

Expedition Generating Station

Fluvanna County Planning Commission – Oct. 7, 2025

Jarrold Pitts, Senior Director, Project Development

Larry Carlson, Vice President, Environmental Affairs

Austin Zigler, Manager, Environmental Programs

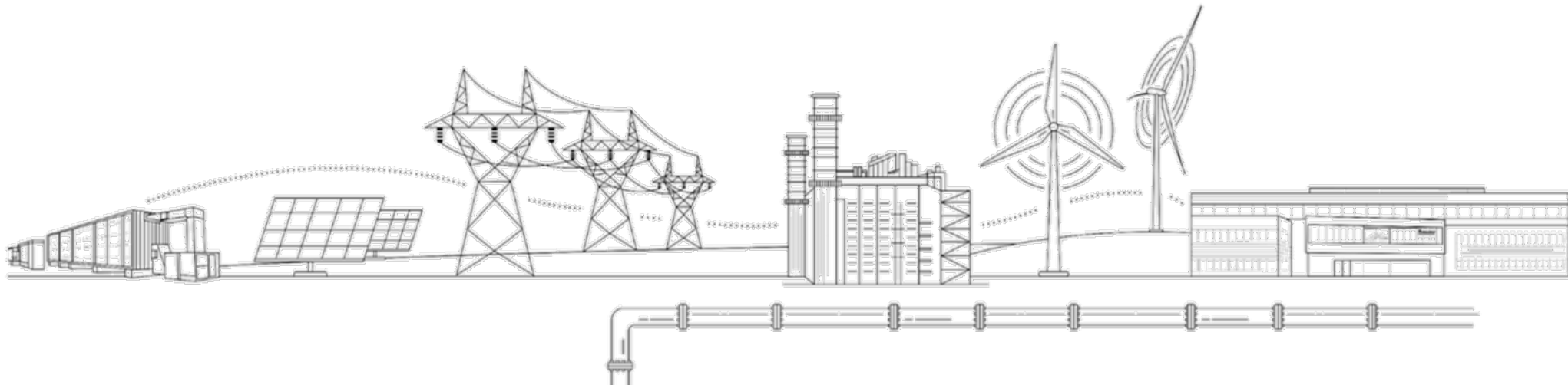
Blair Debban, Senior Project Manager, Engineering

Timberly Ross, Senior Director, Community Relations

Tenaska & Fluvanna County

About Tenaska

- ▶ One of the largest private energy companies in the U.S.
- ▶ Founded in Omaha, Nebraska, in 1987
- ▶ Got our start developing natural gas power plants and evolved over time to include wind, solar, batteries and carbon capture and storage
- ▶ Affiliates are best in class in marketing natural gas and electric power



