

**Part 102 Report  
for the  
Central Hudson Gas & Electric Corporation  
G Line North Rebuild Project  
Dutchess County, New York**



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## **1.0 INTRODUCTION**

Central Hudson Gas & Electric Corporation (“CHG&E” or “Central Hudson” or the “Applicant”) is proposing to rebuild a major portion of the existing single-circuit 69 kilovolt (kV) electrical transmission line, known as the G Line Transmission Line (hereafter referred to as the G Line). The portion of the line to be rebuilt will be known as the G Line North Transmission Line (hereafter referred to as G Line North). The G Line North will run from the Todd Hill Substation on Bushwick Road, in the Town of LaGrange, northerly for approximately 8 miles to Central Hudson’s Structure # T-1494, which is located approximately 1.4 miles north of the Tinkertown Substation in the Town of Pleasant Valley, (see Figure 1 and Figure 2). The length of the line to be rebuilt in the Town of LaGrange is approximately 4.4 miles. The length of the line to be rebuilt in the Town of Pleasant Valley is approximately 3.6 miles. The existing G Line and proposed rebuild for G Line North run entirely within Dutchess County, NY.

The purpose of the Project is to replace aging and deteriorated electric transmission infrastructure that has reached its end of useful life, and provide a comprehensive rebuild of the line which meets current electric utility design standards and provides enhanced storm hardening. The proposed rebuild will address long term degradation of the strength of the conductors along the line, as well as the deteriorated condition of many of the existing wood pole structures. All existing poles and conductors for the rebuilt portion of the line will be replaced. In addition, a new 115/69 kV transformer will be added to the existing Todd Hill Substation to provide a new electric supply for the G Line North. Modifications to the Todd Hill Substation will be completed prior to the in-service completion date of the G Line North rebuild. The G Line North rebuild will result in upgraded facilities and improved electric transmission supply reliability for the local areas served.

## **2.0 PROJECT DESCRIPTION**

### **2.1 Description of Proposed Work**

The existing G Line is a single-circuit line with a voltage rating of 69 kV and the rebuilt G Line North will remain a single-circuit line with a voltage rating of 69 kV. The existing G Line was constructed in the 1930’s and is currently about 85 years old. The G Line is currently supplied from the Knapps Corners Substation on Spring Road, in the Town of Poughkeepsie. The line runs in a northerly direction and runs adjacent to, but does not connect to, the existing Todd Hill Substation. The line then continues on to connect to the Tinkertown Substation, and from there, runs to its termination at the Pleasant Valley Substation in the Town of Pleasant Valley. In the rebuilt configuration, the G Line North will be supplied at a voltage of 69 kV from a new 115 / 69 kV transformer to be installed at the Todd Hill Substation in the Town of Lagrange, Dutchess County. The rebuilt G Line North will run from the new supply at the Todd Hill Substation to Pole Structure # 1494, which is approximately 1.4 miles north of the Tinkertown Substation. Three new

disconnect switches will be mounted on the newly installed double pole Structure #1494, which will replace the existing lattice tower type structure to be removed. The remaining portion of the G Line North from Pole Structure #1494 to the Pleasant Valley Substation in the Town of Pleasant Valley is not being rebuilt as part of the scope of the project. The equipment (poles and wire) for the portion of the existing G Line which runs from the Knapps Corners Substation to the Todd Hill Substation will be retired. Central Hudson is currently assessing the rebuild of several other area transmission lines which may re-use the portion of the existing G Line ROW which is to be retired.

The portion of the existing line to be rebuilt includes a mixture of deteriorating original wood poles (approximately 50% of the total) and self-weathering steel poles of varying types and configurations, which were installed over previous years to replace deteriorated wood poles on an as-needed basis. As part of the rebuild and upgrade for the G Line North, all existing poles will be replaced with new self-weathering steel poles. The new steel poles to be installed will range from approximately 52-75 feet tall. The new poles, conductors and conductor configurations will meet the current National Electric Safety Code (NESC) for ground clearance and safety, as well as accommodate installation of a taller static wire to provide enhanced lightning protection for storm hardening of the line.

The G Line North is proposed to be rebuilt within the existing 150-foot wide cleared Central Hudson Right-of-Way (ROW) Project Site. The ROW for the current G Line was established in the early 1930's through easements with private landowners at that time. During the rebuild of the G Line North, the alignment of the line will move from its current location of approximately 25 feet from the western edge of the ROW to 50 feet from the western edge of the ROW. This will allow the rebuilt line to achieve a clearance of approximately 50 feet from trees along the western edge of the ROW which will reduce the risk of potential storm damage from broken tree limbs and tree falls, and thereby reduce the probability of a transmission line outage. In addition, the rebuild design provides for compliance with current electric utility transmission line design standards and improved lightning protection design, which will result in improved transmission line reliability.

The design of the Project includes reconfiguration and optimization of pole locations and conductor spans which will reduce the overall number of poles on the rebuilt portion of the line by approximately 19%, when compared to the number of poles currently installed (approximately 115 vs 142, respectively). In the Town of LaGrange, the number of new poles to be installed will be 66 (vs. the current number of 84 poles), or approximately a 21% reduction. Also in the Town of LaGrange, a 1.25-mile section of the G Line from Todd Hill substation to Frost Hill Road will continue to share the ROW with the 115 kV "C" Transmission Line, and the 13.2 kV 6057 distribution circuit. The 6057 distribution circuit runs from the Todd Hill Substation north to Route 55, and currently runs on its own poles between the existing G Line and C Line. In the proposed Rebuild the 6057 distribution circuit will be underbuilt on the new G-Line North pole

structures. This will result in removal of all existing poles for this distribution circuit in this section of the ROW, thus consolidating infrastructure.

In the Town of Pleasant Valley, the number of new poles to be installed is 49 (vs. the current number of 58 poles), or approximately a 15% reduction. The 1.4 mile section of the G Line North between the Tinkertown Substation and Pole Structure # 1494 will continue to share the line with the 13.2kV 7023 distribution circuit, but the 7023 circuit will be relocated (underbuilt) to the same (new) pole structures accommodating the G Line North. Also, in the Town of Pleasant Valley, just north of the Town boundary, the line also shares the ROW with the Iroquois Gas Line which runs along the eastern side of the ROW. Design and coordination meetings were held with representatives of Iroquois Gas Company during the development of the design of the G Line North Rebuild Project to discuss proper coordination of design and construction to protect the gas line.

At the northerly end of the Project, three new pole mounted disconnect switches are proposed to be mounted on the new Pole Structure #1494. Minor equipment modifications are proposed to the Tinkertown Substation, but there will be no expansion of the existing fence line, and no modification of the existing transformers.

#### Construction Approach

The rebuild of the G Line North will be constructed approximately 25 feet east of the existing G Line. This will allow a majority of the rebuilt line to be constructed in parallel with the existing G Line, without the need to take the G Line out of service. This also affords the opportunity to perform the construction of the rebuild in segments, and provides for flexibility in the sequence of work to accommodate differing seasonal or ground conditions (i.e. wetlands, agricultural areas, etc.), adjust for work priorities, address operational issues, or accommodate unforeseen conditions. At various points during the rebuild, selective outages may be taken in order to complete particular segments or to address operational issues. Once the G Line North rebuild is completed, an outage of the existing G Line would be taken and the rebuilt line would be energized from the new transformer at the Todd Hill Substation.

After the G Line North is successfully placed into service and the existing G Line has been de-energized, the poles and conductors for the portion of the line that was rebuilt will be removed, holes will be filled and the disturbed areas will be seeded and mulched.

The expansion work at the Todd Hill Substation is planned to start before the start of the G Line North rebuild, but will proceed in parallel with the line rebuild work. The portion of the existing G Line from Knapps Corners Substation to the vicinity of the Todd Hill Substation will be de-energized and retired upon placing the rebuilt G Line North into service. The schedule for removal of the existing poles and wires on the portion of the line to be retired is dependent upon an

ongoing evaluation by Central Hudson of options for the rebuild of other existing area transmission lines which may re-use all or part of the existing ROW currently used by this portion of the existing G Line.

