

VULCAN LANDS, INC.

Dixie Lee Quarry - Present Operation and Proposed Operation of Quarry Extension

List of Exhibits

1.0 Market Demand

2.0 Area Map showing Parcel Zoning

R 3.0 Site Plan (Existing Quarry Area and Extension Area)

R 4.0 Extension Area Site Plan

R 5.0 Proposed Plan of Operation

6.0 Traffic Study

7.0 Proposed Permitted Area Metes and Bounds Description

R 8.0 Sightline Drawing

Graybeal A

Graybeal B

Introduction and Summary:

Vulcan Lands, Inc., (“Vulcan”), has filed herewith an application For Use on Review, for mining and mineral extraction, in order to obtain an Amended Permit extending the area of its Dixie Lee Quarry (the “Quarry Extension”). Starting before public notice was issued, Vulcan sent letters to more than 160 neighboring property owners and has been actively engaging with stakeholders and community members about this proposal. Outreach efforts have included meeting directly with property owners on their properties, hosting quarry tours, responding to emails and phone calls, and holding a Neighbor Information Open House on June 11, 2026. More than 60 people attended the open house to ask questions, provide feedback, and learn more about the project. Feedback gathered through these conversations and engagement efforts has helped inform refinements to the proposal.

Dixie Lee Quarry has long been a valued part of Knox County, supplying the high-quality construction materials used to build and maintain the roads, schools, hospitals, homes, and places of worship that serve our community every day. Vulcan’s engineering and operations teams have developed a plan to update the existing operation, ensuring it can continue meeting the region’s needs for years to come.

Early activity at the quarry site in west Knox County began in the early 1960’s, providing aggregate for Interstate highway construction. In 1975, Vulcan obtained a permit for the Dixie Lee Quarry on land that it leased and has successfully operated to the present time.

Planning for the future, Vulcan strategically acquired approximately 161 acres of land in 1989 (the “Acquired Land”) adjacent to its existing quarry operation to help meet anticipated demand for aggregate. In 1996, Vulcan applied for and received approval of an Amended Plan of Operation. In 2009, the company obtained approval of a Use on Review application, amending its permit to extend the permitted area to include approximately 104 acres of the Acquired Land. The remaining +/- 57.8 acres (“Remaining Acquired Land”) and a portion of the Graybeal Road

right-of-way (**Exhibit R 3.0**) comprise the area (“Subject Area”) of this current Use on Review request.

Given the current and expected long-term demand, Vulcan desires to optimize its existing operation to access its reserve footprint on its property to responsibly serve the market and keep construction and maintenance costs as low as possible. See **Exhibit 1.0** for market projections.

The Knox County Zoning Ordinance recognizes that “the extraction of minerals is a basic industry” and that such deposits “do not necessarily align with the zoning boundaries established.” Accordingly, it establishes specific standards for mining and extraction operations (Sections 4.50 and 4.05.02(A)–(C)). Vulcan’s plan to update its operations includes submitting this application for a permitted Use on Review for its two parcels on the remaining Acquired Land, located across Graybeal Road from its existing property and current mining area.

The two parcels in the Subject Area are currently zoned Agricultural and are designated as Rural Area on the Growth Policy Map of the Knoxville–Farragut–Knox County Growth Policy Plan (the “Growth Plan”). The Growth Plan states in Section 4.1 that permitted land uses in Rural Areas are determined by the Zoning Ordinance and Zoning Map, and that the Rural Area designation shall not impede the right of the landowner to use or develop the property for purpose permitted by the property’s zoning.

The proposed Quarry Extension will be used exclusively for stone extraction, with no accessory buildings, structures, fixed production equipment, or lighting. It will include a 300-foot buffer, a portion of which will feature a substantial vegetated screening berm along properties not owned or controlled by Vulcan. The extension will not create additional demand, alter the location of existing quarry production plant areas, increase overall site production, or change customer truck traffic volume or patterns. Access to the extension area will be limited to internal routes within the quarry’s existing operations, with no direct public or customer access via external roads or driveways. Vulcan will secure the area of the Quarry Extension by installing a fence around the entire Extension Area. The actual location of the fence will be determined based on the topography and stormwater management needs of the area.

If approved, the Use on Review would allow stone extraction from a portion of the Subject Area, with nearly half of the total area dedicated to buffers and vegetated screening berms, and is intended to meet market demand for construction aggregates in Knox County and the surrounding market.

As part of the proposed Quarry Extension, Vulcan will submit a road closure application to partially vacate Graybeal Road (on the East at Pittman Drive and on the West at Buttermilk Road) a little-used county road that dissects the land acquired by Vulcan in 1989. As noted hereafter, Vulcan recently learned of stakeholder and County interest in relocating Graybeal Road from its current location to a new location across Vulcan’s land. In relation to the required 100-foot undisturbed, vegetated buffer and the toe of the 200-foot vegetated berm, Vulcan proposes to construct a road upon a 60-foot dedicated right-of-way located generally between these two areas resulting in a 360-foot buffer with a design as worked out with the Knox County Engineering Department.

This application promotes the efficient use of an existing operation and leverages high-quality stone deposits that are vital to the Knox County economy. The proposal represents a natural and efficient extension of the current mining area and production infrastructure, and its established land use. It is also situated adjacent to property already zoned for industrial purposes.

The continued responsible and efficient production of high-quality construction aggregates is essential to the economic health of Knox County. Stone aggregate plays a critical role in building and maintaining infrastructure, including roads, bridges, utilities, water systems, buildings, and housing. Vulcan's products meet Department of Transportation (DOT) standards and are integral to supporting these community needs.

Present Operation (Existing Quarry Area):

Vulcan has a long-term lease on approximately two hundred thirty-nine (239) acres in west Knox County, and owns, in fee, approximately one hundred eighty-six (186) additional acres. Vulcan has held the leased property since 1975. It has owned most of its fee property since 1989. The area currently permitted is primarily zoned Industrial, while the land added to the permitted area in 2009, consisting of approximately one-hundred and four (104) acres, is zoned Agricultural. The area for which Vulcan seeks the Use on Review herein is also zoned Agricultural. See **Exhibit 2.0** for an area map that shows the zoning of the various parcels.

The quarry is located on 1716 Everett Road, north of and approximately 2,500 feet from Interstate 40, at the Watt Road interchange. As noted, the existing Dixie Lee Quarry operation is located on approximately 343 acres, and includes the quarry pit, offices, shop, production facilities, sales yards, berms, buffers and tenant hot mix asphalt plants. Buffers and berms comprise about 92.1 acres, as shown on **Exhibit R 3.0**.

Vulcan works hard to be a good neighbor by meeting or exceeding local, state, and federal community-focused safeguards and regulatory requirements that are protective of people, land, air and water. These include regulations and oversight from the Knox County Department of Air Quality Management, the Tennessee Department of Environment & Conservation (TDEC), the State Fire Marshal, the Mine Safety and Health Administration (MSHA), the U.S. Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers (USACE).

Furthermore, Vulcan is, and has been, in compliance with the Knox County Zoning Ordinance. Vulcan specifically represents that its operations are and will be in compliance with Section 4.50 "Standards For Mining and Mineral Extraction," and Sub-Section 4.50.02(B), Paragraphs 1 through 9 of the Knox County Ordinance.

Proposed Plan of Operation Summary (Quarry Extension Area):

Vulcan desires to permit an additional +/- 57.8 acres it owns to serve as an extension (the "Extension Area") to its existing mining area for extraction and related uses to the Extension Area of which +/- 25 acres will be used for buffers or berms and +/- 32.8 acres as an extension of the existing surface mine (see **Exhibit R 4.0**). The purpose for amending its plan of operation is

to optimize the existing mining area and allow for continued safe access to the existing reserves on its property to serve the Knox County market area. See **Exhibit R 5.0** for the full Proposed Plan of Operation.

The proposed Quarry Extension will be used exclusively for stone extraction, with no accessory buildings, structures, fixed production equipment, or lighting. Section 4.50.02 of the Regulations requires certain setbacks from adjoining properties zoned Residential, and Vulcan will continue to meet these regulations as it has demonstrated for more than fifty years. The Knox County Zoning Ordinance requires a 200-foot set back from residentially zoned property at § 4.50.02.B.2. However, Vulcan proposes that adjacent properties not owned or controlled by Vulcan will be screened by a 300-foot buffer (360-foot if Graybeal is relocated), including a 100-foot undisturbed fenced area and a 200-foot vegetated berm similar to the existing berm along Buttermilk Road (and possibly an additional 60-foot road right-of-way). There will be no public or customer access to the extension area from external roads; all access will occur internally through the existing quarry, with no impact on local traffic.

All extraction will occur at least 300 feet (possibly 360 feet) from neighboring properties. Operations will take place behind the vegetated berm and buffer and will not be visible from adjacent properties. The extension will be incorporated into the existing mine permit and operate under the same local, state, and federal regulations as the current quarry.

Because Graybeal Road bisects both the existing quarry area and the proposed quarry extension area (each owned by Vulcan), Vulcan is concurrently seeking approval from the Knox County Commission, alongside this Use on Review application, to vacate a portion of Graybeal Road between Pittman Drive on the East and Buttermilk Road on the West (see associated traffic study in **Exhibit 6.0**). Residents on the west side near the Buttermilk Road would access their properties via a private drive. Vulcan will fund roadway improvements at the Graybeal Road/Pittman Drive curve, and Pittman Drive will continue to connect to Yarnell Road.

Vulcan has been in recent discussions with Knox County Engineering about the possibility of Vulcan replacing current Graybeal Road with a wider, realigned and improved Graybeal Road. To date those discussions have involved optional realignments across Vulcan's property generally as shown on **Exhibits** marked **Graybeal A** and **Graybeal B**. The options in the subject area for relocating a new and improved road will require Vulcan to incur engineering expenses, and to have further discussions with Knox County.

Vulcan acknowledges that the closure of a portion of Graybeal Road and/or the relocation of the Road will require the approval of Knox County Commission. The point of significance for this Use on Review application is that the effect of relocating Graybeal Road to the area being discussed is to enlarge the buffer between adjacent landowners and active mining operations by an additional 60 feet. As contemplated by the Knox County Zoning Ordinance which contemplates conditions upon approvals, Vulcan seeks approval of its application conditioned upon working out the details of the road relocating with Knox County.

The metes and bounds description of the proposed permitted area, which is the subject of this Use on Review, is attached as **Exhibit 7.0**. If the Knox County Commission approves

vacating a portion of Graybeal Road, Vulcan will extend its existing berm north along the properties adjacent to Buttermilk Road and shift the existing berm along Graybeal Road further north.

