STANDARD CERTIFICATE APPLICATION: NORTHERN COLUMBUS LOOP PIPELINE PROJECT (PHASE VII)

Appendices

APPENDICES

STANDARD CERTIFICATE APPLICATION: NORTHERN COLUMBUS LOOP PIPELINE PROJECT (PHASE VII)

Appendix A HDD feasibility Analysis Report

Appendix A HDD FEASIBILITY ANALYSIS REPORT



Northern Columbus Loop Natural Gas Pipeline Project (Phase VII)

Scioto River HDD Feasibility Assessment

October 30, 2020

REVISED

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Revision	Description	Author		Quality Check		Independent Review	
0	DRAFT	RAC	10/28/20	MJB	10/28/20	LAM	10/28/20

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Scioto River HDD Feasibility Assessment

Executive Summary

Columbia Gas of Ohio (COH) plans to construct a new 24-inch high pressure transmission class natural gas steel pipeline with associated 16-inch distribution class steel pipeline for a total of 16.59 miles. In addition, a launcher site and one district regulator station will be included as part of the project. The project begins near the intersection of Hyatts Road and Sawmill Parkway, extends northwest to U.S 42, crosses the Scioto River and extends southwest along U.S 42 ending near the intersection of Hyland Croy Road and McKitrick Road.

The Scioto River crossing is proposed as a Horizontal Directional Drill (HDD.) This document summarizes assessments of the feasibility of the crossing as an HDD, addressing:

- 1. Drillability of the anticipated subsurface formations;
- Constructability with respect to constraints such as workspace and identified overhead and buried utilities;
- 3. Acceptance criteria of the proposed pipe material with respect to installation and operating stresses; and,
- 4. Risks of hydro-fracture by comparison of the anticipated drilling pressures to the estimated subsurface formation limiting pressure.

The crossing is considered feasible with respect to assessments #2 and 3 above. However there is uncertainty regarding the potential presence of voids related to karst. In order to reduce this uncertainty, Stantec recommends a geophysical field investigation to attempt to further characterize the subsurface conditions, in particular interpreting the results for the presence of voids in karst formations that might impact drilling, pipe installation or longterm pipe integrity. Interpretation of the results of the geophysical field investigation will inform a re-evaluation of the drillability of the subsurface formations and risks of hydro-fracture, potentially suggesting mitigation measures or changing the current opinion on the feasibility of the crossing.

Scioto River HDD Feasibility Assessment

1.0 PROJECT DESCRIPTION

Columbia Gas of Ohio (COH) plans to construct a new 24-inch high pressure transmission class natural gas steel pipeline with associated 16-inch distribution class steel pipeline for a total of 16.59 miles. In addition, a launcher site and one district regulator station will be included as part of the project. The project begins near the intersection of Hyatts Road and Sawmill Parkway, extends northwest to U.S 42, crosses the Scioto River and extends southwest along U.S 42 ending near the intersection of Hyland Croy Road and McKitrick Road.

2.0 PURPOSE AND SCOPE

This document summarizes assessments of the feasibility of the crossing as an HDD, addressing:

- 1. Drillability of the anticipated subsurface formations;
- 2. Constructability with respect to constraints such as workspace and identified overhead and buried utilities;
- 3. Acceptance criteria of the proposed pipe material with respect to installation and operating stresses; and,
- 4. Risks of hydro-fracture by comparison of the anticipated drilling pressures to the estimated subsurface formation limiting pressure.

3.0 DESIGN PARAMETERS

The design methodology is in accordance with the following standards and guidelines:

- DOT Regulations 49 CFR Part 192
- ASME B31.8 (2016)
- "Installation of Pipelines by Horizontal Directional Drilling An Engineering Design Guide" PRCI PR-227-9424 (2008)
- "Pipeline Design for Installation by Horizontal Directional Drilling" ASCE MOP 108 (2014)

General crossing design parameters are provided in Table 1 below.



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Parameter	Unit	Scioto River HDD
Service		Natural Gas
Maximum Allowable Operating Pressure	psi	720
Maximum Design Temperature	۴	100 (assumed)
HDD Restraint Temperature	۴	40 (assumed)
Pipe OD	in	24
Pipe WT	in	0.375 (See note 1)
Pipe SMYS	ksi	X65
Density of Drilling Mud	ppg	10.0
Coefficient of Friction (Pipe to Soil)		0.3
Coefficient of Friction (Pipe to Rollers)		0.1
Coefficient of Fluidic Drag	psi	0.025
Notes:	0.375" and 0.5" nine. Bot	h wall thicknesses satisfy

Table 1 – Crossing Design Parameters

acceptability criteria. The values presented in this document are for the 0.375" wall thickness.

4.0 GEOTECHNICAL CONDITIONS

Stantec's report "Geotechnical Exploration and Findings Report" (September 4, 2020) provides findings and results of the projects geotechnical field investigations as well as information on the site geology for context. Three boreholes are relevant to the Scioto River HDD design, BL-24/25/26. BL-24 and BL-25 are on the northeast side of the river, close to the exit point, and BL-26 is on the southwest side close to the entry point.

BL-24 is 21' deep, encountering surficial material (topsoil and silty sand.)

BL-25 is 80' deep, encountering surficial material (lean clay, silty sand with gravel, sandy clay, clayey sand) overlying bedrock (limestone, sandstone, limestone.)



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In BL-25, the various layers of bedrock had samples/cores described as highly fractured or highly weathered with vertical fractures, shale stringers and vuggy areas (voids.) Coring notes indicated loss of water at 41' depth (835.4 feet above sea level (FASL),) which returned at 46' (830.4 FASL.) The unconfined compressive strength of samples on the limestone from BL-25 ranged from 13,000 to 22,720 psi.

BL-26 is 80' deep, encountering surficial material (lean clay, sandy lean clay, silty gravel with sand) overlying bedrock (limestone, siltstone, limestone.) In BL-26 the various layers of bedrock had samples/cores described as highly fractured or highly weathered with shale stringers and vuggy areas (voids.) The unconfined compressive strength of samples on the limestone from BL-26 ranged from 9,680 to 15,270 psi. The layer of silty gravel with sand is 10.1' thick, with sample SS-8 having 58% gravel and 29% sand.

The report mentions that there are karst areas along the pipeline alignment. A reference sourced from the Ohio Geology Publications Catalog, "Karst of the western Delaware County, Ohio," (<u>https://ohiodnr.gov/static/documents/geology/OFR2011_4_Aden_2011_mapbook.pdf</u>) notes that there are field verified karst features approximately 1000' from the proposed exit, and 3500' from the proposed entry. Stantec recommends a geophysical field investigation to attempt to further characterize the subsurface conditions, in particular interpreting the results for the presence of voids in karst formations that might impact drilling, pipe installation or longterm pipe integrity.



Scioto River HDD Feasibility Assessment

5.0 CROSSING DESIGN SUMMARY



Figure 1 and 2 show plan and pro file views of the crossing.

Figure 1: Plan View of Bore Alignment, Workspace and Approximate Equipment Layout



Figure 2: Bore Profile Geometry



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Table 2 summarizes key features of the crossing design. Aspects of the design that incorporate a mitigation measure are highlighted in bold text.

Lengths	~1495' (horizontal) ~1510' (total arc length)
Depths	~60' under Scioto River ~32' under Riverside Drive
Features Crossed	Wetland, Scioto River, Riverside Drive, Water line.
	See figure 1 for the drill alignment and workspaces.
Notes on Crossing Alignment, Profile & Workspace	 The entry is proposed to be on the southwest side of the river: the 10.1' thick gravel layer in BL-26 will need mitigation measures to improve bore stability, such as ~90' of 30-36" conductor casing installed to a target elevation of ~838 FASL. This amount of conductor casing has a high likelihood of being successfully installed and removed (by pneumatic hammering or other means) following installation of the pipe; the entry point is approximately 20' lower than the exit point, reducing the static head of drilling fluid and helping with management of drilling fluid; Drilling from the southwest side will reduce noise and other construction impacts to nearby residences near Riverside Drive. See figure 2 for the drill profile. The drill profile has a 12° entry angle and a 14° exit angle. The entry tangent is 120', adequate for the installation of ~90' of conductor casing with a 30' straight run to line up with the casing before the curved section. The maximum depth of the drill centreline is ~779.6 FASL, which is slightly above the bottom of the deepest borehole (BL-26 at 778.9 FASL.)
	The drill alignment has a slight horizontal curvature in order to stay in the easement that currently has a slight jog to the southwest of the Scioto River. Combined vertical and horizontal steering is required for the proposed alignment and profile, with a vertical curvature of 2400' and horizontal curvature of 7200'. Areas with combined curvature will have a combined radius of ~2275'. The contractor may be given opportunity to propose their own drill profile, but their drilling plan should be reviewed to ensure it satisfies stress requirements. The recommended steering tolerance for the pipe is 1800' (combined radius) over 100' measured depth (true distance drilled.)
	Drilling through limestone with unconfined compressive strengths on the
Notes on Drilling &	order of 20,000 psi will require a mud motor.
Pullback Operations	While the drilling direction is proposed to be southwest to northeast (primarily due to gravel in BL-26) there is not enough workspace to the northeast of the exit point for the full pullback string. There is more space available for the pullback string if it is