The construction of the G Line North Rebuild is currently planned to start in mid-2017, with an estimated completion in mid-2018.

### Pole and Conductor Information

The existing G Line conductors consist of 1/0 Cu with normal, Long-term Emergency (LTE) and Short-term Emergency (STE) Summer ratings of 45, 47, and 55 MVA respectively. The new G Line North conductors will be 397.5 ACSR and have normal, LTE, and STE Summer ratings of 77, 94, and 107 MVA respectively. Non-specular insulated conductor will be used. The existing portion of the line from Structure # 1494 running northerly to the Pleasant Valley Substation, which is not being rebuilt, contains recently refurbished common Towers with the E Line and has 397.5 ACSR conductor installed.

Almost all of the new structures for the rebuilt G Line North will be directly embedded tubular steel poles with a typical embedment of 10% plus 2 feet. Central Hudson's typical tubular steel pole design calls for a 4 foot long sacrificial ground sleeve to be installed around the pole surface centered on the ground line (2 feet above grade and 2 feet below). All of the embedded poles will also be coated with a below-grade non-conductive spray-on polyuria compound. This coating is applied to all directly embedded poles from the top of the ground sleeve to the bottom of the pole.

Structures G-2 (single pole) and 1494 (double pole) will utilize engineered caisson-type foundation structures which will consist of a tubular steel monopole set on top of concrete steel reinforced caisson foundations with anchor bolt cages.

## **2.2 Part 102 Summary**

Central Hudson has prepared this report in accordance with the requirements of 16 NYCRR Part 102 of the Public Service Law (PSL). In accordance with Part 102 of the PSL, a transmission facility is defined as items of an electric plant not subject to the NYS Public Service Commission's jurisdiction under Article VII of the PSL used to convey electric energy at 65 kV or higher voltages for distances of one mile or longer including: towers, poles, and appurtenant fixtures; wire, cable and devices; conduit, tunnel conductors, and devices. The G Line North Rebuild Project is not subject to Article VII regulations since the existing G Line, as well as the rebuilt G Line North has, and will continue to, operate at a voltage of less than 100 kV. Since the G Line North operating voltage is greater than 65 kV and exceeds one mile in length, this work is subject to review under Part 102. Representative photographs of the existing line and ROW are included in Appendix D.



No review pursuant to Part 102.4 (advantage-disadvantage analysis) is provided herein because the proposed Project will not traverse any national parks; state parks; national wildlife refuges or preserves; native American reservations or military bases; national or state landmarks; historic landmarks; national monuments or trails; wild or scenic rivers; national or state register listed historic sites; central business districts in cities or villages; densely developed residential areas; or any classes of areas described in Part 102.3(a). This report does address areas identified under Part 102.3(b).

### **3.0 ENVIRONMENTAL RESOURCES EVALUATION**

A review of the proposed Project was conducted in accordance with the criteria specified in Part 102, Section 102.3(b). Existing environmental, cultural, and community resources within and adjacent to the Project Site are described below, along with the impacts anticipated to result from Project construction and operation.

General land use surrounding the Project Site is dominated by residential development, single family residences and undeveloped forest. In addition, active/inactive agriculture and public utilities are also present in the vicinity of the ROW.

As previously stated, the G Line North does not traverse any of the following Part 102-specified priority land uses:

1. National and state parks, preserves, reservations, landmarks, and monuments formally so designated and acquired for their natural, scenic or cultural value by appropriate state and federal agencies;
2. Historic sites formally so designated by national or state agencies but without acquisition of rights or ownership sufficient for the purpose of preservation;
3. Central business districts in cities and villages;
4. Developed and partly developed residential areas with an existing or proposed density of one or more dwelling units per acre, as shown on approved subdivision maps, occupying a minimum contiguous area of 20 acres, all or a portion of which would be traversed by the proposed transmission facility ROW.

The Project does run parallel to James Baird State Park in the Town of LaGrange. However, the ROW is greater than 60 feet to the northwest of the park parcel boundary and the rebuilt line will be located greater than 100 feet from the park boundary (see Figure 2). Portions of the Project are also located near residential areas. However, these areas are considered to be low or moderate density (i.e., greater than 1- or 2-acre lots) per local zoning (see Section 3.1 Land Use and Zoning). Therefore, none of these classes of priority areas specified by Part 102.3 (a) (1), (2), (3) or (4) are affected by the proposed Project and the advantage-disadvantage analysis required by section 102.4 is neither applicable to, nor required for, this Project.

In addition, Part 102.3(b) lists the following Classes of Areas, which, if applicable, must be addressed in the report, without the analysis required by Part 102.4:

1. Areas of outstanding natural or scenic value which are preserved by non-profit private agencies but which have not been formally so designated by national or state agencies;
2. Areas of outstanding cultural value (e.g., attractive pastoral scenes, locations of noteworthy architectural and/or social import both within and outside specific sites that lend attractiveness to a neighborhood or community) that have not been formally designated by a government or private authority;
3. Existing local (city, town, village and county) parks and open space areas that have been formally established by government or private authorities;
4. Public and semi-public facilities such as cemeteries, educational, correctional and medical facilities and military installations;
5. Existing light industrial and commercial areas (e.g., industrial parks, shopping centers, office building complexes);
6. Partially developed residential areas where the subdivision will have an eventual population density of one or more dwelling units per acre, as shown on approved subdivision maps, comprising a minimum contiguous area of 20 acres or a portion of which is traversed by the proposed transmission facility right-of-way;
7. Areas of outstanding cultural value (e.g., attractive pastoral scenes, locations of noteworthy architectural and/or social import both within and outside specific sites that lend attractiveness to a neighborhood or community) that have not been formally designated by governmental or private authority;
8. Residential areas with less population density than those specified in preceding categories;
9. Planned and zoned undeveloped light industrial, commercial and residential areas;
10. Managed woodlands (e.g., commercial and other productive forests);
11. Agricultural districts established in accordance with article 25-AA of the Agriculture and Markets Law, and other farmlands;
12. Existing and planned heavy industrial areas;
13. Woods and open lands other than those included within areas specified in any priority area above.

Applying the above standards to the proposed Project, land uses that will be affected by the proposed Project include the following:

1. Zoned residential areas (described in Section 3.1);

2. Agricultural districts established in accordance with Chapter 25-AA of the Agriculture and Markets Law and other farmlands (described in Section 3.5);
3. Areas of Outstanding Value and Cultural Resources (described in Section 3.6)
4. Woods and open lands (described in relevant Sections 3.2, 3.3 and 3.4).

### **3.1 Land Use and Zoning**

The proposed Project is subject to Chapter 240 – Zoning of the Town Code of LaGrange and Chapter 98 – Zoning of the Town Code of Pleasant Valley. The rebuild of the G Line North is considered an allowed use subject to Site Plan Review from the Towns of LaGrange and Pleasant Valley. The existing G Line North is located within the Residential Low Density (3-acre min), Residential Moderate Density (2-acre min), and Residential Flexible District (1-acre minimum if on public water and sewer) zones in the Town of LaGrange. The majority of the Project in the Town of LaGrange is located with the low to moderate density residential areas. A small portion of the project is located with the Residential Flexible District. However, based on an analysis of the Dutchess County Parcel Data indicates the majority of the residential lots in this area are greater than 1 acre. In the Town of Pleasant Valley, the G Line North is located in the Lower Density Residential (2-acre average density), Rural Residential (3.5-acre average density), and Rural Agricultural zones (5-acre average density).

Because the existing G Line and its ROW was originally constructed / established in the 1930s, the existence of the transmission line pre-dates development of the residential areas within and directly adjacent to the ROW. Therefore, the proposed rebuild will not adversely affect community character since the ROW is part of the existing community character. The project will reduce the overall number of poles, provide a more uniform appearance, and will blend more with surroundings by using brown self-weathering steel poles. Additionally, the Project satisfies all relevant standards and requirements of the codes of the Towns of LaGrange and Pleasant Valley while continuing to provide essential services to the region. Additional information pertaining to visibility and community character are described in section 3.8 of this report.