This will allow the current permitted area, the relocated Graybeal Road right-of-way, and the Extension Area to merge into a single amended Permit Area. The total area would consist of approximately 405 acres.

Vulcan proposed the following conditions, the same as imposed in its 2009 Use on Review application, upon its activities in the Extension Area: (i) the construction of the berm is to be limited to the hours between 7:00AM and 6:00PM; (ii) all blasting associated with the quarrying operation shall be permitted between 9:00AM and 4:00PM, Monday through Friday only; and (iii) all other quarry operations within the portion of the site that is zoned A (Agricultural) must be limited to the hours of 7:00AM and 9:00PM, Monday through Saturday.

Conclusion:

As previously outlined, the land covered by this application for Use on Review is zoned Agricultural. Under the Knox County Zoning Regulations, Section 5.22.03, Uses Permitted on Use on Review, for property zoned Agricultural, under Paragraph K, mining and mineral extraction activities are specifically permitted, so long as the property owner complies with Section 4.10 and Section 4.50 of the Ordinance. Section 4.50.02(C) allows the Planning Commission and the Board of Commissioners to approve an amended permit to alter the plan of operations previously approved. The drafters of the Ordinance knew that some land uses would be a challenge, but the need for them would warrant their existence, such as the extraction of strategic, necessary and useful materials from the earth as Vulcan seeks through this application. The Zoning Ordinance provides that “certain uses . . . are unique in nature, require large land areas, are potentially incompatible with existing development . . .” and “because they more intensely dominate the area in which they are located” and “the nature of such use makes it desirable that they be permitted to locate therein.” Knox County Zoning Ordinance Section 4.10 Section 2, Development Standards for Uses Permitted on Review.

Aggregate resources are non-renewable strategic materials, and existing extraction operations must periodically update their plans to maintain safe and reliable access to existing high-quality reserves. Doing so ensures the quarry can continue to responsibly support the infrastructure, construction, and economic needs of Knox County.

Under this proposed plan, Dixie Lee Quarry will continue to efficiently utilize its existing reserves and infrastructure to meet current and future local demand for high-quality aggregates. Optimizing this established operation is essential. Developing new quarries would require developing hundreds of acres of land for new industrial use, adding significant truck traffic, and increasing construction and maintenance costs, particularly due to longer haul distances.

The Quarry Extension will be screened by 300 feet, and possibly 360 feet, of buffer area and substantial vegetated berms (see **Exhibit R 8.0**). It will be required to operate under regulations that are protective of people, land, air and water. These include oversight from the

Knox County Department of Air Quality Management, the Tennessee Department of Environment & Conservation (TDEC), the State Fire Marshal, the Mine Safety and Health Administration (MSHA), the U.S. Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers (USACE).

For nearly 70 years, Dixie Lee Quarry has helped support Knox County and surrounding communities. Vulcan provides local jobs and contributes substantially to the county's tax base, and it remains committed to ongoing investment in the region.

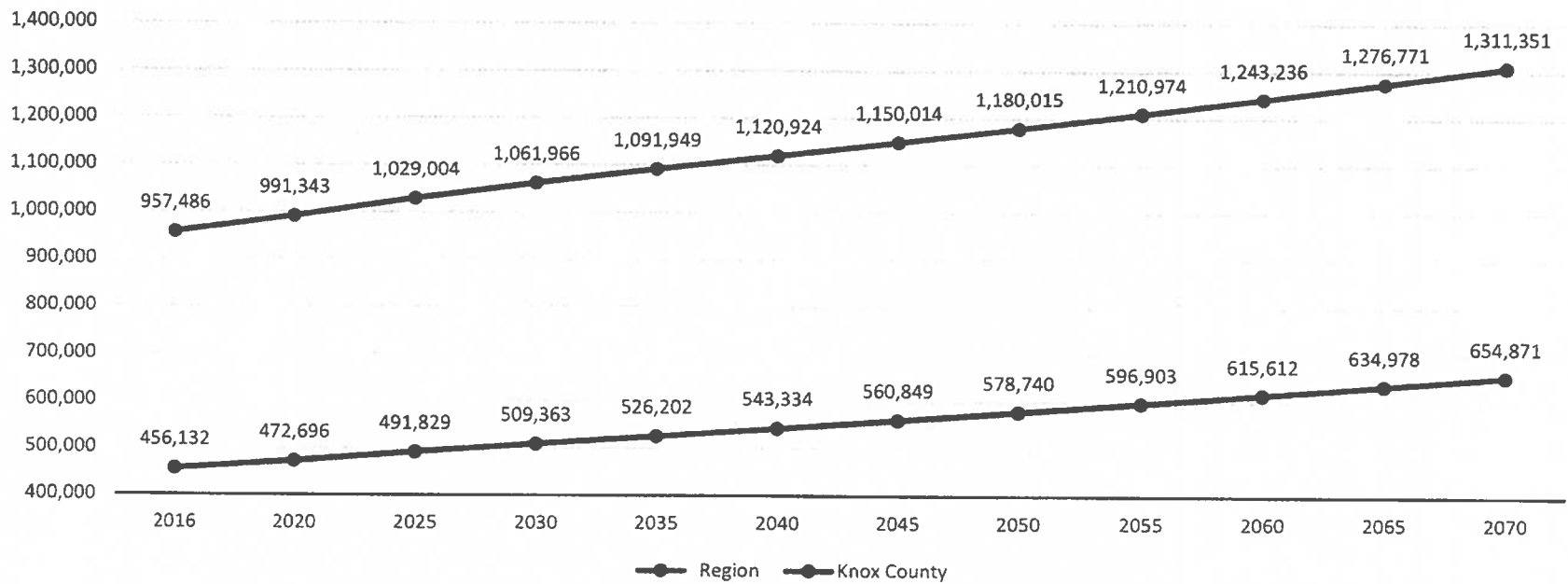
Given Vulcan's long record of responsible operation, the availability of high-quality on-site reserves and consistency with Knox County's Use on Review provisions, Vulcan respectfully requests approval of this proposed plan of operation subject to the addition to the 300-foot buffer of an added 60 feet of right-of-way to be occupied by the relocation of Graybeal Road, and conditioned upon the approval of Knox County Commission of the abandonment and relocation at the applicant's expense of Graybeal Road similar to the alignments shown on **Exhibits Graybeal A or Graybeal B.**

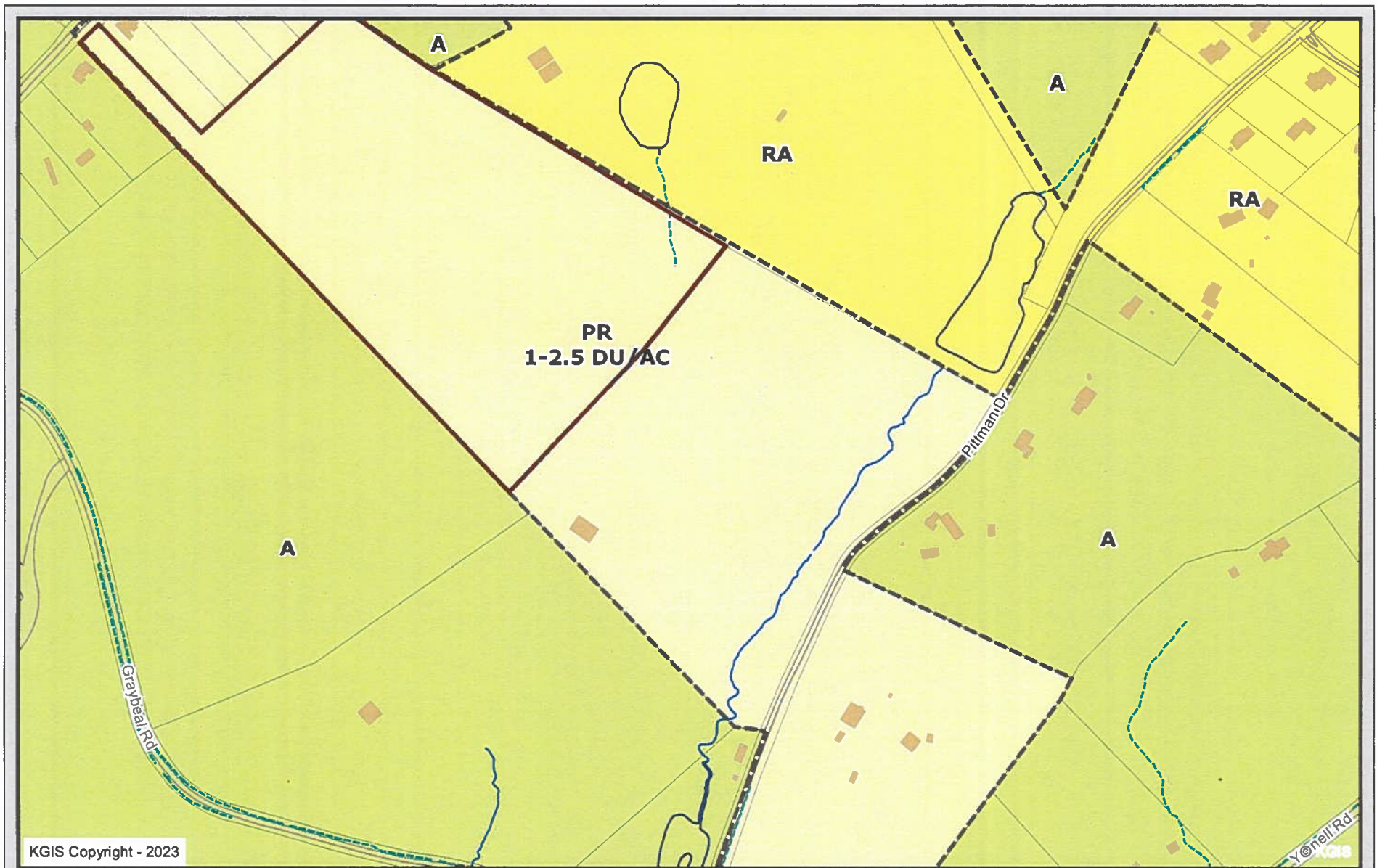
PROJECTED POPULATION GROWTH, KNOX AND SURROUNDING COUNTIES, 2016-2070

County	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	Growth Rate (%) 2020-70
Anderson County	75,936	77,227	78,454	79,329	80,027	80,677	81,349	82,050	82,750	83,492	84,314	85,216	10.3
Blount County	128,670	134,265	140,526	146,031	150,925	155,410	159,729	164,105	168,560	173,138	177,818	182,606	36.0
Grainger County	23,072	23,443	23,742	23,835	23,762	23,578	23,345	23,117	22,913	22,736	22,572	22,413	-4.4
Jefferson County	53,535	55,178	56,842	58,145	59,166	59,986	60,710	61,447	62,244	63,114	64,045	65,037	17.9
Knox County	456,182	472,596	491,829	509,363	526,202	543,334	560,849	578,740	596,903	615,612	634,978	654,871	38.5
Loudon County	51,454	54,039	56,835	59,231	61,341	63,329	65,398	67,706	70,267	73,043	75,973	79,033	46.3
Roane County	52,874	52,819	52,427	51,713	50,780	49,760	48,750	47,808	46,944	46,161	45,458	44,827	-15.1
Sevier County	96,673	102,302	108,834	114,824	120,405	125,752	131,080	136,545	142,208	148,061	154,039	160,083	56.5
Union County	19,140	19,375	19,515	19,495	19,341	19,097	18,804	18,496	18,186	17,879	17,573	17,266	-10.9
Region	957,486	991,343	1,029,004	1,061,966	1,091,949	1,120,924	1,150,014	1,180,015	1,210,974	1,243,236	1,276,771	1,311,351	32.3

Source: Boyd Center for Business and Economic Research, University of Tennessee.