Tenaska Virginia Generating Station

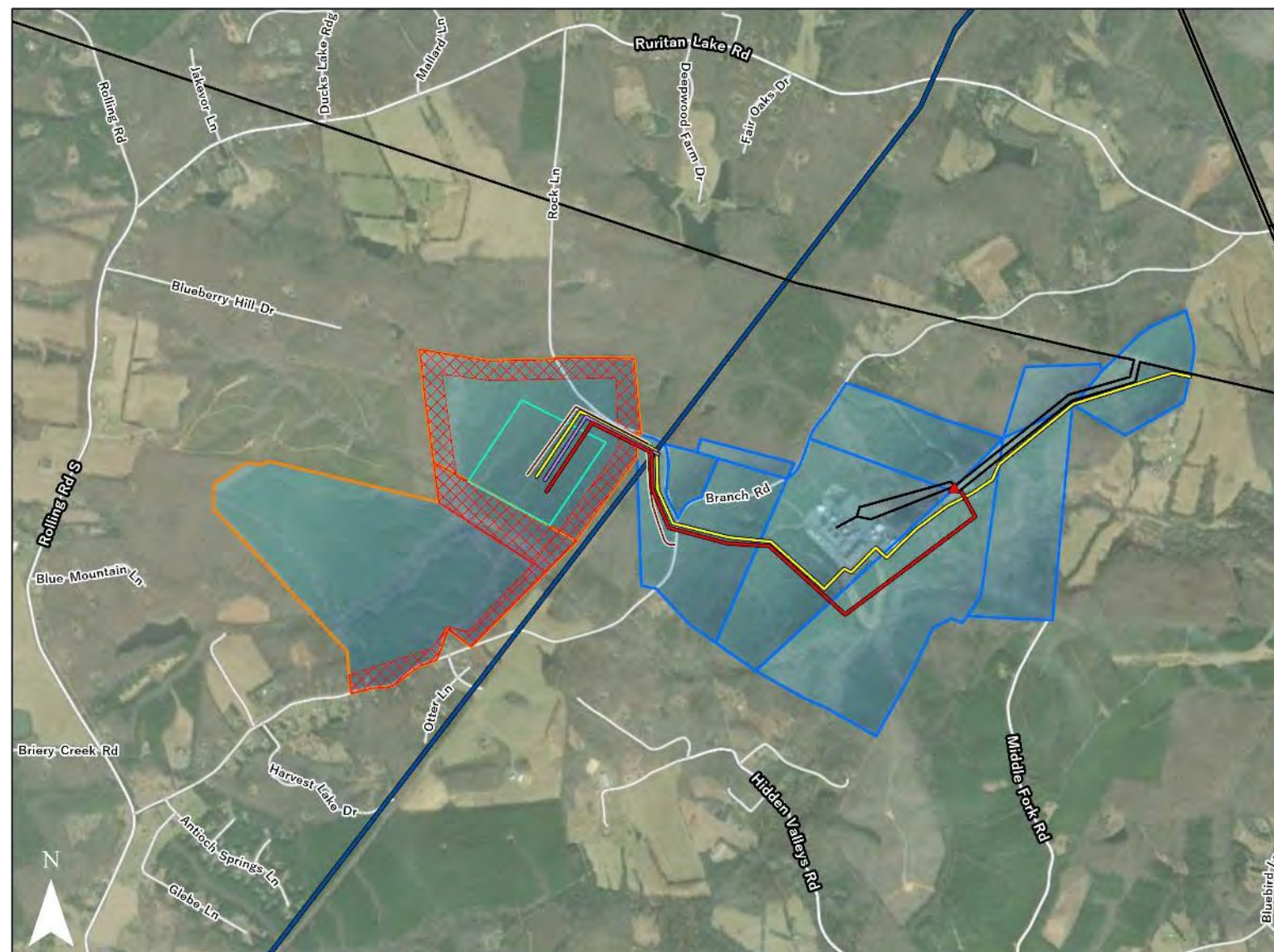
- ▶ Natural gas-fueled combined-cycle generating station
- ▶ 940 megawatts of reliable power, enough for 940,000 homes
- ▶ Operating safely and reliably since 2004
 - Numerous awards from the National Safety Council
 - Voluntary Protection Program Star Worksite – a certification from OSHA considered the industry's highest safety achievement
 - Exemplary record of environmental compliance
- ▶ Good business neighbor
 - \$34.9 million in tax revenue to date
 - 29 stable, well-paying jobs
 - Collaborates with first responders, schools and other community organizations

Expedition Generating Station

Expedition Generating Station

- ▶ Natural gas-fueled power plant able to generate up to 1,540 megawatts, enough power for 1.5 million homes
- ▶ Natural gas remains the cleanest fossil fuel for dispatchable and reliable power generation
- ▶ Market demand for dispatchable natural gas generation is growing amid forecasted power need
- ▶ Selected for PJM Reliability Resource Initiative (among 51 projects in 13 states selected to be “fast tracked” for reliability purposes)
- ▶ This location is attractive due to access to existing transmission corridors, water supply and natural gas pipelines

Proposed Site



Minimal Viewshed Impacts

- ▶ Existing Tenaska facility is minimally visible from the roadway
- ▶ New plant would be situated on no more than 13% of the total site, providing ample setbacks and visual buffers
- ▶ Existing trees and natural topography of the area will further mitigate viewshed impacts
 - Minimum tree buffer of 300 feet
- ▶ Neutral paint colors and landscaping will enhance the aesthetic look
- ▶ Outdoor lighting would be shielded