 Table 2 – Crossing Design Summary



Scioto River HDD Feasibility Assessment

	laid down to the southwest. It is recommended that after reaming the hole the drill rig be moved to the northeast side for pullback.
Unfactored Pullforce & Minimum Recommended Drill Rig Size	166,000 lbs (without buoyancy control) Minimum Recommended Drill Rig Size: 440,000 lbs. The minimum recommended drill rig size is partly based on the estimated pullforce, as well as torque and other operational requirements to drill through the anticipated bedrock.
Relevant Soil Borings & Notes on Anticipated Subsurface Conditions	 BL-24 (21') BL-25 (80') BL-26 (80') The 10.1' thick gravel layer in BL-26 requires mitigation measures to improve bore stability. The limestone bedrock with areas described as fractured and vuggy (along with loss of water in BL-25) indicates that there may voids related to karst encountered during drilling. Stantec recommends a geophysical field investigation to survey potential voids along the alignment.
Maximum Installation Stress	0.43 (Unity Check based on PRCI stress combinations and allowable of 60% SMYS as per API RP 2A-WSD R2014)
Maximum Operating Stress	0.69 (Unity Check based on PRCI shear stress allowable of 45% SMYS)
Maximum Recommended Tensile Load	600,000 lbs. In the case of the product pipe being stuck during pullback, more detailed evaluation may be required to determine limits for maximum pull force, maximum hammering loads and hammering duration.

6.0 HYDROFRACTURE ASSESSMENT

Hydro-fracture assessments are based on comparing the modelled maximum formation limiting pressure with the minimum drilling fluid annular pressure.

The maximum formation limiting pressure was modeled based on the industry accepted cavity expansion, "Delft", method. The formation was modeled using a simplified stratigraphy, assuming conditions similar to those encountered in boreholes BL-24, 25 & 26. The strength of the formation was modeled as purely cohesive with cohesion or undrained shear strength based on correlations of SPT-N values or unconfined compressive strength (divided by 2 for a corresponding shear strength.) The Delft model was not developed with weathered or fractured bedrock in mind, and the strength of the bedrock formation was further reduced to allow for these discontinuities.

The minimum total annular pressure consists of components for static head and frictional losses in the bore. Parameters for the pilot bore diameter and drill rod size were assumed based on expected drill rig sizes. Parameters for drilling fluid density, viscosity and yield point were assumed based on typical values.



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Figure 3 shows the annular pressure curves as modeled for this crossing. Through the majority of the crossing, the factor of safety (maximum formation limiting pressure divided by the minimum drilling fluid annular pressure) is greater than 4. In the last 150' of the drill (by the southwest edge of Riverside Drive) the factor of safety drops below 1.5.



Figure 3: Annular Pressure Curves

Inadvertent returns near the entry and exit points can occur as the drill is at shallow depths where the bore in less consolidated material may not remain stable. A general mitigation measure to reduce risks of inadvertent returns, near the exit is to reduce pumping for the last portion of the pilot hole, relying on tripping of the drill rod and minimal mud circulation to clean the pilot hole.

7.0 CONCLUSION & RECOMMENDATIONS

The Scioto River HDD is considered to be feasible with respect to workspace and site constraints as well as acceptability criteria for installation and operating stresses and loads.:

- Based on the subsurface investigation, the HDD profile is expected to be drilled through formations that are suitable for HDD, with mitigation measures such as conductor casing taken to address the gravel encountered in BL-26. However, Stantec recommends a geophysical field investigation to assess for the presence of voids related to karst;
- The crossing is considered to be feasible in terms of surface constraints and workspace for operations at the entry/exit locations and pullback section. It is recommended that the pullback be laid out to the southwest, with the drill rig moving from the entry to the exit side for pullback;
- The specified HDD crossing pipe satisfies acceptability requirements for installation and operating stresses and loads; and



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As modeled, the hydro-fracture assessments indicate the crossing has low risk of inadvertent returns within the central length of the drills, with the risk rising to moderate towards the exit. Despite these risks, the crossings are considered to be feasible, and mitigation measures have been suggested to address the risks. The suggested mitigation measures are proven and within the capabilities of experienced HDD contractors. However, Stantec recommends a geophysical field investigation to assess for the presence of voids related to karst.

Recommendations to address site specific risks include:

- Installation of conductor casing to a target depth of ~838 FASL, in order to stabilize the borehole through the layer of silty gravel with sand. The conductor casing is to be removed following pullback;
- Drilling southwest to northeast, but then moving the rig in order to pullback from southwest to northwest;
- Use of a mud motor in order to drill through the limestone bedrock; and
- The proposed alignment and profile require steering both horizontally and vertically at the same time. The contractor may propose their own profile subject to review and approval. The recommended drilling tolerance is 1800' combined curvature over 100' measured depth.

General recommendations in preparation for construction include:

- Allowing adequate time for regulatory and permitting requirements;
- Ensuring that HDD Contractor execution plans reflect practical implementations of the HDD design. The hydro-fracture assessment should be re-evaluated based on the HDD Contractor's execution and fluid management plans; and
- Ensuring clear understanding of the roles of the Pipeline Contractor, HDD Contractor, Environmental inspector, HDD construction inspector and other Company representatives with respect to safety and mitigation/response plans.



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Appendix B Columbia Gas Inadvertent Release Plan

Appendix B COLUMBIA GAS INADVERTENT RELEASE PLAN

Columbia Gas

Northern Columbus Loop Natural Gas Pipeline Project (Phase VII)

Horizontal Directional Drill Inadvertent Release Avoidance Plan

1 Introduction

Horizontal directional drilling (HDD) is recognized as the least environmentally disturbing construction technique available for installing pipelines under rivers and other obstacles. The primary alternative to HDD would be open trenching.

The measures presented in this plan will become integral components in the construction procedure.

The equipment to be used in an HDD operation includes: HDD rig, power unit/control cab, mud pump, mud mixing/cleaning plant, backhoe, crane, and other miscellaneous support supplies and equipment.

2 Purpose of the Plan

The purpose of this plan is to establish monitoring and response criteria that will minimize the environmental effects of the HDD operation. In particular, this plan addresses the containment and control of drilling fluids. The HDD operation uses drilling fluid to facilitate the drilling of a borehole and installation of the product pipe. The fluid also serves to stabilize the surrounding formations and provide a seal that reduces the risk of the fluid migrating into the formation. The fluid is composed of naturally occurring clay and water. The clay is insoluble and made up of small particles that function as both a lubricant for the drill head and pipe and a sealant that fills the pore spaces surrounding the drill hole. Various benign, non-toxic additives may be added to the drilling fluid to optimize its properties.

3 Loss or Release of Drilling Fluid

With HDD, it is possible that some of the drilling fluids will be lost in fractures within the formation. In cases where the fracture is horizontal these lost fluids will not surface.

While it is not anticipated, in other cases, drilling fluids may reach the surface (e.g., the fracture comes close enough to the surface that the pressure causes the release of drilling fluid above ground). Such a release is termed an inadvertent return.

A key to containing and controlling an inadvertent return is early detection and quick response by the HDD crew. This plan will identify the activities to be monitored and appropriate response actions to be taken to ensure that any release of drilling fluid is minimized. The plan outlines a process of monitoring the drilling fluid in order to identify a loss-of-returns situation and to determine if there is a release to the surface. Specific measures to be taken to reduce the amount and likelihood of surfacing drilling fluid, and other actions to be taken, are included.

As stated above, the drilling fluid mixture typically consists of water and bentonite clay. Inert, non-toxic polymers may be added to the mixture to improve its properties. In the event of an inadvertent return, Lost Circulation Materials (LCM) may also be added to the fluid. LCM's typically include cotton dust, cottonseed hulls, wood fiber, and mica and cedar fiber.