Projected Population Growth, Knox County and Region, 2016-2070





Knox County zoning map-Hickory Creek Partners

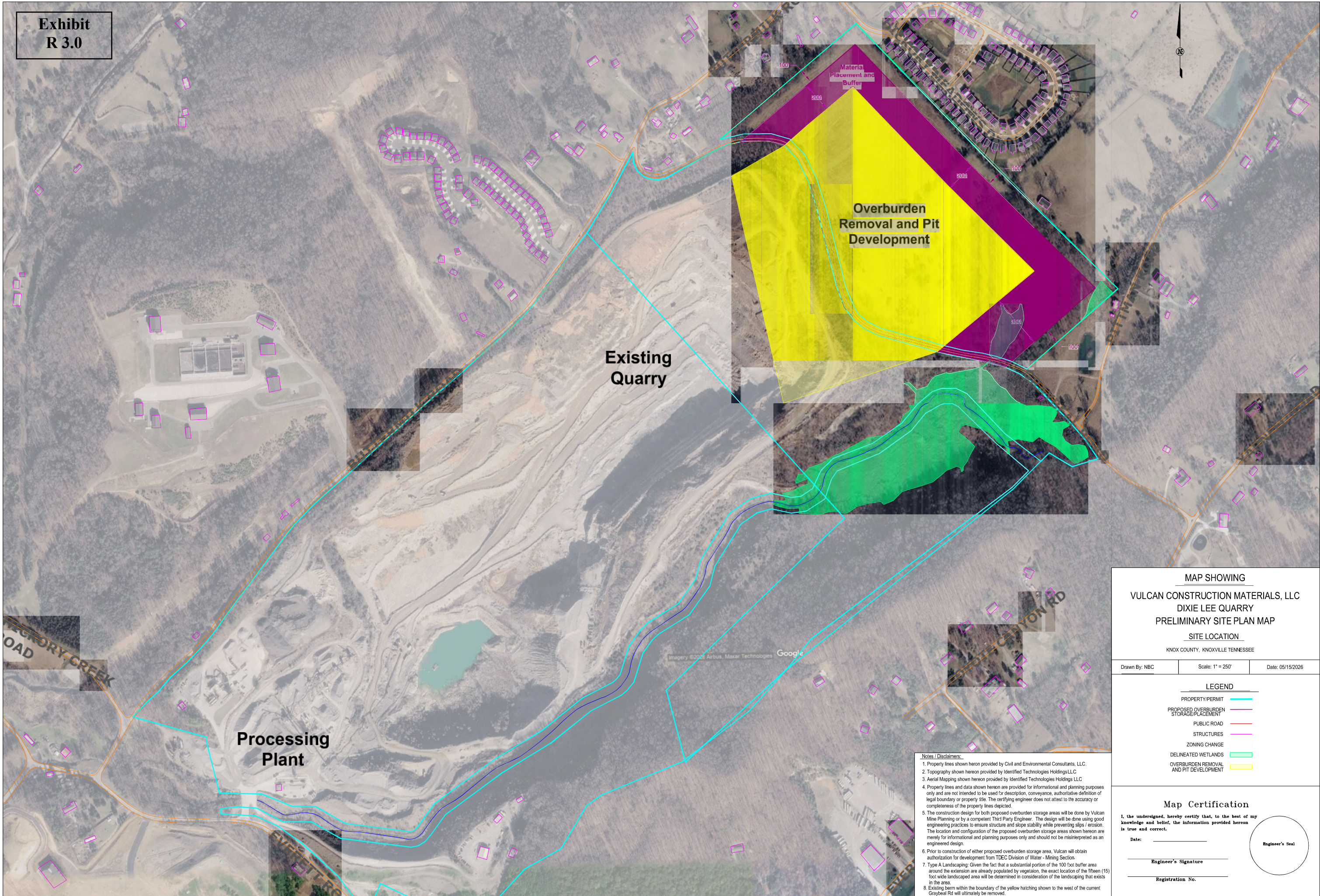
Knoxville - Knox County - KUB Geographic Information System

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MAP SHOWING

VULCAN CONSTRUCTION MATERIALS, LLC
DIXIE LEE QUARRY
PRELIMINARY SITE PLAN MAP

SITE LOCATION

KNOX COUNTY, KNOXVILLE TENNESSEE

Drawn By: NBC

Scale: 1" = 250'

Date: 05/15/2026

LEGEND

PROPERTY/PERMIT	
PROPOSED OVERBURDEN STORAGE/PLACEMENT	
PUBLIC ROAD	
STRUCTURES	
ZONING CHANGE	
DELINEATED WETLANDS	
OVERBURDEN REMOVAL AND PIT DEVELOPMENT	

Map Certification

I, the undersigned, hereby certify that, to the best of my knowledge and belief, the information provided hereon is true and correct.

Date: _____

Engineer's Signature _____

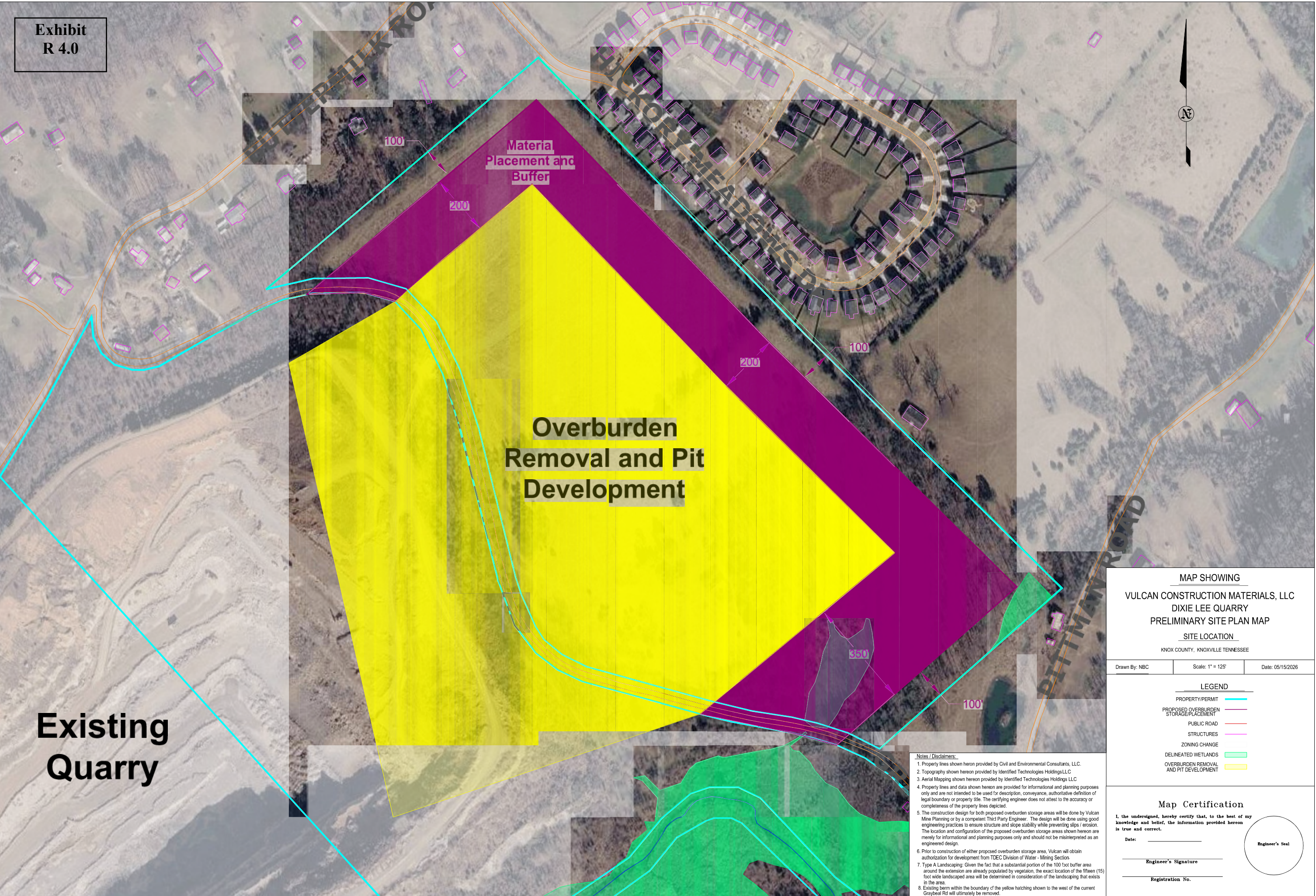
Registration No. _____

Engineer's Seal

Notes / Disclaimers:

- Property lines shown hereon provided by Civil and Environmental Consultants, LLC.
- Topography shown hereon provided by Identified Technologies Holdings LLC
- Aerial Mapping shown hereon provided by Identified Technologies Holdings LLC
- Property lines and data shown hereon are provided for informational and planning purposes only and are not intended to be used for description, conveyance, authoritative definition of legal boundary or property title. The certifying engineer does not attest to the accuracy or completeness of the property lines depicted.
- The construction design for both proposed overburden storage areas will be done by Vulcan Mine Planning or by a competent Third Party Engineer. The design will be done using good engineering practices to ensure structure and slope stability while preventing slips / erosion. The location and configuration of the proposed overburden storage areas shown hereon are merely for informational and planning purposes only and should not be misinterpreted as an engineered design.
- Prior to construction of either proposed overburden storage area, Vulcan will obtain authorization for development from TDEC Division of Water - Mining Section.
- Type A Landscaping: Given the fact that a substantial portion of the 100 foot buffer area around the extension are already populated by vegetation, the exact location of the fifteen (15) foot wide landscaped area will be determined in consideration of the landscaping that exists in the area.
- Existing berm within the boundary of the yellow hatching shown to the west of the current Graybeal Rd will ultimately be removed.