Rendering: Aerial View Northeast of Project



Directional View from Branch Road East of Project



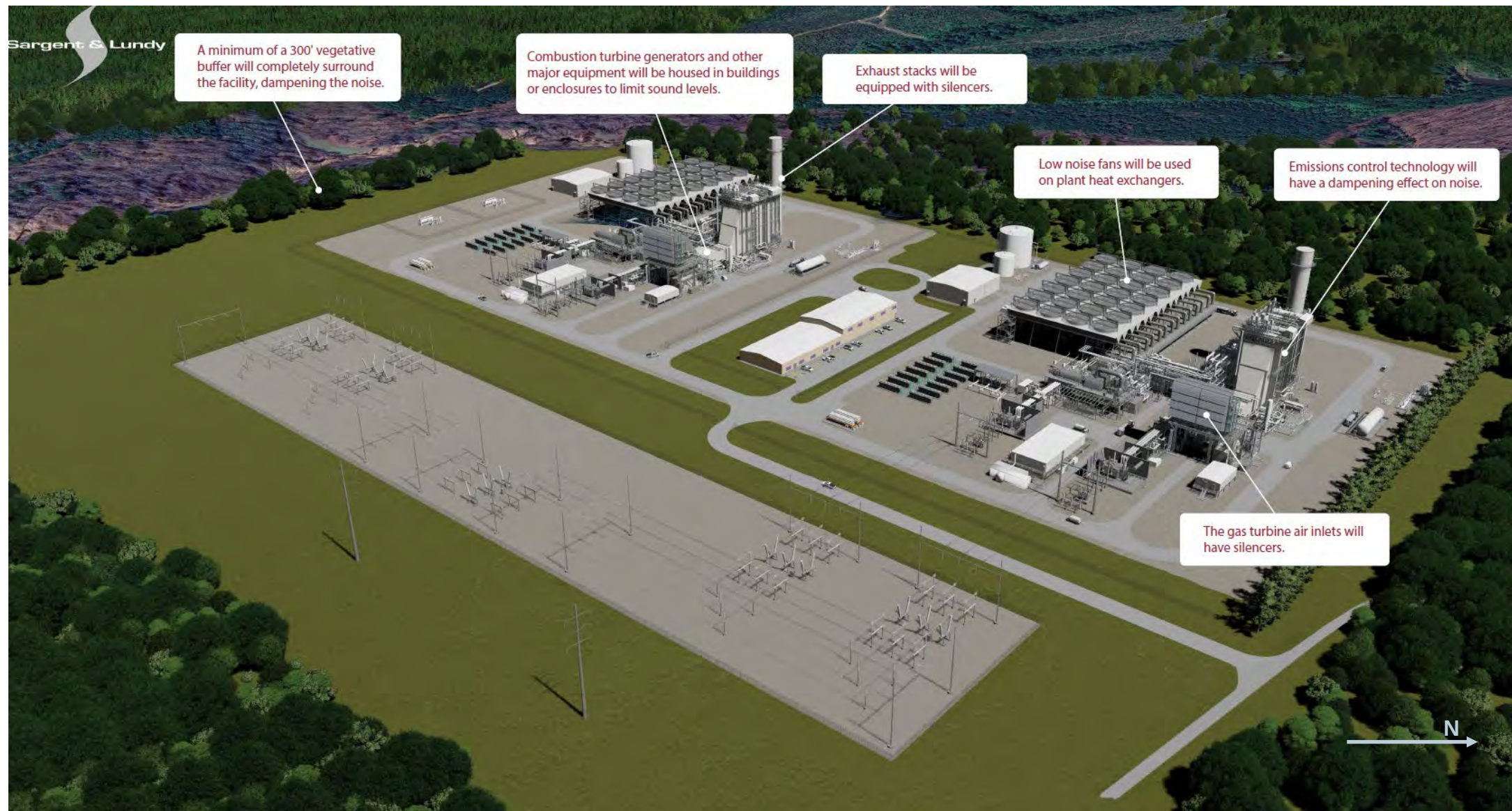
Rendering: Directional View from Branch Road Southeast of Project