4 HDD Installation Process

A typical HDD installation starts with drilling a small diameter pilot hole. The pilot hole is then enlarged in successive increments until its diameter is large enough to accommodate the product pipe. This enlarging process is termed "reaming". Finally the previously assembled string of product pipe is pulled into the bore.

4.1 Pilot Hole Drilling

The drilling of the pilot hole includes the use of drilling fluid to run the drill motor or jet bit to cut through the earth material, to seal off fractures in the formation, to lubricate the drill pipe during installation, and to remove the drilled soil or cuttings from the bore. The drilling fluid is pumped down the inside of the drill pipe and exits through the drill bit. The fluid then can return to the surface at the rig site through the annular space between the outside of the drill pipe and the borehole. The fluid returning to the drill site is called "returns". At the beginning of the pilot hole, a large percentage of the drilling fluid returns to the rig site. As the drill progresses, more of the returns are absorbed by the earth or rock formation and are not returned to the rig site. It is not uncommon to not have any of the fluid return to the drill site during the majority of the bore, without any release of the fluid to the surface. The drilling fluid is usually absorbed by the formation or is drawn down into fractures. It is important to

understand that a loss of returns, even a complete loss of returns, is a fairly normal occurrence during HDD that does not necessarily mean the drilling fluid is coming to the surface or impacting the river bottom environment.

When the pilot hole is completed and the drill bit "punches out", a relatively small quantity of drilling fluid will be released at this surface point; however, it will be quickly contained and controlled.

4.2 Reaming and Pipe Pulling

Reaming will be carried out in either the same or the opposite direction from pilot hole drilling, whereas pipe will be pulled in from the opposite direction. The reamer will progress from one end to the other of the drilled hole. During reaming and pipe pulling a considerable percentage of the drilling fluid used will exit the borehole at either the "entry point" or the "exit point". The returns emitted at both sites will be collected and cleaned for recycling. Normally the primary "cleaning plant" will be located at the "entry point" next to the rig, therefore returns from the "exit point" must be cleaned with a second "pipeside" plant, or pumped back to the rig side via a "return line", or collected and trucked back via vac trucks.

During reaming and pipe pulling, drilling fluid may be lost into the surrounding formation in much the same manner as during the drilling of the pilot hole. The only significant difference is that the volumes of fluid that are used are larger.

During drilling of the pilot hole, reaming or pipe pulling, a complete and sudden loss of returns could be an indication that a significant ground fracture has been encountered. In most cases, the drilling fluids are drawn down by gravity or seal off the fracture. A complete and sudden loss of returns is a signal to the HDD crew to watch closely for a possible surface release. This plan uses this, as well as visual indications, as triggers for response and mitigation actions.

5 Typical Control Measures

Typical measures that are put in place to ensure that a release of drill fluid will be effectively dealt with include the following:

5.1 Training

Supervisory and other key personnel that will be on site will have received training with respect to the control and containment of drilling fluid. The training includes:

• the details of this plan;

- the need for environmental protection;
- environmental resources located at or near the site;
- specific permitting conditions and requirements;
- the need to monitor the HDD operation;
- lines of communication;
- lines of authority and responsibility,
- the information the HDD contractor will need to provide to the Owner and other site representatives;
- contact names and phone numbers of the appropriate individuals and agencies; and
- events that need to be reported and to whom.

5.2 HDD Monitoring

The site superintendent has the overall responsibility for monitoring the HDD operations for inadvertent returns. He may delegate this responsibility as he sees fit. The drill rig operator or driller is the individual who is responsible for monitoring drilling fluid pressures and fluid returns. In the event of a significant drop in down hole fluid pressure or fluid returns the driller will notify the site superintendent. The superintendent, with the assistance of the more senior crewmembers is also responsible for visually monitoring the length of the bore for inadvertent returns.

During the clean up of spilled drilling fluid, the characteristics of the fluid released, quantities of fluid being cleaned up, the extent of the release and any apparent effects, and general progress of work will be documented in the daily reports submitted to the Owner and in the driller's log.

5.3 Response & Notification

The HDD contractor shall immediately notify Owner's representative of any sudden losses in returns or any inadvertent returns. If an inadvertent return to the ground surface or into the river bottom is observed, the HDD contractor will take certain reasonable actions to eliminate, reduce, or control the release. The actions to be taken will depend on the location and time of release, the geologic conditions there and the volume of the release. This section outlines the response measures that will be implemented for inadvertent returns to the ground surface or into a river bottom.

5.4 Inadvertent Return to the Ground Surface

If a release occurs in an upland area, the HDD contractor will take appropriate reasonable actions to reduce, eliminate or control the release. The actions to be taken will depend on the location of the release point and the amount of fluid being released. The actions may include:

- Constructing a small pit or sand bag coffer around the release point, installing a section of geotextile filter fabric ("silt fence") and or hay bales to trap as much sediment as possible, and placing a pump hose in the pit to pump the drilling fluid back to the bore site;
- Using a Vac Truck to clean up and return the drilling fluids to the bore site to be recycled or if drill fluids are deemed unrecyclable take them to the pre approved disposal site;
- Reducing drilling fluid pressures;
- Thickening drilling fluid mixture;
- Adding pre-approved LCMs to the fluid mixture; and
- Ceasing pumping operations.

Which of these actions will be implemented will depend on the specific boring conditions at the time of the release and the volume of the release. The HDD contractor, in consultation with the Owner, will determine which methods are the most appropriate to eliminate, reduce or control the release. Drilling fluid that is recovered will be recycled and reused to the extent that is practical. The HDD contractor will document the nature of the release including physical characteristics of the fluid, the location and extent (area, estimated volume and duration), the modified procedures used to reduce the rate of leakage, and the extent to which these measures are successful in controlling or eliminating the release.

5.5 Inadvertent Return into a River Bottom

If an underwater release occurs, the HDD contractor will take appropriate reasonable actions to reduce, eliminate or control the release. The actions to be taken will depend on the location of the release point and the amount of fluid being released. The actions may include:

- reducing drilling fluid pressures;
- thickening drilling fluid mixture;

- adding pre-approved LCMs to the fluid mixture; or
- ceasing pumping operations.

The measures listed above can be used to limit or possibly stop the release of drilling fluid onto the river bottom. Which of these measures will be used will depend on the specific boring conditions at the time of the release and the volume of the release. The HDD contractor, in consultation with the Owner, will determine which methods are the most appropriate to eliminate, reduce or control the release. The HDD contractor will document the nature of the release including physical characteristics of the fluid, the location and extent (area, estimated volume and duration), the modified procedures used to reduce the rate of leakage, and the extent to which these measures are successful in controlling or eliminating the release.

5.6 Returns to Entry and Exit Points

Measures will be implemented to contain and control the drilling fluid at the HDD crossing entry point and exit point. These measures typically consist of the excavation of a small containment pit around the points. Pumps will be used to remove any fluid that collects in the pit and pump it to either a fluid cleaning system or to a steel storage tank. All drilling fluid that is recovered will be recycled and reused. It is normal that drilling fluid is spilled on the drill rig when threaded connections in the drill string are broken. This fluid will be contained and directed by means of a shallow trench to the entry pit where it will be collected and recycled.

5.7 Documentation

The daily reports that will be submitted to the Owner and the drillers log will contain all relevant information pertaining to any inadvertent returns and the measures implemented to contain and control them.

5.8 Cleanup

Immediately following the successful completion of the pipeline pullback, the HDD contractor will clean all affected areas of trash and debris. All excess drilling fluids remaining in pits and tanks will be collected and disposed of by:

- farming into the permanent ROW if permitted, or
- hauling to pre-approved disposal areas
- Final cleanup must be acceptable to the landowner, the project Owner, and controlling local, state and federal agencies.

5.9 Hole Abandonment Procedure

Abandoned drill holes penetrating unconsolidated materials or fractured bedrock should be sealed by grouting the entire length of the hole.

Drilled holes that have been contaminated or may cause an environmental hazard should be sealed by the pressure grout method. This is done with a conductor pipe, called a tremie pipe, starting at the end of the drill hole and slowly pulling the conductor pipe toward the entry point at a rate no faster than the grout material fills and displaces water from the hole and until the hole is completely filled. The grout mixture used should be a Portland cement mixed with 2 to 10 percent high solids bentonite clay mixed according to the correct water-to-cement ratio. Commercially available premixed bentonite grout designed for sealing wells may also be used. Drill pipe may be used as conductor pipe.