Exhibit
R 4.0



Existing
Quarry

Overburden
Removal and Pit
Development

Material
Placement and
Buffer

100

200

200

100

100

350

MAP SHOWING

VULCAN CONSTRUCTION MATERIALS, LLC
DIXIE LEE QUARRY
PRELIMINARY SITE PLAN MAP

SITE LOCATION

KNOX COUNTY, KNOXVILLE TENNESSEE

Drawn By: NBC

Scale: 1" = 125'

Date: 05/15/2026

LEGEND

PROPERTY/PERMIT

PROPOSED OVERBURDEN
STORAGE PLACEMENT

PUBLIC ROAD

STRUCTURES

ZONING CHANGE

DELINEATED WETLANDS

OVERBURDEN REMOVAL
AND PIT DEVELOPMENT

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6. Prior to construction of either proposed overburden storage area, Vulcan will obtain authorization for development from TDEC Division of Water - Mining Section.
7. Type A Landscaping: Given the fact that a substantial portion of the 100 foot buffer area around the extension are already populated by vegetation, the exact location of the fifteen (15) foot wide landscaped area will be determined in consideration of the landscaping that exists in the area.
8. Existing berm within the boundary of the yellow hatching shown to the west of the current Graybeal Rd will ultimately be removed.

Map Certification

I, the undersigned, hereby certify that, to the best of my knowledge and belief, the information provided hereon is true and correct.

Date: _____

Engineer's Signature

Registration No. _____

Engineer's Seal

EXHIBIT R 5.0

Proposed Plan of Operation: Quarry Extension

Site Background

The Vulcan Dixie Lee Quarry (“Existing Quarry”) is located at 1716 Everett Road in Knox County, TN. It began operating in the 1960’s and has been operated by Vulcan since at least 1975. In 1989, Vulcan acquired additional land for future extension of the quarry. A portion of this land was previously permitted. The remaining +/- 57.8 acres is separated from the Existing Quarry by Graybeal Road. Vulcan seeks to vacate a portion of road and to add the remaining acreage (the “Quarry Extension”) to the Existing Quarry. This Proposed Plan of Operation for the Quarry Extension does not change Existing Quarry fixed site infrastructure, including production plant equipment, stockpile areas, entrance and exit driveways, scale and wheel wash, office and shop.

Quarry Extension Access

Access to the extension area will be limited to internal routes within the quarry’s existing operations, with no public or customer access. Employee traffic, customer traffic, tenant traffic, contractor traffic and deliveries will continue to use the Existing Quarry entrance located at 1716 Everett Road. The Quarry Extension will not create additional demand, alter the location of existing quarry production plant areas, increase overall site production, or change customer truck traffic volume or patterns.

Safety and Health Information

Operations at the Existing Quarry are regulated by local, state and federal agencies including the Knox County Department of Air Quality Management, the Tennessee Department of Environment & Conservation (TDEC), the State Fire Marshal, the Mine Safety and Health Administration (MSHA), the U.S. Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers (USACE).

The MSHA Mine ID number for the site is 40-01427. The Quarry Extension will be added to and covered by this same Federal ID number. Federal inspectors inspect the quarry a minimum of twice per year. MSHA regulations enforce mandatory standards under the Federal Mine Safety and Health Act, including employee exposure to noise and dust, safe operation of fixed and mobile equipment, safe mining practices, employee training programs, and more.

Geology

Rock formations at the Dixie Lee Quarry and Extension Area include the Maynardville Limestone and Copper Ridge Dolomite. These formations were deposited in flat layers between 490 and 520 Million years ago, while East Tennessee was covered by a warm shallow sea. Tectonic mountain building forces have tilted and folded the flat layers into often steeply dipping

and folded beds of limestone and dolomite that produce high-quality construction aggregate material today.

The steeply dipping and folded layers of the local geology, combined with continued growth and development of the surrounding community, mean that accessible and mineable geologic deposits are found in very limited locations.

The Quarry Extension contains a known mineable geologic deposit adjacent to an existing operating quarry and infrastructure, providing sensible continued access at an established site to a resource that is necessary to construct and maintain roads and other infrastructure in the community. Topsoil, clay and weathered rock and shale lie on top of the high quality dolomite and limestone that are mined and produced for construction aggregate. This material (collectively known as overburden) must be removed to access the high-quality marketable stone beneath.

Overburden Removal

The overburden material will be removed by excavators or loaders and placed into haul trucks to build the proposed vegetated screening berms. Remaining overburden will be placed in mined out portions of the quarry site. Some pinnacles of very weathered shale and rock beneath the topsoil and clay may require engineered, safe drilling and blasting before removal and placement in the quarry.

Buffer

Adjacent properties not owned or controlled by Vulcan will be screened by a minimum 300-foot buffer, including a 100-foot undisturbed fenced area and a 200-foot vegetated berm like the existing berm along Buttermilk Road. If a realignment of Graybeal Road is worked out with Knox County as Vulcan has proposed, an additional 60-foot road right-of-way would make the overall buffer at least 360 feet from adjoining property owners. Under this option, the new road would be constructed concurrently with the screening berm.

Prior to extending the mining area onto the Quarry Extension, the vegetated screening berm will be constructed using onsite overburden material to provide visual and sound screening for neighbors. Topsoil will be removed and segregated for spreading on the berm prior to berm vegetation activities. There will be a minimum 100-foot buffer between the property line and the toe of the berm.

Once berm construction is complete and weather conditions are favorable for planting, the berm will hydroseeded with an appropriate TDOT permanent reclamation seed mix (specific mix will be dependent on planting date and weather conditions), or something similar including a fast-growing nurse crop mixed with deep rooted perennial grasses, but possibly intermixed with native grasses and wildflowers.

The existing screening berm along Buttermilk Road will be extended along the north and west sides of the Quarry Extension, as shown on the preliminary site plan map [**Exhibit R 4.0**].

Along the south/southeastern side of the Subject Property, a 450-foot wide buffer of trees and heavy vegetation will provide screening

The berm will be approximately 20-25 feet above ground level as generally depicted on the illustrative sightline drawing [**Exhibit R 8.0**], following the existing topography with planned slopes of 2 to 1. Stormwater runoff from the outer slopes of the berm will be captured in a bioswale situated along the toe of the berm and generally flow north and to the east, toward the low area at the southeast corner of the property, where it ultimately feeds into Hickory Creek, as it does today. Water captured on the interior mining area side of the berm will be routed into the Existing Quarry to be used for dust control and production. Water in the quarry is managed through an existing permitted water discharge point.

Safe Drilling and Blasting

Efficient excavation of the limestone and dolomite requires engineered drilling and blasting. At the Dixie Lee Quarry, Vulcan uses a controlled drill-and-blast methodology. All blasting activities are conducted strictly under the supervision of a state-licensed blaster, and adhering to all applicable regulations. The blasts are highly controlled, engineered events that last about a fraction of a second and occur during normal business hours.

Blasting in Tennessee is regulated by the State Fire Marshal's office under the Tennessee Blasting Standards Act, which sets requirements for procedures, limits, monitoring, record keeping and reporting. The limits follow U.S. Bureau of Mines safety standards that are scientifically proven to be safe. Scientific research has extensively shown that if the blasting activities do not produce vibration levels that exceed the limits set by the U.S. Bureau of Mines, the cosmetic damage potential (and thereby structural damage potential) from blasting is zero.

Each blast design is individually engineered to account for the geology, geometry and location. Engineers use laser profiling and digital modeling to predict specific shot behavior that is within ranges far below the permitted safety limits proven to be safe.

Drilling is conducted by in-house drillers to meet the specified design. Various technologies and methodologies are used to ensure drilling is completed to plan. Each hole is logged to document rock conditions including clay and voids that might be encountered during drilling. Blasters review all driller logs before loading each shot. Vulcan uses 3D profiling, borehole tracking and GPS-enabled drilling technologies that are employed as needed at the site, under direction of the Manager of Drilling and Blasting.

Vulcan is required to monitor each blast at a distance no farther than the closest off-site regularly occupied structure not owned or leased by Vulcan. A network of seismographs measures ground vibration and air blast overpressure and reports the data to our engineers and operations team in real-time.

Blasting operations generally occur up to 1-2 times per week during normal business hours, although this frequency is subject to adjustment based on site development needs, proximity to nearby structures, and seasonal market demand. No blasting will occur on Sundays

or Federal holidays. Vulcan offers phone notification to neighbors who would like to be contacted in advance of a blast.

Each engineered blast is monitored for vibration and air overpressure at least as close as the nearest residential structure. This monitoring is performed by a third-party vibration expert consultant, and the records maintained for review upon request by the State Fire Marshal's office. Vulcan's blasting results at the Existing Quarry are in full compliance with State limits and have been for many years. The Quarry Extension will be administered in accordance with the same regulations and follow the same proven operational best practices and procedures.

General Mining Operations

Mining activities on the Quarry Extension will be limited to berm construction and vegetation, overburden removal, and mine excavation activities that include drilling, safe blasting, loading and hauling to the Existing Quarry which hosts the processing plant, office, maintenance shop, office, product stockpiles, access driveways, tenant sites, and other associated quarry uses.

Per Knox County Code of Ordinances, Part II, Article 4.50.02, B.9, and the conditions imposed by the County in response to Vulcan's 2009 Use on Review application: (i) the construction of the berm is to be limited to the hours between 7:00AM and 6:00PM; (ii) all blasting associated with the quarrying operation shall be permitted between 9:00AM and 4:00PM, Monday through Friday only; and (iii) all other quarry operations within the portion of the site that is zoned A (Agricultural) must be limited to the hours of 7:00AM and 9:00PM, Monday through Saturday.

Water Quality

Water quality is regulated by the Tennessee Department of Environmental & Conservation (TDEC). Water is collected in the quarry and allowed to settle in ponds before re-use or discharge. Primary sources of water include stormwater runoff, groundwater, plant wash water, and dust suppression water. Water is treated in the Existing Quarry and discharged under permit number TN0026484. Discharge water is tested for total suspended solids and pH, per permit conditions. Spill prevention and stormwater management plans are also in place to protect water quality.