Site Plan applications, including a completed Environmental Assessment Form (EAF), were filed with the Towns of LaGrange and Pleasant Valley Planning Boards on August 14, 2015 and September 28, 2015, respectively. The Town of LaGrange Planning Board circulated their intent to serve as Lead Agency under State Environmental Quality Review Act (SEQRA) on October 1, 2015 and declared themselves Lead Agency on November 19, 2015. Copies of relevant Project Site Plan Application Documents were provided to involved and interested State, County and local agencies as part of a coordinated SEQRA review. To further coordinate the SEQRA process, representatives of the Town of LaGrange Planning Board and the Town of Pleasant Valley Planning Board met with each other and scheduled joint public hearings to ensure that the interest and concerns of both towns would be addressed. Public hearings for Site

Plan Review (hosted by the Town of Pleasant Valley Planning Board) and SEQRA (hosted by Town of LaGrange Planning Board) were held on December 8, 2015 and December 17, 2015 respectively. The public hearings were duly noticed in accordance with local municipal law and Central Hudson provided written responses to both town Planning Boards addressing all comments from the public and the Board members received during these meetings. At their May 19, 2016 meeting, the Town of LaGrange Planning Board issued a Negative Declaration under SEQRA for the Project.

An application was also made to the Town of LaGrange Zoning Board of Appeals (ZBA), for Variances to certain portions of the town zoning ordinance related to height of the poles, and construction within the Ridgeline Overlay Protection District. Similarly, an application was made to the Town of Pleasant Valley ZBA for height variances required by their Town zoning ordinances. After proper public noticing and conduct of public hearings, the Town of LaGrange ZBA and Town of Pleasant Valley ZBA approved the variances sought at their meetings of October 3 and October 26, 2016, respectively.

After subsequent reviews of Central Hudson's Site Plan Application and Application for Wetland, Watercourse and Waterbody Protection Permit by the Town of LaGrange Planning Board and their Town engineering consultants, as well as resolution of technical and other comments, a Resolution of Conditional Approvals was approved by the Planning Board at their meeting of October 20, 2016. As part of the Resolution, the following approvals were granted:

- Site Plan / Project Development Plan Approval in accordance with Town Code 240-72(E)
- Special Permit for Development in the Ridgeline Overlay District in accordance with Town Code 240-31(F)
- Wetland Permit in accordance with Town Code 124-9 through 124-14

The Town of Pleasant Valley Planning Board held open its public hearing for Site Plan Review between December 8, 2015 and August 9, 2016, wherein the public hearing was closed at the August 9, 2016 Meeting. After subsequent reviews of Central Hudson's Site Plan Application by the Town of Pleasant Valley Planning Board and their Town engineering consultants, as well as resolution of technical and other comments, a Resolution for Site Plan Approval was approved at the Planning Board Meeting of November 15, 2016. Under separate applications to the Town of Pleasant Valley Zoning Administrator, a Floodplain Development Permit and a Wetland, Water Body & Watercourse Protection & Disturbance Permit were issued on September 21, 2016 and October 12, 2016, respectively.

### **3.2 Hydrology and Water Resources**

The Project Site is located approximately 6 miles east of the Hudson River. This area is in the Mid-Atlantic Drainage Basin and is part of USGS Hydrologic Unit 02020008 of the Hudson River Watershed. Wappinger Creek is the

dominant hydrologic feature in the vicinity of the Project Site (Figure 3). Several unnamed tributaries pass through the Project Site and drain to either Wappinger Creek to the west or Sprout Creek to the east. Wappinger Creek flows south-southwest and drains to the Hudson River approximately 7 miles west of the Project Site. Sprout Creek flows south approximately 7 miles to Fishkill Creek, which drains to the Hudson River approximately 15 miles southwest of the Project Site. The majority of surface hydrology on the Project Site is generated by precipitation and surface water run-off from adjacent land. Total annual precipitation (from 1971 to 2000) averages 44.12 inches in nearby Poughkeepsie, NY (NRCS, 2015).

Streams in the Project Site, both named and unnamed, are primarily low-gradient drainage features that meander through wetlands, successional uplands, and lawns. Most of these streams are less than 10 feet wide with variable substrates, and vegetative cover characteristics. Some Project Site streams have well-defined and abrupt banks, while the banks of others transition into adjacent wetland vegetation, and thus are essentially indiscernible.

### 3.2.1 Federally-Regulated Mapped Wetlands

In accordance with the Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) has regulatory jurisdiction over Waters of the United States. As defined by the Corps, Waters of the United States include all lakes, ponds, streams (intermittent and perennial), and wetlands. Jurisdictional wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (USEPA, 2001, and 33 CFR Part 328). Such areas are indicated by the presence of three criteria: hydrophytic vegetation, hydric soils, and evidence of wetland hydrology during the growing season (Environmental Laboratory, 1987).

The U.S. Environmental Protection Agency (EPA) released the *Clean Water Rule* (33 CFR Part 328) on August 28, 2015 which according to the EPA, provides a clearer and more consistent approach to defining the scope of the Clean Water Act and “waters of the United States”. Three major elements of the Clean Water Rule, pertaining to jurisdictional determination, are summarized below:

Traditional navigable waters, interstate waters, territorial seas, and impoundments of jurisdictional waters:

- Consistent with the existing regulations;
- The agencies will assert jurisdiction over these waters.

#### Tributaries:

- Specifically defines tributaries as “waters that are characterized by the presence of physical indicators of flow – bed and banks and ordinary high water mark – and that contribute flow directly or indirectly to a traditional navigable water”.
- The agencies will assert jurisdiction over these waters.

#### Adjacent Waters:

- Defined as “bordering, contiguous, or neighboring, including waters separated from other “waters of the United States” by constructed dikes or barriers, natural river berms, beach dunes and the like”.
- The agencies will assert jurisdiction over these waters if any of these settings occur:
  - “Waters located in whole or in part within 100 feet of the ordinary high water mark of a traditional navigable waters, interstate waters, territorial seas, and impoundments”;
  - “Waters located in whole or in part in the 100-year floodplain and that are within 1,500 feet of the ordinary high water mark of a traditional navigable water, interstate waters, territorial seas, an impoundment, or a tributary”;
  - Waters located in whole or in a part within 1,500 feet of the tide line of a traditional navigable water or the territorial seas and waters located within 1,500 feet of the ordinary high water mark of the Great Lakes”.

Based on the field assessment, the on-site wetlands appear to meet the Corps criteria for jurisdictional waters since they appear to connect to traditional navigable waters. Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.) requires a permit from the Corps to construct any structure in or over any navigable water of the United States, as well as any proposed action that would alter or disturb (such as excavation/dredging or deposition of materials) these waters.

Review of National Wetland Inventory (NWI) mapping indicates that there are 10 federally-mapped wetlands located within and adjacent to the Project Site (Figure 3). The NWI maps indicate that palustrine forested wetlands (PFO) are the most prevalent on-site, followed by ponds, scrub-shrub, and emergent wetlands (PUBH, PSS, and PEM).

#### 3.2.2 State-Regulated Mapped Wetlands and Surface Waters

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the Environmental Conservation Law) gives the New York State Department of Environmental Conservation (NYSDEC) jurisdiction over state-protected wetlands and adjacent areas (100-foot upland buffer). The Freshwater Wetlands Act requires the NYSDEC to map all state-regulated wetlands (typically over 12.4 acres in size) to allow landowners and other interested parties a means to determine

where state jurisdictional wetlands exist. Each of these wetlands has been assigned a classification of I (highest rank) through IV (lowest rank) based on a list of criteria for each class identified in NYSDEC rules and regulations. Characteristics considered include ecological associations, special features, hydrological and pollution control features, cover type, distribution, and location (NYSDEC, 2015). Review of NYSDEC mapping indicates there are three wetlands intersecting the Project Site that are regulated under Article 24 of the Environmental Conservation Law. The state-regulated wetlands are identified in Table 1 and Figure 3.