Abandonment must be acceptable to the landowner, the project Owner, and controlling local, state and federal agencies.

5.10 Post Project follow-up

Post project follow-up will only be necessary if a major or sustained release of drilling fluid occurs. The post project follow-up will include:

- video taping the locations where the release occurred;
- determining if environmental impact has occurred; and
- developing remediation actions in conjunction with the appropriate agencies.

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Appendix C Landowner Lists

Appendix C LANDOWNER LISTS

Columbia Gas of Ohio - Northern Columbus Loop Natural Gas Pipeline Project (Phase VII)

List of Easements for Preferred Route

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 001	City of Dublin Ohio, an Ohio Municipal Corporation	39-0024042.0010	5200 Emerald Pkwy. Dublin, OH 43017	VMS 2925	N
NCL A EAS 003	The Shoppes at Tartan Ridge, LLC	39-0014058.0020	6689 Dublin Center Dr. Dublin, OH 43017	VMS 2991	N
NCL A EAS 005	Board of Park Commissioners, Columbus and Franklin County, Metropolitan Park District	17-0014024.0010	9481 Hyland Croy Rd. Plain City, OH. 43064 1069 W. Main St. Westerville, OH 43081	VMS 2991	N
NCL A EAS 006	Board of Park Commissioners, Columbus and Franklin County, Metropolitan Park District	17-0014018.1000	9481 Hyland Croy Rd. Plain City, OH. 43064 1069 W. Main St. Westerville, OH 43081	VMS 2991	Ν
NCL A EAS 007	Board of Park Commissioners, Columbus and Franklin County, Metropolitan Park District	17-0014018.1000	9481 Hyland Croy Rd. Plain City, OH. 43064 1069 W. Main St. Westerville, OH 43081	VMS 2991	Ν

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 008	Board of Park Commissioners, Columbus and Franklin County, Metropolitan Park District	17-0011035.0000	8509 Brock Rd. Plain City, OH. 43064 9481 Hyland Croy Rd. Plain City, OH. 43064 1069 W. Main St. Westerville, OH 43081	VMS 6310	N
NCL A EAS 009	Board of Park Commissioners, Columbus and Franklin County, Metropolitan Park District	17-00110347.000	 9219 Brock Rd. Plain City, OH. 43064 9481 Hyland Croy Rd. Plain City, OH. 43064 1069 W. Main St. Westerville, OH 43081 	VMS 6310	N
NCL A EAS 010	Robert Leonard Caldwell	17-0011017.2000	8770 Brock Road Plain City, OH. 43074	VMS 5261	N
NCL A EAS 011	San Hua International/DBA Dublin Distribution Company	17-0011017.3020	PO Box 306 Puckett, MS, 39151 840 Industrial Parkway Plain City, OH 43064	VMS 5261	N
NCL A EAS 012	Glacier Ridge Acres, Ltd, an Ohio limited liability company	14-0011009.1020	846 Riverbend Ave. Powell, OH 43065	VMS 5261	Ν
NCL A EAS 013	Select Sires, Inc.	14-0011005.0000	11740 US Hwy 42 Plain City, OH 43064	VMS 5611	Y, 2024
NCL A EAS 014	Select Sires, Inc.	14-0011002.0010	11740 US Hwy 42 Plain City, OH 43064	VMS 5611	Y, 2024

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
			10944 Watkins California		
NCL A EAS 015	Schrader 1094, LLC	14-0011003.0000	Kd. Marwavillo, OH 42040	VMS 5611	Ν
			10944 Watkins California		
NCL A EAS 016	Schrader 1094, LLC	25-0011011.0000	Rd.	VMS 5610	Ν
			Marysville, OH 43040		
			10944 Watkins California		
NCL A EAS 017	Schrader 1094, LLC	25-0011010.0000	Rd.	VMS 5610	Ν
			Marysville, OH 43040		
NCL A EAS 018	Daniel A. Gamble, etals	25-0011009.0000	149 Squires Ct.	VMS 5610	Ν
			Powell, OH. 43065		
NCL A EAS 019	Daniel A. Gamble, Cheryl	14-0006012.0000	149 Squires Ct. Powell Obio 42065	VMS 3475	Ν
			11484 Watkins-California		
NCL A EAS 020	Kauffman Family Farm, LLC	14-0006010.0000	Rd.	VMS 3475	Ν
		11 0000010100000	Marysville, OH. 43040		
			11484 Watkins-California		
NCL A EAS 021	Kauffman Family Farm, LLC	14-0006010.0000	Rd.	VMS 3475	Ν
			Marysville, OH. 43040		
NCL A EAS 022	Daniel A. Gamble, Cheryl	14-0006012.0000	149 Squires Ct.	VMS 3475	Ν
	Burn and Diane Meadows	11 000001_0000	Powell, Ohio, 43065		
NCL A EAS 023	Daniel A. Gamble, etals	25-0011009.0000	149 Squires Ct.Powell,	VMS 5610	Ν
	Eve McKitziek and Malaalm		OH. 43065		
NCL A EAS 024	McKitrick Trustees	25-0011013.0000	Marysville OH 43040	VMS 5610	Y, 2024
			11835 Bell RD.		
NCL A EAS 025	Eva McKitrick, Trustee	14-0009004.0000	Marysville, OH. 43040	VMS 5234	Ν
		14 000000 0010	11740 U.S. Hwy. 42 N.	10.40 5004	N 2024
NCL A EAS 026	Select Sires, Inc.	14-0009008.0010	Plain City, OH 43064	V MIS 5234	Y, 2024

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 027	Select Sires, Inc.	14-0009009.0000	11740 U.S. Hwy. 42 N. Plain City, OH 43064	VMS 5234 SV 21-185	Y, 2024
NCL A EAS 028	Clarence James Fry- 1/3 int.; Peggy Minshall - 1/3 int.; Connie Jordan - 1/9 int.; James Barkeloo - 1/9 int.; Linda Knight - 1/9 int.	14-0009010.0000	6611 Letterman Dr. Powell, OH 43065	VMS 3244	Ν
NCL A EAS 029	Patrick J. Carter; Antonia Carter	25-0012015.0010	8916 Locherbie Ct. Dublin, OH 43017	VMS 5609; 201808300006954	Ν
NCL A EAS 030	David A. Class; Sandra S. Class	25-0012015.0000	8805 Harriot Rd. Marysville, OH 43040	VMS 5609	N
NCL A EAS 031	David A. Class; Sandra S. Class	14-0010001.0000	8805 Harriot Rd. Marysville, OH 43040	VMS 3005	N
NCL A EAS 032	Jerome Village Company, LLC	14-0010002.0000	375 North Front St. Columbus, Ohio 43215	VMS 3005	N
NCL A EAS 033	Jerome Village Community Authority, a new community authority created and existing pursuant to Chapter 349 of the Ohio Revised Code	14-0010002.2000	41 High Street Columbus, OH 43215 Attn: Greg Stype	VMS 3005	N
NCL A EAS 034	Conklin Dairy Farms, Inc.	25-0013024.0000	12939 U.S. Hwy. 42 Plain City, OH 43064	VMS 3006	N
NCL A EAS 035	Conklin Dairy Farms, Inc.	25-0013025.0000	12939 U.S. Hwy. 42 Plain City, OH 43064	VMS 3006	N
NCL A EAS 35B	Melvin R. Stewart, Trustee and Nancy K. Katzenbach, Trustee	25-0014020.0000	18755 Pine Lane Marysville, OH. 43040	VMS 2997	Ν
NCL A EAS 35C	Georg Patch JR and Teresa T. Perry	25-0014023.0000	7010 Blaney Road Delaware, OH 43015	VMS 2997	N