Air Quality

Air quality at the Existing Quarry is regulated under permit number 21-0138. Air quality at rock crushers, screens, and conveyor transfer points in the processing plant is controlled with water spray technology. The processing plant will remain on the Existing Quarry site, and will stay in its current location near Everett Road. Dust from existing paved and unpaved roadways is suppressed with use of a water truck. The Quarry Extension will adhere to the same regulations and procedures.

Reclamation

Upon completion of mining activities at the Dixie Lee Quarry, final reclamation on the Quarry Extension will consist of slope stabilization where needed to control erosion, stormwater management and general equipment removal and cleanup. The goal of reclamation will be to leave the site in a safe, environmentally sound condition that has future land value. The specific land uses will be dependent on future needs of the area once mining is complete, which today is estimated at 50+ years in the future and based on market demand.



February 2, 2026

Mr. Jim Snowden
Knox County
Engineering & Public Works
205 W. Baxter Avenue
Knoxville TN 37917

RE: Transportation Impact Letter
Graybeal Road Closure
Knoxville, Tennessee

Dear Mr. Snowden:

This correspondence provides a summary of conclusions reached regarding an assessment of the proposed road closure of Graybeal Road between Buttermilk Road and Pittman Drive. Specifically, the assessment will evaluate the existing conditions of Graybeal Road and the intersection capacity during existing and rerouted conditions.

The Vulcan Materials Company has an existing facility located at 1716 Everett Road in Knox County, Tennessee. The Dixie Lee Vulcan facility is a full-scale mining operation and quarry where raw materials are mined and processed. This facility can produce a wide range of products, including various sizes of crushed stone, base material, and fines, which are all essential components for construction projects. Vulcan Materials Company is currently planning an expansion at their Dixie Lee Vulcan facility to the property east of Graybeal Road and is requesting that Graybeal Road be closed between Buttermilk Road and Pittman Drive.

EXISTING SITE CONDITIONS

Buttermilk Road is a two-lane, two-way road at the intersection with Graybeal Road with an approximate width of 18 feet. Knoxville-Knox County Planning classifies Buttermilk Road between Hickory Creek Road and Marietta Church Road as a Minor Collector with a 60-foot right-of-way per the Major Road Plan. The posted speed limit on Buttermilk Road is 30 mph.

Yarnell Road is a two-lane, two-way road at the intersection with Graybeal Road with an approximate width of 20 feet. Knoxville-Knox County Planning classifies Yarnell Road between Everett Road and Lovell Road as a Major Collector with a 60-foot right-of-way per the Major Road Plan. The posted speed limit on Yarnell Road is 40 mph.

Graybeal Road is two-lane, two-way road between Buttermilk Road and Yarnell Road with an approximate width of 14 feet. Knoxville-Knox County Planning does not classify Graybeal Road; therefore, it is considered a Local Street. There is no posted speed limit on Graybeal Road.

Pittman Drive is a two-lane, two-way road at the intersection with Graybeal Road with an approximate width of 14 feet. Knoxville-Knox County Planning does not classify Pittman Drive; therefore, it is considered a Local Street. The posted speed limit on Pittman Drive is 30 mph.

EXHIBIT
6.0



EXISTING SITE ACCESS

There are currently five parcels that have direct access to Graybeal Road between Buttermilk Road and Pittman Drive.

- **Parcel ID 129 081** is located at the northeast corner of Buttermilk Road at Graybeal Road at 12612 Buttermilk Road. This parcel has existing driveway access to both Buttermilk Road and Graybeal Road.
- **Parcel ID 129 08103** is located approximately 460 feet east of the intersection of Buttermilk Road at Graybeal Road at 1814 Graybeal Road. This parcel has an existing driveway with access to Graybeal Road.
- **Parcel ID 129 080** is located east of Graybeal Road between Buttermilk Road and Pittman Drive and is owned by Vulcan Lands Inc.
- **Parcel ID 129 08001** is also located east of Graybeal Road between Buttermilk Road and Pittman Drive and is owned by Vulcan Lands Inc.
- **Parcel ID 141 04201** is located at the northeast corner of the intersection of Graybeal Road at Pittman Drive and has existing driveway access to both Graybeal Road and Pittman Drive.

The Dixie Lee Vulcan facility has three existing access points to Everett Road including a main entrance and two secondary access points for construction vehicles. There is also an existing access point to the facility to Graybeal Road but that access has been closed with a locked gate and a signs posted by Vulcan Materials Company that state "Danger Industrial Hazard No Trespassing Keep Out". There is currently no planned access to Graybeal Road as a part of the future expansion to the property east of Graybeal Road and all future access will continue to be from Everett Road.

DATA COLLECTION AND BACKGROUND GROWTH

Existing traffic data was gathered for this study. Annual average daily traffic data (AADT) collected by the Knoxville Regional Transportation Planning Organization (TPO) on roadways in the area of the proposed development were utilized. Three count stations, one located on Yarnell Road east of Marietta Church Road, Buttermilk Road east of Everett Road and Marietta Church Road south of Hardin Valley Road, were felt to have relevance for this study. The most currently available data from these count stations is contained in TABLE 1.

In addition to the available AADT data, Intersection turning movement traffic counts were conducted in December 2025 at the study intersections of Buttermilk Road at Graybeal Road, Pittman Drive at Graybeal Road and Yarnell Road at Graybeal Road with the primary purpose of determining the current peak hour operating volumes. The 2025 traffic volumes are summarized in FIGURE 1 attached at the end of this letter for the A.M. and P.M. peak traffic hours.

For the purpose of evaluating the effects of the Graybeal Road closure on the surrounding roadway network it is assumed that the road closure will take place in the year 2026.



TABLE 1
ANNUAL AVERAGE DAILY TRAFFIC COUNT SUMMARY

COUNT YEAR	KNOX TPO COUNT STATION 093M384 YARNELL ROAD EAST OF MARIETTA CHURCH	KNOX TPO COUNT STATION 093M276 BUTTERMILK ROAD EAST OF EVERETT ROAD	KNOX TPO COUNT STATION 093M275 MARIETTA CHURCH ROAD SOUTH OF HARDIN VALLEY ROAD
2024	3,560	-	-
2023		510	2,350
2022	2,530	530	-
2021		-	1,990
2020		-	1,470
2019	2,070	490	2,050
2018		-	-
2017		520	1,670
2016	1,720	-	-
2015		530	1,440
2014		-	-
2013		450	1,320
2012		-	-
2011		380	1,100

TRIP DISTRIBUTION

The proposed roadway closure of Graybeal Road between Buttermilk Road and Pittman Drive will cause a redistribution of existing thru traffic on Graybeal Road. These redistributed volumes can be seen in FIGURE 2.

The redistributed roadway trips in FIGURE 2 were combined with the existing intersection volumes in FIGURE 1. FIGURE 3 represents the 2026 combined traffic data with anticipated trips from the roadway closure. The volumes shown in FIGURE 3 are the combined volumes used in the analysis for the future conditions.

CAPACITY ANALYSES

Unsignalized intersection capacity analyses were performed using the HCS2024 Software at the studied intersections to evaluate the AM and PM peak hours for the existing and redistributed conditions. The analyses were performed with the 2025 existing traffic volumes and existing intersection traffic control and lane configurations.

The results from the analyses are expressed with a term "level of service" (LOS), which is based on the amount of delay experienced at the intersection. The LOS index ranges from LOS A, indicating excellent traffic conditions with minimal delay, to LOS F indicating very congested conditions with excessive delay. LOS D generally is considered the minimum acceptable condition in urban areas.



TABLE 2 may be referenced for tabular summaries of these analyses, while more detailed summaries are presented on the attached computer printouts.

TABLE 2 CAPACITY ANALYSIS SUMMARY			
INTERSECTION	TIME PERIOD	YEAR 2025 EXISTING (LOS/ DELAY)	YEAR 2026 REDISTRIBUTION (LOS/DELAY)
Buttermilk Road at Graybeal Road (SIDE STREET STOP) ¹	A.M.	A 8.7	N/A
	P.M.	A 8.7	N/A
Graybeal Road at Pittman Drive (SIDE STREET STOP) ¹	A.M.	A 8.6	A 8.8
	P.M.	A 8.5	A 8.8
Yarnell Road at Graybeal Road (SIDE STREET STOP) ¹	A.M.	B 12.6	B 12.6
	P.M.	A 9.8	A 9.8

¹SIDE STREET STOP CONTROL – Level-of-Service and Average Vehicular Delay (seconds) for side street approach utilizing HCM methodology.

The analysis indicates that the minor street approach at the intersections of Buttermilk Road at Graybeal Road, Graybeal Road at Pittman Drive and Yarnell Road at Graybeal Road currently operate at a Level of-Service (LOS) "B" or better during both the A.M. and P.M. peak hours and will continue to operate at an acceptable level of service after the closure of Graybeal Road between Buttermilk Road and Pittman Drive.

CONCLUSION

The primary conclusion of this evaluation is that the proposed roadway closure of Graybeal Road between Buttermilk Road and Pittman Drive will not cause any additional delay to the roadway network as a result of re-routing traffic.

CCI recommends that the proposed Graybeal Road closure begins at the property line for Parcel ID 129 080, owned by Vulcan Lands Inc., to preserve the existing driveway access to the properties located just east of the intersection of Buttermilk Road at Graybeal Road. The length of the proposed road closure would include approximately 3,400 LF of existing roadway measured between the corner of Parcel ID 1290 080 and the intersection of Graybeal Road at Pittman Drive.

CCI recommends adding a "NO OUTLET" W-14-2a sign to the existing street signpost located at the intersection Buttermilk Road at Graybeal Road and a "DEAD END" W-14-1 with Type 4 Object Markers at the proposed dead-end on Graybeal Road. The construction of a turnaround meeting AASHTO guidelines and / or the Knoxville Fire Prevention Bureau and Knox County Codes Administration may be necessary in order to maintain access to the existing driveways on Graybeal Road.

Please let us know if you have questions or need additional information.