**Table 1. Mapped State Regulated Wetlands within the Project Site<sup>1</sup>**

Wetland	Class <sup>2</sup>	Total Size (Acres)	Size Mapped Within Project Site (Acres)	Size Delineated Within Project Site (Acres)
PV-10	I	185.7	2.11	1.53
PV-35	III	24.6	0.85	0.25
PV-59	II	18.0	1.04	0.0 <sup>3</sup>

<sup>1</sup>Refer to Figure 3 for a map of state regulated wetlands.

<sup>2</sup>The NYS classification system consists of four separate classes that rank wetlands according to their functions and values (Class I having the highest rank, descending through Class IV).

<sup>3</sup>NYSDEC Freshwater Wetland PV-59 was not physically identified within the ROW at its mapped location. For additional information see Wetland Delineation Report (EDR, 2015)

All streams of the state are assigned a class and standard by the NYSDEC according to their existing or expected best usage. A classification of AA or A indicates that the waterway is used as a source of drinking water, Class B waters are best used for swimming and other contact recreation, Class C and D water uses include fishing and non-contact recreation (NYSDEC, 2015). Waters classified as A, B, or C may also have a standard assigned indicating that they may support trout (T) or trout spawning (TS). Under Article 15 of the Environmental Conservation Law (Protection of Waters), the NYSDEC has regulatory jurisdiction over any activity that disturbs the bed or banks of protected streams, including small lakes and ponds with a surface area of 10 acres or less located within the course of a protected stream. Protected streams include any stream, or particular portion of a stream, that has been assigned any of the following classes and standards: AA, AA(T), AA(TS), A, A(T), A(TS), B, B(T), B(TS), C(T) or C(TS) (6 NYCRR Part 701). NYSDEC classifications of unprotected watercourses include Class C and Class D streams.

Based on available NYSDEC mapping, streams within the Project Site include Class B, B(T), and C(T) waters. Protected streams within the Project Site include Wappinger Creek and two unnamed tributaries to Wappinger Creek (Table 2). These streams, along with all other perennial and intermittent streams within and adjacent to the Project Site, are also protected by the Corps under Section 404 of the Clean Water Act.

**Table 2. Mapped NYSDEC Streams within the Project Site or Vicinity**

Name	Class	Status
Wappinger Creek	B(T)	Protected
Unnamed tributary to Wappinger Creek	B(T)	Protected
Unnamed tributary to Wappinger Creek	B	Protected
Unnamed tributary to Sprout Creek	C(T)	Unprotected

3.2.3 *Field Delineated Wetlands and Streams*

On behalf of CHG&E, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (“EDR”) identified and delineated 18 wetlands and 9 streams that are likely under federal jurisdiction, including three NYSDEC-mapped wetlands within the Project Site during the summer and fall of 2014 (EDR, 2015). The determination of wetland boundaries was made according to the three-parameter methodology described in the CORPS Wetland Delineation Manual (Environmental Laboratory, 1987). Information pertaining to individual on-site wetlands and streams is presented in the Project Wetland Delineation Report (EDR, 2015).

Of the 18 wetlands identified along the ROW, the Project will avoid impacts to nine of these (wetlands E, F, G, H, K, N, Q, R, and S). Temporary construction access and pole removal/replacement will result in temporary disturbance to 9 wetlands (B, D, C, I, J, L, O, P, and AC-U). Table 3 provides a summary of wetland impacts.

**Table 3. Summary of Impacts to Wetland Resources**

Field ID	NYSDEC Wetland ID	Stream Present	Structure Span	Wetland Type	Proposed Structures Located within Wetlands	Potential Impacts	P&P Sheet No.
AC-U	PD-35	Yes	G 5 – G 6	PEM	--	Matting	2
B	--	Yes	G 27 – G 28	PEM	-	Matting	3
C	PV-10	--	G 37 – G 39	PEM	1	Matting	4
D	--	Yes	G 48 – G 49	PSS/OW	--	Matting	5
E	--	--	G 53 – G 54	PEM	--	Avoid, No Impact	5
F	--	--	G 59 – G 60	PSS	--	Avoid, No Impact	5
G	--	--	G 63 – G 64	PSS	--	Avoid, No Impact	6
H	--	Yes	G 67 – G 69	PEM	--	Avoid, No Impact	6
I	--	--	G 72 – G 74	PEM	--	Matting	6
J	--	--	G 77 – G 78	PEM	--	Matting	7
K	--	--	G 80 – G 81	PEM	--	Avoid, No Impact	7



Field ID	NYSDEC Wetland ID	Stream Present	Structure Span	Wetland Type	Proposed Structures Located within Wetlands	Potential Impacts	P&P Sheet No.
L	--	--	G 82 – G 83	PEM	--	Matting	7
N	--	--	G 88 – G 89	PSS	--	Avoid, No Impact	8
O	--	Yes	G 95 – G 97	PEM		Matting	8
P	--	--	G 105 – G 106	PEM	--	Matting	8
Q	--	Yes	G 111 – G 112	PSS	--	Avoid, No Impact	9
R	--	--	G 112 – G 113	PEM	--	Avoid, No Impact	9
S	--	--	G 114 – #1494	PSS	--	Avoid, No Impact	9

Of the nine streams identified along the ROW, the Project will avoid impacts to five of these (streams A, D, H, Q, and AC-T). The Project will require temporary crossing of four streams (B, M, O, and AC-U) with construction matting or temporary bridging. No permanent crossings are proposed. Table 4 provides a summary of impacts to streams.

**Table 4. Summary of Impacts to Delineated Stream Resources**

Field ID	Stream Type	NYSDEC Stream Class	Potential Impact	P&P Sheet No.
A	Intermittent	--	Avoid, No Impact	2
B	Intermittent	--	Matting	3
D	Perennial		Avoid, No Impact	5
H	Intermittent		Avoid, No Impact	6
M	Perennial	B(T)	Matting	7
O	Intermittent		Matting	8
Q	Perennial	B	Avoid, No Impact	9
AC-U	Perennial	C(T)	Matting	2
AC-T	Ephemeral	--	Avoid, No Impact	3

Potential impacts to wetlands and streams resulting from temporary disturbances (i.e., vehicle access, pole removal pole installation, etc.) will be avoided, minimized and mitigated by:

- Installing construction matting at all temporary crossings - unless suitable soil conditions exist such that no visible rutting or alteration of the hydrology of the wetland would result. In such cases, crossing the wetland

may occur with rubber-tired vehicles. Should visible rutting occur, the affected access route(s) will be upgraded to include construction matting.

- Restoring disturbed areas to original grade and profile.
- Seeding disturbed areas with a native wetland seed mix.
- Mulching or covering exposed soil to limit erosion and sedimentation.
- Conforming to the NYS Standards and Specifications for Erosion and Sediment Control as outlined in the Project Stormwater Pollution Prevention Plan (“SWPPP”).

Construction activities will also be monitored by CHG&E Environmental Affairs staff to ensure that environmental protection measures and SWPPP protocols are enforced.

Although long-term or permanent impacts to surface waters will generally be avoided by locating replacement poles outside of delineated wetland and streams, and by not building permanent access roads, there will be some minor permanent impacts to one wetland. One pole will be placed in Wetland C at a location in close proximity to an existing pole. However, a total of four poles will be removed from wetlands, resulting in a small net increase in wetland acreage. Since the area of impact associated with the one new pole is less than 1/10 acre, this Project will not require notification to the U.S. Army Corps of Engineers (Corps) for coverage under nationwide permit (NWP) 12 for utilities. This Project has been permitted under local wetland ordinances in the Towns of LaGrange and Pleasant Valley as part of the Site Plan Review process (see Section 3.1).

As previously stated, the overall impacts to wetland resources are minor and substantial adverse impacts to wetland or stream resources are not anticipated.

### 3.2.4 *Floodplains*

A floodplain is the flat or nearly flat area adjacent to a stream or river that experiences periodic flooding. Natural functions of floodplains include temporary storage of floodwaters, attenuation of peak flows, water quality improvement, and groundwater recharge. The low-lying expanses reduce sediment and nutrient loading by slowing down the velocity of flood waters and surface runoff allowing sediment to settle and nutrients to be absorbed by floodplain vegetation.

