective July 1, 2022 to June 30, 2023 Awaiting disposition
- 15D. The Committee on Finance to whom was referred an order Memorandum of Agreement between the City of Holyoke and Professional Supervisors Union (PSA) to add Zoning Official Position effective July 1, 2022 - June 30, 2023 Awaiting disposition
- 15E. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY2023 MUNICIPAL ROAD SAFETY PROGRAM, \$35,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant Awaiting disposition
- 15F. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "GREENING THE GATEWAY CITIES IMPLEMENTATION, \$100,000, NO MATCH" grant and authorizes the

establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant Awaiting disposition

15G. The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "GREENING THE GATEWAY CITIES PARTNERSHIP, \$20,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant Awaiting disposition

15H. The Committee on Finance to whom was referred an order that the amount of NINE THOUSAND SEVEN HUNDRED FIVE AND 00/100 Dollars (\$9,705.00) be authorized from the IT Department's PROFESSIONAL CONSULTING (11552-53010), TWENTY THOUSAND FOUR HUNDRED FIFTY SEVEN AND 00/100 Dollars (\$) be authorized from the POLICE/FIRE NETWORK ADMINISTRATION (11552-53020) appropriation in fiscal year 2023 for services rendered in fiscal year 2022 which were unencumbered at the 2022 fiscal year end. Awaiting disposition

15I. The Committee on Finance to whom was referred an order that the Treasurer and Flynn Financial please appear before the Finance Committee to discuss how our Stabilization Funds are being invested. The City Council would also like to receive quarterly financial statements on these investments going forward. In advance of the meeting, please provide us the financial statements for the period July 1, 2019-June 30, 2022 so we can be prepared for the meeting and our discussion. Please also provide us any applicable regulations or rules from the state related to how Stabilization funds may be invested Awaiting disposition

15J. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, SEVEN THOUSAND AND 00/100 Dollars (\$7,000.00) as follows:

FROM:

12401-51201 PAY PROPERTY MAINT/DEMO SUPER \$7,000.00

TOTAL: \$7,000.00

TO:

12401-51101 PAY-BUILDING COMMISSIONER \$7,000.00

TOTAL: \$7,000.00 Awaiting disposition

15K. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, SIXTY TWO THOUSAND AND 00/100 Dollars (\$62,000) as follows:

FROM:

12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000

12401-51201 PAY PROPERTY MAINT/DEMO SUPER 7,000

TOTAL: \$62,000

TO:

12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000

12401-51101 PAY-BUILDING COMMISSIONER 7,000

TOTAL: \$62,000 Awaiting disposition

15L. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, TEN THOUSAND AND 00/100 Dollars (\$10,000.00) as follows:

FROM:

12401-51110 PAY-LOCAL INSPECTOR \$10,000.00

TOTAL: \$10,000.00

TO:

12401-51110 OTHER CONTRACTED SERVICES \$10,000.00

TOTAL: \$10,000.00 Awaiting disposition

15M. The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY FIVE HUNDRED AND 00/100 Dollars (\$2,500.00) as follows:

FROM:

11522-52400 R&M OFFICE EQUIPMENT \$2,500.00

TOTAL: \$2,500.00]

TO:

11522-53010 PROF SERV -EMPLOYEE TRAINING \$1,000.00

11522-53180 SYSTEMS HARDWARE 1,500.00

TOTAL: \$2,500.00 Awaiting disposition

16. Public Safety Committee Reports (if any)

17. Public Service Committee Reports (if any)

17A. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Julia Santiago, 51 Longwood Ave. to serve as a member on the Library Board of Directors for the City of Holyoke: Ms. Santiago will replace Ms. Kelly Curran and will serve the remainder term; said term will expire on February 2025 Recommended that the appointment be confirmed

17B. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Lizabeth Rodriguez, 193 Brown Ave. to serve as a member of the Historical Commission for the City of Holyoke: Ms. Rodriguez will replace Ms Frances Welson and will serve Ms. Welson's remainder term; said term will expire on April 16, 2024 Recommended that the appointment be confirmed

17C. The Committee on Public Service to whom was referred an order that the City Council adopt the attached resolution "Back from the Brink" Recommended that the order be adopted.

17D. The Committee on Public Service to whom was referred an order that the City Council receive and adopt the HG&E resolution to support the installation of the 5th gas tank of the LNG project. Recommended that the order be adopted.

17E. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Mr. Jesus Espinosa, 79 Lynch Dr. to serve as a Commissioner of the Soldier's Memorial for the City of Holyoke: Mr. Espinosa will replace Mr. Robert K. MacKay and will serve the remainder of his term: said term will expire on September 30, 2023 Recommended that the order be given a leave to withdraw

17F. The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Gabriela Alcantara Pohls, 589 Pleasant St. 4R, to serve as a member of the Historical Commission for the City of Holyoke: Ms. Alcantara Pohls will replace Mr. Harry Montalvo and will serve Mr. Montalvo's remainder term; said term will expire on October 1, 2023 Recommended that the order be given a leave to withdraw

18. Development and Governmental Relations Committee Reports (if any)

19. Charter and Rules Committee Reports (if any)

20. Joint City Council and School Committee Reports (if any)

MOTIONS, ORDERS AND RESOLUTIONS

21. MCGEE --Order that the city engineer provide the final locations for speed bumps on Bemis.

22. MCGEE --Order that the police radar sign be placed at Bemis

23. MCGEE --Order that the legal department give an update on the Essex building.

24. MCGEE --Order the city council give a proclamation to Superintendent Soto.
"selected as Puerto Rican of the Year for 2022."

25. MCGIVERIN --that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY SIX THOUSAND SIX HUNDRED SEVENTY ONE AND 69/100 Dollars (\$26,671.69) as follows:

FROM:

12101-51104 LIEUTENANT \$3,883.22

12101-51105 SERGEANT 8,404.75

12101-51107 PATROLMEN 14,383.72

TOTAL: \$26,671.69

TO:

12101-51180 INJURED ON DUTY \$26,671.69

TOTAL: \$26,671.69

26. MCGIVERIN -- that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "MASSACHUSETTS PRESERVATION PROJECTS FUND-STAINED GLASS WINDOW CONSERVATION, ADDITIONAL \$20,000, 50% MATCH (CPA FUNDED)" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

27. PUELLO -- That the Chief of Police please provide a narrative describing what happened to the previous, gray Ford Taurus mayoral issued vehicle. Please include any cost/insurance payouts to other parties and a current city vehicle use policy.

28. PUELLO, VACON -- That all councilors update their current addresses with the administrator, that appear on the website. That the legal department please give their interpretation of section 9 "....the voters of the city at large shall elect eight councilors at large and the voters of each ward shall elect one councilor who shall be a resident therein." is a council seat vacated if a ward councilor is no longer a resident therein?

29. PUELLO, VACON -- That the legal department please give their interpretation of section 46 and provide an opinion on. "The conviction of the incumbent of any such office of a crime punishable by imprisonment shall operate to create a vacancy in the office held by him." Does this apply to convictions on incumbents prior to taking office?

30. PUELLO, VACON -- That recall provisions be established for every elected official in the city. These provisions should be fair and equitable to allow citizens a path to recall but also protect the system from nuisances.

31. PUELLO -- That a flashing beacon signal be installed by the Fire dept. at Springdale and Main for pedestrians crossing into the park. This will provide a fix as we await the results of a traffic study to address the traffic light. Fire already has them available and this would have zero cost on the city as Fire install themselves. Fire has been excellent in dealing with this issue.

32. RIVERA_I -- That the city explore using cannabis impact fee funds to improve sidewalks on the following streets: Main Street, North Bridge St., Lyman Street, and center St.

33. RIVERA_I -- That the city engineer and or DPW add Willow st in the list of sidewalks to be redone.

34. RIVERA_I -- That the city engineer and or dpw add gates st. on the list of sidewalks to be redone.

35. RIVERA_I -- That the city engineer and or DPW add St. Jerome Street to the list of sidewalks to be redone.

36. RIVERA_I -- That the parks and recreation and DPW give us an update on the project and remodeling of Springdale Park.

37. RIVERA_I -- That the police department provide an update on what steps and systems are being put in place to ensure that shot spotter will work effectively and efficiently when the new technologies installed.

38. RIVERA_I -- That the disabilities commission come into public safety and explain the process of a resident applying for a handicap space, as well as how the spaces are identified to the particular resident that was granted the space.

39. VACON --modify rule 6D to add. The use of profanity is prohibited and a member will no longer be permitted to speak on the question under debate when a member uses profane language.

40. BARTLEY --The DPW, Mayor, and any relevant city official apprise city council on the city's recycling program. Please provide any data including costs paid by Holyoke and recycling tonnage diverted from the landfill. Please send a communication to the clerk within the next 60 days.

41. BARTLEY --The DPW, Mayor, and any relevant city officials apprise city council on Holyoke's solid waste (trash) disposal efforts. Please provide data including tonnage disposed and disposal costs. Please send a communication to the clerk within the next 60 days.

42. GIVNER --With Community support, Order to increase trash can minimum to 50 gallons for municipal pickup service, as our DPW accommodates piles of trash bags en lieu of required current 35 gallon size. This in an effort to increase can use participation in order to mitigate the health hazards of torn and rummaged through piled bags for pickup.

-To Ordinance; copy to Health dept; copy to DPW

43. JOURDAIN --Ordered, that the DPW please provide the City Council a copy of our current agreement for the receipt of our recycling materials with the Materials Recycling Facility (MRF)? Please also provide the City Council with the statistical data on our recycling program. How much recycling plastics/glass/metal vs paper in CY 2018, CY 2019, CY 2020, and CY 2021 has the city received in and recycled with the MRF during these time periods. Please also provide these statistics for any of our recycling that has been brought to places other than the MRF such as another vendor, straight into the landfill as trash, or other possibilities if any? Please provide us the statistics of regular trash we have collected during these time periods by way of comparison to see what percentage recycle is vs the total volume of all collections. Please provide these reports the City Council and come in to City Council and discuss the current state of the city's recycling program.

44. MALDONADO-VELEZ, GIVNER --Ordered that the City Council add a Section for Battery Storage Facilities to the Zoning Ordinance (Section TBD) to reflect technology advancements and future need for such installations; new facilities will be reviewed through Section 10.0, Major Site Plan Review.

Addendum:

LATE FILES FROM PREVIOUS MEETING

A. Decision and order on Mr. Puello-Mota's Motion for Preliminary Injunction

B. MCGIVERIN --Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY FIVE HUNDRED AND 00/100 Dollars (\$2,500.00) as follows:

FROM:

11522-52400	R&M OFFICE EQUIPMENT	\$2,500.00
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TOTAL: \$2,500.00|

TO:

11522-53010	PROF SERV -EMPLOYEE TRAINING	\$1,000.00
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11522-53180	SYSTEMS HARDWARE	1,500.00
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TOTAL: \$2,500.00

C. RIVERA_I --Order that city engineer & DPW repaint or find a way to create a more visible lining or signage for the walkway directly in front of 334 Elm St. There is day care as well after school programming run by the Boys & Girls club. Parents, residents and employees have been reaching out requesting something be done.

D. RIVERA_I --Order that the city engineer & DPW explore converting Samosett St. into a one way, bus lines for Kelly school be painted, and that parking be for one side of the street being that other is comprised of driveways.

E. VACON -- Ordered, that we seek authorization from the Cannabis Commission to have local inspections of large cultivation facilities completed by our local Board of Health to ensure compliance with health & safety regulations for workers. This is filed upon learning (today 10/3/22) of the death of a person working for Trulieve.


F. MCGEE -- Ordered that the City Council receive and adopt the HG & E Resolution in supporting the install of the 5th tank.

The listing of matters are those reasonably anticipated by the chair which may be discussed at the meeting.

Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law

City Clerk

City-Council-Agenda-October-18-2022.pdf
October 14, 2022
PDF

 [Download \(https://storage.googleapis.com/proudcity/holyokema/uploads/2022/10/City-Council-Agenda-October-18-2022.pdf\)](https://storage.googleapis.com/proudcity/holyokema/uploads/2022/10/City-Council-Agenda-October-18-2022.pdf)

REGULAR MEETING OF THE CITY COUNCIL

October 18,2022

The meeting was called to order by President McGee at 07:07 PM.

The Clerk called the roll. Absent members: 0 Present Members in person 13 (Anderson-Burgos, Bartley, Givner, Jourdain, Maldonado Velez, McGee, McGiverin, Murphy-Romboletti, Puella, I. Rivera, J. Rivera, Tallman, Vacon).

The Pledge of Allegiance was recited.

Councilor Tallman made a motion to suspend the necessary rules to take up public comment first.

President McGee stated that there would be no live interpretation of the meeting due to a scheduling conflict. He then stated that the video would be sent to the interpreters to be posted later..

The name of Councilor Rivera_J was drawn to head the roll call voting.

LAID ON THE TABLE

(21:10)

Councilor Vacon stated that they were still waiting on information for item 1.

The Committee on Ordinance to whom was referred an order that following the adoption of a resolution in support of the district, that the Ordinance Committee work with the mayor and the appropriate city and state departments to adopt an ordinance creating a Puerto Rican Cultural District within the City of Holyoke. Recommended that the order be adopted.

---> Laid on the table.

The Committee on Ordinance to whom was referred an order Zone change application from DR to BH for Daniel Laflamme at 41 Temple St (085-00-012) to operate a truck repair shop in a district zoned DR so that the business can be conforming. Recommended that the order be adopted.

UNDER DISCUSSION:

Councilor Vacon noted that with some remaining questions following discussion at the last meeting, a communication was sent out from the administrative assistant regarding the speakers from the public hearings. She also stated that other councilors had planned to do further outreach in the neighborhood.

Councilor I. Rivera stated that he had also sought information regarding the Solicitor's office and the Building Department fixing the situation where it did not need to be handled at the Council level.

Councilor Vacon clarified that the option was raised during the public hearings, adding that the feedback was that the other options was not possible,

Councilor I. Rivera suggested that Atty Degnan had stated in the last meeting that it could be possible if the applicant could prove certain details. He stated that he would prefer it not to become BH. He further suggested that if it could be handled internally, it did not need to go through the Council.

Motion was made and seconded to suspend the necessary rules to allow the Law Department to address the Council.

Atty Degnan stated that in the last meeting, there was a lot of discussion around if the applicant had shown proof that they had carried on the business historically. She noted that she had heard from many councilors as well as the applicant which indicated that it had been used. She stated that if that history had existed, they did not need to get to the matter of spot zoning. She then stated that she was not aware of

any information from the Building Department.

Councilor I. Rivera expressed his understanding that they could continue their historic use and use it as they were currently.

Atty Degnan stated that people had a two year protection.

Councilor I. Rivera suggested that they did not need a vote to make it BH because they could continue operating.

Atty Degnan clarified that the zoning amendment was applied for because of issues with the owner applying for a special permit that had been given a leave to withdraw. She stated that there was not enough documentation available to be able to explain the historic background.

Councilor I. Rivera stated that there appeared to be two pieces to the matter: the issue of voting to grant the zone change as well as the question of being a preexisting nonconforming use. He asked if those were two different pieces.

Atty Degnan that they were part of the same question.

Councilor I. Rivera asked if changing to BH would still be considered a preexisting nonconforming use.

Atty Degnan stated that was not the issue, but that the question came down to if it was spot zoning. She then stated that as the special permit did not work out, the applicant was told to ask for a zone change. She then stated that there was not enough documentation to be able to say affirmatively that the prior use existed.

Councilor I. Rivera asked if the BH was justifiable because of the preexisting nonconforming use.

Atty Degnan stated that was correct.

Councilor Givner asked why they could not grandfather it in as a preexisting nonconforming use.

Atty Degnan stated that there was not enough of the background information. She added that they could only go on what they had been told historically. She noted that she indicated in her opinion that there was not enough proof. She reiterated that because they were told that there was not a break, they did not get to the question of it being a spot zone.

---> Report of Committee received and the Ordinance passed its first reading.

The Ordinance passed its second reading.

The Ordinance was passed to be enrolled.

The Committee has considered the same and find that it is truly and properly enrolled.

Report of Enrollment received.

The Ordinance was passed to be Ordained and Adopted on a call of the roll of the yeas and nays

--Yeas 10--Nays 3--Absent 0 (Maldonado-Velez, Murphy-Roboletti, Rivera_I.).

Approved by the Mayor

PUBLIC COMMENT

PUBLIC COMMENT

Ira Helfand, 371 Audubon Road, Leeds, offered thanks to the Council for considering the Back from the Brink resolution, and urged its adoption. He then stated that 60 years earlier, the country was living through the Cuban Missile Crisis, the closest we had come to nuclear war until perhaps the current time when the danger may be greater. He then stated that while there was little that could be done for the current crisis, we needed to make sure we were never in the situation again. He then stated that nuclear weapons policy needed to change around the world. He further noted that if Holyoke signed onto the resolution, it would

be joining Springfield, Worcester, and Boston and 17 other communities in Massachusetts and over 60 cities and towns across the country.

Cecilia Calabrese, 75 Wagon Wheel Drive, stated that she was Vice President of the Agawam City Council, spoke in favor of Back from the Brink resolution. She then stated that her Uncle Ralph had been a Master Gunnery Sergeant in the Maine Corps, fought in World War 2, Korea, and Vietnam, and was on call during the Cuban Missile Crisis. She noted that while he never really spoke about his battlefield experiences, he often said that he feared most for the country during the Cuban Missile Crisis because if everything had gone poorly, we were looking at the decimation of life. She asked for support of the resolution.

John Rivera, 125 Cabot Street, stated that he intended to address rising, sky high rent rates in the city and surrounding area, warranting a public hearing. He noted that a petition had been filed to hold a hearing. He further stated that a public hearing should be held in response to the death of an employee at Trulieve. He stated that the issue was impactful of workers in an unregulated industry that should be more regulated. He also spoke against racist and classist attempts to limit free speech in City Council chambers. He further stated that councilors had the power to object to the motion from a city councilor to suppress 1st Amendment rights. He then asked that councilors object to it.

Dannuel Rivera, 226 Lyman Street, Apt 12, stated that they had submitted a petition to raise awareness for the rising rent coots for Holyoke tenants. He added that they had issues with pests, mice, roaches, black mold that had not been addressed. He expressed his hope that a town hall would raise awareness and help get the issue addressed for the community. He suggested that banding together as a group could help make a huge change for tenants in Holyoke getting the short end of the stick.

Paul Mancinone, 1441 Main Street, Springfield, stated that he was the past chair of Mercy Hospital as well as a tax attorney. He expressed his support for the Back from the Brink initiative. He then noted that Ronald Reagan has been at odds with Mikhail Gorbachev at the beginning of his term but concluded by the end of his term that a nuclear war could not be fought. He stated that there needed to be a return to that kind of negotiation.

Nancy Capron, 72 Congress Ave, Apt 1L, expressed support for holding a town hall on housing. She then asked for a stop to characterizing Holyoke's concentration of poverty as something benevolent the city of Holyoke has done for the poor. She then stated that she saw it as a dereliction of duty for those in unions. She then stated that in 1970's and 80's, the federal government was allowed to deregulate industry, and allow factories in the north to move to the southern U.S. and then outside the country in pursuit of the lowest cost employee, leaving the industrial U.S. ravished. She then stated that during the exodus of good jobs, a war on drugs was enacted which had removed displaced workers from public life and warehousing them in jails because they had a potential to organize against federal policies. She added that others were relegated to lifetimes of poverty, adding that these people were failed. She further stated that it was patronizing to speak of the city's benevolence to the poor.

Sister Mary Caritas, Providence Place, asked for support of the resolution prepared by Dr. Helfand. She noted that she had known him for many years, adding that he had worked at Mercy Hospital and ran a fine urgent care center, and was a member of Physicians for Social Responsibility. She also suggested that she should have asked him to bring his Nobel Peace Prize. She noted that she had spoken before many other city councils that had voted to approve the resolution. She added that Congressman Richard Neal planned to cosponsor a bill in the House of Representatives. She expressed that the resolution had value.

Niki Dawson, 226 Lyman Street, Apt 3R, asked for support for tenant protections. She noted that she was out of her comfort to attend and speak but was pleading for their concerns to be listened to. She then stated that 100,000 people with disabilities would become homeless without more tenant protections.

Spencer Fox Peterson, 51 Portland Street, expressed his support for previous statements regarding classism, poverty, and the war on drugs. He added that concerns regarding rising rent costs needed to be addressed. He then stated that there was a serious issue with the City Council regarding the chilling of the

1st Amendment. He noted the Planning Board had complained of the issue of venomous language. Noting that one person had spoken who was not comfortable speaking in public, it was limiting of free speech when not everyone had training of speaking in public or enjoyed doing it. He noted that his privilege in prep school helped him learn to speak in crowds but was not attending in person because he worked all day. He suggested that participation through any means necessary should be encouraged. He then questioned the suggestion that reading emails was a waste of time.

Motion was made and seconded to suspend the necessary rules to take up item 17C out of order. The Committee on Public Service to whom was referred an order that the City Council adopt the attached resolution "Back from the Brink" have considered the same and recommended that the order be adopted.

Committee Members:

Peter Tallman

Will Puello

David K. Bartley

UNDER DISCUSSION:

Councilor Tallman noted that the resolution was a joint resolution between the City Council and Mayor Garcia. He further noted that many other communities within Massachusetts and around the country had already supported it. He asked that the Council stand behind it and send it to the city's state delegation as well as to the federal government.

Councilor Bartley stated that the resolution was well thought out and written. He emphasized that the mix of people who supported it, including physicians, housing court judges, as well as Sister Mary, and Nobel Prize winners was not something seen too often. He stated that he fully supported it.

--->Report of Committee received and recommendation Adopted.

COMMUNICATIONS

(29:55)

From Mayor Joshua A. Garcia letter appointing Joseph Charles Mazzola, 332 Pleasant St. to serve as a member of the Local Historic Commission for the City of Holyoke: Mr. Mazzola will serve a three year term; said term will expire October 1, 2024.

---> Received and referred to the Public Service Committee.

Motion was made and seconded to suspend the necessary rules to take up items 4 and 5 as a package.

From Tanya Wdowiak, City Auditor, Supplemental Budget FY2023 Council Appropriations.

---> Received and referred to the Finance Committee.

From Tanya Wdowiak, City Auditor, YTD Reports for General Fund and Sewer 2023.

---> Received and referred to the Finance Committee.

From Brenna Murphy McGee, MMC & Jeffrey Anderson-Burgos, Admin. Ass't. To City Council minutes of October 4, 2022.

---> Received and adopted.

Petition for Speed Humps for Laurel Street.

---> Received and referred to the Ordinance Committee.

Petition from Holyoke Citizens requesting a public meeting to discuss the conditions of our rental units and the increased rents impacting our community.

---> Received and referred to the Public Safety Committee.

Motion was made and seconded to suspend the necessary rules to take up items 9 through 12 as a package.

Councilor Bartley commended the Administrative Assistant Anderson-Burgos for quickly turning around

the request for these. He then stated that he sought their referred to Public Service as part of the discussion with a candidate for the board. He further stated that minutes from the Board of Appeals should be receiving going forward.

From Board of Appeals regular and public hearing minutes of July 26, August 21, 2018 & October 28 , November 18, 2021.

---> Received and referred to the Public Service Committee.

Board of Appeals public hearing minutes for Kevin Flynn, 5 Lindor Heights from July 26, August 21 & September 19, 2018.

---> Received and referred to the Public Service Committee.

From Board of Appeals Public hearing minutes for David Urbanski, 53 Roland St. from October 28, and November 18, 2021.

---> Received and referred to the Public Service Committee.

From Board of Appeals Public Hearing Minutes for Patrick Sullivan, 555 West Cherry St. for July 26, August 21, 2018.

---> Received and referred to the Public Service Committee.

PETITIONS

(32:45)

Petition for a special permit for Valley Opportunity Council Inc. to extend and alter a pre-existing nonconforming structure at 348 Chestnut/48-52 Franklin Sts.

---> Received and referred to the Development and Governmental Relations Committee.

PRESIDENTS REPORT

(33:00)

President McGee stated that there would be trick-or-treating 10am-12pm on Halloween at City Hall, the City Hall Annex, and the DPW Building located at 63 Canal Street. He further stated that officers participating would have signage outside their doors. He added that the Administrative Assistant would be participating in the City Council chambers.

Councilor Tallman asked what day it would be.

President McGee stated that it would be on Halloween, Monday, October 31st.

He then stated that the previous Sunday had been the Puerto Rican flag raising as well as recognition of Anthony Soto as 2022 award winner for Puerto Rican of the year. He stated that Mayor Garcia, Councilor Anderson-Burgos, Councilor Tallman, Councilor Murphy-Romboletti, and Councilor Givner were in attendance. He also stated that a City Council proclamation was given.

Motion was made and seconded to suspend the necessary rules to take up item 24 out of order.

MC GEE -- Order the city council give a proclamation to Superintendent Soto.

"selected as Puerto Rican of the Year for 2022."

--->Received and Adopted.

President McGee stated that Superintendent Soto had been a phenomenal person who had been doing a

great job for the kids.

He then stated that the Mayor's reception at the Volleyball Hall of Fame would be held on October 21st. He also stated that on November 1st, the mayor would be submitting a supplemental budget with updated to prepare for tax classification.

He further stated that the Chamber of Commerce would hold a Power Hour event for councilors to meet business owners on November 9th, 9am - 10am at Gary Rome Hyundai.

He then stated that Patricia Welch had sent a thank you letter to the Council and the DPW for taking care of a sign on Bassett Road. He stated that the trimming had been a phenomenal job.

He also stated that laptops for city councilors were available.

He then provided an update that the Yankees had won their game 5-1 and would be advancing.

Councilor Bartley stated that he would be staffing a table on behalf of the City Council at Morgan School on October 27th from 5pm - 7pm after being recruited to do so by Ed Caisse. He stated that students would be trick-or-treating. He asked for interested councilors to contact him or Mr. Caisse.

REPORTS OF COMMITTEES

(38:35)

President McGee stated that there were no reports from the Ordinance Committee.

The Committee on Finance to whom was referred an order From Mayor Joshua A. Garcia, letter electing to contract Cataldo Ambulance Service Inc. of Somerville, Mass., for Emergency Ambulance Services in Holyoke. The effective date of separation from Action Ambulance Service Inc, is October 1, 2022 have considered the same and Motion that the order has been complied with.

Committee Members:

Joseph McGiverin

Kevin A Jourdain

Will Puello

Juan . Anderson-Burgos

Peter Tallman

UNDER DISCUSSION:

Councilor McGiverin stated that Mayor Garcia had decided to put out RFPs for many of the professional services provided to the city, noting that it was not something he had to do. He further stated that 3 vendors had responded to the RFP for ambulance service, the current provider, Action Ambulance, Cataldo Ambulance, as well as a third company that had pulled out their response to the RFP. He then stated that the mayor chose Cataldo after a meeting of a committee that included a representative from Holyoke Medical Center, the Fire Department, as well as the mayor's office. He then stated that Cataldo had the more stable proposal which included putting 5 vehicles within the city, including 1 to be stationed at Station 5 and the rest to be stationed on South Street. He noted that as ambulance services make their money on transportation, they wanted to make sure that they would not be using the vehicles in a way that they would not be available for emergency calls.

Councilor Jourdain stated that they had not yet seen the selection criteria that was used, and they were awaiting that information, including the scoring and the pros and cons. He also stated that there was intriguing discussion on the potential of selling the Elmwood Fire Station to Cataldo. He noted that it was a 3 year contract and found it to be an odd decision to consider selling the station. He suggested that it would give the ambulance leverage to maintain themselves in future contracts because another ambulance company could not be put into a station they may own. He suggested that there should be a discussion if it was about the building needing capital improvements.

Councilor Bartley noted that the City Council had to approve leases and requested that the Administrative Assistant ask for that from the mayor. He suggested that it could be of importance to neighbors across the street who had chronic complaints about the previous vendor.

Councilor Anderson-Burgos clarified that there was an option to sell the station, but it was not a concrete plan. He noted that he spoke with the mayor and expressed that it was a bad idea.

Councilor Tallman stated that the committee reviewing vendors also included the Police Chief as well as the City Solicitor. He noted that there had been an issue with the previous vendor honoring the lease and paying the money owed.

Councilor Jourdain noted that there was an ordinance that gave the City Council authority to approve leases.

Councilor Bartley noted that the ordinance also included licenses.
---> Report of Committee received and recommendation adopted.

President McGee stated that items 15B, 15C, and 15D remained in committee.

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "FY2023 MUNICIPAL ROAD SAFETY PROGRAM, \$35,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant
(Recommended by the Mayor)
have considered the same and Awaiting disposition.

Committee Members:

Joseph McGiverin
Kevin A Jourdain
Will Puello
Juan . Anderson-Burgos
Peter Tallman

UNDER DISCUSSION:

Councilor McGiverin stated that the grant was a multiyear grant would buy 2 mobile trailer speed signs as well as 1 data tracker which would allow the Police Department to gather data on several things. He added that there were 3 existing speed signs but only 2 were currently operable. He also stated that the rest of the grant would go toward overtime. He then stated that the Main Street corridor was identified as one of the worst traffic corridors within the city and they were putting to put in extra patrols in that area.

Councilor Bartley asked if a report would be provided listing the data.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays
--Yeas 12--Nays 0--Absent 1 (Jourdain).
Approved by the Mayor.

Motion was made and seconded to suspend the necessary rules to take up items 15F and 15G as a package.

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "GREENING THE GATEWAY CITIES IMPLEMENTATION, \$100,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant
(Recommended by the Mayor)
have considered the same and Awaiting disposition.

Committee Members:

Joseph McGiverin
Kevin A Jourdain
Will Puello
Juan . Anderson-Burgos
Peter Tallman

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays
--Yeas 13--Nays 0--Absent 0.
Approved by the Mayor.

The Committee on Finance to whom was referred an order that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "GREENING THE GATEWAY CITIES PARTNERSHIP, \$20,000, NO MATCH" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant
(Recommended by the Mayor)
have considered the same and Awaiting disposition.

Committee Members:
Joseph McGiverin
Kevin A Jourdain
Will Puello
Juan . Anderson-Burgos
Peter Tallman

UNDER DISCUSSION:

Councilor McGiverin stated that the grants would go with efforts of state's DCR to plant new trees and getting canopies of trees across the gateway cities. He then stated that both would be used for remediation of tree stumps as well as excavating of tree pits for new planting of trees. He noted that the goal was 2,4000 new trees planted. He then stated that the tree pits would allow the DCR to plant new trees free of charge. He also stated that work labor went with the grant. He also stated that the new tree pits would include sidewalk modification, adding that they would assure that the sidewalks were passable and in good shape.

Councilor Bartley expressed that this was great news. He also asked for public to reach out to pass on concerns about stumps clogging up tree belts. He also noted that many tree pits had been covered over with asphalt. He then commended the DCR for bringing in staff to help plant thousands of trees over many years. He then noted that the grant could be used throughout the city, adding that attention was needed in other areas in addition to downtown.

Councilor I. Rivera asked if they planned to identify the tree pits that were already paved over.

Councilor Bartley stated that was the plan.

Councilor Anderson-Burgos emphasized the need to plant more trees to replenish those that had come down or were about to come down, noting their impact on air quality as well as beautification of the city.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays
--Yeas 13--Nays 0--Absent 0.
Approved by the Mayor.

The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, SIXTY TWO THOUSAND AND 00/100 Dollars (\$62,000) as follows:

FROM:

12401-51110 PAY LOCAL BUILDING INSPECTOR \$55,000

12401-51201 PAY PROPERTY MAINT/DEMO SUPER 7,000

TOTAL: \$62,000

TO:

12401-XXXXX PAY-ZONING OFFICER (NEW) \$55,000
12401-51101 PAY-BUILDING COMMISSIONER 7,000
TOTAL: \$62,000
have considered the same and Awaiting disposition.

Committee Members:
Joseph McGiverin
Kevin A Jourdain
Will Puello
Juan . Anderson-Burgos
Peter Tallman

---> Refer back to the Auditor

The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, TEN THOUSAND AND 00/100 Dollars (\$10,000.00) as follows:

FROM:		
12401-51110	PAY-LOCAL INSPECTOR	\$10,000.00
TOTAL:	\$10,000.00	
TO:		
12401-51110	OTHER CONTRACTED SERVICES	
\$10,000.00		
TOTAL:	\$10,000.00	
(Recommended by the Mayor)		

have considered the same and Awaiting disposition.

Committee Members:
Joseph McGiverin
Kevin A Jourdain
Will Puello
Juan . Anderson-Burgos
Peter Tallman

UNDER DISCUSSION:

Councilor McGiverin stated that surplus was due to vacancies in the position in the Building Department. He then stated that the transfer was to cover the cost of paying per diem to qualified local people to do the inspections. He also stated that fees were charged for the inspections which covered much of the cost of the payments to the inspectors.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays

--Yeas 13--Nays 0--Absent 0.

Approved by the Mayor.

The Committee on Finance to whom was referred an order that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY FIVE HUNDRED AND 00/100 Dollars (\$2,500.00) as follows:

FROM:		
11522-52400	R&M OFFICE EQUIPMENT	\$2,500.00
TOTAL:	\$2,500.00	
TO:		
11522-53010	PROF SERV - EMPLOYEE TRAINING	
\$1,000.00		
11522-53180	SYSTEMS HARDWARE	1,500.00
TOTAL:	\$2,500.00	

have considered the same and Awaiting disposition.

Committee Members:
Joseph McGiverin
Kevin A Jourdain

Will Puello
Juan . Anderson-Burgos
Peter Tallman

UNDER DISCUSSION:

Councilor McGiverin stated that the Personnel office account had a surplus due to the way supplies had come in, noting that the current Director, Kelly Curran, had inherited the budget when she came into the department. He then stated that transfers were needed for employee training, including herself, as well as funding for photocopiers and toners in her department.

---> Report of Committee passed two readings and Adopted on a call of the roll of the yeas and nays
--Yeas 13--Nays 0--Absent 0.

(1:01:25)

President McGee stated that there were no reports from the Public Safety Committee.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Julia Santiago, 51 Longwood Ave. to serve as a member on the Library Board of Directors for the City of Holyoke: Ms. Santiago will replace Ms. Kelly Curran and will serve the remainder term; said term will expire on February 2025
have considered the same and Recommended that the appointment be confirmed .

Committee Members:
Peter Tallman
Will Puello
David K. Bartley

UNDER DISCUSSION:

Councilor Tallman stated that Ms. Santiago had been in the area for a couple years and was very interested in libraries. He noted that she would often go to the UMass library and spend entire days there. He then stated she had been involved in different boards, had been a development consultant, and in HR for many years. He then emphasized that citizens getting involved were the lifeblood, adding that it was important that people step up.

---> Report of Committee received and recommendation adopted.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Lizabeth Rodriguez, 193 Brown Ave. to serve as a member of the Historical Commission for the City of Holyoke: Ms. Rodriguez will replace Ms Frances Welson and will serve Ms. Welson's remainder term; said term will expire on April 16, 2024
have considered the same and Recommended that the appointment be confirmed.

Committee Members:
Peter Tallman
Will Puello
David K. Bartley

UNDER DISCUSSION:

Councilor Tallman stated that Ms. Rodriguez was born in New Jersey, had lived here for several years, and wanted to get more involved in the city. He stated that she worked as an assistant at River Valley Chiropractic for many years. He stated that they asked her to assure she had the time to put into the meetings. He further stated that she really wanted to be involved in the decisions of what historic buildings are important for preserving.

Councilor Bartley noted that the two nominees were new to Holyoke government. He then emphasized that these were important boards and that it was important for the City Council to hear from board members, and that the City Council wanted as much feedback as it can get. He commended them for coming forward, noting it was not easy to do. He encouraged any others that may want to come forward that the city needed their input.

---> Report of Committee received and recommendation adopted.

The Committee on Public Service to whom was referred an order that the City Council receive and adopt the HG&E resolution to support the installation of the 5th gas tank of the LNG project. have considered the same and Recommended that the order be adopted.

Committee Members:

Peter Tallman
Will Puello
David K. Bartley

UNDER DISCUSSION:

Councilor Tallman stated that the discussion centered around the 5th tank, which included Jim Lavelle and Kate Craven from HG&E. He stated that it would help get through the moratorium, particularly in helping get new houses and new businesses online. He stated that there was a spot for the additional tank at their facility on Muller Road. He further stated that while it was not the end all for getting gas, it was a step forward to help businesses and homeowners that wanted to convert to gas.

Councilor Vacon expressed that she had been in support of the new tank since becoming aware that it was a possibility. She commended HG&E's team for reaching out to the neighbors in Ward 5 so that any questions were answered early in the process and reducing any unknowns that could lead to anxiety in the community. She also expressed a hope that the timeline would be shorted than expected.

Councilor Bartley stated that while it would not be a straightforward process without controversy, it was a major step forward the neighbors were on board and that the Ward 5 councilor got ahead of it. He also emphasized that the city was being held hostage by neighboring community, noting that there was already a pipeline going through and receiving more gas would require expanding it from 8 inches to 16 inches. He further emphasized that this alternative would require liquified natural gas going through communities using diesel fuel to be stored in a storage tank for Holyoke residents and businesses through the winter. He expressed disappointment that communities such as Longmeadow, East Longmeadow, and others did not want to help the poorest community in the commonwealth. He reiterated that diesel trucks with diesel fumes would be going through the communities to bring liquified natural gas to Holyoke.

Councilor Jourdain asked to assure that the resolution was provided to applications so that those who would be the decisionmakers understand that the community wants it.

---> Report of Committee received and recommendation adopted.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Mr. Jesus Espinosa, 79 Lynch Dr. to serve as a Commissioner of the Soldier's Memorial for the City of Holyoke: Mr. Espinosa will replace Mr. Robert K. MacKay and will serve the remainder of his term: said term will expire on September 30, 2023 have considered the same and Recommended that the order be given a leave to withdraw.

Committee Members:

Peter Tallman
Will Puello
David K. Bartley

---> Report of Committee received and recommendation adopted.

The Committee on Public Service to whom was referred an order From Mayor Joshua A. Garcia letter appointing Ms. Gabriela Alcantara Pohls, 589 Pleasant St. 4R, to serve as a member of the Historical Commission for the City of Holyoke: Ms. Alcantara Pohls will replace Mr. Harry Montalvo and will serve Mr. Montalvo's remainder term; said term will expire on October 1, 2023 have considered the same and Recommended that the order be given a leave to withdraw.

Committee Members:

Peter Tallman
Will Puello
David K. Bartley

UNDER DISCUSSION:

Councilor Tallman stated that Mr. Espinosa had tried for several years to be appointed and had since moved out of state. He then stated that Ms. Gabriela Pohls back out the day before, potentially due to conflict or time constraint.

---> Report of Committee received and recommendation adopted.

ORDERS AND TRANSFERS

(1:11:10)

MCgee, Tallman Ordered, that Order that the city engineer provide the final locations for speed bumps on Bemis.

---> Received and referred to the Ordinance Committee.

MCgee, Tallman Ordered, that Order that the police radar sign be placed at Bemis

Councilor Tallman asked to be added to the order. He noted that Bemis was often being used as a cut through street, with some vehicles going above the speed limit. He emphasized that there were a lot of kids in the area. He also stated that they had a speed sign in the area earlier in the summer, noting they had been very effective.

---> Received and adopted. Referred to the Police Department.

MCgee Ordered, that Order that the legal department give an update on the Essex building.

---> Received and adopted. Referred to the Law Department.

Approved by the Mayor.

President McGee stated that there would be an executive session prior to the next City Council meeting for the Law Department to provide an update on pending legal updates that had been requested.

Councilor Jourdain asked to confirm that it included all pending requests or just the ones they wanted to provide.

President McGee emphasized that it included all pending requests.

Councilor McGiverin questioned if it would require a separate night.

President McGee suggested that it would not.

MCGIVERIN Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, TWENTY SIX THOUSAND SIX HUNDRED SEVENTY ONE AND 69/100 Dollars (\$26,671.69) as follows:

FROM:

12101-51104	LIEUTENANT	\$3,883.22
12101-51105	SERGEANT	8,404.75
12101-51107	PATROLMEN	14,383.72
	TOTAL:	\$26,671.69

TO:

12101-51180	INJURED ON DUTY	\$26,671.69
	TOTAL:	\$26,671.69

To the City Council:

I hereby recommend the passage of the above order at the meeting of your Council to be held Tuesday, October 18, 2022.

Joshua A Garcia, Mayor

UNDER DISCUSSION:

President McGee stated that the transfers covered 12 employees.

Councilor McGiverin stated that the transfer was for when public safety officers are injured on duty, and their salary is transferred from the salary line items to the injured on duty line item for accounting and tracking purposes. He also expressed his intent to follow up with the Chief to find out the status of the employees who may have been out long term.

---> Passed two readings and Adopted on a call of the roll of the yeas and nays --Yeas 13--Nays 0--Absent 0.

Approved by the Mayor.

MCGIVERIN Ordered, that in accordance with M.G.L. Chapter 44 Sec. 53A, the City Council hereby accepts the provisions of the "MASSACHUSETTS PRESERVATION PROJECTS FUND-STAINED GLASS WINDOW CONSERVATION, ADDITIONAL \$20,000, 50% MATCH (CPA FUNDED)" grant and authorizes the establishment of a Fund or other method appropriate for the accounting of the receipts and expenditures of all resources associated with the administration of said grant.

To the City Council:

I hereby recommend the passage of the above order at the meeting of your Council to be held Tuesday, October 18, 2022.

Joshua A Garcia, Mayor

UNDER DISCUSSION:

Councilor McGiverin stated that this was an ongoing grant, with a match already funded through CPA grants already approved by the CPA and the City Council. He further stated that the grant would advance the work on two windows to completion.

Councilor Vacon stated that while she would usually prefer orders to go to committee, she believed the Council was well acquainted with the work.

---> Passed two readings and Adopted on a call of the roll of the yeas and nays --Yeas 13--Nays 0--Absent 0.

Approved by the Mayor.

PUELLO Ordered, that That the Chief of Police please provide a narrative describing what happened to the previous, gray Ford Taurus mayoral issued vehicle. Please include any cost/insurance payouts to other parties and a current city vehicle use policy.

Councilor Anderson-Burgos stated that in speaking with constituents while running for office, they expressed that they cared about safer streets, speeding, and more effective services from city departments. He then stated that he had never filed an order intended to kick someone while they're down or remind them of their past mishaps. He noted that in growing up in Holyoke, he never expected to be in the City Council, making decisions that impact people in the community. He then questioned seeing orders that attack, question, or remind people was horrible. He questioned a person that would file an order that would belittle and hold judgement to colleagues. He further stated that he would never do that to other councilors no matter how much he disagreed with them.

Councilor Puello stated that he wished that speech had been given a couple orders ago but suggested that the meeting moves on.

---> Received and referred to the Public Safety Committee. Copy to Holyoke Police and Auditor.

Motion was made and seconded to suspend the necessary rules to take up items 28 and 29 as a package.

PUELLO, Vacon Ordered, that That all councilors update their current addresses with the administrator, that appear on the website. That the legal department please give their interpretation of section 9 "...the voters of the city at large shall elect eight councilors at large and the voters of each ward shall elect one councilor who shall be a resident therein." is a council seat vacated if a ward councilor is no longer a resident therein?

---> Given leave to withdraw.

PUELLO, Vacon Ordered, that That the legal department please give their interpretation of section 46 and provide an opinion on. "The conviction of the incumbent of any such office of a crime punishable by imprisonment shall operate to create a vacancy in the office held by him." Does this apply to convictions on incumbents prior to taking office?

Councilor I. Rivera made a motion to object to orders 28 and 29. Councilor Anderson-Burgos seconded the motion. He stated that he believed that the orders were a deflection, waste of time, and not necessary based on city business but based on personal attacks and deflections away from circumstances certain people may be going through. He further emphasized that these orders had nothing to do with city business but could be a defamation of character or attacks on those who may have convictions on their past records such as himself. He reiterated that he objected to the orders and suggested that they both be given a leave to withdraw.

Councilor Puello stated that the orders were not an attack on anyone. He suggested that if people were not supposed to be there, there could be an issue with the votes being taken and the city could be sued. He expressed surprise that anyone would have an issue with the orders being filed. He then stated that the orders were asking for a legal opinion, noting that there had not been a request for a legal opinion when he was recently removed.

Councilor Vacon stated that there was an active legal matter before the Council that spoke directly to order 29. She noted that the charter provision was acted upon with no advice from the Law Department to the Council, adding that they had not yet received it and were waiting for. She stated that she did not know what the difference would have been between getting it that evening and getting it on November 1st. She then stated that they would have benefited from an interpretation of the charter prior to action being taken that led to the City Council being sued after the judge did not agree with the Law department's interpretation of the charter. She further stated that there needed to be a common understanding of what the charter meant. She questioned calling these orders out of order, adding that the actions that happened without the consent of the Council was out of order.

Councilor Givner stated that she did not understand why these needed to go through the Council. She noted that a person who was not convicted was back on the Council and she did believe there were any other legal matters happening. She suggested that it was using a lot of the Council's time for legal matters that they may not understand.

Councilor Maldonado Velez suggested that they did not take any votes with the understanding that they were no longer a 13 member Council. He also stated that the orders were a waste of time.

Councilor Murphy-Romboletti suggested that the orders could have been emails. She further suggested that the fact that they were filed as orders felt spiteful, like an attack, like it was not a productive use of the Council's time. She also suggested that everyone understood who item 29 was talking about and that it was a personal attack. She further emphasized that was not why she ran for City Council, adding that she ran to get things done. She then expressed that she was discouraged by the way the City Council treated each other, treated the public, and department heads. She reiterated that it could have been an email.

Councilor Jourdain suggested that with the timing, it would be naïve. He then stated that if he were a member who was removed, there would be feelings of not feeling the love when you're removed, and a judge had to put an injunction into your elected seat. He stated that had occurred, had not yet been discussed, emphasizing that he had not seen anything like it in his 25 years on the Council. He then reiterated that it would be naïve not to say that it could look like retaliation based on other things that had happened. He then stated that procedurally, a councilor should not be emailing the Law Department for an opinion on behalf of the body. He stated that if the Council wanted a legal opinion, a councilor should file an order that the Council would then adopt. He then noted that the question in item 28 had been asked before. He suggested that if someone wanted to legal opinion, they should be able to ask them within reason. He then questioned the justification for giving these a leave to withdraw being based on the idea

that councilors can ask for legal opinions on their own. He then asked how else a legal opinion can be sought if councilors want to have a legal interpretation of charter provisions. He then questioned rhetorically why anyone would not want these questions answered.

Councilor Anderson-Burgos noted that Councilor Jourdain made a good point that it could seem that one of the councilors felt attacked. He then stated that with the timing, it could look like some kind of retaliation, that there could be a feeling of not being supported, and the orders were filed as a way to get back at people. He then stated that he had done things in the past, over 21 years ago, had done his time, corrected his wrong, got through college, and worked hard to make things right. He then stated that the difference with these orders, specifically the language, "Does this apply to convictions on incumbents prior to taking office" clearly were directed at specific councilors such as himself and Councilor I. Rivera. He further stated that they were malicious and a waste of the body's time. He stated that he was mentioning it now because it needed to be addressed. He then questioned if the perception in the community would be of a City Council making sure the streets were safe, that the city departments were taken care of, that the Police Department and Fire Department were taken care of, or that orders were being filed to take jabs at each other and remind people of their mistakes.

Councilor Vacon expressed that she had heard the same passion in defense of due process when everyone had been in the room and two police officers outside the chambers to keep a duly elected councilor from entering based on actions not endorsed or even know by the Council. She further emphasized that it was supposed to be addressed in executive session that evening. She further stated that this was why she signed onto the orders. She then stated that she did not want to hear about how unfairly someone was being treated when another person was accused and had not even have a trial, adding that it did not meet the bare minimum of legal due process. She then suggested that it amounted to a modern day lynching without the rope. She then emphasized that she had listened and not objected while others spoke. She then questioned others bringing up their record during meetings, adding that she had never personally brought up anyone else's record. She then stated that the questions regarding the charter needed to be answered so that the Council could be on solid ground going forward. She then suggested that the issues could impact anyone on the Council if something happened and someone was convicted. She stated that they needed to understand what would happen next. She further stated that it was fine to have compassion for those who had done their time, redeemed themselves, and were participating constructively in society. She further stated that it was also fine to ask questions. She added that if the interpretation of what it meant to vacate a seat had been provided prior to an action being taken, the Council would have been able to bring he questions up and the whole matter could have been avoided. She also emphasized that nobody objected when Councilor Givner filed an order seeking another councilor's resignation because he had missed a few meetings. She noted that it was sent to the Law Department for a legal opinion.

Motion was made and seconded to suspend the necessary rules to allow Councilor Puello to speak for a third time.

Councilor Puello stated that this was the process, adding that he was open to hearing it there was another process to get legal opinions. He further stated that this could apply to him or anyone else in the future, adding that it was not an attack on anyone. He stated that anyone convicted and later wanted to sit on the Council had a right to know if they could sit on the Council. He further suggested that the hypocrisy by some was unbelievable.

Councilor I. Rivera stated that since he had won his election the previous November, he did not recall an order being filed to address the situation where he was forced to resign, determining whether or not he could sit on the Council while working for the schools. He noted that former acting mayor, Terry Murphy, took it upon himself to ask. He suggested there was another way in addition to filing orders. He then suggested that veteran councilors used the mechanisms to their advantage because they knew how to because they had done it for so long. He suggested that it was unfair to the city to use mechanisms to gain advantage. He then emphasized that he had to resign a full time position to keep his seat and had been

getting attacked since day 1. He questioned the suggested that this order was not an attack. He then emphasized that he brought up his record because he used it to build up his community, noting that poor communities face a lot of strife growing up. He stated that while he went to prison for 5 years, when he got out, he went to HCC, UMass, was getting his Master's, and others had failed to mention that. He noted that his situation happened over 10 years ago, adding that he had never hidden anything. He further emphasized that he had done his time, was no longer living in subsidized housing, no longer receiving food stamps, and was paying for everything out of his own pocket. He then questioned why this was being brought up, further asking if it was about someone being caught and wanting to throw everyone else under the bus. He stated that the legal opinion was given because the department was doing their job to the best of their ability. He also suggested that since he had been there, more people had been watching than in the 20 years prior. He reiterated that his motion was to object to consideration of the orders. He further stated that people should know who they were voting for, adding that he had always led with who he was to show residents could change their lives and do more.

President McGee clarified that the Law Department wanted an executive session for what was discussed that evening, noting that it had taken up an entire hour, they asked for a second executive session. He then stated that the process was that an order had to be filed to ask for a legal opinion, adding that these orders would need to be referred to Charter and Rules to be taken up when a legal opinion was provided.

Councilor Jourdain reiterated that councilors could choose not ask for the legal opinions through the orders but that there was not another process such as sending an email. He also noted that Terry Murphy had an exception in that he was the mayor and could ask for legal opinions.

Motion was made, seconded, and thirded to ask for a roll call vote.

Motion to give leave to withdraw passed on a call of the roll of the yeas and nays--Yeas 7--Nays 6 (Bartley, Jourdain, McGee, Puello, Tallman, Vacon).

---> Given leave to withdraw.

PUELLO, Vacon Ordered, that That recall provisions be established for every elected official in the city. These provisions should be fair and equitable to allow citizens a path to recall but also protect the system from nuisances.

---> Received and referred to the Charter and Rules.

PUELLO Ordered, that That a flashing beacon signal be installed by the Fire dept. at Springdale and Main for pedestrians crossing into the park. This will provide a fix as we await the results of a traffic study to address the traffic light. Fire already has them available and this would have zero cost on the city as Fire install themselves. Fire has been excellent in dealing with this issue.

---> Received and adopted. Copy to DPW, Public Safety.
Approved by the Mayor.

RIVERA_I Ordered, that That the city explore using cannabis impact fee funds to improve sidewalks on the following streets: Main Street, North Bridge St., Lyman Street, and center St.

---> Received and referred to the Public Safety Committee. Copy to Mayor Garcia.

RIVERA_I Ordered, that That the city engineer and or DPW add Willow st in the list of sidewalks to be redone.

---> Received and adopted. Referred to the Engineer and DPW.

RIVERA_I Ordered, that That the city engineer and or DPW add gates St. on the list of sidewalks to be redone.

---> Received and adopted. Referred to the Engineer and DPW.
Approved by the Mayor.

RIVERA_I Ordered, that That the city engineer and or DPW add St. Jerome Street to the list of sidewalks to be redone.

---> Received and adopted. Referred to the Engineer and DPW.

Approved by the Mayor.

RIVERA_I Ordered, that That the parks and recreation and DPW give us an update on the project and remodeling of Springdale Park.

---> Received and referred to the Public Safety Committee. Copy to Parks & Rec, DPW.

RIVERA_I Ordered, that That the police department provide an update on what steps and systems are being put in place to ensure that shot spotter will work effectively and efficiently when the new technologies installed.

---> Received and referred to the Public Safety Committee.

RIVERA_I Ordered, that That the disabilities commission come into public safety and explain the process of a resident applying for a handicap space, as well as how the spaces are identified to the particular resident that was granted the space.

---> Received and referred to the Public Safety Committee.

VACON, Puello Ordered, that modify rule 6D to add. The use of profanity is prohibited and a member will no longer be permitted to speak on the question under debate when a member uses profane language.

Councilor Maldonado Velez stated whiffle waffles.

Councilor Puello asked to be added to the order.

---> Received and referred to the Charter and Rules.

Motion was made and seconded to suspend the necessary rules to take up items 40, 41, and 43 as a package.

BARTLEY Ordered, that The DPW, Mayor, and any relevant city official appraise city council on the city's recycling program. Please provide any data including costs paid by Holyoke and recycling tonnage diverted from the landfill. Please send a communication to the clerk within the next 60 days.

---> Received and adopted. Referred to the Mayor Garcia, DPW and Auditor.

BARTLEY Ordered, that The DPW, Mayor, and any relevant city officials appraise city council on Holyoke's solid waste (trash) disposal efforts. Please provide data including tonnage disposed and disposal costs. Please send a communication to the clerk within the next 60 days.

Councilor Bartley stated that information regarding statistics on these matters had been brought to his attention by a colleague.

---> Received and adopted. Referred to the Mayor Garcia, DPW and Auditor.

GIVNER Ordered, that With Community support, Order to increase trash can minimum to 50 gallons for municipal pickup service, as our DPW accommodates piles of trash bags en lieu of required current 35 gallon size. This in an effort to increase can use participation in order to mitigate the health hazards of torn and rummaged through piled bags for pickup.

-To Ordinance; copy to Health dept; copy to DPW

President McGee suggested sending the order to Ordinance.

Councilor Jourdain suggested copying it to the union, noting they had a 35 gallon weight limit in their contract.

Councilor Vacon suggested it should go to Public Safety.

Councilor Jourdain suggested that it was not an ordinance but an agreement.

Councilor I. Rivera stated that DPW told him it was an ordinance that had to be changed but would be open to hearing it out in Public Safety first.

---> Received and referred to the Public Safety Committee. Copy to Ordinance, Law Department, Union and DPW.

JOURDAIN Ordered, that Ordered, that the DPW please provide the City Council a copy of our current agreement for the receipt of our recycling materials with the Materials Recycling Facility (MRF)? Please also provide the City Council with the statistical data on our recycling program. How much recycling plastics/glass/metal vs paper in CY 2018, CY 2019, CY 2020, and CY 2021 has the city received in and recycled with the MRF during these time periods. Please also provide these statistics for any of our recycling that has been brought to places other than the MRF such as another vendor, straight into the landfill as trash, or other possibilities if any? Please provide us the statistics of regular trash we have collected during these time periods by way of comparison to see what percentage recycle is vs the total volume of all collections. Please provide these reports the City Council and come in to City Council and discuss the current state of the city's recycling program.

---> Received and adopted. Referred to the Mayor Garcia, DPW and Auditor. Copy to Public Safety.
Approved by the Mayor.

MALDONADO-VELEZ, Givner Ordered, that Ordered that the City Council add a Section for Battery Storage Facilities to the Zoning Ordinance (Section TBD) to reflect technology advancements and future need for such installations; new facilities will be reviewed through Section 10.0, Major Site Plan Review.
---> Received and referred to the Ordinance Committee.

LATE FILED ORDERS & COMMUNICATIONS

(1:59:35)

From Flynn Financial, City of Holyoke Stabilization.

---> Received and referred to the Finance Committee.

Holyoke Public Schools, Food Service Management Agreement.

---> Received and referred to the Finance Committee. Councilor Jourdain abstain.

MCGIVERIN Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, FOUR HUNDRED TWO THOUSAND AND 00/100 Dollars (\$402,000.00) as follows:

FROM:

8812-10400	SEWER ENTERPRISE STABILIZATION	\$293,000.00
8811-10400	CAPITAL STABILIZATION	109,000.00
	TOTAL:	\$402,000.00

TO:

60402-53011	SEWER PROFESSIONAL SERVICES	\$402,000.00
	TOTAL:	\$402,000.00

To the City Council:

I hereby recommend the passage of the above order at the meeting of your Council to be held Tuesday, October 18, 2022.

Joshua A Garcia, Mayor

---> Received and referred to the Finance Committee.

MCGIVERIN Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, FOUR HUNDRED TWO THOUSAND AND 00/100 Dollars (\$402,000.00) as follows:

FROM:

8815-10400	CANNABIS IMPACT STABILIZATION	\$402,000.00
	TOTAL:	\$402,000.00

TO:

60402-53011	SEWER PROFESSIONAL SERVICES	\$402,000.00
	TOTAL:	\$402,000.00

To the City Council:

I hereby recommend the passage of the above order at the meeting of your Council to be held Tuesday, October 18, 2022.

Joshua A Garcia, Mayor

---> Received and referred to the Finance Committee.

MCGIVERIN Ordered, that there be and is hereby appropriated by transfer in the fiscal year 2023, TWO HUNDRED FIFTY THOUSAND AND 00/100 Dollars (\$250,000.00) as follows:

FROM:

12101-51104	LIEUTENANT	\$15,000.00
12101-51105	SERGEANT	35,000.00
12101-51107	PATROLMEN	200,000.00
	TOTAL:	\$250,000.00

TO:

12101-51300	OVERTIME	\$250,000.00
	TOTAL:	\$250,000.00

To the City Council:

I hereby recommend the passage of the above order at the meeting of your Council to be held Tuesday, October 18, 2022.

Joshua A Garcia, Mayor

---> Received and referred to the Finance Committee.

VACON Ordered, that that when ballot drop boxes are used in any election, live streaming cameras shall be in place 24/7 to prevent any irregularities. There shall be a notice posted that it is illegal to deposit multiple ballots.

Councilor McGiverin asked if there was a cost associated with the request.

Councilor Vacon expressed her understand that the Police Department could install cameras without any special orders or need an appropriation.

Motion was made and seconded to suspend the necessary rules to take final action.

Councilor McGiverin reiterated his question on if there was a cost, also asking what the cameras would be looking at.

President McGee suggested that it could be sent to the City Clerk to report back that on it police could do it.

Councilor Vacon stated that was her understanding based on conversation with the mayor.

President McGee stated they could address it if it came back that there was a cost.

Councilor Vacon stated that she was not sure drop boxes were required by the state but that the Clerk may not have had a chance to find the answer to that.

Councilor McGiverin asked where the drop box was.

Councilor Vacon stated that they were sharing it with the Tax Collector's office.

Councilor McGiverin asked to clarify that the intent was to have a camera on the drop box.

Councilor Vacon confirmed that was accurate, adding that it was to be sure that things weren't being put in that shouldn't be, just as had been done in other areas for safety.

Motion was made and seconded to suspend the necessary rules to allow the City Clerk to address the Council.

City Clerk Murphy McGee asked what was being referred to in saying things being put in that shouldn't be.

Councilor Vacon stated that it could be anything, noting that it was not protected like a mailbox would be.

Councilor Jourdain suggested it could include vandalism.

Councilor McGiverin expressed his intent to vote against it without answers to his questions. He then stated that he could not support policing people by camera without more information and more thought put into it.

President McGee suggested referring it to Finance.

Councilor Vacon asked if the Clerk was able to find out if drop boxes were required by the state since mail in ballots were free and there was early voting.

City Clerk Murphy McGee stated that they were not required but were highly recommended by the Secretary of State's office. She added that a lot of residents utilized them, preferring to put them in the drop box instead of the mail, potentially due to concerns about mail delays. She stated they check it multiple times every day. She noted that surveillance cameras were not placed at every mailbox throughout the city. She also stated that nothing fraudulent could happen with ballots because everything taken out had already been scanned out of the office and had to be scanned back in, preventing any duplicate ballots being accepted. She added that a ballot accidentally dropped off from another community would show that it wasn't a registered voter from Holyoke. She emphasized there were a lot of procedures in place.

Councilor Vacon stated that she had no question about internal controls within the office but that there had been things over the years reported to her about people bringing in bunches of ballots. She suggested that an unintended drop box over night would lend itself to that. She expressed that her intent was to assure the integrity of elections that had been good in the city.

Councilor Jourdain stated that he was more concerned that a ballot drop box could be more of a target for vandalism than a mailbox, leading to someone breaking into the box or throw something into the box, light it on fire, or otherwise put something in there that could do damage to the ballots. He asked how it could be protected from vandalism and be able to catch someone who may vandalize the drop box. He suggested that someone at 2 in the morning could throw something in, leading to people being disenfranchised, and then being put in the position of trying to figure out who had dropped their ballot off.

City Clerk Murphy McGee expressed that she understood the concern. She suggested that a camera

would not stop someone from throwing something in. She noted that when they first got the drop boxes a few years prior, they were recommended to lock them overnight on Halloween due to a scavenger hunt taking place and the fear related to that. She then stated that she did not want to lock them overnight all the time because that may be the time when most people may put their ballots in there.

Councilor Jourdain stated that he liked having the drop box but wondered if an unattended spot behind City Hall was the best place, or if it should be in a place where more people would be walking by.

City Clerk Murphy McGee stated that her office had discussed different locations. She noted that when they had their own box, it started leaking, and had it taken out. She suggested that if they were to get a new one, placing in front of City Hall on High Street may be an alternative since it was busier. She suggested it may take time due to DPW being unstaffed. She added that they would need to get one of better quality to avoid it leaking.

---> Received, copy to Finance and City Clerk.

Adjourn at 09:15 PM.

A true record

ATTEST:


City Clerk

Resolution to the Holyoke City Council, October 4, 2022

A RESOLUTION SUPPORTING HG&E'S GAS INFRASTRUCTURE & RESILIENCY PROJECT AND INCREASED RELIABILITY OF THE LOCAL GAS DISTRIBUTION SYSTEM

WHEREAS, HG&E is a leader in providing cost competitive, clean energy solutions, this project will assist in the transition to a low-carbon energy future and allow HG&E to meet the State of Massachusetts NetZero targets by 2050; and

WHEREAS, this project is a non-pipeline solution that will increase natural gas system reliability by installing a fifth liquified natural gas (LNG) storage tank within the existing footprint of the LNG facility in West Holyoke as well as establish a redundant vaporization system and enhanced facility safety mechanisms; and

WHEREAS, between 1971 and 1974, the West Holyoke LNG Facility was designed and approved for five LNG storage tanks, but only four tanks were installed at the time due to cost constraints; and

WHEREAS, there is sufficient space for the fifth storage tank within the facility fence line (image attached) and the project will have minimal impact on the surrounding neighborhoods; and

WHEREAS, there is a need for additional capacity in order to meet customers long-term energy needs while allowing the necessary time for strategic electrification to occur without placing an undue cost burden on ratepayers and property owners; and

WHEREAS, since 2019, the natural gas distribution system has been operating at capacity during peak periods. Under peak demand, HG&E's system consumes 20,000 dth of gas per day. The existing LNG facility can store approximately 16,000 dth of natural gas. The additional storage would increase capacity to approximately 21,000 Dth, sufficient to meet existing customer demand without curtailing firm gas customers in the event of a pipeline interruption; and

WHEREAS, the LNG facility was originally designed to maintain a minimum of at least one full day of on-site storage to meet peak day requirements. The proposed project will restore the on-site storage capacity to meet this intent; and

WHEREAS, LNG storage facilities are common in the region and allow HG&E to manage costs while planning for strategic electrification which will occur over the next 20+ years; and

WHEREAS, the community consists of ~20% of homes that heat with oil and propane, HG&E is committed to working with these customers and help transition them away from the dirtiest fossil fuels and moving to all electric technologies. This project will allow HG&E to continue to reliably serve its existing customer base while locations that consume dirtier fossil fuels can be prioritized for converting to cleaner sources; and

WHEREAS, HG&E reviewed multiple options to addressing reliability and identified this option as the most practical with limited impact to the community. Other solutions would result in more widespread construction, some in EJ neighborhoods, while this solution is situated on an existing property that was designed for a fifth tank and within the existing fence line; and

WHEREAS, the project site is located over a mile away from an Environmental Justice population as designated by the State of Massachusetts; and

WHEREAS, in January 2022, the Holyoke City Council asked HG&E to take all necessary steps to end the gas moratorium, and in June 2022, in a survey 65% of HG&E customers would support a plan to increase natural gas capacity; and

WHEREAS, in combination with aggressive energy efficiency programs, this project will allow customers to apply for natural gas service. HG&E will evaluate each application in order to ensure there is not a feasible, cost comparable alternate solution that better positions HG&E to meet the State's clean energy goals.

WHEREAS, HG&E is committed to monitoring ongoing programs across the industry for geothermal pilots, renewable natural gas and hydrogen injection systems to determine the economic and environmental cost-benefits for our system; and

WHEREAS, natural gas is a critical component of a carbon-free future. As the cleanest, most reliable, and least expensive fossil fuel, natural gas will help facilitate an economic transition to a low-carbon future. At present, there is not sufficient carbon-free electric production in the region to transition away from natural gas completely; and

WHEREAS, from a variety of perspectives including safety, reliability, environmental, and economic, this project will allow HG&E the necessary time to research and develop NetZero strategies; and

WHEREAS, the project design and implementation plan is subject to review and approval by the Massachusetts Energy Facilities Siting Board (EFSB) through a public process which will be initiated in the fourth quarter of 2022.

NOW THEREFORE BE IT RESOLVED that the City Council of Holyoke Massachusetts supports Holyoke Gas & Electric's plan to install one additional LNG tank and redundant vaporization system at the West Holyoke LNG facility.

BE IT FURTHER RESOLVED that the Administrative Assistant to the City Council shall cause a copy of this resolution to be sent to Holyoke Gas & Electric Manager, James Lavelle; Holyoke, Massachusetts Mayor, Joshua Garcia.

In City Council, on October 18, 2022, the report of Committee to adopt the resolution was received and recommendation adopted.


City Clerk



Inter-Office Memorandum

To: File

From: Kate Sullivan Craven, Marketing

Date: October 20, 2022

Subject: Public Power & Public Natural Gas Week Celebration

On Wednesday, October 5, 2022, HG&E invited the community to a public utility celebration at Veterans Park in Holyoke's Downtown District. This free community event was held from 4-6 pm. Residents and businesses came out to engage with HG&E and learn about energy efficiency and electrification incentives, air source heat pumps, electric and natural gas safety, the local power supply portfolio, the LNG Infrastructure & Resiliency Project, the Robert Barret Fishway, and so much more. In addition, there was music, pumpkin decorating and kids' activities, a food truck and ice cream truck!

Elected officials, community stakeholders, and HG&E customers were in attendance. The celebration also featured many of HG&E's partner organizations, including:

- Marcotte Ford & Gary Rome Hyundai: Displaying electric vehicles and offering test drives and education.
- Energy New England: Providing education on electric vehicles and HG&EV incentives. The event was part of National Drive Electric Week, <https://driveelectricweek.org/event?eventid=3577>
- Massachusetts Municipal Wholesale Electric Company (MMWEC): Free residential energy audits and NextZero incentives
- Massachusetts Department of Energy Resources: State EV incentives and tree planting resources
- Valley Bike Share: Electric pedal assist bicycle service
- Holyoke Fire Department: Fire and carbon monoxide safety
- Holyoke Police Department: Community Policing
- Valley Opportunity Council: Heating Assistance program and other services
- One Holyoke CDC: Program information
- Greater Holyoke Chamber of Commerce: Business incentives and community information

Attached are event images, maps, logo, and copies of the LNG Project signage.



Public Power & Public Natural Gas Week Celebration, October 5, 2022.



Holyoke Residents enjoying the festivities and line truck.



HG&E Environmental Engineer, Sarah LaRose, at the Energy Mix Table.



OneHolyoke CDC sharing program information with neighbors.



Holyoke City Councilor & Legislative Aide to Rep. Duffy, Juan Anderson-Burgos, and HG&E's Gas Superintendent Brian Roy discuss the LNG Project.



HG&E's Energy Efficiency Partner Joe Coles from NextZero/MMWEC.



Families enjoy activities at the event.



HG&E Energy KIDS walk provides conservation tips.



Families enjoy activities at the event.



HG&E Customer Service Supervisor, Katelyn Rodriguez engages with families.



Free ice cream, line truck, and smiles at Public Utility Event.



A group of Holyoke Public School students enjoying music and activities.



HG&E's Safety Table was hosted by Ray Gouley from RF Gouley Co., HG&E Gas Division Clerk Emily Ortiz, and Lineman Patrick St. Lawrence.



Local car dealerships display Electric Vehicles and provide test drives as part of National Drives Electric Week.



Hyundai Ioniq5 displaying the HG&EV logo in order to promote EV incentives offered by HG&E.



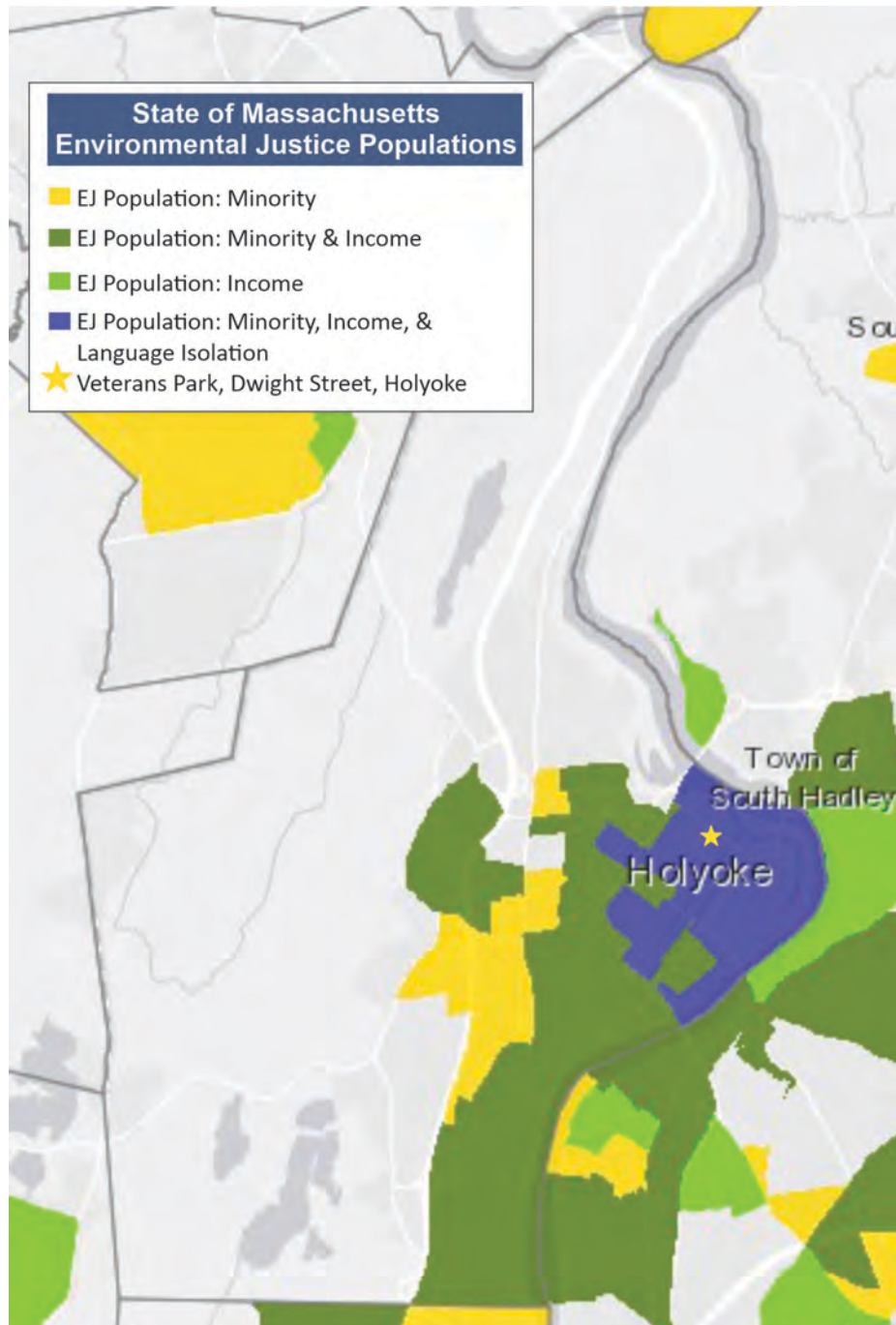
Holyoke residents attend to learn more about HG&E energy efficiency opportunities.



Massachusetts Department of Energy Resources table provided education on Greening the Gateway Cities.