Sound Mitigation

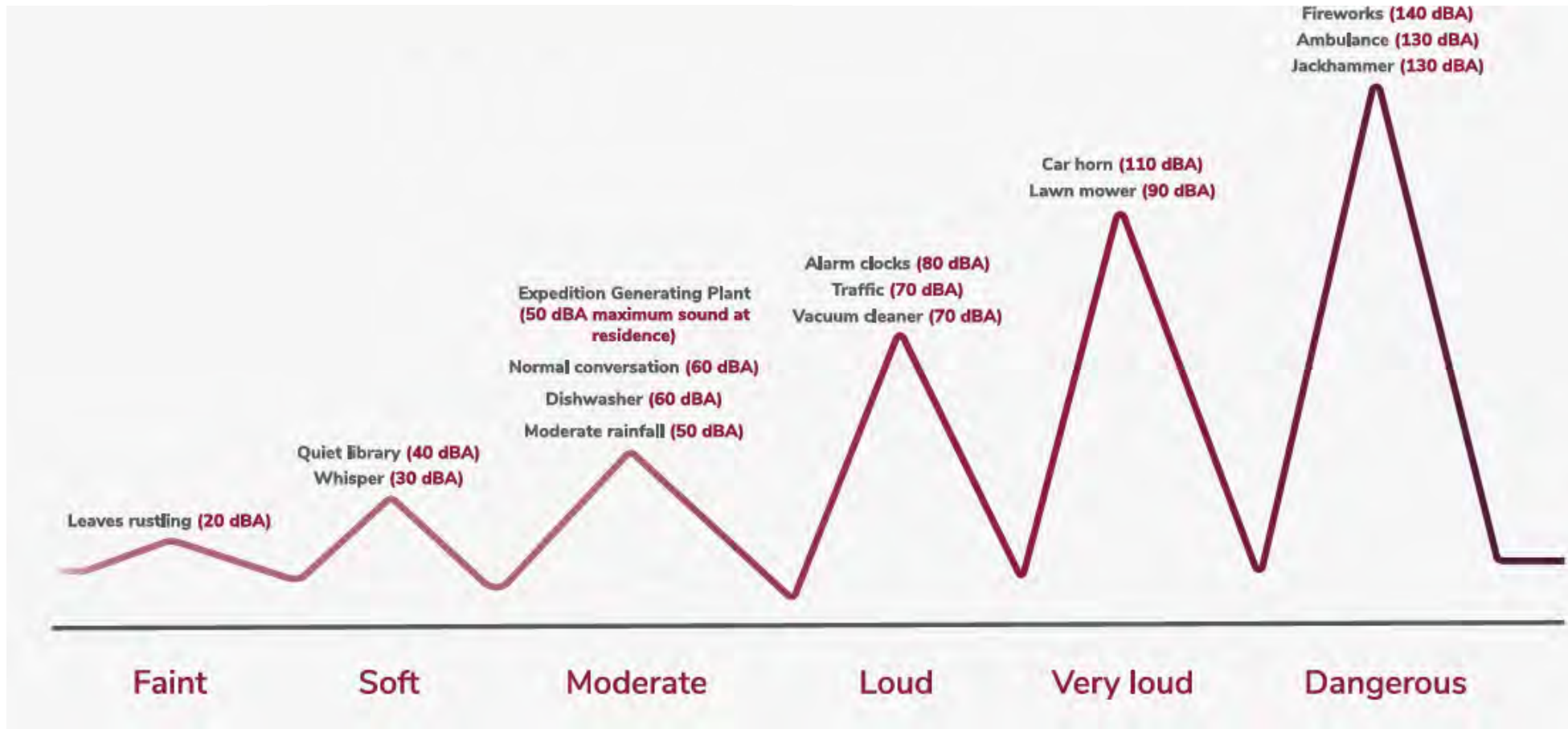
- ▶ Tenaska recognizes that sound is an important concern for the community
- ▶ Third-party analysis of sound, sound dissipation and sound mitigation
- ▶ Plant would be situated on no more than 13% of the total site, providing ample sound and visual buffers
- ▶ Tenaska will invest in sound mitigation equipment for the new plant