Per the Federal Emergency Management Agency (“FEMA”), a 100-year floodplain is defined as the area that will be inundated by the flood event having a one percent chance of being equaled or exceeded in any given year. Two portions of the G Line North ROW are located with the FEMA-designation 100-year floodplain. One area, adjacent to Wappingers Creek, includes poles G 111 and G 112 (per sheet 9 of the Plan and Profile drawings). The Project will replace the existing poles in similar locations and will not result in grading, earthwork or paving within the floodplain.

Transmission equipment and installations such as these are not prone to flood damage (compared to that of residential, commercial, or industrial buildings and structures). In addition, the proposed Project will not alter the floodplain, and will not increase flood hazards to adjacent properties. The second area is further south, adjacent to "Stream M" (see sheet 7 of Plan and Profile drawings). There will be a temporary crossing at this location (Stream M). However, no permanent work is proposed within the limits of the special hazard area at this location. The installation of a temporary crossing (i.e., matting or bridging) will not result in work within the floodway, reduction of flood storage capacity or any permanent features within the special hazard area.

Because of the temporary nature of the work, and the lack of grading, earthwork or additional impervious cover within the special hazard area, adverse impacts to the floodplain are not anticipated. In addition, this project meets the standards of Sections 50-15C and 50-17 of the Pleasant Valley Town Code and a local Floodplain Development Permit was issued by the Town Zoning Administrator on September 21, 2016.

### **3.3 Vegetative/Ecological Communities**

Vegetative communities within the Project Site were inventoried and mapped based on interpretation of aerial photography and field verification (Figure 4). Additionally, written requests for documentation of unique or significant natural communities were sent to the New York Natural Heritage Program ("NHP") on July 11, 2014. The agency response dated September 3, 2014 indicated that there is a record of a high-quality Appalachian Oak-Hickory Forest in the vicinity of the Project Site (Appendix C). However, since the proposed rebuild is located within the existing cleared ROW, this community is located off-site and no adverse impacts to the Appalachian Oak-Hickory Forest is anticipated.

The acreage of vegetative communities occurring on the Project Site (see Figure 4) is provided in Table 5. All of the major plant communities found on site are common to New York State. As indicated in Table 5, successional old field and shrubland (totaling 72.9 acres) is the dominant community type.

**Table 5. Ecological communities on the G Line North ROW**

Type	Current Acreage	After Project Completion	Change (+/-)
Roads, buildings, and other paved or impervious surfaces	22.24	23.24	+ 1.0
Forested	22.51	22.51	
Successional Old Field / Shrubland	72.92	71.92	- 1.0
Agriculture	22.14	22.14	
Surface water features	0.44	0.44	
Wetlands	9.86	9.86	
Quarry	1.63	1.63	

The existing electric transmission line ROW is maintained by the Applicant in accordance with their New York Public Service Commission (PSC) approved Long Range Vegetation Management Plan. As part of this Plan, and in accordance with PSC requirements, the Applicant performs routine tree and vegetation clearing within the ROW as well as clearing/removal of danger trees along the edge of the ROW. Operations for routine vegetation management of the ROW will continue in accordance with the approved Long Range Vegetation Management Plan.

If additional clearing of trees is required for construction activities related to the G Line North Rebuild, the clearing will be conducted in accordance with applicable NYSDEC and USFWS bat clearing protocols to avoid impacts to potential sensitive bat habitat (described below). Some limbing of trees may be conducted at any time during the construction if necessary along off ROW access routes in order to provide for access to and within the ROW for trucks, equipment and materials.

### 3.3.1 *Invasive Species*

An invasive species is an organism that has been purposefully or accidentally introduced outside its original geographic range, and is able to proliferate and aggressively alter its new environment, potentially causing harm to the economy, environment, or human health. Invasive plant species spread in a number of different ways. Dispersal mechanisms include wind, water, wildlife, vegetative reproduction, and human activity. Populations of invasive species typically establish most readily in places where the ground has been disturbed, where the soil is exposed, and in closer proximity to heavily populated areas.

EDR performed reconnaissance level invasive species observations along the G Line North ROW in conjunction with the wetland and ecological field assessments conducted at the Project Site in August and September 2014. .

Populations of invasive species were found to be scattered on and off the ROW and not concentrated into one given area, however in general there were more instances on the northern half of the Project Site than the southern. Invasive species found along the ROW included purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*), and multiflora rose (*Rosa multiflora*).

While invasive species are not prevalent on the ROW, the Project will utilize an Invasive Species Control Plan (“ISCP”) when applicable. The proposed ISCP is based on the Environmental Energy Alliance of New York’s (“EEANY”) *New York Utility Company Best Management Practice for Preventing the Transportation of Invasive Plant Species* (EEANY, 2015) and is intended to minimize the spread of invasive species within NYSDEC regulated areas. The ISCP will be implemented for the duration of construction activities. In addition, CHG&E and its contractors will comply with the provisions of 6 NYCRR Part 192, Forest Insect and Disease Control, and ECL Section 9-1303 and any quarantine orders issued thereunder. Control measures will include:

- Contractor/Employee Training
- Construction Materials Inspection
- Minimize Ground Disturbance
- Clearing, Erosion Control, and Disposal Practices
- Construction Equipment Sanitation
- Restoration with Native Seed Mixes

### **3.4 Rare, Threatened and Endangered Species**

Information regarding occurrence of rare, threatened, and endangered species and significant natural communities on the Project Site was solicited from the NHP and the U.S. Fish and Wildlife Service (“USFWS”). Agency correspondence is included in Appendix C.

#### *3.4.1 State-Listed Species*

Written requests for information regarding listed species and unique or significant natural communities were sent to the NHP on July 11, 2014. The agency provided a response letter, which is included in Appendix C. According to the NHP, the following state-listed threatened species may occur in the vicinity of the G Line North:

- Indiana bat (*Myotis sodalis*)
- Blanding’s turtle (*Emydoidea blandingii*)

### Indiana bat (*Myotis sodalis*)

Indiana bat is a state and federally listed endangered species that hibernates in caves during the winter and roosts in hardwood forests in the summer months. Potential impacts to this species must be considered for any Project in New York State that is located at or below an elevation of 900 feet amsl, and is within 40 miles of a known hibernaculum (USFWS, 2012). Of particular importance are projects that involve clearing of trees greater than four inches in diameter at breast height (DBH) with loose or exfoliating bark, as these trees are suitable for a majority of roosting requirements by this species. Because the Project will occur on an existing cleared ROW, tree clearing should be minimal. However, in order to mitigate any potential adverse impact to this species, all required tree clearing will be conducted in accordance with accepted NYSDEC and USFWS guidance. Additionally, indirect or other long-term adverse impacts to bat habitat are not anticipated since the work is limited in scope. The Project will not fragment the existing forest, and is not anticipated to create an impassable barrier for bats within the area, and operations will not introduce any new potential impacts (e.g., noise or light). As such, adverse impacts to Indiana bats are not anticipated.

### Blanding's turtle

The Blanding's turtle is state-listed as threatened and is listed as a federal species of concern. Preferred habitat for this species is shallow wetlands such as shrub swamps, marshes, and shallow ponds (NYNHP, 2015a). A Blanding's turtle survey and habitat evaluation was conducted throughout the Town of LaGrange by Hudsonia (Hartwig et al., 2009). This report identifies areas of core habitat and priority zones. When maps from the Hudsonia report were overlaid on the G Line North ROW, it was determined that no core habitat areas appear on the ROW. However, there are two areas where the ROW crosses identified Priority Zones and the remainder of the area is within either a Conservation Zone or Areas of Concern (Hartwig et al., 2009). The Town of LaGrange, in its role as Lead Agency under SEQR, also reviewed the Plan and Profile Drawings considering its own familiarity with known populations of Blanding's turtles, and has verified that the proposed work is not in direct proximity of known populations in the Overlook and Freedom Road area (see Negative Declaration dated May 2015). Therefore, adverse impacts to Blanding's Turtle habitat are not anticipated.