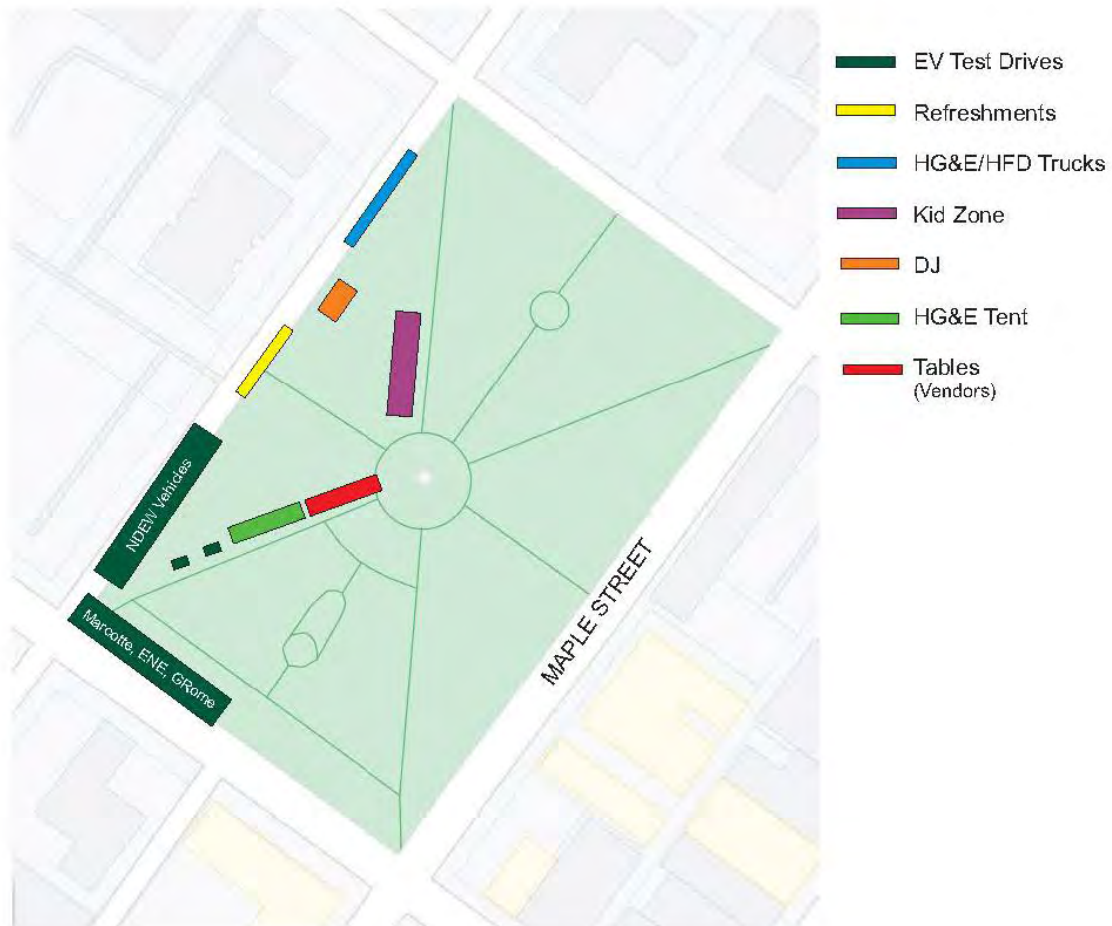


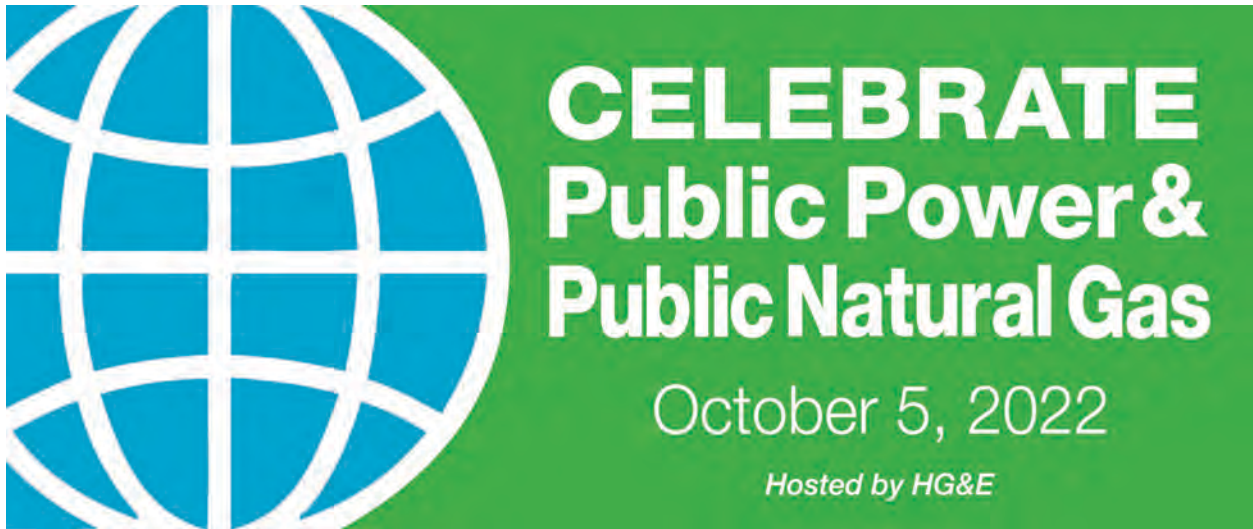
Holyoke Fire Department provided safety information.



Event Location: **Veterans Park, 536 Dwight Street, Holyoke, MA 01040**

Public Power & Natural Gas Week Event Map





2022 Event Logo



LNG Project Signage were displayed on lawn signs at the event.

[Reply](#)
[Reply All](#)
[Forward](#)






[Inbox](#) 

Fw: HOLYOKE UPdates

11:47 AM

James Lavelle to me, Brian Roy

[Show more](#)
 CC Agenda 11-15-22.pdf

 HGE and LNG.pdf

 VETS' Uniforms.pdf

[1 more](#)
[Download All](#)

FYI

-----Forwarded by James Lavelle/Holyoke on 11/11/2022 11:46AM -----

To: undisclosed-recipients;;
 From: "David Bartley" <bartleyforward3@gmail.com>
 Date: 11/10/2022 02:15PM
 Subject: HOLYOKE UPdates

*(See attached file: CC Agenda 11-15-22.pdf)**(See attached file: HGE and LNG.pdf)**(See attached file: VETS' Uniforms.pdf)**(See attached file: Board of Assessors 2022-11-22 Tax Classification Hearing Notice.pdf)*

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good afternoon.

VETERANS' DAY

Services (and excellent music) commence at War Memorial Bldg., TOMORROW, 11/11/22, 9-11 a.m. Flyer attached for additional info. THANK YOU TO OUR VETERANS!

CC MEETS 11/15/22, 7 PM
 Agenda attached.

BOARD OF ASSESSOR'S

Tax classification hearing set for 11/22/22, 530 PM. (Notice attached)

This is an opportunity for councilors and city officials to hear your position on the city's tax rate. This is open to the public. IDK if it will be on Zoom. The in-person meeting is in City Hall, Room 11.

GAS MORATORIUM UPDATE -- SOME GOOD NEWS

Please see the newsletter from HG&E included with this month's invoice (attached here). From the newsletter, "HG&E has developed a non-pipeline solution that would increase our LNG storage capacity (and)....this project ...will allow customers to apply for natural gas service when converting from oil or propane."

HAPPY THANKSGIVING

Sincerely,

Dave Bartley, Esq.

Ward 3 Councilor (2012-Present)

Vice-Chair, Development & Governmental Relations (DGR) Committee

Member, Public Service Committee

Former member and Vice Chair (2013-2019), Ordinance Committee

(413) 531-2213 CELL

ENERGY INSIGHTS

OCTOBER 2022

A newsletter for residential customers
of Holyoke Gas & Electric

Holyoke Gas & Electric
EF-SP 22-07
Appendix A, Part 2
Page 157 of 157

For a Spanish version of this piece, please visit www.hged.com/newsletter.
Para obtener una versión en español de este artículo, visite www.hged.com/newsletter.

LNG Infrastructure & Resiliency Project Overview

LNGProject@hged.com - hged.com/LNGProject

Holyoke Gas & Electric (HG&E) is proposing to install one additional Liquid Natural Gas (LNG) storage tank and upgrade the monitoring and control system at the existing West Holyoke LNG storage facility to enhance natural gas system reliability and safety.

What is Proposed?

HG&E is proposing to install one new 70,000-gallon LNG storage tank at an existing LNG facility and upgrade monitoring and control systems in order to enhance system reliability and safety. There are currently four storage tanks at the facility, in operation since 1971, located in West Holyoke nestled in a large solar installation. The additional controls will provide redundancy and enhanced safety mechanisms.

In order to reliably meet customers' energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke facility.

Why LNG?

As a way to ensure reliable energy service to Holyoke residences and businesses, HG&E augments its energy portfolio with LNG. For over 50 years, HG&E has safely operated the Holyoke facility and used LNG, stored in secure tanks, to meet the energy needs of our customers during periods of high demand.

The ability to safely store and utilize LNG when system demand is high allows for uninterrupted service when pipeline demand is at capacity. In addition, LNG offers HG&E diversity and flexibility within the natural gas portfolio, reducing our dependence on a single pipeline source and fluctuating market costs.

What are the Benefits?

HG&E's natural gas portfolio is made up of both firm pipeline capacity from the Tennessee Gas Pipeline and liquefied natural gas (LNG), which is stored at HG&E's West Holyoke LNG Facility. Historically, the facility was developed to provide supply back-up in the event of a pipeline interruption or constraint and afford customers with the most reliable service. Currently, under peak demand HG&E's system consumes 20,000 dth of gas per day. The existing LNG facility is capable of storing approximately 16,000 dth. Existing demand is 25% greater than available storage capacity. The addition would increase storage capacity to approximately 21,000 dth, sufficient to meet existing customer demand without curtailing firm gas customers in the event of a pipeline interruption.

This project, in combination with aggressive energy efficiency programs, will allow customers to apply for natural gas service when converting from oil or propane. HG&E will evaluate each application and work closely with customers to ensure there is not a viable, cost comparable alternate solution that better positions the community to meet the State's clean energy goals.

The Process

HG&E will be bringing this potential solution to the Massachusetts Energy Facility Siting Board, which will include a public process with several opportunities for feedback and discussion. Update timelines will be posted on HG&E's website.

This project fits within our long-term clean energy goals and allows for a manageable, cost-effective transition to a cleaner future.
Visit HG&E's Clean Energy Dashboard for more information at www.hged.com.

If you have any questions or would like additional information,
please visit hged.com/LNGProject.

RATE COMPARISONS

LOWEST ELECTRIC RATE



September 2022: Residential customer consuming 500 kWh/month. Amounts shown include all discounts and use the fixed default generation supply price.

LOWEST NATURAL GAS RATE



September 2022: Residential customer consuming 28 CCF/month. Amounts shown include all discounts.





DESIGN BASIS

LNG INFRASTRUCTURE & RESILIENCY PROJECT

Holyoke, MA

*Prepared for: Holyoke Gas & Electric
File No. 5201.01
Document #: DESB-001
Revision: F
Date: 12/01/2022*

REDACTED

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REVISION LOG

REV	DATE	REVISION NOTES	BY	CHK
A	20220520	Draft issuance for prelim siting study discussions.	JDH	CJF
B	20220612	Preliminary draft issuance for discussion and information request.	JDH	-
C	20220624	Issued with Draft FEED	JDH	CJF
D	20220819	Revised and issued with FEED report.	JDH	CJF
E	20220919	Incorporated comments from client.	JDH	CJF
F	20221201	Incorporated comments from client.	JDH	CJF

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REFERENCES

- [REF 1] Policy Title: LNG Plant Operations, October 26, 2021. Holyoke Gas and Electric Department.
- [REF 2] Policy Title: Gas System Operating Procedures, October 27, 2021. Holyoke Gas and Electric Department.
- [REF 3] Shop Drawing. Outline, VWU-202, Water Heated Vaporizer, Doc #4952800 SH 1. October 7, 1998. CRYOQUIP.
- [REF 4] Performance Datasheet. Heat Exchanger Specification Sheet, Doc#9096772066, December 8, 1998. CRYOQUIP.
- [REF 5] Specification. Specification for Ethylene Glycol/Water Solution Heater, Spec No. 9830-B-100. October 9, 1998. Operations and Maintenance Manual, VOL I. Holyoke Gas and Electric.
- [REF 6] Study. LNG Plant Expansion Feasibility Study, November 10, 2021. Weston and Sampson.
- [REF 7] Specifications: Operations and Maintenance Manual, VOL I. October 9, 1998. Holyoke Gas and Electric.
- [REF 8] Policy Title: LNG Plant Inspection and Maintenance, October 25, 2021. Holyoke Gas and Electric Department.
- [REF 9] Shop Drawing, Outline, 55,000 Gallon LNG Storage Vessel, Drawing # CB-12288-L, No rev or date. (Estimated 1971-1974).
- [REF 10] Website: NOAA Atlas 14 Point Precipitation Frequency Estimates: MA: <https://hdsc.nws.noaa.gov/hdsc/pfds/>. Site accessed 6/2022.
- [REF 11] LNG Composition Analysis. GazMetro Weekly Report 20220609 Weekly, LSR Plant, Loading Stations #1 and #2 – Gas Chromatograph. June 9, 2022.
- [REF 12] 1972 Plant Specification, Specification for Supplying and Installing Two 55,000 Gallon Liquefied Natural Gas Storage Tank and Appurtenances, February 4, 1971

1.0 DESIGN BASIS SUMMARY

This design basis summarizes parameters describing the site conditions, equipment specifications, and process stream constituents specific to Holyoke Gas & Electric's (HG&E) LNG peak shaving facility (Facility) located in Holyoke, Massachusetts. The objective of this design basis is to identify the critical parameters necessary to perform a front-end engineering and design study (FEED) to implement additional LNG storage capacity and additional vaporization redundancy. Table 1.0.1 summarizes the existing and proposed systems to communicate overall Facility capacities and planned redundancy.

Table 1.0.1: Existing and Proposed Systems Overview			
Parameter	Units	Existing	Proposed
LNG Storage			
Facility LNG Storage Capacity, Gross [Note 1]	<i>GAL</i>	220,000	290,000
Facility LNG Storage Capacity, Net [Note 1]	<i>GAL LNG</i>	200,000	266,500
Number of Tanks	<i>QTY</i>	4	5
LNG Vaporization			
Facility LNG Vaporization Capacity, Rated	<i>MSCFH NGV</i>	750	750
Facility LNG Vaporization Capacity, Capability	<i>MSCFH NGV</i>	750	1,000 [Note 2]
Number of Vaporizers	<i>QTY</i>	1	2
Vaporization Redundancy	-	None	n + 1
LNG Tank Pressure Build Coils			
Number of Pressure Build Coils	<i>QTY</i>	1	2
Vaporization Support Capacity	<i>MSCFH</i>	500 MSCFH	1,250 MSCFH
Pressure Build Coil Redundancy	-	None	n + 0.7 [Note 3]
Glycol Heaters			
Quantity of Heaters	<i>QTY</i>	4	4
System Heat Output, Rated	<i>MMBTUH</i>	14.5	24 – 24.5 [Note 4]
Heater Redundancy for Vaporization (Rated)	-	None	n + 1 [Note 5]
Glycol Pumps, Primary Loop [Note 6]			
Pump Quantity & Capacity	-	2 @ 800 GPM ea.	4 @ 370 GPM ea.
Redundancy	-	n + 1	n + 1
Notes: <ol style="list-style-type: none"> Gross and net volume of the proposed tank is assumed to be 70,000 and 66,500 gallons, respectively, where net volume is estimated at a typical 95% maximum liquid fill to trycock. Refer to Table 5.1.1 for actual volumes from a standard manufacturer tank offering. Actual tank volume to be determined during final design and coordinated with final tank vendor selection. 1,000 MSCFH is a force majeure event. Normal design sendout capacity is 750 MSCFH. Redundancy figure assumes 100% uptime of the new pressure build coil. Pending final heater selection, heat output range based on Unilux and Fulton offerings. n + 1 redundancy provided during force majeure event. Capacity of <u>existing</u> standby pump not included (1 @ 380 GPM ea.) 			

Please note, where 'Rating Case' is specified, the system will be designed to the rating case. The system shall be capable of running continuously throughout any other ranges specified with potential performance impacts.

2.0 CODES & STANDARDS

Codes and standards incorporated by reference into the standards listed below shall also apply, not all are listed. Unless otherwise noted, the most recent edition of the referenced standards shall apply.

Table 2.0.1: Codes and Standards		
Code	Title	Incorporated
49 CFR Part 193	<u>Liquefied Natural Gas Facilities: Federal Safety Standards (Latest Edition)</u>	Federal
PHMSA FAQ's	<u>Pipeline and Hazardous Materials Safety Administration, Frequently Asked Questions (July 25, 2017)</u>	Federal
NFPA 59A	<u>Standard for Production, Storage, and Handling of Liquefied Natural Gas (LNG) (2001 & 2006 Editions^[Note 1])</u>	49 CFR Part 193
ASME BPVC, Sect. VIII, Division 1	<u>Rules for Construction of Pressure Vessels (2007 Edition)</u>	49 CFR Part 193
ASME B31.3	<u>American Society of Mechanical Engineers, Process Piping, ASME Code for Pressure Piping (Latest Ed)</u>	NFPA 59A
NFPA 10	<u>Standard for Portable Fire Extinguishers (1998 Ed) - (2013 Ed per 780 CMR)</u>	NFPA 59A
NFPA 17	<u>Standard for Dry Chemical Extinguishing Systems (1998 Ed) - (2013 Ed per 780 CMR)</u>	NFPA 59A
NFPA 22	<u>Standard for Water Tanks for Private Fire Protection (1998 Ed) - (Ed not specified in 780 CMR)</u>	NFPA 59A
NFPA 101	<u>Life Safety Code (2000 Ed) - (2015 Ed per 780 CMR)</u>	NFPA 59A
220 CMR 101	<u>Massachusetts Natural Gas Pipeline Safety Code (Latest Ed)</u>	State
220 CMR 112	<u>Design, Operation, Maintenance and Safety of Liquefied Natural Gas (LNG) Plants and Facilities (Latest Ed)</u>	State
527 CMR 12	<u>Massachusetts Electrical Code (Amendments) (Latest Ed). Based on NFPA 70 (2020 Ed).</u>	State
780 CMR	<u>Ninth Edition of the MA State Building Code (Latest Ed). Based on International Building Codes (2015 Editions).</u>	State
980 CMR 10	<u>Siting of Intrastate Liquefied Natural Gas Storage (Latest Ed).</u>	State
IBC	<u>International Building Code (2015 Ed with amendments)</u>	780 CMR
IMC	<u>International Mechanical Code (2015 Ed with amendments)</u>	780 CMR
IPC	<u>International Plumbing Code (2015 Ed with amendments)</u>	780 CMR
IFC	<u>International Fire Code (2015 Ed with amendments)</u>	780 CMR
ASCE 7-16	Design Loads, American Society of Civil Engineers	527 CMR 12
General Notes: A. Where edition is noted as "Latest Ed", edition utilized for this project is as of 5/12/2022. Notes: 1. Incorporation of the NFPA 59A 2006 Edition only applies to seismic design of field fabricated containers.		

3.0 SITE INFORMATION AND AMBIENT DESIGN CONDITIONS

Table 3.0.1: Ambient Conditions		
Condition	Value	Reference
Location		
Project Location	Holyoke, Massachusetts	N/A
Elevation	277 feet	Google Earth
Latitude	42°11'21.52"N (42.17264°)	
Longitude	72°40'59.72"W (72.68326°)	
Atmospheric Pressure	14.7 PSIA (average)	Assumed
Temperature		
Ambient Temperature, Rating Case	-11 °F DB	Assumed, ASHRAE 2017 Fundamentals[Note 1]
Ambient Temperature, Max Rating Case	99 °F DB	Refer to FEED Report for historical data record from the site.
Ambient Temperature, Min/Max	1.0 °F DB / 91.1 °F DB	ASHRAE 2017 Fundamentals[Note 1]
Hottest Month	July	
Design Cooling Temperature	91.1 °F DB / 72.3 °F MCWB	
Coldest Month	January	
Relative Humidity	0%-100%	Assumed
Precipitation & Flooding		
Average Annual Precipitation	48.9 inches	ASHRAE 2017 Fundamentals[Note 1]
Maximum 1 Hour Rainfall, 100-year	2.75 inch/hour	2015 IPC
Rainfall Rate for Impoundment Design	1.73 inch/hour (100%)	[Ref 10] per 49 CFR 193.2173(b)
Rainfall Rate for Stormwater Design	Refer to stormwater evaluation.	
Design Snow Load	35 lb/ft²	780 CMR Chapter 16
Flood Zone Definition	None	Not identified as area within FEMA National Flood Hazard [Note 2]
Ground Water Level	Below 259' Elevation	EVAL-003
Wind		
Sustained Wind Speed	150 mph	49 CFR 193.2067(b)(2)(i)
3-Second Wind Gust	183 mph	PHMSA FAQs, Design, D1
Seismic		
Site Classification	D	EVAL-003
Risk Category	III	
S _s	0.172g	
S ₁	0.065g	
S _{D5}	0.183g	
S _{D1}	0.105g	
Noise		
Max Allowable Equipment Noise	85 dBA@ 3 ft (outside)	Assumed
Notes:		
1. Site data from Westfield-Barnes Airport and based on 99.6 percentile for design min temperature and 0.04 percentile for design maximum temperature, and extreme annual temperature for n = 5 year recurrence interval.		
2. As determined from: https://maps.massgis.state.ma.us/MassMapper		

4.0 FLUID AND GAS PROPERTIES

4.1 LNG Composition

Table 4.1.1: LNG Composition		
Constituent	Design ^[Note 1] Rating Case	Off-Spec ^[Note 2]
Specific Gravity	0.437	0.47
Molecular Weight	16.80	18.48
Methane (mole %)	94.766	84.000
Ethane (mole %)	4.715	14.700
Propane (mole %)	0.156	1.200
i-Butane (mole %)	0.010	0.040
n-Butane (mole %)	0.010	0.040
i-Pentane (mole %)	0.000	0.000
n-Pentane (mole %)	0.000	0.000
CO ₂ (mole %)	0.039	0.000
Nitrogen (mole %)	0.296	0.020
Notes: <ol style="list-style-type: none"> From [REF 11]. Specific gravity is calculated from the measured density of LNG. NFPA 59A 4.1.2.7 identifies 29.3 lbs/ft³ to be considered in the design. The off-spec case covers this requirement. 		

5.0 PROPOSED SYSTEMS AND EQUIPMENT

5.1 Proposed Storage Tank (T-104)

Table 5.1.1: Proposed LNG Storage Tank (T-104)		
Condition	Value	Reference
General Information		
Quantity of tanks	One	-
Type	Horizontal, vacuum jacketed	-
Manufacturer	CHART or Approved Vendor	-
Nominal Volume	70,000 Gallons	[Note 1]
LNG Tank Information (Inner Vessel)		
Maximum Specific Gravity of Liquid	0.47	NFPA 59A §4.1.2.7
Maximum Depth of Liquid (Trycock)	125" from base of saddle	Vendor Correspondence
Maximum Water Level	Vendor to Provide	-
Capacity at Trycocks (LNG) (Net Vol.)	69,806 gallons	Vendor Quote [Note 1, 2]
LNG Tank MAWP	150 psig with full vacuum	-
LNG Tank Design Temperature	-320°F to 120°F	-
Total Internal Volume (Gross Vol.)	73,480 Gallons	Vendor Quote [Note 1]
Inner Shell Material	SA-240 304 Stainless Steel	Vendor Quote
Diameter	134 inches	Vendor Quote
Minimum Heel	10% of internal volume	Vendor Correspondence
LNG Tank Information (Outer Vessel & Total Assembly)		
Diameter	12' 6" (150 inches)	Vendor Quote
Length	110 feet 6 inches	Vendor Quote
Outer Shell Material	SA-36 Carbon Steel	Vendor Quote
Weight (Empty)	141,900 lbs	Vendor Quote
Weight (Full)	400,414 lbs	Vendor Quote
LNG Tank Operational Information		
LNG Tank Normal Operating Pressure Range (Vapor Space)	125 – 130 PSIG	[REF 1]
Minimum Depth of LNG	Vendor to Provide	-
Boiloff Rate	0.10% of tank contents/day	Vendor Quote
Boiloff Gas Flow, Maximum	0.24 MSCFH	[Note 3]
Boiloff Operating Pressure Range	125 – 130 PSIG	[REF 1]
Tank Maximum Liquid Inlet Flow	300 GPM	-
Maximum Liquid Outlet Flow	150 GPM	Design Flow Requirement (Nozzle not limiting)
Notes:		
<ol style="list-style-type: none"> Gross and net volume are subject to change pending the final tank vendor. For purposes of this Front-End Engineering Study, the gross volume will be reported as the nominal volume listed in this table. Trycock of new tank shall be installed at the same elevation of the trycocks of the existing array. Maximum BOG rate estimated assuming full to trycock capacity. 		

5.2 Proposed LNG Tank Pressure Build Coil (HE-401)

Table 5.2.1: Proposed Pressure Build Coil (HE-401)		
Condition	Value	Reference
Nameplate		
Manufacturer	CHART or approved equal	-
Quantity	1	-
Type	Standalone Horizontal, Free Convection	-
Model	TF3215A-HF-PBH	-
Material of Construction	Aluminum	-
Mounting	Separate Concrete Foundations	-
Dimensions and Weights		
Inlet/Outlet Connection	2"/3" ANSI Class 150, RFFE Inlet/Outlet	-
Dry Weight	1,370 lbs	-
Fully Iced Weight	16,634 lbs	-
Overall Dimensions	200" L x 75" W x 52" H	-
Ratings and Performance		
Vaporization Support Capacity	Sized to maintain 135 PSIG system pressure at vaporization rate of 750 MSCFH	-
Pressure Build Coil Design Liquid Inlet / Outlet Flow	1,343 lb/hr (7.1 GPM LNG inlet / 1.4 MSCFH gas outlet)	-
MAWP	150 PSIG	-

5.3 Proposed LNG Vaporizers (HE-600A, HE-600B)

Table 5.3.1: Proposed LNG Vaporizers (HE-600A, HE-600B)			
Condition	Value		Reference
General			
Manufacturer	Chicago Process and Power, or approved equal		-
Vaporizer Rating	750 MSCFH Natural Gas		-
Orientation	Vertical		-
Assembly Ratings	Shell (Water Glycol)	Tubes (LNG)	-
Fluid	40%/60% P.Glycol/Water	LNG	[Note 2]
Flow	205,700 lb/hr	33,320 lb/hr	-
Temperature (in/out)	180 °F / 110 °F	-260 °F / 70 °F	-
Inlet Pressure, Rating Case	50 PSIG	100 PSIG	[Note 1]
Pressure Drop	7 - 15 PSIG	4 PSIG	[Note 1]
# Passes	One	One	-
MAWP	150 PSIG @ 220 °F	275 PSIG @ 220°F	[Note 1]
MDMT	-320 °F @ 150 PSIG	-320 °F @ 275 PSIG	[Note 1]
Inlet Connection	8" RFWN Flange, ANSI 150	3" RFWN Flange, ANSI 300	[Note 1]
Outlet Connection	8" RFWN Flange, ANSI 150	8" RFWN Flange, ANSI 300	[Note 1]
Materials	304 SS	304 SS	-
Notes:			
1. Meets or exceeds specification of existing V-100.			
2. Propylene Glycol component is Cryo-tek-100/Al by Hercules Chemical Company, of Passic, NJ: www.herchem.com .			

5.4 Proposed Glycol Heaters (H-700A, H-700B, H-700C, H-700D)

Table 5.4.1: Proposed Glycol Heaters (H-700A, H-700B, H-700C, H-700D)			
Condition	Unilux	Fulton	Notes
General Information			
Manufacturer/Model	Unilux	Fulton	[Note 1]
Model	ZF 700WEG-OD	Alliance HC 0600	[Note 1]
Quantity	4	4	-
Single Unit Turndown	8:1	Full Modulation	-
Total Array Turndown	32:1	Full Modulation	-
Fuel Supply Pressure	1-7 PSIG		-
Thermal Input/Output			
Thermal Input (Per Heater)	7,235 MBTU/hr	8,000 MBTU/hr	[Note 2]
Thermal Output (Per Heater)	6,150 MBTU/hr	6,000 MBTU/hr	[Note 2]
Minimum Efficiency	85%	75%	[Note 2]
Electrical Requirements			
Blower Horsepower	7.5 HP	7.5 HP	-
V/PH/HZ	480V / 3 PH / 60 Hz		-
Controls	120V / 1 PH / 60 Hz		-
Dimensions			
Water/Glycol Connection	5"	4"	-
Weight (Shipped)	10,000 lbs	9,500 lbs	[Note 3]
Weight (Operating)	11,820 lbs	11,000 lbs	-
L x W x H	200" L x 52" W x 95" H	170" L x 81 W x 78" H	[Note 4]
Process Conditions (At Rated Thermal Output)			
Working Fluid	40% Propylene Glycol / 60% Water		-
Design Inlet / Outlet Temperatures	145 °F / 180 °F		-
Design Delta T	35 °F		-
Minimum Flow Rate (Per Heater)	By Vendor	370 GPM	-
dP Across Heater	2 FT	By Vendor	-
Notes:			
1. Or approved equal.			
2. Values are not indicative of performance with high efficiency burners or performance at the ambient temperature rating case and system design loads.			
3. Weight of Unilux unit does not include outdoor enclosure or appurtenances ie. space heaters and enclosure lighting.			
4. Dimensions for Unilux unit do not include enclosure for outdoor installation.			

5.5 Proposed Glycol Pumps (P-701A, P-701B, P-701C, P-701D)

Table 5.5.1: Proposed Glycol Pumps (P-701A, P-701B, P-701C, P-701D)		
Condition	Value	Reference
General Information		
Manufacturer/Model	Armstrong / 4300 Series 6 x 6	Or approved equal.
Type	Split Coupled Vertical In-Line	-
Inlet & Outlet Connections	ANSI Class 125, 6"	-
Pump		
Rated Flow	370 GPM	-
Rated Head	85 FT	[Note 1]
NPSHR	5.3 FT	-
Impeller Diameter	9.4"	-
Motor		
HP	15 HP	-
Brake HP	10.8 BHP	-
RPM	1800	-
V / PH / Hz	460 / 3 / 60	-
Notes:		
1. Estimated and pending final heater selection.		

5.6 Proposed Air Compressor System

Table 5.6.1: Proposed Air Compressor System		
Condition	Value	Reference
Compressors, General Information		
Manufacturer/Model	Ingersoll Rand / R11n-145 (or Equivalent)	Or approved equal.
Quantity	Two	-
Redundancy	100%	-
Type	Oil Filled Screw	-
Rated Pressure, Flow	115 PSIG / 52 SCFM	-
Drive / Power	Variable Speed Electric / 15 HP	-
V / PH / Hz	480 V / 3PH / 60Hz	-
Dryers, General Information		
Manufacturer/Model	Ingersoll Rand / DA100IM (or Equivalent)	Or approved equal.
Quantity	Two	-
Redundancy	100%	-
Type / Dew Point	Desiccant / -40 °F DP	-
Rated Pressure, Flow	203 PSIG / 59 SCFM	-
Power	0.3 HP	-
V / PH / Hz	115 V / 1 PH / 60 Hz	-
Air Receiver, General Information		
Quantity	Two (one dry, one wet)	-
Volume	400 gallon, each	-
Pressure Rating	200 PSIG	-

5.7 Proposed Piping and Insulation Specification

Table 5.7.1: Proposed Piping and Insulation Specification		
Condition	Value	Reference
<u>Pipe and Insulation for Cryogenic Liquid, Cryogenic Gas (-20 °F and below) and Select Warm Gas (-20 °F and above), including: LNG, LNGV, Cold Boiloff, Natural Gas Vapor Sendout</u>		
Piping Flange Class	ANSI CLASS 300, ASME B16.5	-
Piping Schedule, 1 ½" and smaller	SCH 80	-
Piping Schedule, 2" and larger	SCH 40	-
Piping Material	ASTM A312-TP 304, SEAMLESS	-
Fittings, 1 ½" and smaller	Socket Weld, Class 3000	-
Fittings, 2" and larger	Butt Weld, SCH 40	-
Insulation, 1 ½" pipe and smaller	3" thickness, polyisocyanurate with vapor barrier and SS jacket	-
Insulation, 2" pipe and larger	3 ½" thickness, polyisocyanurate with vapor barrier and SS jacket	-
<u>Pipe and Insulation for Natural Gas (-20°F and above) including: Warm Boiloff Gas, Fuel Gas</u>		
Piping Flange Class	ANSI CLASS 300, ASME B16.5	-
Piping Schedule, 1 ½" and smaller	SCH 80	-
Piping Schedule, 2" and larger	SCH 40	-
Piping Material	ASTM A106 Grade B, SEAMLESS	-
Fittings, 1 ½" and smaller	Socket Weld, Class 3000	-
Fittings, 2" and larger	Butt Weld, SCH 40	-
Insulation	None	-
<u>Pipe and Insulation for all Glycol Systems</u>		
Flange Class, Piping	ANSI CLASS 150, ASME B16.5	-
Flange Class, Cast Equipment	ANSI CLASS 125, ASME B16.1	-
Piping Schedule, 1 ½" and smaller	SCH 80	-
Piping Schedule, 2" and larger	SCH 40	-
Piping Material	ASTM A106 Grade B SEAMLESS / A53 ERW	-
Fittings, 1 ½" and smaller	Socket Weld, Class 3000	-
Fittings, 2" and larger	Butt Weld, SCH 40	-
Insulation	2" thickness, closed cellular glass with SS jacket	-
<u>General Notes:</u>		
A. Specification to be further developed in the detailed design phase. Where 'and larger' and 'and smaller' is cited, specification only valid for pipe within this project's scope - refer to P&ID for pipe sizes.		

6.0 EXISTING SYSTEMS AND EQUIPMENT

6.1 Existing LNG Storage Tanks (T-100, T-101, T-102, T-103)

Table 6.1.1: Existing LNG Storage Tanks (T-100, T-101, T-102, T-103)		
Condition	Value	Reference
General Information		
Quantity of tanks	Four	Site Observation
Type	Horizontal, vacuum jacketed	Site Observation
Manufacturer	Process Engineering, Inc.	Equipment Nameplates
Weight, Empty	146,000 lbs	[REF 9]
Weight, Full (LNG)	342,000 lbs	[REF 9]
LNG Tank Information (Inner Vessel)		
Maximum Specific Gravity of Liquid	0.47	Equipment Nameplates
Maximum Depth of Liquid (Trycock)	97.4 inches [Note 1]	Equipment Nameplates
Maximum Water Level	50.0 inches [Note 1]	Equipment Nameplates
Capacity at Trycocks	50,000 Gallons LNG (4,200 MCF)	Equipment Nameplates
Total Internal Volume	55,000 Gallons	[REF 6]
LNG Tank MAWP	150 PSIG	[REF 1]
LNG Tank Design Temperature	-320°F to 100°F	[REF 1]
Inner Shell Material	Aluminum	[REF 1]
Diameter	9'6"	9" annular gap cited [REF 9]
Minimum Heel	2.0 IWC	[REF 2, Page 8] [Note 2]
LNG Tank Information (Outer Vessel)		
Diameter	11 feet	[REF 1]
Length	109 feet 6 inches	[REF 1]
Outer Shell Material	Carbon Steel	[REF 1]
LNG Tank Operational Information		
LNG Tank Normal Operating Pressure Range (Vapor Space)	125 – 130 PSIG	[REF 1]
LNG Tank Operating Pressure, Rating Case	125 PSIG	Assumed
Minimum Depth of LNG	2 inches w.c. [Note 2]	[REF 2]
Boiloff Rate, Rating Case	1.04 % of tank contents/day	[Note 3]
Boiloff Gas Flow (Maximum estimated flow, all existing tanks)	7.1 MSCFH	[Note 3]
Boiloff Operating Pressure Range	125 – 130 PSIG	[REF 1]
Tank Maximum Liquid Inlet Flow	225 GPM	[Note 4, 6]
Maximum Liquid Outlet Flow	150 GPM	[Note 5, 6]
Notes:		
<ol style="list-style-type: none"> Depth per T-102 and T-103 nameplates. Add 0.4" for T-100 and T-101. Can no longer support vaporization process at this fluid level. Estimated at 99°F ambient temperature from historical BOG data analysis and averaged from boiloff flows measured from entire existing tank array during summer periods of holding mode. Estimate based on P-500 performance (3" bottom and top fill nozzles). Estimate based on vaporization requirements (2" LNG outlet nozzle into 2" piping). Rating not available in existing documentation. 		

6.2 Existing Pressure Build Coil (HE-400)

Table 6.2.1: Existing Pressure Build Coil (HE-400)		
Condition	Value	Reference
General Information		
Manufacturer	Process Engineering, Inc.	DWG CB-05271-U
Quantity	2 Coils in Parallel	Field Condition
Type	Forced Convection	Field Condition
Material	Aluminum	Field Condition
Mounting	Tank-Side-Mount	Field Condition
Dimensions		
Inlet / Outlet Connection Size	2" ANSI Class 150 Flange	Field Condition
Ratings & Performance		
Vaporization Support Capacity	Sized to maintain system pressure at vaporization rate of 500 MSCFH. System.	[REF 12] [Note 1]
Pressure Build Coil Design Liquid Inlet/Gas Outlet Flow	867 lb/hr (4.7 GPM LNG inlet / 0.83 MSCFH gas outlet)	Calculated
MAWP	150 PSIG	Assumed
Notes:		
1. Typical system operating pressure not stated in [REF 12] but 135 PSIG is assumed. Operations reported system pressure may decrease to 90 PSIG on startup of vaporization but is increased via pressure build to normal operating pressure. Refer to LNG Tank Normal Operating Pressure Range.		

6.3 Existing LNG Vaporizer (V-100)

Table 6.3.1: Existing LNG Vaporizer (V-100)				
Condition		Value		Reference
Nameplate				
Model		VWU-202		Equipment Nameplate
Vaporization Rating		750 MSCFH Natural Gas		Equipment Nameplate
Orientation		Horizontal		Field Condition
Assembly Ratings		Shell (Water Glycol)	Tubes (LNG)	-
Fluid		40% Propylene Glycol	LNG	Field Condition
Flow		400,000 lb/hr	33,320 lb/hr	[REF 4]
Flow		800 GPM	-	Alternate Units
Temperature (in/out)		180°F / 145°F	-260°F / 50°F	[REF 4]
Inlet Pressure		Not Specified	100 PSIG	[REF 4]
Pressure Drop		7 PSIG	4 PSIG	[REF 4]
# Passes		1	2	[REF 4]
MAWP		150 PSIG @ 220 °F	275 PSIG @ 220°F	Equipment Nameplate
MDMT		-40 °F @ 150 PSIG	-320 °F @ 275 PSIG	Equipment Nameplate
Inlet Connection		8" RFWN Flange ANSI Class 150	3" RFWN Flange ANSI Class 300	[REF 3]

Table 6.3.1: Existing LNG Vaporizer (V-100)

Condition	Value		Reference
Outlet Connection	8" RFWN Flange ANSI Class 150	8" RFWN Flange ANSI Class 300	[REF 3]
Materials	304 SS	304 SS	[REF 3]
Assembly Parts			
Serial Number	49528-1	49528-1	Equipment Nameplate
Part Number	None	4952801-1	Equipment Nameplate
Year Built	1998	1998	Equipment Nameplate

6.4 Existing LNG Offload Pump (P-500)

Table 6.4.1: Existing LNG Offload Pump (P-500)

Condition	Value	Reference
General Pump Information		
Make / Model / Size	ACD / AC30 / 2 x 4 x 13	Equipment Nameplate
Service Fluid	LNG	Equipment Nameplate
Impeller Dia	12.5 in	Equipment Nameplate
Case Material	Bronze	Equipment Nameplate
Test Pressure	860 PSIG	Equipment Nameplate
Date of MFG	12/9/2016	Equipment Nameplate
Pump Ratings		
Capacity	225 GPM	Equipment Nameplate
Head	664 Feet	Equipment Nameplate
Power	27.6 HP	Equipment Nameplate
NPSHR	5 feet	Equipment Nameplate
Suction Pressure	10 PSIG	Equipment Nameplate
Discharge Pressure	132 PSIG	Equipment Nameplate
Max Suction Pressure	100 PSIG	Equipment Nameplate
Motor Ratings		
HP	40	Equipment Nameplate
V / Hz / Phase	230-460 / 60 / 3	Equipment Nameplate
Amps	88.5 / 44.3	Equipment Nameplate
RPM	3550	Equipment Nameplate
kW	30	Equipment Nameplate
Type	Explosion Proof High Efficiency, TEFC	Equipment Nameplate
Typical Tanker Size		
Typical Tanker Offload Volume	10,000 Gallons LNG	[REF 2, Page 4]
Typical Tanker Pressure Range	10 PSIG – 70 PSIG	Assumed
Tanker Pressure & Temperature During Delivery, Rating Case	15 PSIG @ -240 °F	Assumed

6.5 Existing Boiloff Gas Heater (HE-300)

Table 6.5.1: Existing Boiloff Gas Heater (HE-300)		
Condition	Value	Reference
General Information		
Manufacturer	Process Engineering, Inc.	Equipment Nameplate
Quantity	1	Field Condition
Model Number	AVA 270000	Equipment Nameplate
Serial Number	C29274	Equipment Nameplate
Manufacturing Year	1974	Equipment Nameplate
Dimensions		
Inlet / Outlet Connection Size	2" ANSI Class 150 Flange	DWG 2-74-8
Ratings & Performance		
MAWP	150	Equipment Nameplate
Capacity	27,000 SCFH	Equipment Nameplate
Ambient Design Temperature	Information not available.	-
Design Inlet / Outlet Temperature	Information not available.	-
General Notes:		
A. Referred to as "Warmup Coil" on existing facility drawings.		

6.6 Existing Glycol Heaters (BL-100a, BL-100b, BL-100c, BL-100d)

Table 6.6.1: Existing Glycol Heaters (BL-100a, BL-100b, BL-100c, BL-100d)		
Condition	Value	Reference
General Information		
Manufacturer/Model	Teledyne Laars / HH-4500 Outdoor	[REF 5]
Quantity	4	Field Condition
Single Unit Turndown	50%	[REF 5]
Total Array Turndown	4 Stage (25%, 50%, 75%, 100%)	[REF 5]
Fuel @ Pressure	Natural Gas @ 7 to 9 IWC	[REF 5]
Thermal Input		
Thermal Input (Per Heater)	4,500 MBTU/hr	[REF 5]
Thermal Output, Rated		
Thermal Output (Per Heater)	3,645 MTBU/hr	[REF 5]
Thermal Output (Train)	14,580 MBTU/hr	Calculated
Approximate Efficiency	81%	Calculated, Rated
Thermal Output, IBR Derated		
Thermal Output (Per Heater)	3,170 MTBU/hr (IBR Net Rating)[Note 1]	[REF 5]
Thermal Output (Train)	12,680 MBTU/hr	Calculated
Approximate Efficiency	70%	Calculated, IBR Derated
Dimensions		
Water/Glycol Connection	4"	[REF 5]
Weight (Shipped)	3,790 lbs	[REF 5]
L x W x H	74" L x 55" W x 72" H	[REF 5]

Table 6.6.1: Existing Glycol Heaters (BL-100a, BL-100b, BL-100c, BL-100d)		
Condition	Value	Reference
Process Conditions (At Rated Thermal Output)		
Working Fluid	40% Propylene Glycol / 60% Water	Field Condition
Design Inlet / Outlet Temperatures	145 °F / 180 °F	[REF 5]
Design Delta T	35 °F	[REF 5]
Flow Rate (Per Heater)	208 GPM	[Note 2]
Flow Rate (Train)	832 GPM	[Note 2]
Notes:		
1. Includes heat losses to the environment. 2. Per Laars brochure. [REF 5] sites 240 gpm per heater at 35°F and 180°F outlet temperature. This rating would require an efficiency of 94% which exceeds the documented ratings and IBR.		

6.7 Existing Glycol Primary Pumps (P-30a, P-30b)

Table 6.7.1: Existing Glycol Primary Pumps (P-30a, P-30b)		
Condition	Value	Reference
General Information		
Manufacturer/Model	Armstrong / 4380 Series 6x6x8	[REF 7]
Inlet & Outlet Connections	ANSI Class 125, 6"	[REF 7]
Pump		
Rated Flow	800 gpm	[REF 7]
Rated Head	41.5 feet	[REF 7]
Impeller Diameter	7 7/8"	[REF 7]
Motor		
HP	15	[REF 7]
RPM	1750	[REF 7]
V / PH / Hz	460 / 3 / 60	[REF 7]

6.8 Existing Glycol Standby Pump (P-32)

Table 6.8.1: Existing Glycol Standby Pump (P-32)		
Condition	Value	Reference
General Information		
Manufacturer/Model	Armstrong / 4380 Series 4x4x6	[REF 7]
Inlet & Outlet Connections	ANSI Class 125, 4"	[REF 7]
Pump		
Rated Flow	380 GPM	[REF 7]
Rated Head	13 FT	[REF 7]
Impeller Diameter	6 3/16"	[REF 7]
Motor		
HP	2	[REF 7]
RPM	1,800	[REF 7]

Table 6.8.1: Existing Glycol Standby Pump (P-32)		
Condition	Value	Reference
V / PH / Hz	460 / 3 / 60	[REF 7]

6.9 Existing Glycol Secondary Pumps (P-31a, P-31b, P-31c, P-31d)

Table 6.9.1: Existing Glycol Secondary Pumps (P-31a, P-31b, P-31c, P-31d)		
Condition	Value	Reference
General Information		
Manufacturer/Model	Armstrong / 4380 Series 4x4x6	[REF 7]
Inlet & Outlet Connections	ANSI Class 125, 4"	[REF 7]
Configuration	Vertical In Line	-
Pump		
Rated Flow	240 GPM	[REF 7]
Rated Head	24 FT	[REF 7]
Impeller Diameter	6 3/16"	[REF 7]
Motor		
HP	2	[REF 7]
RPM	1800	[REF 7]
V / PH / Hz	460 / 3 / 60	[REF 7]

6.10 Existing Odorant System

Table 6.10.1: Odorant System		
Condition	Value	Reference
Equipment	INJEX 7302	MEET-011
Pump Quantity	Dual	MEET-011
Flow Through	[Note 1]	-
Notes:		
1. Rated odorant supply flow rate is sufficient for flow-by rate of vaporized LNG at rating case, per MEET-011.		

6.11 Existing Distribution System Connections

Table 6.11.1: Facility Gas Distribution Connections and Conditions		
Condition	Value	Reference
80# Distribution System		
Outlet, Pressure, Rating Case	79 PSIG	Assumed [Note 1]
Outlet, Pressure Range, Holding Mode	75 PSIG – 80 PSIG	[REF 8, Page 40]
Outlet, Pressure Range, Vaporization	72 PSIG – 75 PSIG	MEET-011
Outlet, Temperature, Range	-20 °F → 100°F	Assumed [Note 2]
Outlet, System MAOP	80 PSIG MAOP	[REF 1]
Relief Valve Setpoint, 49 CFR 192	79 ± PSIG	MEET-011
Notes:		
1. High outlet pressure assumes decreases pressure drop available as motive force through LNG and gas components and is conservative.		
2. Refer to vaporizer summary for outlet temperature Rating Case .		

6.12 Existing Available Utilities

Table 6.12.1: Available Utilities		
Condition	Value	Reference
Electrical Power	480/277 VAC, 3-phase, 60 Hz 208/120 VAC, 1-phase, 60 Hz	Field Condition
Fuel Gas Pressure, Upstream of Regulator	80 PSIG ±	MEET-011
Valve Motive Force	Natural Gas (Bog Line)	Field Condition
Valve Motive Force (Alternate)	Compressed Air [Note 1]	MEET-011
Notes:		
1. A new compressed air system for instruments will be proposed as part of this FEED. Refer to previous section.		

REDACTED

REDACTED

REDACTED

Truck Unloading, Holding Mode																
Location	-	Inlet of LNG Pump, P-500	Outlet of LNG Pump, P-500	LNG Tank Fill	Pressure Build Coil Inlet	LNG Tank LNG Outlet	Pressure Build Coil Outlet	Vaporizer Inlet HE-600A	Vaporizer Inlet HE-600B	Vaporizer Outlet HE-600A	Vaporizer Outlet HE-600B	LNG Tank BOG Outlet	Inlet to HE-300, BOG Heater	Outlet of HE-300 BOG Heater	Outlet of PRV-302	Gas to Pipeline
PFD ID	-	1	2	3	4	5	6	7	8	9	10	11 [Note 1]	12	13	14	15
Fluid	-	LNG	LNG	LNG	LNG	LNG	NGV	LNG	LNG	NG	NG	NG	NG	NG	NG	NG
Pressure	PSIG	15	135	135	NA	NA	NA	NA	NA	NA	NA	130	130	125	79	79
Temperature	°F	-240	-237	-237	NA	NA	NA	NA	NA	NA	NA	-190	-190	10	6.2	6.2
Flow	MSCFH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.26	7.26	7.26	7.26	7.26
Flow	GPM	225	225	225	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Truck Unloading, Vaporization, 750 MSCFH																
Location	-	Inlet of LNG Pump, P-500	Outlet of LNG Pump, P-500	LNG Tank Fill	Pressure Build Coil Inlet	LNG Tank LNG Outlet	Pressure Build Coil Outlet	Vaporizer Inlet HE-600A	Vaporizer Inlet HE-600B	Vaporizer Outlet HE-600A	Vaporizer Outlet HE-600B	LNG Tank BOG Outlet	Inlet to HE-300, BOG Heater	Outlet of HE-300 BOG Heater	Outlet of PRV-302	Gas to Pipeline
PFD ID	-	1	2	3	4 [Note 2]	5 [Note 3]	6 [Note 7]	7 [Note 4]	8	9	10	11	12	13	14	15
Fluid	-	LNG	LNG	LNG	LNG	LNG	LNGV	LNG	LNG	NG	NG	NG	LNG	NG	NG	NG
Pressure	PSIG	15	135	135	125	125	125	115	NA	79	NA	NA	NA	NA	NA	79
Temperature	°F	-240	-237	-237	-191	-191	-132	-191	NA	70	NA	NA	NA	NA	NA	70
Flow	MSCFH	NA	NA	NA	NA	NA	30.3	NA	NA	750	NA	NA	NA	NA	NA	750
Flow	GPM	225	225	225	7.06	175	NA	175	NA	NA	NA	NA	NA	NA	NA	NA

Truck Unloading, Vaporization, 1000 MSCFH																
Location	-	Inlet of LNG Pump, P-500	Outlet of LNG Pump, P-500	LNG Tank Fill	Pressure Build Coil Inlet	LNG Tank LNG Outlet	Pressure Build Coil Outlet	Vaporizer Inlet HE-600A	Vaporizer Inlet HE-600B	Vaporizer Outlet HE-600A	Vaporizer Outlet HE-600B	LNG Tank BOG Outlet	Inlet to HE-300, BOG Heater	Outlet of HE-300 BOG Heater	Outlet of PRV-302	Gas to Pipeline
PFD ID	-	1	2	3	4 [Note 2]	5 [Note 3]	6 [Note 7]	7 [Note 4]	8 [Note 4]	9	10	11	12	13	14	15
Fluid	-	LNG	LNG	LNG	LNG	LNG	LNGV	LNG	LNG	NG	NG	NG	NG	NG	NG	NG
Pressure	PSIG	15	135	135	125	125	125	115	115	79	79	NA	NA	NA	NA	79
Temperature	°F	-240	-237	-237	-191	-191	-132	-191	-191	70	70	NA	NA	NA	NA	70
Flow	MSCFH	NA	NA	NA	NA	NA	40.5	NA	NA	500	500	NA	NA	NA	NA	1000
Flow	GPM	225	225	225	9.41	233	NA	116.5	116.5	NA	NA	NA	NA	NA	NA	NA

Glycol Balance during Vaporization, 750 MSCFH												
Location	-	Vaporizer Inlet HE-600A	Vaporizer Outlet HE-600A	Vaporizer Inlet HE-600B	Vaporizer Outlet HE-600B	Primary Loop Htr Return	Branch Heater Inlet	Branch Heater Outlet	Primary Loop Htr Supply	DPCV-700	Branch Vaporizer Supply	Branch Vaporizer Return
PFD ID	-	G1	G2	G3	G4	G5 [Note 5]	G6 [Note 6]	G7 [Note 6]	G8 [Note 5]	G9	G10	G11
Fluid	-	40/60 G/W	40/60 G/W	NA	NA	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W
Pressure	PSIG	73	58	NA	NA	50	50	76	76	76	76	50
Temperature	°F	180	110	NA	NA	145	370	370	180	180	180	110
Flow	GPM	411	411	NA	NA	821	370	370	821	410	411	411

Glycol Balance during Vaporization, 1000 MSCFH												
Location	-	Vaporizer Inlet HE-600A	Vaporizer Outlet HE-600A	Vaporizer Inlet HE-600B	Vaporizer Outlet HE-600B	Primary Loop Htr Return	Branch Heater Inlet	Branch Heater Outlet	Primary Loop Htr Supply	DPCV-700	Branch Vaporizer Supply	Branch Vaporizer Return
PFD ID	-	G1	G2	G3	G4	G5 [Note 5]	G6 [Note 6]	G7 [Note 6]	G8 [Note 5]	G9	G10	G11
Fluid	-	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W	40/60 G/W
Pressure	PSIG	71	64	71	64	50	50	76	76	76	76	50
Temperature	°F	180	110	180	110	145	145	180	180	145	180	110
Flow	GPM	274	274	274	274	1098	370	370	1098	550	548	548

Notes:

1. BOG rate shown is all tanks with 0.24 MSCFH produced by T-104 and existing tank array producing 7.02 MSCFH.

2. Flow rate is total required of the pressure build system to support design sendout.

3. Flow rate is total required of the tank array to support design sendout.

4. 10 PSI pressure drop assumed between outlet of LNG tank and inlet of LNG flow control valve.

5. Minimum allowable flow is listed. Bypass flow may increase pending staging of heaters and pump drive type.

6. Maximum flow through heater listed. Heaters and pumps to stage on and off as required to meet or exceed Stream G5 and Stream G8 flow rate.

7. Duty split between both pressure build coils.

REVISOR

JDH

REVISED FOR FEED REPORT

DATE

10/21/22

E

DESIGNER

JJS

ISSUED FOR FEED REPORT

DATE

8/19/22

D

CHECKER

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C

PROJECT MGR.

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DATE

06/10/2022

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PROJECT MGR.

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DRAFT ISSUE FOR SITING STUDY

DATE

05/20/2022

A

DESCRIPTION

BR

SANBORN

HEAD

H&E

EMPOWERING YOUR WORLD

DRAWN BY: JJS

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LNG INFRASTRUCTURE & RESILIENCY PROJECT

HOLYOKE GAS & ELECTRIC

WEST HOLYOKE LNG FACILITY

HOLYOKE, MASSACHUSETTS

PROCESS FLOW DIAGRAM

HEAT & MASS BALANCE

PROJECT NUMBER:

5201.01

SHEET NUMBER:

N-PFD-00-02

FIRE STUDY

LNG INFRASTRUCTURE & RESILIENCY PROJECT

Holyoke, MA

*Prepared for HG&E
File No. 5201.01
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Date: 10/24/2022*

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REVISION LOG

REV	DATE	REVISION NOTES	BY	CHK
A	6/24/2022	Draft issuance to support draft FEED submittal	CJF	-
B	8/19/2022	Updated and Issued with FEED submittal to HGE	CJF	JDH
C	9/2/2022	Updated to incorporate client comments	CJF	JDH
D	10/24/2022	Updated to incorporate client comments	JDH	CJF

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REFERENCES

[Reference 1]	5201.01_DESB-001, Design Basis for HG&E FEED, LNG Facility Reliability Project, August 2022
[Reference 2]	West Holyoke LNG Facility, Holyoke, MA - Fire Study and Prevention Plan, September 2022
[Reference 3]	02203-RP-001, Preliminary Siting Analysis, Holyoke Gas and Electric, LNG Infrastructure & Resiliency Project, Revision B, August 2022 [Blue Engineering and Consulting]
[Reference 4]	LNG Plant O&M Manual, Holyoke Gas and Electric Department, October 26, 2021
[Reference 5]	02203-RP-002, Preliminary Siting Analysis – 980 CMR 10.00, Holyoke Gas and Electric, LNG Infrastructure & Resiliency Project, Revision B, August 2022 [Blue Engineering and Consulting]
[Reference 6]	D-HM-0104-01 through 03, N-HM-0104-01 through 03 Hazard Detection and Mitigation Plan, Partial Site Plan Drawings, LNG Infrastructure and Resiliency Project

APPENDICES

Appendix A	220 CMR 112.00 Compliance Checklist
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1.0 EXECUTIVE SUMMARY

Holyoke Gas & Electric (HG&E) owns and operates a Liquefied Natural Gas (LNG) peak shaving facility (Facility) that supports its natural gas distribution system during periods of high system gas demand. The Facility was initially constructed with two storage tanks in 1971 and two additional storage tanks were installed in 1974. A single, shell-and-tube LNG vaporization system was installed in 1998 to replace the original vaporizers.

HG&E intends to upgrade the LNG storage and vaporization systems at the Facility to provide redundancy and increase the reliability of gas supply to its customers (Project). The proposed Project scope includes:

- Installation of one new LNG storage tank to supplement the existing four LNG storage tanks.
- Replacement of the existing shell-and-tube vaporizer, and installation of a redundant LNG shell-and-tube vaporizer. The design capacity of the Facility is unchanged by the Project.
- Replacement of the existing hot-water-glycol system that supplies heating to the LNG vaporizer(s).
- Associated upgrades to controls, utility, and hazard mitigation systems in support of the proposed modifications.

This Fire Study and Prevention Plan (Fire Study) evaluates the Facility changes proposed by the Project in accordance with federal and state regulatory requirements associated with fire protection at LNG Facilities. It provides recommendations for those items to be included in the final, detailed design of the Project.

This Fire Study is intended to augment the existing Fire Study and Prevention Plan [Reference 2] for the Facility, and addresses those items added or modified by the Project.

2.0 PROJECT DESCRIPTION

The Project proposes to modify the existing Facility systems and equipment as described below. The Project does not change the nameplate sendout capacity of the Facility – it improves the reliability of the existing systems by increasing LNG storage, replacing aging equipment, and adding system redundancy.

2.1 LNG Storage Tank and Pressure Build System.

The Project adds one new 70,000-gallon (gross) horizontal LNG storage tank to supplement the Facility's existing four 55,000-gallon LNG storage tanks. The new tank (T-104) will be located to the North of existing tank T-103, and oriented parallel to the existing tanks. Although there are existing foundations installed and originally intended for a fifth tank in this location, these foundations will be demolished and new foundations constructed for the new tank. A new LNG pressure build heat exchanger (HE-401) will be installed adjacent to T-104.

A new spill containment with remote spill impoundment will be constructed with the new tank and pressure build exchanger, and spill containment will be independent of existing Facility impoundment systems.

2.2 LNG Vaporization Systems

The Project installs two new vertical LNG shell-and-tube vaporizers and removes the Facility's existing horizontal LNG shell-and-tube vaporizer. Each new LNG vaporizer will be rated for 750 MSCFH sendout at 79 psig, matching the existing vaporizer sendout capacity and providing 100% redundancy. The new vaporizers will be located to the north of new tank T-104, in the same general area as the existing vaporizer. Existing LNG and natural gas piping will be modified to integrate T-104 and to connect to the two new vaporizers.

The new vaporizers and modified LNG piping will be located within the new spill impoundment provided for tank T-104.

2.3 LNG Truck Unloading Systems

No changes are proposed for the existing Facility LNG truck unloading equipment or truck unloading area. The Project will install new LNG piping to connect new T-104 to existing LNG fill piping from the LNG truck unloading area.

New LNG fill piping will be located within the spill impoundment provided for tank T-104.

2.4 Water-Glycol Systems

The existing water-glycol heaters, piping, circulation pumps, and controls will be replaced with new water-glycol heating equipment. The new equipment will include natural gas-fired water-glycol heaters, circulation pumps, piping, valves, and control

instrumentation and will be located at or near the existing water-glycol equipment area.

2.5 Process Control Systems

Existing process control and hazard detection and mitigation systems will be upgraded by the Project as necessary to support the integration of the new process equipment.

- New instrumentation and control equipment will be integrated into the existing Facility PLC control system
- A new HMI providing monitoring, alarm and control function will replace the existing switches and alarm annunciation equipment in the control room.
- Facility gas and flame detection equipment will be installed as needed to monitor new or modified process areas.
- Facility instrumentation and control valves will be installed to support the new equipment.
- A new instrument air systems will be installed to provide pneumatic control in place of the existing natural gas system.

3.0 REGULATORY REQUIREMENTS

3.1 Applicable Codes and Standards – Federal

This Fire Study is intended to comply with Federal and State requirements which require each LNG facility to have a fire study and prevention plan. The U.S. Department of Transportation formerly required such a plan in the Code of Federal Regulations (CFR) Paragraph 193.2805 of 49 CFR Part 193. In March 2000, the 49 CFR 193 fire protection requirements for new plants were eliminated and the Operator was referred to the National Fire Protection Association (NFPA) requirements for fire protection contained in Chapter 9 of NFPA 59A – 1996. Fire protection requirements for existing plants were inadvertently omitted. In March 2004, the fire protection requirements for existing plants were clarified, citing Chapter 9 of NFPA 59A. The current regulation references NFPA 59A, 2001 edition for fire protection requirements at both new and old facilities. Although the current version of 49 CFR Part 193 references portions of the 2006 edition of NFPA 59A, the referenced sections do not apply to fire protection requirements.

The applicable codes utilized for this Fire Study are summarized below:

- 49 CFR 193.2801 requires each operator to provide and maintain the fire protection at LNG plants in accordance with Sections 9.1 through 9.7 and Section 9.9 of the NFPA 59A standard.
- NFPA 59A (2001), Chapter 9 provides guidance related to equipment and procedures designed to minimize the consequences from released flammable liquids and gasses. As specified in Section 9.1.2, the requirements for fire protection are determined by a site-specific analysis which evaluates:

- *The type, quantity, and location of equipment necessary for the detection and control of fires, leaks, and spills of LNG, flammable refrigerants, or flammable gases;*
- *The type, quantity, and location of equipment necessary for the detection and control of potential non-process and electrical fires;*
- *The methods necessary for protection of the equipment and structures from the effects of fire exposure;*
- *Fire protection water systems;*
- *Fire extinguishing and other fire control equipment;*
- *The equipment and processes to be incorporated within the emergency shutdown (ESD) system, including analysis of subsystems, if any, and the need for depressurizing specific vessels or equipment during a fire emergency;*
- *The type and location of sensors necessary to initiate automatic operation of the ESD system or its subsystems;*
- *The availability and duties of individual plant personnel and the availability of external response personnel during an emergency; and*
- *The protective equipment, special training, and qualification needed by individual plant personnel as specified by NFPA 600, Standard on Industrial Fire Brigades, for his or her respective emergency duties;*

3.2 Applicable Codes and Standards – State of Massachusetts

The Massachusetts Department of Public Utilities (DPU) requires, in Code of Massachusetts Regulation (CMR) 220 CMR 112.10 that all LNG plants must conform to the Federal regulations including 49 CFR Part 193, and to the State of Massachusetts regulations. Wherever there are any conflicts between the Federal and State regulations, the more stringent regulation controls.

Additionally, 220 CMR 112.40 states each LNG plant or facility shall have a written fire prevention plan which complies with 112.40 subsections and the entirety of 220 CMR 112.00. To ensure all requirements of this code are met for this Fire Study, a compliance checklist was authored based on 220 CMR 112.00. The Facility modifications to be implemented by the Project have been evaluated against the criteria in the checklist and is in Appendix A.

4.0 HAZARDS ASSOCIATED WITH LIQUEFIED NATURAL GAS

Release of cryogenic or low temperature liquid due to spills, leaks, or intentional draining can expose facility personnel to several hazards. These hazards include oxygen deficiency, freezing injuries, fire hazards, and explosive air-gas mixtures. This document will address those associated with fire detection and fire mitigation to ensure the subject facility detects and mitigates potential hazards in alignment with industry, state, and federal standards and codes. The following paragraphs discuss the hazards of natural gas as it applies to LNG facility operations.

Odor and Detection

Prior to liquefaction, the odorant must be removed as an impurity in the gas. Natural gas is an odorless gas in its purified form. When LNG is vaporized, odorant is added back into the gas prior to injecting into any distribution system for the end user. Therefore, the human sense of smell should not be relied upon to detect the presence of flammable gas at an LNG facility. Fixed and portable combustible gas detection equipment is utilized for detection of natural gas.

Burning Speed and Explosion Risk

Natural gas has low reactivity and low burning speed. Because of its narrow flammability range, unconfined clouds of natural gas generated by an outdoor leak or LNG spill present little danger of explosion. Natural gas is lighter than air and quickly dilutes beyond the lean flammability limit in an unconfined area. If ignition does occur, burning will take place along the outer edges of the natural gas cloud where flammability requirements are met. Flame speeds in unconfined natural gas clouds are about one foot per second and are below those that would produce dangerous overpressure. Therefore, an explosion is very unlikely.

Evolution of an LNG Spill to Natural Gas

Cryogenic (e.g., LNG) hydrocarbon liquids boil at sub-zero temperatures when spilled to atmospheric conditions. The rate of boiling is rapid initially but decreases as the surfaces in contact with the liquid cool. The gas generated from the evaporating liquid mixes with air to form three types of mixtures:

1. Near the surface of the liquid, the mixture of gas and air will be too rich in hydrocarbon gas to burn.
2. Away from the surface of the liquid, there is a flammable air-gas mixture. The flammable range of natural gas in air is approximately 5% to 15% by volume. Ignition of this mixture results in a flame which travels to the source of the gas.
3. The farthest distance away from the liquid surface where there is natural gas present, the mixture of natural gas and air will be too lean in hydrocarbon gas to burn.

Released gas is only safe from ignition after it has passed through the first two mixtures into the third mixture, which is too deficient (lean) in natural gas to burn.

Liquid Natural Gas Spill Indicators

As the air and cold gas mix around released LNG or cold compressed gas, atmospheric water vapor will condense to form a white cloud. A flammable air-gas mixture can exist inside or outside of the cloud. Explosion, fire, and thermal radiation hazards will exist due to this flammable air-gas mixture.

The methane in proximity to the vapor cloud will be heavier than air at temperatures of minus (-) 160°F and lower and will tend to spread out laterally along the ground rather than rise vertically. As the cloud warms above minus (-) 160°F, its density becomes less than air and the cloud will rise vertically. Natural dispersion of the cloud depends on atmospheric and wind conditions, and the rate at which the vapor is generated or released. Gas at concentrations within the upper and lower flammable limits can travel for a considerable distance.

Uncontrolled Natural Gas in Confined Areas

Natural gas presents the greatest safety risk when gas leaks or LNG spills occur in confined areas. Confinement, such as in an enclosed building, may allow flammable vapor to accumulate, increasing the risk of ignition, personnel injury, and property damage. Once ignited, pressure will build in an enclosed area; however, flame speeds decelerate rapidly beyond the boundaries of the confinement and limit the extent of potential damage and injuries. The risk of ignition in a confined space can be minimized by providing good detection and mitigation measures, including ventilation.

5.0 LNG FACILITY SITING, THERMAL RADIATION, AND VAPOR DISPERSION

49 CFR 193.2005 defines the applicability of the current code to both new and existing LNG Facilities:

§193.2005 Applicability.

- (a) Regulations in this part governing siting, design, installation, or construction of LNG facilities (including material incorporated by reference in these regulations) do not apply to LNG facilities in existence or under construction when the regulations go into effect.*
- (b) If an existing LNG facility (or facility under construction before March 31, 2000 is replaced, relocated, or significantly altered after March 31, 2000, the facility must comply with the applicable requirements of this part governing, siting, design, installation, and construction, except that:*
 - (1) The siting requirements apply only to LNG storage tanks that are significantly altered by increasing the original storage capacity or relocated, and*
 - (2) To the extent compliance with the design, installation, and construction requirements would make the replaced, relocated, or altered facility incompatible with the other facilities or would otherwise be impractical, the replaced, relocated, or significantly altered facility may be designed, installed, or constructed in accordance with the original specifications for the facility, or in another manner subject to the approval of the Administrator.*

As specified in 49 CFR 193.2005 (a), the current siting and design requirements do not apply to the existing installation at the Facility, as these LNG facilities were already in service when the current siting requirements went into effect. However, the equipment to be installed by the Project is required to be sited and designed in accordance with the current regulations.

49 CFR 193.2057 provides the regulatory requirement for thermal radiation protection at LNG Facilities. 49 CFR 193.2059 provides the regulatory requirement for flammable vapor-gas dispersion protection at LNG Facilities. Analysis is to be performed in accordance with NFPA 59A, and PHMSA has provided additional guidance regarding the determination of design spills and of the approved methodologies for performing this analysis in 'Frequently Asked Questions' (FAQ), published at <http://primis.phmsa.dot.gov/lng/faqs.htm>.

The analysis specified by PHMSA for new installations has been performed and is documented in [Reference 3]. The analysis concludes:

- The impoundment basin analyzed for thermal radiation associated with containment of LNG remains within the property to be controlled by HG&E.
- The ½ LFL vapor dispersion clouds from LNG releases remain within the property to be controlled by HG&E.
- The analysis of thermal radiation hazards from jet fires to a threshold of 1,600 Btu/hr-ft² demonstrates compliance with 49 CFR 193.2057.

980 CMR 10.00 specifies requirements for analysis of thermal radiation and vapor dispersion analysis for LNG facilities in the State of Massachusetts. This analysis has been performed and is documented in [Reference 5]. The results of this analysis show that the thermal radiation and vapor dispersion hazard areas remain within the property owned by HG&E and demonstrate compliance with the requirements of 980 CMR 10.03.

6.0 LNG SPILL SCENARIOS AND SPILL IMPOUNDMENTS

The Project includes construction of new spill impoundment systems sized to convey and contain potential LNG spills in accordance with NFPA 59A and 980 CMR 10.00, with consideration of the thermal and vapor dispersion analysis documented in [Reference 3].

6.1 LNG Tank Spill

49 CFR 193.2181(a) requires that the spill impoundment serving an LNG storage tank must have a minimum volumetric liquid impoundment capacity of 110% of the tank's maximum liquid volume.

980 CMR 10.04(a) requires T-104 to be located within its own spill containment dike, with capacity of 150% of the volume of liquid in the tank.

The Project will construct a new, remote sub-impoundment basin north of T-104, sized to contain 150% of the T-104 liquid volume, or 105,000 gallons. Grading and a spill trench will be designed to convey an LNG spill to the new sub-impoundment.

6.2 LNG Vaporization Spill

The Project will design grading in the vaporizer area so that LNG spills resulting from leak or failure of new piping between the LNG storage tanks and the vaporizers will be conveyed to the sub-impoundment described in Section 6.1. The sub-impoundment volume is significantly greater than the potential LNG Vaporization design spill [Reference 3].

6.3 LNG Offload Spill

The Project will design grading in the LNG piping area at T-104 so that LNG spills resulting from leak or failure of *new* piping between the LNG storage tanks and the LNG offload area will be conveyed to the sub-impoundment described in Section 6.1. The sub-impoundment volume is significantly greater than the potential LNG offload design spill [Reference 3].

7.0 HAZARD DETECTION SYSTEMS

7.1 Combustible Gas Detectors

The Facility has fifteen combustible gas detectors which are integrated into the plant control and/or SCADA system(s) and initiate audible and visual alarms at the Facility upon alarm. High-high (40%) LEL conditions at the tank, vaporizer or heater areas initiate a plant shutdown and LNG isolation. Alarms are also annunciated at a remote company facility that is attended full time [Reference 2].

The Project will add one combustible gas detector near the front of new storage tank T-104. It will also replace the single detector at the existing vaporizer with two new detectors, one at each new vaporizer. Gas detectors installed at the existing water-glycol heating area will be relocated and reused at the upgraded water glycol area, to provide similar monitoring as the existing. Final detector locations and mounting heights will be determined during detailed design, however generally those detectors in LNG areas will be mounted near LNG inlet piping to each vaporizer, 3' to 4' above grade. Detectors in the heater area will be mounted above fuel gas headers, beneath the canopy roof. The Project does not install any new annunciation devices. Existing detectors will remain unchanged. New detectors will be integrated into the existing process control system PLC.

7.2 Optical Flame Detectors

The Facility has four multi-spectrum IR optical flame detectors that initiate audible and visual alarms at the Facility upon flame detection. Flame detection by those detectors initiate a plant shutdown and LNG isolation. Flame detection at the truck unloading skid initiates unload pump shutdown [Reference 2].

The Project will replace one flame detector at the existing vaporizer with two new detectors, oriented to detect fires at the front of T-104, and the vaporizer area. The Project does not install any new annunciation devices. The Project will install a new Fire Alarm Control Panel (FACP) at the main control room that will receive inputs from all fire detection devices, including flame detectors and heat detectors. The FACP will be designed and installed in accordance with NFPA 72 – *National Fire Alarm Code*.

7.3 Heat Detectors

The Facility has sixteen existing thermal heat detectors which annunciate audible and visual alarms upon detection of a fire. Heat detectors at the heater area and at the vaporizer area will initiate a plant shutdown and LNG isolation [Reference 2]. Heat detectors in other areas of the Facility (buildings and other occupied areas) are connected to the existing PLC control system and initiate local audible alarms and alarms at a remote, attended facility.

The Project will integrate new heat detectors into the design of the new water-glycol heaters, duplicating the function of the existing heater heat detectors. The project will additionally integrate existing and new detectors into the new FACP described in Section 7.2.

7.4 Smoke Detectors

There are no existing smoke detectors installed at the Facility.

No new smoke detectors are installed by the Project.

7.5 Low Temperature Detection – Spill Impoundment

Temperature instrumentation will be installed in the LNG spill conveyance and/or impoundment area and will be configured to automatically shut down the spill impoundment sump pump upon low-low temperature. This instrumentation and control logic will prevent pumping during an LNG spill event.

8.0 HAZARD MITIGATION SYSTEMS

8.1 Fire Water System

There is no fixed firewater piping, monitor nozzles, or hydrants within the Facility perimeter - the nearest hydrant is located approximately 450' outside the main Facility entrance and is supplied by the City of Holyoke Water Works. Facility procedures specify that where necessary for cooling of equipment and/or supply of water to the portable high-expansion foam system, the City of Holyoke Fire Department (HFD) will operate handheld hoses and equipment to maintain cooling, in coordination with HG&E personnel.

Recent hydrant flow testing performed in 2020 demonstrated flow capacity of 1275 gpm at 78 psi residual pressure, which is greater than 1000 gpm referenced in NFPA 59A, Section 9.4.2 [Reference 4].

Within the Facility perimeter, six underground storage tanks allow for storage of approximately 140,000 gallons of water to supplement the firewater supply provided by the city hydrant. This water can be withdrawn by a fire department pumper in the event of a fire.

HFD will supply all hoses, connectors, and other equipment necessary for applying firewater to a potential fire. Reference Section 9.8 for discussion of coordination of responsibilities between HFD and HG&E, including regular joint training exercises.

The Project will not modify the existing firewater systems at the Facility.