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 35D	Sophie's Venture	25-0014022.0000	5800 Griffiths Ln Powell OH 43065	VMS 2997	N
NCL A EAS 35E	John H. and Andrea R. Pugh	25-0014022.1000	7598 Concord Rd. Delaware, OH 43015	VMS 2997	N
NCL A EAS 35F	Jeremy W. and Laura A. Tiller	25-0014021.0000	7442 Concord Rd. Delaware, OH 43015	VMS 2997	N
NCL A EAS 35G	Ronald E. and Cynthia I. Kuhn	25-0014018.0000	8080 Concord Rd. Delaware, OH 43015	VMS 2997	N
NCL A EAS 35H	Stepha A. Lomax	25-0014016.0000	4900 Hyatts Rd. Delaware, OH 43015	VMS 2997	N
NCL A EAS 35I	GB Family Limited	25-0014015.0000	2181 Arlington Ave Columbus, OH 43221	VMS 2997	N
NCL A EAS 35J	Marilyn S. Johnson, Trustee	25-0014013.0000	8134 Concord Rd. Delaware, OH 43015	VMS 2997	N
NCL A EAS 041	MW US 42, LLC	25-0014009.0110	2550 Brixton Rd.Columbus, OH. 43221	VMS 2997	N
NCL A EAS 042	John L Holloway, Jr.	25-0014009.8000	7069 Watkins Rd. Delaware, OH. 43015	VMS 2997	N
NCL A EAS 043	William G. Fleming and Olive K. Fleming	25-0014009.0100	7100 Watkins Rd. Delaware, OH. 43015	VMS 2997	N
NCL A EAS 045	Frank L. Parrott, etals.	25-0014004.0010	363 St. Rt. 257 N. Ostrander, OH. 43061	VMS 2997	N
NCL A EAS 046	Frank L. Parrott, etals.	25-0014008.0000	363 St. Rt. 257 N. Ostrander, OH. 43061	VMS 2997	N
NCL A EAS 047	Frank L. Parrott, etals.	25-0003027.0000	363 St. Rt. 257 N. Ostrander, OH. 43061	VMS 1573	N
NCL A EAS 048	Frank L. Parrott, etals.	500-330-02-001-000	363 St. Rt. 257 N. Ostrander, OH. 43061	VMS 1573 - Lot B	Ν
NCL A EAS 048A	Del Co Water Company, Inc.	500-330-03-010-001	6658 Olentangy River Rd, Delaware, OH 43015	VMS 1573	Ν

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 049	Edwards Family Estates, Ltd.	500-330-03-010-000	3982 Powell Rd. Powell, OH. 43065	VMS 1573 - Lot 9	Y, 2022
NCL A EAS 050	Edwards Family Estates, Ltd.	500-330-03-009-000	3982 Powell Rd. Powell, OH. 43065	VMS 1573 - Lot A	Y, 2022
NCL A EAS 051	Edwards Family Estates, Ltd.	500-330-03-008-000	3982 Powell Rd. Powell, OH. 43065	VMS 1441 - Lots 3, 4 VMS 2992 - Lots 9	Y, 2022
NCL A EAS 052	Johnny A. Stoycheff and James A. Stoycheff	500-330-03-007-000	4912 St. Rt. 257 S. Delaware, OH. 43015	VMS 1441 - Lots 3, 4	N
NCL A EAS 053	Johnny A. Stoycheff and James A. Stoycheff	500-330-03-006-000	4912 St. Rt. 257 S. Delaware, OH. 43015	VMS 1441 - Lot 1	Ν
NCL A EAS 054	Brandon Grawe	500-330-03-007-001	8211 Campden Lakes Blvd. Dublin, OH 43016	VMS 1441 - Lots 1, 3, 4; Tract II	Ν
NCL A EAS 055	Brandon Grawe	500-330-03-006-001	8211 Campden Lakes Blvd. Dublin, OH 43016	VMS 1441 - Lot 1; Tract I	Ν
NCL A EAS 056	Michael A. Coughlin	500-340-01-002-000	8401 Dusinane Dr. Dublin, OH. 43017	VMS 1441 - Lot 2	N
NCL A EAS 056A	Timothy M. & Sally J. Brink	500-340-01-001-000	5370 Dublin Rd, Delaware, OH 43015	Lots 4216	N
NCL A EAS 056B	Jamie M. Hall	NOT YET ASSIGNED BUT LIKELY 500-310-08-007-001	6203 Dublin Road, Delaware, OH 43015	VMS L4216, Part of Lot 9	N
NCL A EAS 057	McCoy LF Holdings, LLC	500-310-08-007-000	5316 Dublin Rd. Delaware, OH. 43015	VMS 2673 - Lot 9	Y, 2022
NCL A EAS 057A	Robert E. & Susan A. Grossman	500-340-01-072-000	5401 Dublin Rd. Delaware, OH 43015	Lots 4291	N
NCL A EAS 057B	Sarah Rutland and Jamie Hall	500-310-08-007-001	5319 Dublin Rd. Delaware, OH 43015	VMS 2673-Lot 9	N

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 057C	Jerry T. and Diana L. Monahan	500-310-08-006-000	5291 Dublin Rd. Delaware, OH 43015	Lot 4597 Monahan Sub.	N
NCL A EAS 057D	Fred W and Paulette Laubie	500-310-08-004-000	5245 Dublin Rd. Delaware, OH 43015	Lot 4595 Monahan Sub.	Ν
NCL A EAS 057E	Darrin and Tammy M Clark	500-310-08-002-000	5225 Dublin Rd. Delaware, OH 43015	Lot 4593 Monahan Sub.	Ν
NCL A EAS 059	SSA Ltd.	500-310-08-001-000	3455 E. Broad St. Columbus, OH. 43213	VMS 2673	Ν
NCL A EAS 060	Diana L. Winters	500-310-08-001-001	5077 US Highway 42S Delaware, OH 43015	VMS 2673	Ν
NCL A EAS 061	City of Columbus Re: Real Estate Office	500-310-01-002-000	90 W. Broad St. Columbus, OH 43215	Land Survey 2673, FL3, O'Shaughnessy Reservoir and Watershed	Ν
NCL A EAS 062	Samuel J. Stafford and Lisa Stafford	500-310-06-001-000	4881 SR. 257 Delaware, OH. 43015	VMS 2673 - Lot 8	N
NCL A EAS 063	City of ColumbusRe: Real Estate Office	500-310-01-002-000	90 W. Broad St.Columbus, OH 43215	Land Survey 2673, FL3,O'Shaughnessy Reservoir and Watershed	Ν
NCL A EAS 064	N/A	99999907000000	N/A	Dedicated Road Right of Way Riverside Dr.	Ν
NCL A EAS 065	N/A	99999907000000	N/A	Dedicated Road Right of Way Riverside Dr.	Ν
NCL A EAS 066	William Frederick Schenk & Karen A Schenk	420-410-01-020-000	4575 US Highway 42 Delaware, OH. 43015	Lots PT 4058	Ν
NCL A EAS 067	William Frederick Schenk & Karen A Schenk	420-410-01-019-000	4575 US Highway 42 Delaware, OH. 43015	Lots PT 4058	N
NCL A EAS 068	William Frederick Schenk & Karen A Schenk	420-410-01-018-000	4575 US Highway 42 Delaware, OH. 43015	Lots PT 4059	N

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 069	*Christopher S. Hoffsis and Brian F. Hoffsis Glen F. Hoffsis, Trustee and Glen F. Hoffsis etal.	420-410-01-017-000	6040 Dublin Rd. Delaware, OH. 43015	Lots PT 4059	N
NCL A EAS 070	*Christopher S. Hoffsis and Brian F. Hoffsis Glen F. Hoffsis, Trustee and Glen F. Hoffsis etal.	420-410-01-016-000	6040 Dublin Rd. Delaware, OH. 43015 c/o David Gary	R20-S4-T4; 6 TO8-10-11	N
NCL A EAS 071	*MCD Farms, LLC, an Ohio limited liability company Marion C. Davis	420-410-01-077-000	6040 Dublin Rd. Delaware, OH. 43015	R20-S4-T4; 4, 5	Ν
NCL A EAS 072	William Stump and Robin Fleurette	420-410-01-071-000	4566 S. Section Line Rd.Delaware, OH. 43015 Wells Fargo Real Estate Tax Service, LLC AU 37602 PO Box 14506 Des Moines, IA 50306	R20-S4-T4; 4+E85D76E73:E83E73:E84	N
NCL A EAS 073	William R. Ash, Jr., Trustee	420-410-01-070-000	4620 S. Section Line Rd. Delaware, OH. 43015	R20-S4-T4; 4	Ν
NCL A EAS 073A	Mark E. Trucco	419-320-02-061-002	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15, Tract 3	Ν
NCL A 073B	Mark E. Trucco	419-320-02-062-000	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15	Ν
NCL A EAS 077	Mark E. Trucco	419-320-02-061-003	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15, Tract 4	Ν
NCL A EAS 078	Mark E. Trucco	419-320-02-061-004	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15, Tract 5	N