To further minimize any temporary potential impacts to Blanding's turtles and Blanding's turtle habitat, a qualified monitor, that is licensed in New York State to handle Blanding's turtles will be onsite as needed (at areas deemed to be sensitive Blanding's turtle habitat) prior to, and during, construction. Under the direction of Central Hudson's Environmental Affairs Department, the responsibility of the Blanding's turtle monitor will generally include the following:

- Train all personnel working at the site to be aware of the Blanding's turtle habitat and be able to identify Blanding's turtles.

- Conduct reconnaissance surveys for Blanding's turtles within the work area prior to the initiation of disturbance activities. If a Blanding's turtle is located, the monitor will be notified immediately (if not already present) and the turtle will be relocated if required.
- Document the condition and effectiveness of any temporary restrictive barriers installed adjacent to work areas.
- Provide oversight during the disturbance phase of the Project.

Through effective implementation of these measures, adverse impacts to Blanding's turtle's and their habitat can be avoided and/or minimized.

### 3.4.2 Federally-Listed Species

EDR conducted a web-based review of the USFWS Information, Planning, and Conservation (IPaC) decision support system. This system is an online conservation planning tool intended to streamline the environmental review process. This online resource facilitates the siting of projects in a way that minimizes conflicts with natural resources prior to development activity. Results from the IPaC system indicates the possible presence of the following federally-listed species near the proposed Project or Dutchess County:

- Dwarf wedgemussel (*Alasmidonta heterodon*)
- Indiana bat (*Myotis sodalis*)
- Northern long-eared bat (*Myotis septentrionalis*)
- New England cottontail rabbit (*Sylvilagus transitionalis*)
- Bog turtle (*Clemmys muhlenbergii*)

However, based on an assessment of habitat on the Project Site, and proposed construction activities, no impacts to these federally-listed threatened or endangered species are anticipated from the proposed Project. The basis for this conclusion for each federally-listed species identified by the USFWS IPaC is presented below:

#### Dwarf Wedgemussel

Dwarf wedgemussels live embedded in the fine sediment that has accumulated between cobbles in slow to moderate current and relatively shallow water (40 cm or 16 inches) in small cool water streams and similar habitat in larger rivers (NYNHP, 2015b). The substrate can be muddy sand, sand, or gravel, but there is typically little silt deposition (Moser, 1993). Per the NYNHP Fact Sheet for the Dwarf wedgemussel, the extent of this species in New York is limited to a small area within the Delaware River watershed. Adverse impacts to dwarf wedgemussel habitat are not anticipated as a result of the Project since the G Line North ROW is located over 20 miles from Delaware River Watershed. In

addition, temporary crossing of streams associated with the Project will be completed via matting and no direct impacts to stream bottoms or substrate is proposed

#### Indiana bat

There are no adverse impacts to Indiana bat habitat anticipated. See section 3.4.1 above.

#### Northern long-eared bat

The northern long-eared bat, whose range encompasses all of New York State, is listed by the USFWS as threatened. Habitat for the summer period may include day roosts in buildings, under tree bark or shutters, or caves during the night. In the winter, hibernation sites are often in mines or caves, and this species may co-hibernate with other similar bat species. As a result of this co-habitation behavior, White Nose Syndrome has impacted this species and populations have become critically threatened. Compounding the adverse effects of this disease, human encroachment onto old growth and hardwood forests has also begun to adversely affect local populations. Foraging habitat includes forested hillsides and ridges, and small ponds or streams (USFWS, 2015), however current USFWS data does not indicate the presence of known hibernaculum or roost trees in the vicinity of the project. This Project proposes to conduct project-related tree clearing, if needed, in accordance with NYSDEC and USFWS clearing protocols. Therefore, given the lack of potential habitat near the project, and the willingness of the Applicant to conform to applicable NYSDEC and USFWS clearing guidance protocols, individuals of this species will not be impacted, and this Project is not anticipated to result in adverse impacts to the northern long-eared bat.

Additionally, indirect or other long-term adverse impacts to bat habitat are not anticipated since the work is primarily limited to an existing cleared ROW. The limited new clearing proposed is not anticipated to further fragment the existing forest and significant stands of forest cover will remain. Construction of the Project is not anticipated to create an impassable barrier for bats within the area, and operations will not introduce any new potential impacts (e.g., noise or light). As such, adverse impacts to bats are not anticipated.

#### New England Cottontail Rabbit

The USFWS lists the New England Cottontail as a candidate for federal threatened or endangered status, while New York has listed it as a species of special concern (NYNHP, 2015c). The New England Cottontail prefer early successional habitat that have undergone some form of disturbance such as agriculture fields and edges, and transportation corridors (NYNHP, 2015c). With the decrease in New England Cottontail habitat, the species has been in decline since the 1960s in southeastern New York. While the NYNHP did not indicate that this species has been documented in the vicinity of the G Line North ROW, the ROW does contain suitable habitat. However, construction of the Project will not result in permanent loss or alteration of habitat conditions within the existing ROW. However,



successional shrubland and edge habitats will remain following construction and will be maintained as part of the approved Long Range Vegetation Management Plan. Additionally, the most recent correspondence from the NHP dated September 3, 2014 does not identify New England Cottontail as occurring in the vicinity of the G Line North ROW. Therefore,, adverse impacts to New England Cottontail are not anticipated.

### Bog Turtle

The USFWS lists the bog turtle as threatened, while New York State lists this species as endangered. The state heritage rank is S2, indicating that the species is imperiled or highly vulnerable to extirpation. Although historically known to be present in much of the state, extant populations of this species are concentrated in the Hudson River Valley, including Dutchess County (NYNHP, 2015d). Bog turtles are found in open early successional wetland habitats such as wet meadows, sedge meadows, or open calcareous fens, generally dominated by sedges and sphagnum moss. Habitat for this species typically includes cool, shallow, slow-moving water, deep, soft muck soils, and tussock-forming, low-lying herbaceous vegetation. Both nesting and hibernation occur within wetland habitat, with eggs often laid inside the upper part of an unshaded tussock (Gibbs *et al.*, 2007).

While one open wet meadow that could represent potential bog turtle habitat occurs within the Project Site (Wetland D), no impact is anticipated, since impacts to Wetland D will be avoided by installing construction matting. Additionally, the most recent correspondence from the NHP dated September 3, 2014 does not identify bog turtles as occurring in the vicinity of the G Line North ROW. This suggests that bog turtles are unlikely to be impacted by Project-related activities.

### **3.5 Agricultural Land**

The G Line North includes approximately 38.4 acres of active agricultural land located within Dutchess County Agricultural Districts 20 and 22. Although portions of Agricultural District 20 are located along the ROW, no work is proposed in this district. To accommodate temporary construction access, pole replacement, and wire pulling, approximately 2.1 acres of ROW within Agricultural District 22 will be temporarily disturbed. A total of 26 new poles will also be installed in Agricultural District 22 and 38 existing poles will be removed. This is a reduction of 12 poles within Agricultural District 22. Central Hudson has coordinated the location of the new poles with landowners within these districts to reduce impacts to active agricultural uses in the area.

The old poles within the Agricultural Districts will be removed in their entirety to a depth of 48” and the cavities created by their removal will be filled. Depending on the time of year of the construction related activities in Agricultural District 22, the Applicant may have available a certified Agricultural Inspector, if needed, to evaluate the level of impacts post-construction. The applicant, in coordination with landowner preference, may consider implementing a range of

restoration measures such as soil de-compaction, aeration and regrading (as needed) in accordance with the NYS Department of Agriculture and Markets (NYSDAM) Guidelines for Electric Transmission Rights-of-Ways Projects.

### **3.6 Historic Structures or Registered, Eligible or Inventoried Archaeological Sites**

On October 2, 2014, the Applicant filed a Project Review Form for the Project and initiated consultation and correspondence with New York State Office of Parks Recreation and Historical Preservation (“NYSOPRHP”) regarding the Project’s potential effects on cultural resources. The NYSOPRHP replied via email and requested additional information regarding the heights of the proposed replacement pole structures. In addition, NYSOPRHP indicated that a limited Phase 1 archaeological survey should be conducted and referenced a survey for a previous CHG&E A-C transmission line rebuild that could serve as an appropriate scope and level of effort.