8.2 High-Expansion Foam System

A portable high-expansion foam generator is located at the Facility [Reference 2]. The foam generator has a capacity of 3,000 CFM of foam and can be operated by one person. The Facility emergency procedures specify the foam generator will be operated by HFD personnel using a pumper truck, in coordination with HG&E personnel.

The Project will not modify the existing high-expansion foam system or operating procedures.

8.3 Dry Chemical Systems

Three Ansul 900 lb. dry chemical fire extinguishing systems are installed within the Facility at the LNG Truck Unloading area and in the North and middle areas of the Facility. Two Ansul 300 lb. wheeled dry chemical extinguisher systems are located at LNG driveway and in the Tennessee Gas building. Hand-held extinguishers are located strategically throughout the Facility. Reference 2 provides a list of existing sizes and types, and Reference 6 provides the locations for existing equipment.

The Project will provide additional hand-held extinguishers and/or relocate existing hand-held extinguishers as needed to locate protection at the T-104 area, the new vaporizer area, and in the modified water-glycol heater area.

9.0 OTHER SAFETY SYSTEMS AND PROCEDURES

9.1 Control of Ignition Sources

The Facility O&M procedures include guidance for ignition source control during normal or abnormal operations or maintenance. Restrictions for performing Construction or Maintenance activities which introduce potential ignition sources are described in Section 4.1 of the LNG O&M procedure [Reference 4].

Hazardous Areas within the Facility are designated in accordance with the guidance provided in NFPA 59A, and are classified as Class I, Division 1, Group D or Class I, Division 2, Group D as applicable. Electrical installation within these classified areas is in accordance with Articles 500 and 501 of the National Electrical Code.

The Project will develop Area Classification Drawings for all new equipment areas in accordance with NFPA 59A, Table 7.6.2 and new electrical installation will comply with the National Electrical Code.

9.2 Emergency Shutdown Systems

A hard-wired Emergency Shutdown (ESD) system provides fail-safe shutdown of motorized equipment and closure of LNG process isolation valves upon actuation. ESD pushbutton stations are in the Facility Control Building, at the Vaporizer area and at the water-glycol heater area.

The Project will integrate the new storage and process equipment and shutoff valves into the existing ESD system. The Project may modify existing ESD pushbutton locations based on the final equipment configuration. It is recommended that the Project additionally install an ESD pushbutton along the egress path from the LNG storage area to the Facility exit, to allow for actuation by evacuating personnel during an emergency.

9.3 Standby Electric Generator

As a result of the Project, the electrical load for the facility will increase. The Project will replace the existing 100 KW natural gas-fired standby generator with a new, larger natural gas-fired generator. The existing automatic transfer switch will be replaced with a new, higher capacity switch. The proposed generator and transfer switch are sized to allow for operation of the vaporization system at full capacity on backup power. All Facility process control and hazard detection and mitigation systems will be backed by the standby generator. Additionally, the generator and transfer switch will allow for operation of the Facility's two stabilization compressors.

9.4 Communications Equipment

The existing Facility communication systems include a standard telephone line, a direct line to the Holyoke dispatcher, hand-held radios, and cell phone communications [Reference 2].

The Project will not modify the existing plant communications systems.

9.5 Security Equipment

The existing Facility security includes an 8-foot chain-link fence, topped by three strands of barbed wire around the perimeter. An infrared detection system monitors the fence line and provides both local alarms and alarms at a continuously attended

location. A closed-circuit television (CCTV) monitoring system with 360° pan-tilt-zoom cameras allows for monitoring of the Facility [Reference 2].

The Project will evaluate any relocation of or reconfiguration of CCTV system cameras necessary due to the new tank and equipment as part of the detailed design. The Project will not otherwise modify the existing plant security systems.

9.6 Personal Protective Equipment

No new personal protective equipment will be required as a result of the Project.

9.7 First Aid Supplies

The Facility maintains a stock of first aid supplies on-site. No new first aid supplies will be required as a result of the Project.

9.8 Coordination with Outside Organizations

As described in Section 8.1 responses to certain emergency events are coordinated with the HFD, and the HFD personnel operate firewater equipment and systems in certain emergency scenarios, in coordination with HG&E personnel.

HG&E conducts annual refresher training with the HFD to review Facility layouts, equipment, and emergency procedures. HG&E and HFD conduct mock drills every two years to simulate potential emergency situations.

HG&E emergency procedures provide guidance to plant personnel regarding coordination and notification of other outside organizations during Facility events.

10.0 EVALUATION OF EXISTING HAZARD DETECTION AND MITIGATION SYSTEMS – NFPA 59A

The existing and proposed modifications to the hazard detection and mitigation systems at the Facility are evaluated to the criteria given in NFPA 59A, 2001, Section 9.1.2, with consideration of the proposed modifications to be implemented by the Project.

1. *The type, quantity, and location of equipment necessary for the detection and control of fires, leaks, and spills of LNG, flammable refrigerants, or flammable gases*
 - The proposed flame detectors described in Section 7.2 provide sufficient detection of fires for each of the spill scenarios described in Section 6.0
 - The proposed combustible gas detectors described in Section 7.1, when combined with existing gas detection equipment, provide sufficient coverage to detect potential leaks or spills of LNG or natural gas for the spill scenarios described in Section 6.0.
 - Flame and gas detection equipment initiate shutdown or isolation of LNG piping and equipment upon detection to control the size and duration of potential leaks.

- The fire suppression systems, described in Section 8.0, including fire water, high-expansion foam, and dry chemical systems provide adequate suppression capabilities and/or equipment cooling for the fire scenarios described in Section 6.0.
2. *The type, quantity, and location of equipment necessary for the detection and control of potential non-process and electrical fires*
 - The Project does not introduce new potential for either non-process or electrical fires and does not modify the existing detection or suppression equipment in non-process areas. The project will integrate existing detection equipment into the new FACP as described in Section 7.2 and 7.3.
 3. *The methods necessary for protection of the equipment and structures from the effects of fire exposure*
 - Protection of new equipment from the effects of fire exposure is provided by:
 - LNG spill impoundment design, which conveys LNG spills to a remote impoundment.
 - Portable high-expansion foam system, as described in Section 8.2, which is available for deployment by the Fire Department personnel to potentially reduce the size of an LNG pool fire if ignition occurs.
 - Automatic isolation of LNG and natural gas piping and tanks upon flame detection, combustible gas detection, or manual ESD, limiting the duration of fire exposure.
 - The methods of protection employed are sufficient.
 4. *Fire protection water systems*
 - As described in Section 8.1 supplemental fire water is available from nearby hydrants, and local Fire Department personnel are trained in the response to potential LNG pool fires. Recent hydrant flow tests demonstrate sufficient supply of water for cooling. The nearby hydrant is supplemented by onsite, underground storage that is available for use via pumper truck by the Fire Department.
 5. *Fire extinguishing and other fire control equipment*
 - The existing fixed portable fire extinguishing equipment described in Section 8.0 are suitable for gas fires.
 - The existing equipment locations may be adjusted once new process equipment configuration is finalized during detailed design, to optimize coverage and accessibility.
 - The existing portable high-expansion foam system is sufficient to provide suppression for the new impoundment areas installed by the Project.
 6. *The equipment and processes to be incorporated within the emergency shutdown (ESD) system, including analysis of subsystems, if any, and the need for depressurizing specific vessels or equipment during a fire emergency*

- The Project will mimic the existing control strategy for manually initiated system shutdowns described in Section 9.2. Upon initiation of a Plant ESD, the following will occur:
 - Tank LNG isolation valves will close
 - Vaporizer inlet and outlet valves will close
 - Water-glycol heaters and pumps will shut down.
 - LNG offload pump will shut down.
 - The Project will maintain the existing three manual pushbuttons and will add one ESD pushbutton along a path of egress from the site (final location to be determined during detailed design) to enable ESD actuation without entering the potential hazardous location.
 - The Project will maintain the fail-safe design of the existing system for all new ESD devices.
 - New equipment and piping are protected by pressure relieving devices sized for fire cases. Manual depressurization of new vessels during a fire emergency is not required.
7. *The type and location of sensors necessary to initiate automatic operation of the ESD system or its subsystems*
- The Project will maintain the existing design strategy to initiate plant shutdown upon:
 - High-high gas detection alarm (40% LEL) from combustible gas detector
 - Fire alarm from optical flame detector or heat detector in the storage, unloading, or vaporization areas.
 - Abnormal temperature/pressure/flow in the vaporization system, in accordance with NFPA-59A requirements.
8. *The availability and duties of individual plant personnel and the availability of external response personnel during an emergency*
- The duties of HG&E and/or external response personnel are described in the Facility Emergency Procedures. These duties will remain unchanged as a result of the Project.
9. *The protective equipment, special training, and qualification needed by individual plant personnel as specified by NFPA 600, Standard on Industrial Fire Brigades, for his or her respective emergency duties*
- The Facility personnel are trained to fight incipient-stage fires using installed fire extinguishing equipment. The existing Emergency Procedures and training are applicable to the new equipment installed by the Project.
 - The Facility does not maintain a fire brigade. The City of Holyoke Fire Department is notified in the event of an uncontrollable emergency. NFPA 600 does not apply.

Appendix A

220 CMR 112.00 Compliance Checklist

LNG FACILITY CHECKLIST FOR COMPLIANCE WITH MA DPU 220 CMR 112.00 (EFFECTIVE DATE SEPT. 1990)

Date:	8/1/2022
LNG Facility Name:	West Holyoke LNG Facility
LNG Facility Location:	Holyoke, MA
Owner of Facility:	Holyoke Gas and Electric
Operator of Facility:	Holyoke Gas and Electric
Checklist Conducted by:	Chris Finnegan

Introduction

This checklist was compiled on February 13, 2020, by Sanborn, Head & Associates Inc. (Sanborn Head) based on the requirements of the Code of Massachusetts Regulations (CMR) 112.40, Fire Study Prevention and Control – Fire Study and Prevention Plan. CMR 112.40 states compliance is required, to the entirety of CMR 112.00 (*Design, Operation, Maintenance and Safety of Liquefied Natural Gas (LNG) Plants and Facilities*). Throughout CMR 112.00, other codes are referenced, such Code of Federal Regulations (CFR) Part 193, CFR Part 192, and National Fire Protection Association (NFPA) 59A.

This checklist has been created for use as a tool to assist in developing and updating Fire Protection Plans by Sanborn Head.

Definitions and Abbreviations:

CFR Code of Federal Regulations

DPU Department of Public Utilities

Plant LNG Facility

Project Proposed project scope as described in FEED-001 and its supporting documents.

Legend:

Black Text = Checklist Text

Purple Text = Checklist Response

References:

[REF #] Refer to the main text for references, located after the Table of Contents

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GENERAL INFORMATION

Briefly describe the plant and neighboring properties. Make special note here of the plant's proximity to hazardous facilities, to populated areas (e.g., residences, offices, recreational areas, schools), to roads, and to possible ignition sources.

The facility is located in West Holyoke MA and is bordered by HG&E property used for solar power to the north and west, additional wooded HG&E property to the east, and a right of way to the south. The properties nearest the facility are located on the west and south side of the HG&E property and are residential.

Note any drains, sewers, surface drain catch basins, etc.

None noted in the vicinity of LNG process areas

List the number and capacities of the storage tanks.

Four existing tanks, each 55,000 gallons (gross)

Proposed one new tank, 70,000 gallon (gross)

List the locations of fire hydrants and state whether they are on the plant property, or municipal fire department hydrants on public property.

There is no fixed firewater piping, monitor nozzles, or hydrants within the Facility perimeter - the nearest hydrant is located approximately 450' outside the main Facility entrance and is supplied by the City of Holyoke Water Works. Facility procedures specify that where necessary for cooling of equipment and/or supply of water to the portable high-expansion foam system, the City of Holyoke Fire Department (HFD) will operate handheld hoses and equipment to maintain cooling, in coordination with HG&E personnel.

List the buildings on the plant site, their contents, whether they are ventilated, and whether they are equipped with general-purpose or explosion-proof electrical fixtures.

Control Building – Includes control room, office space, bathroom/locker room and utility-boiler room. Separate room on north side of building previously served as a propane-air mixer room but currently contains only natural gas piping. The mixer room includes natural ventilation and is designed with hazardous-location electrical installation. All other areas are non-classified.

Compressor Building – Contains electrical distribution equipment, two electric-motor driven air compressors, an out-of-service engine-driven air compressor, and process air compressors, vessels and piping. The Project will install new electrical equipment and instrument air compressors in this building. The compressor building is non-classified.

TGP building – Contains gas distribution metering and regulating equipment in one naturally ventilated room which is designed with hazardous-location electrical installation. Two separate rooms contain process heating equipment and transmission company instrumentation and control equipment, respectively, and are non-classified.

Maintenance Building – Includes three maintenance bays for vehicle and equipment maintenance, storage and office area. Area is non-classified.

Offload Building – Includes electrical equipment and desk area for staff during LNG offloads. Building is adjacent to LNG pump area and is designed for hazardous area electrical installation.

Briefly describe the equipment at the plant, and its location:
Pumps
One LNG offload pump, at southeast corner of LNG storage area
Vaporization Systems
One shell and tube vaporizer located within existing impoundment area. Project will replace this vaporizer with two redundant shell and tube vaporizers.
Liquefaction Systems
N/A
Compressors and Blowers
Process air stabilization compressors are located within the compressor building.
Calorimeters
No calorimeters are installed – a gas chromatograph is installed in the main control room.
Other
Water Glycol heater area – approximately 60' east of LNG areas, includes heaters, pumps and electrical distribution and control equipment. The Project will install new water-glycol heating equipment and demo existing. The new equipment will be adjacent to the existing heating equipment location. The heater area is a non-classified location.
Describe the truck/railcar loading/unloading facilities
LNG offload area includes an LNG offload pump and dedicated spill containment for offload trailers. Adjacent Offload Building.
List the locations of all fire and flammable gas detectors.
Refer to HM series drawings.

112.01 APPLICABILITY AND SCOPE

When was the plant built?	
1971	
When were major modifications completed?	
<i>Date</i>	<i>Modification</i>
1974	Installation of two additional storage tanks
1998	Replacement of original vaporizers with existing shell and tube system.

112.02 APPLICATIONS FOR EXCEPTIONS FROM PROVISIONS OF THESE REGULATIONS

Have any requests been submitted to the Massachusetts DPU for exceptions to any of the provisions in these regulations? If yes, describe.
N/A

112.11 PLANS AND PROCEDURES

(1) Briefly describe the plant's plans and procedures:
LNG Plant O&M Manual provided in electronic format, includes plant descriptions, operating procedures, maintenance procedures, security procedures, and emergency response procedures.
Are the facility's plans and procedures up to date?

Yes	
Are the plans and procedures specific to this LNG Facility?	
Yes	
When were the plans and procedures last updated or modified and what was the nature of those changes?	
Date	Change Description
10/26/2021	General updates as described in record of revision included in manual.
When were the plans last reviewed and inspected by the Massachusetts DPU?	
2022, results pending at time of writing.	

112.12 RECORDS

(1) Does the operator have adequate records to substantiate compliance with 49 CFR Part 193 as well as Massachusetts DPU regulations (220 CMR 112.00)?
Not applicable to current Project scope.
(3) Does the operator have records of all materials used for components, buildings, foundations, and support systems?
Not applicable to current Project scope, will be maintained for all Project installation.

112.20 CONTROL CENTER

(1) Briefly describe the control center and its location. Note if this control center is onsite or in a remote location.
Control room located in control building provides monitoring/alarm function for LNG facility. Remote control center is able to monitor alarms.
(2) Are personnel in continuous attendance when any part of the plant is in operation?
Yes
If the plant is operated from a remote control center, are the controls linked to an alarm audible throughout the plant?
N/A
(3) Does each control center have a means of communicating warnings of hazardous conditions to all locations in the plant that are frequented by personnel?
Yes – Audible alarms, radio communication.
(4) Is there more than one control center at the plant? If yes, are there at least 2 means of communication between all such control centers?
N/A
(5) Are all gas and fire detectors linked to visible and audible alarms at a continuously attended control center?
Yes

112.21 ALARM SYSTEMS AT PLANTS NOT CONTINUOUSLY ATTENDED

Is the plant continuously attended?
No
If no, is there an alarm system that transmits an alarm to a continuously attended plant?
Yes, alarm notification to Gas Control remote location.

Does this alarm system indicate the following?	
<i>Description</i>	<i>Yes/No</i>
Abnormal temperature	Yes
Abnormal gas concentration	Yes
Security breach	Yes
Fire	Yes
Other Abnormal Conditions	Yes

112.22 INSPECTION OF PLANTS NOT CONTINUOUSLY ATTENDED

If the plant is not continuously attended, is it visually inspected at least once a day to ensure that it is in a safe condition?
Yes
Who makes these inspections, and how frequently?
Daily inspection by LNG operators.

112.23 EMERGENCY CONTROLS

Are emergency controls conspicuously marked with their designated function?
Yes – ESD buttons are marked.
Are emergency controls located for ready access in emergencies?
Yes – process areas and control room. Consider addition of button in egress path.

112.24 CARGO TRANSFER OPERATIONS

Procedures should incorporate the following points. Note if any of these points are not included in the current plant procedures.	
<i>Description</i>	<i>Included? Yes/No</i>
Each transfer system must be inspected before every use to make sure that the valves and controls are in their proper operating positions.	Yes
Transfer operations must allow time for proper cool down of piping and equipment.	Yes
If unusual pressure or temperature variations occur, transfer must be stopped as soon as safely possible, until the cause has been determined and corrected.	Yes
Pressure readings shall be observed during LNG, propane, or refrigerant cargo transfer operations.	Yes

112.25 PORTABLE VAPORIZERS

Are there any portable vaporizers used at the LNG plant?
No, not applicable
If yes to above, are they located inside the plant's fenced perimeter when used to vaporize gas from the plant?
N/A
Note if such vaporizers pose special hazards to the plant.
N/A

112.30 MAINTENANCE - GENERAL

(1) Are there written maintenance procedures for all components whose failure to function as designed could endanger the public or plant personnel?	
For scope of Project, written maintenance procedures will be developed.	
(2) Do written maintenance procedures, where required, include the following as a minimum?	
Description	Yes/No
(b) Frequency of inspection and testing	See 112.30(1) response.
(c) Procedures for each maintenance activity performed on each component	
(e) Methods used to verify maintenance standards for components are met	
220 CMR 112.30 (2)(a) requires details of inspection and testing to meet the requirements of 49 CFR Part 193 Subpart G – Maintenance, as follows:	

49 CFR Part 193 Subpart G - Maintenance

193.2603 General

(e) If there are any components not in service, and if inadvertent operation of these components could cause a hazardous condition, does each of the components have a tag attached to the controls saying "DO NOT OPERATE" or equivalent?
N/A to Project scope.

193.2605 Maintenance procedures

(b) Are there manuals of written procedures for the maintenance of each component including any corrosion control? Component per 193.2007 Definitions: Component means any part, or system of parts functioning as a unit, including, but not limited to, piping, processing equipment, containers, control devices, impounding systems, lighting, security devices, fire control equipment and communication equipment, whose integrity or reliability is necessary to maintain safety in controlling, processing, or containing a hazardous fluid.
For scope of Project, existing procedures will be updated for new components, and/or written maintenance procedures will be developed as needed.
(c) Do the procedures include instructions for recognizing safety-related conditions that are subject to the reporting requirements of 49 CFR Part 191, Paragraph 191.23? (i.e., Evidence of unintended component movement, crack or material defect, physical damage, pressures exceeding working pressure, ineffective insulation, frost heave)
For scope of Project, existing procedures will be updated for new components, and/or written maintenance procedures will be developed as needed.

193.2607 Foreign Material

(a) Is the presence of foreign material, contaminants, or ice avoided or controlled to maintain the operational safety of each component?

N/A to Project scope

(b) Are the LNG plant grounds free from rubbish, debris, and other material which present a fire hazard? Are grass areas on the LNG plant grounds maintained in a manner that does not present a fire hazard?

N/A to Project scope, existing LNG Plant Inspection and Maintenance procedures will continue to apply.

193.2609 Support systems

Do maintenance procedures include inspection of all support systems and foundations?

For scope of Project, written maintenance procedures will be developed or updated, as needed.

193.2611 Fire protection

(a) Do maintenance procedures address the need to schedule maintenance activities on fire control equipment, in a way that minimizes the equipment that is taken out of service at any one time?

For scope of Project, written maintenance procedures will be developed and existing procedures will be updated as needed.

(b) Are access routes for movement of fire control equipment within the LNG plant maintained to provide for use in all weather conditions?

Access routes will not be impacted by Project.

193.2613 Auxiliary power sources

Do maintenance procedures provide for monthly inspection of auxiliary power sources for operational capability, and for annual tests for capacity?

A new generator will be proposed by the Project. Existing procedures to test according to 49 CFR 193.2616 will be maintained.

193.2615 Isolating and purging

(a) Do maintenance procedures include purging of components when required?

No changes to purging procedures / practices by Project.

(a cont.) Do these procedures meet the requirements of AGA "Purging Principles and Practices"?

No changes to purging procedures / practices by Project.

193.2619 Control systems

(b) Do written procedures provide for the testing and inspection of control systems if the control systems are out of service for 30 days or more?

Yes

(c) Control systems in service but not normally in operation (such as relief valves, automatic shut-down devices, and control systems for internal shutoff valves for bottom penetration tanks, not including exception below (1) & (2)) must be inspected and tested at

least once each calendar year, but with intervals not exceeding 15 months? Is this provision included in the written maintenance procedures?
Yes
(1) Control systems used seasonally (<i>such as liquefaction and vaporization</i>) must be inspected and tested before use each season. Is this addressed in the written maintenance procedures?
Yes
(2) Control systems that are intended for fire protection must be inspected and tested at least once every 6 months. Is this addressed in the written maintenance procedures?
Yes
(d) Control systems NORMALLY IN OPERATION must be inspected and tested once each calendar year but with intervals not exceeding 15 months. Is this provided for in the written maintenance procedures?
Yes
(e) Relief valves must be inspected and tested for verification of the valve seat lifting pressure and reseating. Is this provided for in the written maintenance procedures?
Yes

193.2621 Testing transfer hoses

(a) Are transfer hoses tested once each calendar year, but with intervals not exceeding 15 months, to the maximum pump pressure or relief valve setting? Is this requirement addressed in the written maintenance procedures?
Yes (not part of Project scope)
(b) Do the maintenance procedures require visual inspection of hoses for damage or defects before each use?
Yes (not part of Project scope)

193.2623 Inspecting LNG Storage Tanks

Do the maintenance procedures include inspection or testing of LNG tanks to make sure that the following conditions do not impair the integrity or safety of the tanks?	
Description	Yes/No
(a) Foundation and tank movement during normal operation and after a major meteorological or geophysical disturbance	Yes
(b) Inner tank leakage	Yes
(c) Effectiveness of insulation	Yes
(d) Frost heave	Yes

193.2635 Monitoring Corrosion control

(a) Is each buried or submerged component under cathodic protection tested at least once each calendar year, but with intervals not exceeding 15 months? (<i>to ensure cathodic protection meets CFR 192.463</i>)
Yes (not part of Project scope)

(b) Is each impressed cathodic protection rectifier or other impressed current power source inspected at least 6 times each calendar year, but with intervals not exceeding 2 ½ months, to ensure proper operation?
Yes (not part of Project scope)
(c) Is each reverse current switch, diode, and interference bond whose failure would jeopardize component protection electrically checked for proper performance at least 6 times each calendar year, but with intervals not exceeding 2 ½ months?
Yes (not part of Project scope)
(c cont.) Is the balance of interference bonds not mentioned above checked at least once each calendar year, but with intervals no exceeding 15 months?
Yes (not part of Project scope)
(d) Is each component which is protected from atmospheric corrosion inspected at intervals not exceeding 3 years?
Yes (not part of Project scope)
(e) Is internal corrosion monitoring in use (coupons and probes)? If yes, are the internal corrosion monitoring devices checked at least two times each calendar year, but with intervals not exceeding 7 ½ months?
Yes (not part of Project scope)

49 CFR Part 193 Subpart I – Fire Protection

193.2801 Fire Protection

Is all fire detection equipment maintained and tested in accordance with NFPA 59A? <i>(Plants existing on March 31, 2000, need not comply with provision on emergency shutdown systems, water delivery systems, detection systems, and personnel qualification and training until September 12, 2005)</i>
Yes
Hot Work: Welding, flame cutting, etc., are prohibited except at times and places that the operator designates in writing as safe and when constantly supervised in accordance with NFPA-51B. Do written maintenance procedures include these provisions?
Yes
Gas Detection: Is all flammable gas detection equipment maintained and tested in accordance with NFPA 59A?
Yes

112.31 RELIEF VALVES

For all adjustable relief devices, are there seals on the means for adjusting the set point pressure?
Yes

112.32 TRANSFER SYSTEM VALVES

On all transfer systems, is each shutoff valve located and equipped for ready access, operation, and maintenance?

Yes

112.40 FIRE STUDY AND PREVENTION PLAN

(1) Does the plant have a written fire prevention plan?

Yes

(1 cont.) Does it include the determinations and supporting documentation for compliance with 49 CFR Part 193.2805 - Fire Prevention Plan, and 49 CFR Part 193.2817 - Fire Equipment, and the Massachusetts DPU regulations (220 CMR 112.00).

Project is augmenting the existing Fire Study with this Fire Study (EVAL-002) which is applicable to the Project scope.

(1 cont.) The plan must be reviewed by the operator at least once every two years, as well as whenever any major change occurs in the plant's design, operations, or neighboring environment.

(1 cont.) When was the plan last reviewed?

N/A

(1 cont.) Have there been any major changes, as described above, since last revision?

N/A

(1 cont.) If so, when? Was the fire prevention plan reviewed at that time?

N/A

(2) Does the plan include the following as a minimum?

Description	Yes/No
(a) Determination of potential source of flammable fluids (<i>e.g., natural gas, propane, gasoline</i>) and flammable materials (<i>e.g., Insulation, wood</i>)	Yes (6.0)
(b) Determination of potential ignition sources within the plant	Yes (9.1)
(c) Determination of potential ignition sources in the area around the plant that could be covered by a vapor cloud if any single component containing LNG within the plant failed	Yes (6.0, 9.1)
(d) Determination of the areas within the plant where the potential exists for the leakage of flammable fluids, including NEC Class I Locations (<i>Class I locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.</i>)	Yes (6.0)
(e) Determination of the types, sizes and foreseeable consequences of LNG and other cryogenic or hazardous liquid spills that may be expected to occur within the plant, including the extent vapor cloud travel outside the plant	Yes (5.0, Reference 5)
(f) Determination of the types, sizes and consequences of fires that could occur inside or within a reasonable distance of the LNG facility or plant	Yes (4.0, Reference 5)
(g) A training program prepared with local police, fire, and civil defense departments. This program should include the following as a minimum:	

Controls and Piping	Yes
Fire equipment, procedures, and emergency drills	Yes
Are there any additional training activities involving the police, fire, or civil defense departments?	(unchanged by Project)
Is an annual report submitted to the Massachusetts DPU no later than January 30 of each year, outlining the training program for the previous year?	(unchanged by Project)
Does the report include the following?	
Name and job title of operating and maintenance personnel	(unchanged by Project)
Name and job title of any appropriate official public personnel that have participated in the program	(unchanged by Project)

(3) In developing the fire prevention plan, <u>has the operator analyzed and considered the benefits, cost, and feasibility</u> of the following fire prevention, safety, and operating equipment?	
<i>Description</i>	<i>Yes/No</i>
(a) Sumps, grading, and trenches for LNG spills, including vaporizer, liquefaction, and storage tank dike areas	Yes (Project scope only)
(b) Automatic or motorized valves, capable of local or remote operation, located at transfer areas, for use during an emergency	Yes (Project scope only)
(c) Existing fire-fighting equipment and revisions of fire-fighting procedures	Yes (Project scope only)
(d) Use of high-expansion foam systems for fire-fighting and vapor control	Yes (Project scope only)
(e) Adequacy of existing control and alarm systems, including the following:	
Control panel layout and instrumentation	Yes (Project scope only)
Location of controls	Yes (Project scope only)
Emergency shutdown systems	Yes (Project scope only)
Fail-safe design of control systems	Yes (Project scope only)
(f) Location, construction, and protection of control rooms	Yes (Project scope only)
(g) Location and protection of auxiliary generators and related fuel supplies	Yes (Project scope only)
(h) Protection of pipe supports and equipment foundations from cryogenic fluid spills	Yes (Project scope only)
(I) Protection of LNG transfer station piping, valves, and hoses from damage by vehicles	Yes (Project scope only)
(j) Prevention of valve freeze-up caused by icing	Yes (Project scope only)

(k) Controls, equipment, and procedures to keep LNG from entering lines that run outside the plant (e.g., internal condensate lines from vaporizers, surface water drainage lines)	Yes (Project scope only)
(l) Adequacy of existing fire detection and gas detection systems	Yes (Project scope only)
(m) Removal of existing copper or copper-alloy tubing and piping carrying hazardous or cryogenic fluids, and replacement with stainless steel	N/A
(n) Location and distribution of relief valve vents to eliminate hazards to personnel and equipment	Yes (Project scope only)
(o) Replacement or modification of buildings constructed with combustible materials with buildings made primarily of non-combustible materials	N/A

(4) Has the operator filed a copy of the written fire study and prevention plan and all updates with the Massachusetts DPU's Pipeline Engineering and Safety Division?
Will be filed upon project completion

112.41 EMERGENCY PLAN EQUIPMENT AND PROCEDURES

(1) Does the operator provide the fire fighting and control equipment, supplies, and materials at the plant (Hydrants, nozzles, hoses, deluge and sprinkler systems, Fire water supply, extinguishers)?		
As described in Fire Study, no changes by Project		
(1 cont.) List the fire fighting and control equipment, supplies, and materials at the plant, and their locations (Hydrants, nozzles, hoses, deluge and sprinkler systems, Fire water supply, extinguishers):		
Equipment/Supplies/Material Description	Location	
As described in Fire Study, no changes by Project		
(2) Does the operator provide components including impoundment systems, to control flammable fluid leakage, spill, and release?		
As described in Fire Study, no changes by Project		
(2 cont.) List the components at the plant, which control flammable fluid leakage, spill and release, including impoundment systems. Include the capacity and/or dimensions of the impoundment systems.		
Equipment/Supplies/Material Description	Location	
As described in Fire Study, no changes by Project		
(3) Are there written procedures for emergency response, to be followed by the plant personnel as well as by local public officials?		
As described in Fire Study, no changes by Project		
(4) Does the operator provide protective clothing, safety, and communications equipment, first-aid supplies, and tools necessary for the operator’s personnel to perform emergency duties?		
As described in Fire Study, no changes by Project		
(4 cont.) List the quantities and locations of the equipment and supplies described below:		
Description	Quantity	Location

Exposure suits	Refer to existing Fire Study
Self-contained breathing apparatus	
Other protective clothing	
Walkie-talkies and communications equipment	
First-aid supplies	
Other safety equipment and supplies	
Do these written procedures comply with the requirements of 49 CFR Part 193, Section 193.2509 - Emergency Procedures? These 49 CFR requirements include the following from 193.2509, below:	

49 CFR Part 193 Subpart F - Operations

193.2509 Emergency Procedures

(b) Do the written emergency procedures provide for the following:	
Description	Yes/No
(1) Responding to controllable emergencies	Yes (unchanged by Project)
(2) Recognizing an uncontrollable emergency and taking action to minimize harm to the public and personnel, including notification of public officials and possible need for evacuation of the public	Yes (unchanged by Project)
(3) Coordinating with local officials in preparing an emergency evacuation plan	Yes (unchanged by Project)
(4) Cooperating with local officials in evacuations and emergencies	Yes (unchanged by Project)
(4)(i) Communicating locations and quantities of LNG plant fire control equipment	Yes (unchanged by Project)
(4)(ii) Communicating potential hazards at the plant, including fires.	Yes (unchanged by Project)
(4)(iii) Communicating control and communication capabilities at the LNG plant.	Yes (unchanged by Project)
(4)(iv) Communicating the status of each emergency.	Yes (unchanged by Project)

112.42 EVACUATION PLAN

Description	Yes/No
Is there a written evacuation plan for the plant?	Yes (unchanged by Project)
Does the operator review this plan at least annually?	Yes
Has a copy of this plan been filed with the Massachusetts DPU's Pipeline Engineering and Safety Division?	Yes

112.43 ACCESSIBILITY TO PLANT SITE

Is there any feature of the plant, which would restrict access and egress for personnel, equipment, and materials, in the event of a spill or fire, or in case a plant evacuation or personnel rescue were necessary?

No

112.44 FIRE DETECTION SYSTEM

For each building that contains flammable fluids, is there a fire detection system, which provides an audible and visible alarm at an attended control room, and an audible and visible alarm outside the building? Describe briefly.

No change by Project Scope

112.45 DIKE PENETRATIONS

(1) Were any dike penetrations added after September 1990?

No

(2) Are there any dike penetrations, which were in place as of that date?

No

If yes, are these penetrations constructed of or lined with pipe capable of withstanding cryogenic temperature?

N/A

Are these penetrations each equipped with a valve designed to close automatically on exposure to cryogenic temperatures?

N/A

Can this valve also be closed remotely from outside the dike, and can it withstand cryogenic temperatures?

N/A

Is this valve kept closed except when in use for its intended purpose?

N/A

112.46 SUMPS AND GRADING

(1) Describe the grading, drainage, impounding systems, and separation distances associated with the following five areas (a through e). Note any deficiencies or potential problems.

Impounding systems for new installation constructed in accordance with current regulations. Reference Siting Studies.

(a) Liquefaction and other process areas

N/A

(b) Vaporizer areas

The new vaporizers will be located within a new impoundment area common with the proposed LNG tank and will convey any leaks to the sub impoundment basin via grading of the impoundment floor and a low point trench drain.
(c) Cargo transfer system areas
Unchanged by Project
(d) Tank truck or tank car parking areas
Unchanged by Project
(e) Areas for handling or storing portable containers
Unchanged by Project
(2) Does each LNG cargo transfer system have an associated sump to contain spilled liquid?
Unchanged by Project
(2 cont.) Is there a system of trenches for conducting spilled liquid from the transfer station?
Unchanged by Project
(a) Is the sump volume at least 10,000 gallons for a station designed to handle 1 or 2 trucks, and at least 15,000 gallons for transfer stations handling 3 or more trucks?
Unchanged by Project
(b) Is the sump located to minimize the vapor concentration and thermal radiation at the transfer station and at the plant boundaries?
Unchanged by Project
(b cont.) Is the sump so located that the thermal radiation from a fire would not exceed 3700 Btu/sq.ft./hour at an LNG storage tank?
Unchanged by Project
(3) Does each diked storage tank have a sump and trenches to reduce the vaporization and thermal radiation from a 10-minute spill?
Yes

112.47 TRANSFER PIPING PROTECTION

(1) Are LNG cargo transfer piping, valves and hoses protected from damage from vehicles, as follows?
(a) Are piping and valves shielded by steel and/or concrete barriers?
Unchanged by Project
(b) Is a hose rack or other protective structure provided at the transfer station?
Unchanged by Project
(b cont.) Are transfer hoses stored on the ground?
Unchanged by Project
(c) Do barriers and racks permit ready escape by personnel in an emergency?
Unchanged by Project
(2) Are sources of ignition permitted within 50 feet of tank trucks or tank cars during transfer?

Unchanged by Project

112.48 CONTROL ROOM WARNING DEVICES

Are there warning devices in the control room, which warn of hazardous conditions detected by all sensing devices in the plant?

(1) Are audible and visible alarms provided by these devices?

Yes, new alarms will be integrated into the annunciation system.

(2) Do all such devices indicate the location and type of hazard detected?

Yes, new alarms will be integrated into the annunciation system.

112.49 HIGH EXPANSION FOAM SYSTEMS

Describe the size, location, and type of high expansion foam system at the plant.

Reference existing Fire Study, no change by Project.

112.50 CARGO TRANSFER SYSTEM VALVES

(1) Is there at least one remotely operated valve at each cargo transfer station?

Not part of Project scope

If not, is there a check valve on each transfer system to prevent backflow from the storage tank (as permitted by (112.50)(2))?

New tank will include check valve.

(1 cont.) If the cargo transfer system does NOT have a check valve to prevent backflow from the storage tank, does the transfer system have emergency shut-off valves with the following capabilities?

(a) Manually operable at the valve

N/A

(b) Power operable at the valve

N/A

(c) Power operable at a remote location at least 50 feet from the valve

N/A

112.60 NOTIFICATION OF PLANT MODIFICATIONS

Is the Massachusetts DPU notified of any modifications that would cost \$50,000 or more?

Will be performed by Project.

Does such notification include a written detailed description?

Will be performed by Project.

Is such notification submitted to the Massachusetts DPU at least 30 days before the modification is made?

Will be performed by Project.

112.61 PIPING MATERIALS

Is there any piping used for cryogenic or hazardous fluids, made of cast iron, malleable iron, ductile iron, copper, or copper alloys? (Note that copper or copper-alloy tubing or piping 2 inches or less in diameter, and installed before Sept. 1990, may be used to carry cryogenic or hazardous fluids.)

No

112.62 WELDING

(1) For all welding, performed after September 1990, of pressurized pipe for LNG or other cryogenic or hazardous fluids, does such welding comply with 49 CFR Part 192, Subpart E - Welding of Steel in Pipelines?

Evaluation of existing piping is not in project Scope. New piping in Project scope will comply.

Does such welding also conform to the following requirements?

Description	Yes/No
(2) Materials to be qualified by impact testing must be welded using procedures that preserve the low temperature properties of the material.	Evaluation of existing piping is not in project Scope. New piping in Project scope will comply.
(3) Piping attachments must be welded using procedures to prevent burn-through and stress intensification.	
(4) Oxygen-fuel gas welding is prohibited.	
(5) Marking materials used to identify pipe welds must be compatible with the basic pipe material.	
(6) Any permitted die stamping must be done with a die with edges blunted to minimize stress concentrations. Surfaces of components less than 0.25 inches thick may not be field die-stamped.	

112.63 THREADED JOINTS

(1) Are threaded joints free of stress from external loading?

Evaluation of existing piping is not in project Scope. New piping in Project scope will comply

(2) Are all threaded joints (except those requiring removal for regular maintenance, such as relief valve connections) seal-welded or sealed by other means that have been tested and proven reliable and acceptable in industry practice?

Evaluation of existing piping is not in project Scope. New piping in Project scope will comply

(3) Are threaded pipe and fittings installed after September 1990, and used in cryogenic or hazardous fluid piping, designated as at least extra strong (Sch. 80)?

Evaluation of existing piping is not in project Scope. New piping in Project scope will comply

112.64 BOLTED CONNECTIONS

Are all bolted connections made after September 1990 tightened to the proper torque, using a torque wrench?

Evaluation of existing bolted connections are not in project Scope. New bolted connections in Project scope will comply

Are spring washers or similar devices used in all new or replacement bolted connections?

Evaluation of existing washers for bolted connects is not in project Scope. New washers for bolted connections in Project scope will comply

What materials are currently used for gaskets?

Evaluation of existing gaskets is not in project Scope. New gaskets in Project scope will be specified appropriately.

APPENDIX D – ON-SITE CONSTRUCTION ACTIVITIES

Project Construction Overview

After approval of the Project by the Siting Board, HG&E will contract with a turnkey construction contractor to manage and perform the construction activities required to complete the Project and associated complementary work. HG&E will also contract with an engineering firm to perform the final engineering & design of the Project or may elect to combine the engineering and construction activities by contracting with an Engineering, Procurement and Construction (EPC) contractor. Activities undertaken by the construction contractor will include coordinating with HG&E and equipment suppliers for Project site access, and coordination among subcontractors. Ultimately, the contractor will be responsible to ensure the construction is executed safely, in a quality manner, timely and in accordance with the construction contract documents. HG&E and/or its representative will oversee the contractor to ensure the contractor's performance is in compliance with the Project approval conditions and contract documents.

HG&E anticipates construction of the Project will take approximately eight months, including testing and commissioning. Prior to the start of construction the required major equipment will be ordered and prefabricated off-site. The longest lead item, the new LNG storage tank, is projected approximately 17 months from time of order to delivery for on-site construction. After completion of the Hazardous Operation Analysis (HazOp) and final engineering & design, the major construction activities will include:

- Mobilization – transporting and preparing equipment, tools, supplies, construction offices, storage facilities, etc. necessary to support construction activities;
- Site preparation – installation of erosion & sediment control devices, stormwater management facilities, grading and excavation, construction of new impoundment “dike,” preparation of some subgrade utilities such as piping and electrical conduits;
- Foundations – installation of concrete foundations to support the new LNG storage tank and associated equipment, etc.;
- LNG tank installation – the delivery and setting of the off-site fabricated LNG storage tank onto the new tank foundation piers;
- Major equipment deliveries – delivery of other major pieces of equipment associated with this Project and the vaporizer system upgrade project;
- Major equipment installation – installation of the foregoing equipment on their respective foundations;
- Process piping – after the installation of the major equipment, the piping systems required to tie-in the new LNG storage tank and associated systems into the existing facility systems will be performed. The welding and testing of the process piping systems will be performed in accordance with applicable state and federal LNG codes and standards and by qualified and competent personnel;

- Structures – construction of the various structures on the Project site such as pipe supports are completed at various stages of the construction schedule depending on purpose;
- Electrical scope – installation of electrical service components such as auxiliary equipment power supply cables, communications wires, connecting facility control panels and equipment and the buses and conductors connecting the generators to the existing West Holyoke Facility systems;
- Commissioning, Testing, Training, and Documentation – a series of progressive steps to energize the Project; test equipment; train operations staff on the Project's new equipment and systems; create written procedures, and verify compliance with operational permit conditions; and
- Typical work hours are expected to be during daytime hours (7:00 AM to 5:00 PM). It is HG&E's expectation that construction activities will be scheduled during the week from Monday through Friday. Some work, particularly during the startup & commissioning of the Facility, may need to be scheduled at night or throughout the weekend.

In order to maximize construction efficiency, HG&E expects overlap of certain activities. For example, it may be optimal to begin installing equipment on completed foundations while others are still being prepared or poured. Prior to the start of the construction activities all the major equipment and materials will be ordered and so that the construction activities can be efficiently completed over the estimated eight month process.

The Project will require delivery of oversized equipment, including the LNG storage tank. Working with MassDOT and City officials, the Project team will minimize the traffic impacts of these deliveries. To minimize traffic impacts, deliveries may be scheduled outside of normal construction hours.

APPENDIX E – CONSTRUCTION SAFETY PLAN

1.1 Construction Safety

The construction phase of the Project will be executed in a safe and efficient manner in accordance with CFR Part 1926 titled Safety and Health Regulations for Construction as well as all relevant local and state regulations, and HG&E policies and procedures. The safety of all personnel, property, and environmental resources are of the utmost importance to the Project. HG&E and the construction contractor will work diligently to ensure that it provides the safest work environment possible to all construction personnel. Regular coordination and open communications of construction activities between the contractor and HG&E will be extremely important in ensuring that the Project is constructed in a safe manner since the West Holyoke Facility site is an active and operational facility. Contractor safety performance and accident statistics will be reviewed and accounted for in the selection process. Safety inspectors will be utilized to monitor daily construction activities and provide jobsite inspections, and in addition construction supervisors will be required to hold Occupational Safety and Health Administration (OSHA) 30-Hour Construction Training certification. The specific safety policies and safe work procedures will be clearly defined and communicated to the project workforce prior to commencement of work.

Prior to the initiation of construction, the contractor will develop a comprehensive Site Specific Safety Plan (SSSP) to minimize the inherent risks related to construction activities. The plan will define the project safety policies and outline safe work practices. All construction personnel will be required to attend a pre-construction orientation meeting where the project scope, work task hazards, mitigation measures, and safety policies are conveyed in detail. Attendance will be documented, and construction personnel will receive a safety decal to be worn on their hard hat as proof of participation. Daily Job Safety Analysis (JSA)/toolbox meetings will be held to inform all construction personnel of the work planned for that day and its associated hazards.

Construction of the Project will include a broad range of activities ranging from site grading to pipe fabrication and equipment installation. The SSSP will contain multiple sections that define safe work practices based on each construction activity. A list and summary of some of the anticipated components of the plan are provided below.

1.1.1 Emergency Action Plan

An Emergency Action Plan will be implemented which outlines procedures required to relocate personnel from emergency situations or unsafe areas to predetermined assembly areas, where headcounts will be taken, and further instructions will be provided from management. Due to the geographical extent of the Project multiple assembly areas will be required and identified to construction personnel during the preconstruction orientation meeting. Relocation of the assembly areas will be relayed during the daily JSA/toolbox meeting.

1.1.2 Hazard Communication

All personnel are entitled to know the properties and potential safety and health hazards of chemicals or substances that they may encounter while at the worksite. A Master Chemical List shall be maintained as well as the chemical's corresponding Safety Data Sheets (SDS) and kept in areas of easy access for employee's review. It will be the responsibility of the designated competent person(s) to maintain and revise the list and filing of the SDS as new chemicals are delivered to the site.

1.1.3 Job Safety Analyses

The contractor will perform a detailed Risk Hazard Analysis (RHA) on each anticipated construction activity and will use the results of the RHA to develop JSA documents that identify the hazards related to each task and provide measures to eliminate or mitigate those hazards. Information contained in the JSA form includes; a work plan, identification of any specialized training required for that task, actions to be taken to eliminate hazards, tools, materials, and safety equipment required to perform the task, and any other special precautions.

Each day prior to the start of any work, all employees and subcontractors will review the JSA with the construction supervisors and safety inspectors at the daily toolbox safety meeting. All construction personnel will be required to sign the form verifying they have attended the safety meeting and understand and accept the work requirements set forth in the applicable JSA. JSAs are kept on site for reference at any time and are reviewed and revised as work activities or site conditions change.

Jobsite Inspections shall be performed regularly by safety inspectors and/or construction supervisors to maintain a safe work environment. If an unsafe situation is identified, it will be addressed immediately by removing the hazards or changing the work activity until the hazard no longer exists. All construction personnel will be made aware through training that they possess Stop Work Authority. This program is designed to provide employees and contract workers with the responsibility and obligation to stop work when a perceived unsafe condition or behavior may result in an unwanted event.

Accident prevention is the key to eliminating the possibility of injury to employees and property loss. All construction personnel will be trained and required to inform their supervisors and safety personnel of any injury or near misses as soon as possible but not more than 24 hours from when the incident occurred. Serious incidents resulting in hospitalization, amputations or fatalities will be reported to OSHA as soon as possible but no later than the minimum notification requirements provided in OSHA's Injury and Illness Recordkeeping and Reporting Requirement. Construction supervisors will be responsible for reporting the incidents to the construction safety inspectors who will work with HG&E or their representative to conduct a formal accident investigation. The purpose of the investigation is to gather data through, witness statements, accident site review, and photographs to determine the root cause of the incident. Once the root cause has been determined corrective actions will be implemented.

1.1.4 Personal Protective Equipment

The use of Personal Protective Equipment (PPE) will be required during this Project and shall be of safe design and undamaged. At a minimum, the PPE to be worn on the Project will be a hard hat, safety glasses, high visibility reflective clothing, and foot protection. Additional PPE may be required based on the specific work assignment. PPE requirements will be identified in the SSSP and during the daily JSA/toolbox safety meeting.

1.1.5 Housekeeping

Good housekeeping practices are an integral part of assuring worker safety and maintenance of the jobsite. Good housekeeping is practiced to keep the site clean and well organized in order to reduce spill and fire potential, including:

- Immediate clean-up of any spilled material at the site.
- Prevention of facility-wide stormwater pollution by exposed materials, equipment or trash.
- Prompt corrective maintenance of any equipment with oil drips or leaks.

All personnel should comply with Project housekeeping requirements.

1.1.6 Excavation and Trenching

Before excavation, the local one call system will be contacted (i.e., Dig Safe, 811) to help determine the location(s) of underground installations. Since the Project will be within the existing footprint of the West Holyoke Facility, the contractor shall also coordinate with the HG&E for the mark out of buried utilities within the fence line of the facility prior to any excavating activities. All underground utility locations must be marked out. All overhead hazards (surface encumbrances) that create a hazard to employees must be identified with proper signage, removed or supported to eliminate the hazard. Any trench or excavation that is five feet in depth or greater will require a protective system unless the excavation is made entirely in stable rock. Protective systems include sloping, shoring, or benching. Any trench or excavation that is four feet or more in depth is required to have stairways, ramps, or ladders spaced so that workers' lateral travel does not exceed 25 feet. Ladders shall extend at least 36 inches above grade level and be secured to prevent the ladder from moving when in use. Barrier protection shall be provided at all remotely located excavations; all wells, pits, shafts, etc. shall be barricaded or covered. Upon completion of work, all temporary wells, pits, shafts, etc. shall be backfilled.

1.1.7 Hot Work

Hot work is any work that involves burning, welding, cutting, grinding, using fire or spark producing tools or that produces a source of ignition. Depending on the location of the hot work, a hot work permit may be required and displayed prominently in the area of work. Workers conducting the hot work shall wear

the appropriate PPE (e.g., fire-resistant clothing) and a fire watch with portable fire extinguisher(s) will be assigned to the area.

1.1.8 Electrical Safety

All electrical equipment should be listed by an approved testing laboratory (Underwriters Laboratories, Inc., or Factory Mutual Laboratories) for the specific application. All electrical installations should conform to the National Fire Protection Association (NFPA) 70: National Electric Code and all applicable local, state, and federal requirements. When codes are in conflict the most stringent should apply. All electrical tools and equipment should be grounded or double insulated. Ground fault circuit interrupters shall be utilized on all 120 volts, single phase 15 and 20 ampere construction receptacle outlets. Damaged or defective electrical tools and/or cords will be tagged out of service and not used. Workers should not work on or in proximity to energized circuits or any voltage unless adequate safety measures have been taken, and the work operation has been reviewed and approved, and are properly trained and qualified to perform such work.

1.1.9 Scaffolding

Scaffold systems, if required, shall be constructed and maintained in accordance with the requirements of 29 CFR 1926.451 and American National Standards Institute (ANSI) A10.8 – 1988. Scaffolds shall be constructed in accordance with the requirements of manufacturer's specification. At all times, during the erection of the scaffold system, the designated competent person for the company building the scaffold system shall remain at the jobsite. The footing of the scaffold shall be set upon sound, rigid, and suitable objects (not barrels, boxes, brick, or etc.). The competent person shall inspect the scaffolding before each shift.

1.1.10 Ladder

Ladders used on the construction of the Project will have the proper duty rating to carry the combined weight of the users plus any material being supported, and that duty rating shall not be exceeded. Only Type I, IA, or IAA ladders shall be used on a construction jobsite, with fiberglass being the preferred material. The type of ladder will be chosen based on the actual job task requirements.

1.1.11 Lockout-Tagout

The contractor will utilize accepted lockout-tagout measures to control hazardous energy. Activity specific lockout-tagout procedures will establish the requirements for the safe isolation of both kinetic and potential electrical, chemical, thermal, hydraulic, pneumatic and gravitational energy prior to work on equipment. Authorized and affected employees will be trained in the work procedures and their roles in the program. Authorized employees are the only personnel certified to lockout and tagout equipment or machinery while affected employees are those employees who operate machinery or

equipment upon which lockout-tagout is required. Affected employees are not authorized to perform the lockout-tagout procedures.

1.1.12 Material Handling

All materials will be properly stacked and secured to prevent sliding, falling, or collapse. The jobsite will be kept clear to provide for the safe movement of workers and equipment and to provide access in emergencies. Personnel will be trained to use proper lifting techniques and should attempt to use mechanical aids to reduce the risk of injury.

1.1.13 Rigging/Lifting

Good rigging practices will be utilized to safely perform lifts. Only properly trained workers will be involved in rigging and lifting operations. Workers shall always inspect hooks, shackles, clamps, chains, and slings before each use and that they are rated for the weight it is about to be used for.

1.1.14 Crane Safety

Crane operators shall submit their qualifications and training documentation for approval before performing work on the Project. The crane owner shall provide annual inspection documentation for the crane and provide information confirming the crane is rated for the job it's about to undertake. A risk assessment will be conducted to determine if the lift will be considered critical or non-critical. Critical lifts will require an approved detailed written lift plan before a critical lift commences.

1.1.15 Steel Erection

All steel erection work shall be performed in accordance with CFR 1926 Subpart R. All crane activities shall follow requirements of CFR 1926 Subpart CC. Steel erection and crane operation will be performed by a qualified subcontractor selected by the contractor. The contractor will provide the following notifications to the steel erection subcontractor:

- The concrete in the footings, piers and walls and the mortar in the masonry piers and walls will attain, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.
- Any repairs, replacements and modifications to the anchor bolts will be conducted in accordance with CFR 1926.755(b).
- Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control. Exception: this requirement does not apply to roads outside of the construction site.

- A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment.

All hoisting operations in steel erection shall be pre-planned to ensure that the requirements of CFR 1926.753(d) are met.

1.1.16 Fall Protection

The contractor will provide fall protection when employees will be exposed to fall hazards beyond those permitted by federal and/or state regulations. A fall-protection work plan will be prepared for all fall hazards associated with the work. Fall protection may consist of, but is not limited to, the following:

- A stairway or ladder is provided at any point of access where there's a break in elevation of 19 inches or more.
- Guardrails are installed for all leading-edge work. For loading bay locations fall-arrest system or fall-restraint systems are used.
- All stairways of four or more risers or greater than 30 inches high are guarded by a handrail or stair rails.
- A hole cover or safety guardrail is immediately installed for all floor holes or openings (greater than two inches in its least dimension).
- Safety harnesses with approved lanyards and tie-off points are used for all other fall protection unless an appropriate procedure or device will be approved in advance by a competent person.
- Stilts may be used on jobsites, but work area floors must be clean/clear of all debris, materials, and equipment.

1.1.17 Illumination

Construction areas, aisles, stairs, ramps, runways, corridors, offices, shops, and storage areas where work is in progress are lighted with either natural or artificial illumination. Lighting shall be in accordance with 29 CFR Subpart D1926.56.

1.1.18 Severe Weather

Outside construction operations including, but not limited to, steel erection, site work, crane operation, and concrete work are suspended if severe wind or rain conditions present safety hazards at the worksite. Ice and snow hazards shall be evaluated, and appropriate measures taken to abate potential hazards.

Holyoke Gas & Electric Department



Policy Title: LNG Plant O&M Manual Foreword

Bill Code: N/A

Page 1 of 1

Effective Date: October 12, 2007

Review/Revision Date: June 10, 2022

Approval: Brian Roy, Gas Superintendent

This manual satisfies the Department of Transportation's Federal requirements detailed in Title 49, Chapter 193, Subpart A, Section 2017, "Plans and Procedures". The manual is broken down into five sections covering a multitude of plant operations and tasks. The sections are as follows:

1. Plant Operations
2. Security Procedures
3. Inspection & Maintenance
4. Gas System Operating Procedures
5. Emergency Procedures

The manual is reviewed at least once every 2 calendar years, with intervals not to exceed 27 months, or whenever a component is changed significantly or a new component is installed. Each change to the plan or procedures is made available at the LNG Plant within 20 days after the change is made. The date of the most recent changes made to the manual is listed in the "Review/Revision Date", shown in the header. The "Review/Revision Date" also serves as a manual review date; if a section of the manual is reviewed without changes being made, the date of the review will be reflected in the "Revision Date". Changes are documented in the annual review memorandums. The memorandums for the previous five years are included following this section.

A report of incidents, safety-related conditions, and annual pipeline summary data is submitted annually, no later than March 15, for the preceding calendar year, in accordance with 49 C.F.R. Part 191 on DOT Form PHMSA F 7100.3-1. This data is currently submitted through the PHMSA Portal.

There are five printed copies of the manual in existence. Their locations are listed below:

<u>Copy #</u>	<u>Location</u>
1	LNG Plant Office
2	LNG Plant Control Room
3	LNG Plant Maintenance Garage
4	Electric Station Switchboard
5	Main Office – 99 Suffolk Street (Superintendent Office)

A digital copy of the LNG Plant O&M can be found at the following Gas Division network drive: INTENTIONALLY OMITTED

APPENDIX G – CLEAN ENERGY COMMITMENT

In this section, please find an overview of HG&E's energy supply as well as energy efficiency and electrification programs. HG&E is committed to the Commonwealth of Massachusetts net-zero goals by 2050, and the proposed Project will contribute to HG&E's ability to strategically implement its long-term electrification plans.

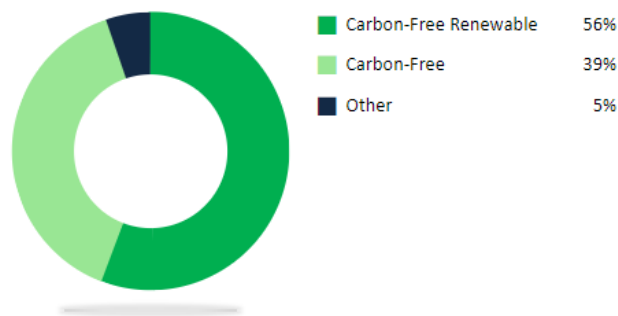
Clean Energy & Community

Since 1902, HG&E has supplied innovative utility services to customers. HG&E is a municipally-owned utility company, which puts HG&E in the unique position to make decisions based on the needs of the communities it serves including Holyoke and Southamptton. HG&E's mission is to provide competitive rates, innovative and sustainable energy solutions, reliable service, and excellent customer care.

Over the last three decades, HG&E has realized substantial emission reductions through a focus on clean energy investments and opportunities as well as by promoting the reduction of energy use through efficiency programs, all while maintaining some of the lowest electric rates in the Commonwealth of Massachusetts. On the natural gas side of operations, HG&E was one of the first utilities in the region to convert to cleaner and safer natural gas from manufactured coal gas in the 1950s. In the late 2000s, HG&E decommissioned its aging and inefficient steam distribution system and converted those customers to natural gas. The direct use of natural gas by these customers, since it is a more efficient manner of delivering and using energy, helped to reduce greenhouse gas (GHG) emissions in the region. The decommissioning of the steam system resulted in further GHG emissions by retiring the steam producing facility, as it used oil as a back-up fuel source. HG&E continues to review additional solutions to further reduce community emissions. Over time, HG&E's ability to provide clean, natural gas service displaced the use of oil and other fossil fuels, including in residential applications.

HG&E's planned enhancement to the West Holyoke LNG storage facility is expected to enable HG&E to provide natural gas service on a strategic and targeted basis. HG&E plans to employ this ability to secure immediate benefits by displacing oil and other fossil fuels. The use of multiple, smaller storage tanks is also expected to provide economic benefits as the transition to electrification continues by avoiding larger stranded costs.

For electric operations, HG&E's goal is to expand carbon-free sources of generation in environmentally sensitive ways. This successful balance is reflected in the fact that HG&E's electric portfolio is 95% carbon-free, significantly less intensive than that of the average utility in New England. In addition, HG&E is a vertically integrated utility - owning generation, transmission, and distribution assets which helps manage rates for the benefit of the community. HG&E owns and operates 50MW of hydro generation and is working in partnership with several energy storage companies (aggregate capacity of 8M with ability to discharge for two hours for 16MWh delivery), as well as commercial solar enterprises (18MW). These unique and innovative projects enhance HG&E's ability to manage service quality and rates for the benefit of the entire community.



HG&E ELECTRIC MIX AS % OF RETAIL SALES

Figure 1: HG&E's Electric Mix was 95% Carbon-Free in 2021.



Figure 2: Carbon-Free Electric Program indicia

In 2022, HG&E rolled out a pilot program for commercial and industrial customers who are interested in purchasing 100% carbon-free electricity. While the carbon-free portion of HG&E's overall power portfolio mix is currently among the highest in the region, there is still a need to purchase electricity from the New England electric grid during certain times throughout the year to meet the total customer demand.

Through this program, HG&E procures the supplemental carbon-free electricity required by purchasing and retiring MA Class I or Class II Renewable Energy Certificates (RECs) and passes those costs along to the participating customers on their monthly HG&E bill. Program participants receive carbon-free electricity marketing materials including: a carbon-free logo, print indicia, and webpage materials.

Program participants receive carbon-free electricity marketing materials including: a carbon-free logo, print indicia, and webpage materials.

While HG&E has come a long way in minimizing the local carbon footprint, largely because of the foresight and innovation of utility leadership in 2001 when HG&E purchased the Holyoke Dam and associated canal assets, it is clear that there is a lot of important work to come. In addition, utility customers throughout the community will be required to make investments in their properties and modify behaviors over time in an effort to comply with Massachusetts net-zero targets. These investments will be complex due to the social and economic make-up of the area, but HG&E is committed to continue to serve as a resource and partner throughout the transition.

The Commonwealth of Massachusetts has designated many Environmental Justice (EJ) populations within Holyoke. Twenty-nine (29) of Holyoke's thirty-seven (37) block groups are considered EJ populations by the Commonwealth. Approximately 31,000 people, or 77% of Holyoke's population, live in one of the EJ block groups. These block groups have been designated as EJ communities based on all three population factors the state considers: income, English language isolation (no one older than 14 speaks English well in the home), and minority. HG&E is committed to making essential utility services affordable and accessible to meet the needs of the entire population, while avoiding any cost shift between customer classes. In addition, HG&E pursues grant funding that becomes available to assist with the energy transition throughout the community with a focus on EJ populations.

To support and educate the community, HG&E has a robust outreach and goodwill program that offers support for community organizations, safety and conservation education, energy-related events, facility tours, and a cadet engineering internship opportunity. These programs help HG&E connect with customers, reach future energy leaders, and gain valuable feedback from customers and the community. One of the most popular educational opportunities is available each spring for the public and school groups when HG&E's Robert Barrett Fishway Visitor Center is open for six weeks during the migration of anadromous fish species. During this time, over 10,000 visitors come to see the Hadley Station Hydro facility and learn about HG&E's important environmental stewardship efforts.

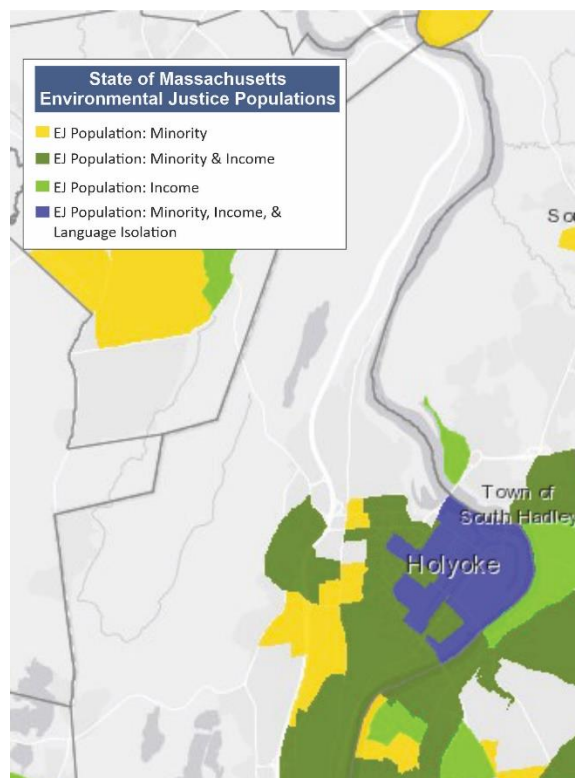


Figure 3: State of Massachusetts EJ Map, City of Holyoke Overview



Figure 4: HG&E's Robert Barret Fishway at the Holyoke Dam, overview of spring fish migration at HG&E's main hydroelectric generating facility.

HG&E has been recognized as a leader in utility transformation and clean energy innovation in the region. Partnering with national and regional energy leaders, HG&E has received over \$5 Million in grant funding to support local, clean energy goals. In addition, HG&E has invested approximately \$20 Million in collaborative clean energy projects that provide renewable energy to the community and enable future clean energy development. HG&E has been recognized by a wide range of agencies for its efforts on both the gas and electric side of operations over the years, including but not limited to:

- 2021 Utility Transformation Leaderboard from the Smart Electric Power Alliance (SEPA)
- System Operational Achievement Recognition from the American Public Gas Association (APGA)
- Reliable Public Power Provider from the American Public Power Association (APPA)
- Smart Energy Award from the American Public Power Association (APPA)
- Certificate of Excellence in Reliability from the American Public Power Association (APPA)
- Smart Electric Power Alliance (SEPA) ranked HG&E third nationally in energy storage per capita
- The Ira W. Leighton, Jr. Outstanding Innovative Technology Award from Environmental Business Council of New England for Mount Tom Solar & Energy Storage System
- Energy Manager Today Project of the Year for Mount Tom Solar & Energy Storage System
- Safety Achievement Award from the American Gas Association (AGA)
- Massachusetts' Solar Cities & Towns 2012: Leaders in the Race Toward a Clean Energy Future – Mueller Road Solar Facility

HG&E is well-positioned to meet and/or exceed the incremental carbon reduction targets set in 2020 by the Commonwealth and is committed to exploring opportunities that will help the community meet the 2050 net-zero goal. In addition to the energy component of HG&E's collective carbon footprint, HG&E has deployed tools that will help the community achieve these goals including the formation of the "Green Team," as well as the development of energy efficiency programs and electrification

opportunities. These goals and initiatives are outlined in HG&E's Sustainability Plan which is being updated and is expected to be available to the public by the first quarter of 2023.

HG&E's Green Team

As a major part of the strategic clean energy transition, HG&E offers a variety of aggressive energy efficiency programs aimed to help customers conserve energy and reduce GHG emissions. Monthly, HG&E's Green Team reviews potential opportunities to ensure programs are balancing current customer needs with the clean energy goals of the department. In addition, the team is charged with ensuring that incentives are cost-justifiable, compared to regional utility programs (MassSave), and do not negatively impact rates for the whole customer base. The Green Team is made up of key employees from throughout the organization and welcomes feedback from customers and local contractors in an effort to continuously improve programs and incentives.

Between 2019 and 2020, HG&E increased efficiency program-related staff and redesigned efficiency programs to better reflect the needs of the community. During that period, HG&E's Energy Efficiency Coordinator designed tracking mechanisms that provide a snapshot of costs and emissions reductions that resulted from customer participation. The Green Team releases an Energy Efficiency Report annually that tracks program progress, participation, and forecasting (see table below).

Q3 2022 HG&E EE Program Summary ⁵								
Incentives and Rebates Summary	2023 Projections	Q3 2022	Q3 2021	% Change from Same Period Last Year	2022 Totals YTD (Q1 - Q3 Only)	2021 Totals	2020 Totals	2019 Totals
Rebates								
Appliance Rebates:								
Quantity:	TBD	48	58	-17%	108	162	158	110
Amount Paid:	TBD	\$4,215	\$2,375	77%	\$9,966	\$8,072	\$8,614	\$3,895
Central AC Rebates:								
Quantity:	TBD	3	4	-25%	7	9	3	0
Amount Paid:	TBD	\$682	\$997	-32%	\$1,920	\$2,377	\$750	\$0
ASHP Rebates (Non-Whole-Home):								
Quantity:	TBD	10	11	-9%	27	30	33	4
Amount Paid:	TBD	\$4,860	\$6,263	-22%	\$13,106	\$14,887	\$12,250	\$1,500
Whole-Home ASHP Rebates:								
Quantity:	TBD	5	0	NA	10	0	0	0
Amount Paid:	TBD	\$7,099	\$0	NA	\$20,662	\$0	\$0	\$0
Weatherization Rebates:								
Quantity:	TBD	7	6	17%	33	45	34	0
Amount Paid:	TBD	\$10,555	\$5,800	82%	\$52,101	\$53,446	\$21,654	\$0
Rebate Totals:								
Total Number of Rebates	247	73	79	-8%	185	246	228	114
Total Amount of Rebates	\$215,635	\$27,411	\$15,435	78%	\$97,754	\$78,782	\$43,268	\$5,395
RECP/CECP								
RECP:								
# of Customers:	TBD	9	15	-40%	31	45	50	65
Amount Paid:	TBD	\$95,500	\$118,801	-20%	\$279,263	\$313,992	\$235,640	\$312,068
CECP:								
# of Customers:	TBD	3	0	NA	5	3	6	3
Amount Paid:	TBD	\$129,585	\$0	NA	\$165,903	\$68,595	\$457,900	\$151,398
RECP/CECP Totals:								
Total Number of CECP + RECP Customers:	52	12	15	-20%	36	48	56	68
Total Amount of RECP and CECP Assistance:	\$500,000	\$225,085	\$118,801	89%	\$445,166	\$382,587	\$693,540	\$463,465
EV Charger Program								
# of Customers Approved During Date Range:	TBD	3	4	-25%	8	13	10	N/A
Total # Enrolled Customers as of End of Date Range:	34	24	20	20%	20	21	9	N/A
Amount Paid During Date Range (Bill credits + Charger Incentive):	\$11,184	\$2,883	\$1,780	62%	\$6,206	\$6,122	\$5,317	N/A
Connected Homes - Smart Device Program								
# of Customers Approved During Date Range:	20	3	2	50%	7	13	N/A	N/A
# Customers with Smart Device Actively Enrolled (as of End of Date Range):	43	17	6	183%	17	12	N/A	N/A
# Notification-Only Customers Actively Enrolled (as of End of Date Range):	0	2	1	100%	2	1	N/A	N/A
Monthly Incentive Amount Paid:	\$371	Pending	\$88	Pending	Pending	\$162	N/A	N/A
Additional Programs								
Beat the Peak - # Customers Enrolled as of End of Date Range:								
Carbon-Free Electric Program - # Customers Enrolled as of End of Date Range:								
Estimated Energy Savings ⁴ :								
Total Annual Natural Gas Savings (Therms):	21,430	2,497	5,845	-57%	14,788	13,816	13,146	Not Available
Winter Peak Natural Gas Savings (Therms):	202	31	40	-21%	169	130	118	Not Available
Total Annual Electric Savings (kWh):	337,831	123,425	22,522	448%	188,468	217,800	86,823	Not Available
Total Summer Peak Demand Savings (kW):	101	56.9	18.9	202%	89.4	65.0	43.8	Not Available
Total Annual Oil Savings (MMBTU):	692	368	118	212%	831	446	465	Not Available
Total Annual Propane Savings (MMBTU):	9	0	6	0%	0	6	0.10	Not Available
Total Annual Emissions Savings (Metric Tons CO2 Equivalent) ^{1,6} :	170	45.1	40.4	12%	147.1	109.6	109.2	Not Available

Audit Summary:								
Total # Audits Conducted:	285	68	48	42%	198	173	113	188
# Virtual Audits Conducted:	TBD	0	0	0%	16	65	81	0
# In-Home Audits Conducted:	TBD	68	48	42%	182	108	32	188
# Individual Customers who Received an Audit:	TBD	60	43	40%	169	158	100	167
# Customers Who Received Incentive Post-Audit ³ :	TBD	16	17	-6%	54	67	39	15
Audit to Incentive Rate:	TBD	27%	40%	-33%	32%	42%	39%	9%

Electrification ² :								
Total Annual Electric Increase (kWh):	TBD	62,121	76,585	-19%	159,723	142,350	95,441	Not Available

1. Carbon emissions savings for electricity saved are based on the following:

- 2020: HG&E's finalized 2020 emissions factor
- 2021: HG&E's estimated 2021 emissions factor
- 2022: Average of 2018, 2019 and 2020 finalized emissions factors

2. Electrification estimates include all estimated increases in annual electric use (For example, if a customer purchases a new air conditioner that is not replacing a previous air conditioner, the estimated electric use of the air conditioner is included in this estimate. Any increases in electric use are included in the electrification section.

3. Based on "program date" column. Only included if audit occurred before incentive was received.

4. Does not account for any increases in energy use until 2022 when increases started to be accounted for for gas oil and propane. If it is unknown whether the customer is replacing an existing appliance/equipment or installing a new appliance/equipment (as is the case for many customers from 2020), it is assumed that the customer is replacing an existing appliance/equipment.

5. Based on Purchase/Service/Installation Date

6. Does not account for carbon savings achieved via Carbon-Free Electric Program or Beat the Peak Program

In 2022, HG&E budgeted approximately \$1,260,000 for efficiency and conservation programs and will be increasing that budget to \$1,500,000 for HG&E's efficiency programs in 2023 (\$500,000 for rebate and audits, \$1,000,000 for the Energy Conservation Assistance Program). The Federal Inflation Reduction Act energy investments will likely have an impact on HG&E program participation in 2023, which will be fully analyzed and opportunities pursued appropriately by the Green Team.

Energy Efficiency & Electrification

As electricity demand is growing and technologies are improving, HG&E is providing more opportunities for energy savings through efficiency and electrification incentives and rebates. These unique and flexible incentives are designed for various customer types and include the following:

- Free Home Energy Audit: customized home assessment to help determine the most cost-effective ways to reduce energy bills;
- Energy Conservation Program: on-bill financial assistance at 0% interest for various projects including heat pumps/mini-splits, gas furnaces and boilers, central ACs, water heaters, weatherization, EV charging infrastructure, and solar PV;
- Rebates: incentive for qualifying appliances, central air conditioners, heat pumps/mini-splits, and weatherization projects including insulation and air sealing;
- Electric Air Source Heat Pump Incentives & Education: a variety of incentives and educational resources are available for heat pumps and mini-splits;
- Electric Vehicle Program - HG&EV: on-going \$10/month bill credit & free level 2 charger in exchange for charging only between the hours of 9 pm - 7 am on weekdays (and anytime on weekends); and
- Demand Response Programs:
 - Connected Homes is a smart device program that leverages the technology of WiFi-connected devices into savings for customers.
 - Voluntary 'Beat the Peak' program to help HG&E keep costs and carbon emissions down through customer lowering of thermostats during peak gas and electric events through receipt of alerts when demand for energy is highest.



Figure 5: HG&EV Program logo

The Green Team also promotes a variety of incentives from partner organization such as MassCEC's Decarbonization Pathways program, Springfield Partners for Community Action's Low Income Weatherization Assistance Program, OneHolyoke's Rental Neighborhood Improvement Program, Valley opportunity Council's Fuel Assistance, and Mass Development's Pace Program. This promotion includes traditional and social media outreach in addition to HG&E's annual commercial and stakeholder update as well as HG&E's monthly residential newsletter 'Footprint' and 'Energy Insights.'

In 2022, HG&E completed an in-house heating customer evaluation. Of the 14,843 occupied residential locations (inclusive of multiple dwelling units), the evaluation results estimated that 69% heat with natural gas, 14% with electric, and 17% with other fuel source (oil, propane, wood, etc.). The report also

identified 2,192 multiple dwelling units in Holyoke that account for 61% of the total residential locations. HG&E is using this data to strategically target conversion of the 17% of the locations consuming higher emitting fuels to cleaner options to reduce overall GHG emissions to the community.