Sincerely,

Wesley Stokes, PE.

c: CCI Project No. 01949-0000.000
Attachments: Figures & Capacity Analyses

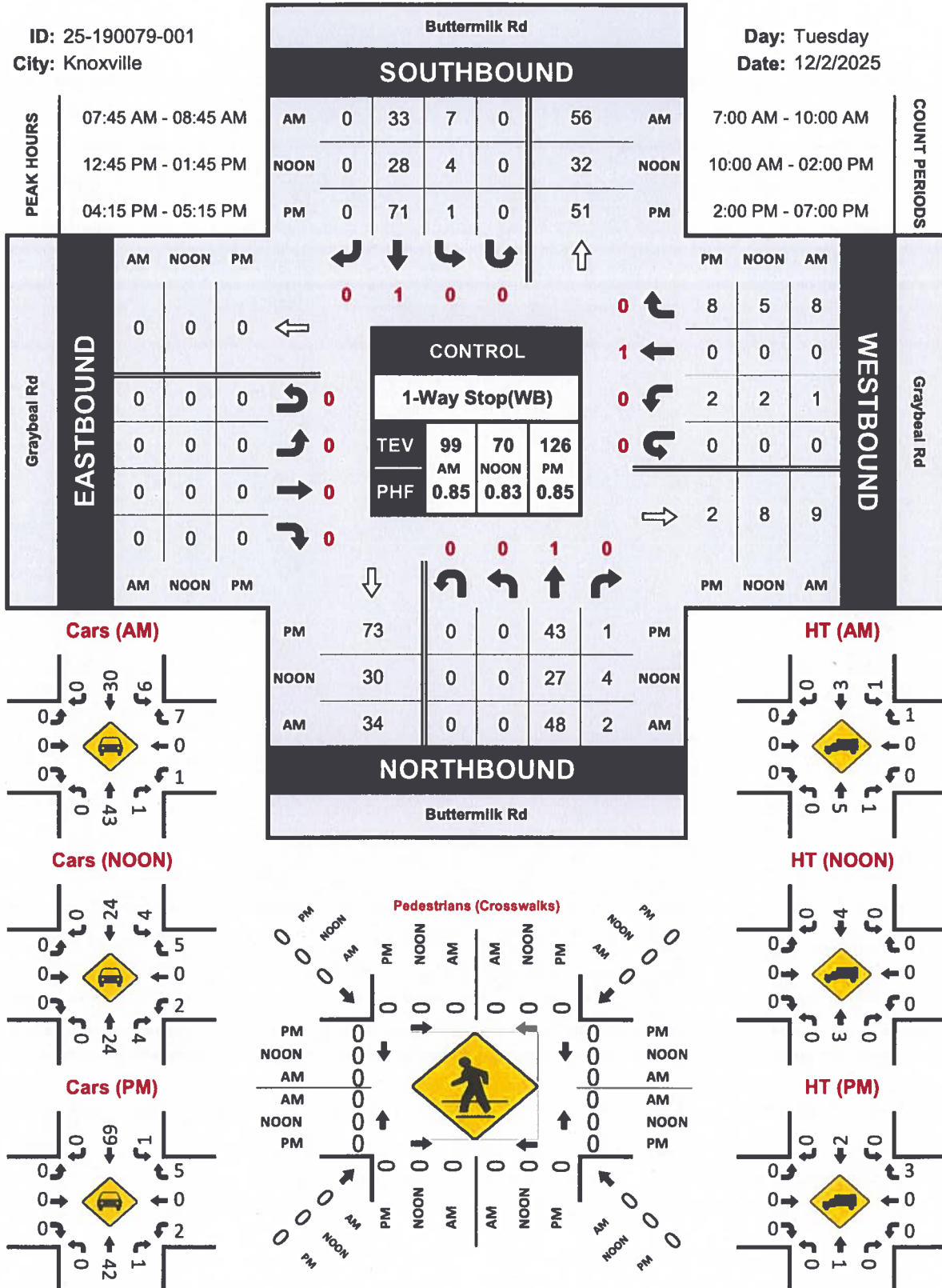


Buttermilk Rd & Graybeal Rd

Peak Hour Turning Movement Count

ID: 25-190079-001
City: Knoxville

Day: Tuesday
Date: 12/2/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Buttermilk Rd & Graybeal Rd
City: Knoxville
Control: 1-Way Stop(WB)

Project ID: 25-190079-001
Date: 12/2/2025

Data - Total

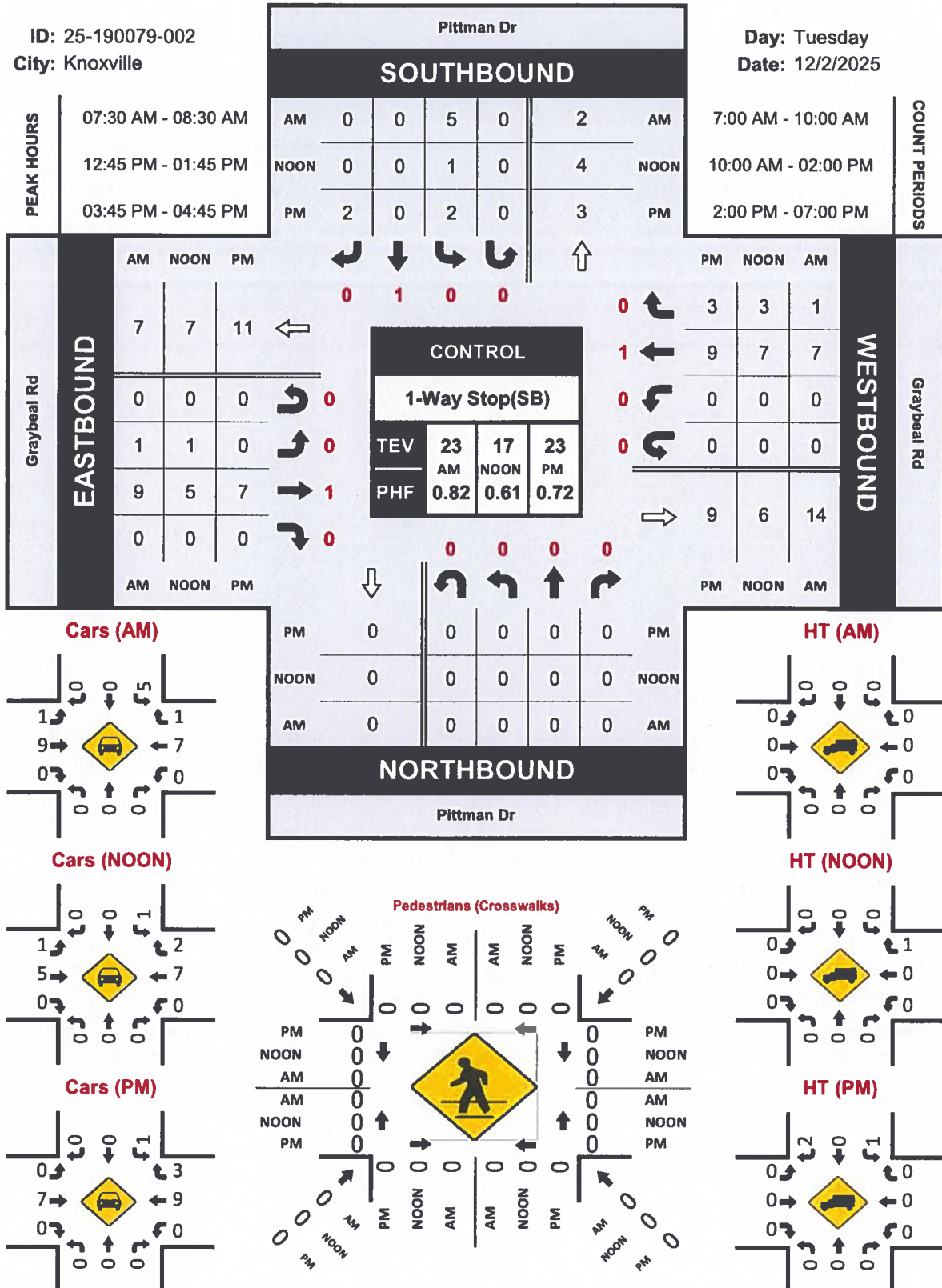
NS/EW Streets:	Buttermilk Rd				Buttermilk Rd				Graybeal Rd				Graybeal Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	10	0	0	1	9	0	0	0	0	0	0	0	0	0	0	20
7:15 AM	0	10	0	0	2	12	0	0	0	0	0	0	0	0	0	0	24
7:30 AM	0	10	0	0	4	5	0	0	0	0	0	0	1	0	0	0	20
7:45 AM	0	14	0	0	2	6	0	0	0	0	0	0	0	0	3	0	25
8:00 AM	0	16	0	0	2	8	0	0	0	0	0	0	0	0	3	0	29
8:15 AM	0	10	1	0	1	8	0	0	0	0	0	0	0	0	1	0	21
8:30 AM	0	8	1	0	2	11	0	0	0	0	0	0	1	0	1	0	24
8:45 AM	0	4	1	0	2	2	0	0	0	0	0	0	0	0	1	0	10
9:00 AM	0	6	0	0	0	5	0	0	0	0	0	0	1	0	0	0	12
9:15 AM	0	3	0	0	1	3	0	0	0	0	0	0	0	0	0	0	7
9:30 AM	0	5	0	0	1	2	0	0	0	0	0	0	0	0	2	0	10
9:45 AM	0	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	6
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %:	0.00%	97.09%	2.91%	0.00%	20.88%	79.12%	0.00%	0.00%	0	0	0	0	21.43%	0.00%	78.57%	0.00%	208
PEAK HR:	07:45 AM - 08:45 AM				7	33	0	0	0	0	0	0	1	0	8	0	TOTAL
PEAK HR VOL:	0	48	2	0	0.875	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.667	0.000	99
PEAK HR FACTOR:	0.000	0.750	0.500	0.000	0.781	0.769							0.750				0.853
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
10:00 AM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
10:15 AM	0	5	1	0	0	4	0	0	0	0	0	0	0	0	1	0	11
10:30 AM	0	2	0	0	2	4	0	0	0	0	0	0	0	0	0	0	8
10:45 AM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	1	0	8
11:00 AM	0	8	1	0	0	4	0	0	0	0	0	0	0	0	0	0	13
11:15 AM	0	3	0	0	3	4	0	0	0	0	0	0	0	0	2	0	12
11:30 AM	0	4	1	0	2	5	0	0	0	0	0	0	1	0	0	0	13
11:45 AM	0	3	0	0	1	6	0	0	0	0	0	0	1	0	2	0	13
12:00 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
12:15 PM	0	4	0	0	0	7	0	0	0	0	0	0	1	0	1	0	13
12:30 PM	0	8	0	0	1	3	0	0	0	0	0	0	0	0	0	0	12
12:45 PM	0	7	0	0	0	9	0	0	0	0	0	0	1	0	1	0	18
1:00 PM	0	9	3	0	0	7	0	0	0	0	0	0	0	0	2	0	21
1:15 PM	0	6	0	0	2	6	0	0	0	0	0	0	1	0	1	0	16
1:30 PM	0	5	1	0	2	6	0	0	0	0	0	0	0	0	1	0	15
1:45 PM	0	3	1	0	2	5	0	0	0	0	0	0	0	0	1	0	12
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %:	0.00%	90.70%	9.30%	0.00%	15.79%	84.21%	0.00%	0.00%	0	0	0	0	27.78%	0.00%	72.22%	0.00%	199
PEAK HR:	12:45 PM - 01:45 PM				4	28	0	0	0	0	0	0	2	0	5	0	TOTAL
PEAK HR VOL:	0	27	4	0	0.500	0.778	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.625	0.000	70
PEAK HR FACTOR:	0.000	0.750	0.333	0.000	0.646	0.889							0.875				0.833
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	3	0	17
2:15 PM	0	9	1	0	1	6	0	0	0	0	0	0	0	0	1	0	18
2:30 PM	0	12	1	0	2	3	0	0	0	0	0	0	0	0	3	0	21
2:45 PM	0	4	0	0	0	2	0	0	0	0	0	0	1	0	0	0	7
3:00 PM	0	5	0	0	2	7	0	0	0	0	0	0	1	0	1	0	16
3:15 PM	0	7	0	0	1	7	0	0	0	0	0	0	1	0	2	0	18
3:30 PM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	3	0	17
3:45 PM	0	8	1	0	0	12	0	0	0	0	0	0	0	0	4	0	25
4:00 PM	0	8	1	0	2	20	0	0	0	0	0	0	0	0	2	0	33
4:15 PM	0	11	0	0	0	16	0	0	0	0	0	0	2	0	1	0	30
4:30 PM	0	10	1	0	0	20	0	0	0	0	0	0	0	0	2	0	33
4:45 PM	0	10	0	0	0	14	0	0	0	0	0	0	0	0	2	0	26
5:00 PM	0	12	0	0	1	21	0	0	0	0	0	0	0	0	3	0	37
5:15 PM	0	5	1	0	1	11	0	0	0	0	0	0	0	0	0	0	18
5:30 PM	0	15	1	0	1	10	0	0	0	0	0	0	0	0	0	0	27
5:45 PM	0	10	1	0	0	8	0	0	0	0	0	0	0	0	1	0	20
6:00 PM	0	9	0	0	1	8	0	0	0	0	0	0	1	0	1	0	20
6:15 PM	0	10	0	0	0	5	0	0	0	0	0	0	0	0	1	0	16
6:30 PM	0	8	0	0	0	6	0	0	0	0	0	0	0	0	0	0	14
6:45 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %:	0.00%	95.56%	4.44%	0.00%	5.80%	94.20%	0.00%	0.00%	0	0	0	0	16.67%	0.00%	83.33%	0.00%	423
PEAK HR:	04:15 PM - 05:15 PM				1	71	0	0	0	0	0	0	2	0	8	0	TOTAL
PEAK HR VOL:	0	43	1	0	0.250	0.845	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.667	0.000	126
PEAK HR FACTOR:	0.000	0.896	0.250	0.000	0.917	0.818							0.833				0.851