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 079	Mark E. Trucco	419-320-02-061-005	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15, Tract 6	N
NCL A EAS 080	Mark E. Trucco	419-320-02-061-006	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15, Tract 7	N
NCL A EAS 081	Mark E. Trucco	419-320-02-061-007	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15, Tract 8	N
NCL A EAS 082	Mark E. Trucco	419-320-02-064-000	3531 Airport Rd. Delaware, OH. 43015	R19-S4-T3; 15	N
NCL A EAS 083	William Calvin Arehart	419-320-02-065-000	4901 Section Line Rd. Delaware, OH. 43015	R19-S4-T3; 16	N
NCL A EAS 084	William G. Tordoff	419-320-02-065-002	4212 Village Club Rd. Powell, OH. 43065	R19-S4-T3; 16	N
NCL A EAS 085	Triken Inc.	419-320-02-067-000	4963 Liberty Rd. Delaware, OH. 43015	R19-S4-T3; 16	Y, 2022
NCL A EAS 086	Triken Inc.	419-320-02-068-000	3840 Bean-Oller Rd. Delaware, OH. 43015	R19-S4-T3; 17	Y, 2022
NCL A EAS 087	Michael A. Hope & Patricia K. Hope	419-320-02-068-001	3840 Bean-Oller Rd. Delaware, OH. 43015	R19-S4-T3; 17	N
NCL A EAS 088	Dulin Farms, Ltd.	419-330-01-008-000	7770 Dublin Rd. Delaware, OH. 43015	R19-S4-T3; 23	N
NCL A EAS 089	Bean Oller Farms, LLC	419-330-01-007-002	10679 Scarborough Way Powell, OH. 43065	R19-S4-T3; 23	N
NCL A EAS 090	Kelly Grinstead and Susan Grinstead	419-330-01-017-012	3702 Clark-Shaw Rd. Powell, OH. 43065	R19-S4-T3; 26, Tract II	N
NCL A EAS 091	Hassan Almasoodi; & Kathryn Medeiros & Lydia C. Medeiros	419-330-01-017-010	1637 Park Row Dr. Columbus, OH. 43235	R19-S4-T3; 26, Tract 13	Ν
NCL A EAS 092	Hassan Almasoodi; & Kathryn Medeiros & Lydia C. Medeiros	419-330-01-018-001	1637 Park Row Dr. Columbus, OH. 43235	R19-S4-T3; 26, p/o Tract 13	Ν

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 093	John K. Hartman & Kay L. Hartman	419-330-01-018-003	3554 Clark-Shaw Rd. Powell, OH. 43065	R19-S4-T3; 26, Tract 15	N
NCL A EAS 094	Eric B. Sainey & Cherie J. Sainey	419-330-01-018-005	3510 Clark-Shaw Rd. Powell, OH. 43065	R19-S4-T3; 26, Tract 17	Ν
NCL A EAS 095	John K. Hartman & Kay L. Hartman	419-330-01-018-004	3554 Clark-Shaw Rd. Powell, OH. 43065	R19-S4-T3; 26, Tract 16	N
NCL A EAS 096	Eric B. Sainey & Cherie J. Sainey	419-330-01-018-005	3510 Clark-Shaw Rd.Powell, OH. 43065	R19-S4-T3; 26, Tract 17	N
NCL A EAS 097	Inez Morales	419-330-01-018-006	708 E Kossuth Street Columbus, OH 43206-2449	R19-S4-T3; 26, Tract 18	N
NCL A EAS 098	Christopher J. Lape & Lisa J. Lape	419-330-01-018-007	3460 Clark-Shaw Rd. Powell, OH. 43065	R19-S4-T3; 26, Tract 19	N
NCL A EAS 099	Harold Devault	419-340-01-012-001	3388 Clark-Shaw Rd. Powell, OH. 43065	R19-S4-T3; 27	N
NCL A EAS 099A	Mohammad & Shirin E. Asadi	419-340-01-012-000	19172 Bension Dr, Santa Clarita, CA 91350	R19-S3-TR; 27	N
NCL A EAS 100	M/I Homes of Central Ohio, LLC, an Ohio limited liability company	419-340-02-016-003 (Parcel # change from P# 419-340- 02-016-000 to P# 419-340-02-016- 003)	3 Easton Oval, Suite 300, Columbus, OH. 43219	R19-S4-T3; 30-31-34-3 - Hyatts to Clark-Shaw SEC 1	Ν
NCL A EAS 101	Clarkshaw Reserve I, LLC	419-340-02-014-001	Clarkshaw Reserve I, LLC 470 Olde Worthington Rd. Westerville, OH 43082	R19-S4-T3; 30, 35	N
NCL A EAS 102	Carolyn Edwards	419-340-02-012-000	2917 Clark-Shaw Rd.Powell, OH 43065	R19-S4-T3; 30-35	N
NCL A EAS 103	Donald Scott Bauder and Kathy J. Bauder	419-340-02-008-000	2855 Shoemaker Rd. Delaware, OH 43015	R19-S4-T3; 29-30-35-36	N

Easement No. (Preferred Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL A EAS 104	Clarkshaw Reserve I, LLC	419-340-02-020-000	Clarkshaw Reserve I, LLC 470 Olde Worthington Rd. Westerville, OH 43082	R19-S4-T3-37	Ν
NCL A EAS 105	Robert L. Curmode and Marian P. Curmode, Trustees of the Robert L. Curmode Revocable Trust, or their successors in trust	419-344-01-030-000	2808 Hyatts Rd. Powell, OH 43065	R19-S4-T3-37	N
NCL A EAS 105A	Robert L. Curmode and Marian P. Curmode, Trustees of the Robert L. Curmode Revocable Trust, or their successors in trust	419-344-01-031-000	2808 Hyatts Rd. Powell, OH 43065	R19-S4-T3-37	N
NCL A EAS 106	Robert L. Curmode and Marian P. Curmode, Trustees of the Robert L. Curmode Revocable Trust, or their successors in trust	419-344-01-028-000	2808 Hyatts Rd. Powell, OH 43065	R19-S4-T3-37	N

Columbia Gas of Ohio - Northern Columbus Loop Natural Gas Pipeline Project (Phase VII)

Easement No. (Alternate Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL B EAS 001	City of Dublin Ohio, an Ohio Municipal Corporation	39-0024042.0010	5200 Emerald Pkwy. Dublin, OH 43017	VMS 2925	N
NCL B EAS 002	City of Dublin Ohio, an Ohio Municipal Corporation	39-0024042.2020	5200 Emerald Pkwy. Dublin, OH 43017	VMS 2925	N
NCL B EAS 003	The Shoppes at Tartan Ridge, LLC	39-0014058.0020	6689 Dublin Center Dr. Dublin, OH 43017	VMS 2991	N
NCL B EAS 004	City of Dublin Ohio, an Ohio Municipal Corporation Ohio	17-0014024.0020	5200 Emerald Pkwy. Dublin, OH 43017	VMS 2991	N
NCL B EAS 005	City of Dublin Ohio, an Ohio Municipal Corporation Ohio	17-0024016.1010	5200 Emerald Pkwy. Dublin, OH 43017	VMS 2925	N
NCL B EAS 006	Board of Park Commissioners of the Columbus and Franklin County Metro Parks District	17-0024016.1000	1069 W. Main St. Westerville, OH 43081	VMS 2925	Ν
NCL B EAS 007	Jeremy John Float	17-0024015.0000	7941 McKitrick Rd. Plain City, OH. 43064	VMS 2925	N
NCL B EAS 008	Abdelraouf Solaiman & Souhaila Solaiman	17-0024014.0000	8035 McKitrick Rd. Plain City, OH. 43064	VMS 2925	N
NCL B EAS 009	Karsten G. Koester and Sandra G. Koester	17-0024013.0000	8045 McKitrick Rd. Plain City, OH. 43064	VMS 2925	N
NCL B EAS 010	John M. Jaye & Gaylynn J. Speas, Trustees of the Jaye/Speas Living Trust Dated June 20, 1995.	17-0024012.0000	8069 McKitrick Rd. Plain City, OH. 43064	VMS 2925	Ν
NCL B EAS 011	Jeffrey L. Kenyon and Heather J. Kenyon	17-0024011.0000	8079 McKitrick Rd. Plain City, OH. 43064	VMS 2925	N