In conclusion, HG&E has achieved significant GHG emission reductions over the last 30 years and is committed to continuing its efforts towards a sustainable future. To achieve net-zero emissions by 2050, per the state target outlined in 2020, the community, state, and country will need to make significant strides in energy, transportation, building design, and all other aspects of this transition. As additional electric technologies are adopted, HG&E is strategically planning upgrades to the electric system to accommodate increasing loads while balancing the financial impact on customers. HG&E will continue to work closely with the community and focus on its mission to provide customers with competitive rates, innovative and sustainable energy solutions, reliable service, and excellent customer care. Additional information can be found in HG&E's annual reports as well as on HG&E's website.

Impact of Electrification on HG&E's Infrastructure

\$125-150* Million in Infrastructure Upgrades to Handle a Full Electric System

**based on 2021 construction estimates*

As HG&E prepares the local electric grid for the State of Massachusetts's Roadmap to 2050, several critical projects have been identified as the City prepares to electrify the transportation and building stock. Unfortunately, none of this is possible without making significant investments in upgrading infrastructure to accommodate the anticipated increased electric loads. It is estimated that full electrification, per the State's 2050 Roadmap, will result in a 3-fold increase in electric demand which cannot be supported by existing infrastructure. HG&E is monitoring load growth and has prioritized key areas for grid modernization in an effort to improve the quality of life and increase economic development opportunities.

As a result of the projected increase in electric demand, HG&E has identified several key areas of its electric distribution system that will require significant infrastructure upgrades to meet projected customer demand. The table below highlights several key areas that will require upgrades to meet the 2050 targets, with the assumption made at this time that the existing substation capacity will be adequate to meet future load requirements:

Item	Projected Cost*	Note
Underground Manhole System Replacements	\$115M	\$36M High St, \$35M Appleton/Suffolk St, \$20M Main St (North end), \$9M miscellaneous
Distribution Transformers	\$13M	Increase of 50% over # of transformers installed currently.
Overhead Wire & Cable Upgrades	\$8M	10% of system
Pole Upgrades	\$3M	10% of system requires upgrades
Service Replacements	\$1M	50% of services require upgrades
Total	\$140M (+/- \$10-15M)	Does not include any substation expansions.

As an example, HG&E has received a few inquiries in the past year for redevelopment of aging buildings along High Street which is where some of the oldest infrastructure within the city resides. The anticipated new loads exceed what the existing infrastructure was originally designed and intended to serve. The necessary infrastructure upgrades required to service new all-electric loads at a property in this vicinity often exceeds \$300k, which adversely impacts economic development since these one-time infrastructure upgrades are traditionally borne by the property owner.

Holyoke's Business District Electrification – High Street Utility Corridor (\$36 Million)

The original manhole and duct bank infrastructure along High Street and associated side streets was constructed in the 1920s and 1930s. At the time, the manholes and conduits were much smaller and not suitable for expansion in the current form. In the 1950's, a 10 MW network electric system was completed to serve the business district in this area. Even when combined, the current infrastructure cannot sustain the increase in materials or demand that will occur as customers in this area adopt additional electric technologies.

In the near future, substantial infrastructure upgrades involving manholes, conduits, transformers, and underground cabling are necessary in order to support the local energy transformation. From the utility standpoint, the main challenges are related to continuing to offer stable utility rates while making significant upgrades to the electric distribution system in order to support future growth. The main costs associated with the High Street project are broken down below.

- New manholes and duct bank infrastructure - \$25 Million
- Update transformers - \$1 Million
- Upgrade underground primary cables - \$10 Million

In addition to these utility investments, property owners will need to make significant investments in their facilities to meet the targets set forth by the Roadmap to 2050.

APPENDIX I – COMPLIANCE WITH SITING REQUIREMENTS WITHIN EFSB REGULATIONS

1.0 Summary of Compliance with Siting Requirements within EFSB Regulations and Overview of all Mapping Requirements

The Siting Board’s regulations, 980 CMR 10.00, contain several requirements to be met by applicants seeking to construct and operate an interstate LNG facility project. Some of these requirements are “presentational” while others relate to substantive design requirements or elements. For example, a range of mapping analyses are required to be presented in the application to the Siting Board, which seems intended to facilitate the Siting Board’s analysis of site alternatives. Other Siting Board regulations reflect specifically calculated exclusion or control zones or that equipment at a facility be appropriately separated or spaced. The final element in HG&E’s project selection process was the confirmation that the Project at the West Holyoke Facility site will meet or exceed all substantive requirements in the Siting Board regulations and, later, to be sure that all presentational requirements were satisfied. The Analysis in support of the petition addresses all presentational requirements (e.g., presentation of particular maps or matrix analyses.) The table below demonstrates how these various requirements were satisfied and provides convenient cross-references to where within HG&E’s Analysis responsive information can be found.

Requirement per 980 CMR 10.00	How Satisfied
10.02	“Forecast Data Requirements” – please see below
10.02(1)	“Facility Need Requirement” which requires the analysis of need alternatives and a description of why the applicant’s existing facilities will not be adequate to serve the requirements forecasted – please refer to Section 3.0, Section 4.0 and Section 5.0 of the Analysis.
10.02(2)	“mapping Requirements” a range of maps of uses are required to facilities review – please refer to Appendix I, Section 1.1, EFSB mapping Requirements (below).
10.02(3)/10.03	“Demonstration of Conformity with Siting Standards” and “Performance Standards for Determining Site Sizes” – please refer to Appendix I, Section 1.2, Conformity with Siting Studies (below).
10.02(4)	“Alternative Site Evaluation matrices” – please refer to Section 5.0.
10.04	“Ancillary Requirements” - please refer to Appendix I, Section 1.3, EFSB Ancillary Requirements (below).

1.1 EFSB Mapping Requirements

Relevant Siting Board regulations require developers to provide maps of a range of background data or uses on site areas within any application to the Siting Board for approval of an LNG facility. HG&E retained Sanborn Head, an expert engineering firm, to assist with the development of the mapping required by the Siting Board's regulations. The Sanborn Head report on this process is provided as Appendix I, Attachment 1.

The "mapping" or presentational requirements from the Siting Board's regulations, 980 CMR 10.02(2), are listed below, along with a description or reference to how each requirement is satisfied and where the required information is presented. The Siting Board's requirements with respect to mapping require, among other items, the calculation and presentation of specified 2,000, 1,000 and 460 BTU/ft²-hr zones. A map reflecting these mapping requirements (as well as the vapor retention requirements described below) is provided as Appendix I, Attachment 2. The apparent intent of these requirements is to help to identify and consider special or sensitive "off-site" receptors that could theoretically be affected by the construction or operation of an LNG facility project. These receptors include such areas as natural preserves, historic or scenic districts, hospitals, schools, nursing homes, churches, places of outdoor assembly, population densities and surface water and groundwater resources, which are all typically germane to the Siting Board's analysis. For the Project at the West Holyoke Facility site, no relevant "off-site" receptors are located within the specified thermal radiation zones.

Requirement per 980 CMR 10.02(2)	How Satisfied
(a) The applicant shall provide a map or series of maps of the preferred site and all alternative sites proposed which show the following at a useful scale:	See below
1. location of property	Figures 1-1, 1-2, 2-1 and 2-2
2. property boundaries and dimensions	Figure 1-2; Appendix L, Figure 1, p. 2
3. major existing structures and equipment on the property	Figure 2-2
4. location of the following zones:	
- 2,000 BTU/ft ² -hr zone;	Appendix I, Attachment 2
- 1,000 BTU/ft ² -hr zone;	Appendix I, Attachment 2
- 460 BTU/ft ² -hr zone;	Appendix I, Attachment 2
- vapor dispersion zone.	Appendix I, Attachment 2
5. anticipated location and dimensions of the storage tank, new ancillary facilities and dike	Figure 2-1; Appendix I, Attachment 1; Appendix B
6. topography of the site out to and including the most distant zone specified in 980 CMR 10.02(2)(a)4.	Figure 1-1; Figure 2-2; Appendix L, Figure 1, pp. 1, 2 and 7

Requirement per 980 CMR 10.02(2)	How Satisfied
7. current zoning scheme out to and including the most distant zone specified in 980 CMR 10.02(2)(a)4.	Appendix I, Attachment 5
8. special land uses including agricultural land, parks, forests, recreational areas and areas designated by a governmental agency for protection as natural preserves or historic or scenic districts out to and including the most distant zone specified in 980 CMR 10.02(2)(a)4.	Appendix L, Figure 1, pp. 4, 5, and 6
9. location of all hospitals, schools, nursing homes and churches and places of outdoor assembly out to and including the most distant zone specified in 980 CMR 10.02(2)(a)4.	None
10. surface water and groundwater resources out to and including the most distant zone specified in 980 CMR 10.03(2)(a)4.	Appendix L, Figure 1, p. 3
11. population densities out to and including the most distant zone specified in 980 CMR 10.02(2)(a)4.	Figures 1-1, 1-2; Appendix L, Figure 1, p. 1, Appendix I, Attachment 2
12. alternative truck routes from exit of nearest highway to site, showing local street names, bridges and elevated roadways, underpasses and tunnels, unpaved roads and all locations on these routes requiring the exercise of additional caution. Information provided here should also include a general demographic description of the area through which these routes will pass.	Appendix I, Attachment 6
13. nearby gas pipelines and point of interconnection for new facility	Appendix I, Attachment 7
14. sewers, subway tunnels, drainage systems, underground electrical systems and all other underground conduits out to and including the most distant zone specified in 980 CMR 10.02(2)(a)4 as well as for all truck routes specified in 980 CMR 10.02(2)(a)4.	None
(b) The applicant shall provide a system map, showing location of preferred and alternative sites.	Figures 4-1, 4-2, 4-3, 4-4, 4-5, 4-6 and 4-7; Appendix L, Figures 1, 2 and 3

1.2 Conformity with Siting Standards

Other applicable federal regulations require a developer to present or map information on areas surrounding a proposed LNG facility project. The mapping zones described in these regulations are generally complementary to those contained within the Siting Board's regulations. In summary, HG&E fully addressed the Siting Board's siting requirements in 980 CMR 10.00 and in addition ensured that the more conservative federal siting and mapping requirements under 49 CFR Part 193 and NFPA 59A-2001 were met with respect to the Project. The findings of the Siting Board and federal siting analyses are further described below.

Siting analyses for the alternative sites, Whiting Farms Road and Apremont Highway, were not performed though it is expected that any LNG facility that could be constructed at either site would be able to conform to both the Siting Board and federal siting requirements. More specifically, the Whiting Farms Road site with a single shop-fabricated LNG storage tank of the same capacity and assuming a similar layout of equipment than the Project is expected to have similar findings for thermal radiation protection and vapor dispersion exclusion zones while using normal and acceptable mitigation methods to fully conform. In regard to the Apremont Highway site with a single larger full-containment, field-erected tank, it is also expected to conform to the required thermal radiation protection and vapor dispersion exclusion zones based on using normal and acceptable mitigation methods and in addition because the size of the larger parcel that this site would reside in, which is owned and controlled by the City, would be void of any off-site sensitive receptors.

1.2.1 EFSB Siting Standards

980 CMR 10.00 specifies requirements for analysis of thermal radiation and vapor dispersion for LNG facilities in the Commonwealth of Massachusetts. A preliminary siting analysis was performed for the Project, using the methodologies specified within the 980 CMR 10.03(1) for a thermal radiation protection zone and 980 CMR 10.03(2) for a vapor dispersion exclusion zone. The analysis determined that both the thermal radiation protection zone and vapor dispersion exclusion zone resulting from an unlikely LNG release from the new LNG storage tank will remain within the property as required by the EFSB siting standards. See Appendix I, Attachment 2 for a map of the West Holyoke Facility site showing the EFSB thermal radiation protection zone and vapor dispersion exclusion zone. The detailed analysis is provided as an attachment.

1.2.2 PHMSA Siting Standards

Under The Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations, 49 CFR 193.2005 defines the applicability of the current code to both new and existing LNG facilities. As specified in 49 CFR 193.2005 (a), the current siting and design requirements do not apply to the existing installation at the West Holyoke Facility, as these LNG facilities were already in service before the current siting requirements went into effect. However, the equipment to be installed by the Project is required to be sited and designed in accordance with the current regulations, which include requirements for spill containment, thermal radiation and flammable gas dispersion analysis.

A preliminary siting analysis to additionally ensure compliance with these federal siting requirements was performed for the proposed addition of the LNG storage tank, modification to existing piping and construction of a new LNG spill impoundment "dike" system. The Project will include impoundment areas, in accordance with NFPA 59A-2001, to ensure retention of LNG spills associated with the installation of the new LNG storage tank and planned complimentary improvements (i.e., replacement of the single LNG vaporizer system with a redundant LNG vaporizer system). This LNG spill impoundment

“dike” system includes berm walls and curbing around the new tank and associated piping and equipment, which drains to an impoundment basin to collect any spills. The capacity of the spill impoundment “dike” system is sized to meet the requirements of 980 CMR 10.04(1)(c), which exceeds the requirements in 49 CFR Part 193 (150% volume versus 110% volume). See 1.3.1 below.

The federal code for LNG facilities pursuant to 49 CFR Part 193 and, in accordance with section 2.2.3.2 of NFPA 59A-2001, requires that provisions need to be made to prevent thermal radiation from a fire from exceeding the following limits:

- ◆ 1,600 Btu/ft²-hr at a property line that can be built upon assuming the ignition of a design spill (as specified by section 2.2.2.1 of NFPA 59A-2001).
- ◆ 1,600 Btu/ft²-hr at the nearest point located outside the owner’s property line that, at the time of facility siting, is used for outdoor assembly by groups of 50 or more persons assuming a fire over an LNG tank impounding area.
- ◆ 3,000 Btu/ft²-hr at the nearest point of the building or structure outside the owner’s property line that is in existence at the time of facility siting and used for occupancies classified by *NFPA 101 Life Safety Code*® as assembly, educational, health care, detention and correction or residential assuming a fire over an LNG tank impounding area.
- ◆ 10,000 Btu/ft²-hr at a property line that can be built upon assuming a fire over an LNG tank impounding area.

The mapping requirements pursuant to PHMSA requirements are shown in Appendix I, Attachment 3.

The federal LNG regulations require that thermal radiation heat flux distances be determined by using specific computer programs, namely LNGFIRE3 and Phast. The LNGFIRE3 program is typically used to calculate thermal radiation exclusion zones associated with an LNG storage tank impoundment area spill (i.e., pool fire) and the Phast program is normally used to calculate thermal radiation exclusion zones associated with the ignition of a design spill from an LNG jetting release from a piping leak (i.e., jet fire). For the Project, thermal radiation exclusion distances were analyzed for both a pool fire and jet fire. In calculating these zones, conservative assumptions with respect to wind speed, temperature and relative humidity that occur less than five percent of the time based on recorded data for the area (many of which would not be likely to occur simultaneously) and that produce the maximum thermal radiation zone distances were applied as required by 49 CFR Part 193. The analysis determined that the pool fire had the longest exclusion distance for the most conservative exclusion zone (1,600 Btu/ft²-hr) at 223-feet from the center of the new LNG storage tank spill impoundment “dike”. As seen in Appendix I, Attachment 3, this 1,600 Btu/ft²-hr thermal radiation exclusion zone easily falls within the property lines of the existing West Holyoke Facility thus showing full compliance with the federal requirements in 49 CFR Part 193.

In accordance with the federal siting requirements in 49 CFR Part 193.2059, the Project team evaluated Single Accidental Leakage Source (SALS) scenarios to calculate a design spill and used the Phast and FLACS computer models to perform the vapor dispersion protection analysis. The analysis used 50% of

the lower flammability limit ($\frac{1}{2}$ LFL) of LNG vapor (i.e., methane) as the threshold to demonstrate compliance with vapor dispersion exclusion zones. FLACS is a 3D computational fluid dynamics (CFD) model that allows the consequence modeling to consider the interaction of gas flows with site-specific features (terrain, obstacles and obstructions) as well as standard mitigation measures (walls, vapor barriers, etc.), which cannot be performed by the Phast model. Though the federal regulations require each LNG storage tank and LNG transfer system to have a dispersion exclusion zone, based on current guidance from PHMSA and experience from the Project team, the governing LNG spill scenario that creates the most conservative results has been found to be from the “jetting and flashing” from a leak in a pressurized LNG piping system. PHMSA has provided specific criteria to use when evaluating these types of piping leak scenarios, which was applied to the vapor dispersion analysis for the Project. Consistent with established design protocols, mitigation measures (i.e., pipe shrouding and vapor fencing) are planned to be implemented to prevent vapor dispersion exclusion zones from extending outside of the West Holyoke Facility property line. It should be noted that the existing fence around the West Holyoke Facility is fitted with slats to a height of 6-feet and modeling results performed in the analysis included vapor fencing with a height of 8-feet thus requiring modifications to specific areas of the existing vapor fence (which modifications will be completed during Project construction). Based on the findings of the analysis, the vapor dispersion protection distance will be within the property line of the West Holyoke Facility and thus would fully satisfy the requirements in 49 CFR Part 193.

1.3 EFSB Ancillary Requirements

1.3.1 Dike Requirements

The new LNG storage tank will have its own spill impoundment “dike” that will be independent of the existing LNG storage tank spill impoundment system and that will conform with 980 CMR 10.04(1) that requires an LNG storage tank to have an independent spill impoundment “dike” sized for 150% of the storage tank volume. See Section 2.0, sub-section 2.3.2 for further details.

1.3.2 Separation of Components

The layout of the new LNG storage tank and associated equipment will be in accordance with the requisite setbacks and locations governed by NFPA 59A, 220 CMR 112.00 and 980 CMR 10.04(2) to enable the predictable movement of personnel, maintenance equipment and emergency equipment within and around the West Holyoke Facility. These planned modifications will not change the existing ease of access and egress for personnel, equipment and materials of HG&E and local authorities in being able to control the leakage, spill or release of LNG, firefighting and evacuating and rescuing personnel at the site.

1.3.3 Inspection of Insulating Material

980 CMR 10.04(3) requires that the integrity of the insulating material and sealant at each facility be certified yearly by a registered professional engineer and that the results of such inspection be provided to the Department of Public Utilities (DPU). Specifically, 980 CMR 10.00 defines insulating material as a substance which may be applied to the external wall of the storage tank and/or dike surfaces and whose properties will decrease the rate of vaporization in the event of a spill. For the Project, insulating materials will not be used for either of these cases. The new LNG storage tank will be designed like a “thermos bottle” where there will be an inner tank constructed of stainless steel or another suitable alloy steel that will hold the LNG and an outer tank that will primarily ensure the performance of the insulating system of the tank. The annular space between the inner and outer tanks will contain a perlite insulation blanket and will be held at a vacuum to increase the effectiveness of the system. This is similar to the design of the existing LNG storage tanks at the West Holyoke Facility and the new storage tank insulating system will be monitored and maintained in a similar manner as currently performed by HG&E personnel in accordance with the LNG facility’s Operations and Maintenance (O&M) Manual.

1.3.4 Plan for Removal of Precipitation

HG&E will develop a plan for the removal of rain, ice and snow from the diked area surrounding the new LNG storage tank that provides for completion of snow removal within 48 hours after the commencement of a snow event. This plan will be incorporated into HG&E’s O&M Manual for the West Holyoke Facility. A preliminary precipitation removal plan is attached as Appendix I, Attachment 4.


1.3.5 Safety Plan

The existing West Holyoke Facility O&M Manual Emergency Procedures, as required under 220 CMR 112.41, covers the requirements in 980 CMR 10.04(5) for a plan describing actions to be taken by company personnel and public safety officials in the event of any accident. See Appendix F. In addition, 980 CMR 10.04(5) requires a program of yearly safety consultations with each property owner within the affected of the industrial zone with the intent to ensure the maintenance of necessary levels of information and preparedness for those persons. As identified in Section 1.2.1 above and the attached siting analysis report, neither the thermal radiation protection zone or the vapor dispersion exclusion zone for the Project leaves the property lines of the West Holyoke Facility. Since there are no property owners within an affected area of the industrial zone adjacent to the Project Site, this requirement is not applicable.

1.3.6 Alarm System

The West Holyoke Facility has an existing alarm system as required by 220 CMR 112.00 that provides audible and visible alarms designed to gain the attention of HG&E personnel as well as indicate the location and type of hazard detected. Alarms are also transmitted to a continuously attended operations


center when the facility is not attended. New hazard detection devices associated with the Project will be tied into the existing alarm system. In addition to the Project, HG&E is planning to install a new fire alarm control panel (FACP) to enhance and increase the reliability of the existing fire detection system. The new FACP will be designed and installed in accordance with NFPA 72 – National Fire Alarm Code. (See Appendix C) The existing alarm system is able to provide a means of communicating a warning of hazardous conditions to all locations of the facility frequented by personnel as well as in the control room. As identified in the attached EFSB siting analysis, the zones specified in 980 CMR 10.02(2)(a)4 are all within the property lines of the West Holyoke Facility, so the existing alarm system meets the requirements of 980 CMR 10.04(6).

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1 Introduction

Sanborn Head and Associates (Sanborn Head) is providing the front-end engineering design for an expansion of the Holyoke Gas and Electric (HG&E) peakshaver (Project) located in Holyoke, MA (West Holyoke Facility). The Project includes the addition of a pressurized LNG storage tank. Other complimentary improvements include the replacement of existing LNG vaporization equipment, and upgrades to auxiliary equipment.

1.1 West Holyoke Facility Description

The West Holyoke Facility currently consists of a truck unloading station, four LNG storage tanks, shell and tube vaporizer, and all associated controls and safety systems. The Project will add an LNG storage tank. Other complimentary improvements include the replacement of the existing vaporization system with two shell and tube vaporizers, and upgrades to auxiliary support equipment and systems.

The West Holyoke Facility is located off of Mueller Road in Holyoke, Massachusetts. The West Holyoke Facility is bordered by HG&E property being used for solar power to the north and west and additional HG&E property to the east; a right of way cuts through the property north of the West Holyoke Facility. As part of this analysis, the existing semi-porous barrier surrounding the West Holyoke Facility was used to provide vapor hold-up and reduce the mass flowrate towards the property line; this is an 8-ft tall chain-link fence with slats extending at least 6-ft up with a reported porosity of 10% or less. Figure 1-1 illustrates the West Holyoke Facility location with boundaries of those properties that can be built upon highlighted in red and the vapor fence in magenta.


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Figure 1-1: West Holyoke Facility Location


1.2 Scope of EFSB Siting Analysis

The Massachusetts Energy Facilities Siting Board (EFSB) requires potential LNG facilities to conduct a siting analysis to ensure the EFSB is able to systematically review each project's design. This report addresses thermal radiation and vapor dispersion hazard calculations detailed in 980 CMR 10.03 and mapping requirements in 980 CMR 10.02(2)(a)4. Note that compliance with the siting requirements of 49 CFR 193 was evaluated separately and is not addressed in this report.

2 Spill Collection and Impoundment Design

The Project will include new impoundment areas, in accordance with 980 CMR 10.04(1). The Project includes LNG containment to ensure retention of LNG within the West Holyoke Facility. This includes curbing and trenching around all new and/or modified LNG pipe ways and equipment, which drain to an impoundment basin to collect any spills.

The volume of the proposed LNG impoundment basin is based on the requirements listed in 980 CMR 10.04(1)(c), which equates to 150% of the volume of liquid in the new LNG

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storage tank. The gross capacity of the new LNG storage tank is 70,000 gallons, which requires the impoundment to have a capacity of at least 105,000 gallons.

The dimensions of the impoundment will be 38 ft x 38 ft x 11 ft. This is equal to a total capacity of 118,820 gallons and demonstrates compliance with 980 CMR 10.04(1)(c).

3 Thermal Radiation Protection

The Project team considered the thermal radiation requirements specified in 980 CMR 10.03(1) to determine if the impoundment has proper separation from non-industrial targets outside of the property line. Table 3-1 specifies the targets and protection distances required in 980 CMR 10.03(1)(d) for the Project's 1,444 ft² impoundment surface area.


Table 3-1: Minimum Protection Distances

Target	Protection Distance [d] Equation	Protection Distance [d] (ft)
Any point in an area outside the property which is not zoned for industrial use.	$d = 3.6 * A^{0.5}$	137

The distance between the edge of the impoundment and HG&E's nearest property line (west) is about 330 ft. Since the impoundment and the surrounding areas will roughly be at the same elevation, the protection distance "d" provided by the Project in accordance with 980 CMR 10.03(1)(c) was calculated using the law of cosines to be 262 ft¹. Figure 4 from 980 CMR 10 is provided in Figure 3-1 and the specific protection distance associated with the Project is illustrated in Figure 3-2.

The calculated distance of 262 ft is greater than the required protection distances outlined above in Table 3-1. Therefore, the impoundment location complies with the requirements listed in 980 CMR 10.03(1) such that the thermal radiation protection zone will not be outside of the property line of the West Holyoke Facility.

¹ From 980 CMR 10.03(1)(c): $3w = 114'$

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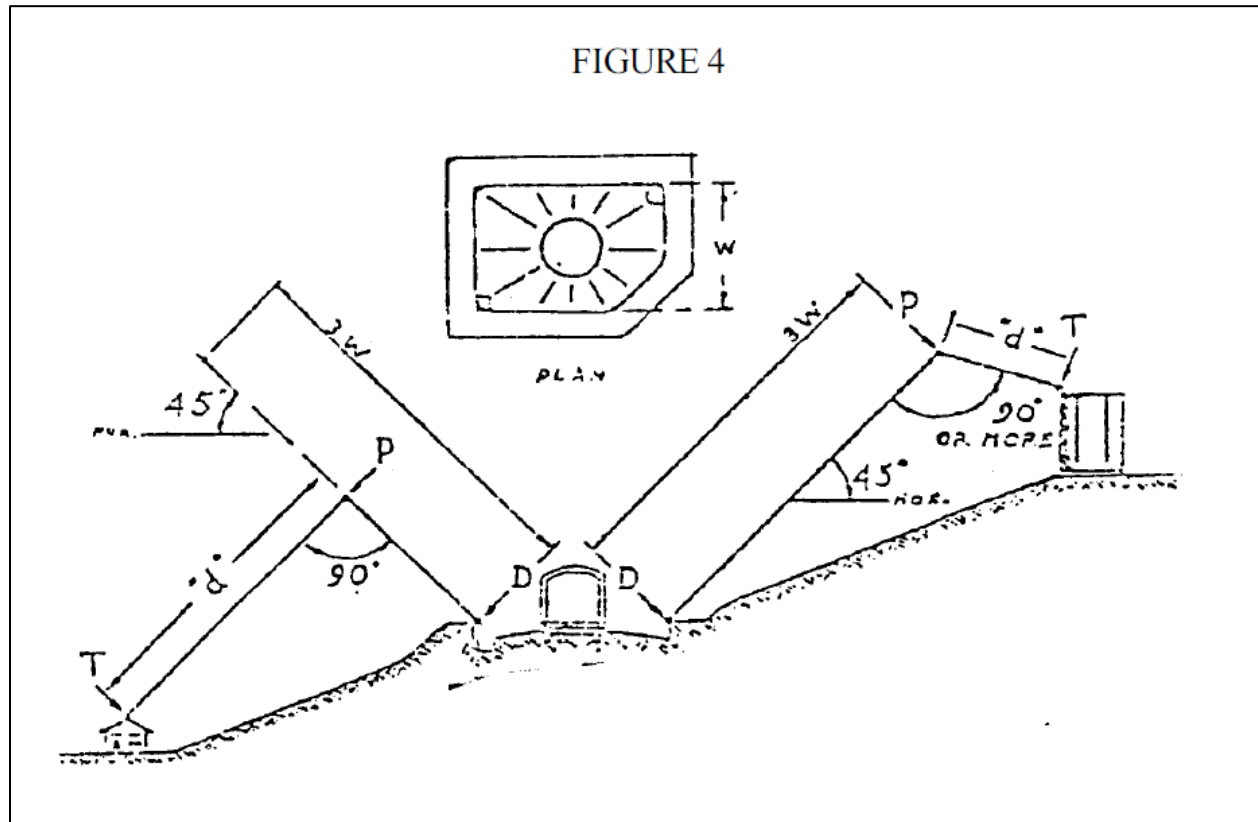


Figure 3-1: 980 CMR 10 Figure 4

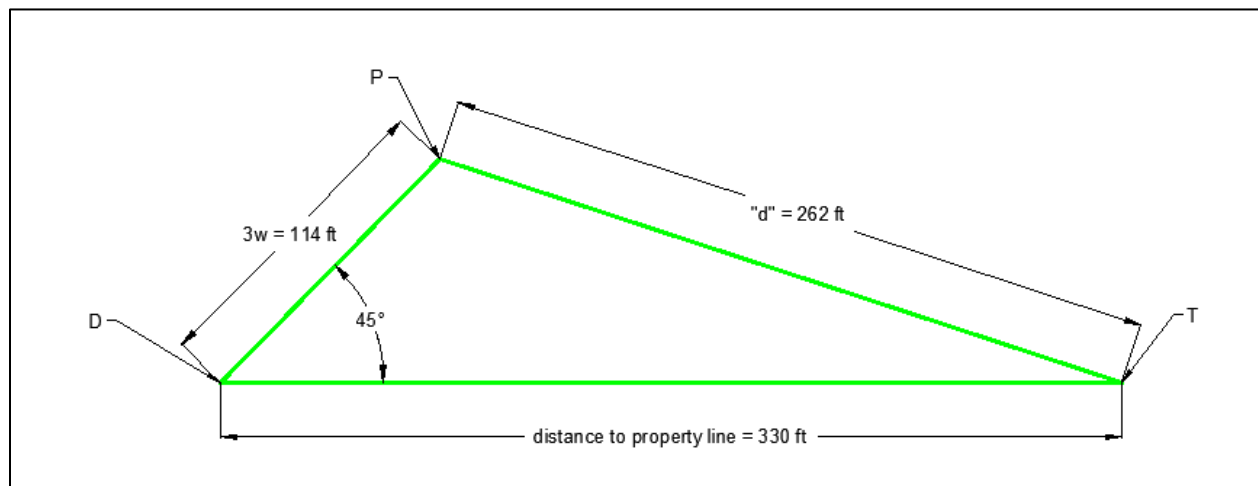



Figure 3-2: Project Specific Protection Distance "d"

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4 Vapor Dispersion Exclusion Zone

The Project considered the vapor dispersion exclusion zone requirements specified in 980 CMR 10.03(2) to determine if there is proper separation from the property line. The Project utilized the publication, "Evaluation of LNG Vapor Control Methods" (American Gas Association, Arlington, VA., 1974) as specified by 980 CMR 10.03(2)(d) to determine the dispersion distance associated with the Project's largest potential release.

980 CMR 10.03(2)(b)3 specifies that the dispersion distance must be calculated using the maximum value between 980 CMR 10.03(2)(b)1 and 980 CMR 10.03(2)(b)2. These sections are provided below:

"(b) Design Accidents for the Calculation of Dispersion Distance (D) In computing dispersion distance (D) under 980 CMR 10.03(2)(d), the following applies:

1. The value of (D_1) is the lesser of the values resulting from the following vapor generation conditions:

a. Vapor generation rate equals the maximum constant rate of discharge from failed transfer piping having the greatest overall flow capacity.

b. Vapor generation from sudden contact of LNG with 100% of the impounding system floor area and 50% of all liquid impounding surfaces which the liquid could contact, including the walls and roof of the component served, plus flash vaporization from the maximum constant rate of discharge from failed transfer piping having the greatest overall flow capacity.

2. The value of (D_2) is based on the following applicable conditions:

a. For all classes of impounding a sudden total spill of the maximum contents of the largest component served, with vapor generation resulting from liquid contact with surfaces of the impounding system and outer component surfaces exposed to the final static fluid configuration and flash vaporization from the contents of the component served."

Flow calculations were performed using the process hazard software Phast. For D_1 , the maximum constant rate of discharge from failed transfer piping having the greatest flow capacity was determined to be 597,797 lb/hr from a guillotine of the 3-in tank sendout line. The tank sendout line will be shrouded and the flash fraction was calculated to be 1%. For D_2 , the flash fraction for LNG stored at -257 F and 130 psi was calculated to be 0.9%.

4.1 Calculation Parameters

There are several constants used to determine the mass evaporation rate and resultant concentration at the West Holyoke Facility's property line. These are listed in Table 4-1.


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Table 4-1: Vapor Dispersion Calculation Parameters

Parameter	Value	Source
Temperature of impoundment (T_i)	47 °C	980 CMR 10.03(2)(d)(6)
	116.6 °F	
Temperature of LNG (T_L)	-257 °F	
ΔT ($T_i - T_L$)	373.6 °F	
thermal conductivity (k)	1.1 W/m-K	FLACS value for concrete ²
	0.64 Btu/hr-ft-°F	
thermal diffusivity (α)	0.000001 m ² /s	FLACS value for concrete ²
	0.03875 ft ² /hr	
Heat of vaporization of methane (λ)	220 Btu/lbm	AGA
Density of methane (liquid)	27 lb/ft ³	AGA
Density of methane (cold vapor)	0.11 lb/ft ³	AGA
Distance of interest (x)	330 ft	Shortest distance to a property line
	100 m	


Further, there are several parameters required for the vapor dispersion calculation that are specified in 980 CMR 10.03(2)(d) and listed below:

- Average gas concentration in air is 2.0% by volume.
- Wind speed (u) is 5.0 miles per hour.
- Source height (H) is zero.
- Source width (L) is $A^{0.5}$, where A is the inside area measured across the top of the impounding space, as in 10.03(1)(d).
- The Gifford-Pasquill atmospheric stability category is F (moderately stable).
- The temperature of the impounding and storage vessel surface is 47°C.

4.2 Vapor Dispersion Calculations

The Project used the methodology specified in the appendices of the above referenced AGA report to determine the mass evaporation rate (M_e) for a spill into the impoundment and the subsequent vapor mass flowrate that leaks through the porous barrier

² Computational Fluid Dynamics (CFD) model approved by DOT PHMSA for the calculation of vapor dispersion exclusion zones

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surrounding the West Holyoke Facility shown in Figure 1-1, to determine the concentration of methane at the property line.

In order to calculate the flashing associated with the LNG coming in contact with the impoundment surfaces, the Project used Equation A-2 from the AGA report, shown below.

$$\dot{M}_e = q * A / \lambda \text{ (A-2)}$$

Where q is the rate of heat transfer, A is the area of the impoundment, and λ is the latent heat of vaporization, as shown in Table 4-1. The vapor generation rate was calculated as a function of time for D1 and D2. Once the vapor overflows the impoundment and the surrounding curbed area, the vapor accumulates within the fenced area of the West Holyoke Facility.

The fence consists of slats that were determined by Sanborn Head to have a porosity of 10% or less up to at least 6-ft. Therefore, the Project used Appendix E in the AGA report to determine the vapor mass flowrate that leaks through the fence. This was calculated using Equation E-6 from the AGA report, shown below.

$$\dot{M}_{leak} = (2/3) * \rho_v * W * f * C_d * [y(t)]^{3/2} * (2 * g')^{1/2} \text{ (E-6)}$$

Where ρ_v is the density of the vapor, W is the length of the fence closest to the property line, f is the porosity of the fence, C_d is the discharge coefficient of the fence, $y(t)$ is the vapor height at the fence at each time step, and g' is an effective gravitational constant.


The height of vapor accumulation within the fenced area and subsequent vapor mass flowrate leaking through the fence was calculated at each time step after the overflow of the curbed area. Since the vapor accumulation never overflows the vapor fence, the concentration of gas at the property line can be calculated based on the fence leak rate.

In order to determine the concentration of methane in air at the property line, Equation B-1 from the AGA report was used:

$$c(x, y, z) = \dot{M}_e Z^* Y^* / uL \text{ (B-1)}$$

Where \dot{M}_e is the vapor mass flowrate that leaks through the fence, u is the wind speed, and L is the length of the vapor fence in the corresponding direction of interest.

The value of $Z^* Y^*$ was determined using Figure B-1 in the AGA report, shown in Figure 4-1, assuming a stability class of F, as required by 980 CMR 10.03(2)(d), and a distance to the property line from the edge of the fence. Since the distance to the southern property

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line is less than 100 ft, Z^*Y^* was conservatively set to 1 ft^{-1} for the purposes of this analysis (note that a larger Z^*Y^* produces a larger concentration at the point of interest).

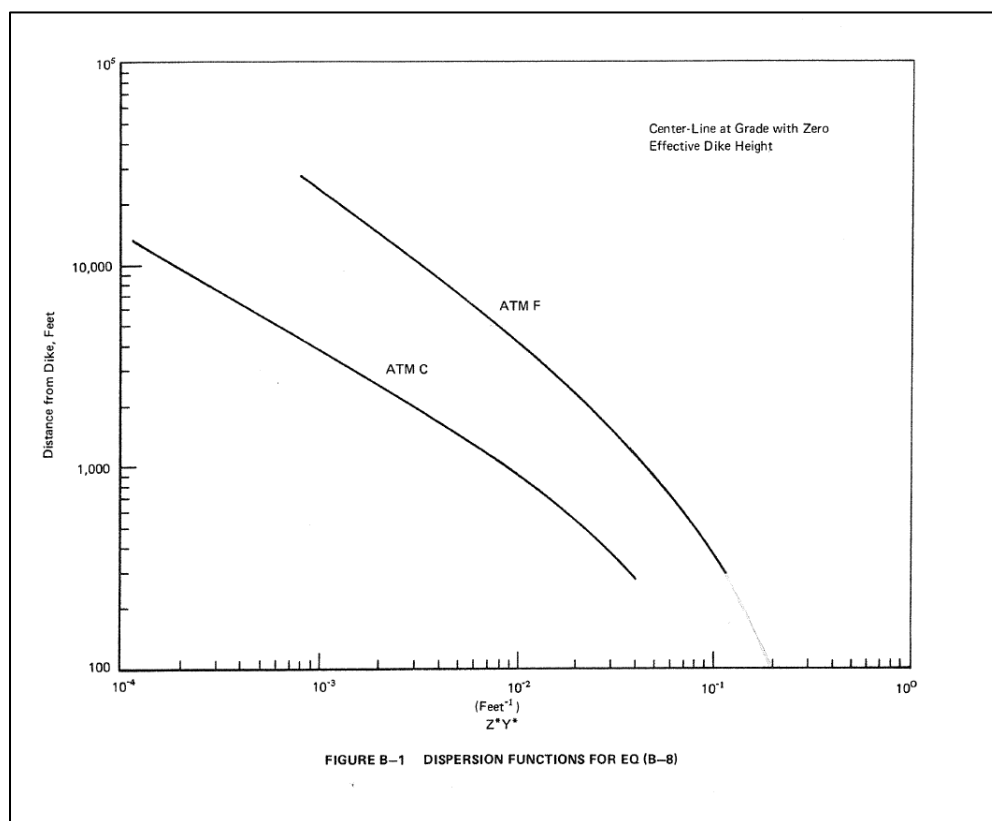



Figure 4-1: Z^*Y^* Function of Distance from Impoundment

The calculated concentration at the nearest property line as a function of time for D_1 and D_2 is shown below in Figure 4-2. Note that the calculated vapor generation from LNG in contact with the substrate was less than the maximum constant rate of discharge from failed transfer piping having the greatest overall flow capacity, therefore, condition (b) was applied to the evaluation of D_1 . In the D_1 calculation, vapor overflows the dike area at 421 seconds and the release stops at 1,316 seconds, which correspond to the linear portion of the increase in concentration for the D_1 curve. Vapor generation continues after the end of the release, but only from the resting pool in the impoundment. Therefore, the concentration increases at a reduced rate following the end of the release.

The D_2 case includes an initial flash of about 1% of the total tank inventory, which results in vapor overflowing the curbed area in just 91 seconds. The concentration is higher at the property line for this case because the liquid inventory is assumed to instantaneously fill the impoundment, which leads to higher vapor generation rates compared to the D_1 case.

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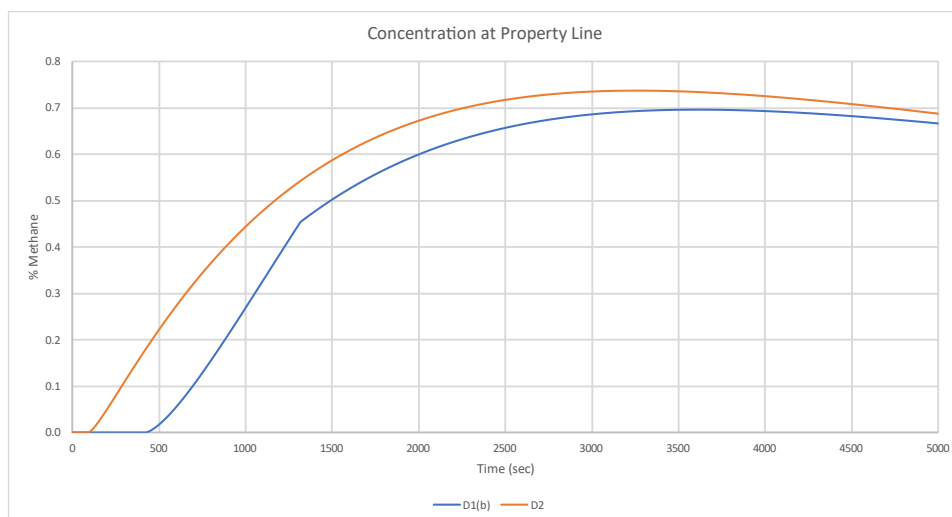


Figure 4-2: Concentration at property line for D₁ and D₂

The maximum concentration at the property line of 0.74% occurs under 1 hour after the beginning of the D₂ release and remains below the allowable 2% concentration as shown in Figure 4-2, demonstrating that the Project complies with the requirements listed in 980 CMR 10.03(2).

5 Mapping Requirements


There are several mapping requirements outlined in 980 CMR 10.02(2). This section is intended to satisfy the thermal radiation requirements in 980 CMR 10.02(2)(a)4.

The Project used LNGFIRE3 to model the potential thermal radiation hazards from an impoundment fire using the weather conditions required by 49 CFR Part 193, which are listed in Table 5-1. Weather data from the Westfield-Barnes Regional Airport, located about 5 miles from the West Holyoke Facility, was used for this analysis. This is this closest station providing hourly weather data.

Table 5-1: Weather Conditions for Thermal Radiation Analysis

Parameter	Value
5 th Percentile Temperature	21 °F
95 th Percentile Wind Speed	17 mph
5 th Percentile Relative Humidity (%)	35

Figure 5-1 shows the thermal radiation distances to the 2,000 Btu/hr-ft², 1,000 Btu/hr-ft², and 460 Btu/hr-ft² thermal fluxes.

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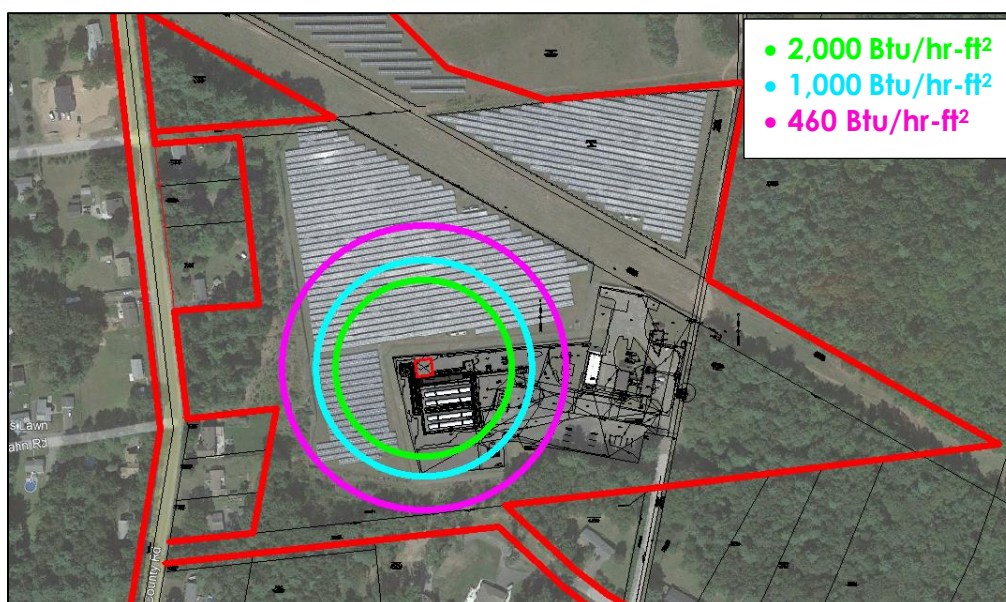


Figure 5-1: Impoundment Thermal Radiation Mapping

6 Conclusion

This EFSB Siting Analysis provides the thermal radiation and vapor dispersion protection areas defined in 980 CMR 10.03 and 980 CMR 10.02(2)(a)4 for the Project. The results show that these protection areas remain within the property owned by HG&E and demonstrate compliance with the referenced requirements of 980 CMR 10.




$$1/64" = 1'-0"$$

1. DRAWING FOR REFERENCE ONLY. REFER TO THE FIRE STUDY AND SITING STUDY FOR ADDITIONAL INFORMATION.
2. REFER TO THE PROPERTY SURVEY FOR ADDITIONAL INFORMATION.
3. THERMAL RADIATION PROTECTION ZONES AND VAPOR DISPERSION EXCLUSION ZONE SHOWN FOR PROPOSED SCOPE ONLY.

 EXTENT OF LNG FACILITY VAPOR FENCING

 CITY OF HOLYOKE PROPERTY

THERMAL RADIATION PROTECTION ZONES PER 980 CMR 10.02(2)(a)(4)	
THERMAL RADIATION	RADIUS
<i>BTU/HR•FT²</i>	<i>FEET</i>
2,000	210
1,000	258
460	338

LNG INFRASTRUCTURE & RESILIENCY PROJECT HOLYOKE GAS & ELECTRIC WEST HOLYOKE LNG FACILITY HOLYOKE, MASSACHUSETTS		PROGRESS NOT FOR CONSTRUCTION		DRAWN BY: JDH DESIGNED BY: JDH REVIEWED BY: C/JF PROJECT MGR: JDH PIC: C/JF DATE: 08/2022		SANBORN  HEAD					
OVERALL SITE PLAN											
EFSB THERMAL RADIATION AND VAPOR DISPERSION						REVISOR		DATE		DESCRIPTION	
PROJECT NUMBER: 5201.01						D		12/01/22		REVISED FOR FEED REPORT	
SHEET NUMBER: N-HM-0004-01						C		11/28/22		REVISED FOR FEED REPORT	
						B		10/21/22		REVISED FOR FEED REPORT	
						A		08/13/22		ISSUED FOR FEED REPORT	
						NO.		DATE		DESCRIPTION	
						BY				DATE	


$$1/64'' = 1'-0''$$

1. THERMAL RADIATION ZONES FROM AN LNG POOL FIRE AT THE NEW PROPOSED SPILL IMPOUNDMENT ARE SHOWN.
2. REFER TO THE PROPERTY SURVEY FOR ADDITIONAL INFORMATION.

 EXTENT OF LNG FACILITY VAPOR FENCING

 CITY OF HOLYOKE PROPERTY

49 CFR 193/NFPA 59A THERMAL RADIATION ZONES	
THERMAL RADIATION	RADIUS
<i>BTU/HR•FT²</i>	<i>FEET</i>
10,000	139
3,000	188
1,600	223



SANBORN & HEAD

DRAWN BY: JDH
DESIGNED BY: JDH
REVIEWED BY: CJF
PROJECT MGR: JDH
PIC: CJF
DATE: 08/20

PROGRESS
NOT FOR
CONSTRUCTION

**LNG INFRASTRUCTURE & RESILIENCY PROJECT
HOLYOKE GAS & ELECTRIC
WEST HOLYOKE LNG FACILITY
— HOLYOKE, MASSACHUSETTS**

OVERALL SITE PLAN PHMSA THERMAL RADIATION ZONES

PROJECT NUMBER:
5201.01

SHEET NUMBER:
N-HM-0004-02

1.0 PRECIPITATION REMOVAL PLAN

1.1 General

The Project has been designed with the utmost care to maximize the safety of the public and HG&E employees. The removal of precipitation for the Project is required to ensure that LNG spills have adequate impounding space and that any spill can reach the impoundment “dike” area. Any precipitation removal system must be designed to ensure that the removal process would not remove LNG with the precipitation and would not act as a source of ignition. The three types of precipitation considered in the plan are rain, snow and ice. This plan is established to comply with the requirements of Section 980 CMR 10.04(4) and 49 CFR 193.2173.

The new LNG storage tank is located within an independent impoundment “dike” and spill collection system. The system consists of concrete berm walls around the tank, a reinforced concrete remote impoundment area with sump to collect spills and a reinforced concrete channel to direct liquid from the tank area to the remote impoundment.

1.2 Rain Removal

Explicit requirements for the removal of rain are set forth in 49 CFR 193.2173. The new LNG storage tank is located within its own spill impoundment “dike” system sized for 150% of the liquid in the tank. The impoundment system contains a sump into which the rain will collect. The sump contains a water level activated pump, which is sized to remove rainfall collected in the impoundment at a rate equal to 25% of the maximum predictable collection rate from a storm of 10-year frequency and 1-hour duration. In order to ensure that LNG will not be removed from the sump, a low temperature sensor has been installed in the channel leading to the impoundment downstream from the tank. The temperature sensor, set at a reasonably low temperature (20°F), will send a signal which will shut off power to the pumps.

1.3 Snow Removal

The removal of snow will be completed within 48 hours after the commencement of a snowfall. Snow removal within the new LNG storage tank spill impoundment “dike” system will be accomplished by a combination of mechanical snow blowers and shovels (for parts of the impoundment area inaccessible to mechanical snow blowers).

Because the removal of snow requires the use of equipment which could act as a source of ignition in the event of a leak or spill, the area within the impoundment “dike” system from which snow will be removed will be checked for flammable vapor with portable combustible vapor detection equipment by HG&E personnel prior to the commencement of snow removal operations. HG&E personnel will remain

at the facility at all times during the snow removal process and will also monitor the fixed flammable vapor detection system until the removal of snow is complete.

1.4 Ice Removal

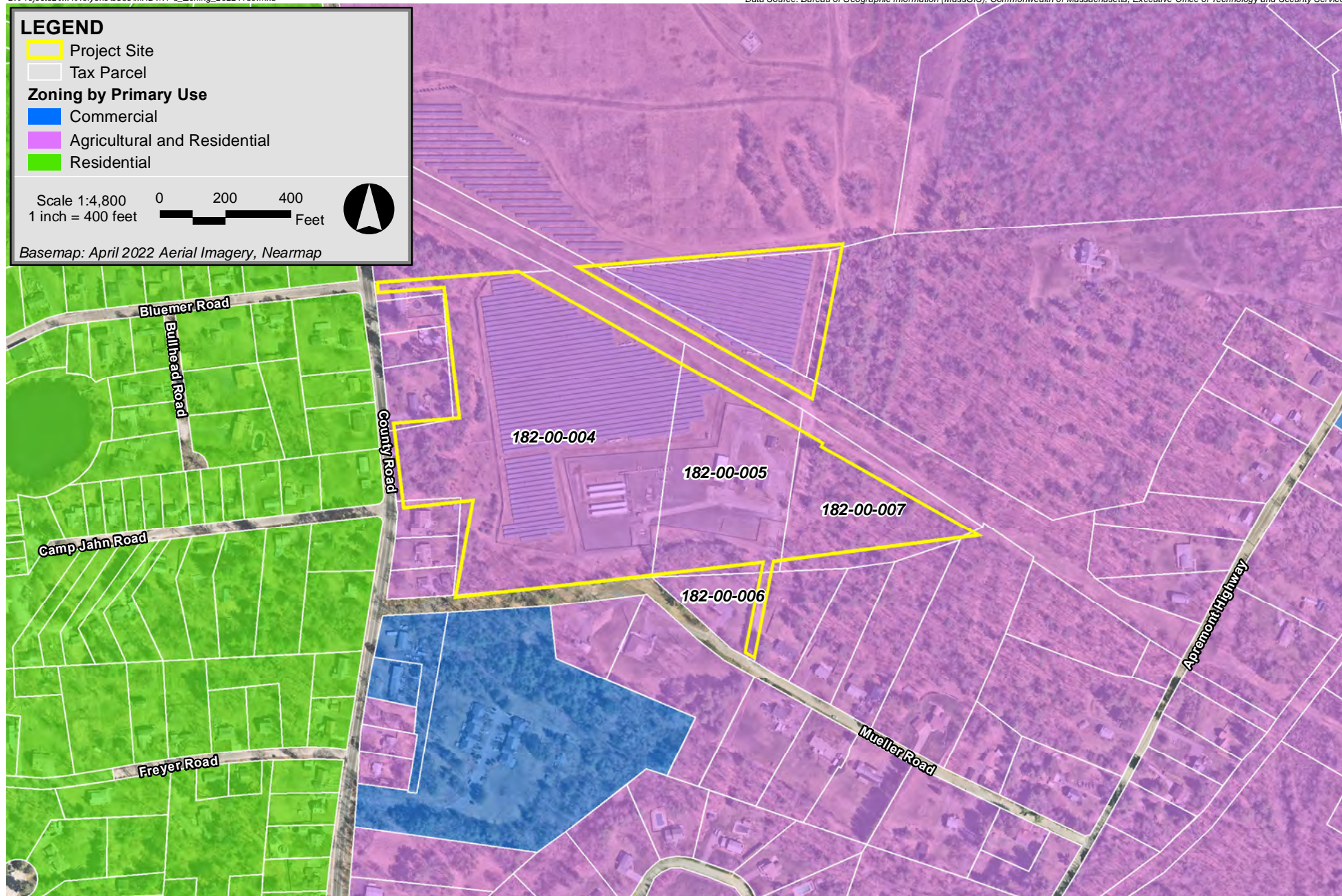
Occasionally, precipitation falls in the form of ice that can coat various facility equipment. In most cases the ice will have no effect on the operation of the new LNG storage tank and components, but it can affect the safety of HG&E operations personnel. The following paragraphs discuss, in order of priority, various facility features with respect to ice removal after an ice storm.

Removal of ice from the UV/IR detectors (heat and flame) will be performed as soon as the precipitation ceases, or sooner if the ice creates an alarm fault, by the use of windshield deicer fluid and lint free cloth only. Any other method of ice removal, including scraping of ice, may damage the glass and will not be performed, unless permitted by the equipment manufacturer instructions.

The decision to physically remove the ice from walkways in the new tank area will be made by considering the weather conditions and the effect on the equipment and safety of operations personnel of leaving the ice in place. For example, if the weather forecast is such that the melting of the ice will occur within 48 hours, then the ice may be decided to be left in place. Removal of ice from walkways may be accomplished by spreading calcium chloride, or similarly suitable material, on the surface of the ice. Under no circumstances will sodium chloride be used, so not to damage concrete structures.

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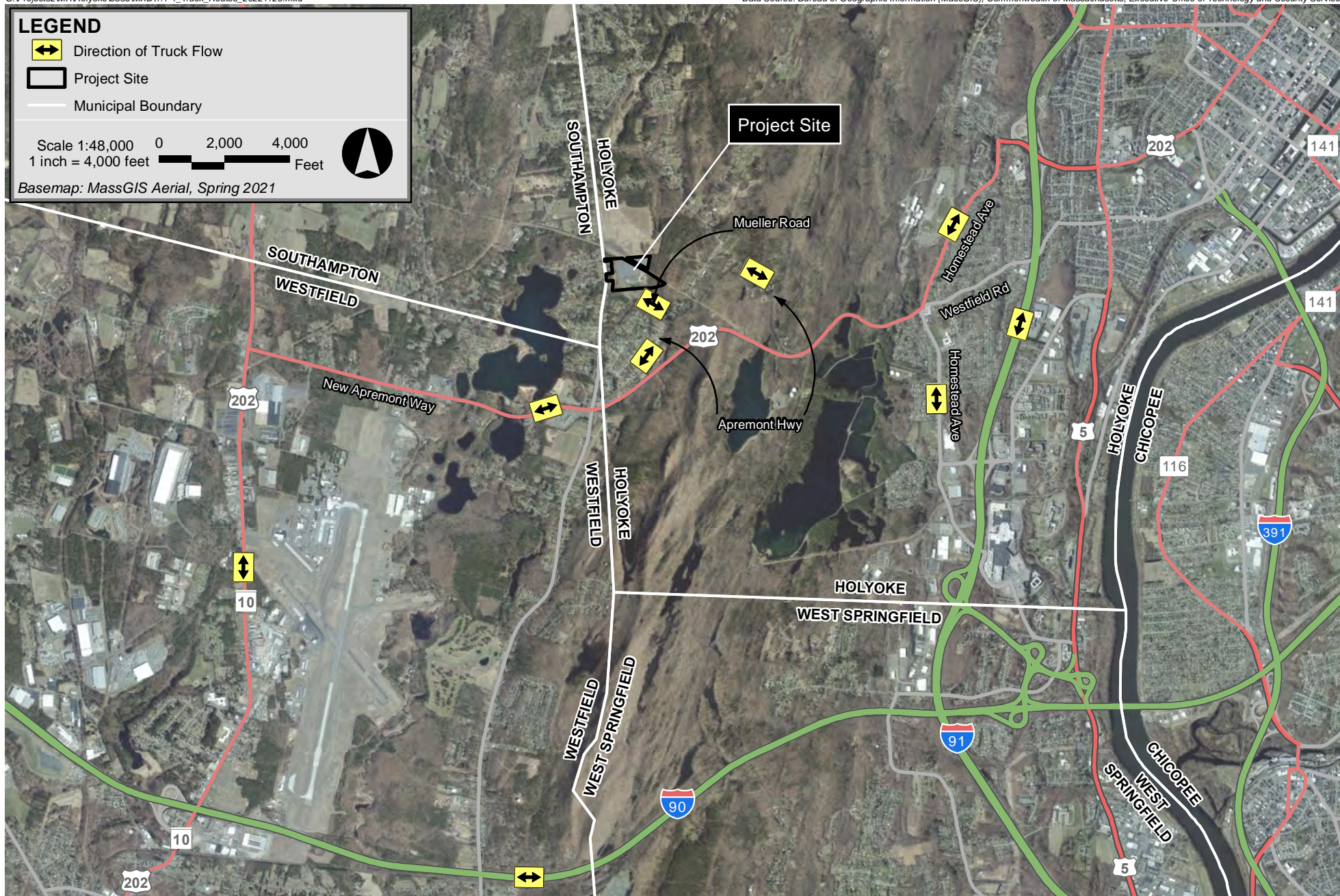
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



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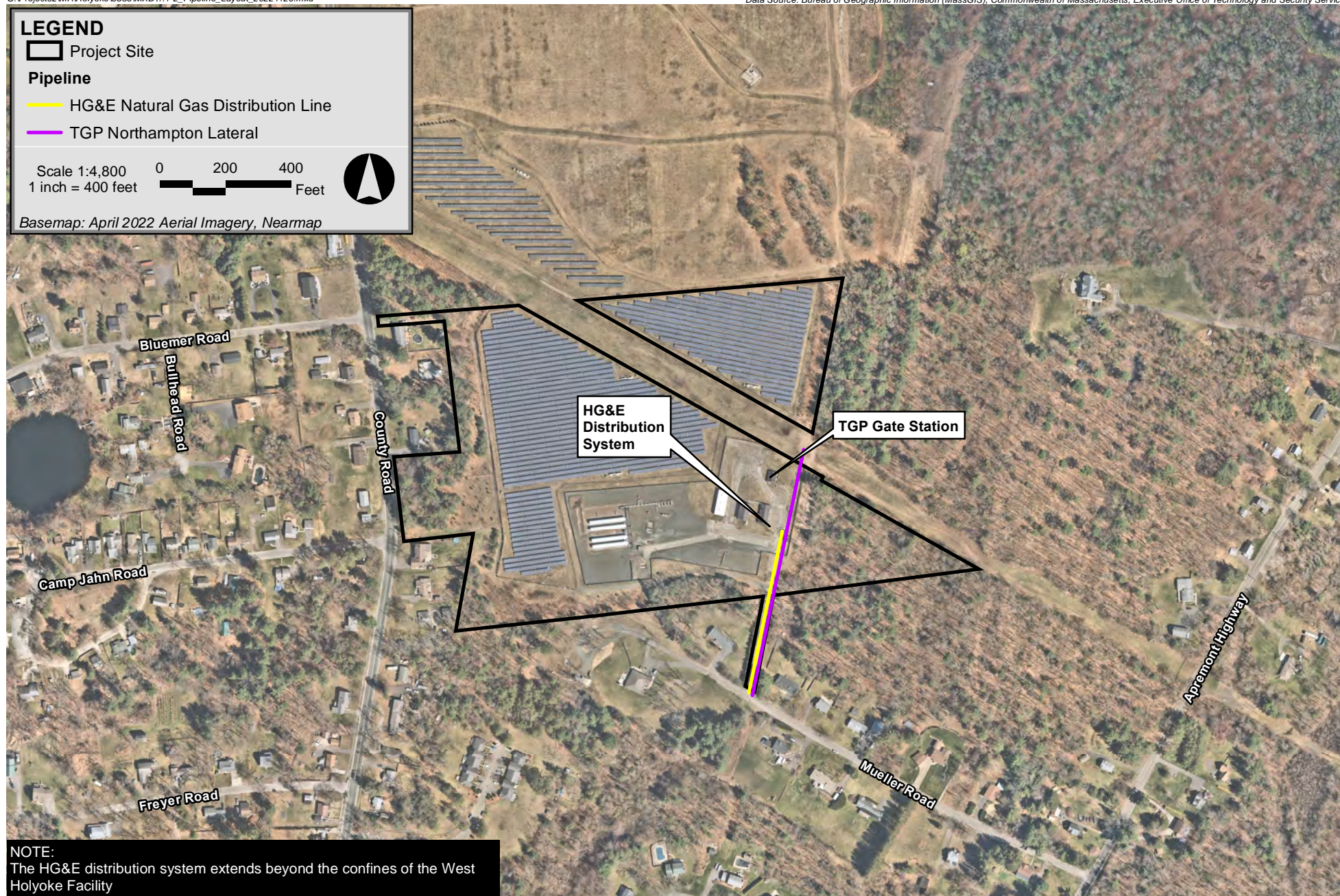
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services




Holyoke Gas & Electric – LNG Infrastructure & Resiliency Project Holyoke, Massachusetts

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Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



Holyoke Gas & Electric – LNG Infrastructure & Resiliency Project Holyoke, Massachusetts



SANBORN HEAD

Stormwater Management Report

MUELLER ROAD LNG FACILITY
Holyoke, Massachusetts

Prepared for Holyoke Gas & Electric
File No. 5201.01
Document No. EVAL-004
Revision No. 2
September 19, 2022

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Appendix A Water Quality Calculations

Appendix B Pre-Development Drainage Stormwater Model

Appendix C Post-Development Drainage Stormwater Model

Appendix D Web Soil Survey



EXECUTIVE SUMMARY

Holyoke Gas and Electric (HG&E) retained Sanborn, Head, and Associates, Inc (Sanborn Head) to perform a front-end engineering (FEED) study (Document # FEED-001) to support the Liquefied Natural Gas (LNG) Infrastructure & Resiliency Project at the Holyoke LNG Facility (Facility). Supporting this FEED study, a stormwater analysis was performed.

The goal of the stormwater design is to limit the predicted peak post-development flows leaving the site to levels that are equal to or less than the predicted peak pre-development flow. The Pre-Development condition reflects the existing conditions at the Facility for the project area. The Post-Development condition reflects post construction conditions in the project area.

Stormwater models for the pre-development and post-development conditions for the project indicate that the predicted peak post-development flows and discharge volumes are less than the predicted pre-development flows and volumes for the 2-year, 10-year, and 100-year, 24-hour storm events at the discharge locations.

1.0 SITE DESCRIPTION

The Holyoke Liquefied Natural Gas (LNG) Facility (Facility), located off Mueller Road in Holyoke, Massachusetts, supports Holyoke Gas and Electric's (HG&E's) natural gas distribution system. During the heating season when there is a high demand for natural gas and when the normal supply of gas from the Tennessee Gas Pipeline (TGP) cannot satisfy the needs of the HG&E gas distribution system, the Facility vaporizes stored LNG and distributes natural gas directly to the HG&E distribution system, maintaining the gas supply flow and pressure to its customers.

2.0 SOIL CONDITIONS

The Facility is located on Mueller Road and is accessed from a residential street via a single driveway and security gate and is bordered by residential properties to the south, and by an HG&E-owned property to the west, north, and east.

Soils mapping was obtained from <http://websoilsurvey.nrcs.usda.gov> and is based on the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey for Hampden County, Massachusetts. Web soil survey results are included as an appendix. The surficial soil at the site, prior to disturbance, consisted of the following soil types:

Exhibit 1 – Surficial Soil Summary

Map Unit Symbol	Map Unit Name	Hydrologic Soil Group
253A	Hinckley loamy sand, 0 to 3% slopes	A
254A	Merrimac fine sandy loam, 0 to 3% slopes	A

A geotechnical engineering report (refer to EVAL-003) was prepared based on the findings of three geotechnical test borings performed at the Facility. The borings confirmed that the natural soil in the project area are sands and sandy silts, which is consistent with the web soil survey results summarized above.

Because the site development will require the management of stormwater runoff, test pits will need to be excavated in the area of the proposed infiltration basin so that the infiltration rate of the in-situ soil can be measured in accordance with the Massachusetts Stormwater Regulations. Test pits will be excavated, and infiltration tests performed prior to construction so that required design changes can be made, if necessary, to adhere with the Massachusetts Stormwater Regulations.

3.0 PROJECT DESCRIPTION

The proposed site development includes:

- Installing a new LNG storage tank;
- Removing the existing shell and tube vaporizer and install two new shell and tube vaporizers; and
- Replacing the existing remote water/glycol heater system with a new system with improved redundancy.

The proposed LNG storage tank will be in addition to the existing array of four LNG storage tanks and will require its own impoundment and impoundment structures with impervious surfaces. The new heaters will replace the existing system and will be protected from rain and snow with a new canopy; refer to FEED-001 for additional information.

Post-development runoff rates will be equal to, or less than, pre-development rates, for the 2-, 10-, and 100-year storm events. Post-development runoff rates will be controlled by Massachusetts Stormwater Handbook Best Management Practices (BMPs) and will meet the applicable requirements of the Stormwater Standards listed in the Massachusetts Stormwater Handbook.

4.0 STORMWATER MODEL CONDITIONS

The stormwater management and conveyance systems design complies with MassDEP's Stormwater Management Standards. The stormwater models were prepared for only a portion of the Facility property where the proposed work is taking place, herein referred to as the project area, as shown on C-0105-01 and C-0105-02.

4.1 Pre-Development

For design purposes, the pre-development condition is based on the existing site conditions, as surveyed and documented by WSP in their Existing Conditions Survey on May 25, 2022. In the current condition, stormwater sheet flows across the project area in a northeasterly direction. Stormwater flows to the grassed area to the north where it infiltrates into the soils.

The pre-development condition and discharge location are depicted in C-0105-01 and the HydroCAD model.

4.2 Post-Development

In the post-development condition, stormwater runoff from the impervious areas of the project area will be directed through an oil grit separator to an infiltration basin with sediment forebay. For the 2-, and 10-year storm events, stormwater directed to the infiltration basin will infiltrate into the existing soils. In the 100-year storm event, some stormwater will be discharged from the infiltration basin overflow spillway into the grassed area to the north where it will infiltrate into the soil. Additionally, in a portion of the project area, stormwater will continue to sheet flow in a northerly direction to the grassed area to the north, as it does in the existing condition, where it will infiltrate into the soil.

The post-development condition and discharge location are depicted in C-0105-02 and the HydroCAD model.

5.0 DRAINAGE CALCULATIONS

The purpose of the drainage calculations is to: (i) demonstrate that the post-development peak discharge rates do not exceed the pre-development peak discharge rates for all conditions for the 2- and 10-year storm events in accordance with the MassDEP Stormwater Management Policy; (ii) evaluate the impact of peak discharges from the 100-year storm event in accordance with the MassDEP Stormwater Management Policy; (iii) select treatment BMPs to pretreat stormwater in accordance with the MassDEP stormwater management regulations; and (iv) demonstrate that Water Quality Volumes meet the 80% total suspended solids (TSS) removal requirement and 44% TSS pretreatment requirements.

5.1 Evaluation of Peak Flow Rates and Stormwater Runoff Volumes

Stormwater calculations were performed using HydroCAD™ version 10.10, which is a stormwater-modeling software developed by HydroCAD Software Solutions, LLC of Chocorua, New Hampshire. The model reports, area listing, soil listing, model node listings for the 2-year, 10-year, and 100-year, 24-hour storm events are provided for the pre-development and post-development conditions.

Rainfall depths are based on National Oceanic and Atmospheric Administration (NOAA) point precipitation frequency estimate tables for Holyoke, Massachusetts. Selection of curve numbers (CN) based on the review of USDA, NRCS soil maps. The Web Soil Survey soil map report is included as an appendix.

Rainfall distribution was modeled as Type III 24-hour Rainfall.¹ Rainfall information for Holyoke, Massachusetts, is listed below:

¹ HydroCAD Software Solutions LLC. 2020. *HydroCAD Software, Version 10.10*. Chocorua, NH.

Exhibit 2 – Rainfall Summary

24-Hr Storm Event	Intensity (inches)
2-yr	3.20
10-yr	5.21
100-yr	8.38

The selected Curve Numbers² are based on the review of the USDA, NRCS soil maps which are attached in the Web Soil Survey. The soil types in the project area are shown as Hydrologic Soil Group A. Curve numbers used in the models are listed below:

Exhibit 3 – Cover Type Summary

Cover Type	Cover Description	Hydrologic Soil Group	CN
Grass	Grass Cover >75%, Good Condition	A	39
Gravel	Gravel	A	76
Crushed Stone	Crushed Stone	A	76
Riprap	Riprap	A	76
Impervious	Concrete	A	98
Impervious	Roofs	A	98

The calculated time of concentration is based on the lag method, sheet flow, shallow concentrated flow, and channel flow.

The stormwater models are included as appendices. The calculated pre-development and post-development peak discharge flow rates at the discharge point are summarized in the following table.

Exhibit 4 – Summary of Peak Discharge Rates

Discharge Location	Pre-Dev. Condition (cubic feet per second (cfs))	Post-Dev. Condition (cfs)
2-Year, 24-Hour Storm Peak Discharge Flow Summary		
DP-1	0.57	0.36
10-Year, 24-Hour Storm Peak Discharge Flow Summary		
DP-1	1.78	0.89
100-Year, 24-Hour Storm Peak Discharge Flow Summary		
DP-1	4.12	1.79

² HydroCAD Software Solutions LLC. 2020. *HydroCAD Software, Version 10.10*. Chocorua, NH.

The stormwater model for the post-development condition indicates that the predicted peak post-development flow rates do not exceed the pre-development peak flow rates.

The calculated pre-development and post-development discharge volumes are summarized in the following table.

Exhibit 5 – Summary of Discharge Volumes

Discharge Location	Pre-Dev. Condition (ac-ft)	Post-Dev. Condition (ac-ft)
2-Year, 24-Hour Storm Peak Discharge Volume		
DP-1	0.038	0.024
10-Year, 24-Hour Storm Peak Discharge Volume		
DP-1	0.109	0.057
100-Year, 24-Hour Storm Peak Discharge Volume		
DP-1	0.248	0.133

The stormwater models indicate that in the post-development condition the discharge volumes to the grassed area north of the project area, discharge point DP-1, are less than or equal to the pre-development volumes.

5.2 BMP Selection

Treatment of the stormwater will be achieved with an oil grit separator and a sediment forebay paired with an infiltration basin. The selected BMPs for the project area are consistent with the Stormwater Standards listed in the Massachusetts Stormwater Handbook.

MassDEP requires pretreatment before stormwater is discharged to an infiltration basin. In situations where the infiltration basin has a rapid infiltration rate, a rate greater than 2.4 inches/hour, a minimum of 44% TSS removal is required as pretreatment for an infiltration basin. For this project, the infiltration rate of the natural soil is estimated to be 8.27 inches/hour based on information provided in the web soil survey. Therefore, two pretreatment BMPs in series are needed to achieve the required pretreatment TSS removal rate of 44%.

5.2.1 Oil Grit Separator

An oil grit separator is proposed as the first of the two pretreatment BMPs. An oil grit separator has chambers that facilitate the separation of floatables and suspended solids from the stormwater. TSS removal rates from the proposed BMPs, as outlined in the MassDEP Stormwater Management, Stormwater Technical Handbook Table TSS, Volume One, dated February 2008, show that 25% of the average annual TSS load is removed when an oil grit separator is used. Combined with a sediment forebay (the second pretreatment BMP), 44% of the average annual TSS load is removed.

5.2.2 Sediment Forebay

As discussed above, a sediment forebay is proposed in combination with an oil grit separator as pretreatment for the infiltration basin. TSS removal rates from the proposed BMPs, as outlined in the MassDEP Stormwater Management, Stormwater Technical Handbook Table TSS, Volume One, dated February 2008, show that 80 percent of the average annual TSS load is removed when a sediment forebay and an infiltration basin are used in combination.

5.2.3 Infiltration Basin

An infiltration basin is a shallow impoundment that infiltrates stormwater into the soil. Infiltration basins are designed to provide storage and infiltration of the recharge volume and treatment of the water quality volume. An infiltration basin is designed to fully infiltrate the entire storage volume into the surrounding soil in a 72-hour period. An infiltration basin is an effective way to provide storage to reduce local and downstream flooding, as well as minimize any loss of recharge to groundwater.

5.3 Water Quality Calculations

Water quality calculations were performed to demonstrate compliance with the required water quality standards identified in “Standard 4: Water Quality” of the Massachusetts Stormwater Handbook. The following criteria are addressed in the water quality calculation:

- Estimate the total TSS removal for each discharge location associated with the project area;
- Calculate the Water Quality Volume for each basin discharge location; and
- Calculate the Required Recharge Volume for each infiltration basin.

The water quality calculations are included as an appendix.

6.0 COMPLIANCE WITH MASSDEP STORMWATER MANAGEMENT REGULATIONS

6.1 Standard #1

No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The Project is designed so that no new stormwater conveyances will allow discharge of untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. The proposed stormwater design incorporates BMPs including an oil grit separator, sediment forebay, and infiltration basin. These stormwater BMPs are designed to reduce peak flow and velocity from existing conditions and therefore prevent any erosion and scour to surrounding wetlands and waters caused by the proposed construction.