Sound Mitigation



Sound

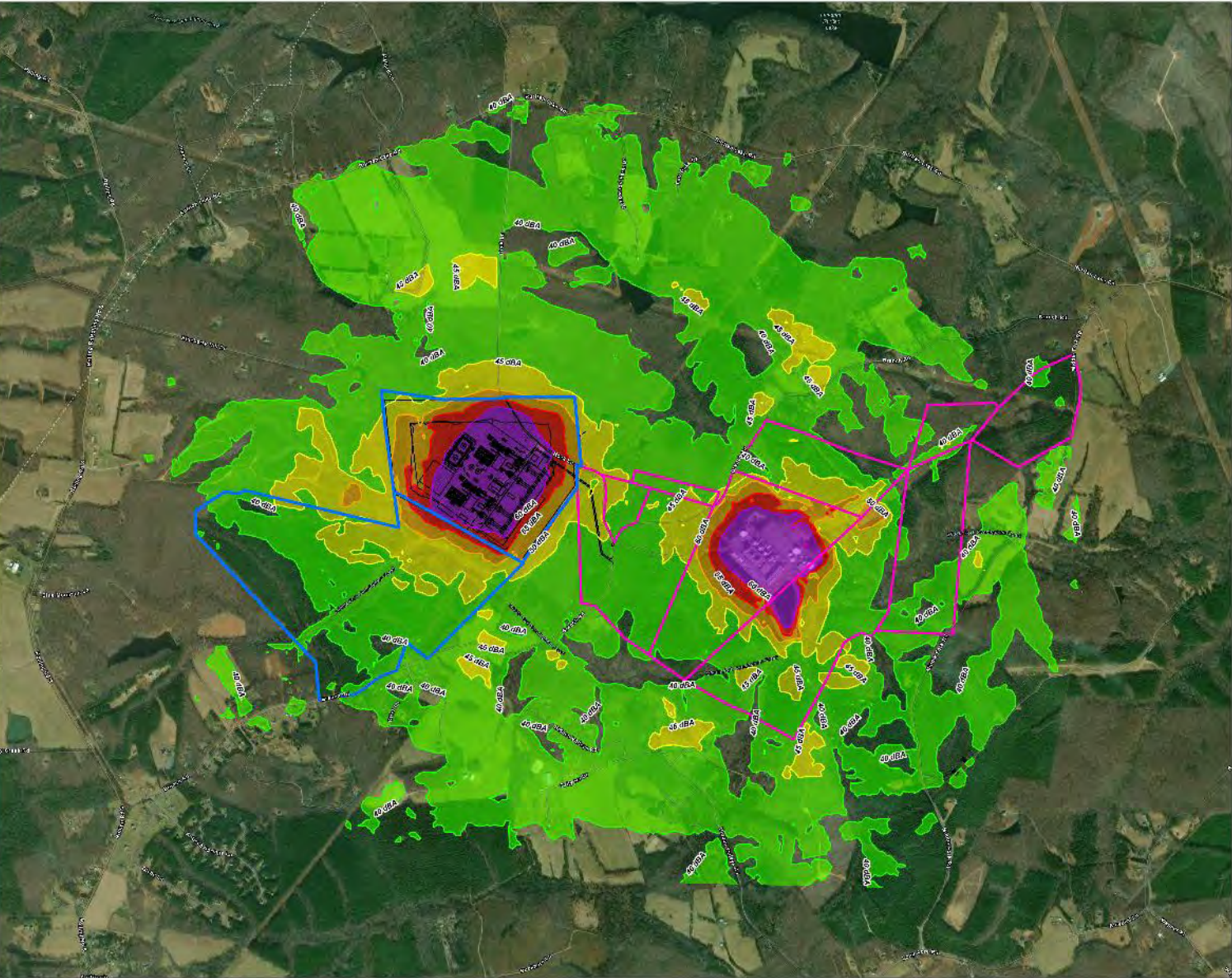
Sound is typically measured in decibels (dBA)