List of Easements for Alternate Route

Easement No. (Alternate Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL B EAS 012	Randall W. Poff, Jr., & Lauren Poff	17-0024010.1000	8095 McKitrick Rd. Plain City, OH. 43064	VMS 2925	Ν
NCL B EAS 013	Cathy Reynolds and Reid Reynolds	17-0024010.0000	8111 McKitrick Rd. Plain City, OH. 43064	VMS 2925	Ν
NCL B EAS 014	Board of Park Commissioners of the Columbus and Franklin County Metro Parks District	17-0024009.0000	1069 W. Main St.Westerville, OH 43081	VMS 2925	Ν
NCL B EAS 016	Susannah Ross and Kevin Barney Ross	17-0024004.0000	8180 McKitrick Rd. Plain City, OH. 43064	VMS 2925	Ν
NCL B EAS 017	Douglas P. Duco and Cynthia A. Duco	17-0024003.0000	8266 McKitrick Rd. Plain City, OH. 43064 PO Box 961262 Fort Worth, TX 76161	VMS 2925	N
NCL B EAS 018A	Chad A & Rachel L Haas	17-00240090.120	10077 Juliana Cir. Powell, OH 43065	VMS 2925 Parcel B	Ν
NCL B EAS 018B	John M. & Patricia A. Deane	17-00240094.000	8285 McKitrick Rd., Plain City, OH 43064	VMS 2925	Ν
NCL B EAS 019	Robert G. Chapman & Lynda L. Chapman	17-0024009.1000	8343 McKitrick Rd. Plain City, OH. 43064	VMS 7181	Ν
NCL B EAS 020	Wicked Chicken, LLC	17-0026025.0000	12877 Darby Creek Road, Orient, Ohio 43146	VMS 7181	Ν
NCL B EAS 021	Scott N. Danhof and Melanie Danhof	17-0026018.0000	8240 Mitchell Dewitt Rd. Plain City, OH. 43064	VMS 7181	Ν
NCL B EAS 022	Jeffrey Stamps & Nancy Creadon Stamps, Trustees under The Jeffrey and Nancy Family Trust dated December 18, 2010	17-0026019.0010	8210 Waterford Way Plain City, OH. 43064	VMS 7181; Lot 1 Waterford Estates Subdivision	N

Easement No. (Alternate Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL B EAS 023	Waterford Estates Subdivision Clemans Development Co.	17-0026019.0150	3899 Indian Ripple Rd. Beavercreek, OH. 45440	VMS 7181* Common Area	N
NCL B EAS 024	Clemens Development Co.	17-0026019.0120	3899 Indian Ripple Rd.Beavercreek, OH. 45440	VMS 7181 *Common Area*Waterford Estates Subdivision	N
NCL B EAS 025	John P. Walker and Angela M. Parker	17-0026020.0240	8300 Avalon Ln. Plain City, OH. 43064	VMS 7181; Lot 22	Ν
NCL B EAS 026	The Woods at Labrador	17-0026020.0570	148 W Schrock Rd. Westerville, OH. 43081	VMS 7181; R/W	Ν
NCL B EAS 027	Board of Park Commissioners of the Columbus and Franklin County Metro Parks District	17-0026017.1000	1069 W. Main St. Westerville, OH 43081	VMS 7181	Ν
NCL B EAS 028	Board of Park Commissioners of the Columbus and Franklin County Metro Parks District	17-0026017.0000	1069 W. Main St. Westerville, OH 43081	VMS 7181	Ν
NCL B EAS 029	Michael A. Davis and Lori J. Davis	17-0023018.0000	8841 Mitchell Dewitt Rd. Plain City, OH. 43064	VMS 6581	Ν
NCL B EAS 030	James C. Mitchell and Michelle D. Mitchell	17-0022038.0010	551 W. Twin Park Pkwy. San Tan Valley, AZ. 85143	VMS 6310 OR 729-708 SV 19-282	Y, 2024
NCL B EAS 031	Jerry L. Scott and Judith Ellen Scott, Trustees of the Jerry Lynn Scott Trust dated July 21, 1998	17-0011029.0020	5102 Sandpiper Lane S. St. Petersburg, FL. 33711	VMS 6310/6581/5134 Tract C	Ν

Easement No. (Alternate Route)	Title Owner	Parcel No.	Mailing Address	Legal Description (R-S-T-ML)	Ag. District Land (Y/N), Expiration Date
NCL B EAS 032	Crag D. Scott, Trustee of the Craig D. Scott Revocable Living Trust, U/A August 27th, 2010	17-00110292.000	9679 Brock Rd. Plain City, OH. 43064	VMS 6310 VMS 6581 VMS 5134	Ν
NCL B EAS 033	Select Sires, Inc.	14-0011004.0000	11740 U.S. Hwy. 42 N. Plain City, OH 43064	VMS 5611	Y, 2024
NCL B EAS 034	Select Sires, Inc.	14-0011041.0000	11740 U.S. Hwy. 42 N. Plain City, OH 43064	VMS 5611	Y, 2024
NCL B EAS 035	Schrader 10944, LLC	14-0011003.0000	10944 Watkins California Rd.Marysville, OH 43040	VMS 5611	Ν
NCL B EAS 036	Schrader 10944, LLC	14-0006017.0000	10944 Watkins California Rd. Marysville, OH 43040	VMS 10620	Ν
NCL B EAS 037	Schrader 10944, LLC	14-0006016.0000	10944 Watkins California Rd. Marysville, OH 43040	VMS 10620	Ν
NCL B EAS 038	Schrader 10944, LLC	14-0006013.1000	10944 Watkins California Rd. Marysville, OH 43040	VMS 3475	Ν
NCL B EAS 039	Daniel A. Gamble, Cheryl Burn and Diane Meadows	14-0006012.0000	149 Squires Ct. Powell, Ohio, 43065	VMS 3475	Ν
NCL B EAS 039A	Kauffman Family Farm, LLC	14-0006010.0000	11484 Watkins-California Rd. Marysville, OH. 43040	VMS 3475	Ν
NCL B EAS 040	Select Sires, Inc.	14-0011002.0010	11740 U.S. Hwy. 42 N. Plain City, OH 43064	VMS 5611	Y, 2024

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NCL B EAS 040A	Malcolm McKitrick, Trustee of the Malcolm McKitrick Trust dated September 22, 2005 and Eva McKitrick, Trustee of the Eva McKitrick Trust dated September 22, 2005	14-0011001.0000	11835 Bell Rd. Marysville, OH. 43040	VMS 5611	Y, 2025
NCL B EAS 041	Malcolm C. McKitrick, Trustee of the Malcolm C. McKitrick Trust Dated September 22, 2005.	25-0011013.0000	11835 Bell Rd. Marysville, OH 43040	VMS 5610	Y, 2024
NCL B EAS 042	Eva McKitrick, Trustee of the Eva McKitrick Trust Dated September 22, 2005.	14-0009005.0000	11835 Bell Rd. Marysville, OH 43040	VMS 5234	Y, 2024
NCL B EAS 043	Select Sires, Inc.	14-0009008.0010	11740 U.S. Hwy. 42 N. Plain City, OH 43064	VMS 5234	Y, 2024
NCL B EAS 043A	Select Sires, Inc.	14-00090280.000	11740 U.S. Hwy. 42 N. Plain City, OH 43064	VMS 5234	Y, 2026
NCL B EAS 044	Select Sires, Inc.	14-0009009.0000	11740 U.S. Hwy. 42 N.Plain City, OH 43064	VMS 5234SV 21- 185	Y, 2024
NCL B EAS 045	Clarence James Fry- 1/3 int.; Peggy Minshall - 1/3 int.; Connie Jordan - 1/9 int.; James Barkeloo - 1/9 int.; Linda Knight - 1/9 int.	14-0009010.0000	6611 Letterman Dr. Powell, OH 43065	VMS 3244	Ν
NCL B EAS 046	Patrick J. Carter; Antonia Carter	25-0012015.0010	8916 Locherbie Ct. Dublin, OH 43017	VMS 5609; 201808300006954	Ν
NCL B EAS 047	David A. Class; Sandra S. Class	25-0012015.0000	8805 Harriot Rd. Marysville, OH 43040	VMS 5609	Ν
NCL B EAS 048	David A. Class; Sandra S. Class	14-0010001.0000	8805 Harriot Rd. Marysville, OH 43040	VMS 3005	Ν