The oil grit separator and sediment forebay will both allow solids to settle prior to infiltration or discharge. Accumulated sediment within the pretreatment BMPs will be removed at a scheduled

interval. The infiltration basin is designed to store stormwater flows and regulate post-development runoff rates.

It's also important to note that there are no wetlands or waters of the Commonwealth proximate to the facility, and therefore no stormwater discharges from the Facility to these features. The primary outfall of stormwater results in infiltration, both within the project area and in the adjacent grassed area.

6.2 Standard #2

Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The goal of the drainage design is to limit the post-development flows leaving the construction area to levels that are equal to or less than flows that were predicted for pre-development conditions.

The stormwater calculations described in Section 5 summarize the stormwater evaluations for the pre-development and the post-development conditions. As noted above, the pre-development condition description is based on the existing site conditions.

The post-development condition is based on the proposed Facility improvements described above.

The proposed stormwater conveyances will control the post-development peak discharge rates, so they do not exceed pre-development peak discharge rates for the 2-year, 10-year, and 100-year 24-hour storm events.

6.3 Standard #3

Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post-development site should approximate the annual recharge from the pre-development or existing site conditions, based on soil types.

In the existing site condition, the primary management of stormwater is through infiltration into the existing site soil. The proposed stormwater BMPs selected include the use of an infiltration basin to minimize the loss of annual recharge to groundwater. The basin will allow the post-development recharge rate to be similar to the pre-development recharge rate.

6.4 Standard #4

For new development, stormwater management systems must be designed to remove 80% of the average annual load (post-development conditions) of Total Suspended Solids (TSS). It is presumed that this standard is met when:

- (a) Suitable nonstructural practices for source control and pollution prevention are implemented;*
- (b) Stormwater management best practices (BMPs) are sized to capture the prescribed runoff volume; and*
- (c) Stormwater management BMPs are maintained as designed.*

The proposed Project will provide source reduction of potential TSS through an oil grit separator, a sediment forebay, and an infiltration basin. TSS removal rates from the proposed BMPs as outlined in the MassDEP Stormwater Management, Stormwater Technical Handbook Table TSS, Volume One, dated February 2008, show that 80 percent of the average annual load is removed when a sediment forebay and infiltration basin are used in combination.

Standard 4 also requires the development and implementation of suitable practices for source control and pollution prevention. These measures will be identified in a long-term pollution prevention plan to be prepared later prior to construction. The long term pollution prevention plan may include, but not be limited to, the following:

- A list of all site operators;
- Identification of operators responsible for stormwater operations;
- A site map;
- Identification of all non-stormwater discharges that may occur;
- Description of stormwater controls;
- Procedures for inspection, maintenance, and corrective action; and
- Documentation that staff training has been completed or will be completed.

Standard 4 requires the selected BMPs are maintained as designed. Section 7.0 of this report provides recommended operation and maintenance requirements for the selected BMPs which provides direction on how to maintain the BMPs in accordance with the MassDEP Stormwater Management Standards.

6.5 Standard #5

Stormwater discharges from areas with higher potential pollutant loads require the use of specific stormwater management BMPs. The use of infiltration practices without pre-treatment is prohibited.

For Standard 5, stormwater discharges from land uses with higher potential pollutant loads require treatment by the specific structural BMPs determined to be suitable for treating runoff from such land uses. These BMPs are listed in Table LUHPPL on the Massachusetts Stormwater Handbook. The requirement applies only to stormwater discharges that come into contact with the actual area or activity on the site that may generate the higher potential pollutant load.

LNG peak shaving facilities are not considered areas with higher potential pollutant loads, per the definition in the Massachusetts Stormwater Handbook and associated referenced regulations. Therefore, Standard #5 is not applicable to this project.

However, the proposed oil grit separator and sediment forebay (both BMPs from Table LUHPPL of the Massachusetts Stormwater Handbook), as pretreatment to the infiltration basin, comply with Standard #5 even though it is not applicable.

6.6 Standard #6

Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas. Critical areas are Outstanding Resources Waters (ORWs), shellfish beds, swimming beaches, cold water fisheries, and recharge areas for public water supplies.

Stormwater from the project area infiltrates into the soil within, and adjacent to, the project area. This area is not classified as a critical area, and therefore there are no limitations to the stormwater management BMPs that are allowable in accordance with this standard.

6.7 Standard #7

Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. Where it is not practicable to meet all the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.

The project is not being developed under the redevelopment standards.

6.8 Standard #8

Erosion and sediment controls must be implemented to prevent impacts during construction, or land disturbance activities.

The contractor will be required to implement erosion and sediment controls prior to and during construction to prevent off-site impacts. Additional detail of suggested erosion and sediment controls to be used and their suggested locations will be included as part of the future construction-level design package.

6.9 Standard #9

All stormwater management systems must have an operations and maintenance plan to ensure that systems function as designed.

An operation and maintenance plan for the selected BMPs is provided in Section 7.0. Upon construction of the selected BMPs the operation and maintenance plan will be reviewed and amended, as necessary, to accommodate compliance with the MassDEP Stormwater Management Standards.

6.10 Standard #10

All illicit discharges to the stormwater management system are prohibited.

No illicit discharges to the stormwater management system are proposed.

LNG serves as the greatest threat to an illicit discharge to the stormwater management system. The sump pump within the impoundment will have an automatic shut off at a temperature threshold that would be indicative of LNG ponding in the impoundment and reaching the sump pump. This will allow the LNG to be contained in the impoundment and mitigate any illicit discharge of LNG into the stormwater management system.

7.0 RECOMMENDED OPERATIONS AND MAINTENANCE

Operation and maintenance requirements for the selected BMPs are outlined below and are intended to comply with MassDEP's Stormwater Management Standards.

Operation and maintenance of the proposed stormwater BMPs will be added to the list of responsibilities of the operational staff to ensure continuous functional operation.

7.1 Oil Grit Separator

In accordance with the Massachusetts's Stormwater Handbook, the oil grit separator will be inspected monthly, and after every major storm event. Major storm events are defined as a storm event equal to or greater than the 2-year, 24-hour storm event (≥ 3.2 inches in 24 hours).

Accumulated oil and grease, and sediment will be removed from the oil grit separator a minimum of two times per year, with additional cleaning on an as-needed basis. The oil grit separator shall be cleaned using a vacuum truck or other catch basin cleaning device.

7.2 Sediment Forebay

In accordance with the Massachusetts's Stormwater Handbook, the sediment forebay shall be inspected monthly, and after every major storm event. Major storm events are defined as a storm event equal to or greater than the 2-year, 24-hour storm event (≥ 3.2 inches in 24 hours).

Accumulated sediment will be removed from the sediment forebay a minimum of four times per year, with additional sediment removal on an as-needed basis. If sediment forebay subgrade soil is disturbed during accumulated sediment removal, then they shall be re-stabilized in accordance with standard Facility practices.

7.3 Infiltration Basin

In accordance with the Massachusetts's Stormwater Handbook, the infiltration basin will be inspected after every major storm event for the first three months of operation, and a minimum of twice a year thereafter. Major storm events are defined as a storm event equal to or greater than the 2-year, 24-hour storm event (≥ 3.2 inches in 24 hours). Additionally, the infiltration basin

will be inspected when there is a discharge through the emergency spillway outlet. Inspection of the infiltration basin consists of checking for signs of differential settlement, cracking, erosion, leakage, tree growth; the condition of the riprap, the condition of the crushed stone, accumulation of sediment, and the health of the vegetation (if applicable).

Additionally, if vegetated, the infiltration basin will be mowed at least twice per year, removing grass clippings, accumulated organic matter, trash, and debris at this time.

8.0 SUMMARY

The stormwater runoff calculations indicate that the peak post-development flows do not exceed the pre-development flows from the project area. In the post-development condition, the total infiltration volume matches the pre-development volumes. The proposed stormwater management infrastructure required to support the proposed project area are intended to comply with the Massachusetts Stormwater Regulations and should not adversely impact the quality of stormwater runoff leaving the site.

Proposed BMPs of an oil grit separator, a sediment forebay, and an infiltration basin remove 80% of the average annual load of TSS and to provide water quality.

Appendix A

Water Quality Calculations

PURPOSE:

Per the Massachusetts Stormwater Handbook Volume 2, Chapter 2, Stormwater Best Management Practices, Infiltration Basins must meet certain design criteria. This calculation addresses the forebay sizing and infiltration storage design criteria.

GIVEN:

The water quality rain event for Massachusetts is 1 inch for a Type III 24-hour storm event. The impervious area for the proposed condition for the Infiltration Basin is 0.446 acres (conservatively assuming gravel areas are treated as impervious).

METHOD:

Using the Massachusetts Stormwater Treatment Standards worksheet, calculate the forebay size and required infiltration storage volume in cubic feet for the Infiltration Basin. Confirm that the basin is adequately sized to treat stormwater during the proposed condition.

CALCULATION:

1. Infiltration Basin Water Quality Treatment Standard, WQ_v

$$WQ_v = (D/12 \text{ inches/foot}) \times (A \times 43,560 \text{ square feet/acre})$$

$$\text{Required Water Quality Depth, } D \text{ (in)} = 1 \text{ in}$$

$$\text{Impervious Area, } A \text{ (ac)} = 0.446 \text{ ac}$$

$$WQ_v = (1/12 \text{ inches/foot}) \times (0.446 \times 43,560 \text{ square feet/acre})$$

1,619 cf

$$\text{Required Sediment Forebay Size (10\% of } WQ_v) =$$

162 cf



Stormwater Treatment Standards Volume Summary

Stormwater Treatment Standard	Required Volume	Provided Volume
	cubic feet (cf)	cubic feet (cf)
Water Quality, WQ_v	1,619	1,763
Sediment Forebay	162	281

RESULTS:

The infiltration storage volume for the proposed Infiltration Basin is 1,763 cubic feet of storage, which exceeds the required 1,619 cubic feet of infiltration storage volume. The forebay design provides a volume of 281 cubic feet, which exceeds the size requirement of 162 cubic feet.

CONCLUSIONS:

The calculation shows the required water quality volume for stormwater treatment and that the forebay and required infiltration storage volumes for the proposed Infiltration Basin exceed the Massachusetts Stormwater Treatment Standards minimum for Infiltration Basins.

REFERENCES:

1. State of Massachusetts, Energy and Environmental Affairs, Department of Environmental Protection. Volume 2 Chapter 2: Structural BMP Specifications for the Massachusetts Stormwater Handbook, 1996.
2. State of Massachusetts, Energy and Environmental Affairs, Department of Environmental Protection. Mass Stormwater Treatment Standard, WQ_v excel file worksheet.



PURPOSE:

Per the Massachusetts Stormwater Handbook Volume 3, Chapter 1, Documenting Compliance, required recharge volume must be calculated and included in the Stormwater Report. This calculation addresses the required recharge volume design criteria.

GIVEN:

The impervious area for the proposed condition for the Infiltration Basin is 0.446 acres (conservatively assuming gravel areas are treated as impervious).

METHOD:

Calculate the required recharge volume in cubic feet for the Infiltration Basin. Confirm that the basin is adequately sized to store the required recharge volume during the proposed condition.

CALCULATION:

1. Infiltration Basin Required Recharge Volume

The Required Recharge Volume equals a depth of runoff corresponding to the soil type times the impervious areas covering that soil type at the post-development site.

$$R_V = F \times \text{Impervious Area}$$

$$R_V = \text{Required Recharge Volume in ft}^3$$

F = Target Depth Factor associated with Hydraulic Soil Group

Impervious area = pavement and rooftop area on site

The proposed construction area has Hydraulic Soil Type A soils. According to Table 2.3.2 Recharge Target Depth by Hydrologic Soil Group in the Massachusetts Stormwater Handbook Volume 3, Chapter 1, A Target Depth Factor (F) of 0.6-inches should be used.

The impervious area is 0.446 acres.

$$R_V = (0.6\text{-inches} \times 1/12 \text{ inches/foot}) \times (0.446 \text{ acres} \times 43,560 \text{ square feet/acre})$$

$$R_V = 971 \text{ ft}^3$$



Stormwater Treatment Standards Volume Summary

Stormwater Treatment Standard	Required Volume	Provided Volume
	cubic feet (cf)	cubic feet (cf)
Recharge Volume	971	1,763

RESULTS:

The infiltration storage volume for the proposed Infiltration Basin is 1,763 cubic feet of storage, which exceeds the required 971 cubic feet of required recharge storage volume.

CONCLUSIONS:

The calculation shows the required recharge volume for stormwater treatment and that the required recharge volume storage volume for the proposed Infiltration Basin exceed the Massachusetts Stormwater Treatment Standards minimum for Infiltration Basins.

REFERENCES:

1. State of Massachusetts, Energy and Environmental Affairs, Department of Environmental Protection. Volume 3 Chapter 1: Documenting Compliance for the Massachusetts Stormwater Handbook, 1996.

INSTRUCTIONS:

- 1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
- 2. Select BMP from Drop Down Menu
- 3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: HG&E LNG Facility

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Oil Grit Separator	0.25	1.00	0.25	0.75
Sediment Forebay	0.25	0.75	0.19	0.56
Infiltration Basin	0.80	0.56	0.45	0.11
	0.00	0.11	0.00	0.11
	0.00	0.11	0.00	0.11

Separate Form Needs to be Completed for Each Outlet or BMP Train

Total TSS Removal =

89%

Project:	5201.01
Prepared By:	LMZ
Date:	7/29/2022

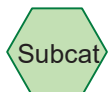
*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

Appendix B

Pre-Development Drainage Stormwater Model



Subcat



Reach



Pond



Link

Routing Diagram for Pre-Development Condition

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.21	2
3	100-Year	Type III 24-hr		Default	24.00	1	8.38	2

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Pre-Development Condition

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.168	39	>75% Grass cover, Good, HSG A (1S)
0.017	98	Concrete (1S)
0.515	76	Gravel (1S)
0.700	68	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.168	HSG A	1S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.532	Other	1S
0.700		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.168	0.000	0.000	0.000	0.000	0.168	>75% Grass cover, Good	1S
0.000	0.000	0.000	0.000	0.017	0.017	Concrete	1S
0.000	0.000	0.000	0.000	0.515	0.515	Gravel	1S
0.168	0.000	0.000	0.000	0.532	0.700	TOTAL AREA	

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Pre-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Runoff Area

Runoff Area=0.700 ac 2.43% Impervious Runoff Depth>0.66"
Flow Length=70' Slope=0.0100 '/' Tc=1.2 min CN=68 Runoff=0.57 cfs 0.038 af

Reach DP-1: DP-1

Inflow=0.57 cfs 0.038 af
Outflow=0.57 cfs 0.038 af

Total Runoff Area = 0.700 ac Runoff Volume = 0.038 af Average Runoff Depth = 0.66"
97.57% Pervious = 0.683 ac 2.43% Impervious = 0.017 ac

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Pre-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

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Summary for Subcatchment 1S: Existing Runoff Area

[49] Hint: $T_c < 2dt$ may require smaller dt

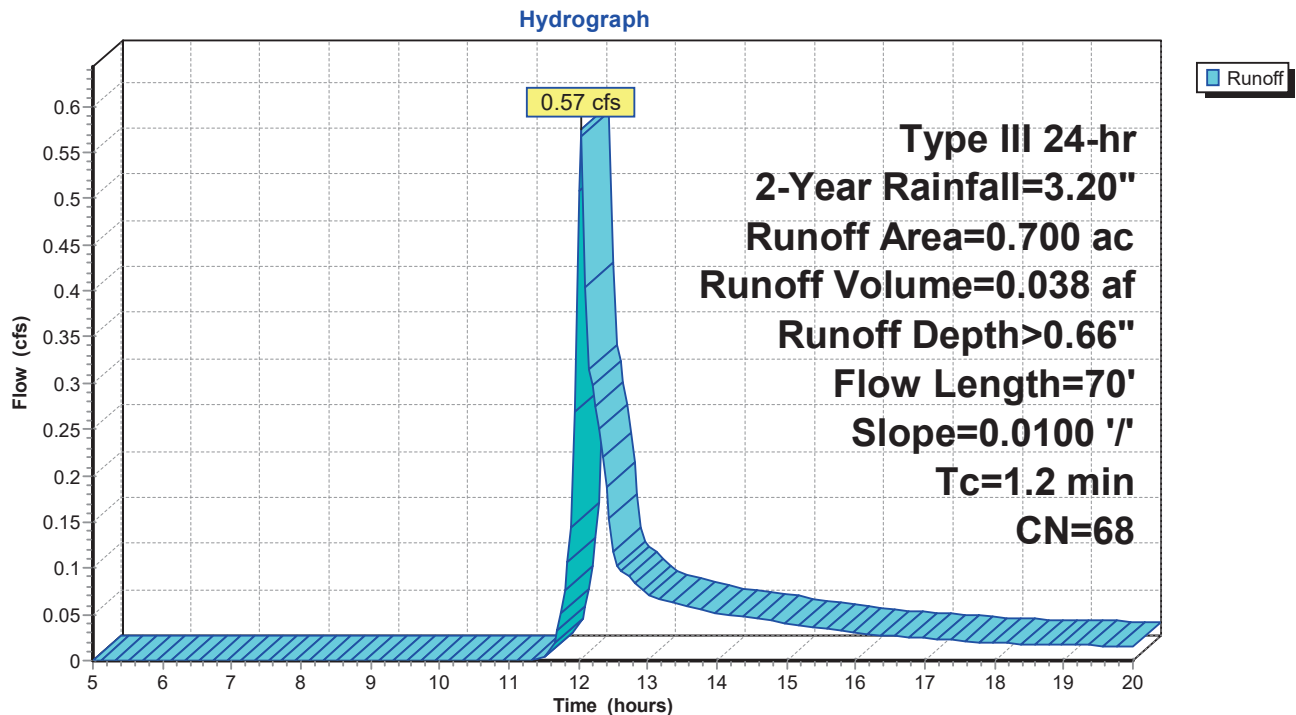
Runoff = 0.57 cfs @ 12.04 hrs, Volume= 0.038 af, Depth> 0.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt= 0.05$ hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
* 0.515	76	Gravel
0.168	39	>75% Grass cover, Good, HSG A
* 0.017	98	Concrete
0.700	68	Weighted Average
0.683		97.57% Pervious Area
0.017		2.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	70	0.0100	0.97		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.20"

Subcatchment 1S: Existing Runoff Area



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Pre-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

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Summary for Reach DP-1: DP-1

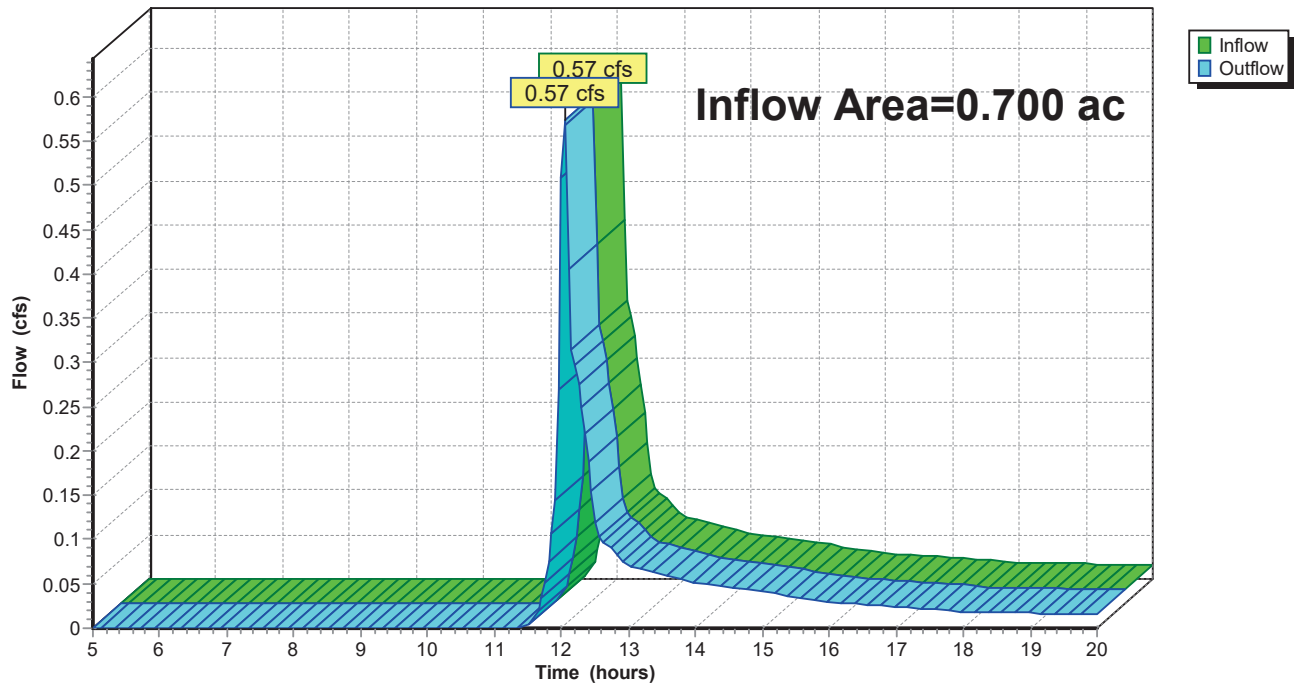
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.700 ac, 2.43% Impervious, Inflow Depth > 0.66" for 2-Year event
Inflow = 0.57 cfs @ 12.04 hrs, Volume= 0.038 af
Outflow = 0.57 cfs @ 12.04 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP-1: DP-1

Hydrograph



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Pre-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Runoff Area

Runoff Area=0.700 ac 2.43% Impervious Runoff Depth>1.87"
Flow Length=70' Slope=0.0100 '/' Tc=1.2 min CN=68 Runoff=1.78 cfs 0.109 af

Reach DP-1: DP-1

Inflow=1.78 cfs 0.109 af
Outflow=1.78 cfs 0.109 af

Total Runoff Area = 0.700 ac Runoff Volume = 0.109 af Average Runoff Depth = 1.87"
97.57% Pervious = 0.683 ac 2.43% Impervious = 0.017 ac

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Pre-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Subcatchment 1S: Existing Runoff Area

[49] Hint: $T_c < 2dt$ may require smaller dt

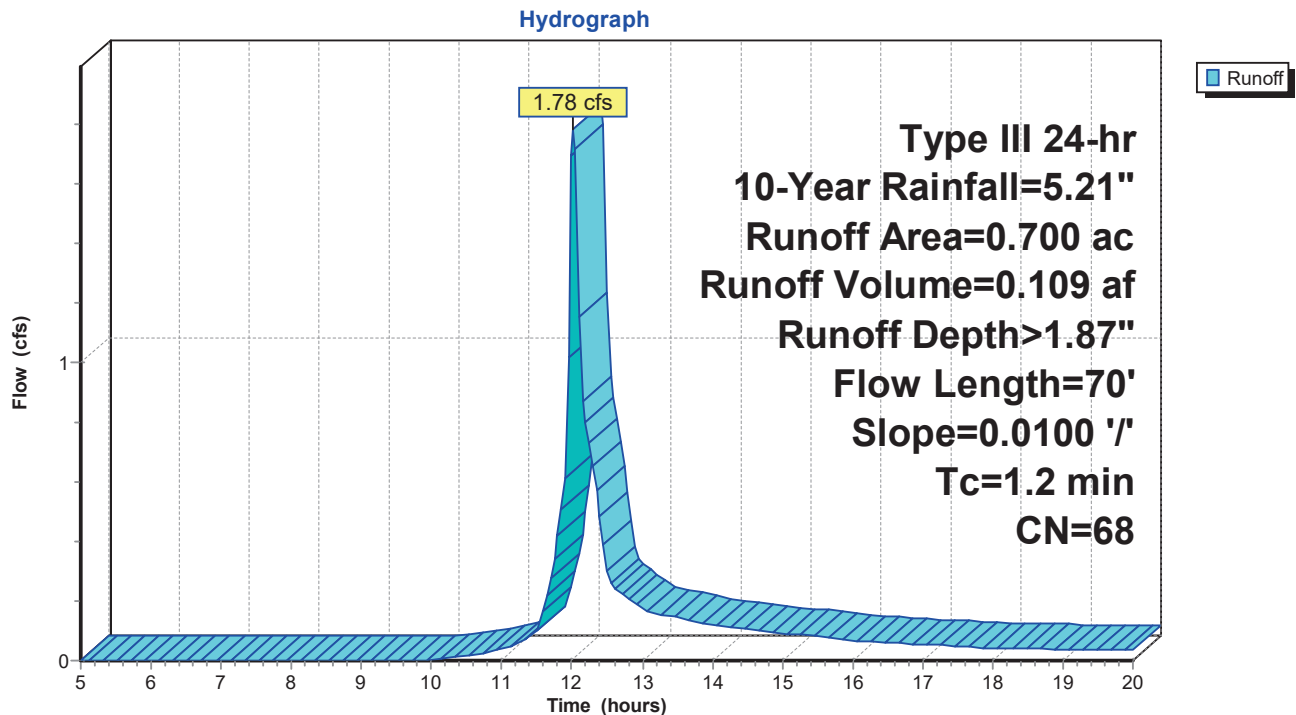
Runoff = 1.78 cfs @ 12.03 hrs, Volume= 0.109 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt= 0.05$ hrs
Type III 24-hr 10-Year Rainfall=5.21"

Area (ac)	CN	Description
* 0.515	76	Gravel
0.168	39	>75% Grass cover, Good, HSG A
* 0.017	98	Concrete
0.700	68	Weighted Average
0.683		97.57% Pervious Area
0.017		2.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	70	0.0100	0.97		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.20"

Subcatchment 1S: Existing Runoff Area



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Pre-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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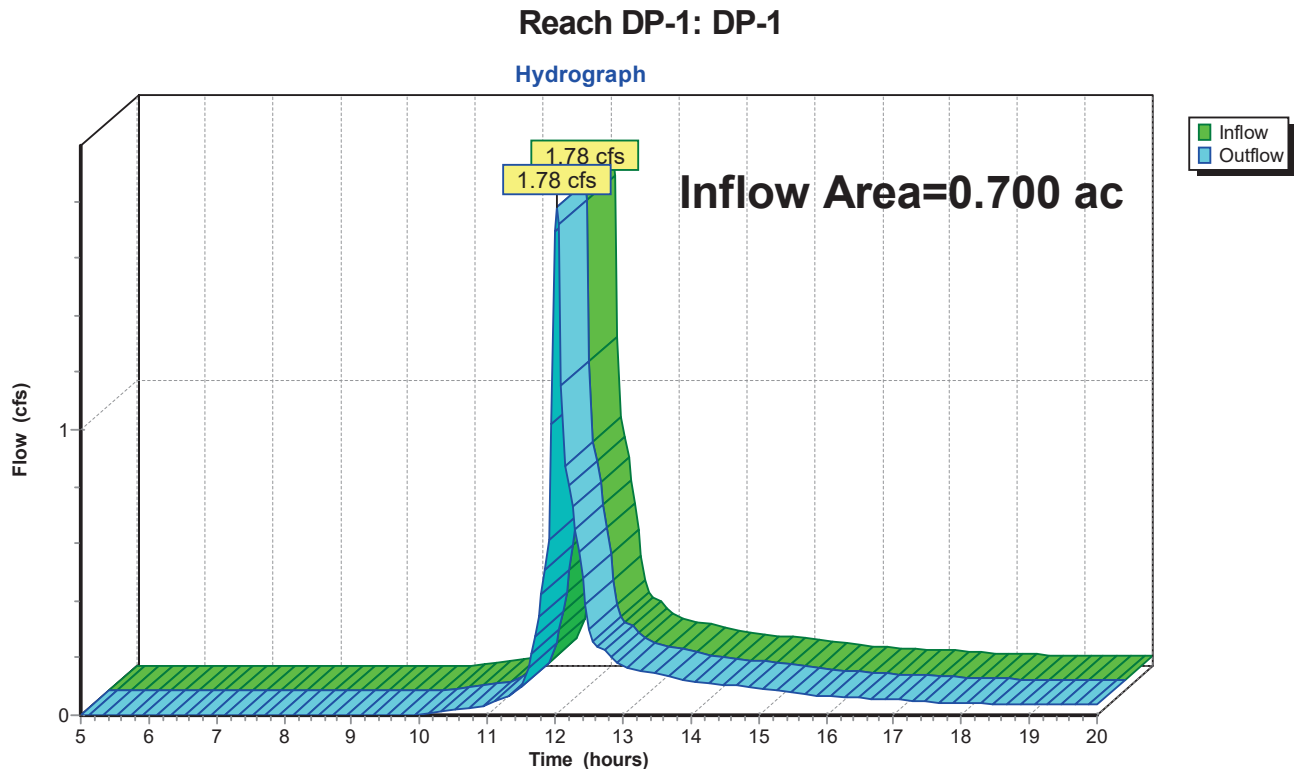
Page 11

Summary for Reach DP-1: DP-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.700 ac, 2.43% Impervious, Inflow Depth > 1.87" for 10-Year event
Inflow = 1.78 cfs @ 12.03 hrs, Volume= 0.109 af
Outflow = 1.78 cfs @ 12.03 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



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Pre-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Runoff Area

Runoff Area=0.700 ac 2.43% Impervious Runoff Depth>4.25"
Flow Length=70' Slope=0.0100 '/' Tc=1.2 min CN=68 Runoff=4.12 cfs 0.248 af

Reach DP-1: DP-1

Inflow=4.12 cfs 0.248 af
Outflow=4.12 cfs 0.248 af

Total Runoff Area = 0.700 ac Runoff Volume = 0.248 af Average Runoff Depth = 4.25"
97.57% Pervious = 0.683 ac 2.43% Impervious = 0.017 ac

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Pre-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Subcatchment 1S: Existing Runoff Area

[49] Hint: $T_c < 2dt$ may require smaller dt

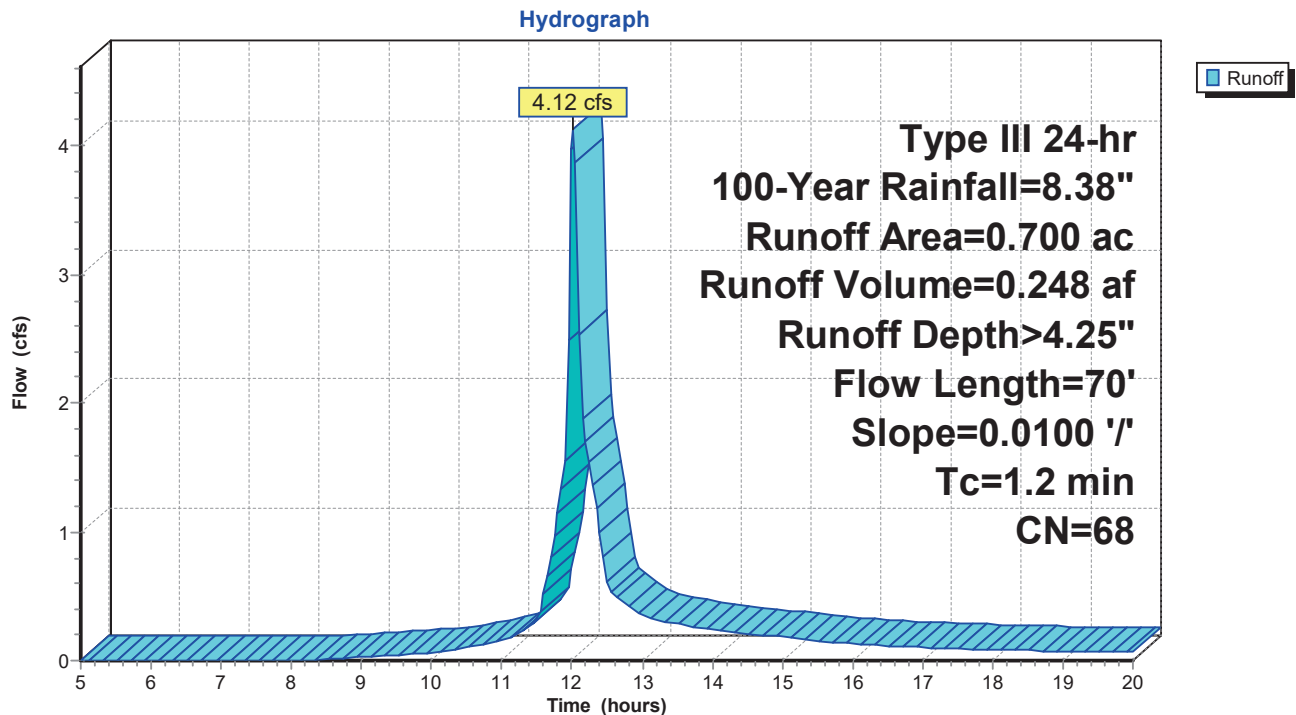
Runoff = 4.12 cfs @ 12.02 hrs, Volume= 0.248 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt= 0.05$ hrs
Type III 24-hr 100-Year Rainfall=8.38"

	Area (ac)	CN	Description
*	0.515	76	Gravel
	0.168	39	>75% Grass cover, Good, HSG A
*	0.017	98	Concrete
	0.700	68	Weighted Average
	0.683		97.57% Pervious Area
	0.017		2.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	70	0.0100	0.97		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.20"

Subcatchment 1S: Existing Runoff Area



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Pre-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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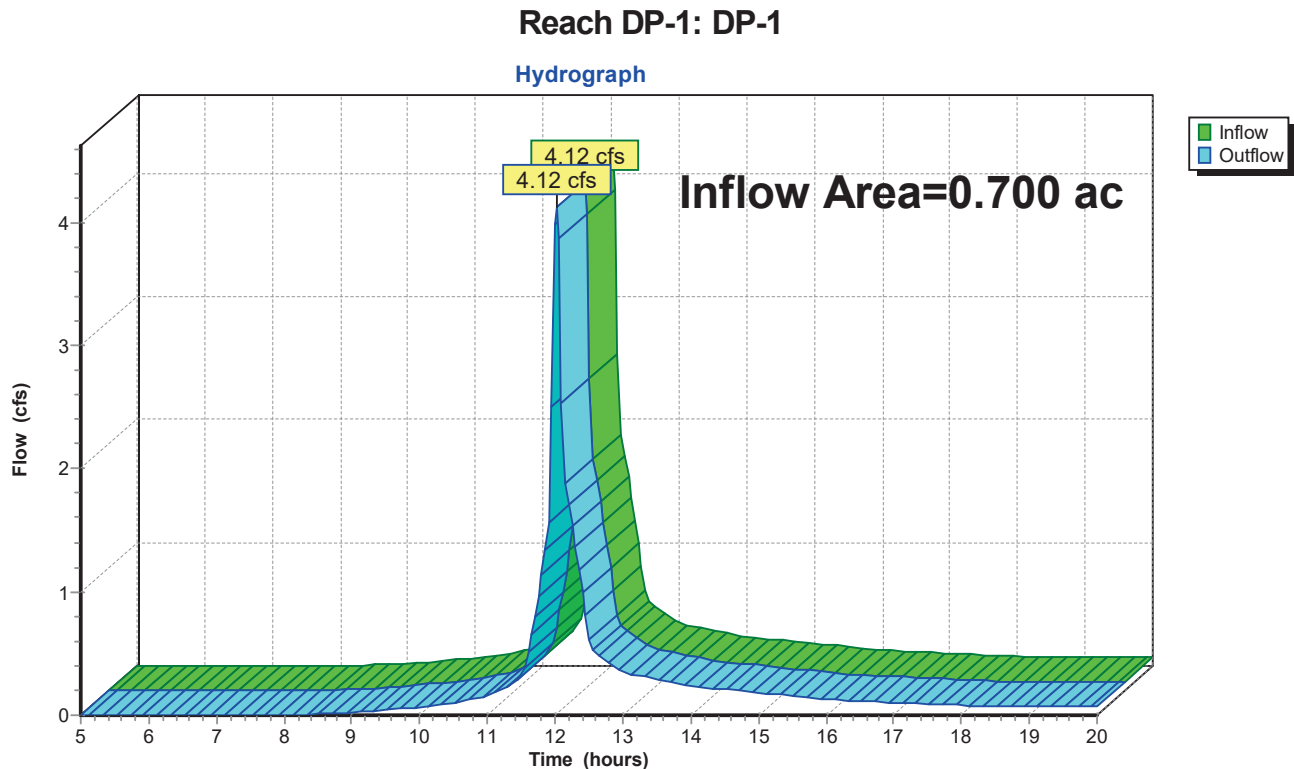
Page 14

Summary for Reach DP-1: DP-1

[40] Hint: Not Described (Outflow=Inflow)

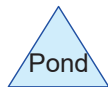
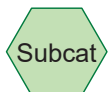
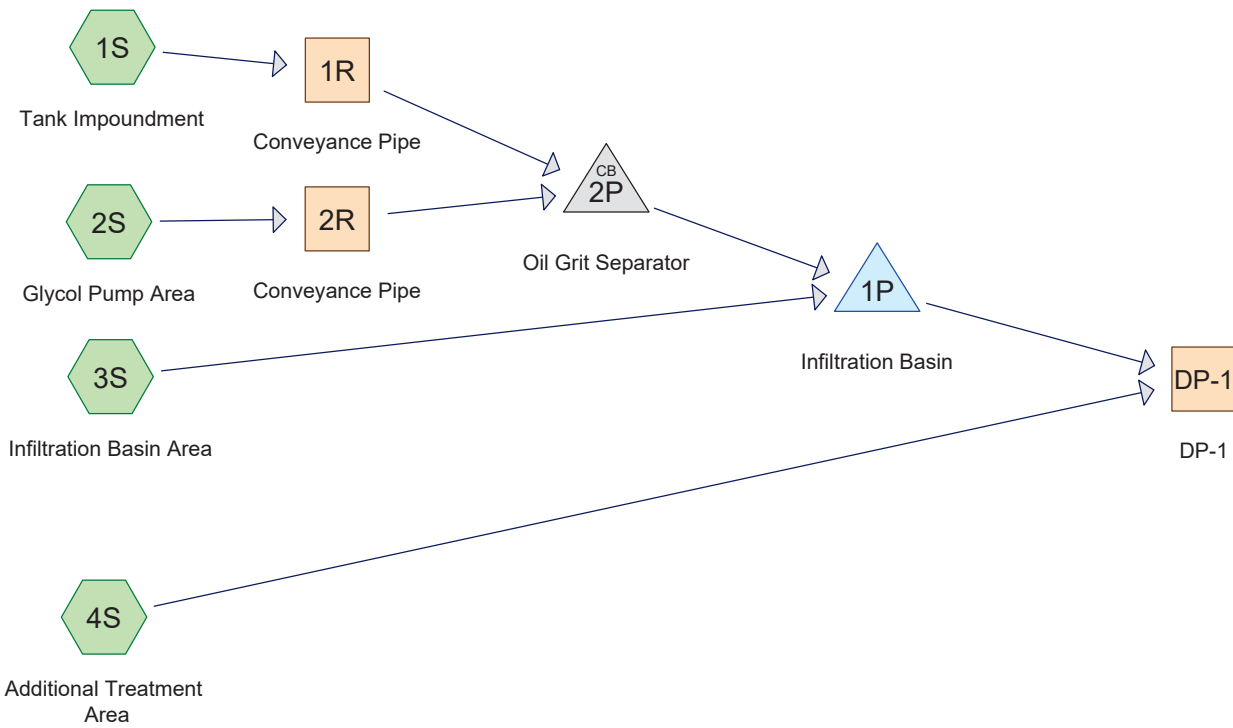
Inflow Area = 0.700 ac, 2.43% Impervious, Inflow Depth > 4.25" for 100-Year event
Inflow = 4.12 cfs @ 12.02 hrs, Volume= 0.248 af
Outflow = 4.12 cfs @ 12.02 hrs, Volume= 0.248 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Appendix C

Post-Development Drainage Stormwater Model



Routing Diagram for Post-Development Condition
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Post-Development Condition

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.21	2
3	100-Year	Type III 24-hr		Default	24.00	1	8.38	2

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Post-Development Condition

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.106	98	Concrete, HSG A (1S, 3S)
0.026	76	Crushed Stone, HSG A (3S)
0.519	76	Gravel, HSG A (1S, 3S, 4S)
0.009	76	Riprap, HSG A (3S)
0.040	98	Roof, HSG A (2S)
0.700	81	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.700	HSG A	1S, 2S, 3S, 4S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.700		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.106	0.000	0.000	0.000	0.000	0.106	Concrete	1S, 3S
0.026	0.000	0.000	0.000	0.000	0.026	Crushed Stone	3S
0.519	0.000	0.000	0.000	0.000	0.519	Gravel	1S, 3S, 4S
0.009	0.000	0.000	0.000	0.000	0.009	Riprap	3S
0.040	0.000	0.000	0.000	0.000	0.040	Roof	2S
0.700	0.000	0.000	0.000	0.000	0.700	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1R	278.00	276.50	287.0	0.0052	0.013	10.0	0.0	0.0
2	2R	278.20	276.50	45.8	0.0371	0.013	6.0	0.0	0.0

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Type III 24-hr 2-Year Rainfall=3.20"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Tank Impoundment Runoff Area=0.154 ac 67.53% Impervious Runoff Depth>2.26"
Flow Length=152' Slope=0.0200 '/ Tc=3.4 min CN=91 Runoff=0.44 cfs 0.029 af

Subcatchment 2S: Glycol Pump Area Runoff Area=0.040 ac 100.00% Impervious Runoff Depth>2.97"
Flow Length=88' Slope=0.0200 '/ Tc=1.5 min CN=98 Runoff=0.15 cfs 0.010 af

Subcatchment 3S: Infiltration Basin Area Runoff Area=0.255 ac 0.78% Impervious Runoff Depth>1.15"
Flow Length=82' Slope=0.0400 '/ Tc=2.4 min CN=76 Runoff=0.38 cfs 0.024 af

Subcatchment 4S: Additional Treatment Area Runoff Area=0.251 ac 0.00% Impervious Runoff Depth>1.15"
Flow Length=71' Slope=0.0200 '/ Tc=3.1 min CN=76 Runoff=0.36 cfs 0.024 af

Reach 1R: Conveyance Pipe Avg. Flow Depth=0.29' Max Vel=2.45 fps Inflow=0.44 cfs 0.029 af
10.0" Round Pipe n=0.013 L=287.0' S=0.0052 '/ Capacity=1.58 cfs Outflow=0.42 cfs 0.029 af

Reach 2R: Conveyance Pipe Avg. Flow Depth=0.12' Max Vel=3.83 fps Inflow=0.15 cfs 0.010 af
6.0" Round Pipe n=0.013 L=45.8' S=0.0371 '/ Capacity=1.08 cfs Outflow=0.15 cfs 0.010 af

Reach DP-1: DP-1 Inflow=0.36 cfs 0.024 af
Outflow=0.36 cfs 0.024 af

Pond 1P: Infiltration Basin Peak Elev=276.04' Storage=0.017 af Inflow=0.90 cfs 0.063 af
Discarded=0.18 cfs 0.063 af Primary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.063 af

Pond 2P: Oil Grit Separator Peak Elev=276.43' Inflow=0.53 cfs 0.039 af
Outflow=0.53 cfs 0.039 af

Total Runoff Area = 0.700 ac Runoff Volume = 0.087 af Average Runoff Depth = 1.50"
79.14% Pervious = 0.554 ac 20.86% Impervious = 0.146 ac

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Post-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

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Summary for Subcatchment 1S: Tank Impoundment

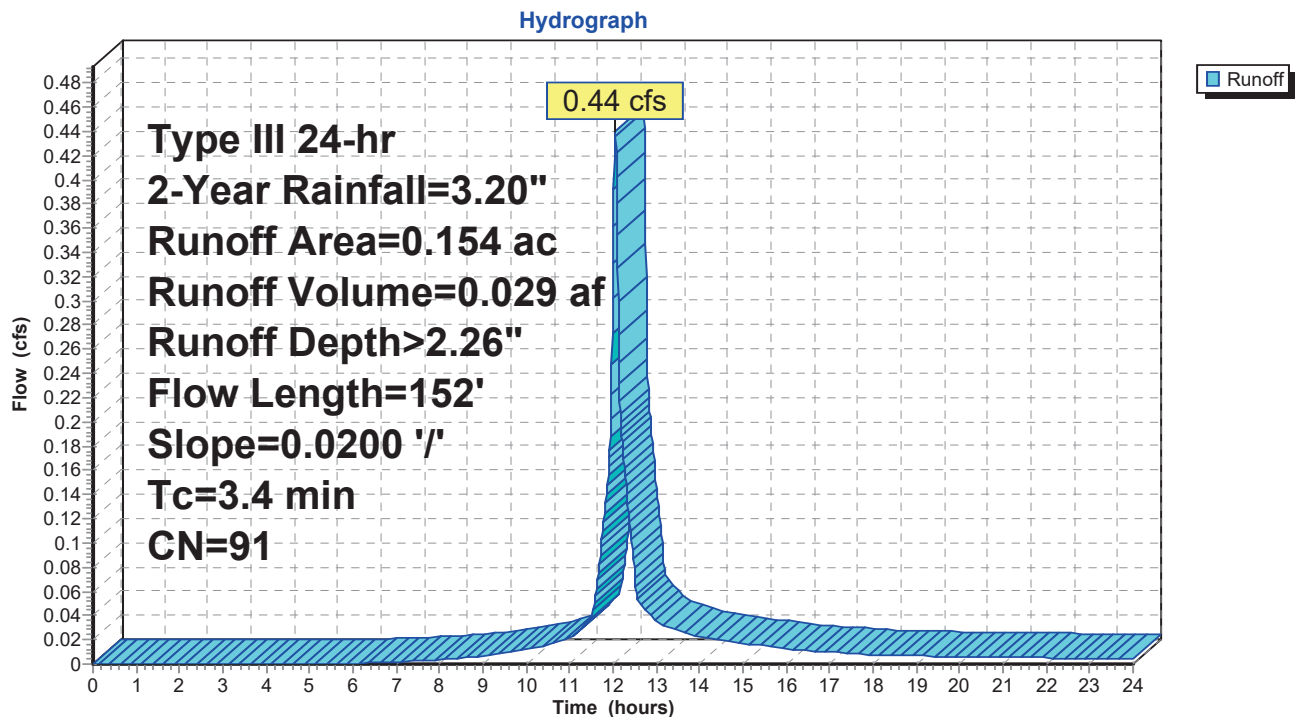
Runoff = 0.44 cfs @ 12.05 hrs, Volume= 0.029 af, Depth> 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
* 0.104	98	Concrete, HSG A
* 0.050	76	Gravel, HSG A
0.154	91	Weighted Average
0.050		32.47% Pervious Area
0.104		67.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	152	0.0200	0.76		Lag/CN Method,

Subcatchment 1S: Tank Impoundment



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Post-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

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Summary for Subcatchment 2S: Glycol Pump Area

Runoff = 0.15 cfs @ 12.02 hrs, Volume= 0.010 af, Depth> 2.97"

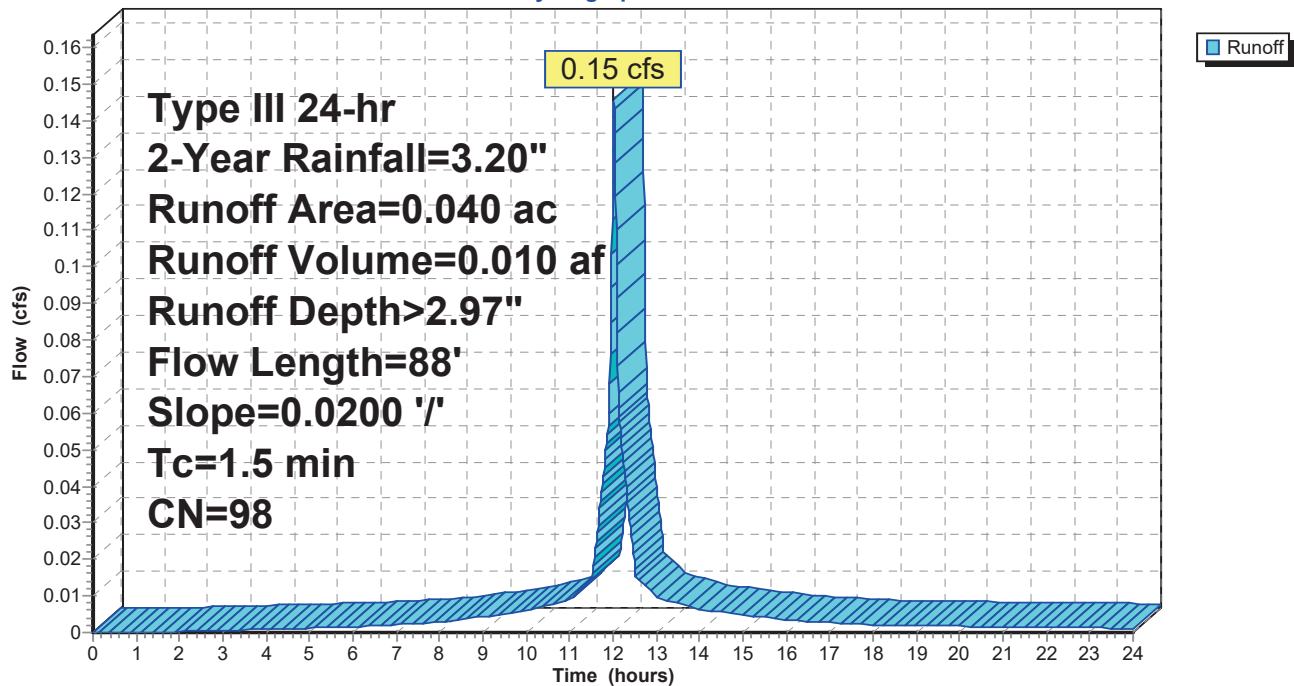
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
* 0.040	98	Roof, HSG A
0.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	88	0.0200	0.96		Lag/CN Method,

Subcatchment 2S: Glycol Pump Area

Hydrograph



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Summary for Subcatchment 3S: Infiltration Basin Area

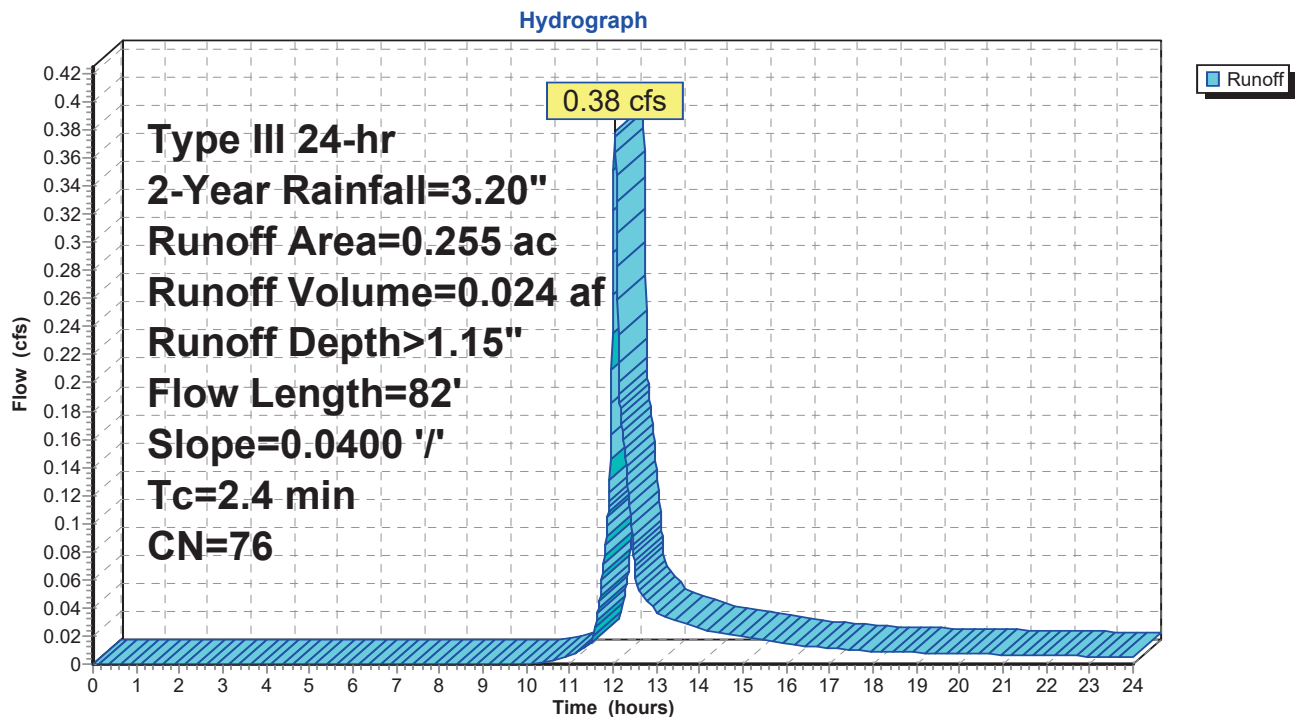
Runoff = 0.38 cfs @ 12.04 hrs, Volume= 0.024 af, Depth> 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
* 0.218	76	Gravel, HSG A
* 0.026	76	Crushed Stone, HSG A
* 0.009	76	Riprap, HSG A
* 0.002	98	Concrete, HSG A
0.255	76	Weighted Average
0.253		99.22% Pervious Area
0.002		0.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	82	0.0400	0.56		Lag/CN Method,

Subcatchment 3S: Infiltration Basin Area



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Summary for Subcatchment 4S: Additional Treatment Area

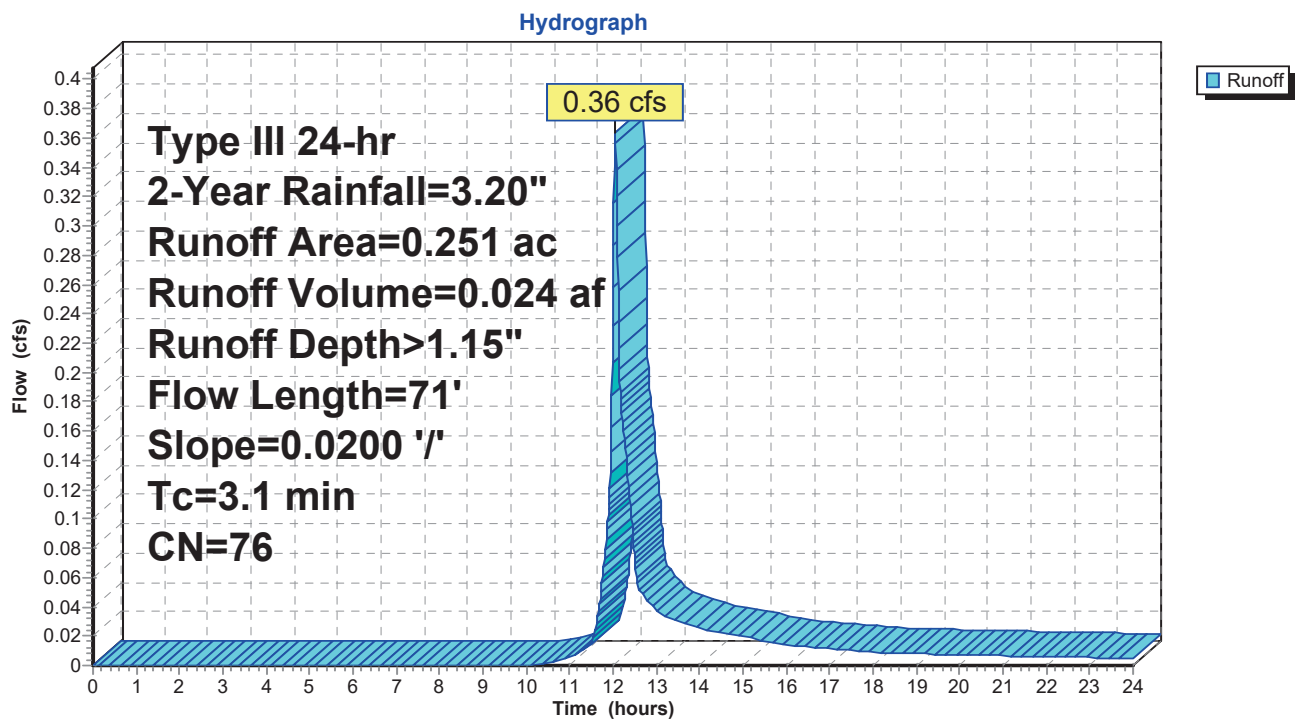
Runoff = 0.36 cfs @ 12.05 hrs, Volume= 0.024 af, Depth> 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
* 0.251	76	Gravel, HSG A
0.251		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	71	0.0200	0.39		Lag/CN Method,

Subcatchment 4S: Additional Treatment Area



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Summary for Reach 1R: Conveyance Pipe

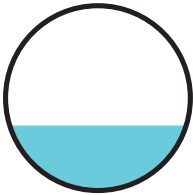
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.154 ac, 67.53% Impervious, Inflow Depth > 2.26" for 2-Year event
Inflow = 0.44 cfs @ 12.05 hrs, Volume= 0.029 af
Outflow = 0.42 cfs @ 12.07 hrs, Volume= 0.029 af, Atten= 5%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.45 fps, Min. Travel Time= 2.0 min
Avg. Velocity= 0.82 fps, Avg. Travel Time= 5.8 min

Peak Storage= 49 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.29' , Surface Width= 0.80'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 1.58 cfs

10.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 287.0' Slope= 0.0052 '/
Inlet Invert= 278.00', Outlet Invert= 276.50'



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Post-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

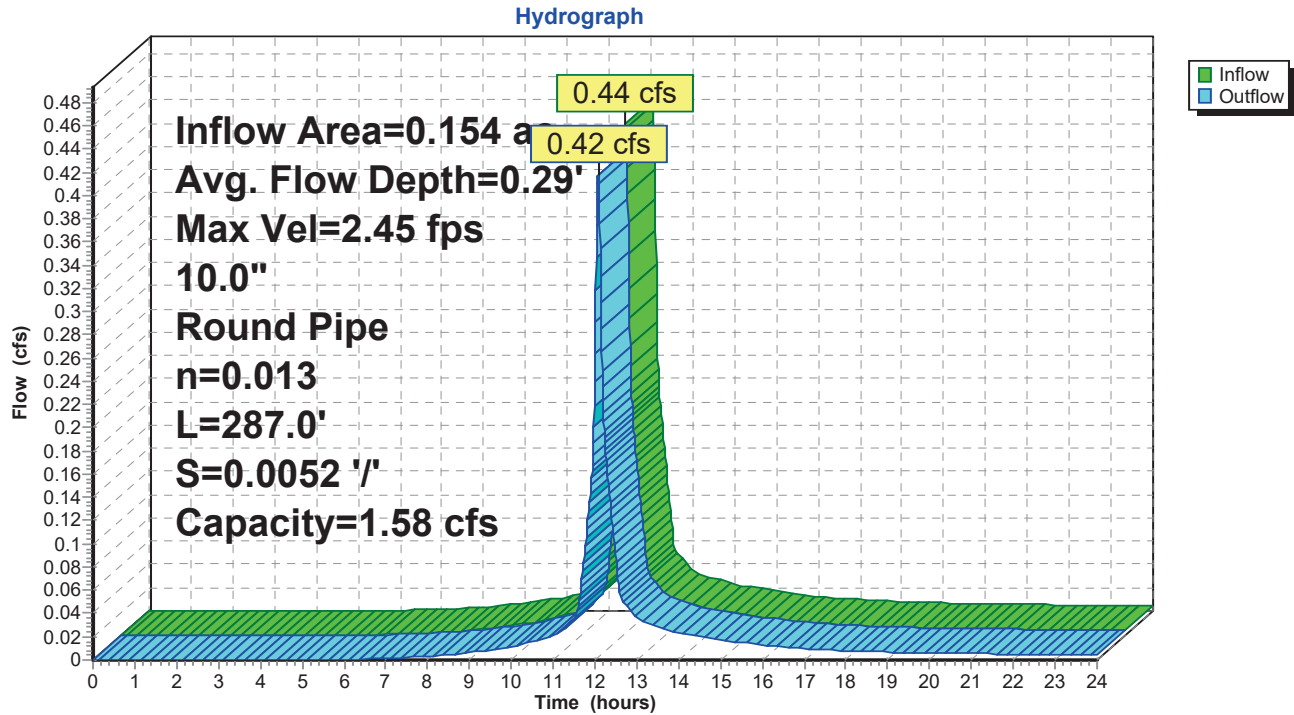
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Reach 1R: Conveyance Pipe



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Type III 24-hr 2-Year Rainfall=3.20"

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Summary for Reach 2R: Conveyance Pipe

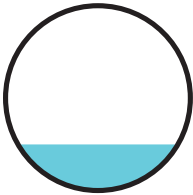
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.040 ac, 100.00% Impervious, Inflow Depth > 2.97" for 2-Year event
Inflow = 0.15 cfs @ 12.02 hrs, Volume= 0.010 af
Outflow = 0.15 cfs @ 12.02 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.83 fps, Min. Travel Time= 0.2 min
Avg. Velocity= 1.20 fps, Avg. Travel Time= 0.6 min

Peak Storage= 2 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.12' , Surface Width= 0.43'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 1.08 cfs

6.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 45.8' Slope= 0.0371 '/
Inlet Invert= 278.20', Outlet Invert= 276.50'



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Post-Development Condition

Type III 24-hr 2-Year Rainfall=3.20"

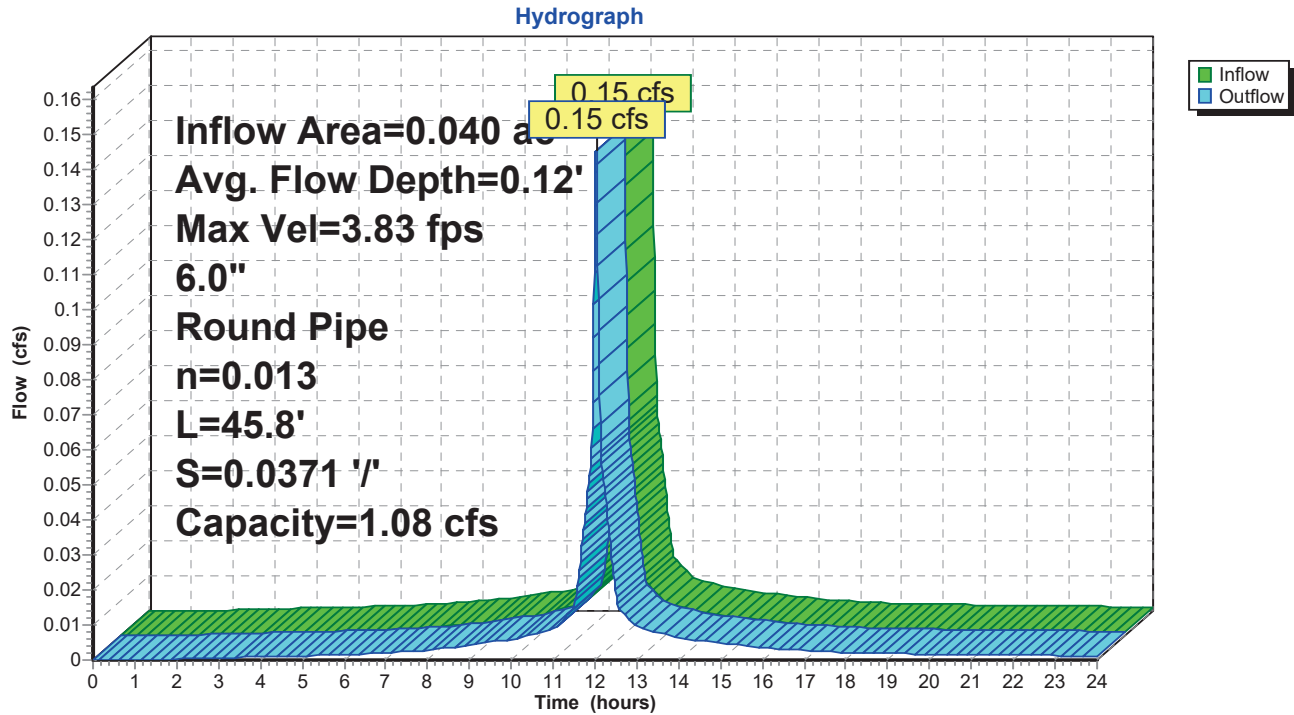
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Reach 2R: Conveyance Pipe



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Type III 24-hr 2-Year Rainfall=3.20"

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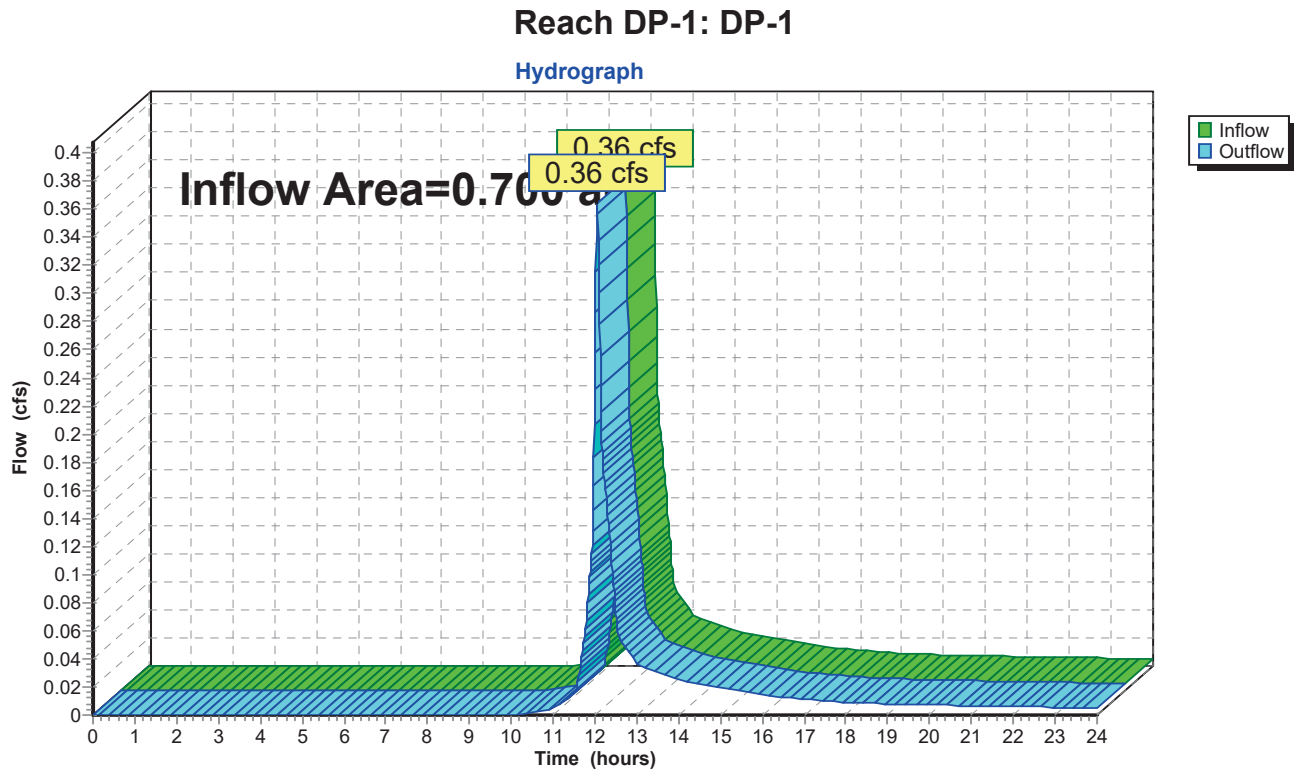
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Summary for Reach DP-1: DP-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.700 ac, 20.86% Impervious, Inflow Depth > 0.41" for 2-Year event
Inflow = 0.36 cfs @ 12.05 hrs, Volume= 0.024 af
Outflow = 0.36 cfs @ 12.05 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



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Summary for Pond 1P: Infiltration Basin

Inflow Area = 0.449 ac, 32.52% Impervious, Inflow Depth > 1.69" for 2-Year event
Inflow = 0.90 cfs @ 12.05 hrs, Volume= 0.063 af
Outflow = 0.18 cfs @ 12.50 hrs, Volume= 0.063 af, Atten= 80%, Lag= 26.7 min
Discarded = 0.18 cfs @ 12.50 hrs, Volume= 0.063 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 276.04' @ 12.50 hrs Surf.Area= 0.021 ac Storage= 0.017 af

Plug-Flow detention time= 29.8 min calculated for 0.063 af (100% of inflow)

Center-of-Mass det. time= 29.7 min (843.6 - 813.9)

Volume	Invert	Avail.Storage	Storage Description
#1	275.00'	0.122 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
275.00	0.012	0.000	0.000
276.00	0.021	0.016	0.016
277.00	0.030	0.025	0.042
278.00	0.040	0.035	0.077
279.00	0.050	0.045	0.122

Device	Routing	Invert	Outlet Devices
#1	Discarded	275.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 1.00' Phase-In= 0.01'
#2	Primary	278.00'	60.0 deg x 6.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.53 (C= 3.16)

Discarded OutFlow Max=0.18 cfs @ 12.50 hrs HW=276.04' (Free Discharge)

↑**1=Exfiltration** (Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=275.00' TW=0.00' (Dynamic Tailwater)

↑**2=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

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Type III 24-hr 2-Year Rainfall=3.20"

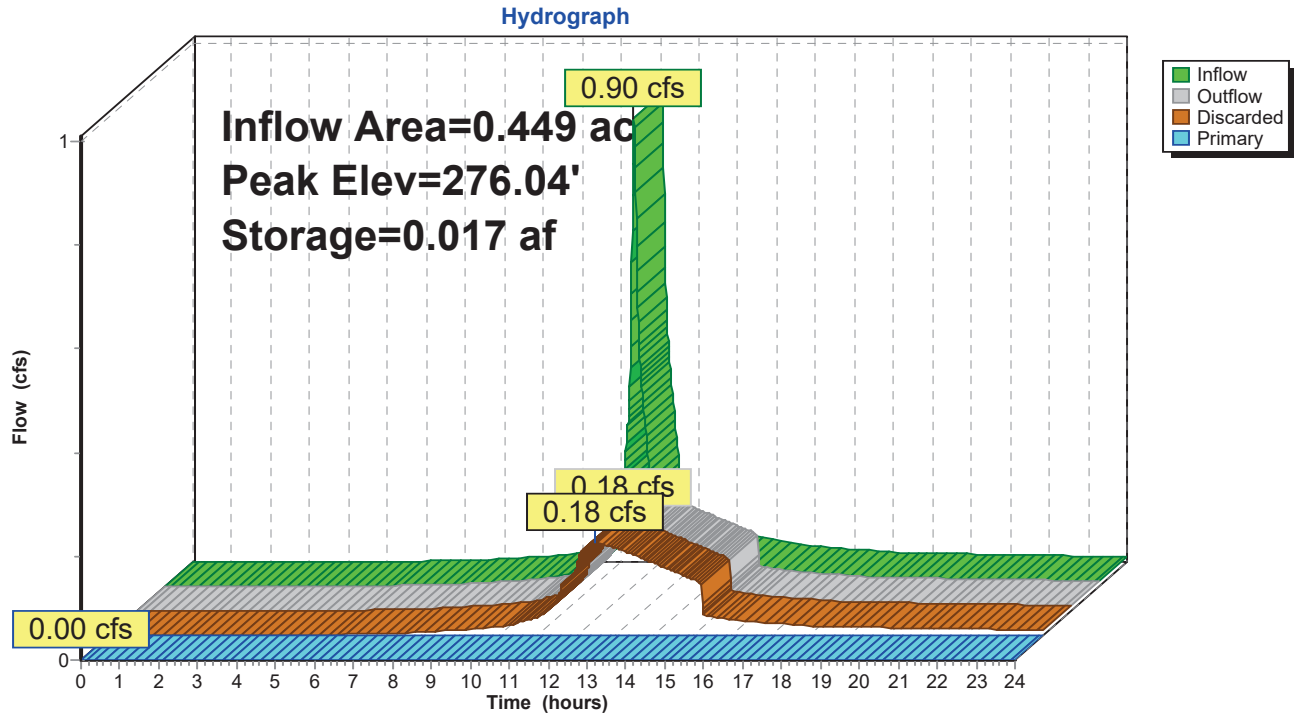
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Pond 1P: Infiltration Basin



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Summary for Pond 2P: Oil Grit Separator

Inflow Area = 0.194 ac, 74.23% Impervious, Inflow Depth > 2.40" for 2-Year event
Inflow = 0.53 cfs @ 12.06 hrs, Volume= 0.039 af
Outflow = 0.53 cfs @ 12.06 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.06 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 276.43' @ 12.06 hrs

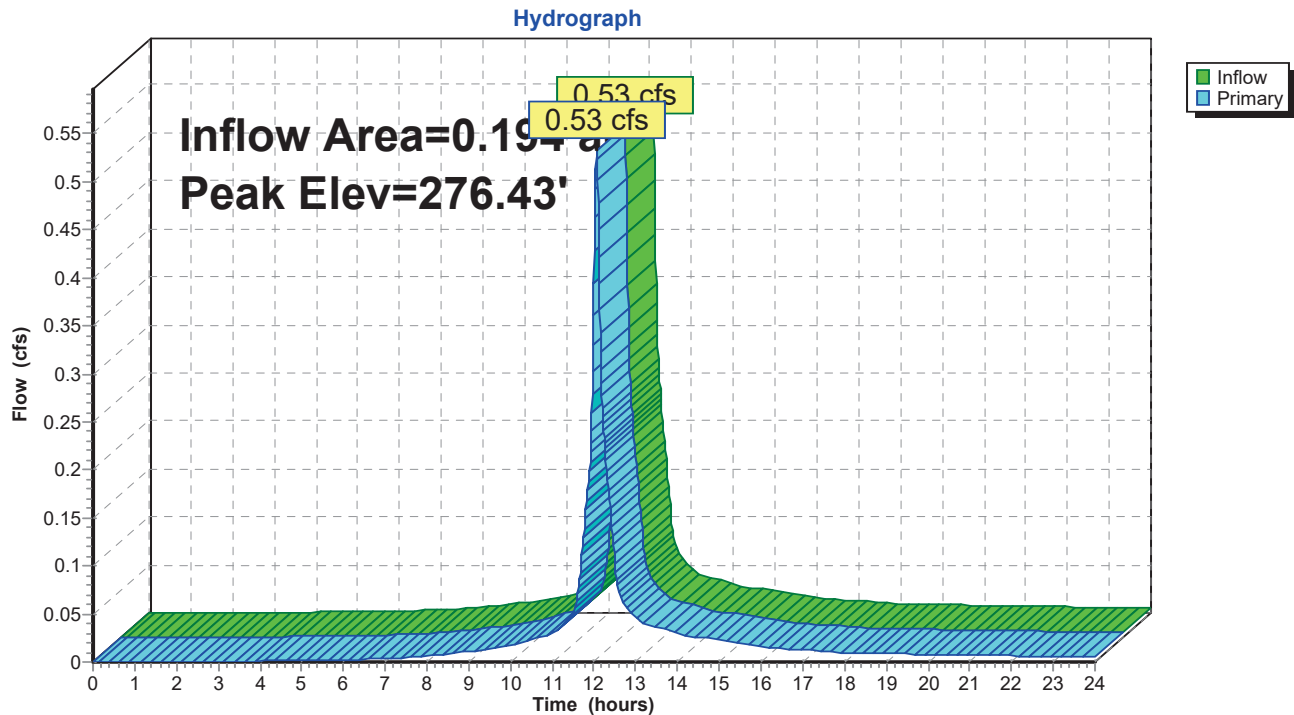
Flood Elev= 279.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	8.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.53 cfs @ 12.06 hrs HW=276.43' TW=275.59' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 0.53 cfs @ 2.23 fps)