Pittman Dr & Graybeal Rd

Peak Hour Turning Movement Count

ID: 25-190079-002
City: Knoxville

Day: Tuesday
Date: 12/2/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Pittman Dr & Graybeal Rd
City: Knoxville
Control: 1-Way Stop(SB)

Project ID: 25-190079-002
Date: 12/2/2025

Data - Total

NS/EW Streets:	Pittman Dr				Pittman Dr				Graybeal Rd				Graybeal Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	1	0	0	0	0	4	0	0	0	2	0	0	7
7:45 AM	0	0	0	0	2	0	0	0	0	1	0	0	0	2	0	0	5
8:00 AM	0	0	0	0	1	0	0	0	0	3	0	0	0	2	0	0	6
8:15 AM	0	0	0	0	1	0	0	0	1	1	0	0	0	1	1	0	5
8:30 AM	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
9:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %:	0	0	0	0	8	0	0	0	2	20	0	0	0	12	2	0	44
PEAK HR:	07:30 AM - 08:30 AM				100.00%	0.00%	0.00%	0.00%	9.09%	90.91%	0.00%	0.00%	0.00%	85.71%	14.29%	0.00%	
PEAK HR VOL:	0	0	0	0	5	0	0	0	1	9	0	0	0	7	1	0	TOTAL
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.250	0.563	0.000	0.000	0.000	0.875	0.250	0.000	23
						0.625				0.625				1.000			0.821

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
10:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
11:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
11:45 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	3	0	0	5
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
12:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	4	1	0	6
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	4	1	0	7
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	1	0	6
1:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	4
1:45 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %:	0	0	0	0	4	0	0	0	1	21	0	0	0	18	7	0	51
PEAK HR:	12:45 PM - 01:45 PM				100.00%	0.00%	0.00%	0.00%	4.55%	95.45%	0.00%	0.00%	0.00%	72.00%	28.00%	0.00%	
PEAK HR VOL:	0	0	0	0	1	0	0	0	1	5	0	0	0	7	3	0	TOTAL
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.313	0.000	0.000	0.000	0.438	0.750	0.000	0.607
						0.250				0.375				0.500			

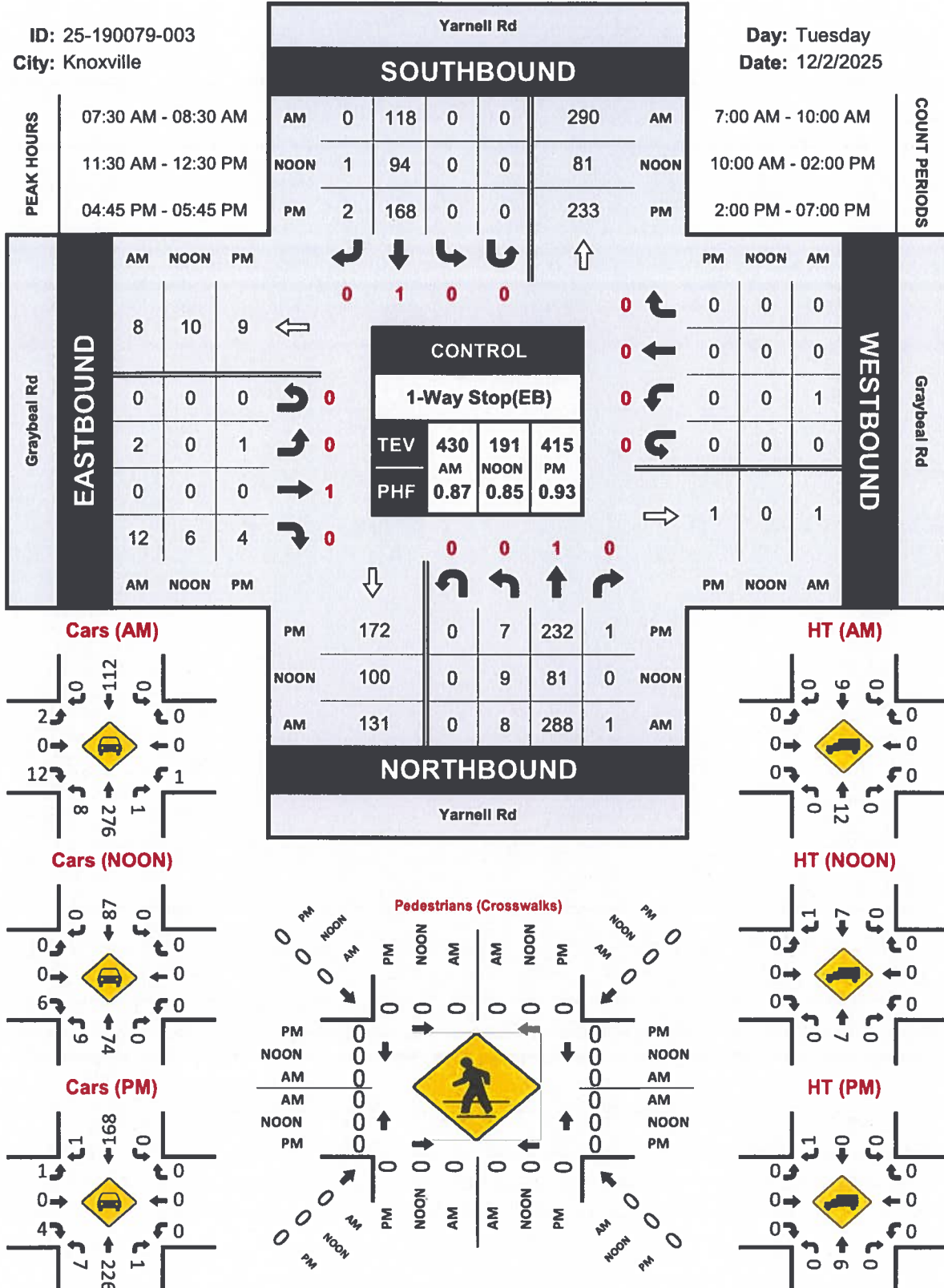
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	2	1	0	6
2:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	5
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	1	0	6
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	1	0	5
4:15 PM	0	0	0	0	1	0	1	0	0	4	0	0	0	2	0	0	8
4:30 PM	0	0	0	0	1	0	1	0	0	1	0	0	0	0	1	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	4
5:30 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	3
6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
6:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %:	0	0	0	0	4	0	3	0	0	21	0	0	0	32	11	0	71
PEAK HR:	03:45 PM - 04:45 PM				57.14%	0.00%	42.86%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	74.42%	25.58%	0.00%	
PEAK HR VOL:	0	0	0	0	2	0	2	0	0	7	0	0	0	9	3	0	TOTAL
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.438	0.000	0.000	0.000	0.563	0.750	0.000	0.719
						0.500				0.438				0.600			