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NCL B EAS 049	Jerome Village Company, LLC	14-0010002.0000	375 North Front St. Columbus, Ohio 43215	VMS 3005	Ν
NCL B EAS 050	Jerome Village Community Authority, a new community authority created and existing pursuant to Chapter 349 of the Ohio Revised Code	14-0010002.2000	41 High Street Columbus Ohio 43215, Attn: Greg Stype	VMS 3005	Ν
NCL B EAS 051	Conklin Dairy Farms, Inc.	25-0013024.0000	12939 U.S. Hwy. 42 Plain City, OH 43064	VMS 3006	Ν
NCL B EAS 052	Conklin Dairy Farms, Inc.	25-0013025.0000	12939 U.S. Hwy. 42 Plain City, OH 43064	VMS 3006	Ν
NCL B EAS 053	Shane D. Ball; Julie C. Ball	25-0014032.0000	884 Hyatts Rd. Delaware, OH 43015	VMS 2997; 201708220006870	Ν
NCL B EAS 053A	SOI Properties #9 LLC	25-0013026.0000	13220 US 42 Plain City, OH 43064 and 4637 Cranleigh Ct Dublin, OH 43016	VMS 3006 201312180004458	Ν
NCL B EAS 055	Shelly Materials, Inc., an Ohio Corporation	25-0014014.0000	80 Park Dr. PO Box 266 Thornville, OH 43076	VMS 2997, 201812050009573	N
NCL B EAS 056	GB Family Limited Partnership C/O: Justin M. Bird	25-0014015.0000	2181 Arlington Ave. Columbus, OH 43221	VMS 2997	N
NCL B EAS 057	GB Family Limited Partnership	600-220-02-018-000	15110 Shoreline Dr. Thornville, OH 43076	None	Ν
NCL B EAS 058	Riverside Highlands, LLC, an Ohio Limited Liability Company	600-220-01-016-000	470 Olde Worthington Rd. Westerville, OH 43082	None	Ν
NCL B EAS 059	The Board of County Commissioner of Delaware County, Ohio	600-210-02-022-001	101 N. Sandusky St. Delaware, OH 43015	None	N

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NCL B EAS 060	The Board of County Commissioner of Delaware County, Ohio	600-220-01-004-001	101 N. Sandusky St. Delaware, OH 43015	None	Ν
NCL B EAS 061	The Board of County Commissioner of Delaware County, Ohio	600-220-01-003-001	101 N. Sandusky St. Delaware, OH 43015	None	Ν
NCL B EAS 062	Barbara M. Crook, Trustee of the Barbara M. Crook Trust UAD February 22, 2018	600-220-01-003-000	4138 N. Merion Ct. Florence, AZ 85132	None	Ν
NCL B EAS 063	John Arrillaga, Trustee or an Successor Trustee(s) thereto of John Arrillaga Survivor's Trust under Trust Agreement dated July 20, 1977, as amended C/O: Peery Arrillaga	600-220-01-001-000	2450 Watson Ct.Palo Alto, CA 94301	None	N
NCL B EAS 064	William R. Cochran, husband of Donna E. Cochran, and Donna E Cochran, wife of William R Cochran, for their joint lives, remainder to the survivor of them	500-340-01-009-000	5740 Griffiths Ln. Powell, OH 43065	None	N
NCL B EAS 065	City of Columbus Re: Management Office	500-310-01-002-000	90 W. Broad St. Columbus, OH 43215	None	Ν
NCL B EAS 066	William S. Bartz and Mary T. Bartz, for their joint lives, remainder to the survivor of them	420-440-02-017-000	6231 Riverside Dr. Powell, OH 43065	None	N
NCL B EAS 067	Alice E. McDowell	420-440-02-016-000	8324 Glencree Pl. Dublin, OH 43016	None	Ν

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NCL B EAS 068	Mariann Blair, as Trustee of The Mariann Blair Revocable Living Trust, dated 3/11/13	420-440-02-030-000	2298 Southwood Dr. The Villages, FL 32162	None	Ν
NCL B EAS 069	Gregory J. Wittkorn; Valerie L. Wittkorn	420-440-02-001-011	5840 S. Section Line Rd. Delaware, OH 43015	None	Ν
NCL B EAS 070	Whitetail Pines, LLC, an Ohio limited liability company	420-440-02-001-014	4745 Clark Shaw Rd. Powell, OH 43065	None	Ν
NCL B EAS 072	Mark E. Ross & Kriss A. Ross	419-330-02-012-000	5801 S. Section line Rd. Delaware, OH 43015	None	Ν
NCL B EAS 073	Mark E. Ross & Kriss A. Ross	419-330-02-014-000	5801 S. Section line Rd.Delaware, OH 43015	None	Ν
NCL B EAS 074	Heath E. Ross	419-330-02-013-000	5907 S. Section line Rd. Delaware, OH 43015	None	Ν
NCL B EAS 075	Mark E. Ross & Kriss A. Ross	419-330-02-014-000	5801 S. Section line Rd. Delaware, OH 43015	None	Ν
NCL B EAS 076	Scioto Reserve Master Association Inc.	419-330-11-036-000	3755 Attucks Dr. Powell, OH 43065	None	Ν
NCL B EAS 077	Scioto Reserve Master Association Inc.	419-330-11-021-000	3755 Attucks Dr. Powell, OH 43065	None	Ν
NCL B EAS 078	Scioto Reserve Master Association Inc.	419-330-11-004-000	3755 Attucks Dr. Powell, OH 43065	None	Ν
NCL B EAS 079	William Bridges AND Sara Bridges, for their joint lives, remainder to the survivor of them	419-330-02-048-008	6063 Chancel Gate Dr. Delaware, OH 43015	None	N
NCL B EAS 080	Nicola N. Ailabouni & Miriam A. Ailabouni, husband and wife, for their joint lives, remainder to the survivor of them	419-330-02-048-009	1325 S. Main St. Found Du Lac, WI 54935	None	N

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NCL B EAS 082	James Michael Jackson and Susan Massaro Jackson, husband and wife, for their joint lives, remainder to the survivor of them	419-330-02-061-000	4025 Hyatts Rd. Delaware, OH 43015	None	N
NCL B EAS 083	Timothy S. Boysel, and Patricia Boysel, Husband and Wife, for their joint lives, remainder to the survivor of them	419-330-02-062-000	3001 Hackberry Irving, TX 75063	None	N
NCL B EAS 084	Roger C. Stahl & Catherine H. Stahl, husband and wife, for their joint lives, remainder to the survivor of them	419-330-02-063-000	4200 Hyatts Rd.Delaware, OH 43015	None	Ν
NCL B EAS 085	Homewood Corporation, an Ohio corporation	419-330-02-064-000	2700 E. Dublin Granville Rd. Columbus, OH 43231	None	N
NCL B EAS 086	Homewood Corporation, an Ohio corporation	419-330-02-065-000	2700 E. Dublin Granville Rd. Columbus, OH 43231	None	N
NCL B EAS 087	Rockford Homes, Inc., an Ohio corporation	419-330-02-006-000	999 Polaris Pkwy. Columbus, OH 43240	None	Ν
NCL B EAS 088	Woodcrest Reserve LLC	419-330-02-004-000	470 Olde Worthington Rd. Westerville, OH 43082	None	Ν
NCL B EAS 089	Clarkshaw Reserve II LLC, an Ohio limited liability company	419-340-02-016-000	470 Olde Worthington Rd. Westerville, OH 43082	None	Ν
NCL B EAS 090	Clarkshaw Reserve I LLC, an Ohio limited liability company	419-340-02-014-001	470 Olde Worthington Rd. Westerville, OH 43082	None	N

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NCL B EAS 091	Rockford Homes, Inc., an Ohio corporation	419-340-02-019-001	1252 Goshen Pike Milford, OH 45150	None	N
NCL B EAS 091A	Carolyn Edwards	419-340-02-012-000	2917 Clark-Shaw Rd. Powell, OH 43065	R19-S4-T3-30-35	Ν
NCL B EAS 091B	Donald Scott Bauder and Kathy J. Bauder	419-340-02-008-000	2855 Shoemaker Rd. Delaware, OH 43015	R19-S4-T3; 29- 30-35-36	Ν
NCL B EAS 092	Clarkshaw Reserve I LLC	419-340-02-020-000	470 Olde Worthington Rd. Westerville, OH 43082	None	Ν
NCL B EAS 093	Robert L. Curmode and Marian P. Curmode, Trustees of the Robert L. Curmode Revocable Trust, or their successors in trust	419-344-01-030-000	2808 Hyatts Rd. Powell, OH 43065	None	Ν
NCL B EAS 093A	Robert L & Marian P Curmode, Co-Trustees	419-344-01-031-000	2008 Hyatts Rd, Powell OH, 43065	R19-S4-T3-37	Ν
NCL B EAS 094	Robert L. Curmode and Marian P. Curmode, Trustees of the Robert L. Curmode Revocable Trust, or their successors in trust	419-344-01-028-000	2808 Hyatts Rd. Powell, OH 43065	None	Ν