Pond 2P: Oil Grit Separator



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Tank Impoundment Runoff Area=0.154 ac 67.53% Impervious Runoff Depth>4.18"
Flow Length=152' Slope=0.0200 '/ Tc=3.4 min CN=91 Runoff=0.79 cfs 0.054 af

Subcatchment 2S: Glycol Pump Area Runoff Area=0.040 ac 100.00% Impervious Runoff Depth>4.97"
Flow Length=88' Slope=0.0200 '/ Tc=1.5 min CN=98 Runoff=0.24 cfs 0.017 af

Subcatchment 3S: Infiltration Basin Area Runoff Area=0.255 ac 0.78% Impervious Runoff Depth>2.71"
Flow Length=82' Slope=0.0400 '/ Tc=2.4 min CN=76 Runoff=0.92 cfs 0.058 af

Subcatchment 4S: Additional Treatment Area Runoff Area=0.251 ac 0.00% Impervious Runoff Depth>2.71"
Flow Length=71' Slope=0.0200 '/ Tc=3.1 min CN=76 Runoff=0.89 cfs 0.057 af

Reach 1R: Conveyance Pipe Avg. Flow Depth=0.41' Max Vel=2.87 fps Inflow=0.79 cfs 0.054 af
10.0" Round Pipe n=0.013 L=287.0' S=0.0052 '/ Capacity=1.58 cfs Outflow=0.76 cfs 0.054 af

Reach 2R: Conveyance Pipe Avg. Flow Depth=0.16' Max Vel=4.42 fps Inflow=0.24 cfs 0.017 af
6.0" Round Pipe n=0.013 L=45.8' S=0.0371 '/ Capacity=1.08 cfs Outflow=0.24 cfs 0.017 af

Reach DP-1: DP-1 Inflow=0.89 cfs 0.057 af
Outflow=0.89 cfs 0.057 af

Pond 1P: Infiltration Basin Peak Elev=277.07' Storage=0.044 af Inflow=1.85 cfs 0.128 af
Discarded=0.26 cfs 0.128 af Primary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.128 af

Pond 2P: Oil Grit Separator Peak Elev=277.07' Inflow=0.95 cfs 0.070 af
Outflow=0.95 cfs 0.070 af

Total Runoff Area = 0.700 ac Runoff Volume = 0.184 af Average Runoff Depth = 3.16"
79.14% Pervious = 0.554 ac 20.86% Impervious = 0.146 ac

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Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Subcatchment 1S: Tank Impoundment

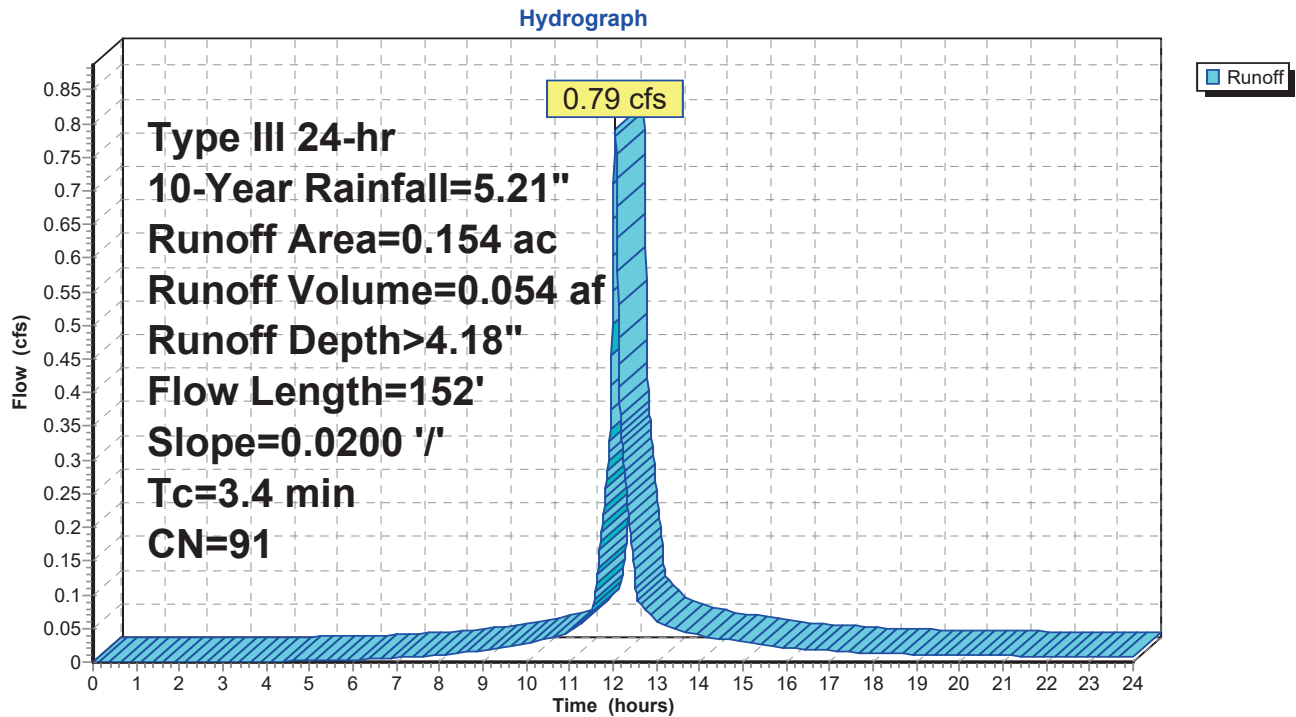
Runoff = 0.79 cfs @ 12.05 hrs, Volume= 0.054 af, Depth> 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.21"

Area (ac)	CN	Description
* 0.104	98	Concrete, HSG A
* 0.050	76	Gravel, HSG A
0.154	91	Weighted Average
0.050		32.47% Pervious Area
0.104		67.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	152	0.0200	0.76		Lag/CN Method,

Subcatchment 1S: Tank Impoundment



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Subcatchment 2S: Glycol Pump Area

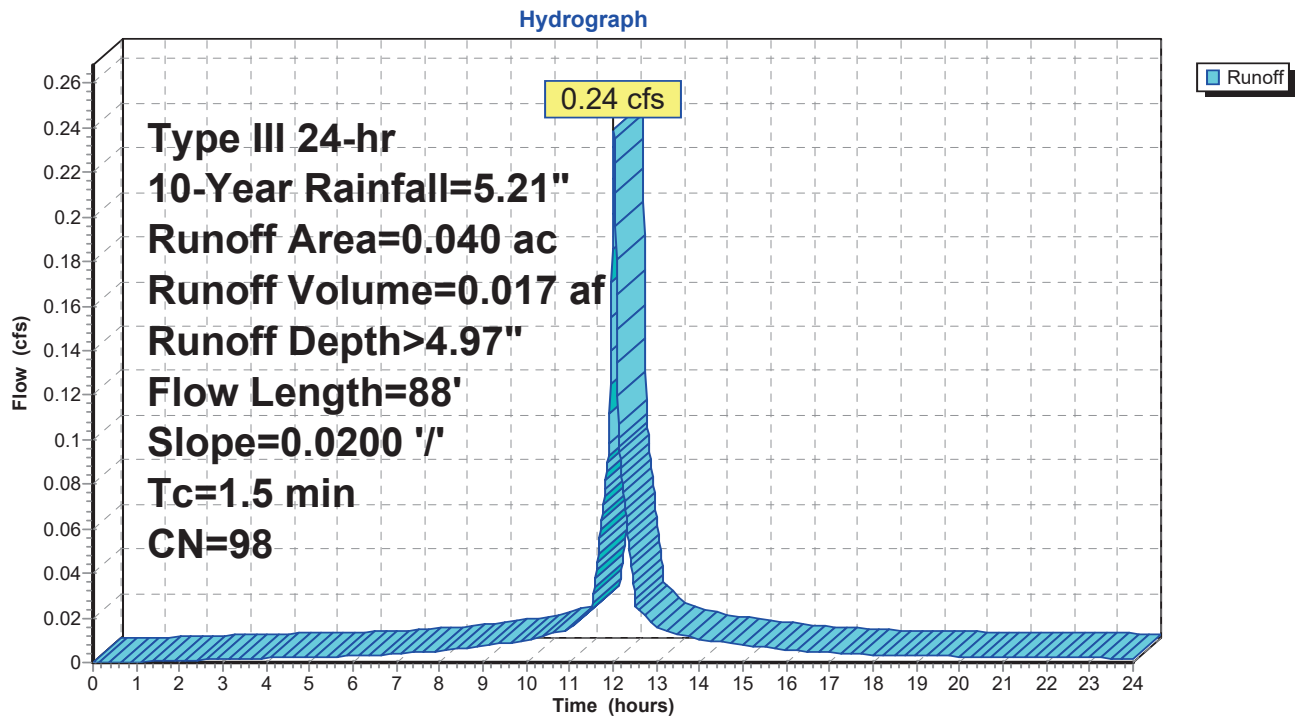
Runoff = 0.24 cfs @ 12.02 hrs, Volume= 0.017 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.21"

Area (ac)	CN	Description
* 0.040	98	Roof, HSG A
0.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	88	0.0200	0.96		Lag/CN Method,

Subcatchment 2S: Glycol Pump Area



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Subcatchment 3S: Infiltration Basin Area

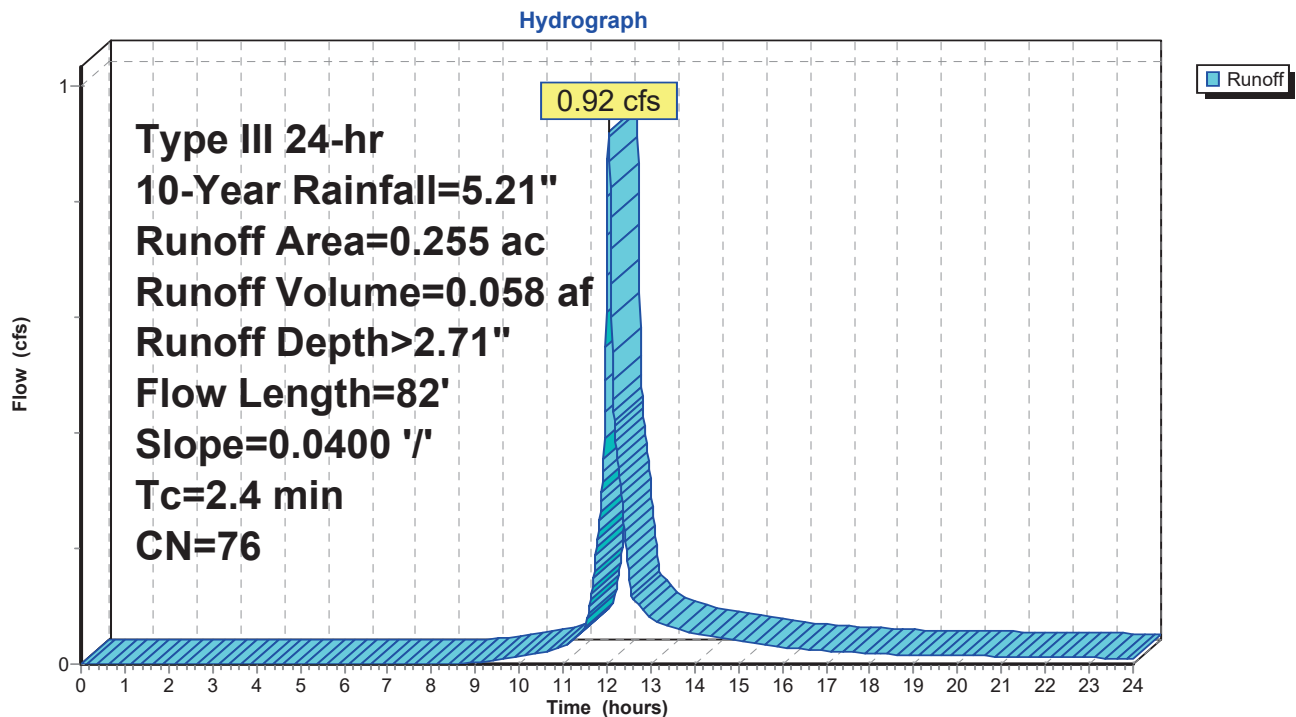
Runoff = 0.92 cfs @ 12.04 hrs, Volume= 0.058 af, Depth> 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.21"

Area (ac)	CN	Description
* 0.218	76	Gravel, HSG A
* 0.026	76	Crushed Stone, HSG A
* 0.009	76	Riprap, HSG A
* 0.002	98	Concrete, HSG A
0.255	76	Weighted Average
0.253		99.22% Pervious Area
0.002		0.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	82	0.0400	0.56		Lag/CN Method,

Subcatchment 3S: Infiltration Basin Area



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Subcatchment 4S: Additional Treatment Area

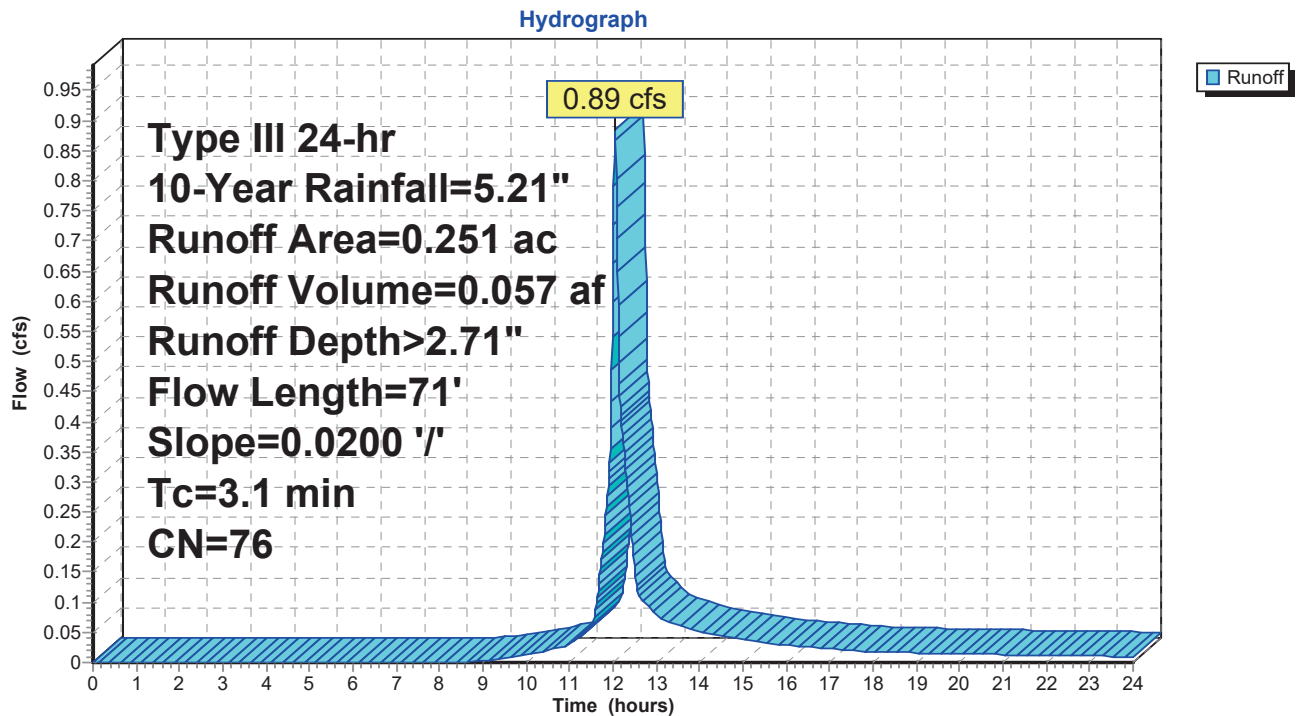
Runoff = 0.89 cfs @ 12.05 hrs, Volume= 0.057 af, Depth> 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.21"

Area (ac)	CN	Description
* 0.251	76	Gravel, HSG A
0.251		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	71	0.0200	0.39		Lag/CN Method,

Subcatchment 4S: Additional Treatment Area



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Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Reach 1R: Conveyance Pipe

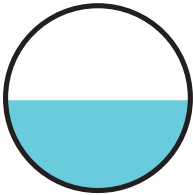
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.154 ac, 67.53% Impervious, Inflow Depth > 4.18" for 10-Year event
Inflow = 0.79 cfs @ 12.05 hrs, Volume= 0.054 af
Outflow = 0.76 cfs @ 12.07 hrs, Volume= 0.054 af, Atten= 4%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.87 fps, Min. Travel Time= 1.7 min
Avg. Velocity= 0.96 fps, Avg. Travel Time= 5.0 min

Peak Storage= 76 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.41' , Surface Width= 0.83'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 1.58 cfs

10.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 287.0' Slope= 0.0052 '/
Inlet Invert= 278.00', Outlet Invert= 276.50'



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

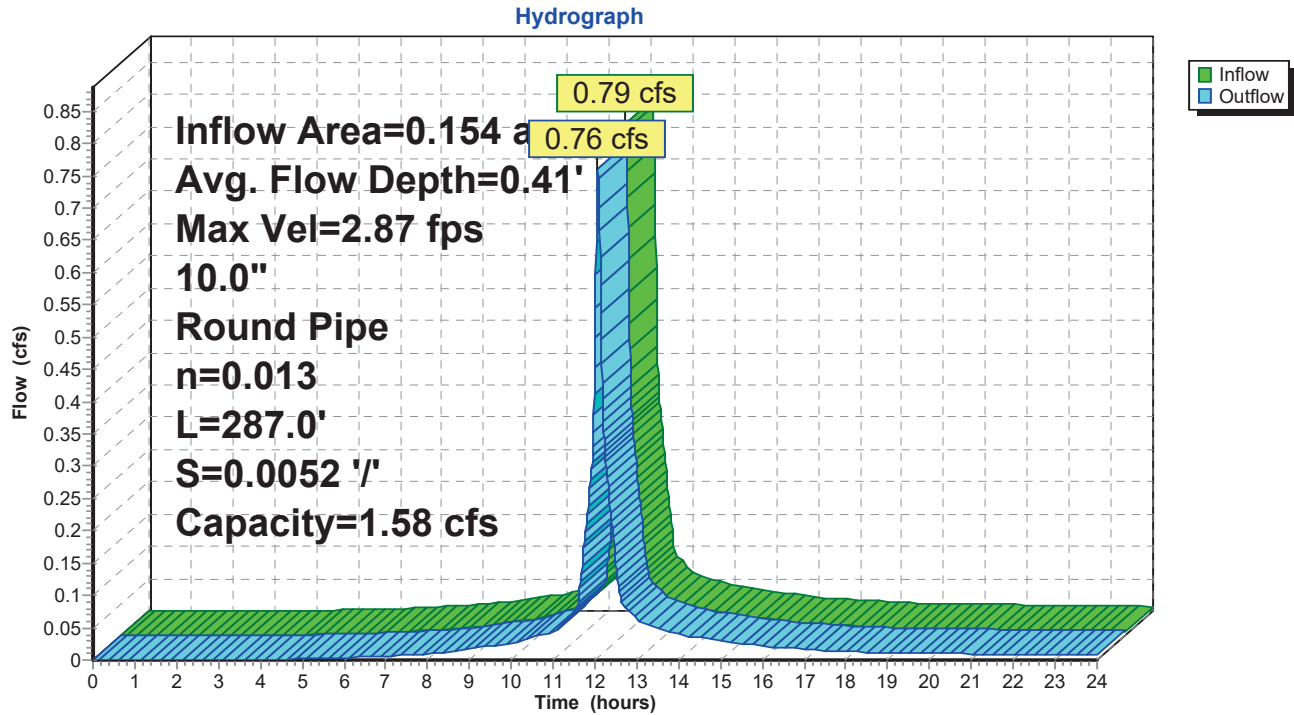
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Reach 1R: Conveyance Pipe



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Reach 2R: Conveyance Pipe

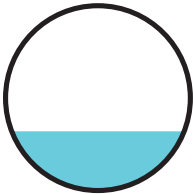
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.040 ac, 100.00% Impervious, Inflow Depth > 4.97" for 10-Year event
Inflow = 0.24 cfs @ 12.02 hrs, Volume= 0.017 af
Outflow = 0.24 cfs @ 12.02 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.42 fps, Min. Travel Time= 0.2 min
Avg. Velocity= 1.40 fps, Avg. Travel Time= 0.5 min

Peak Storage= 2 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 0.47'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 1.08 cfs

6.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 45.8' Slope= 0.0371 '/
Inlet Invert= 278.20', Outlet Invert= 276.50'



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

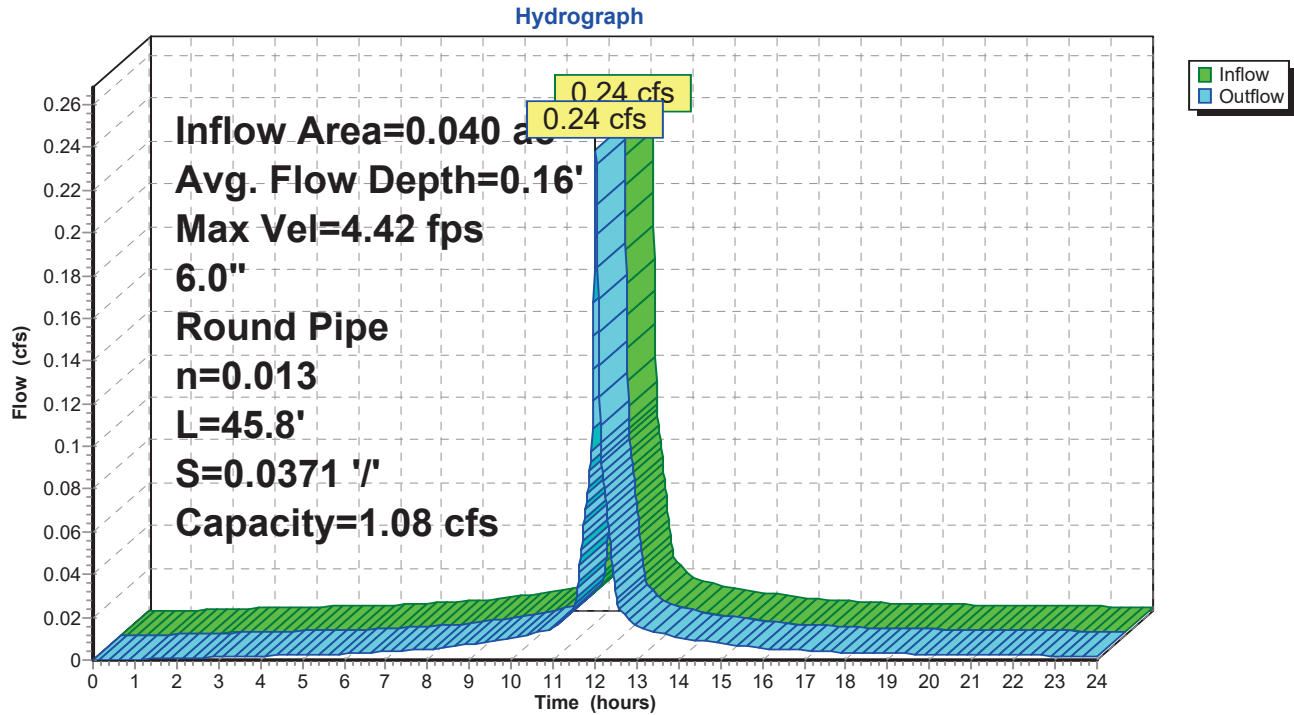
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Reach 2R: Conveyance Pipe



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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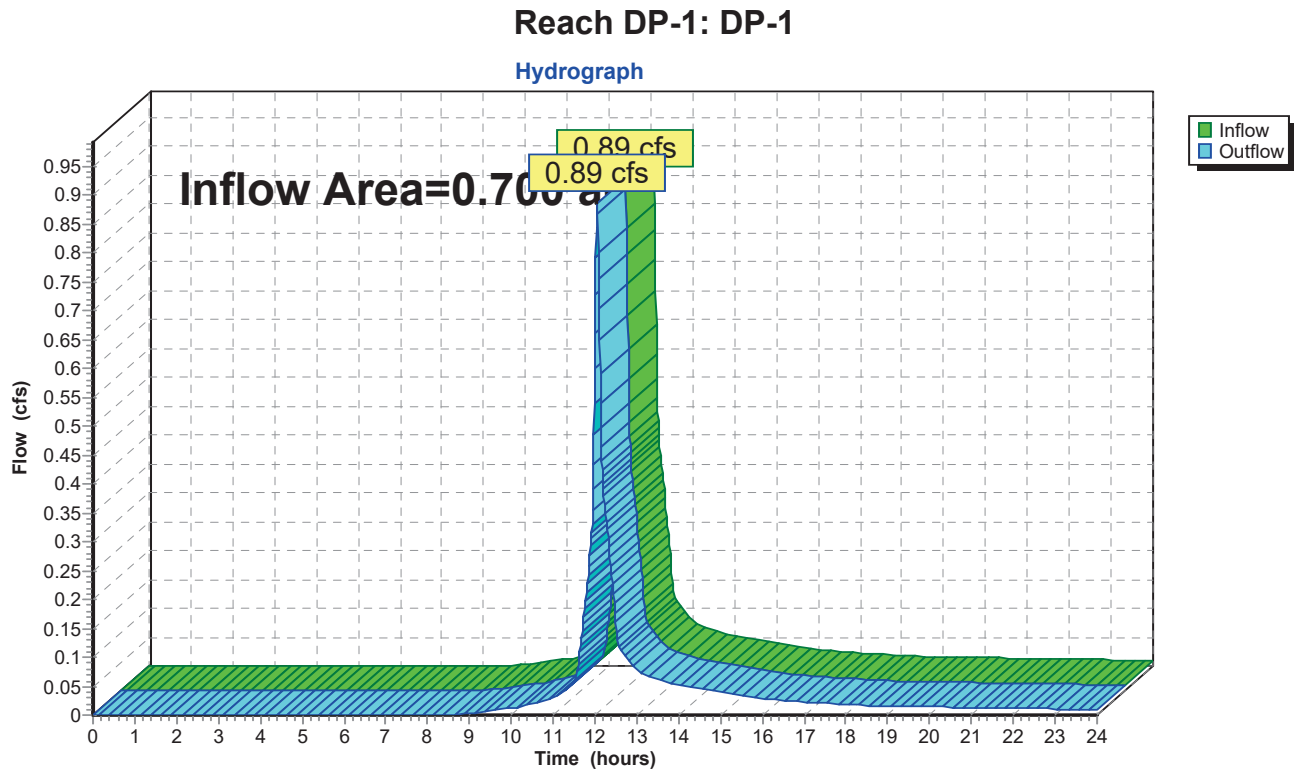
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Summary for Reach DP-1: DP-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.700 ac, 20.86% Impervious, Inflow Depth > 0.97" for 10-Year event
Inflow = 0.89 cfs @ 12.05 hrs, Volume= 0.057 af
Outflow = 0.89 cfs @ 12.05 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Pond 1P: Infiltration Basin

Inflow Area = 0.449 ac, 32.52% Impervious, Inflow Depth > 3.41" for 10-Year event
Inflow = 1.85 cfs @ 12.05 hrs, Volume= 0.128 af
Outflow = 0.26 cfs @ 12.55 hrs, Volume= 0.128 af, Atten= 86%, Lag= 30.5 min
Discarded = 0.26 cfs @ 12.55 hrs, Volume= 0.128 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 277.07' @ 12.55 hrs Surf.Area= 0.031 ac Storage= 0.044 af

Plug-Flow detention time= 64.0 min calculated for 0.128 af (100% of inflow)

Center-of-Mass det. time= 63.9 min (862.5 - 798.6)

Volume	Invert	Avail.Storage	Storage Description
#1	275.00'	0.122 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
275.00	0.012	0.000	0.000
276.00	0.021	0.016	0.016
277.00	0.030	0.025	0.042
278.00	0.040	0.035	0.077
279.00	0.050	0.045	0.122

Device	Routing	Invert	Outlet Devices
#1	Discarded	275.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 1.00' Phase-In= 0.01'
#2	Primary	278.00'	60.0 deg x 6.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.53 (C= 3.16)

Discarded OutFlow Max=0.26 cfs @ 12.55 hrs HW=277.07' (Free Discharge)

↑**1=Exfiltration** (Controls 0.26 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=275.00' TW=0.00' (Dynamic Tailwater)

↑**2=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

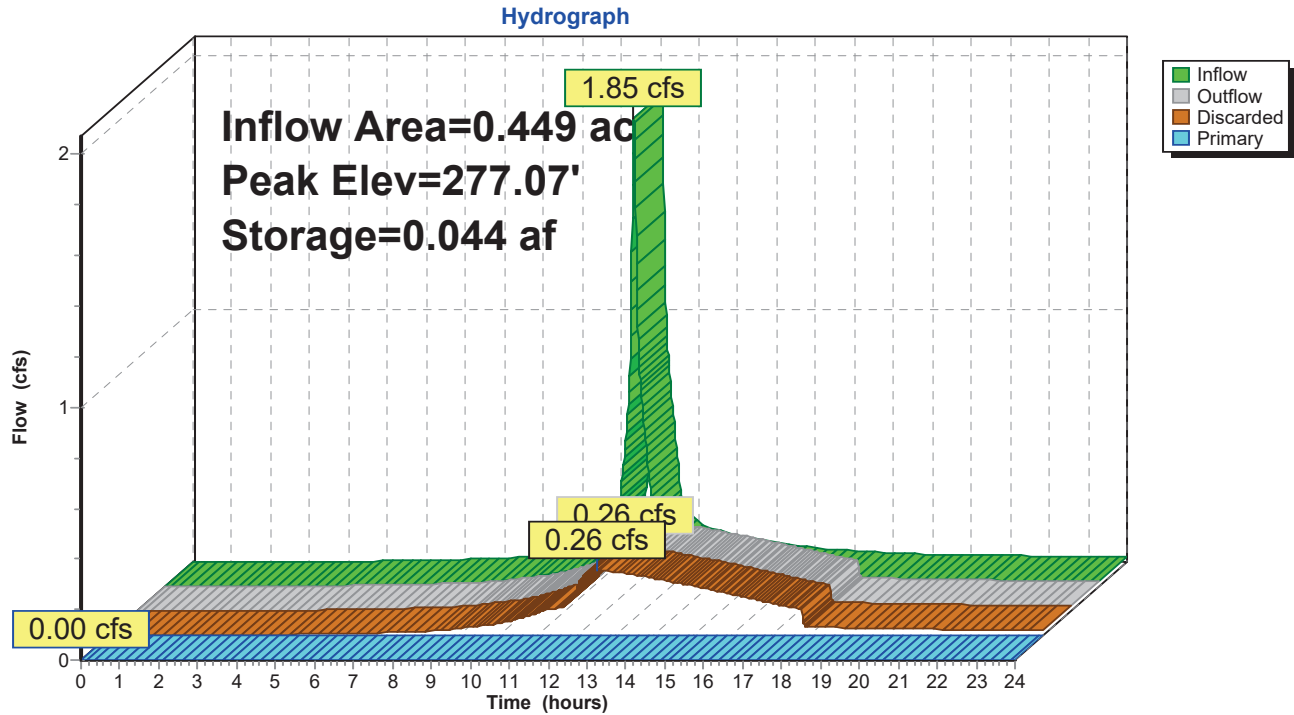
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Pond 1P: Infiltration Basin



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Post-Development Condition

Type III 24-hr 10-Year Rainfall=5.21"

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Summary for Pond 2P: Oil Grit Separator

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.43' @ 12.64 hrs

[62] Hint: Exceeded Reach 2R OUTLET depth by 0.52' @ 12.55 hrs

Inflow Area = 0.194 ac, 74.23% Impervious, Inflow Depth > 4.34" for 10-Year event
Inflow = 0.95 cfs @ 12.06 hrs, Volume= 0.070 af
Outflow = 0.95 cfs @ 12.06 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.95 cfs @ 12.06 hrs, Volume= 0.070 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 277.07' @ 12.54 hrs

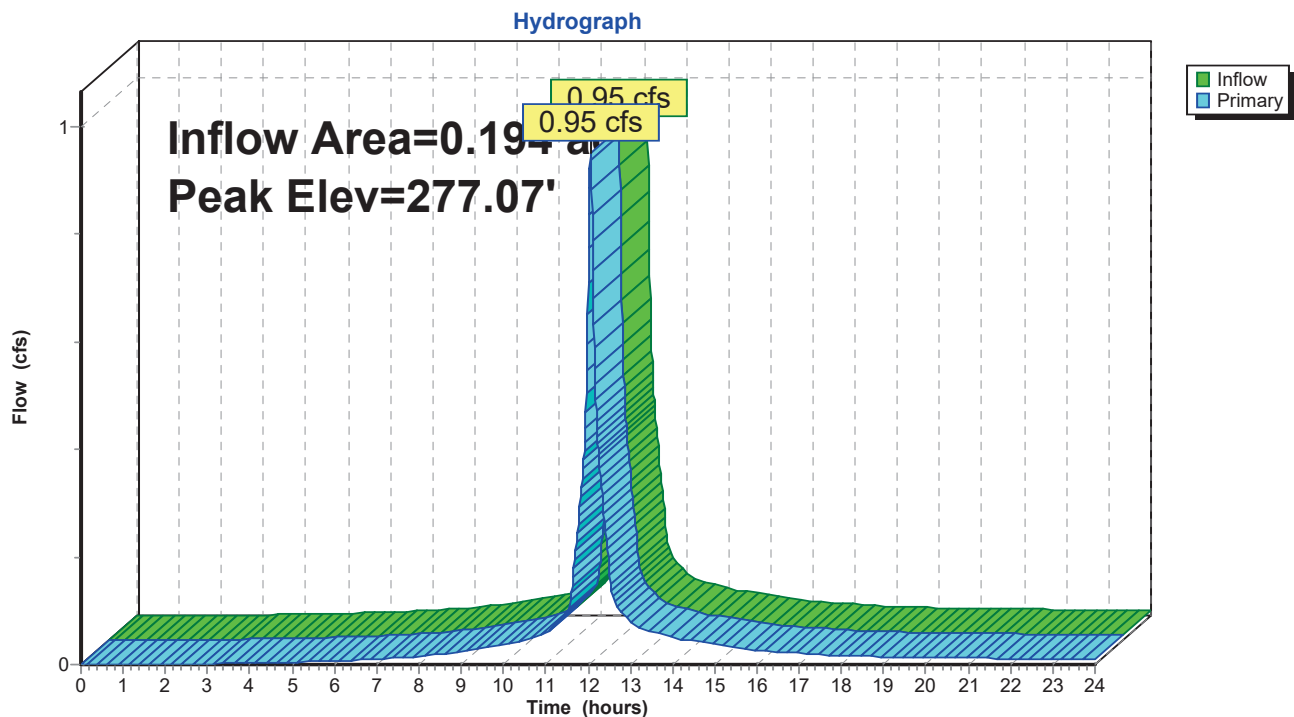
Flood Elev= 279.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	8.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.95 cfs @ 12.06 hrs HW=276.65' TW=276.32' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 0.95 cfs @ 2.74 fps)

Pond 2P: Oil Grit Separator



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Tank Impoundment Runoff Area=0.154 ac 67.53% Impervious Runoff Depth>7.30"
Flow Length=152' Slope=0.0200 '/ Tc=3.4 min CN=91 Runoff=1.34 cfs 0.094 af

Subcatchment 2S: Glycol Pump Area Runoff Area=0.040 ac 100.00% Impervious Runoff Depth>8.14"
Flow Length=88' Slope=0.0200 '/ Tc=1.5 min CN=98 Runoff=0.39 cfs 0.027 af

Subcatchment 3S: Infiltration Basin Area Runoff Area=0.255 ac 0.78% Impervious Runoff Depth>5.50"
Flow Length=82' Slope=0.0400 '/ Tc=2.4 min CN=76 Runoff=1.86 cfs 0.117 af

Subcatchment 4S: Additional Treatment Area Runoff Area=0.251 ac 0.00% Impervious Runoff Depth>5.50"
Flow Length=71' Slope=0.0200 '/ Tc=3.1 min CN=76 Runoff=1.79 cfs 0.115 af

Reach 1R: Conveyance Pipe Avg. Flow Depth=0.57' Max Vel=3.23 fps Inflow=1.34 cfs 0.094 af
10.0" Round Pipe n=0.013 L=287.0' S=0.0052 '/ Capacity=1.58 cfs Outflow=1.29 cfs 0.094 af

Reach 2R: Conveyance Pipe Avg. Flow Depth=0.21' Max Vel=5.04 fps Inflow=0.39 cfs 0.027 af
6.0" Round Pipe n=0.013 L=45.8' S=0.0371 '/ Capacity=1.08 cfs Outflow=0.39 cfs 0.027 af

Reach DP-1: DP-1 Inflow=1.79 cfs 0.133 af
Outflow=1.79 cfs 0.133 af

Pond 1P: Infiltration Basin Peak Elev=278.12' Storage=0.082 af Inflow=3.42 cfs 0.238 af
Discarded=0.35 cfs 0.219 af Primary=0.75 cfs 0.018 af Outflow=1.10 cfs 0.238 af

Pond 2P: Oil Grit Separator Peak Elev=278.33' Inflow=1.60 cfs 0.121 af
Outflow=1.60 cfs 0.121 af

Total Runoff Area = 0.700 ac Runoff Volume = 0.353 af Average Runoff Depth = 6.05"
79.14% Pervious = 0.554 ac 20.86% Impervious = 0.146 ac

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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Subcatchment 1S: Tank Impoundment

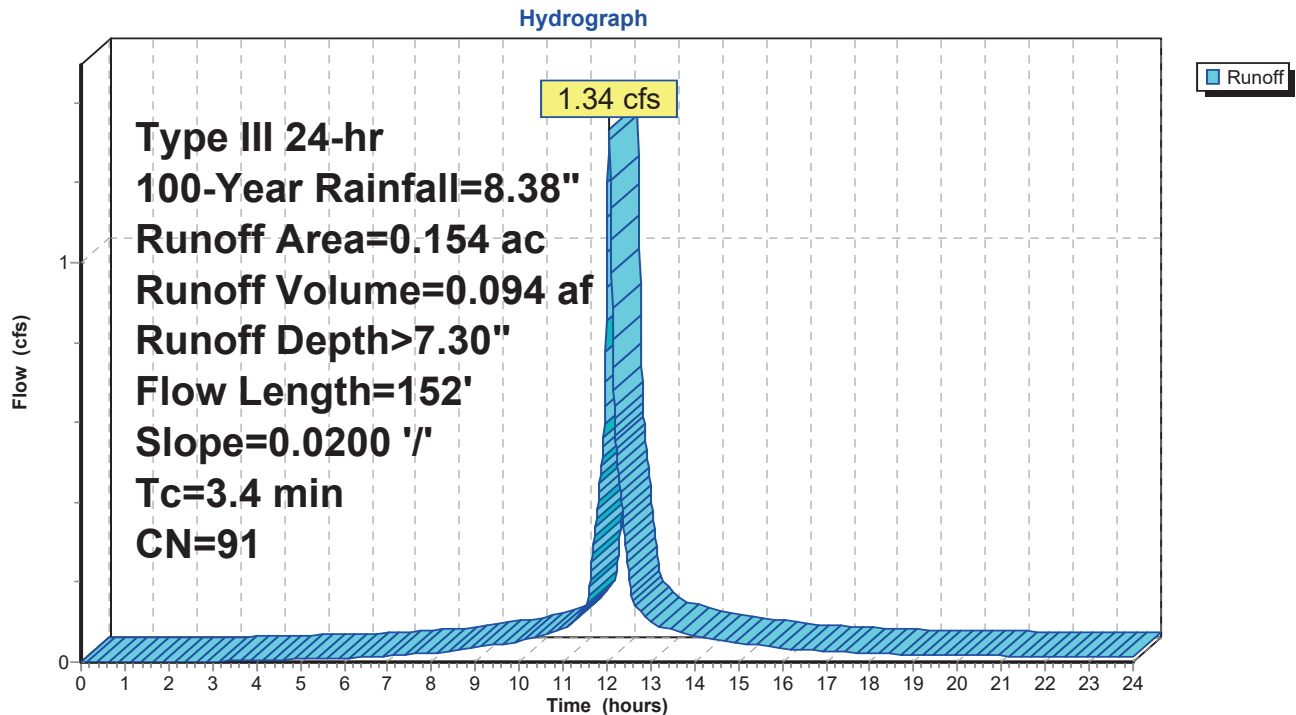
Runoff = 1.34 cfs @ 12.05 hrs, Volume= 0.094 af, Depth> 7.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.38"

Area (ac)	CN	Description
* 0.104	98	Concrete, HSG A
* 0.050	76	Gravel, HSG A
0.154	91	Weighted Average
0.050		32.47% Pervious Area
0.104		67.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	152	0.0200	0.76		Lag/CN Method,

Subcatchment 1S: Tank Impoundment



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Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Subcatchment 2S: Glycol Pump Area

Runoff = 0.39 cfs @ 12.02 hrs, Volume= 0.027 af, Depth> 8.14"

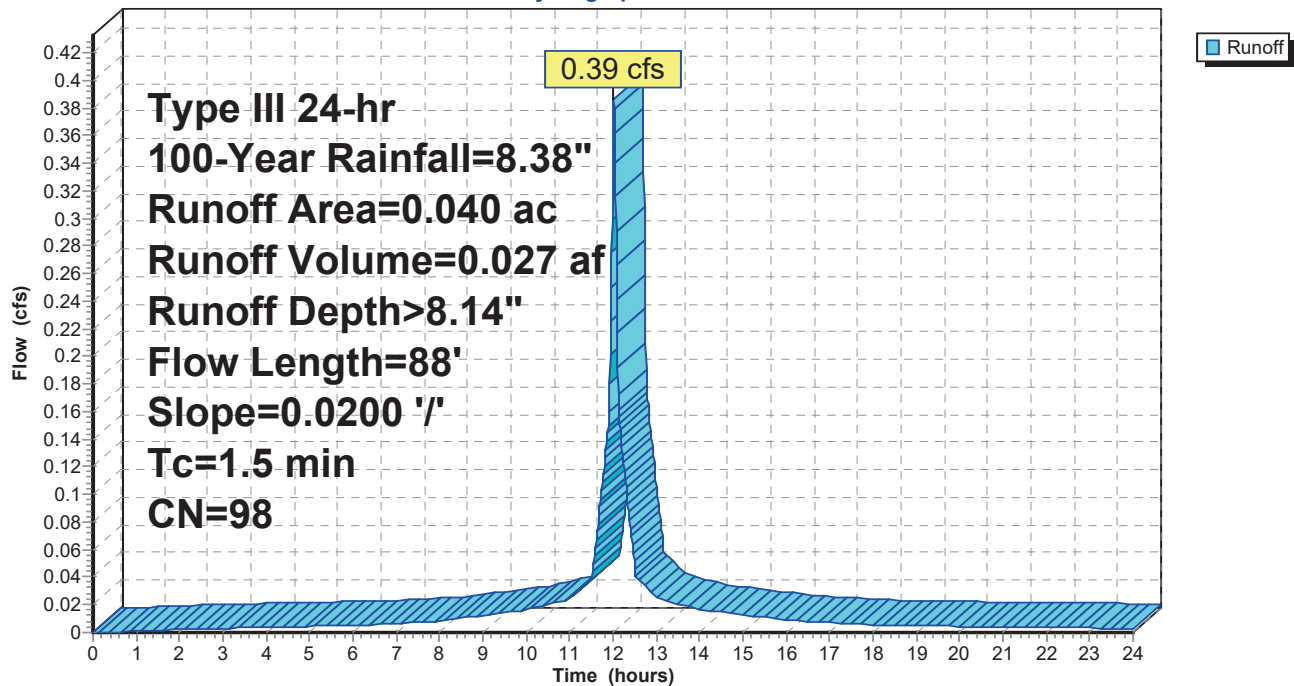
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.38"

Area (ac)	CN	Description
* 0.040	98	Roof, HSG A
0.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	88	0.0200	0.96		Lag/CN Method,

Subcatchment 2S: Glycol Pump Area

Hydrograph



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Subcatchment 3S: Infiltration Basin Area

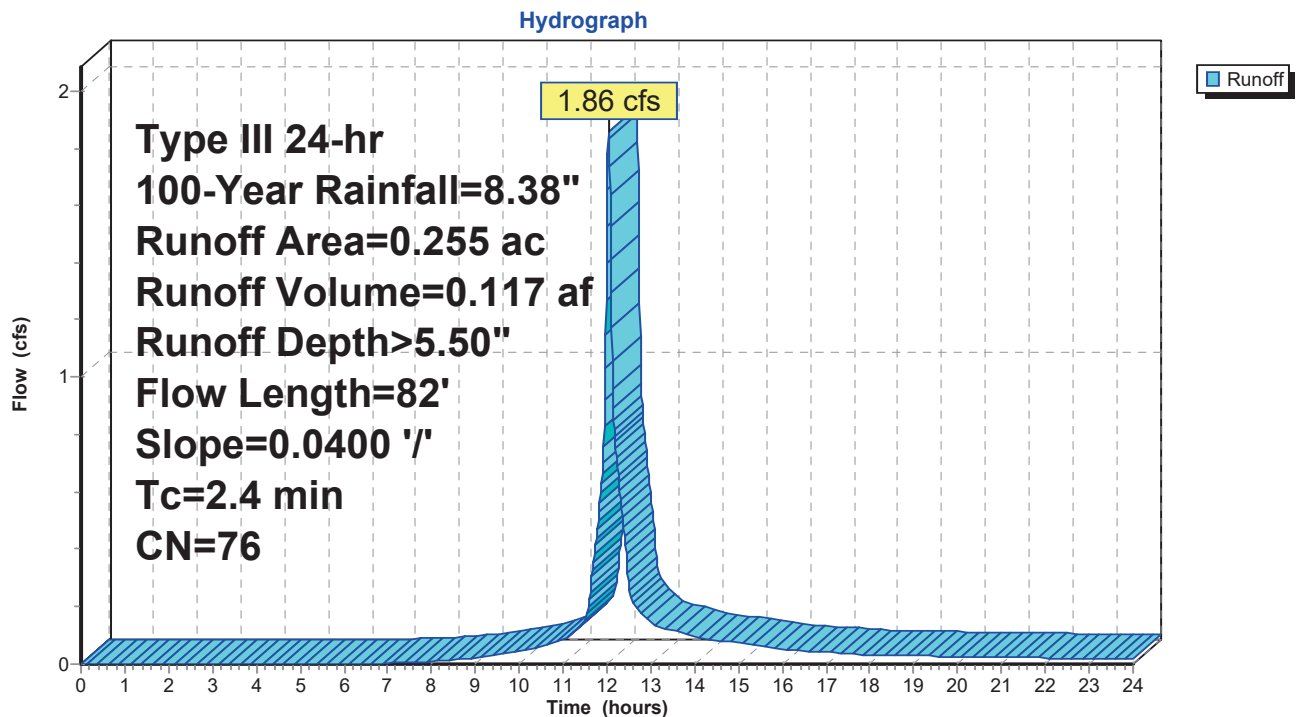
Runoff = 1.86 cfs @ 12.04 hrs, Volume= 0.117 af, Depth> 5.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.38"

Area (ac)	CN	Description
* 0.218	76	Gravel, HSG A
* 0.026	76	Crushed Stone, HSG A
* 0.009	76	Riprap, HSG A
* 0.002	98	Concrete, HSG A
0.255	76	Weighted Average
0.253		99.22% Pervious Area
0.002		0.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	82	0.0400	0.56		Lag/CN Method,

Subcatchment 3S: Infiltration Basin Area



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Subcatchment 4S: Additional Treatment Area

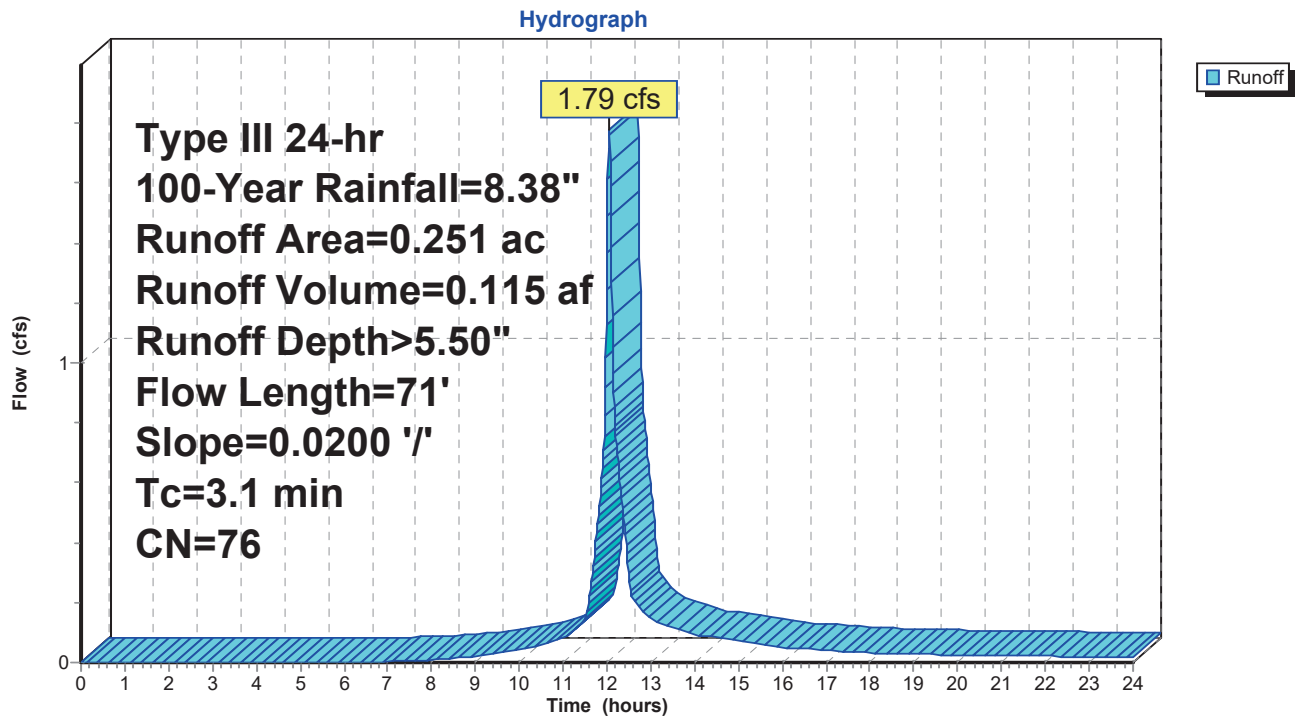
Runoff = 1.79 cfs @ 12.05 hrs, Volume= 0.115 af, Depth> 5.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.38"

Area (ac)	CN	Description
* 0.251	76	Gravel, HSG A
0.251		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	71	0.0200	0.39		Lag/CN Method,

Subcatchment 4S: Additional Treatment Area



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Reach 1R: Conveyance Pipe

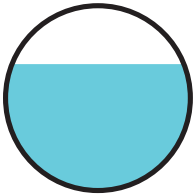
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.154 ac, 67.53% Impervious, Inflow Depth > 7.30" for 100-Year event
Inflow = 1.34 cfs @ 12.05 hrs, Volume= 0.094 af
Outflow = 1.29 cfs @ 12.07 hrs, Volume= 0.094 af, Atten= 4%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.23 fps, Min. Travel Time= 1.5 min
Avg. Velocity= 1.11 fps, Avg. Travel Time= 4.3 min

Peak Storage= 114 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.57' , Surface Width= 0.77'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 1.58 cfs

10.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 287.0' Slope= 0.0052 '/'
Inlet Invert= 278.00', Outlet Invert= 276.50'



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

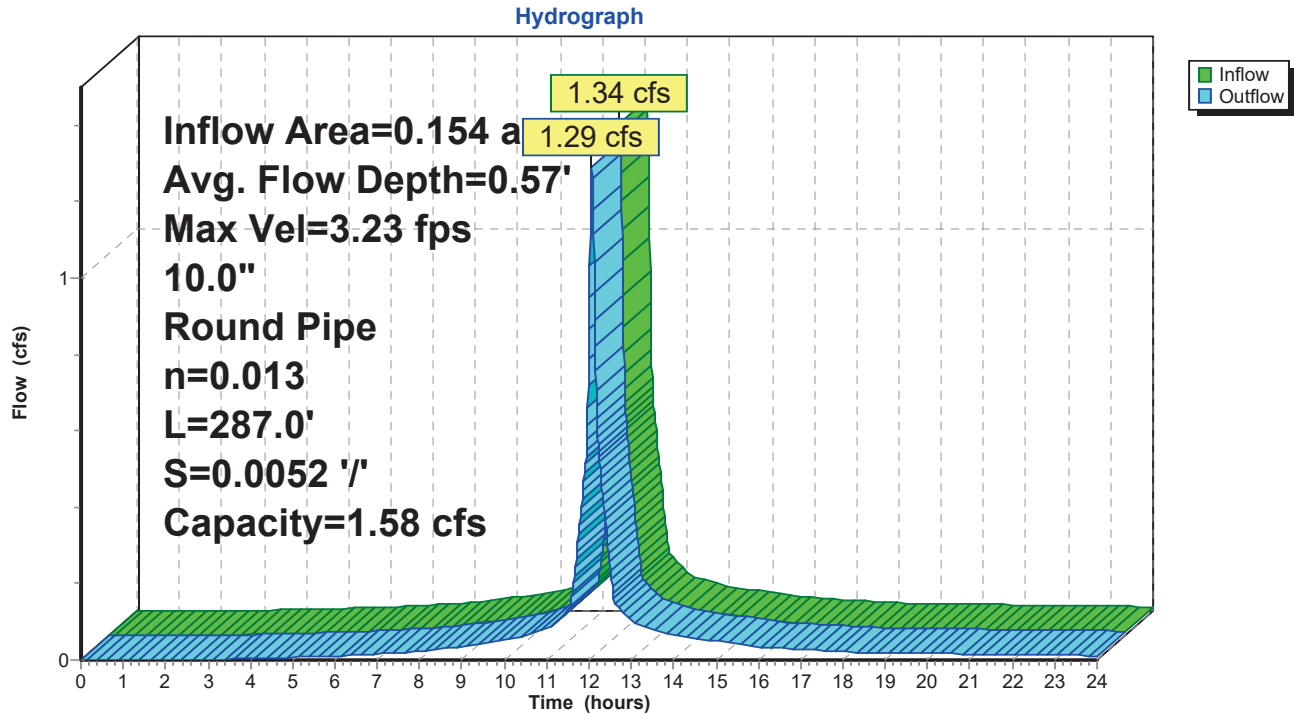
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Reach 1R: Conveyance Pipe



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Reach 2R: Conveyance Pipe

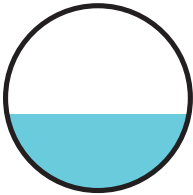
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.040 ac, 100.00% Impervious, Inflow Depth > 8.14" for 100-Year event
Inflow = 0.39 cfs @ 12.02 hrs, Volume= 0.027 af
Outflow = 0.39 cfs @ 12.02 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.04 fps, Min. Travel Time= 0.2 min
Avg. Velocity= 1.63 fps, Avg. Travel Time= 0.5 min

Peak Storage= 4 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.21' , Surface Width= 0.49'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 1.08 cfs

6.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 45.8' Slope= 0.0371 '/
Inlet Invert= 278.20', Outlet Invert= 276.50'



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

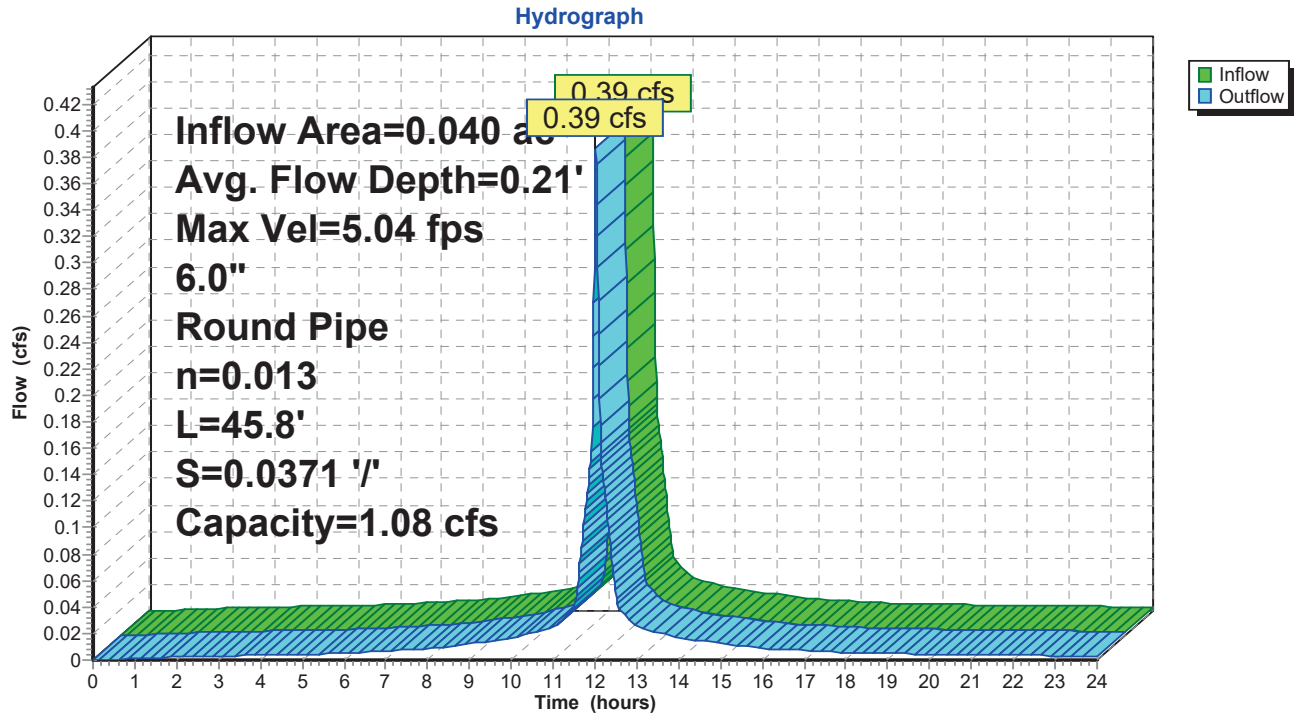
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Reach 2R: Conveyance Pipe



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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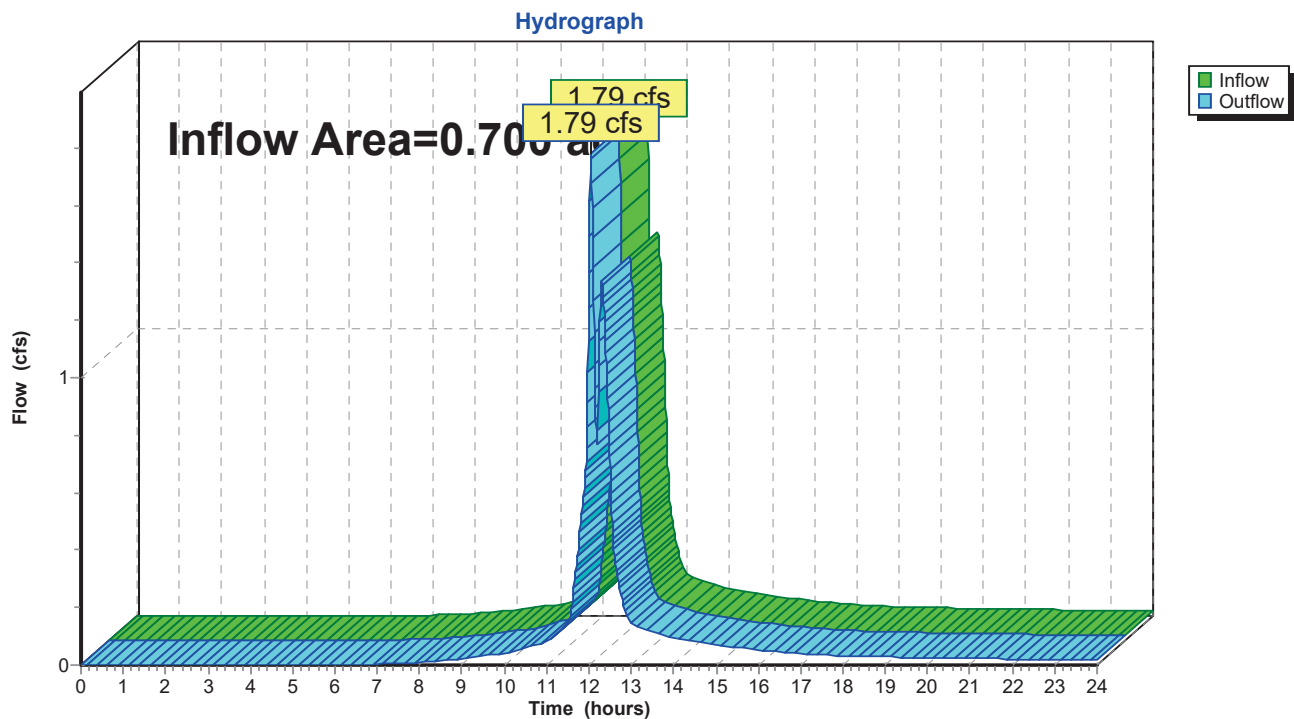
Summary for Reach DP-1: DP-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.700 ac, 20.86% Impervious, Inflow Depth > 2.29" for 100-Year event
Inflow = 1.79 cfs @ 12.05 hrs, Volume= 0.133 af
Outflow = 1.79 cfs @ 12.05 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach DP-1: DP-1



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Pond 1P: Infiltration Basin

Inflow Area = 0.449 ac, 32.52% Impervious, Inflow Depth > 6.35" for 100-Year event
Inflow = 3.42 cfs @ 12.04 hrs, Volume= 0.238 af
Outflow = 1.10 cfs @ 12.32 hrs, Volume= 0.238 af, Atten= 68%, Lag= 16.6 min
Discarded = 0.35 cfs @ 12.32 hrs, Volume= 0.219 af
Primary = 0.75 cfs @ 12.32 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 278.12' @ 12.32 hrs Surf.Area= 0.041 ac Storage= 0.082 af

Plug-Flow detention time= 90.0 min calculated for 0.237 af (100% of inflow)

Center-of-Mass det. time= 89.9 min (874.4 - 784.5)

Volume	Invert	Avail.Storage	Storage Description
#1	275.00'	0.122 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
275.00	0.012	0.000	0.000
276.00	0.021	0.016	0.016
277.00	0.030	0.025	0.042
278.00	0.040	0.035	0.077
279.00	0.050	0.045	0.122

Device	Routing	Invert	Outlet Devices
#1	Discarded	275.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 1.00' Phase-In= 0.01'
#2	Primary	278.00'	60.0 deg x 6.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.53 (C= 3.16)

Discarded OutFlow Max=0.35 cfs @ 12.32 hrs HW=278.12' (Free Discharge)

↑**1=Exfiltration** (Controls 0.35 cfs)

Primary OutFlow Max=0.75 cfs @ 12.32 hrs HW=278.12' TW=0.00' (Dynamic Tailwater)

↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.75 cfs @ 1.07 fps)

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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

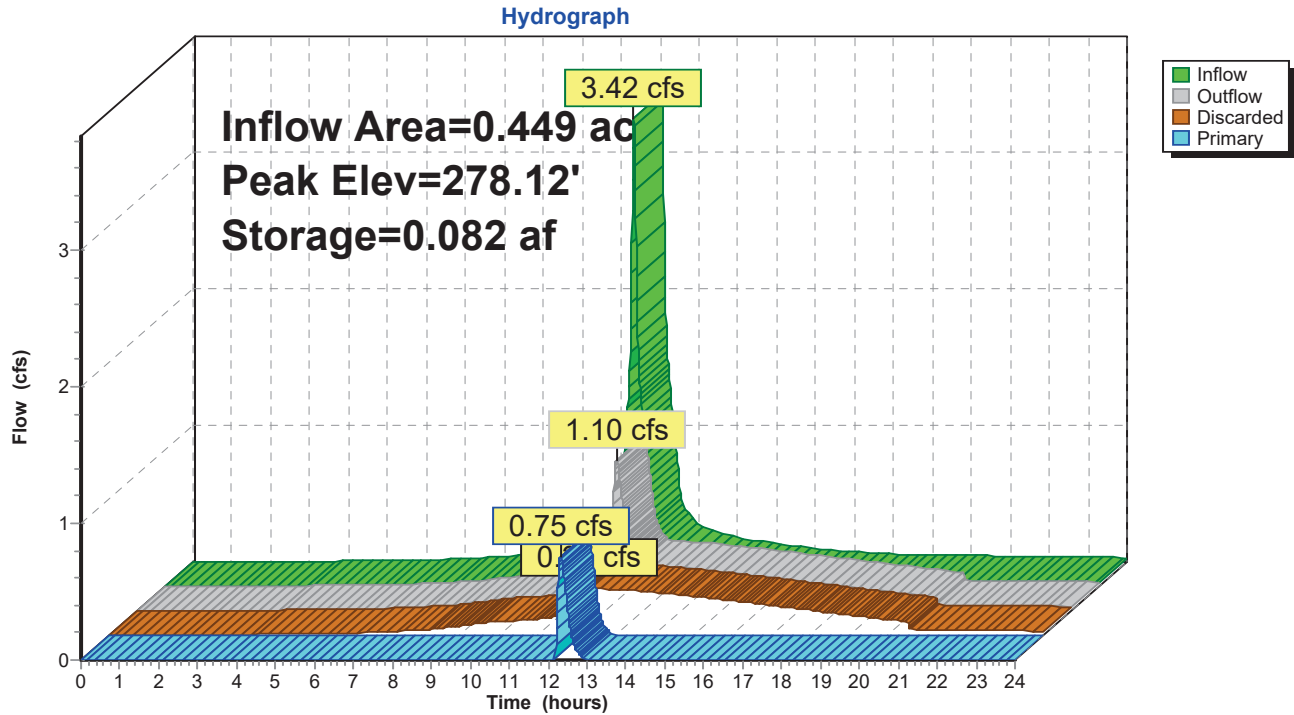
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Pond 1P: Infiltration Basin



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Post-Development Condition

Type III 24-hr 100-Year Rainfall=8.38"

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Summary for Pond 2P: Oil Grit Separator

[62] Hint: Exceeded Reach 1R OUTLET depth by 1.42' @ 12.31 hrs

[62] Hint: Exceeded Reach 2R OUTLET depth by 1.66' @ 12.09 hrs

Inflow Area = 0.194 ac, 74.23% Impervious, Inflow Depth > 7.46" for 100-Year event
Inflow = 1.60 cfs @ 12.06 hrs, Volume= 0.121 af
Outflow = 1.60 cfs @ 12.06 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.60 cfs @ 12.06 hrs, Volume= 0.121 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 278.33' @ 12.09 hrs

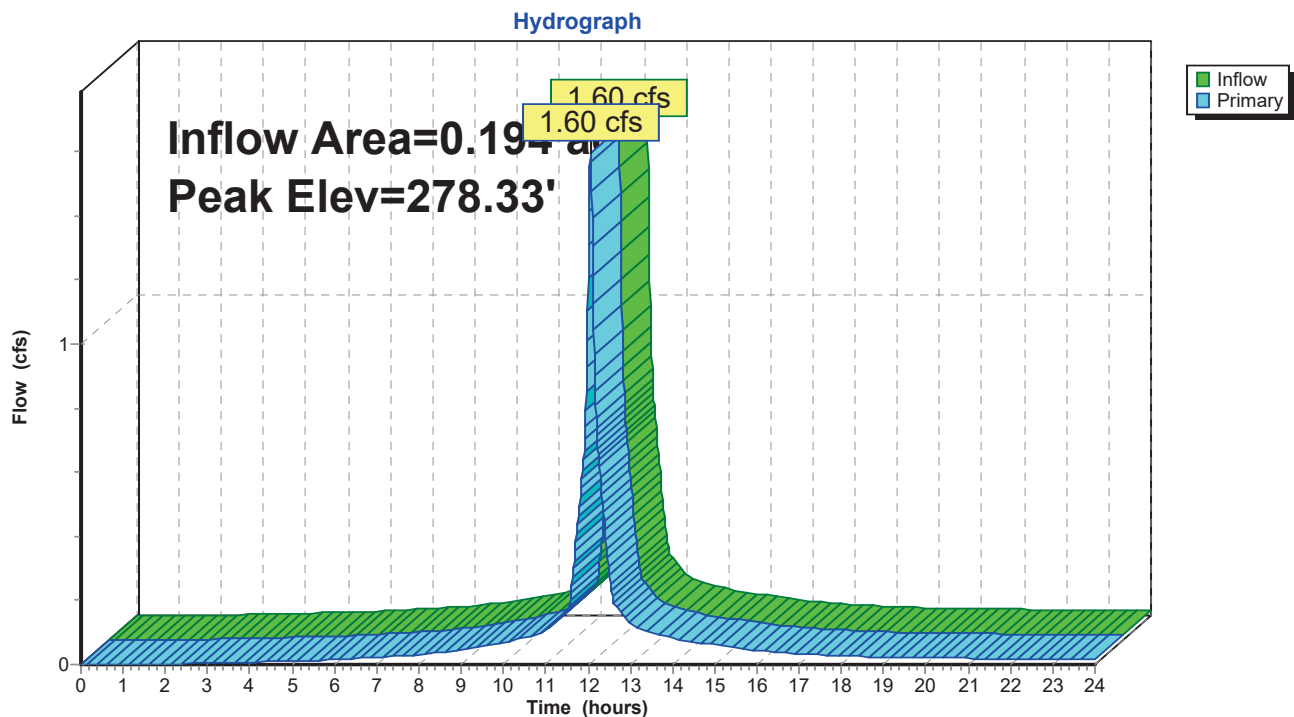
Flood Elev= 279.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	8.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.53 cfs @ 12.06 hrs HW=278.23' TW=277.40' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 1.53 cfs @ 4.38 fps)

Pond 2P: Oil Grit Separator



Appendix D

Web Soil Survey



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Hampden County, Massachusetts, Central Part; and Hampshire County, Massachusetts, Central Part



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

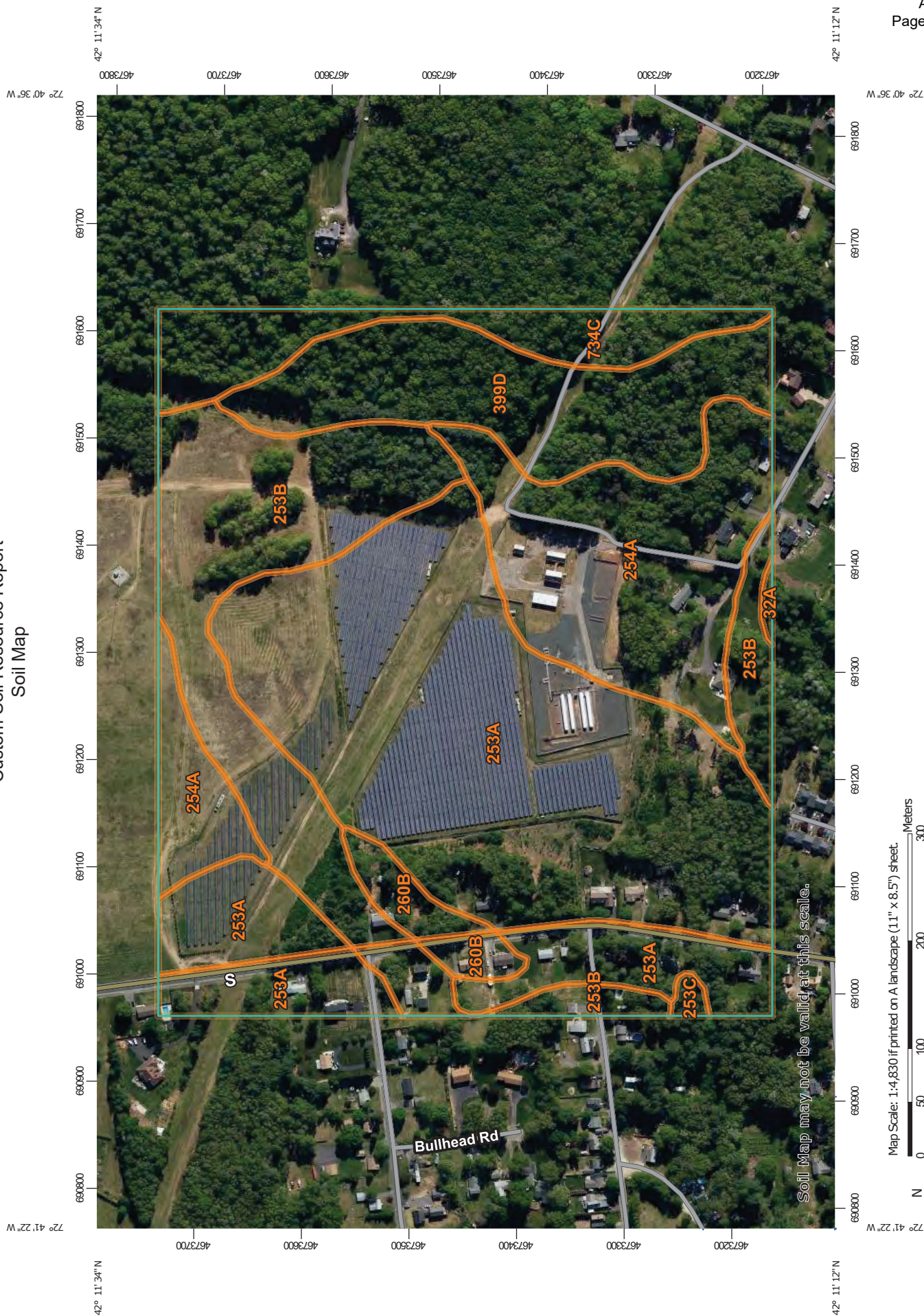
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

MAP INFORMATION

properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 24, 2020—Aug 6, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
32A	Wareham loamy sand, 0 to 3 percent slopes	0.1	0.2%
253A	Hinckley loamy sand, 0 to 3 percent slopes	33.8	36.2%
253B	Hinckley loamy sand, 3 to 8 percent slopes	15.5	16.6%
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	15.9	17.1%
260B	Sudbury fine sandy loam, 0 to 8 percent slopes	1.3	1.4%
399D	Wethersfield fine sandy loam, 15 to 25 percent slopes, extremely stony	11.3	12.1%
734C	Rock outcrop-Holyoke complex, 3 to 15 percent slopes	5.7	6.1%
Subtotals for Soil Survey Area		83.6	89.6%
Totals for Area of Interest		93.4	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
253A	Hinckley loamy sand, 0 to 3 percent slopes	6.7	7.2%
253B	Hinckley loamy sand, 3 to 8 percent slopes	2.0	2.1%
253C	Hinckley loamy sand, 8 to 15 percent slopes	0.3	0.3%
260B	Sudbury fine sandy loam, 3 to 8 percent slopes	0.8	0.8%
Subtotals for Soil Survey Area		9.7	10.4%
Totals for Area of Interest		93.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some

observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The

pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Hampden County, Massachusetts, Central Part

32A—Wareham loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 99rs
Elevation: 0 to 3,280 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Wareham and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wareham

Setting

Landform: Terraces, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loose sandy glaciofluvial deposits

Typical profile

H1 - 0 to 13 inches: loamy sand
H2 - 13 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F144AY028MA - Wet Outwash
Hydric soil rating: Yes

Minor Components

Scarboro

Percent of map unit: 10 percent
Landform: Terraces, terraces
Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Deerfield

Percent of map unit: 5 percent
Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Swansea

Percent of map unit: 5 percent
Landform: Bogs
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

253A—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7
Elevation: 0 to 1,420 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash terraces, outwash plains, kame terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

Ecological site: F144AY022MA - Dry Outwash

Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent

Landform: Outwash deltas, outwash terraces, kame terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Hydric soil rating: No

Windsor

Percent of map unit: 5 percent

Landform: Outwash deltas, kame terraces, outwash terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent

Landform: Outwash deltas, outwash terraces, kame terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Hydric soil rating: No

253B—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, kames, kame terraces, moraines, eskers, outwash plains
Landform position (two-dimensional): Summit, backslope, footslope, shoulder
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 8 percent
Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, moraines, outwash plains, kame terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, base slope, side slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Agawam

Percent of map unit: 2 percent
Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

254A—Merrimac fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tyqr
Elevation: 0 to 1,100 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Merrimac and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Outwash plains, outwash terraces, moraines, eskers, kames

Landform position (two-dimensional): Backslope, footslope, summit, shoulder

Landform position (three-dimensional): Side slope, crest, riser, tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam

Bw1 - 10 to 22 inches: fine sandy loam

Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand

2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

Ecological site: F145XY008MA - Dry Outwash

Hydric soil rating: No

Minor Components

Hinckley

Percent of map unit: 5 percent

Landform: Deltas, kames, eskers, outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Deltas, terraces, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Stream terraces, outwash terraces, outwash plains, moraines, eskers, kames
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 2 percent
Landform: Dunes, deltas, outwash terraces, outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

260B—Sudbury fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 99rg
Elevation: 0 to 2,100 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sudbury and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sudbury

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex

Parent material: Friable loamy eolian deposits over loose sandy glaciofluvial deposits

Typical profile

H1 - 0 to 10 inches: fine sandy loam
H2 - 10 to 18 inches: fine sandy loam
H3 - 18 to 23 inches: gravelly sandy loam
H4 - 23 to 60 inches: Error

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 29 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Wareham

Percent of map unit: 5 percent
Landform: Terraces, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Scarboro

Percent of map unit: 5 percent
Landform: Terraces, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Merrimac

Percent of map unit: 5 percent
Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

399D—Wethersfield fine sandy loam, 15 to 25 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 99s1
Elevation: 180 to 610 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Wethersfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wethersfield

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Friable coarse-loamy eolian deposits over dense coarse-loamy basal till derived from sandstone and shale

Typical profile

H1 - 0 to 14 inches: fine sandy loam
H2 - 14 to 26 inches: gravelly fine sandy loam
H3 - 26 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 32 inches to densic material
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: F145XY012CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Minor Components

Ludlow

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Wilbraham

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

734C—Rock outcrop-Holyoke complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 99r1
Elevation: 100 to 1,030 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Holyoke and similar soils: 40 percent
Rock outcrop: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holyoke

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Friable, shallow loamy basal till over basalt

Typical profile

H1 - 0 to 4 inches: gravelly very fine sandy loam
H2 - 4 to 12 inches: gravelly very fine sandy loam
H3 - 12 to 16 inches: unweathered bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 10 to 16 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F145XY011CT - Well Drained Shallow Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ledges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountainbase, base slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Basalt

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Others

Percent of map unit: 25 percent
Hydric soil rating: No

Hampshire County, Massachusetts, Central Part

253A—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7
Elevation: 0 to 1,420 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kame terraces, outwash deltas, outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash deltas, kame terraces, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

253B—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, kames, kame terraces, moraines, eskers, outwash plains
Landform position (two-dimensional): Summit, backslope, footslope, shoulder
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 8 percent
Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, moraines, outwash plains, kame terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, base slope, side slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Agawam

Percent of map unit: 2 percent

Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

253C—Hinckley loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svm9
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Shoulder, toeslope, footslope, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Outwash deltas, moraines, outwash plains, kame terraces, outwash terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Moraines, eskers, kames, outwash deltas, outwash terraces, outwash plains, kame terraces
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Kames, outwash plains, outwash terraces, moraines, eskers
Landform position (two-dimensional): Toeslope, footslope, backslope, shoulder
Landform position (three-dimensional): Nose slope, head slope, crest, side slope, riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

260B—Sudbury fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9b20
Elevation: 0 to 2,100 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sudbury and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sudbury

Setting

Landform: Outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Friable loamy eolian deposits over loose sandy glaciofluvial deposits

Typical profile

H1 - 0 to 10 inches: fine sandy loam
H2 - 10 to 16 inches: fine sandy loam
H3 - 16 to 28 inches: gravelly loamy sand
H4 - 28 to 60 inches: stratified gravelly sand to very gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Walpole

Percent of map unit: 5 percent

Landform: Terraces

Hydric soil rating: Yes

Merrimac

Percent of map unit: 5 percent

Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent

Hydric soil rating: No

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GEOTECHNICAL ENGINEERING REPORT

West Holyoke LNG Facility

Holyoke, Massachusetts

Prepared for: City of Holyoke Gas & Electric Department

File No. 5201.01

Document #: EVAL-003

Revision: 3

Date: 10/18/2022



1 Technology Park Drive
Westford, MA 01886

Mr. Brian Roy
Gas Superintendent
Holyoke Gas and Electric
99 Suffolk Street
Holyoke, MA 01040

October 18, 2022
File No. 5201.01

Re: Geotechnical Engineering Report
West Holyoke LNG Facility
Holyoke, Massachusetts

Dear Mr. Roy:

Sanborn, Head & Associates, Inc. (Sanborn Head) is pleased to submit our geotechnical engineering report for the proposed plant upgrades to Holyoke Gas & Electric's (HG&E) West Holyoke LNG Facility. This report includes subsurface information and geotechnical engineering design and construction recommendations for the proposed plant upgrades.