Comparable Sound Standards

- ▶ U.S. EPA Sound Standards:
 - Noise Control Act of 1972 Guideline: Ldn of 55 dBA at residences
- ▶ Review of U.S. Ordinances:
 - Noise Pollution Clearinghouse in 2016 reviewed over 500 ordinances
 - At residences, averaged 61 dBA during the day and 54 dBA at night
- ▶ Sound limits in other Virginia counties are less stringent
 - Albemarle's ordinance for Rural Areas and Residential is 60 dBA for day, 55 dBA at night
 - Louisa's ordinance in Ag and Residential districts is 65 dBA for day, 55 dBA at night
- ▶ Existing Tenaska facility:
 - SUP requires 50 dBA at residences

Sound Modeling



Legend

- Expedition Project Parcels
- Tenaska Virginia Generating Station Parcels
- Preliminary Site Plan

Noise Contours (dBA)

- >60
- 55-60
- 50-55
- 45-50
- 40-45

Noise Contours (dBA)
Expedition Generating Station
Fluvanna County, Virginia



Traffic Management

- ▶ Prior to construction, the project will develop a detailed traffic management plan
 - Evaluate the number, direction of travel and timing of light vehicles travelling to the site and consider existing traffic and school traffic patterns to ensure minimal disruption
 - Work to avoid exacerbating peak travel times by ensuring plant workers arrive outside of those peak times or avoid congested areas
 - Work with VDOT, local schools and the county to select routes that are safe and optimize flow of traffic
 - Provide an adequate construction parking area on our property
 - Carefully schedule deliveries and follow approved travel routes; signage will be provided to ensure that delivery vehicles do not deviate from approved routes
 - Delivery vehicles prohibited from parking or staging along public roads
 - Pre-construction condition of roads will be carefully documented by a third-party engineer prior to the project; roads will be restored post-construction to as good or better condition

Air Quality – Design and Regulatory Considerations

- ▶ Natural gas is the cleanest available fossil fuel for dispatchable and reliable power generation
- ▶ Ultra-low sulfur diesel will be used minimally as backup when natural gas supply is challenged
- ▶ “Best Available Control Technology” will be utilized
- ▶ To protect human health and the environment, the facility will be required to obtain and comply with the following permits from the Virginia Department of Environmental Quality (VDEQ):
 - Prevention of Significant Deterioration (PSD) Air Quality Permit, prior to construction
 - Title V Operating Permit, after start of operation

Air Quality – National Ambient Air Quality Standards

- ▶ The Clean Air Act establishes the process for protecting public health from air emissions; this is done through National Ambient Air Quality Standards that are based on criteria allowing for an adequate margin of safety and are requisite to protect the public health
- ▶ The primary NAAQS standards provide public health protection, including the health of “sensitive” populations such as asthmatics, children and the elderly
- ▶ In 2024, the EPA under the Biden administration significantly strengthened the annual standard for PM 2.5; the new standard was widely praised by public health organizations
- ▶ The EPA Administrator certified that the new standard would protect – with an adequate margin of safety – the health of at-risk populations including children, older adults, those with pre-existing cardiovascular and respiratory diseases and minority populations

¹ www.epa.gov/criteria-air-pollutants/naaqs-table

Air Quality – Existing Plant Modeling Results

**Tenaska Fluvanna Generating Station
2000 Air Quality Modeling Results¹
Compared to 2000 and 2025 NAAQS**

Pollutant	Avg. Time	Fluvanna Results ²	NAAQS (2000)	NAAQS (2025)
NO ₂	annual	1	100	---
	1-hr	---	---	188
PM ₁₀	annual	1	50	---
	24-hr	5	150	150
PM _{2.5} ³	annual	1	15	9
	24-hr	5	65	35
SO ₂	annual	0	80	---
	24-hr	3	365	---
	3-hr	18	1,300	---
	1-hr	---	---	196
CO	8-hr	63	10,000	10,000
	1-hr	185	40,000	40,000

¹ all values in µg/m³

² Fluvanna-only (i.e., do not include background or surrounding sources)
because results did not even exceed Significant Impact Levels