On behalf of the Applicant, EDR submitted a letter that described proposed analyses and level of effort to meet the NYSOPRHP concerns regarding archeology and the Project’s potential visual effects on historic properties, including a variety of sensitive sites (including Dutchess County Scenic Highways) as shown in Figure 5. Based on NYSOPRHP concurrence, EDR prepared a limited Phase 1B survey focused on the pole locations adjacent to Wappinger Creek near the northern portion of the ROW. This area was surveyed due to the concern for the presence of pre-contact Native American archeological resources. Other areas of the ROW were considered to have a relatively low potential for archeological sites to be present. The NYSOPRHP reviewed this report and project in a letter dated December 18, 2015, concluded that *“your Project will have no impact upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.”* See Agency Correspondence in Appendix C for a copy of the “No Effect” letter.

### **3.7 Waste Disposal Sites**

According to NYSDEC Division of Environmental Remediation (2008), there is one inactive hazardous waste disposal site within one mile of the Project. However, it is not located within the Project Site or its immediate vicinity. The closest inactive waste disposal site is the Jorgensen Residence, a State Superfund site located on Meddaugh Road in Pleasant Valley, approximately 0.4 miles west of the Project Site.

### **3.8 Visibility and Visual Character**

An analysis of the potential visibility and visual impact of the Project was undertaken to:

1. Identify visually sensitive sites located within a 1-mile radius of the Project centerline;
2. Determine the availability of open views of the Project (as determined through field evaluation);
3. Illustrate typical views from landscape settings where views of the Project will be available;

4. Illustrate typical views of the proposed Project that will be available to representative viewer/user groups within the visual Study Area; and
5. Illustrate views from a variety of viewer distances and elevations, to illustrate the range of Project visibility and visual change that will occur with the Project in place. Views were also selected to illustrate a variety of proposed structure types.

#### Viewshed Analysis

A 1-mile radius visual Study Area was mapped for the Project Site. Digital Elevation Model (“DEM”) data were obtained from the USGS (7.5 minute and 1:250,000 scale), and ESRI ArcView® software with the Spatial Analyst extension was used to define areas where both the existing and proposed poles on the G Line North would potentially be visible. The analysis was based on the location of individual existing transmission structures ranging in height from ±38 to 77 feet above ground level and proposed replacement structures ranging in height from ±38 to 75 feet. The resulting viewshed maps (see Figure 6) define the areas from which the top of any of these structures could potentially be seen from ground level vantage points within the 1-mile radius Study Area. These analyses as described below indicate that the impacts of the increase in pole heights are minor, and are clearly outweighed by the benefits of reduction in number of poles, streamlined and uniform appearance of new self-weathering steel poles, as well as overall consolidation of electrical infrastructure within the existing cleared ROW.

#### Existing Viewshed

The topographic viewshed map for the existing transmission structures (Figure 6a) suggests that, based on the topography alone, without consideration of vegetation screening or screening by structures, some portion of one or more of the existing transmission structures is potentially visible within 84.4% of the 1-mile radius Study Area. This "worst case" assessment of potential visibility indicates the theoretical area where any portion of the transmission structures could possibly be seen, without considering the screening effect of existing vegetation and structures. The screening effect of mapped forest vegetation reduces the area of potential visibility to approximately 19.3% of the Study Area. Vegetation viewshed mapping indicates that views of the existing structures are available on the ROW, along developed portions of County Route 47 and other high ground areas west of the ROW.

#### Proposed Viewshed

The topographic viewshed map for the proposed transmission structures (Figure 6b) suggests that, based on the screening effect of topography alone, some portion of one or more of the proposed transmission structures would potentially be visible within 86.3% of the 1-mile radius Study Area. Factoring in the screening effect of mapped forest vegetation reduces the area of potential visibility to approximately 20.4% of the Study Area. This represents a 1.1% increase in the area of potential transmission line visibility following completion of the proposed Project. Viewshed mapping indicates that views of the proposed structures will generally be available from the same locations and

landscape settings where the existing structures are visible (e.g., ROW, from County Route 47 and at higher elevations east of the ROW). Therefore, there will be no significant change in the transmission line visibility following the rebuild.

### Sensitive Sites

Aesthetic resources of local (overlay protection zones) and statewide significance (scenic areas, historic sites, parks, trails, etc.) located within the 1-mile radius Study Area of the rebuild Project include portions of the Town of LaGrange Ridgeline Overlay Zone, one National Register of Historic Places (NRHP)-listed historic site, James Baird State Park, and one designated scenic byway (see Figure 5). Field assessments verified that the existing ROW is generally not visible from these locations. There are portions of the existing ROW which are visible within the Town of LaGrange Ridgeline Overlay Zone (there are a total of 12 existing and 13 new poles in the overlay). However, these viewpoints are typically on-ROW from local road intersections with the ROW (see Figure 5). Further, the portions of the G Line North within the Ridge Line Overlay run alongside the ridge, rather than on top of the ridgeline, which limits the view of the corridor. A variance was issued by the Town of LaGrange ZBA for construction of the rebuild within the Ridge Line Overlay Protection Zone (refer to section 3.1 for additional information).

### Visual Simulations

On August 25, 2014 two EDR staff members visited the Study Area to document views of the existing transmission line. The purpose of this field investigation was to evaluate potential Project visibility based on actual field conditions and to obtain photographs and locational data for subsequent development of computer-generated visual simulations. Weather was clear and visibility remained good (*i.e.* no haze, low clouds or fog) throughout the day.

Photos were taken from 83 representative viewpoints (See Appendix D) within the 1-mile radius Study Area using a digital SLR camera, with a 50 mm lens setting to simulate normal human perception of scale and spatial relationships in the landscape. The time and location of each photo were noted on field maps and data sheets, and at each site it was determined whether the proposed Project would or would not be visible. This determination was based on the visibility of existing transmission structures. Global positioning system (“GPS”) readings were also taken at each viewpoint to document photo and reference point locations.

Field verification and photo documentation indicate that the actual visibility of the proposed station and transmission structures is likely to be even less than the vegetation viewshed mapping suggests. Areas of visibility were generally limited to local residences and roads immediately adjacent to the ROW, and a few open views across cleared agricultural fields within 0.5 mile of the proposed Project. No open views were documented from any of the aesthetic resources of statewide significance documented within the 1-mile radius Study Area. Therefore, no adverse visual impact to these resources is anticipated to result from Project construction.

Four viewpoints were selected to show representative views of the proposed Project. Viewpoints were selected for simulation because they offered the most open available views of the proposed lines. Because views from roads and other public vantage points were often at least partially screened by trees and/or houses, some of the selected viewpoints were taken directly under the transmission lines to obtain the most open view possible. Additionally, because distant visibility of the Project is limited (due to structure size and screening), the selected viewpoints are generally within or just outside the foreground distance zone (*i.e.* less than 0.5 mile). The locations of these viewpoints include the following:

**Table 6. Viewpoints Selected for Simulations and Evaluation**

Viewpoint Number	Location	View Orientation <sup>1</sup>
35	Drake Road	N
44	Storybook Lane	N
68	Vervalen Drive	SE
77	Todd Hill Substation on Bushwick Road	N

<sup>1</sup>N = North, S = South, E = East, W = West

These viewpoints are illustrated in the Visual Photolog in Appendix D. Computer-assisted visual simulations of the same views following completion of the proposed transmission line are included in Figures 7–10. A description of each simulation is provided below:

*Viewpoint 35 (Figure 7)*

Existing View

This view is from Drake Road, west of Halter Lane in the Town of Pleasant Valley, looking north toward the existing ROW. The foreground of this view includes a broad, flat portion of the maintained ROW. The right and left borders, provided by the edge of a mixed woodland, is located along the east and west edges of the ROW and clearly indicates the widths and scale of the maintained ROW. Steel and wood poles are visible along the western edge of the ROW, close to the maintained wood line. The visible pole heights in the backdrop indicate the topographic relief in this area.