Based on the subsurface conditions encountered, we recommend that the proposed equipment upgrades are supported by conventional spread footings and mat foundations. The footings and mat foundations should bear on the existing natural, inorganic, granular soil, and/or compacted Structural Fill. Additional recommendations and construction considerations are provided in the enclosed geotechnical engineering report.

We appreciate the opportunity to provide you with continued service. If you have any questions regarding the report, please call Matt Van Rensler at 302.213.6041.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

A handwritten signature in blue ink, reading "Matt Van Rensler".

Matthew B. Van Rensler, P.E.
Senior Vice President

A handwritten signature in blue ink, reading "Luke D. Norton".

Luke D. Norton, P.E.
Project Director

RMH/MBV: ldn

Encl. Geotechnical Engineering Report, Holyoke LNG Facility

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EXECUTIVE SUMMARY

This geotechnical engineering report has been prepared for the LNG Infrastructure & Resiliency Project at the West Holyoke liquefied natural gas (LNG) facility. We understand the project scope includes the installation of a 70,000-gallon (gross) LNG tank, vaporizers, water glycol heaters with shelter, and other miscellaneous structures. The proposed horizontal LNG tank is approximately 110.5 feet long by 12.5 feet in diameter and will have two points of support near each end of the tank.

On June 6, 2022, Sanborn Head observed three (3) geotechnical test borings (identified as SHA-1 through SHA-3) that were drilled by New England Boring Contractors of Derry, New Hampshire under subcontract to Sanborn Head. The test borings were drilled to a depth of 20 feet below the existing ground surface.

The key findings of our work are as follows:

- Beneath a surficial layer of gravel, the Site is generally underlain by previously placed fill materials overlying natural sands and sandy silts.
- While debris was not observed in the samples obtained within the previously placed fill materials, typically, it is not recommended to support foundation systems on fill soils due to the unknown and potentially inconsistent nature of the fill materials, and the risk of detrimental differential settlement following construction.
- Groundwater was not encountered prior to achieving the test boring termination depths.
- We recommend the proposed tank foundations and other associated structures be supported by conventional shallow foundations or mat foundations that bear on undisturbed natural soils or compacted Structural Fill over natural soils. The previously placed fill materials are not considered suitable for support of the proposed equipment.
- Conventional shallow foundations and mat foundations should be sized for a recommended maximum allowable bearing capacity 5 kips per square foot.

More detailed conclusions and recommendations for design and construction of the foundations and equipment pads are provided in the following report.

1.0 INTRODUCTION

Sanborn, Head & Associates, Inc. (Sanborn Head) has prepared this geotechnical engineering report on behalf of Holyoke Gas and Electric (HG&E) to support the LNG Infrastructure & Resiliency Project for the existing West Holyoke liquefied natural gas (LNG) facility located Holyoke, Massachusetts. The objectives of our services were to assess the subsurface conditions in the proposed project scope and provide geotechnical engineering recommendations related to the design of equipment foundations and recommended earthwork procedures for the site work. This report is subject to the limitations in Appendix A.

1.1 Site Description

The West Holyoke LNG Facility is located as shown on the enclosed Locus Plan (Figure 1). According to the City of Holyoke Assessor's office, the project address consists of two parcels with a combined area of approximately 18.82 acres. It is understood that the area of the proposed project scope is located within an existing fenced LNG facility spanning both parcels with an overall area of approximately 4.5 acres. For purposes of this report, the area within the existing fenced portion of the LNG facility will be referenced as the project Site. The Site is bordered by solar fields to the north and west, an undeveloped wooded area to the east and several residential parcels to the south.

The existing facility consists of four (4) horizontal 55,000-gallon (gross) LNG tanks, a single LNG truck unloading station, a single shell-and-tube vaporization system, a boil-off gas handling system with an ambient heat exchanger, and hazard detection, control and fire protection systems. The existing ground surface is predominately either gravel covered or bituminous concrete with several grassy areas.

The ground surface within the facility is relatively level with existing ground surface elevations ranging from approximately elevation (El.) 277 to 279 feet based on an Existing Conditions Survey prepared by WSP USA, Inc., dated May 25, 2022. Ground surface elevations in this report are referenced to the North American Vertical Datum of 1988 (NAVD 88).

1.2 Project Description

We understand the proposed plant upgrades include the installation of a 70,000-gallon horizontal LNG tank, vaporizers, water glycol heaters, heater shelter, and impoundment and sub-impoundments. The proposed LNG tank is approximately 110.5 feet long by 12.5 feet in diameter and will have two points of support near each end of the tank. We estimate the proposed tank will impose a dead load of approximately 400 kips when the tank is full of product. While no significant site fills are anticipated, maximum net cuts on the order of 20 feet may be required for several pit locations.

1.3 Regional Geology

According to published geologic mapping titled "Surficial Materials Map of the Mount Tom Quadrangle, Massachusetts (1:24,000 scale)" by Janet R. Stone and Mary L. DiGiacomo-Cohen, 2018, and "Bedrock Geologic Map of Massachusetts (1:250,000 scale)" by Richard

Goldsmith, et al., 1983, the subsurface materials at the Site are mapped as coarse deposits over sedimentary bedrock. The coarse deposits are generally described as poorly to well graded sand and gravel of varying proportions and is underlain by sedimentary bedrock described as reddish-brown to pale red arkosic sandstone and siltstone, gray sandstone, gray mudstone, and black shale.

2.0 SUBSURFACE EXPLORATIONS

On June 6, 2022, Sanborn Head observed three (3) geotechnical test borings (identified as SHA-1 through SHA-3) that were drilled by New England Boring Contractors of Derry, New Hampshire as a subcontractor to Sanborn Head. The test borings were drilled at the approximate locations shown on Figure 2 to depth of 20 feet below the existing ground surface. In the geotechnical test borings, split-spoon soil samples were collected at depth intervals selected by the Sanborn Head field engineer and Standard Penetration Tests (SPTs) were performed in general accordance with ASTM D1586.

The subsurface explorations described above were observed and logged by Sanborn Head personnel on a full-time basis. Logs of the explorations are provided in Appendix B. Soil samples were field classified based on visual estimates of grain size distribution and plasticity using the Modified Burmister System. Additional soil characteristics such as density and consistency (based on SPT data), color and moisture are noted on the logs. A legend is provided in Appendix B that describes the classification system.

3.0 GEOTECHNICAL LABORATORY TESTING

Three (3) soil samples were submitted to GeoTesting Express, Inc. of Acton, MA for geotechnical laboratory testing. The following laboratory tests were performed:

- Grain size analysis (ASTM D6913);
- Moisture content (ASTM D2216);

The laboratory testing are included in Appendix C.

4.0 SUBSURFACE CONDITIONS

The following paragraphs provide a general description of the subsurface conditions observed in the explorations. The subsurface conditions encountered at individual explorations are summarized on the test logs provided in Appendix B.

Fill Material: Beneath a surficial layer of gravel, existing fill material was encountered to depths of approximately 2 to 5 feet below ground surface. The fill typically consists of granular soil (dark brown to reddish-brown, fine to coarse sand, trace to some silt, trace to little gravel). SPT N-values in the fill ranged from 5 to 12 blows per foot (bpf) which indicates the existing fill has variable density ranging from loose to medium dense.

Sand: A deposit of loose to medium dense natural sand was encountered beneath the existing fill. The sand stratum consists of reddish-brown, fine to coarse sand, trace to little gravel, trace to little silt. The sand was observed to be approximately 11.5 to 18.0 feet thick.

Sandy Silt: A deposit of very stiff to hard natural silt was encountered beneath the sand stratum. The silt stratum consists of brown silt and sand. The silt stratum was not fully penetrated in test borings SHA-1 and SHA-2 nor encountered in test boring SHA-3.

Groundwater: Groundwater was not encountered in the test borings prior to achieving their termination depths. Groundwater levels typically vary depending on factors such as season, precipitation, construction activity, and other conditions, which may be different from those at the time of these observations.

5.0 GEOTECHNICAL ENGINEERING RECOMMENDATIONS

The following paragraphs present our geotechnical engineering recommendations related design of equipment foundations. Our conclusions and recommendations are based on the project information developed by Sanborn Head and the field exploration program.

5.1 Previously Placed Fill

The previously placed fill observed in the test borings underlying the surficial gravel layer was likely placed during previous site activities. While debris was not observed in the samples obtained, typically, it is not recommended to support foundation systems on fill soils due to the unknown and potentially inconsistent nature of the materials, and the risk of detrimental differential settlement following construction. It is Sanborn Head's opinion that the existing fill soils are not considered suitable for supporting shallow foundation systems and should be removed in their entirety. Based on the relative elevations provided as part of our evaluation it appears that the majority of this fill material will be excavated during foundation construction; however, fill material that remains after footing excavation should be over-excavated. The resulting excavations should be backfilled with Structural Fill, placed and compacted in accordance with the recommendations of this report. It may be possible to reuse the existing fill material if it is reviewed and approved by the geotechnical engineer during construction.

In proposed slab-on-grade areas where foundations are not proposed, it may be possible to support the proposed slab-on-grade areas on existing fill provided the existing fill is observed to be firm and dry, free of organic material and debris, and evaluated by proof compaction as described in the Construction Recommendations section of this report.

5.2 Shallow Foundations

We recommend the proposed horizontal LNG tank and other equipment be supported by conventional shallow foundations that bear on undisturbed natural soils or compacted Structural Fill over natural soils. We recommend a maximum net allowable bearing pressure of 5 kips per square foot (e.g., 2.5 tons per square foot) for foundations constructed on the natural site soils or compacted Structural Fill. It is estimated that foundations constructed in accordance with the recommendations presented herein will experience total post-construction settlement of less than 1-inch. Post-construction differential settlement between column footings is estimated to be less than ½-inch but will depend on the live load distribution and location.

Continuous footings should be at least 24 inches wide and individual column footings should be at least 36 inches wide. The subgrade soils are considered frost susceptible, and as such, the bearing surface of shallow foundations in areas exposed to freezing temperatures should be at least 4 feet below finished exterior grade for frost protection. Interior footings, in areas not exposed to freezing temperatures, should be founded at least 2 feet below finished floor grade, while also providing at least 12 inches of soil cover between finished grade and the top of footings, whichever is greater.

Where required, excavation of previously placed fill or other unsuitable materials and placement of compacted Structural Fill below the proposed shallow foundations should extend at least 1 foot beyond the edge of footings and floor slabs and at a one horizontal to one vertical (1H:1V) slope down and away to the top of the bearing stratum.

The proposed foundations immediately adjacent to existing tanks or structures should be founded at an elevation equal to the existing foundations.

5.3 Mat Foundations

We recommend that mat foundations bear on undisturbed natural soils or compacted Structural Fill over natural soils. We recommend a maximum net allowable contact pressure of 5 kips per square foot (e.g., 2.5 tons per square foot) for mat foundations constructed on the natural site soils or compacted Structural Fill. It is estimated that foundations constructed in accordance with the recommendations presented herein will experience total post-construction settlement of less than 1-inch. Post-construction differential settlement between column footings is estimated to be less than ½-inch but will depend on the live load distribution and location.

The subgrade soils are considered frost susceptible, and as such, the depth of the perimeter turn down slabs in areas exposed to freezing temperatures should be at least 4 feet below finished exterior grade for frost protection.

Where required, excavation of previously placed fill or other unsuitable materials and placement of compacted Structural Fill below the proposed mat foundations should extend at least 1 foot beyond the edge of mat foundations and at a one horizontal to one vertical (1H:1V) slope down and away to the top of the bearing stratum.

The proposed foundations immediately adjacent to existing tanks or structures should be founded at an elevation equal to the existing foundations.

5.4 Slab-on-Grade

Equipment pads should be designed as a slab-on-grade bearing on at least 6 inches of base course that meets the material specifications for Gravel Fill as specified in Table 1. The base course material should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D1557, Method C (Modified Proctor). If the earthwork recommendations herein are followed, a modulus of subgrade reaction of at least 150 pounds per cubic inch (pci) should be achieved.

5.5 Seismic Design Criteria

For seismic design of the proposed building, it is recommended that the Site be classified as Seismic Site Class “D” as defined in the Massachusetts State Building Code (MSBC), 9th Edition. Table 1604.11 of the state code provides earthquake response accelerations for the maximum considered earthquake for each municipality in Massachusetts.

For the City of Holyoke, Massachusetts, the earthquake response accelerations are S_s of 0.172g and S_1 of 0.065g. The recommended design spectral response accelerations are S_{DS} = 0.183g and S_{D1} = 0.105g based on IBC-2015 (risk category IV).

NFPA 59A incorporates NEHRP *Recommended Provisions for Seismic Regulations for New Buildings and Other Structures*, 1997 version. Version 2015 was reviewed based on availability and recommends design spectral response accelerations of S_{DS} = 0.176g and S_{D1} = 0.088g. The NEHRP provided S_{DS} value should be considered for the specific seismic design requirements, where required in NFPA 59A.

The Site soils were analyzed for their potential to liquify during a design earthquake. Based on the corrected SPT results, estimated depths to groundwater, soil classifications, and PGAM at this locale, it is our opinion that the site soils are not prone to liquefaction during a design earthquake.

5.6 Lateral Earth Pressures

Walls should be designed to resist either “at-rest” or “active” lateral earth pressures depending on the degree of fixity at the top of the wall. For walls that are free to rotate more than 0.002 times the height of the wall (H), we recommend they be designed to resist an equivalent active static horizontal fluid pressure equal to 40 pounds per square foot (psf). Walls that cannot rotate more than 0.002 times the height of the wall should be designed to resist an equivalent at-rest static horizontal fluid pressure equal to 60 psf. We recommend an equivalent passive static horizontal fluid pressure of 400 psf for the ultimate passive resistance. We recommend 0.55 for an ultimate coefficient of friction for cast-in-place concrete placed on granular soils. For the ultimate passive resistance and coefficient of friction, a factor of safety appropriate to the loading condition as determined by the structural engineer should be applied when evaluating sliding resistance.

The equivalent fluid pressure values provided above are intended to model lateral earth pressure from soil backfill only and assume no unbalanced hydrostatic pressures (i.e., free draining backfill and/or weep holes for drainage). Additional loading conditions for seismic forces, or surcharge loads should be evaluated as follows. We recommend using a uniform traffic surcharge load of 250 psf for walls supporting paved areas applied as a horizontal uniform load on the wall of one half of the surcharge load (125 psf). Lateral seismic pressure should be applied as a non-uniform pressure that varies from 7H (psf) applied at the top of the wall to no pressure at the base of the wall in accordance with the Massachusetts Building Code, 9th Edition.

5.7 Tank Loading

Prior to placing the tank in active operation, it is recommended that the tank be filled to approximately one-half of its capacity to allow the load to be applied in a gradual manner. It is recommended that the storage volume be held at this level for approximately one week prior to the complete filling of the tank. The purpose of this gradual filling is to reduce the effects of “rapid” loading of the subsoils.

5.8 Materials, Earthwork, and Compaction Requirements

Proposed fill materials should satisfy the requirements for the intended use as specified herein and as outlined in the enclosed Table 1.

The existing fill and natural soils that do not contain deleterious materials (e.g., debris, organics, etc.) may be suitable for reuse as compacted Structural Fill, as defined as On-Site Fill in the attached Table 1, or as Common Fill in non-load-bearing areas provided that the material satisfies all other project requirements.

We recommend a minimum in-place dry density of 95 percent as per ASTM D1557 for material placed below foundations and equipment pads and for material placed as backfill against structural walls. Backfill directly behind walls should be compacted with light, hand-operated compactors. Material should be placed in a maximum loose lift thickness of 12 inches and within 2 percent of its optimum moisture content.

6.0 CONSTRUCTION RECOMMENDATIONS

6.1 Subgrade Preparation During Construction

The following paragraphs describe the recommended earthwork procedures for preparation of the foundation subgrades during construction.

- In proposed equipment foundation areas, the surface should be cleared of any existing asphalt, concrete, buried structures and foundations, or other deleterious materials prior to the start of construction to a distance of 10 feet beyond the equipment foundation lines and outside of the zone of influence of the foundations in deeper fill areas. Surface clearing should be followed as recommended to the extent allowable by existing field conditions and that which is required by new work. The zone of influence is defined as the area projecting downward and outward from the bottom of footing at a one horizontal to one vertical (1H:1V) slope angle.
- After removal of surface materials, and prior to placing new fill, the exposed natural soil subgrade should be proof-compacted with at least 6 passes of a 10-ton smooth drum vibratory roller under the observation of a qualified geotechnical engineer, or his/her representative. Any soft or loose zones identified by the proof compaction should be evaluated by excavation and replaced with compacted fill as necessary. If acceptable to the project's engineer, granular soils may also be densified in place. Additionally, proof compaction may be waived by the project geotechnical engineer in the field if, in their opinion, the proof compaction will cause disturbance to the subgrade.

- Where additional fill is necessary to achieve the proposed grades in proposed equipment areas, Structural Fill that meets the material specifications in Table 1 should be spread in loose lifts not to exceed 12 inches thick and compacted to at least 95 percent of its maximum dry density as determined by ASTM D1557, Method C (Modified Proctor).
- Footings should be excavated to expose a subgrade consisting of natural inorganic soils, or compacted Structural Fill placed as described above. To stabilize the soil subgrade in footing areas during construction, and depending on the prevailing weather conditions at the time of construction, the Contractor at its option may elect to over-excavate footing areas by 3- to 4-inches and backfill up to the bottom of footing elevation with $\frac{3}{4}$ -inch Crushed Stone and compact until visually firm and stable. Material specifications for $\frac{3}{4}$ -inch Crushed Stone are provided in Table 1. Crushed Stone should be compacted with at least 6 passes of a hand operated vibratory plate compactor with a dynamic weight of at least 1,000 pounds, or equivalent effort.
- Fill should not be placed, and footings should not be constructed, over a subgrade with standing water or that is frozen. If there is standing water on the subgrade, the water should be removed from the surface and any soft and yielding soils should be removed or allowed to dry prior to placement of additional fill or concrete. If the subgrade is frozen, the soil that is frozen should be removed, or thawed and recompacted, prior to placement of fill or concrete.

6.2 Temporary Excavations

Temporary excavations may be required for foundation and/or utility construction. All excavations should be sloped or shored in accordance with local, state, and federal regulations, including the Occupational Safety and Health Administration (29 CFR Part 1926) excavation trench safety standards.

Where excavations can be sloped, they should be sloped in accordance with OSHA requirements for a Class "C" soil, which can be cut at a maximum of one vertical to one and one-half horizontal (1V:1.5H), up to a maximum excavation depth of 20 feet. These recommendations assume no surcharge load (i.e., stockpiles, construction equipment, etc.) at the top of the excavations or seepage (e.g., cuts below the groundwater table).

Where excavations cannot be sloped back in accordance with OSHA requirements, a temporary earth retaining system (TERS) will be required. The TERS should be selected by the contractor and designed by a professional engineer registered in the State of Massachusetts.

6.3 Dewatering During Construction

Based on the anticipated bottom of footing elevations, groundwater is not expected to be encountered during construction. However, temporary excavation dewatering in excavations during periods of heavy precipitation or snow melt may be needed. We expect that surface water runoff control can be accomplished with sumps and/or grading to low points. Discharge water should be managed in accordance with local, state, and federal government requirements.

7.0 FINAL DESIGN REVIEW AND CONSTRUCTION MONITORING

We recommend the design plans and specifications be reviewed by a qualified geotechnical engineer to verify the recommendations of this report have been properly incorporated. We further recommend a qualified geotechnical engineer observe construction during the preparation of subgrade surfaces and placement and compaction of fill materials. The geotechnical engineer in the field should observe the work for compliance with the recommendations in this letter report, identify changes in subsurface conditions from those observed in the explorations should they become apparent, and assist in the development of design changes should subsurface conditions differ from those anticipated prior to the start of construction.

TABLE 1
MATERIAL SPECIFICATIONS

Holyoke LNG Facility
Holyoke, Massachusetts

Structural Fill to be used for general raises in grade below the building and pavement areas and shall consist of Gravel Fill, Granular Fill, On-Site Fill, or Processed Rock Fill, as described below:

Gravel Fill to be used as the base course layer beneath the interior garage floor slab-on-grade, base course layer below pavement, as backfill behind reinforced concrete retaining walls, and as backfill against foundation walls shall be free from ice and snow, roots, surface coatings, sod, loam, clay, rubbish, and other deleterious or organic matter, and shall conform to the gradation requirements for MassDOT Item M1.03.1, Gravel Borrow, Type B, reproduced from the MassDOT Specifications, latest edition, as follows:

Sieve Size	Percent Passing by Weight
3 inch	100
1-1/2 inch	70-100
3/4 inch	50-85
No. 4	30-60
No. 200	0-10

Granular Fill consisting of imported fill to be used for general raise-in-grade in proposed building and pavement areas shall be free from ice, snow, roots, surface coatings, sod, loam, clay, rubbish, and other deleterious matter, and shall be well-graded within the following gradation requirements:

Sieve Size	Percent Passing by Weight
4 inch	100
No. 4	30-90
No. 40	10-50
No. 200	0-15

On-Site Fill to be used for general raise-in-grade in proposed building, pavement, and landscape areas shall consist of natural inorganic soil from on-site sources free of ice, snow, roots, surface coatings, sod, loam, clay, debris and other deleterious material and shall meet the following gradation requirements:

Sieve Size	Percent Passing by Weight
4 inch	100
No. 4	30-90
No. 40	10-60
No. 200	0-35

Processed Rock Fill to be used for general raise-in-grade in proposed building and pavement areas and shall be well-graded rock fragments that were crushed on-site from reprocessing existing boulders and/or blast rock fill. Processed Rock Fill shall meet these gradation requirements:

Sieve Size	Percent Passing by Weight
4 inch	100
1-1/2 inch	70-100
3/4 inch	50-85
No. 4	30-60
No. 200	0-15

Common Fill to be used for general raise-in-grade fill in proposed pavement and landscaped areas shall consist of inorganic soil from on-site cut areas with a maximum particle size of 8 inches and less than 50 percent passing the No. 200 sieve. The material shall be free from ice, snow, roots, surface coatings, sod, loam, clay, rubbish, and other organics or deleterious matter (i.e. plastic, metal, foam insulation, rubber).

Base Course for Pavement (Subbase) to be used as the base course layer directly beneath the asphalt binder course in pavement areas shall conform to the material and gradation requirements for one of the following MassDOT Items in MassDOT Specifications, latest edition: Dense Graded Crushed Stone (Item M2.01.7), Processed Gravel for Subbase (Item M1.03.1), or Reclaimed Pavement Borrow Material (Item M1.09.0). The gradation requirements are reproduced as follows:

Sieve Size	Percent Passing By Weight		
	Item M2.01.7	Item M1.03.1	M1.09.0
3 inch	---	100	100
2 inch	100	---	---
1-1/2 inch	70-100	70-100	70-100
3/4 inch	50-85	50-85	50-85
No. 4	30-55	30-60	30-60
No. 50	8-24	---	8-24
No. 200	3-10	0-10	0-10

Crushed Stone to be used to stabilize footing subgrades, as drainage stone around perforated pipe, and as specified on the Drawings shall consist of hard durable processed crushed stone that meets the requirements for MassDOT Item M2.01.4, in MassDOT Specifications, latest edition. The gradation requirements are reproduced as follows:

Sieve Size	Percent Passing By Weight			
	1/2 Inch Stone	3/4 Inch Stone	1-1/2 Inch Stone	4-Inch Stone
6 inch	---	---	---	100
4 inch	---	---	---	25-90
2 inch	---	---	100	---
1-1/2 inch	---	---	95-100	0-10
1 inch	---	100	35-70	---
3/4 inch	---	90-100	0-25	---
5/8 inch	100	---	---	---
1/2 inch	85-100	10-50	---	---
3/8 inch	15-45	0-20	---	---
No. 4	0-15	0-5	---	---
No. 8	0-5	---	---	---

Bedding Sand to be used as bedding around underground utilities and as specified on the Drawings shall consist of a hard durable sand and shall be free from ice and snow, roots, sod and other deleterious matter. Sand shall conform to the material and gradation requirements for Sand Borrow, Type B, MassDOT Item M1.04.0 in MassDOT Specifications. The gradation requirements are reproduced as follows:

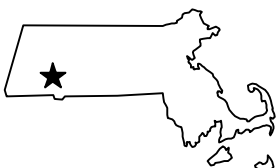
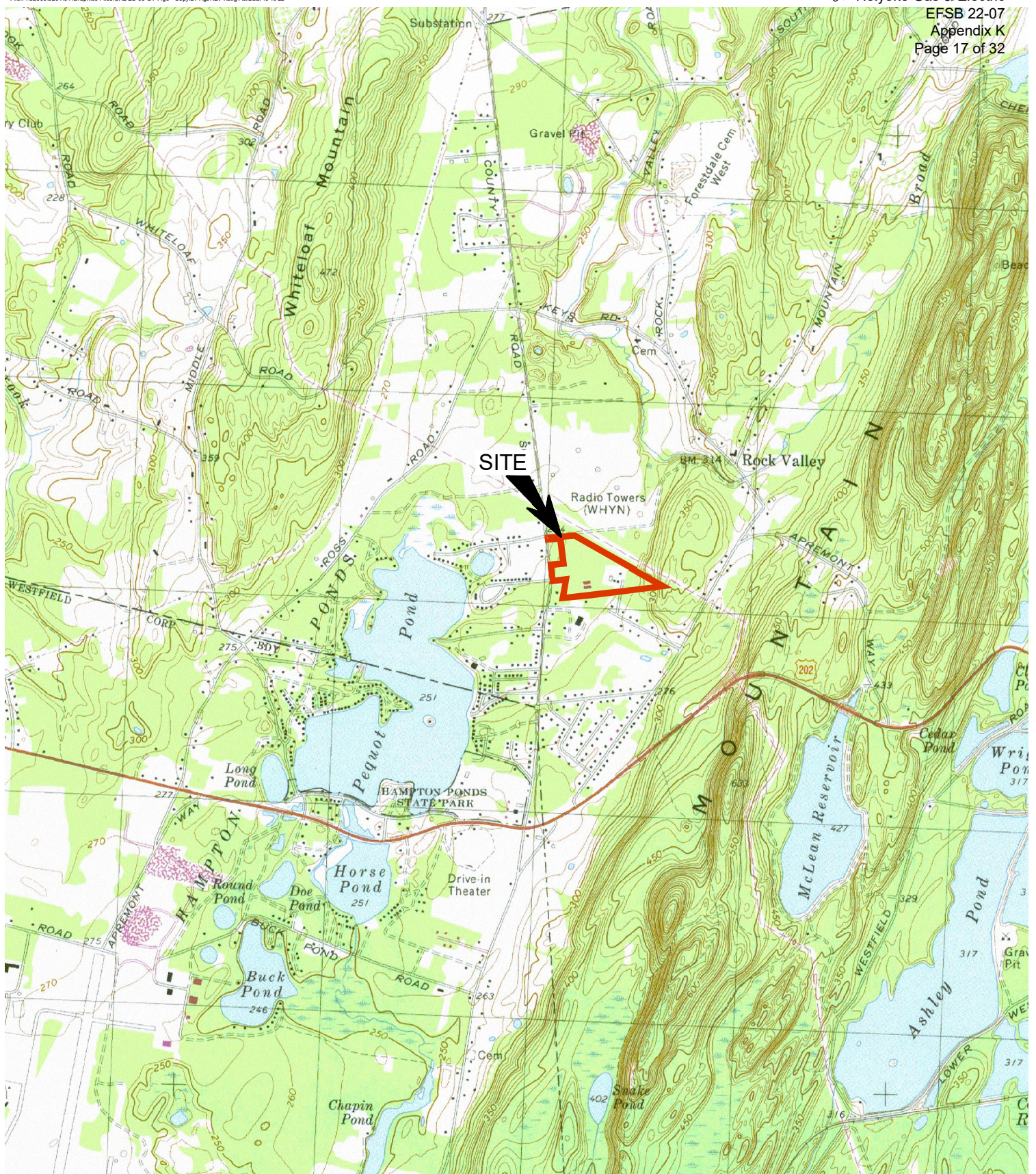
Sieve Size	Percent Passing by Weight
3/8 inch	100
No. 200	0-10

Geotextiles for Buildings and Roadways:

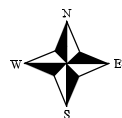
Geotextile shall consist of a non-woven polypropylene fabric having a Puncture Resistance (ASTM D4833) of at least 65 pounds, a Permittivity (ASTM D4491) of at least 130 gal/min/sf, and an Apparent Opening Size (ASTM D4751) of 0.15 to 0.22 millimeters such as Mirafi 140N, or Contech C-40NW, or approved equivalent.

Geotextile for Riprap shall consist of a non-woven polypropylene fabric with a Puncture Resistance (ASTM D4833) of at least 110 pounds and an Apparent Opening Size (ASTM D4751) of 0.22 millimeters, or less, such as Mirafi 180N, or Contech C-80NW, or approved equivalent.

FIGURES



NOTES:
Base map was taken from the "Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Information Technology Division"
7.5 minute USGS Quadrangle Maps:
Mount Tom, Mass., REV: 1979



Drawn By: A. Ragan
Designed By: M. Van Rensler
Reviewed By: J. Hillman
Project No: 5201.01
Date: June 2022

SCALE: 1:25,000

SANBORN HEAD

Figure 1

Locus Plan

Geotechnical Engineering Report

Holyoke LNG Facility
Holyoke, Massachusetts

△

1. THE BASE MAP WAS DRAWN FROM A PLAN TITLED, "EXISTING CONDITIONS SURVEY", PREPARED BY WSP USA, INC. OF MERRIMACK, NH, DATED MAY 25, 2022 WITH AN ORIGINAL SCALE OF 1"=20'.
2. TEST BORINGS DESIGNATED SH-1 THROUGH SH-3 WERE ADVANCED BY NEW ENGLAND BORING CONTRACTORS OF DERRY, NH AND OBSERVED BY SANBORN HEAD IN JUNE 2022.
3. APPROXIMATE LOCATIONS OF SANBORN HEAD EXPLORATIONS ARE BASED ON TAPED MEASUREMENTS MADE IN THE FIELD RELATIVE TO EXISTING SITE FEATURES.

1



APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING
OBSERVED BY SANBORN HEAD (JUNE 2022)

[illegible]

DRAWN BY: A. RAGAN
DESIGNED BY: M. VAN RENSLER
REVIEWED BY: J. HILLMAN
PROJECT MGR: J. HILLMAN
PIC: M. VAN RENSLER
DATE: JUNE 2022

GEOTECHNICAL ENGINEERING REPORT
HOLYOKE LNG FACILITY
HOLYOKE, MASSACHUSETTS

EXPLORATION LOCATION PLAN

PROJECT NUMBER:	5201.01
FIGURE NUMBER:	2

APPENDIX A

LIMITATIONS

APPENDIX A LIMITATIONS

Explorations

1. The analyses, recommendations, and designs submitted in this report are based in part on the data obtained from subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.
2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretation of widely spaced explorations and samples; actual soil transitions may be more or less gradual than indicated. For specific information, refer to the boring logs.
3. Water level readings have been made in the subsurface explorations at the times and under the conditions stated on the boring logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, construction activity, and other factors differing from those occurring at the time measurements were made.

Review

4. In the event that any changes in the nature, design, or location of the proposed site improvements are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and conclusions of the report modified or verified in writing by Sanborn Head.

Construction

5. It is recommended that this firm be retained to provide soil engineering services during the earthwork and foundation preparation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

6. This report has been prepared for the exclusive use of the City of Holyoke, Gas and Electric Department, for the LNG Infrastructure & Resiliency Project at the West Holyoke LNG Facility, in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

7. This soil and foundation engineering report has been prepared for this project by Sanborn Head for design purposes only and is not sufficient to prepare an accurate bid. Contractors wishing a copy of this report may secure it with the understanding that its scope is limited to design considerations only.

P:\5200s\5201.01\Source Files\Attachment A - Limitations\20220623 Appendix A - Limitations.docx

APPENDIX B

SUBSURFACE EXPLORATION LOGS

Description and Classification of Soil

1. **Density or Consistency:** The density or consistency of a soil sample is based on the Standard Penetration Test N-value according to the following table:

Density of Granular Soil	SPT N-Value		Consistency of Cohesive Soil
Very Loose	0-4	<2	Very Soft
Loose	5-10	2-4	Soft
Medium Dense	11-30	5-8	Medium Stiff
Dense	31-50	9-15	Stiff
Very Dense	>50	16-30	Very Stiff
		>30	Hard

The Standard Penetration Resistance, or N-value in blows per foot, is the sum of the blows recorded over the second and third 6-inch interval.

A number followed by "/3" indicates the distance that the sampler advanced. For example "100/4" indicates that 100 blows of a 140 pound hammer falling 30 inches advanced the sampler 4 inches. "WOR/24" indicates the weight of the drilling rods without the hammer caused the sampler to advance 24 inches.

"WOH" indicates the static weight of the 140 pound hammer and the drilling rods attached to the split spoon sampler were sufficient to cause the sampler to advance.

"WOR" indicates the static weight of the drilling rods attached to the split spoon sampler was sufficient to cause the sampler to advance.

2. **Color:** The color of a soil sample is based on visual observation.

3. Soil Components

- A. **Description:** The components of a soil sample are described by visually estimating the percentage of each component by weight of the total sample using a Modified Burmister System.

- i. **Major Component:** The major soil component is written with upper case letters for granular soil (e.g., SAND, GRAVEL) and a combination of upper and lower case letters for fine grained soil (e.g., Silty CLAY, Clayey SILT).

- ii. **Minor Component:** The minor soil components are written with the first letter of each soil type in upper case, and the remaining letters in lower case (e.g., Gravel, Silt). The minor components are identified and prefaced in the description based on the following percentages:

Preface	Percentage
and	35-50
some	20-35
little	10-20
trace	0-10

- iii. **Note:** The actual percentages of gravel soil may differ from that measured when sampling with a standard split spoon sampler because of the relatively small sampler diameter. Also, it is not possible to identify the presence of boulders and cobbles using a standard split spoon sampler.

B. Definitions

- i. **Granular Soil:** A granular soil sample is defined by the following particle sizes as referenced to a standard sieve:

Material	Description	Standard Sieve Limit	
		Upper	Lower
Boulders	C-sized	--	36 inch
	B-sized	36 inch	24 inch
	A-sized	24 inch	12 inch
Cobbles	--	12 inch	3 inch
Gravel	coarse	3 inch	3/4 inch
	fine	3/4 inch	No. 4
Sand	coarse	No. 4	No. 10
	medium	No. 10	No. 40
	fine	No. 40	No. 200

- ii. **Fine Grained Soil:** The degree of plasticity of fine-grained soils is defined as follows:

Material	Degree of Plasticity	Plasticity Index (PI)	Smallest Thread Diameter (in.)
SILT	Non-Plastic	0	None
Clayey SILT	Slight	1 to 5	1/4
SILT & CLAY	Low	5 to 10	1/8
CLAY & SILT	Medium	10 to 20	1/16
Silty CLAY	High	20 to 40	1/32
CLAY	Very High	40+	1/64

- iii. **Organic Soil:** An organic soil sample is classified by observation of the sample structure as follows:

Material	Description
TOPSOIL	Surficial soils that support plant life and which contain organic matter.
SUBSOIL	Soil underlying the topsoil which may contain roots or plant fibers.
PEAT	Deposits of plant remains in which the original plant fibers or root structure are visible.
ORGANIC SILT	Deposit of plant remains in which the original plant fibers or root structure have decomposed.

- iv. **Non-Soil Constituents:** Non-soil constituents (artificial or anthropogenic material, organic materials, cobbles and boulders) are described as follows:

The following terminology is used to denote size ranges of non-soil constituents such as man-made objects or fill material:

Descriptive Term	Size Range	Comparative Term
Specks	< No. 200 Sieve	Silt and Clay fines
Particles	No. 200 Sieve to No. 4 Sieve	Sand
Fragments	No. 4 Sieve to 3 in.	Gravel
Pieces	3 in. to 12 in.	Cobbles
Blocks	> 12 in.	Boulders

The following terminology is used to describe the frequency that a non-soil constituent is observed by estimating the percentage of the constituent by weight of the total sample:

Descriptor	Percentage
very few	0-5
few	5-10
common	10-20
frequent	20-35
numerous	35-50

4. **Moisture Content:** The moisture content of a soil sample is based on the observable presence of water according to the following table:

Dry	Moisture is not apparent, dusty.
Moist	No visible water.
Wet	Visible free water.

5. **Other Pertinent Characteristics:** Pertinent characteristics observed in a soil sample should be noted according to the following table:

Soil Structure Produced by Deposition of Sediments	
Stratified	Random soil deposits of varying components of color.
Varved	Alternating soil deposits of varying thickness (i.e., clays or silts).
Stratum	Soil deposit > 12 inches thick.
Layer	Soil deposit 3 inches to 12 inches thick.
Seam	Soil deposit 1/8 inch to 3 inches thick.
Parting/Lens	Soil deposit <1/8 inch thick.

Boring / Monitoring Well Log Legend

<div>SANBORN HEAD</div> <div>Sanborn, Head & Associates, Inc.</div>			<div>Project: Industrial Site Redevelopment</div> <div>Location: Anytown, State</div> <div>Project No.: 1234.56</div>					<div>Log of Monitoring Well SH-1</div> <div>Ground Elevation: 112.2 feet</div> <div>TOC Elevation: 115.2 feet</div> <div>PVC Elevation: 115.10 feet</div> <div>Datum: MSL</div>																																					
<div>Drilling Method: Mobile B-53 Truck, 5" PW Drive & Wash</div> <div>Sampling Method: 2" O.D. Split Spoon w/140 lb Safety Hammer</div> <div>Drilling Company: Ground Down Drilling Co.</div> <div>Foreman: J. Driller</div> <div>Date Started: 06/25/08</div> <div>Logged By: A. Engineer</div> <div>Date Finished: 06/26/08</div> <div>Checked By: A. Principal</div>													<div>Groundwater Readings</div> <table><thead><tr><th>Date</th><th>Time</th><th>Depth to Water</th><th>Ref. Pt.</th><th>Depth of Casing</th><th>Depth of Hole</th><th>Stab. Time</th></tr></thead><tbody><tr><td>06/24/08</td><td>09:45</td><td>10.0'</td><td>Ground</td><td>27'</td><td>27'</td><td><5 min</td></tr><tr><td>06/25/08</td><td>14:50</td><td>12.0'</td><td>Top of PVC</td><td>Well Installed</td><td>50'</td><td>15 min</td></tr><tr><td>07/03/08</td><td>13:00</td><td>12.2'</td><td>Top of PVC</td><td>Well Installed</td><td>50'</td><td>8 days</td></tr></tbody></table>					Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time	06/24/08	09:45	10.0'	Ground	27'	27'	<5 min	06/25/08	14:50	12.0'	Top of PVC	Well Installed	50'	15 min	07/03/08	13:00	12.2'	Top of PVC	Well Installed	50'	8 days
Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time																																							
06/24/08	09:45	10.0'	Ground	27'	27'	<5 min																																							
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07/03/08	13:00	12.2'	Top of PVC	Well Installed	50'	8 days																																							
Depth (ft)	Casing Blows (per ft)	Drill Rate (min/ft)	Sample Information					Stratum		Geologic Description	Well Diagram	Well Description																																	
			Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description																																				
1	2	3	4	5	6	7	8	9	9	10	11	11																																	

- The numbers in this column report the depth in feet below ground surface.
- The numbers in this column report the number of blows required to drive the drill casing one foot using a 300 pound hammer, unless otherwise specified.
- The numbers in this column report the rate of advance when coring rock.
- The values in this column report the sample designation. In the example S-1, "S" indicates the sample type and "1" indicates the sample number.
 "S" indicates split spoon sample
 "U" indicates Shelby tube sample
 "C" indicates rock core sample
 "G" indicates grab sample
- The numbers in this column report the depth, in feet, from the ground surface of the sample identified in column 4.
- The numbers in this column report the number of blows required to drive a split spoon sampler 6 inches using a 140 pound hammer free falling 30 inches. The standard split spoon sampler is 1-3/8 inch inside diameter and 2 inches outside diameter. The Standard Penetration Resistance, or N-value in blows per foot, is the sum of the blows recorded over the second and third 6-inch interval.
 A number followed by "/3" indicates the distance that the sampler advanced. For example "100/4" indicates that 100 blows of a 140 pound hammer falling 30 inches advanced the sampler 4 inches. "WOR/24" indicates the weight of the drilling rods without the hammer caused the sampler to advance 24 inches.
 "WOH" indicates the static weight of the 140 pound hammer and the drilling rods attached to the split spoon sampler were sufficient to cause the sampler to advance.
 "WOR" indicates the static weight of the drilling rods attached to the split spoon sampler was sufficient to cause the sampler to advance.
- The values shown are the length of the soil or rock core sampler penetration and the number of inches of sample recovered from the sampler.
- The values shown are the results of field tests performed on soil or rock samples. The test method, result and units are indicated. Unless otherwise noted "ND" denotes not detected.
- These columns provide a graphic illustration and verbal description of the subsurface soil and rock strata. The depths of strata changes should be considered approximate and general in nature, actual strata changes in the field may be more gradual.
- Descriptions of soil samples include:
 - the density or consistency;
 - color;
 - a listing of MAJOR and minor soil components based on particle size and plasticity;
 - structure,
 - moisture; and
 - other pertinent characteristics.

For example: *Medium dense, brown, fine to medium SAND, trace Silt. Stratified. Moist. Faint petroleum odor.*

Description of rock core samples include:

 - hardness, weathering, rock continuity, color, texture, rock type, structure; and RQD (%)

For example: *Hard to very hard, slightly weathered, grey-green, fine grained, RHYOLITE, with joints spaced 4 to 12 inches apart and dipping from near horizontal to approximately 60°. Open crack in core at 14.4', moderately fractured. RQD=58%*

NOTE: "RQD" is defined as the summation of all pieces of rock core greater than 4 inches in length divided by the length of the core run and expressed as a percentage.
- Monitoring well materials or other equipment installed within the borehole are graphically presented in these columns. If no equipment was installed, these columns are used for notes, remarks or other pertinent observations.

Sanborn, Head & Associates, Inc.

Drilling Method: Truck Mounted Drill Rig - Hollow Stem Augers

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Drilling Company: New England Boring Contractors

Foreman: R. Posa

Date Started: 06/06/22

Date Finished: 06/06/22

Logged By: J. Soucy

Checked By: R. Henderson

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.
06/06/22	---	No Groundwater	Encountered

Depth of Casing	Depth of Hole	Stab. Time

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
0	S-1	0 - 2	4 4 4 4	24/18			---0'---	S-1 (0 to 2'): Loose, dark brown to brown, fine to coarse SAND, little Silt, trace Gravel. Moist. FILL.	
2	S-2	2 - 4	4 3 2 3	24/13			FILL	S-2 (2 to 4'): Loose, reddish-brown, fine to coarse SAND, little Gravel, trace Silt. Moist. FILL.	
4	S-3	4 - 6	2 1 4 8	24/15			---5'---	S-3 (4 to 6'): Loose, reddish-brown, fine to coarse SAND, trace Gravel, trace Silt. Moist. FILL.	
6	S-4	6 - 8	8 6 7 8	24/15				S-4 (6 to 8'): Medium dense, reddish-brown, fine to coarse SAND, trace Silt. Moist.	
8	S-5	8 - 10	7 8 7 8	24/12				S-5 (8 to 10'): Medium dense, reddish-brown, fine to coarse SAND, trace Silt. Moist.	
10							SAND		
12									
14	S-6	13 - 15	5 4 4 4	24/18				S-6 (13 to 15'): Loose, reddish-brown, fine to coarse SAND, trace Silt. Moist.	
16							---16.5'---		
18	S-7	18 - 20	7 12 15 17	24/20			SANDY SILT	S-7 (18 to 20'): Very stiff, brown, SILT and Sand. Moist.	
20							---20'---	Boring terminated at 20 feet. No refusal encountered.	
22									
24									

BORING LOG P:\5200S\5201.01\WORK\07 - GEOTECHNICAL\5201.01 LOGS.GPJ 2017 SANBORN HEAD V1.GLB 2017 SANBORN HEAD V1.GDT 10/18/22

APPENDIX C

GEOTECHNICAL LABORATORY TESTING

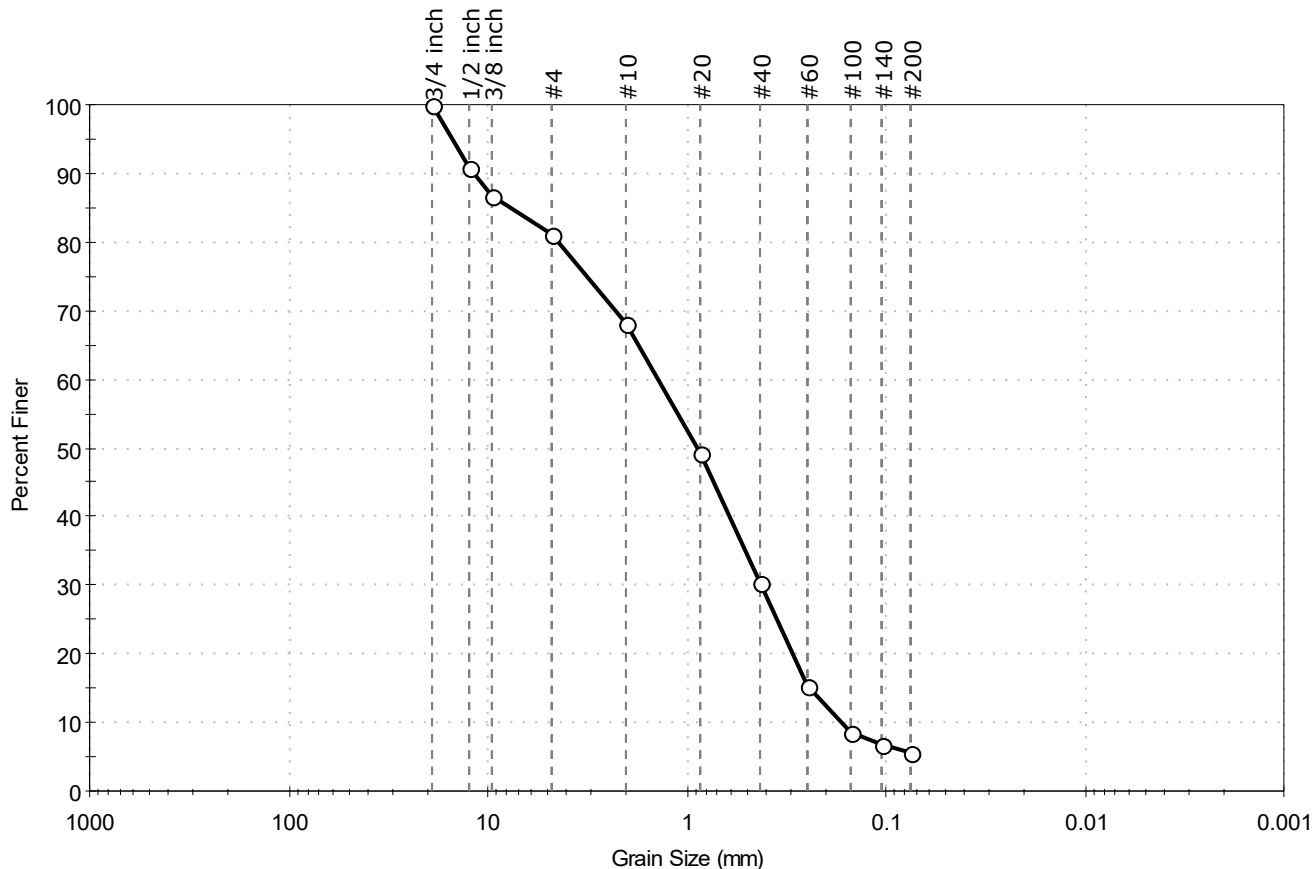
Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content, %
SH-1	S- 2	2'-4'	Moist, yellowish red sand with silt and gravel	2.9
SH-2	S- 4	6'-8'	Moist, yellowish red sand	4.3
SH-3	S- 6	13'-15'	Moist, yellowish red sand	8.1

Notes: Temperature of Drying : 110° Celsius

Client:	Sanborn, Head & Associates, Inc.	Holyoke Gas & Electric
Project:	West Holyoke LNG Facility	EFSB 22-07
Location:	Holyoke, MA	Appendix K
Boring ID:	SH-1	Project No: GTX-31564
Sample ID:	S-2	Tested By: ckg
Depth :	2'-4'	Checked By: bfs
	Sample Type: jar	Test Date: 06/21/22
	Test Id: 673301	
Test Comment:	---	
Visual Description:	Moist, yellowish red sand with silt and gravel	
Sample Comment:	---	

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	19.0	75.5	5.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	91		
3/8 inch	9.50	87		
#4	4.75	81		
#10	2.00	68		
#20	0.85	49		
#40	0.42	30		
#60	0.25	15		
#100	0.15	9		
#140	0.11	7		
#200	0.075	5.5		

Coefficients

D ₈₅ = 7.7515 mm	D ₃₀ = 0.4190 mm
D ₆₀ = 1.3882 mm	D ₁₅ = 0.2456 mm
D ₅₀ = 0.8818 mm	D ₁₀ = 0.1663 mm
C _u = 8.348	C _c = 0.760

Classification

ASTM N/A

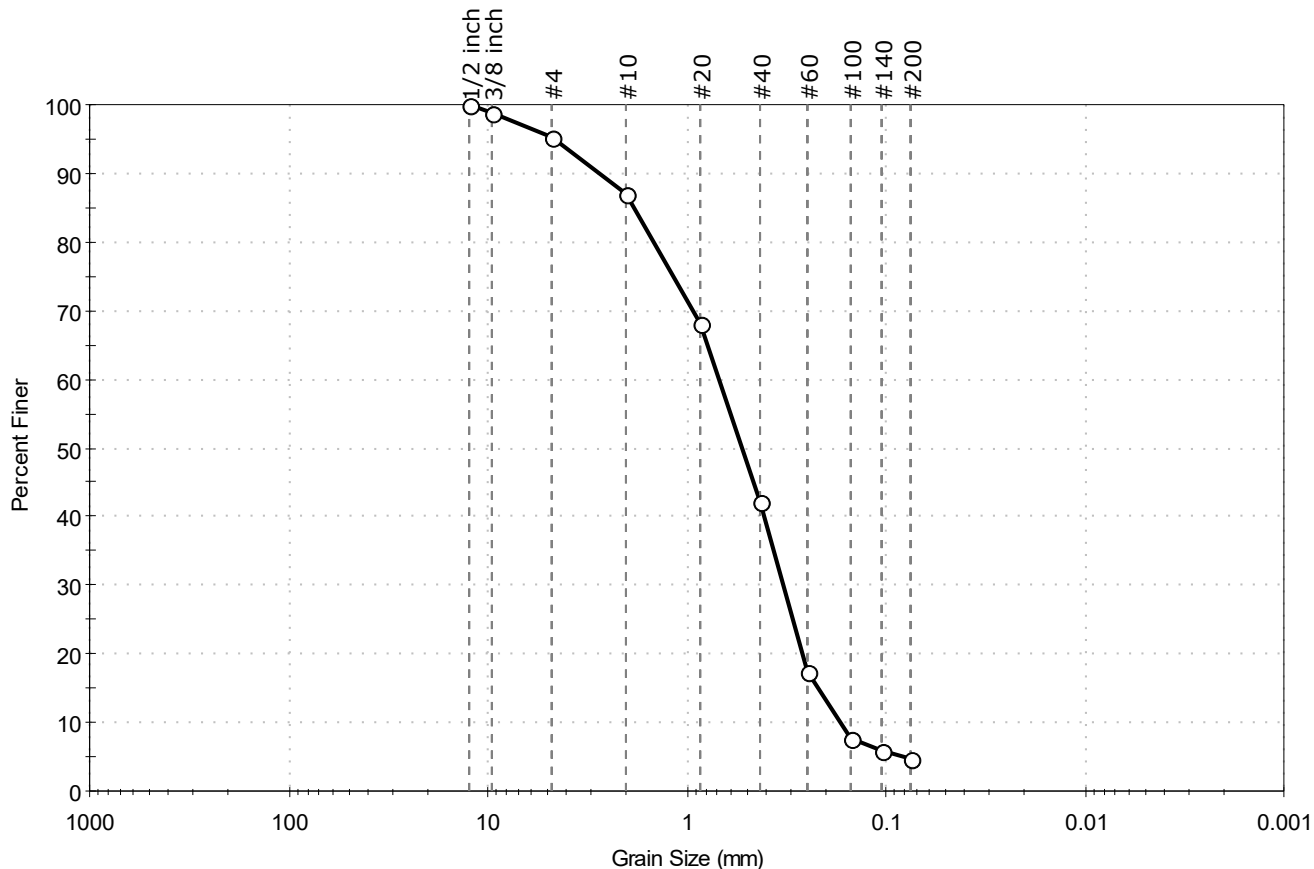
AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD

Client:	Sanborn, Head & Associates, Inc.	Holyoke Gas & Electric
Project:	West Holyoke LNG Facility	EFSB 22-07
Location:	Holyoke, MA	Appendix K
Boring ID:	SH-2	Project No: GTX-31564
Sample ID:	S-4	Tested By: ckg
Depth :	6'-8'	Checked By: bfs
	Sample Type: jar	Test Date: 06/21/22
	Test Id: 673302	
Test Comment:	---	
Visual Description:	Moist, yellowish red sand	
Sample Comment:	---	

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.7	90.6	4.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2 inch	12.50	100		
3/8 inch	9.50	99		
#4	4.75	95		
#10	2.00	87		
#20	0.85	68		
#40	0.42	42		
#60	0.25	17		
#100	0.15	8		
#140	0.11	6		
#200	0.075	4.7		

Coefficients

D ₈₅ = 1.8236 mm	D ₃₀ = 0.3276 mm
D ₆₀ = 0.6844 mm	D ₁₅ = 0.2207 mm
D ₅₀ = 0.5236 mm	D ₁₀ = 0.1688 mm
C _u = 4.055	C _c = 0.929

Classification

ASTM Poorly graded SAND (SP)

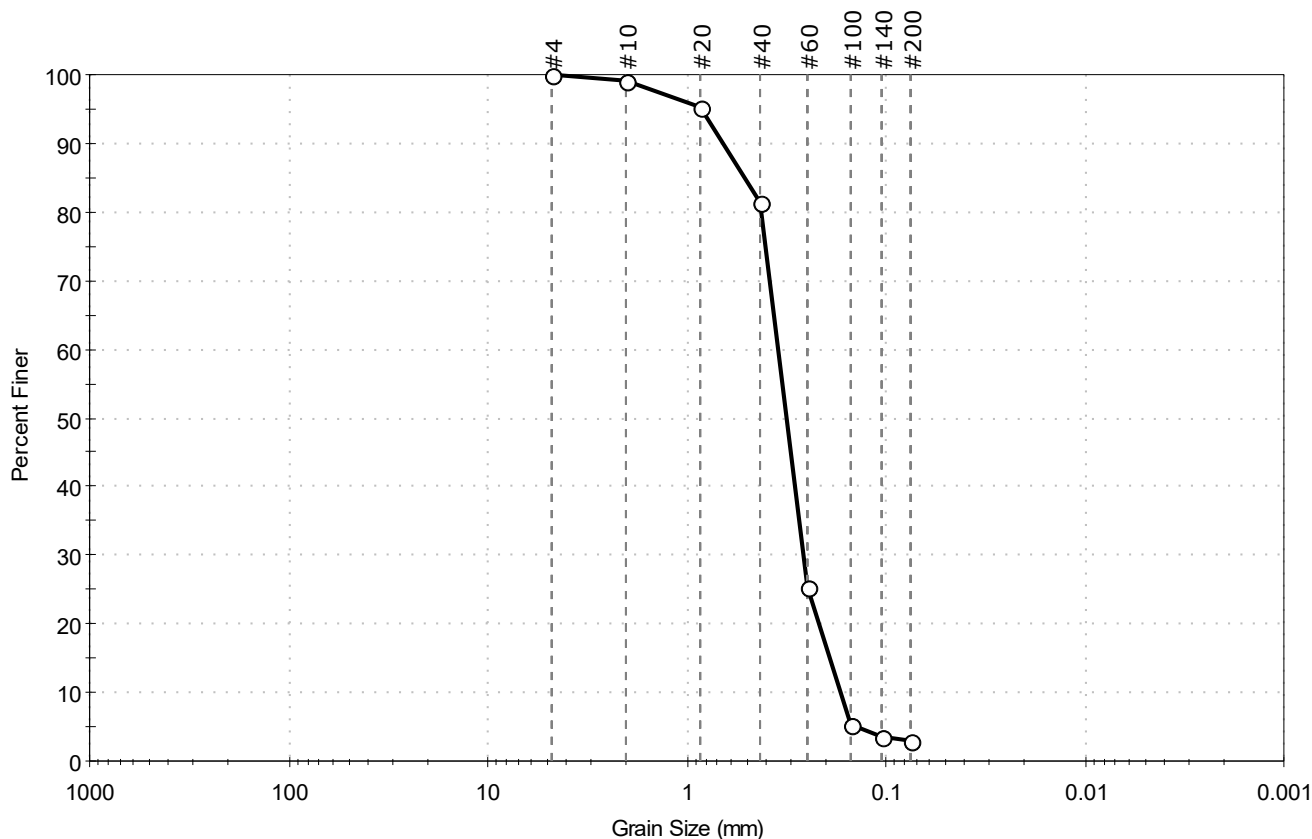
AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD

Client:	Sanborn, Head & Associates, Inc.	Holyoke Gas & Electric
Project:	West Holyoke LNG Facility	EFSB 22-07
Location:	Holyoke, MA	Appendix K
Boring ID:	SH-3	Project No: GTX-31564
Sample ID:	S-6	Tested By: ckg
Depth :	13'-15'	Checked By: bfs
		Page 32 of 32
Test Comment:	---	
Visual Description:	Moist, yellowish red sand	
Sample Comment:	---	

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	97.0	2.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	95		
#40	0.42	81		
#60	0.25	26		
#100	0.15	5		
#140	0.11	4		
#200	0.075	2.9		

Coefficients

D ₈₅ = 0.5078 mm	D ₃₀ = 0.2609 mm
D ₆₀ = 0.3469 mm	D ₁₅ = 0.1917 mm
D ₅₀ = 0.3154 mm	D ₁₀ = 0.1689 mm
C _u = 2.054	C _c = 1.162

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

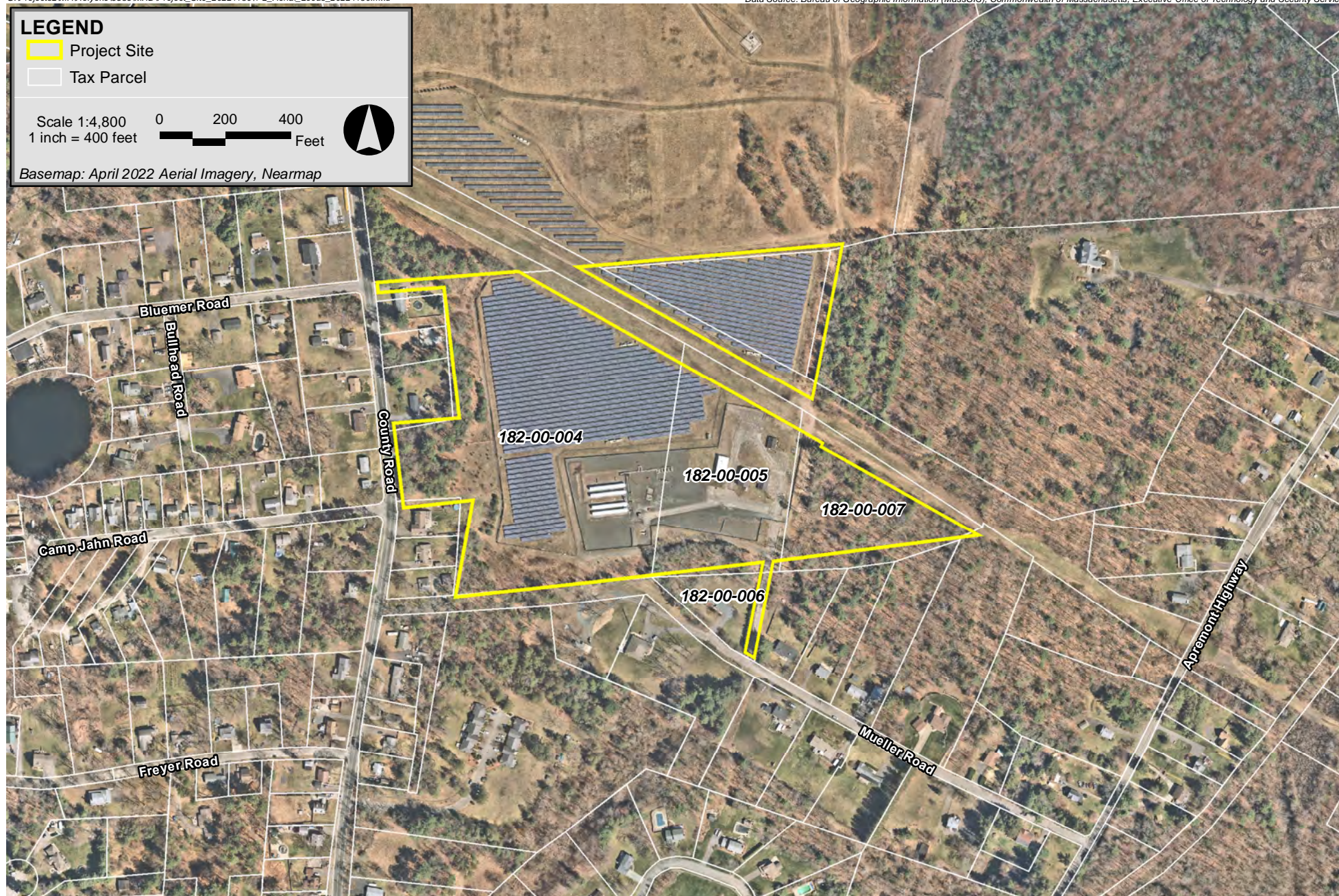
Sand/Gravel Hardness : ---



Epsilon
ASSOCIATES INC.