³ not evaluated due to the PM₁₀ surrogate policy in effect at that time; PM₁₀ results can be used as proxy given all PM₁₀ from natural gas combustion are assumed to also be PM_{2.5}

Responsible Water Use

- ▶ Water use is anticipated to average 6-7 million gallons per day
- ▶ Primary use of water is for non-contact cooling system
- ▶ Water for plant operations will most likely be sourced from the surface waters of the James River watershed
- ▶ Expedition's water needs are less than 1% of the average James River flow
- ▶ Evaluating water withdrawals as they impact downstream users and during times of drought will be required
 - During certain drought conditions, withdrawal will be restricted to protect downstream users
- ▶ The plant may need to use groundwater for its office operations (i.e. drinking water, sanitary uses)

Discharge Water

- ▶ Expedition is estimated to discharge 1.5 million gallons of water per day on average
- ▶ Tenaska is currently evaluating potential locations to release discharge water but expect to put water back into the James River watershed (e.g., the Rivanna River)
- ▶ Expedition will be required to obtain and comply with a Virginia Pollutant Discharge Elimination System (VPDES) discharge permit from VDEQ with permit limits established to protect human health and the environment

Economic Benefits

Taxes

- ▶ The Expedition Generating Station is expected to generate approximately **\$247.7 million in tax revenue to Fluvanna County** over 30 years of operation
- ▶ Roughly **\$14.3 million in tax revenue to Fluvanna County** is projected in each of the first 5 years of operation
- ▶ Tax revenue averages out to approximately **\$8.3 million annually** for 30 years
- ▶ Tenaska is not seeking a tax abatement from Fluvanna County

Economic Benefits

Construction & Operation

CONSTRUCTION

- ▶ \$20.3 million in economic output to Fluvanna County
 - 66 direct and 50 indirect/induced job years (full-time equivalents), with \$7.5 million in wages
 - \$9.7 million in sales and use taxes

OPERATION

- ▶ \$75.2 million in annual economic output to Fluvanna County, including:
 - 29 direct and 53 indirect/induced job years (full-time equivalents), with \$8.8 million in wages
 - \$8.3 million of property tax revenue (based upon 30-year average)

Note: Interested contractors and vendors can submit their info on our website: expeditiongeneratingstation.com

Source: Project Expedition: Economic & Fiscal Contribution to Fluvanna County and to the State of Virginia, prepared for Tenaska by Magnum Economics, August 2025

*Economic output refers to all economic activity in a local economy, including wages and taxes

Community Engagement

- ▶ Website: www.ExpeditionGeneratingStation.com
- ▶ Email: community@expeditiongenerating.com
community@expeditiongeneratingstation.com
- ▶ Phone: (434) 232-4005
- ▶ Ongoing discussions with local stakeholders and residents, including:
 - July 22: Briefing for closest neighbors
 - July 23: Briefing for stakeholders of existing plant
 - Aug. 14: Community open house
- ▶ Various email and mail updates
- ▶ Information ads in local newspaper of record (Fluvanna Review)

Major Permits

- ▶ Fluvanna County Special Use Permit and related approvals
- ▶ Virginia Certificate of Public Convenience and Necessity
(*State Corporation Commission*)
- ▶ Prevention of Significant Deterioration (PSD) Air Quality Permit
(*VDEQ*)
- ▶ Title V Operating Permit (*VDEQ*)
- ▶ Virginia Pollutant Discharge Elimination System (VPDES) Wastewater Discharge Permit (*VDEQ*)
- ▶ Virginia Water Protection Permit (*VDEQ*) / Clean Water Act Section 404 Permit (*USACE*) for wetlands, T&E species, cultural and historical resources
- ▶ Various oil tank installation, registration and financial assurance demonstration
- ▶ Potable water well installation and operation approval
- ▶ Construction stormwater permit(s) with post-construction stormwater requirements (*VDEQ, Fluvanna County*)
- ▶ Virginia Department of Transportation (*VDOT*) permits