Proposed Project

With the proposed Project in place, unobstructed views of replacement structures will be available from this viewpoint. The replacement poles will be situated further from Drake Road. The rebuilt transmission line is shifted from the west toward the center of the ROW. Therefore, the perceived land use and scale of the ROW remain unchanged (*i.e.*, no additional clearing). The new structures are consistent with the existing electrical

infrastructure on site. In a direct “before and after” comparison of photographs, the new poles appear slightly taller than the existing structures, which do not comply with NESC standards. However, as noted above, the increase in overall visibility of the line within the 1-mile radius viewshed is 1.1%, and it is doubtful that the difference in height would be observable in the “after” condition, especially considering the reduction in overall number of polls and the consolidation of infrastructure. The Project results in a relatively minimal impact on the skyline.

#### *Viewpoint 44 (Figure 8)*

##### Existing View

This view is located within the Town of LaGrange Ridgeline Protection Overlay Zone. The view is from Storybook Lane, looking north toward the existing ROW. The foreground of this view includes an undeveloped, generally flat vegetated roadside. The backdrop, provided by the edge of a mixed woodland, is located along the northeast edge of the ROW and clearly indicates the widths and scale of the maintained ROW. A mix of steel and wood poles are visible along the western edge of the ROW, close to the maintained wood line.

##### Proposed Project

With the proposed Project in place, unobstructed views of replacement structures will be available from this viewpoint. The replacement poles will be situated the roughly the same distances from Storybook Lane. The rebuilt transmission line is shifted toward the center of the ROW. Therefore, the perceived land use and scale of the ROW remain unchanged (i.e., no additional clearing). These new structures are consistent with the existing electrical infrastructure on site but are slightly taller than the original structures. However, there are fewer poles visible due to the replacement of an existing double-pole structure with a new steel monopole. This results in a relatively minimal impact on the skyline.

#### *Viewpoint 68 (Figure 9)*

##### Existing View

This view is from Vervalen Drive, east of Lafayette Court in the Town of LaGrange, looking southeast toward the existing ROW. The foreground of this view presents a developed residential neighborhood (paved roads, mowed lawn, and trees). The properties in this area are generally greater than 1 acre. The existing ROW is situated in background where it runs perpendicular to the road and within the same ROW as the A & C Lines. There is one double wood pole (C Line) and one monopole (G Line North) visible. There are houses and residential landscape amenities visible on both sides of the ROW.

### Proposed Project

With the proposed Project (including the rebuilt A & C Lines) in place, unobstructed views of replacement structures will remain from this viewpoint. The replacement G Line North pole will be situated further from Vervalen Drive. The rebuilt transmission line is shifted toward the center of the ROW. Therefore, the perceived land use and scale of the ROW remain unchanged (i.e., no additional clearing). In addition, there will be an overall reduction in visible poles (from three to two) upon completion of the G Line North. As a result, there will be a general consolidation of electrical infrastructure at this viewpoint. These new poles are consistent with the existing electrical infrastructure on site but are slightly taller than the original structures. This results in a relatively minimal impact on the skyline.

### *Viewpoint 77 (Figure 10)*

#### Existing View

This view is from the driveway of the Todd Hill Substation on Bushwick Road, west of Lauer Road, looking north toward the existing Todd Hill Substation and ROW. The existing curve of Bushwick Road, steep topography and existing cedar trees limit views of the existing substation from Bushwick Road, except at this location. The foreground of this view includes a developed driveway and fenced substation site. There are existing transformers, bus work, power control center, dead end structures, transmission, and distribution lines visible at this viewpoint.

#### Proposed Project

With the proposed Project in place, unobstructed views of the Todd Hill Substation remain. Since the substation expansion is located to the rear (north) of the substation, the top of the new transformer and bus work are visible. The heights of the new transformer, bus work, dead end structures, etc. generally matches the heights of the existing equipment.

In the backdrop, the distribution lines are no longer visible. Other electrical infrastructure and transmission poles have been consolidated. These new transmission poles and dead end structure are consistent with the existing electrical infrastructure on site but are slightly taller than the original structures. However, there are fewer poles visible due to the removal of the distribution line and these poles are located over 250 feet from Bushwick Road. This results in a relatively minimal impact on the skyline.

### Summary of Visibility Assessment

As indicated in the viewshed analysis maps, the proposed Project will not result in a substantial increase in the area where the transmission line is visible. Views of the rebuilt line will generally be limited to the areas at which the existing G Line structures are already visible. Because the Project is located within an existing transmission line ROW which

pre-dates most of the residential development in the surrounding area, runs parallel to the existing C line, and will not require additional expansion of ROW, the type and intensity of perceived land use and effect on neighborhood character will remain unchanged. Additionally, the rebuild design will consolidate much of the electrical infrastructure along the ROW by reducing the number of poles and conductors and by shifting the transmission line further toward the center of the ROW. This consolidation of infrastructure within the existing cleared ROW offsets any Project impacts associated with the minor increase in pole heights. In addition, the rebuild of the G Line North will consist of all new self-weathering steel poles of uniform design and appearance, which will be a visual improvement over the current G Line which is a mixture of wood and steel poles of various types and configurations. Overall, any visual impacts of the rebuild have been avoided and limited by re-use of an existing ROW, with very limited additional clearing. The presence of existing forest vegetation will continue to significantly screen the Project from public vantage points (see Figure 6), and the proposed dark brown color of the replacement structures will generally blend well with the surrounding landscape. Therefore, no significant adverse visual impacts are anticipated from the proposed action.

### **3.9 Public Notice**

Central Hudson is committed to extensive community outreach regarding the G Line North Rebuild Project. Central Hudson appeared before the Town of LaGrange Town Board on November 19, 2014 and the Town of Pleasant Valley Town Board on December 3, 2014 to present the initial rebuild concept and respond to questions from the Town Supervisor and Town Board. As the Project was refined, applications for Site Plan Review, including SEQRA, were filed with the Towns of LaGrange and Pleasant Valley Planning Boards in August and September 2015 respectively. Subsequently, Central Hudson appeared before the Town of Pleasant Valley Planning Board on October 13, 2015 and the Town of LaGrange on September 17 and October 15, 2015 to present the Project. Further public hearings were held as indicated above in Section 3.1.

Central Hudson has appeared at multiple meetings of the Planning Boards in both towns to present the project and associated SEQRA Review documents, and to respond to comments from the public and the Boards at scheduled noticed public hearings. After review of the record, which included Central Hudson's written responses to comments on the project, the Planning Boards of the Town of LaGrange and Town of Pleasant Valley adopted Resolutions of Site Plan Approval at their meetings of October 20, 2016 and November 15, 2016, respectively. In addition, Central Hudson applied for and was granted variances for height and other provisions of town zoning ordinances related to the project by the Zoning Board of Appeals in both towns. The ZBA actions were publicly noticed, in both towns, in accordance with local ZBA filing requirements. Upon completion of the public hearings and review of the record, the ZBAs in both towns approved the variances sought (See section 3.1).



### **3.10 Other Permits and Approvals**

CHG&E will consult with the New York State Department of Transportation, Dutchess County Department of Transportation and local highway authorities as needed, for any work within the highway rights-of-way. CHG&E will develop and implement maintenance and protection of traffic (“MPT”) plans as needed to secure required highway work permits. Project construction will need to comply with the Applicant’s NYSDEC Maintenance General Permit No. 0-000-01151-00010 and Central Hudson will notify the NYSDEC regarding authorization for coverage of work affecting NYSDEC regulated wetlands and streams.

The Project complies with US Army Corps of Engineers Section 404 Nationwide Permit No.12 for utilities and is considered a non-reporting action.

Central Hudson has filed Notices of Intent (NOI) to obtain coverage under the local Municipal Separate Storm Sewer Separation (MS4) regulations. The project Stormwater Pollution Prevention Plan (SWPPP) and NOIs have been reviewed by the local MS4s (Towns of LaGrange and Pleasant Valley). Final MS4 Acceptance Forms from the MS4 communities are currently being finalized per the local review process. Prior to construction, the NOIs will be forwarded to the NYSDEC, along with the completed local MS4 Acceptance Forms, to secure coverage under the State Pollution Discharge Elimination System (“SPDES”) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-001 or latest version).

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