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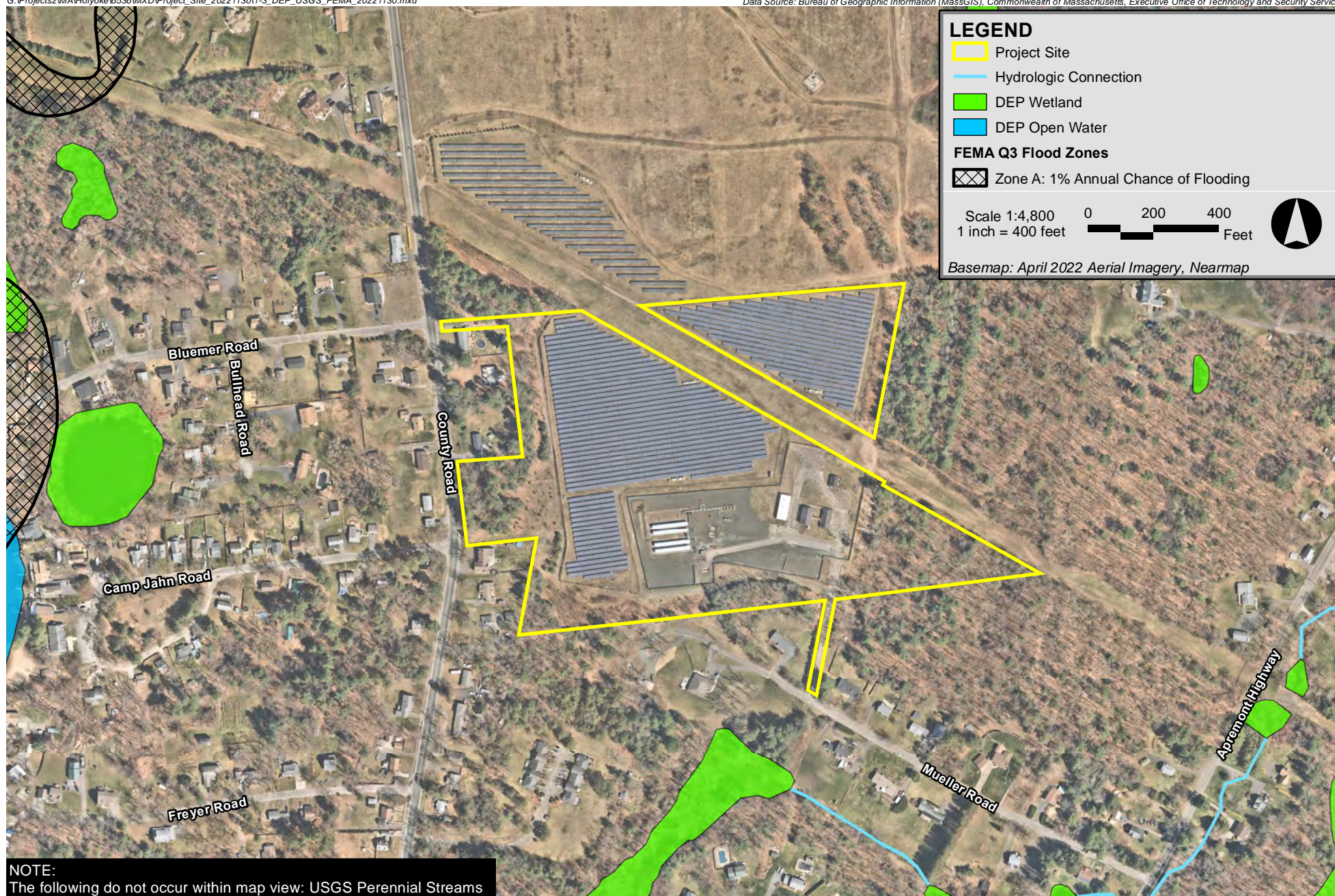
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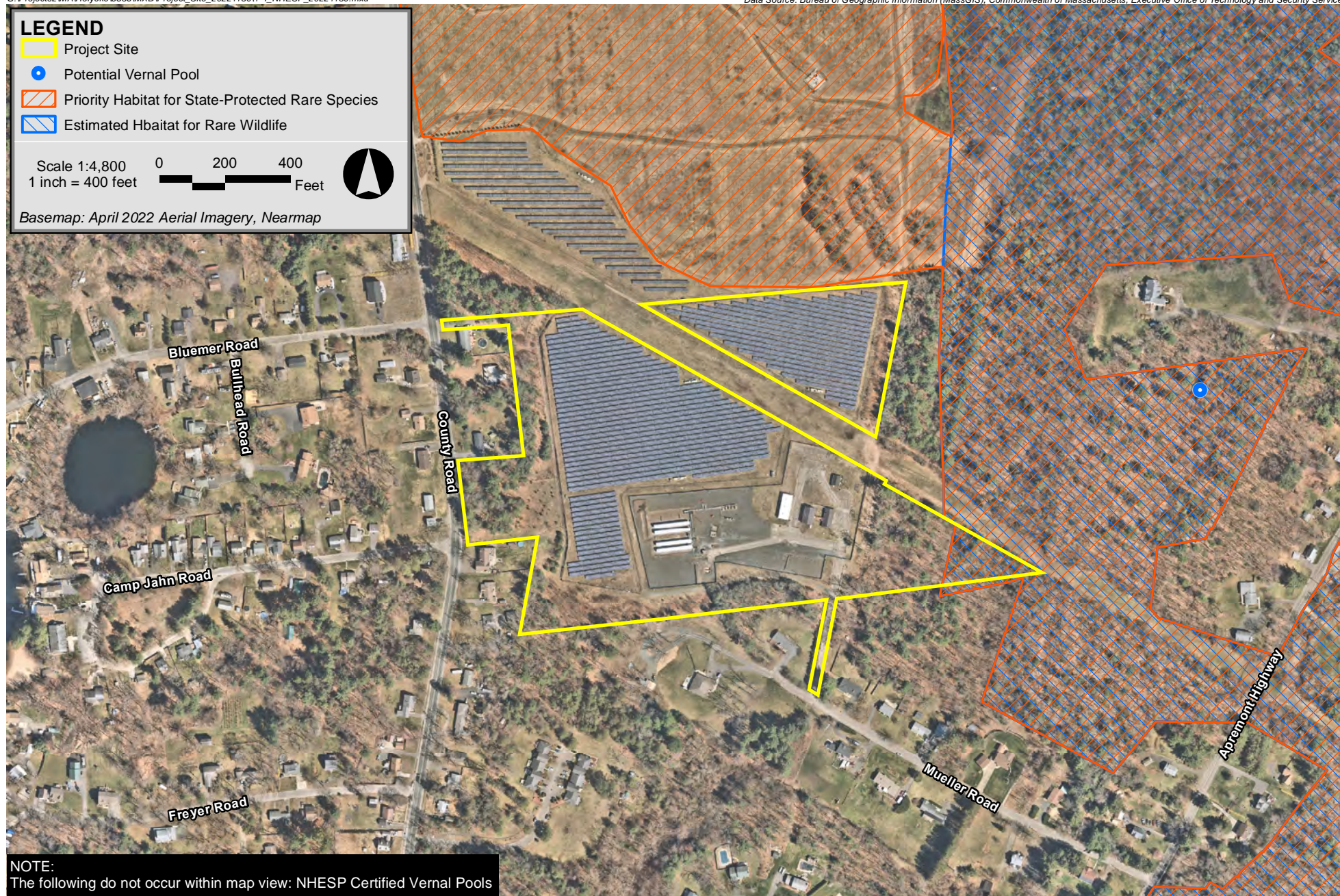
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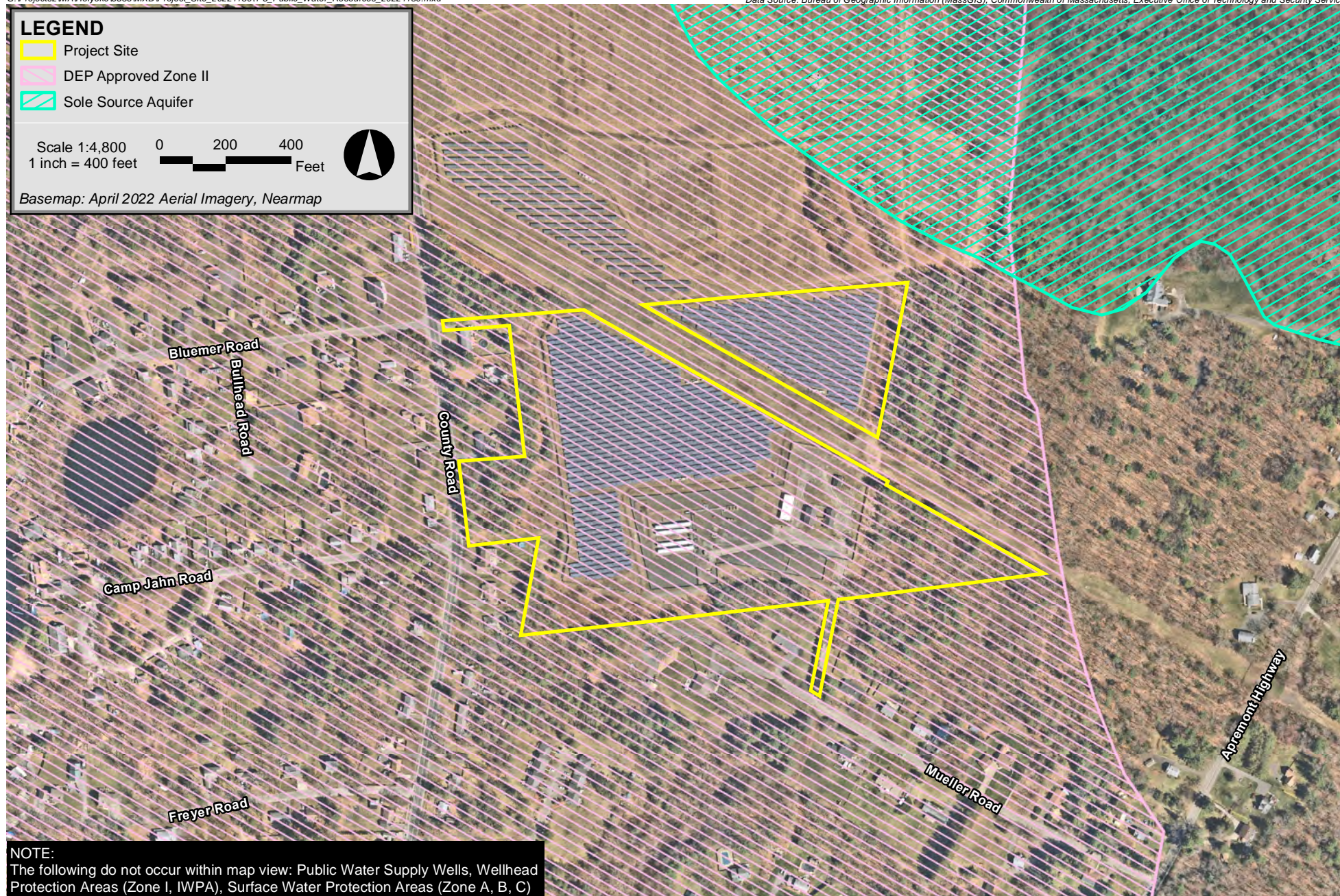
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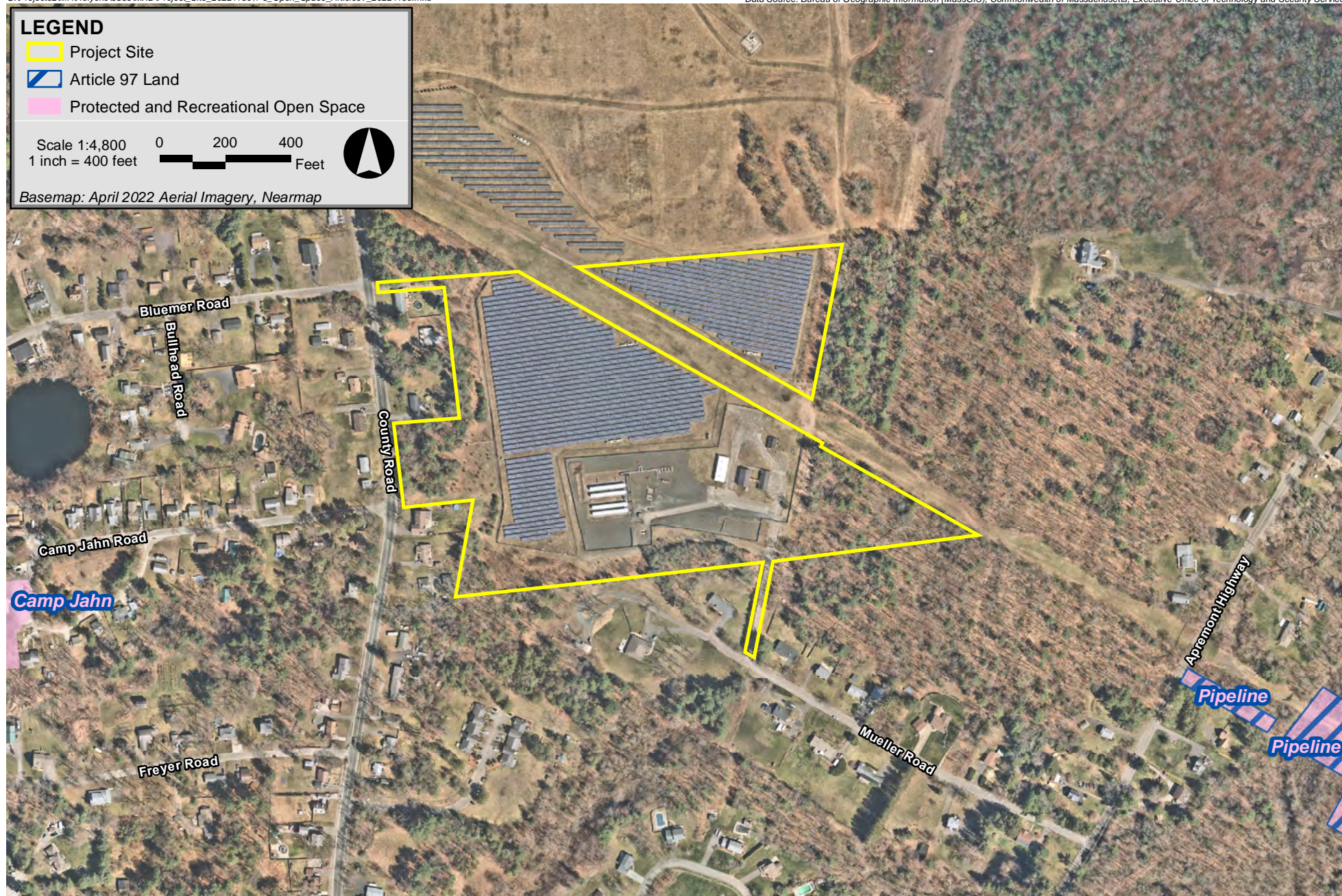
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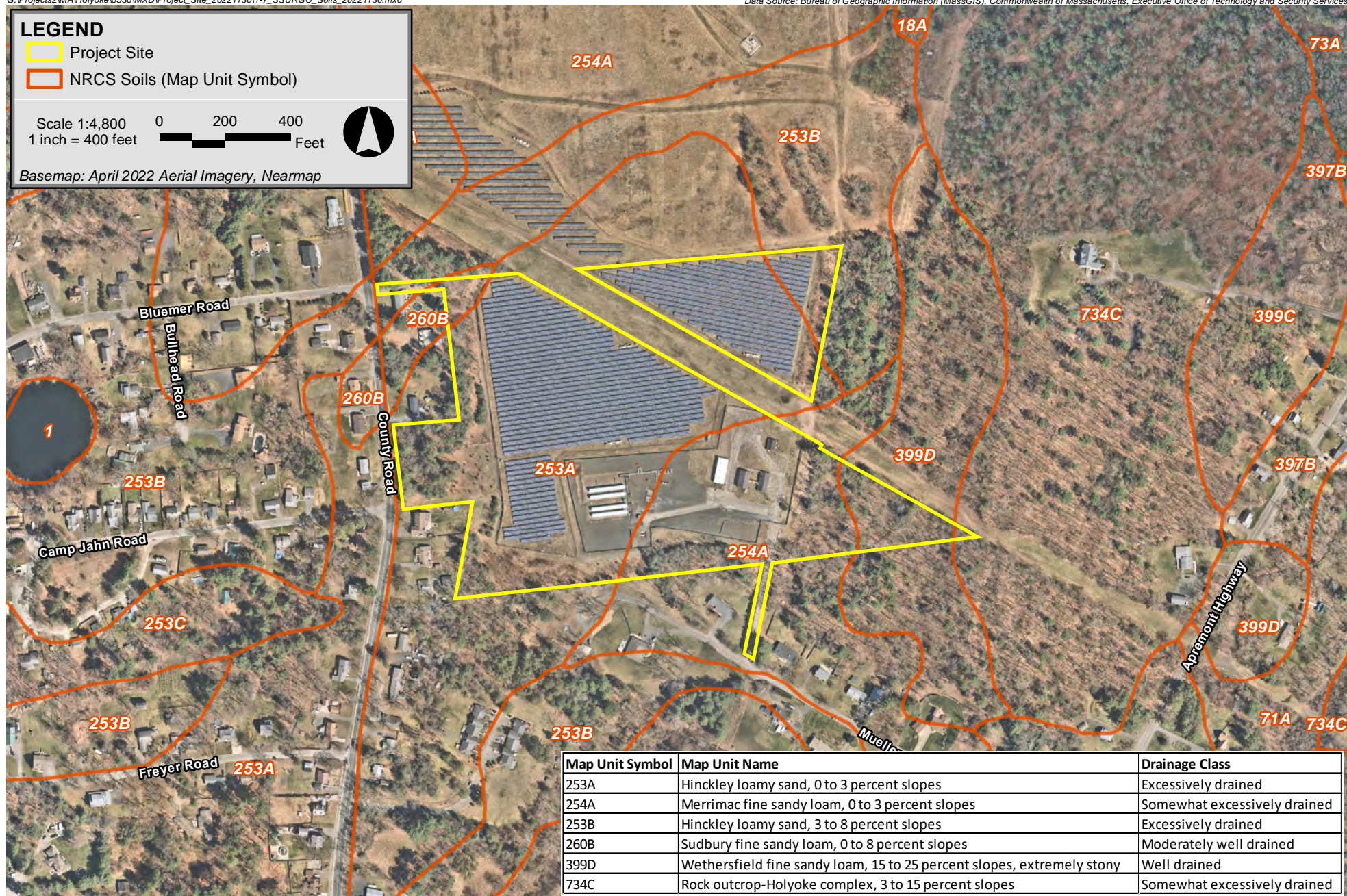
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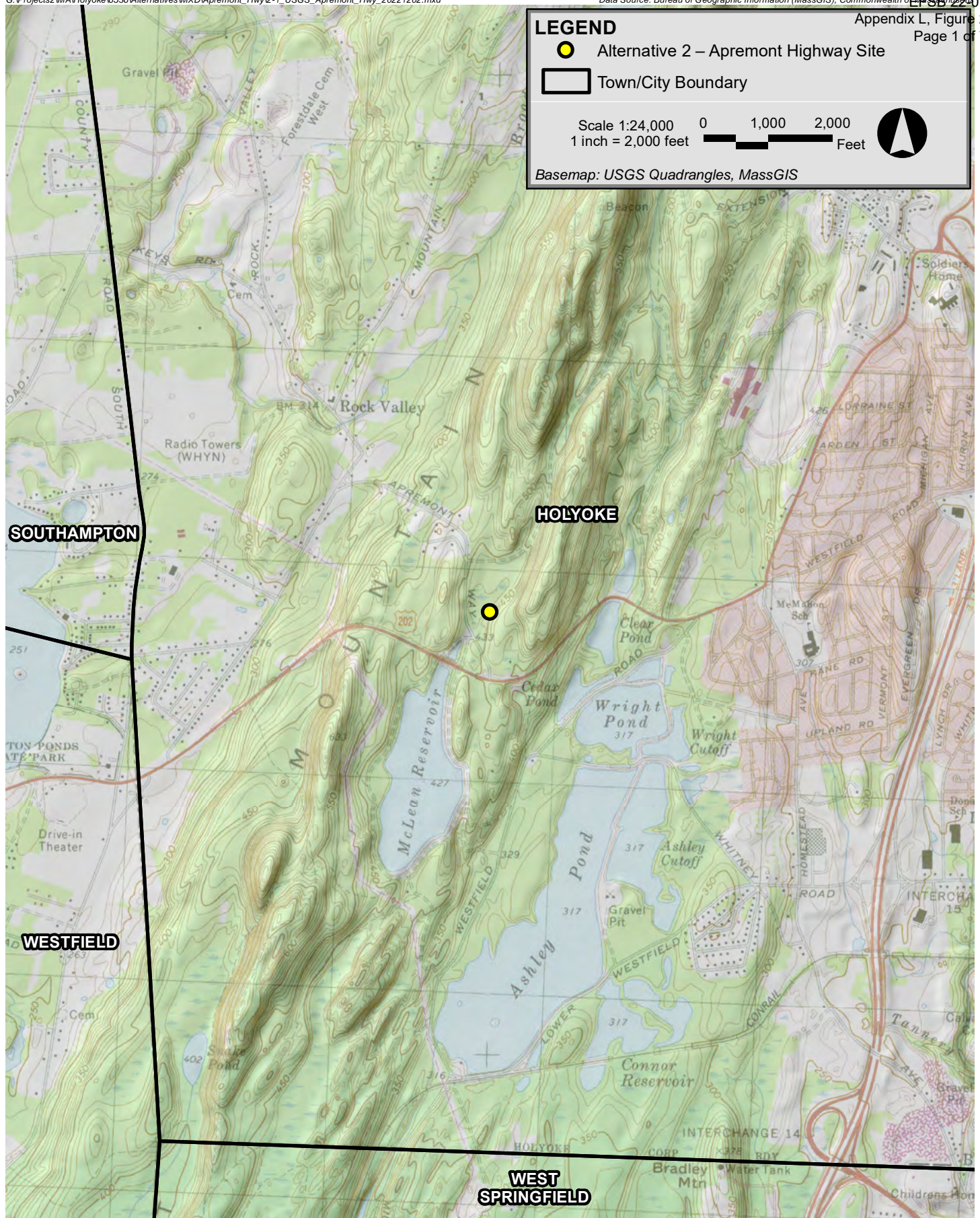
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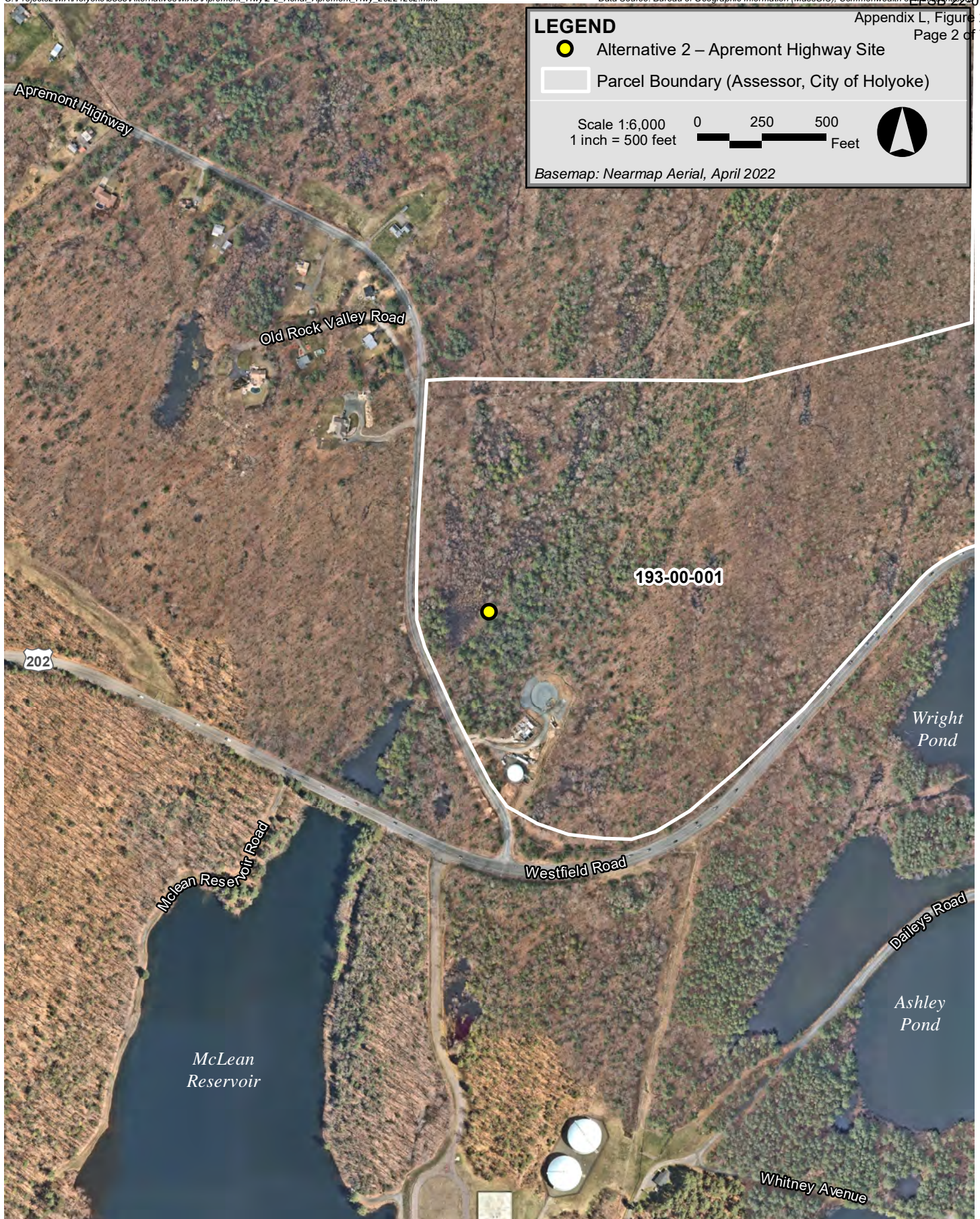
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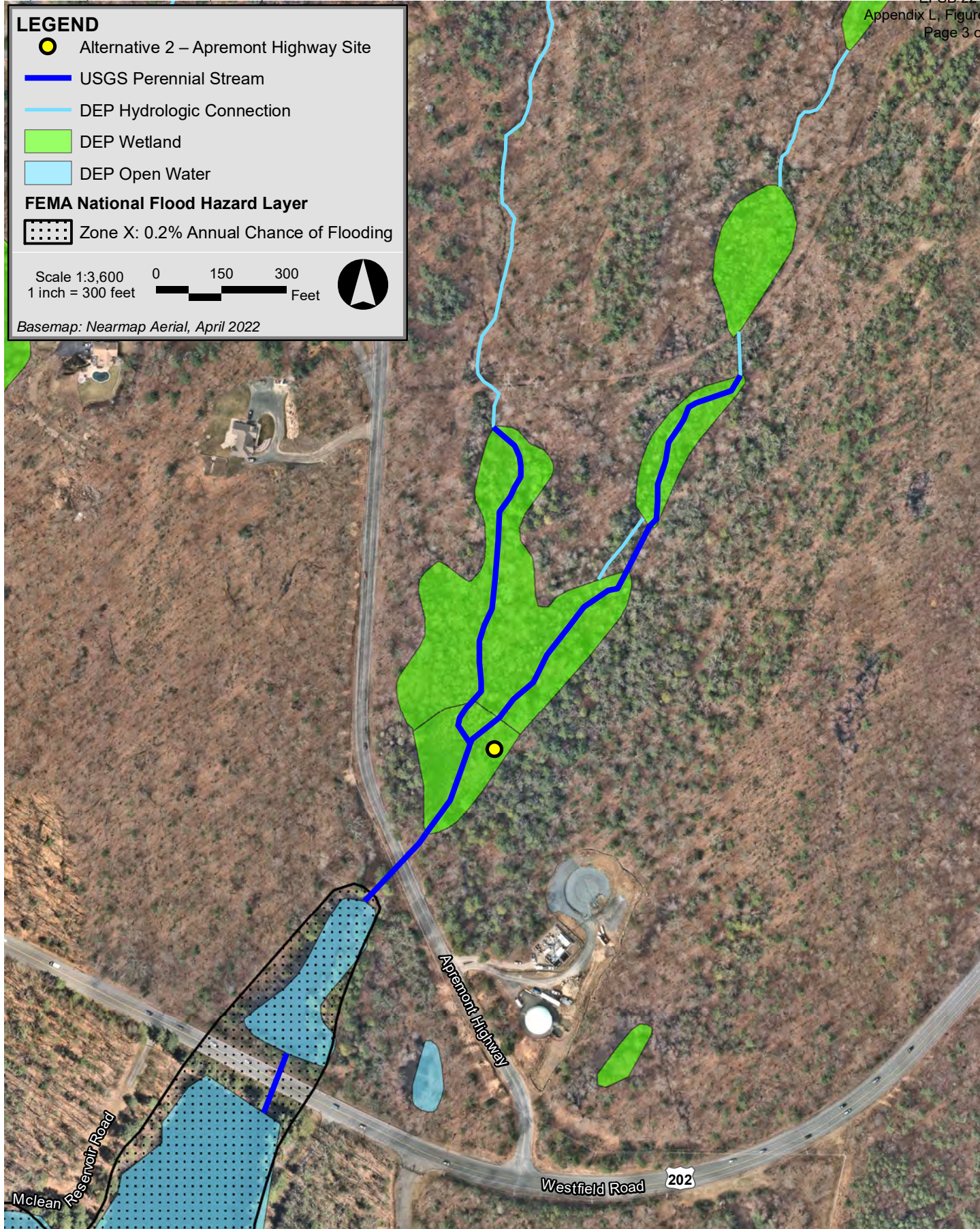


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Appendix L – Apremont Highway Site Alternative Figure 2-2

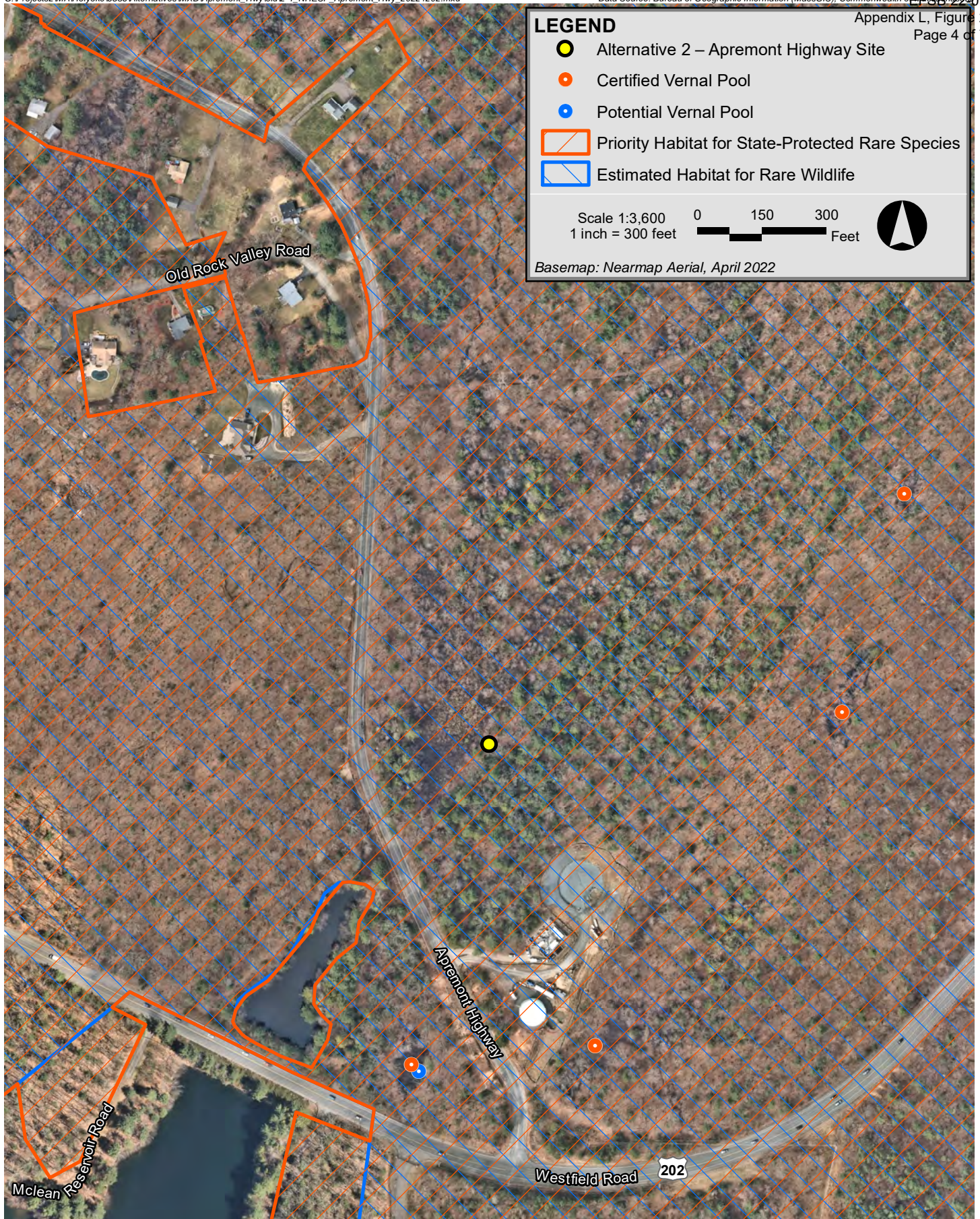
Aerial Locus Map

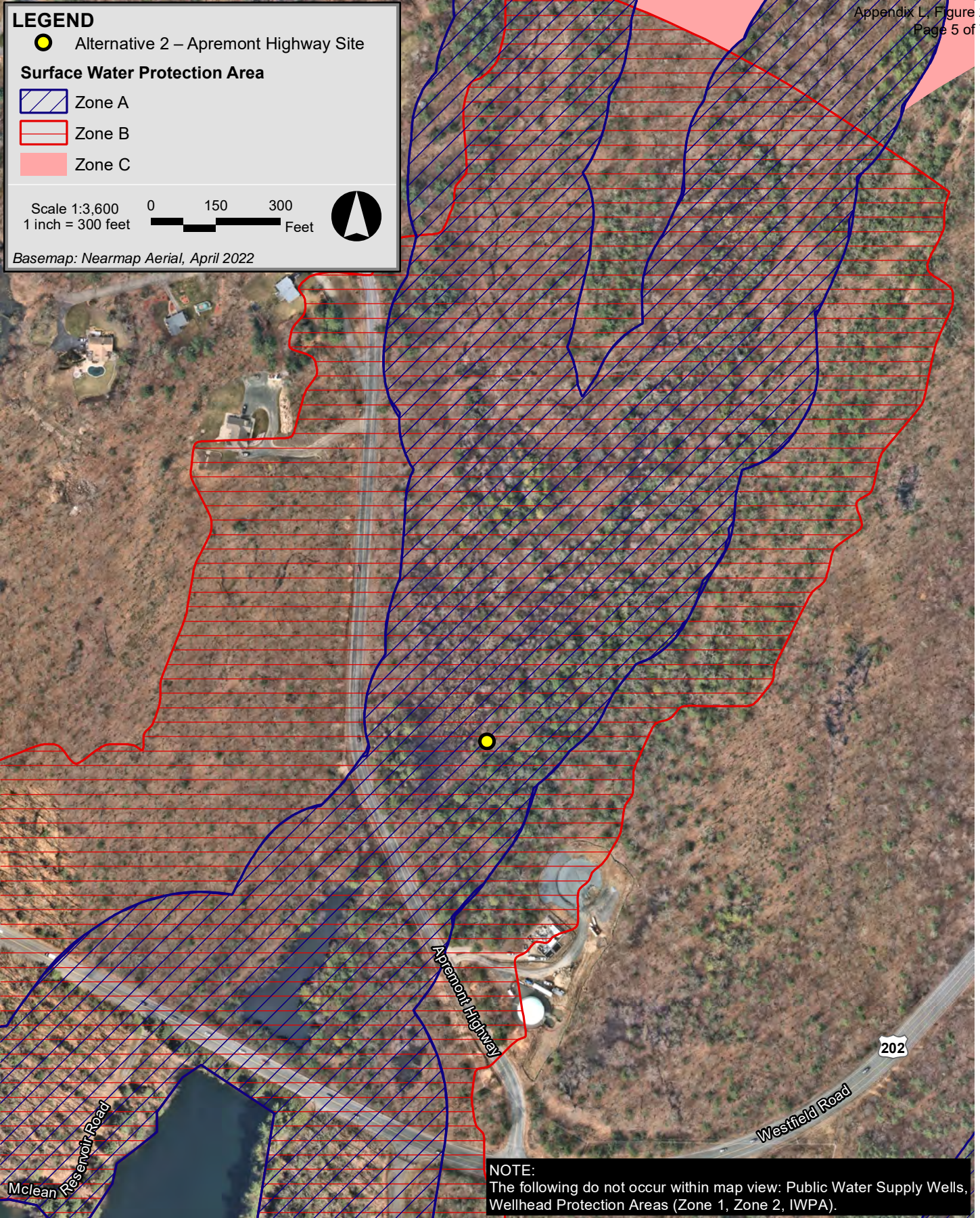


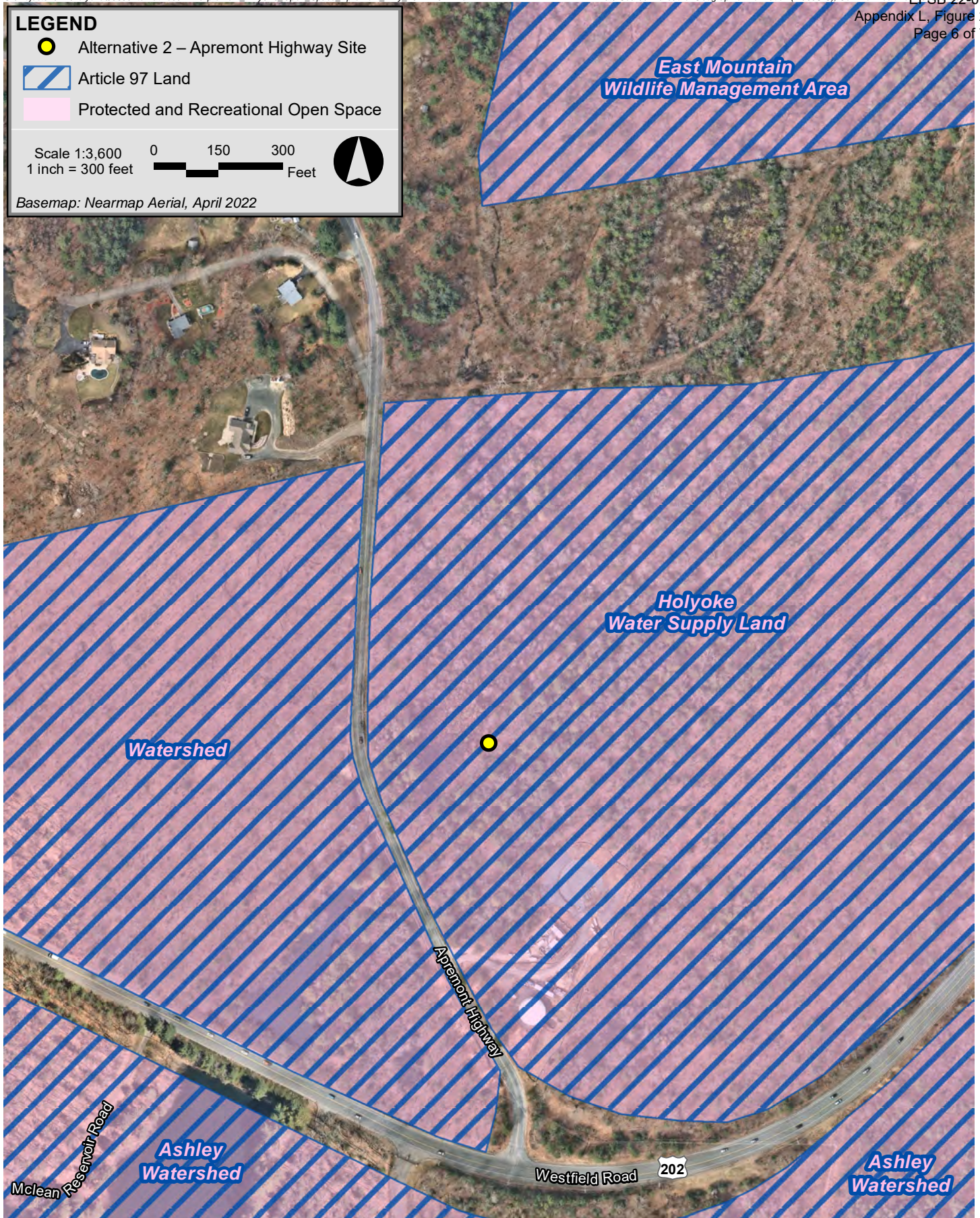
Holyoke Gas & Electric - LNG Infrastructure & Resiliency Project Holyoke, Massachusetts

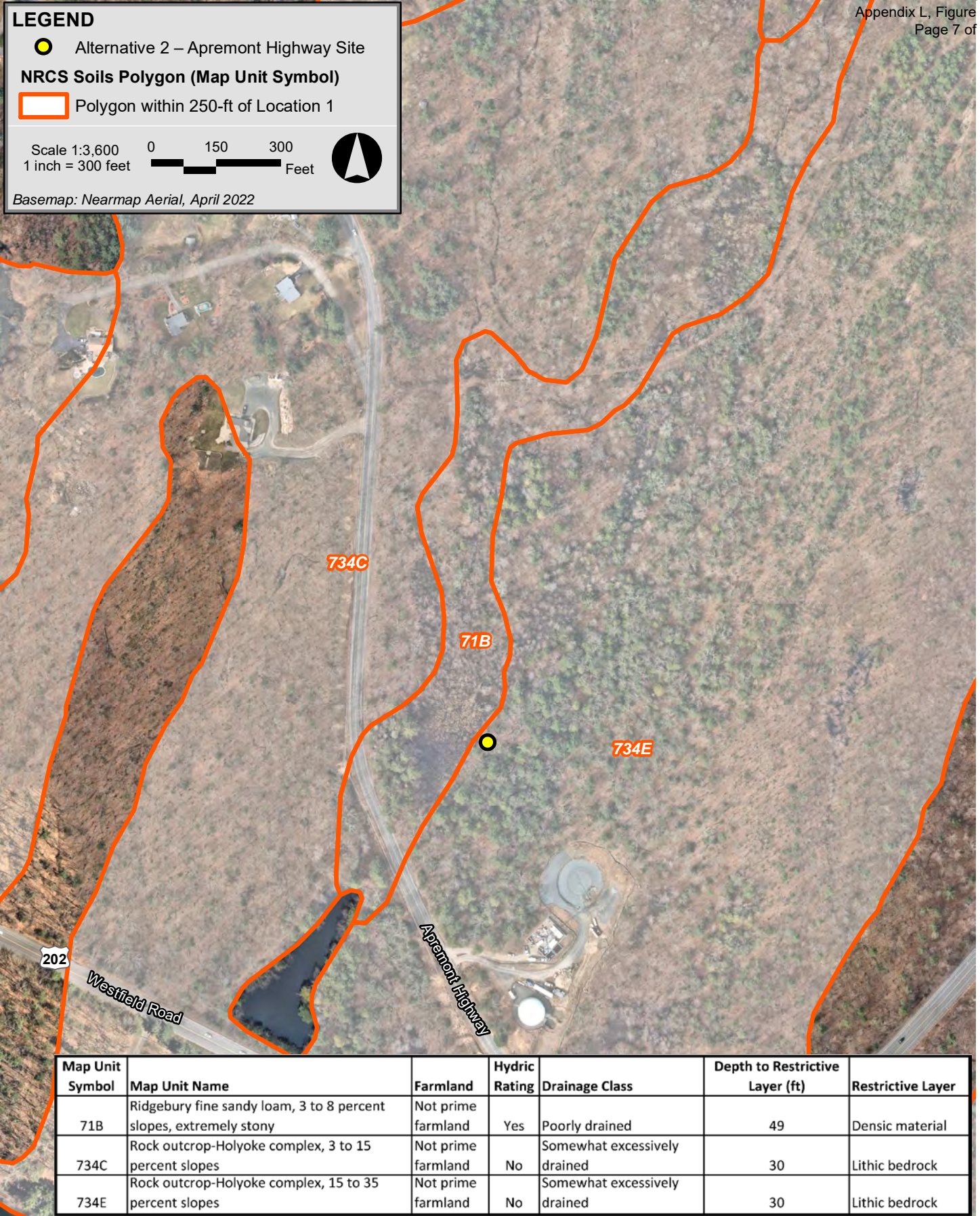


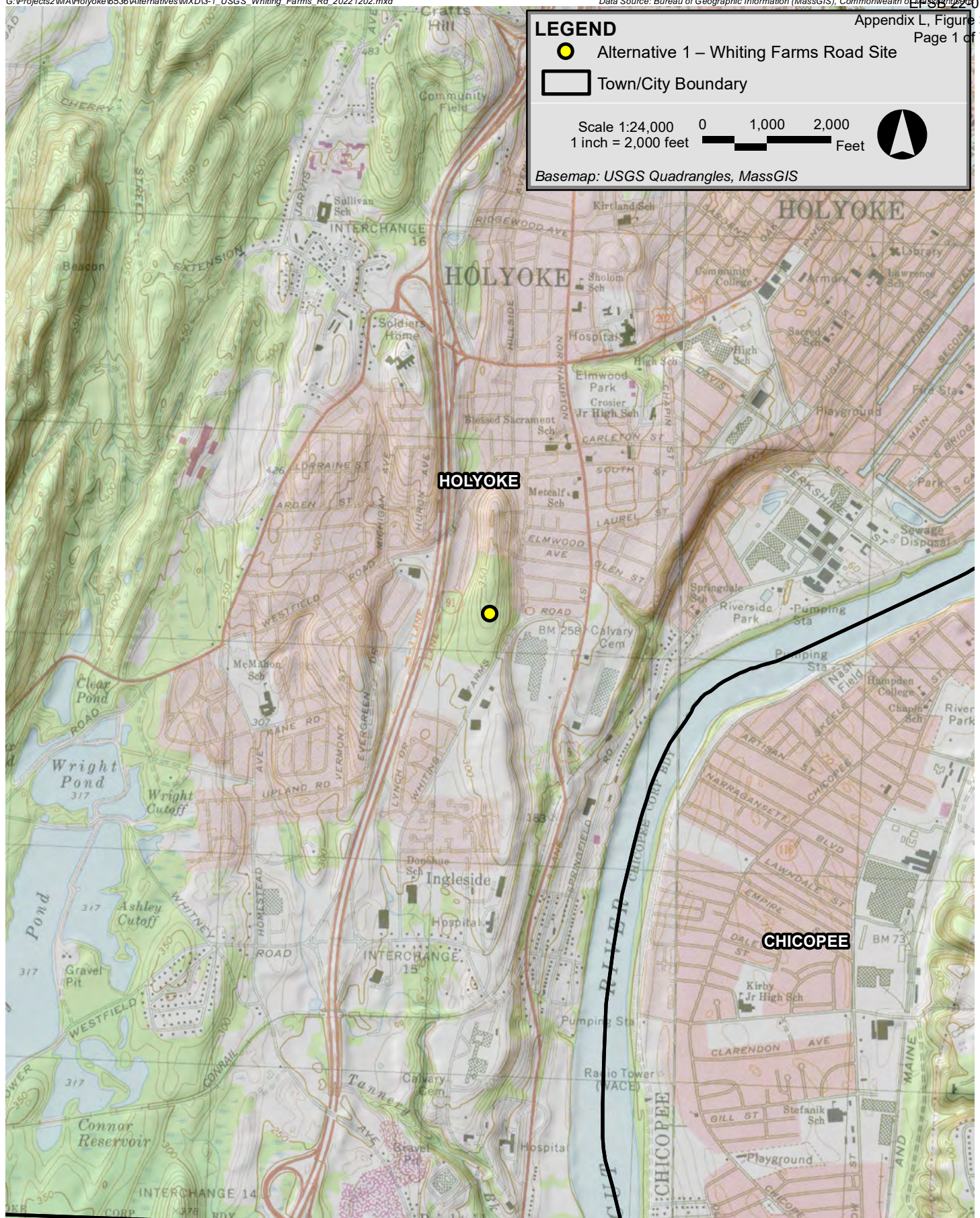
Appendix L – Apremont Highway Site Alternative Figure 2-3
DEP Wetlands, USGS Perennial Streams, FEMA Flood Zones





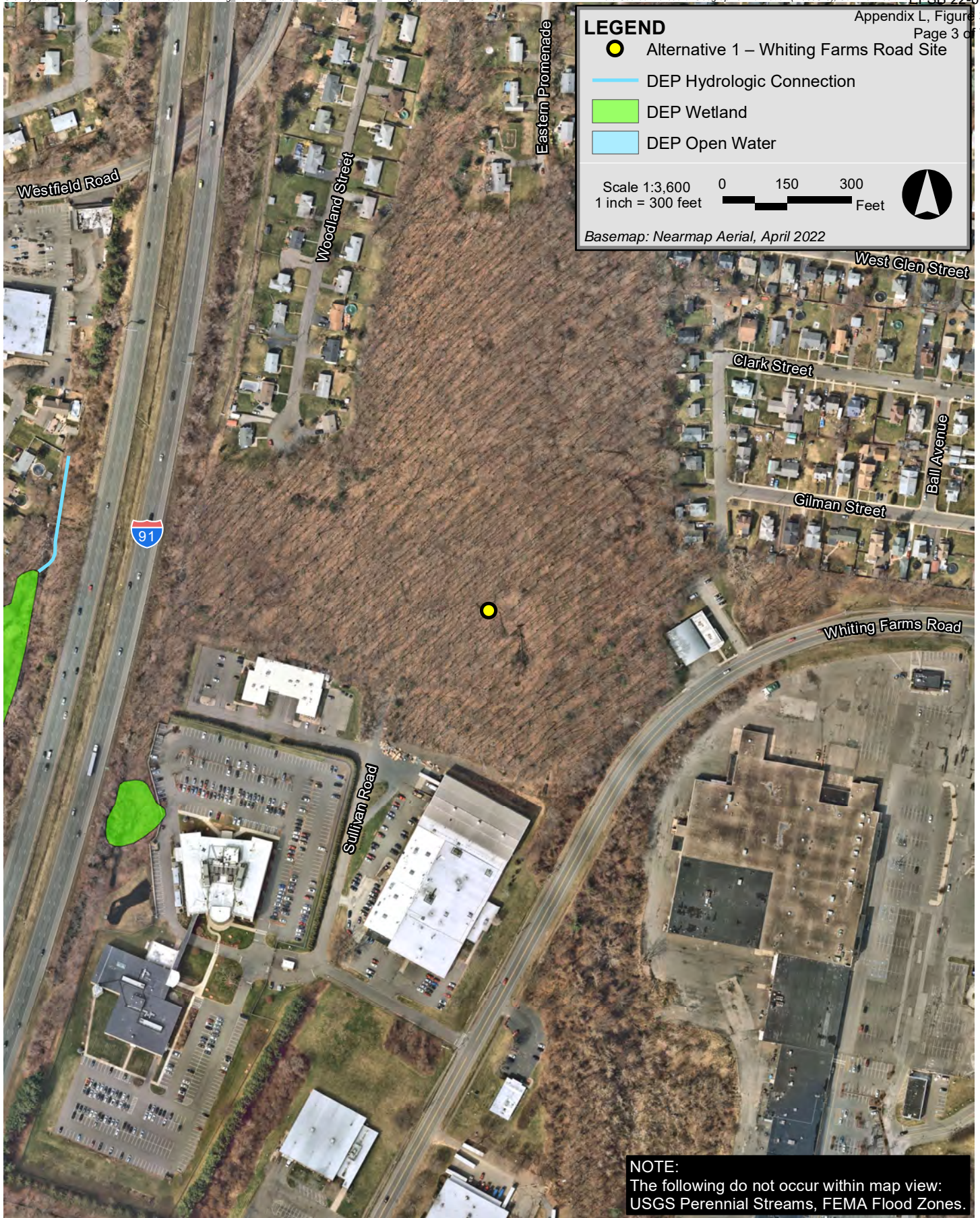






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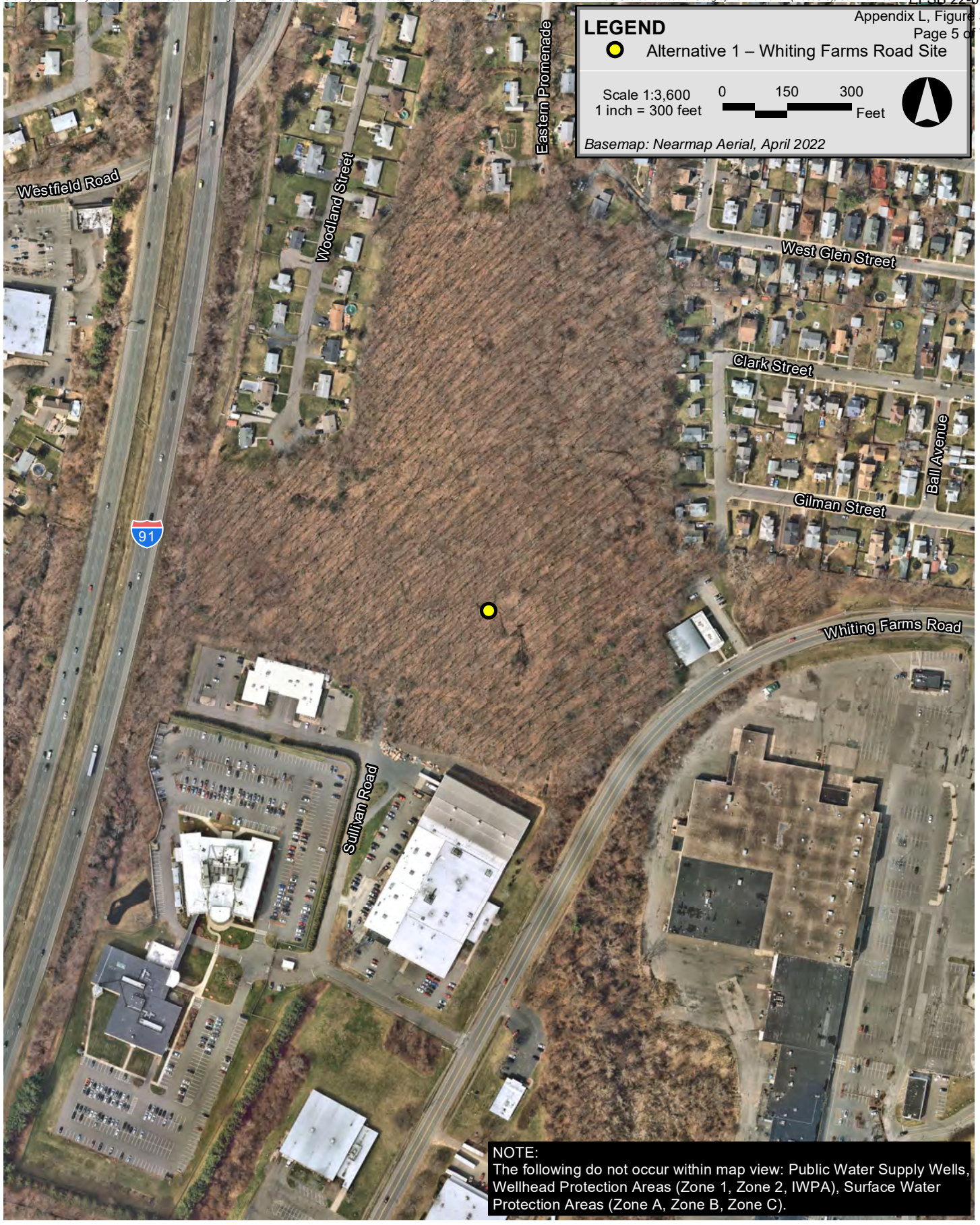


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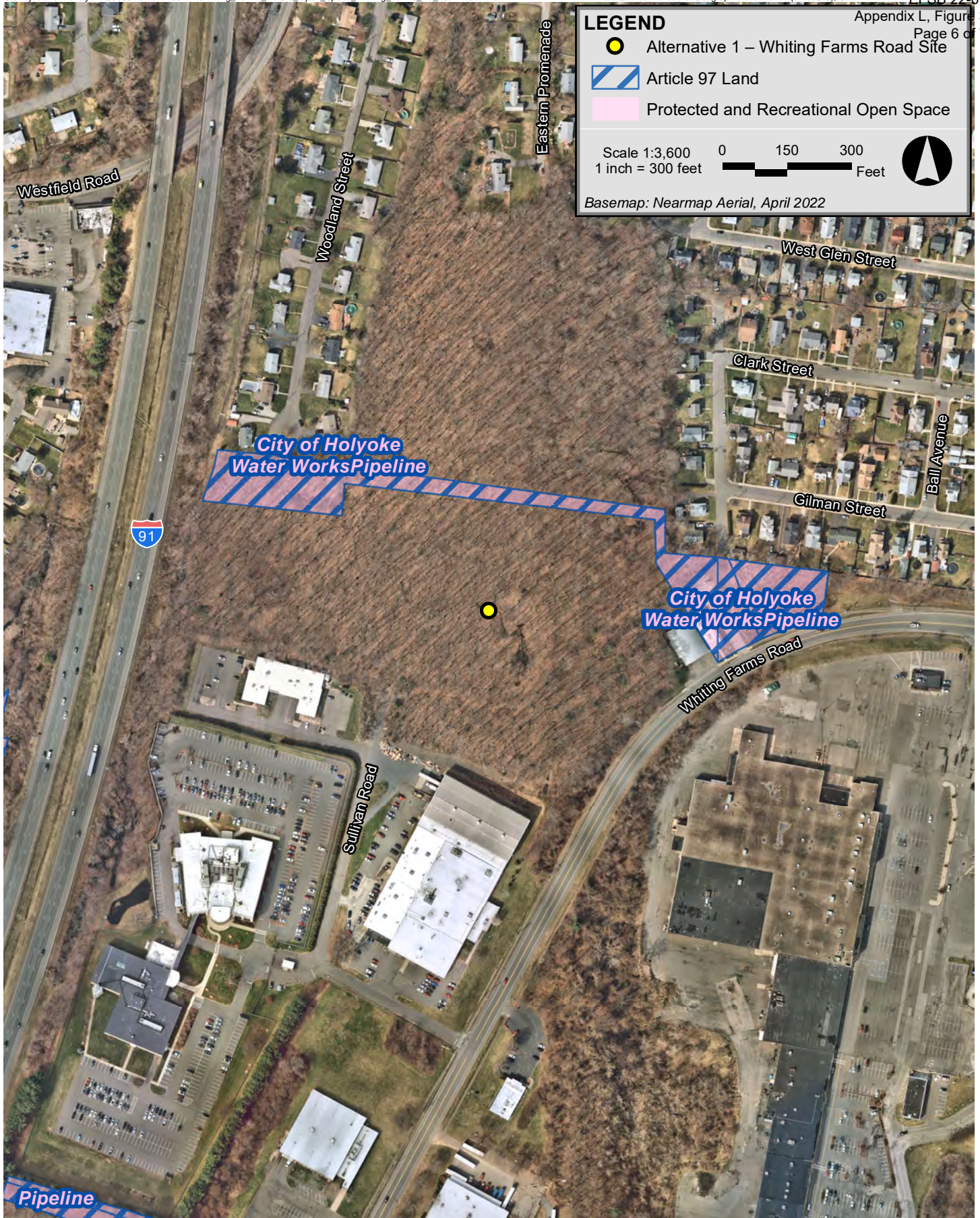


Holyoke Gas & Electric - LNG Infrastructure & Resiliency Project Holyoke, Massachusetts



Holyoke Gas & Electric - LNG Infrastructure & Resiliency Project Holyoke, Massachusetts

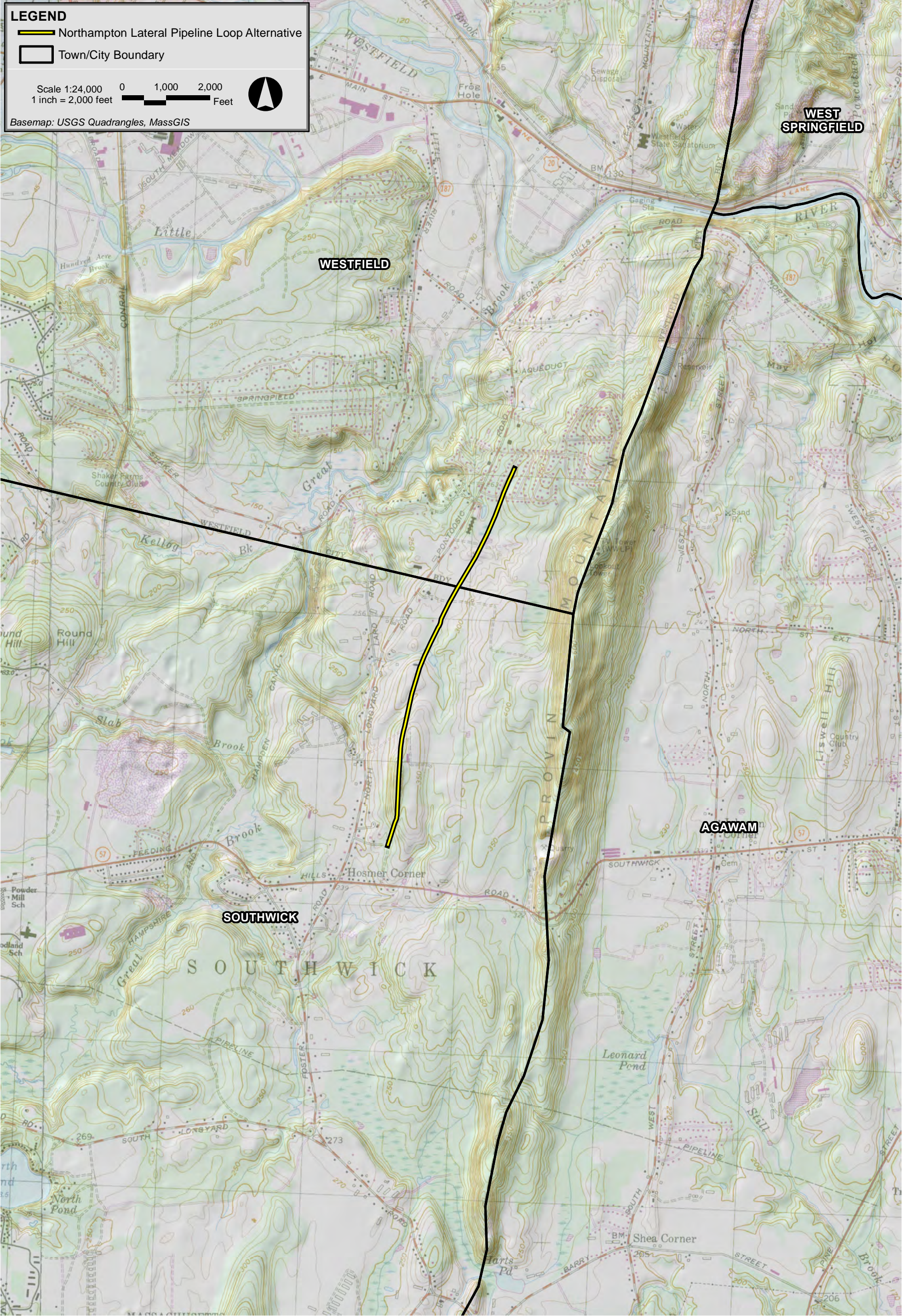






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Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



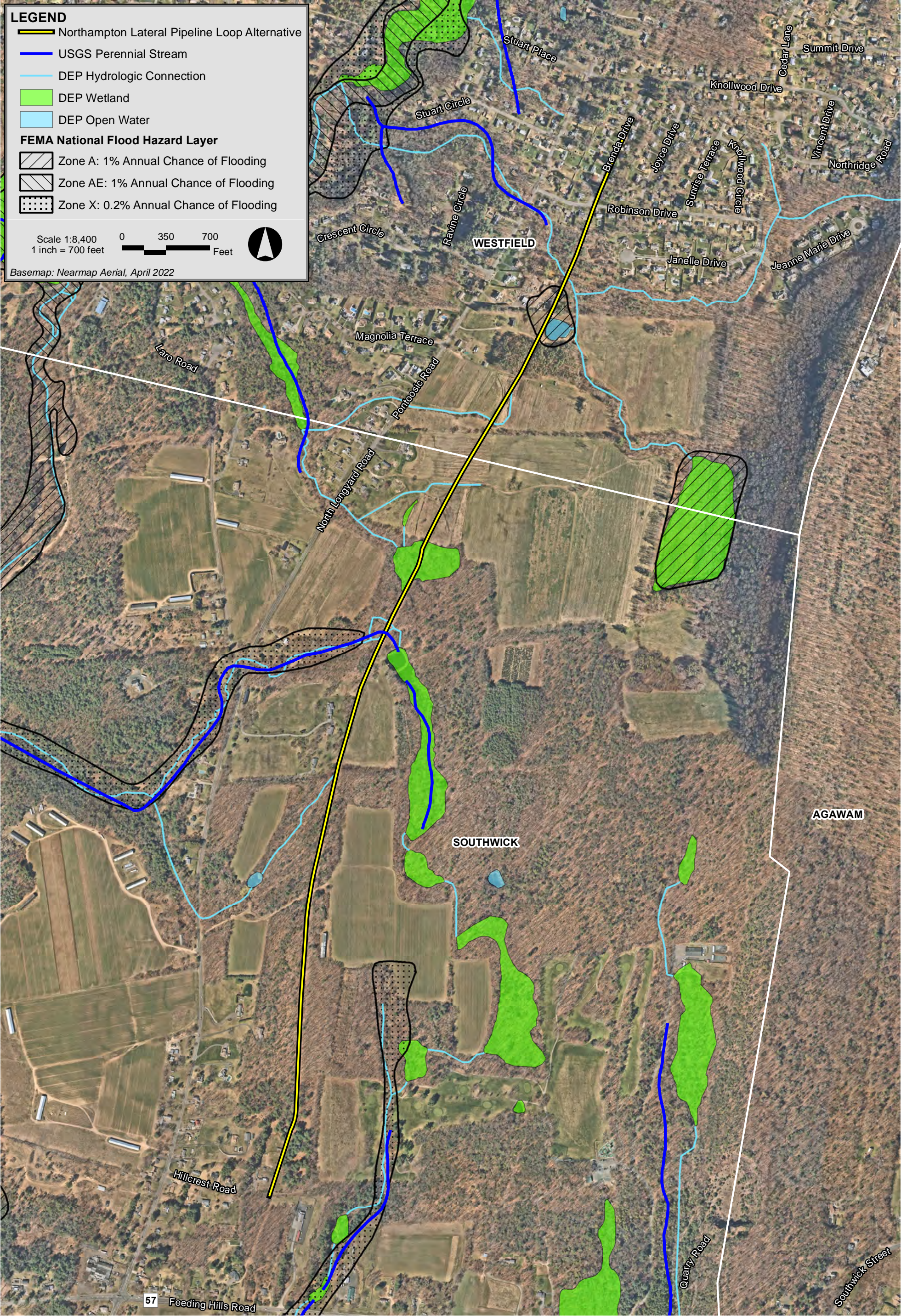
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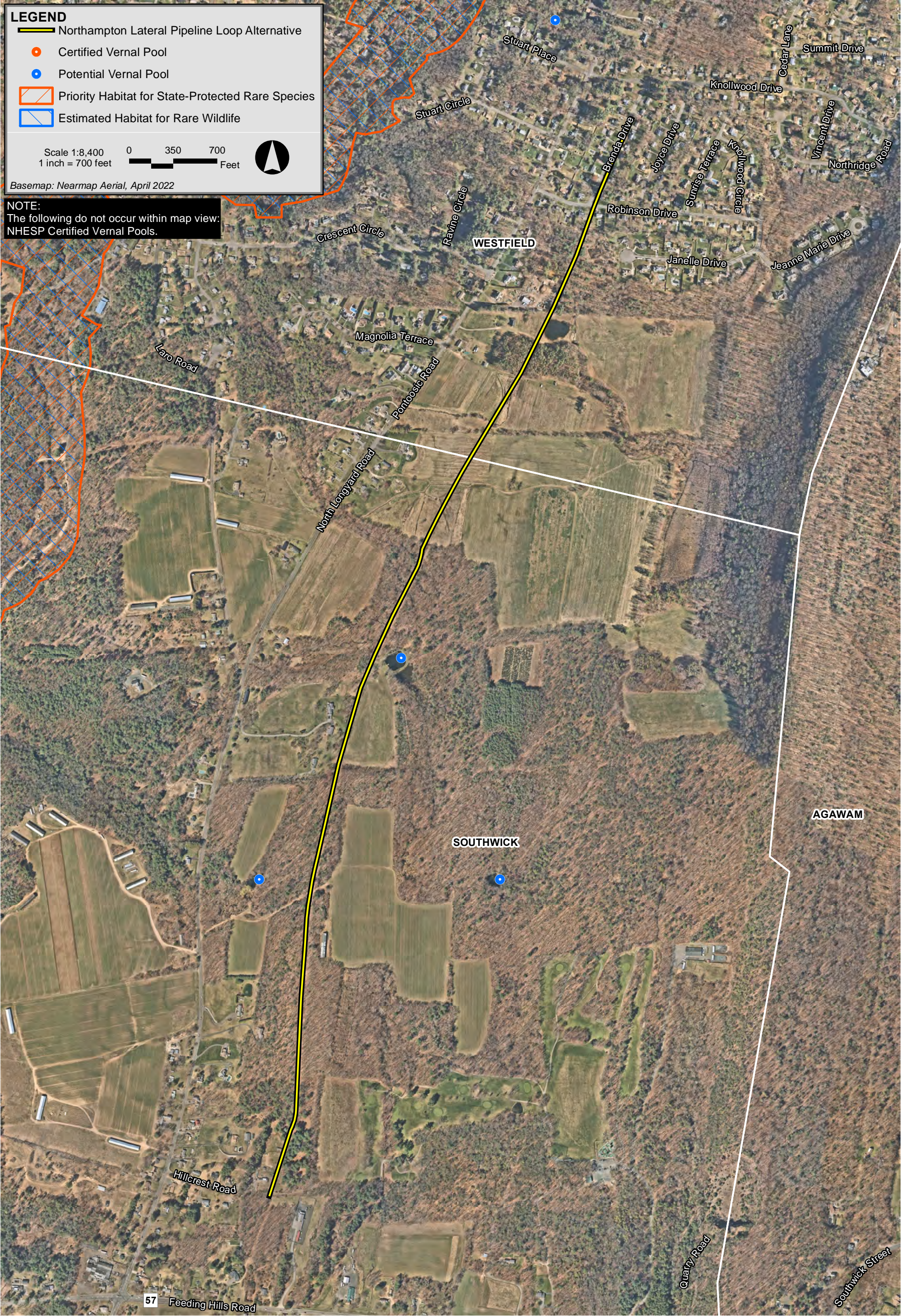
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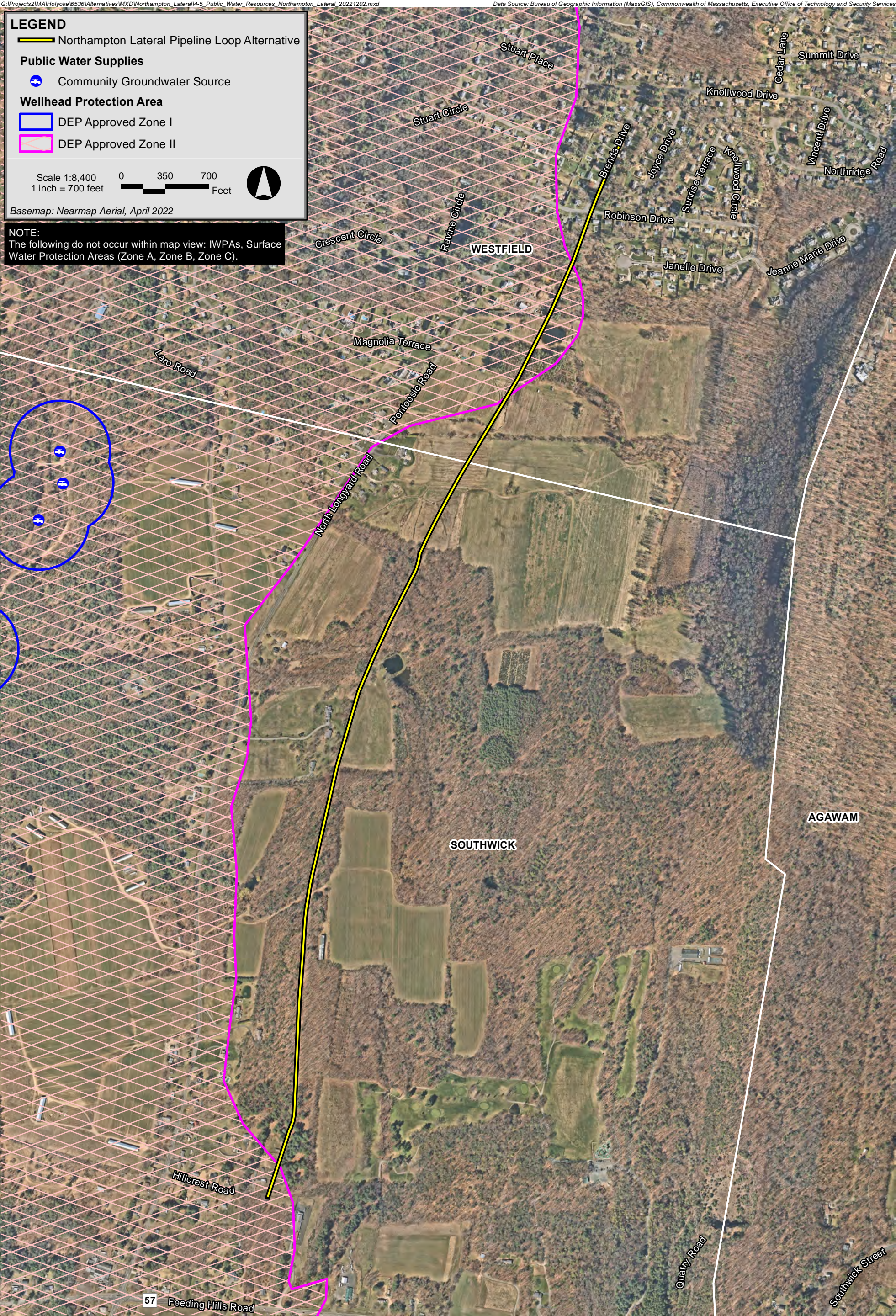
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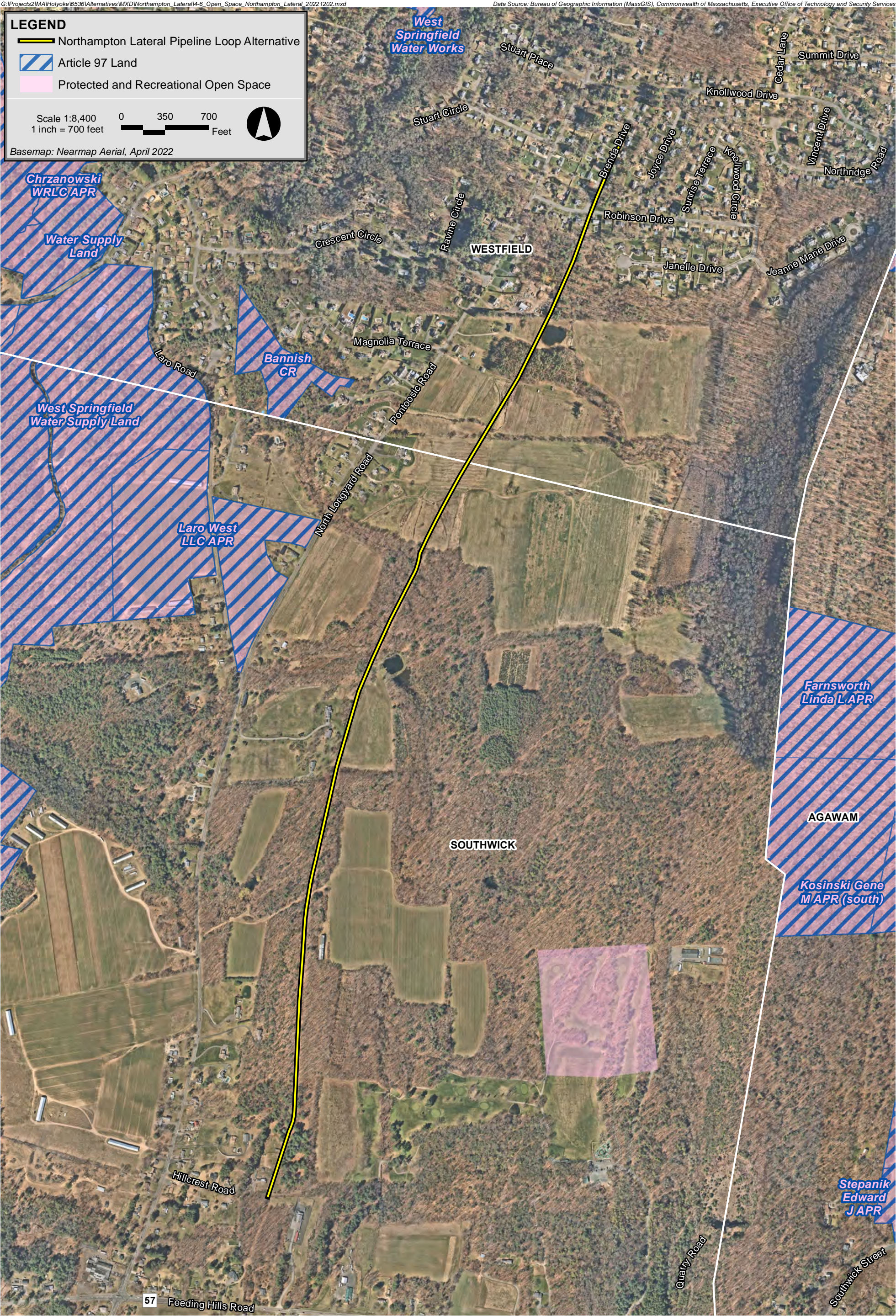


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Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services