Planning Commission Action Items

Zoning Text Amendment: Waiver for Stack Height

- ▶ Gas turbine technology has become more efficient and more energy dense since the previous facility was constructed
- ▶ This has increased the size of the turbines, as well as downstream equipment such as the HRSG (boiler) and the exhaust stack
- ▶ Taller stack height is also needed to comply with air quality modeling required by Virginia Department of Environmental Quality (VDEQ)
- ▶ In summary: a taller stack is needed to accommodate the larger and more efficient generation equipment and standards being used today

Substantial Accord with Comprehensive Plan (Va. Code 15.2-2232)

Comprehensive Plan Goal	Project Expedition Benefit
Diversify the tax base to receive more revenue from commercial/industrial uses, reducing proportion of tax from residential real estate tax (currently 70%)	Expedition will become Fluvanna County's largest taxpayer, contributing nearly \$250M in county tax revenue over 30 years.
Support Economic Development	Expedition will generate construction and long-term jobs.
Enhance Infrastructure & Reliability	Expedition will bolster regional grid stability during dramatic increase in electricity demand, enhancing energy security for local businesses and homes.
Environmental & Regulatory Alignment	See next slide.
Protect Rural Character	At least 87% of the 425-acre site will remain open space with 300' natural buffers and forest management plan. Approximately 350 acres south of the Project will be subject to conservation protections.

Comprehensive Plan Environmental Alignment

Expedition will:

- Comply with the stringent federal permitting requirements of the Clean Air Act and State Air Pollution Control Law and attendant regulations, including Prevention of Significant Deterioration (PSD) and major source (or Title V) air permits from the Virginia Department of Environmental Quality (VDEQ)
 - Employ Best Available Control Technology to minimize emissions and operate as one of the cleanest forms of dispatchable energy
 - Obtain process water from an existing, permitted public water system that must curtail water withdrawals during drought conditions.
 - Obtain a Virginia Water Protection Permit from DEQ for water withdrawal, which will limit the amount of withdrawal and other conditions to ensure sufficient flow preserved for aquatic life, recreational uses, and “off-stream” uses.
 - Obtain a Virginia Pollutant Discharge Elimination System (VPDES) permit, which will ensure water discharged is compliant with state water quality standards that protect human health and the environment
- ▶ Be designed to minimize impacts to streams and wetlands
 - ▶ Sequence construction activities to minimize impacts to threatened and endangered wildlife

Sec. 22-17-16. Special use permit for power production plants.

Site criteria to ensure “the plant will not be of substantial detriment to adjacent property, and (b) the general character of the district will not be changed as a result of its operation”:

- (a)** Site must be a minimum of 300 acres and allow for at least 87% of the property to be left as open space
- (b)** Natural vegetation or topographical features provide for ample perimeter screening and buffering to minimize any visual or other impacts on adjacent property
- (c)** Adequate access to the road system and shall not create or exacerbate traffic congestion

Sec. 22-17-16. Special use permit for power production plants.

Design guidelines to ensure compatibility with the general character of the district and protect adjacent property from potential adverse impacts:

- (a) Building and stack heights restrictions
- (b) 13% or less impervious surface
- (c) 300' setbacks from property lines and roadways
- (d) Minimum of 300-foot-wide vegetated buffer around the development
- (e) Obtain and maintain valid permits as required by all other regulatory bodies of the state and federal governments

Special Use Permit – Conditions of Approval

- ▶ Based on community feedback, our application includes 31 conditions of approval
- ▶ Of note:
 - The project will commit to sound attenuation features and sound limits
 - Tenaska has acquired additional land slightly to the south of the planned project site, which we will commit to conservation easement
 - The project will not start construction until all required state and federal permits are obtained
 - The project will submit a traffic management plan for construction

Application Submittal Including Supplemental Materials

	Required	Supplemental
Application	X	
Sketch Plan	X	
Existing Conditions	X	
Tax Map	X	
General Location Map	X	
Illustrative Layout		X
Elevation Views		X
Lighting Memo		X
Traffic Plan		X
Landscape Details		X
Environmental Study		X
Sound Study		X
Visual Renderings		X
Economic Impact Study		X
Community Engagement Materials		X