Yarnell Rd & Graybeal Rd

Peak Hour Turning Movement Count

ID: 25-190079-003
City: Knoxville

Day: Tuesday
Date: 12/2/2025



National Data & Surveying Services

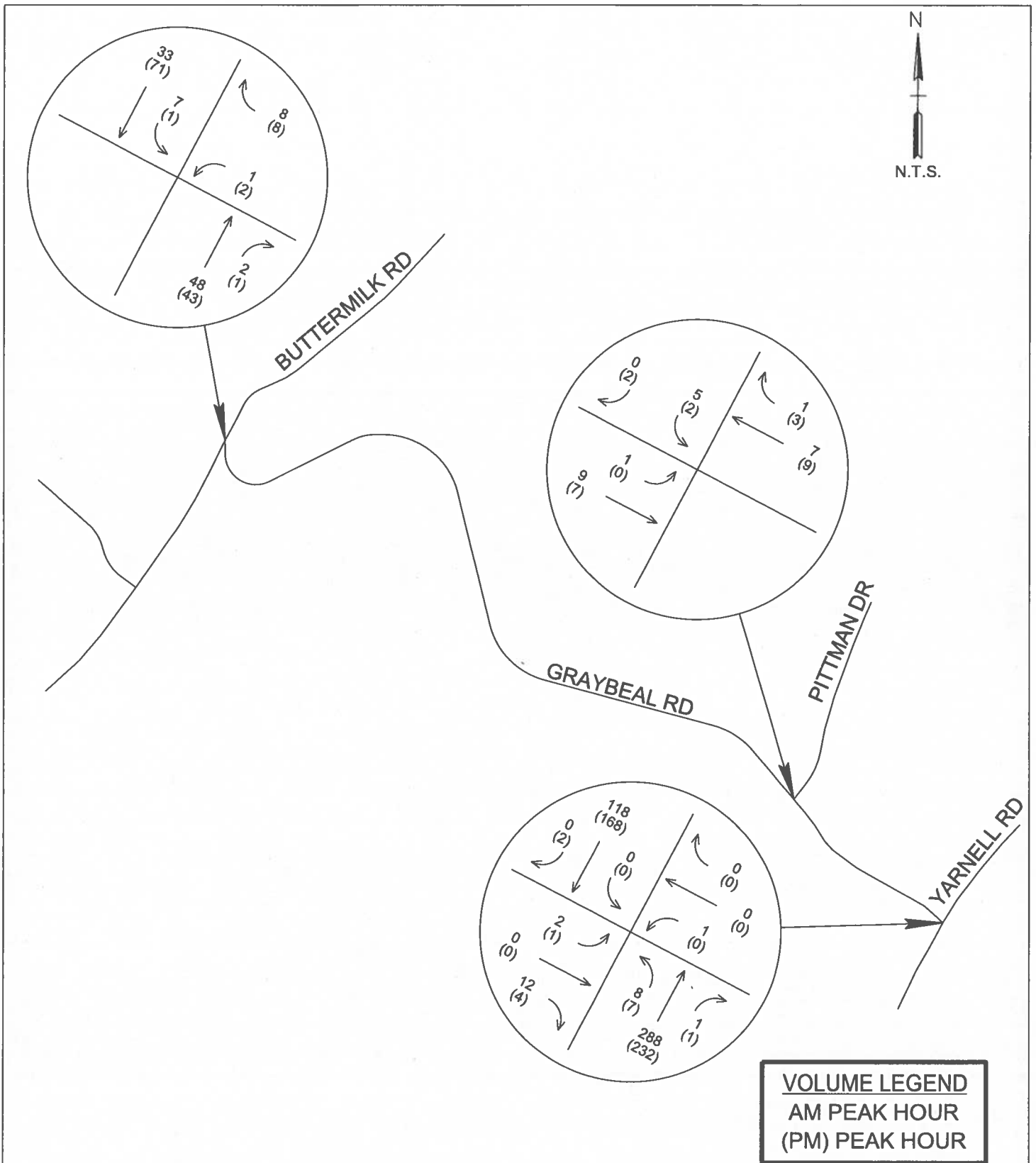
Intersection Turning Movement Count

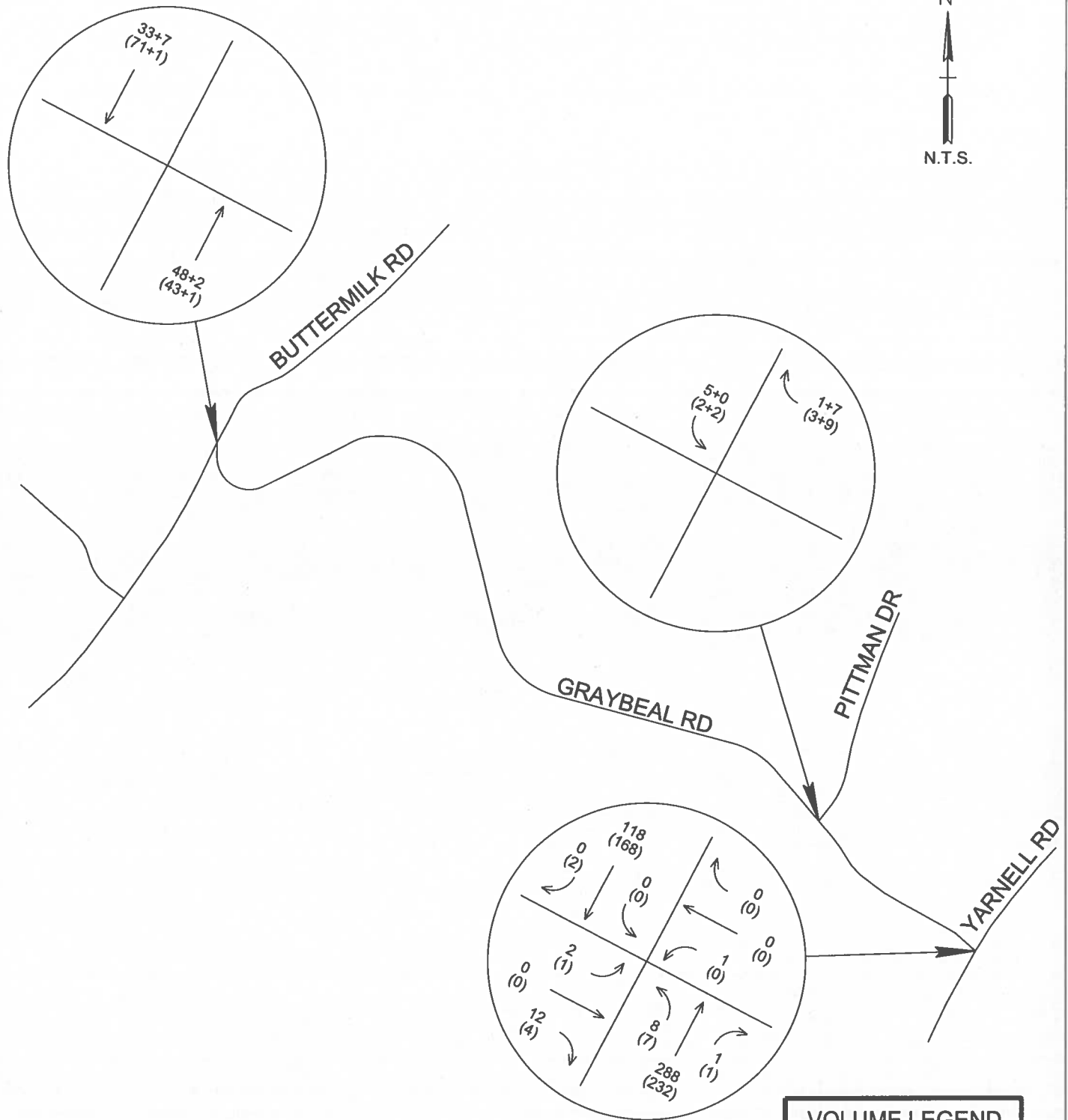
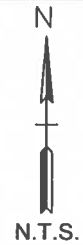
Location: Yamell Rd & Graybeal Rd
City: Knoxville
Control: 1-Way Stop(EB)

Project ID: 25-190079-003
Date: 12/2/2025

Data - Total

NS/EW Streets:	Yamell Rd				Yamell Rd				Graybeal Rd				Graybeal Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	30	0	0	0	13	0	0	0	0	2	0	0	0	0	0	45
7:15 AM	0	41	0	0	0	23	0	0	0	0	3	0	0	0	0	0	67
7:30 AM	2	75	0	0	0	41	0	0	0	0	5	0	0	0	0	0	123
7:45 AM	2	73	1	0	0	29	0	0	1	0	2	0	1	0	0	0	109
8:00 AM	2	77	0	0	0	21	0	0	1	0	3	0	0	0	0	0	104
8:15 AM	2	63	0	0	0	27	0	0	0	0	2	0	0	0	0	0	94
8:30 AM	0	55	0	0	0	29	1	0	0	0	2	0	0	0	0	0	87
8:45 AM	1	36	0	0	0	19	1	0	0	0	3	0	0	0	0	0	60
9:00 AM	1	33	0	0	0	14	0	0	0	0	0	0	0	0	0	0	48
9:15 AM	0	38	0	0	0	17	0	0	0	0	1	0	0	0	0	0	56
9:30 AM	2	30	0	1	0	18	0	0	0	0	0	0	0	0	0	0	51
9:45 AM	1	21	0	0	0	13	0	0	0	0	3	0	0	0	0	0	38
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH % :	13	572	1	1	0	264	2	0	2	0	26	0	1	0	0	0	882
PEAK HR :	07:30 AM - 08:30 AM				0.00%				7.14%				100.00%				TOTAL
PEAK HR VOL :	8	288	1	0	0	118	0	0	2	0	12	0	1	0	0	0	430
PEAK HR FACTOR :	1.000	0.935	0.250	0.000	0.000	0.720	0.000	0.000	0.500	0.000	0.600	0.000	0.250	0.000	0.000	0.000	0.874
	0.940				0.720				0.700				0.250				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
10:00 AM	0	20	0	0	0	17	0	0	0	0	1	0	0	0	0	0	38
10:15 AM	0	15	0	0	0	14	0	0	0	0	0	0	0	0	0	0	29
10:30 AM	0	14	0	0	0	11	1	0	0	0	2	0	0	0	0	0	28
10:45 AM	1	19	0	0	0	18	0	0	0	0	0	0	0	0	0	0	38
11:00 AM	0	12	0	0	0	13	0	0	0	0	1	0	0	0	0	0	26
11:15 AM	2	13	0	0	0	11	0	0	1	0	2	0	0	0	0	0	29
11:30 AM	1	27	0	0	0	25	0	0	0	0	3	0	0	0	0	0	56
11:45 AM	3	16	0	0	0	19	0	0	0	0	2	0	0	0	0	0	40
12:00 PM	2	23	0	0	0	26	0	0	0	0	0	0	0	0	0	0	51
12:15 PM	3	15	0	0	0	24	1	0	0	0	1	0	0	0	0	0	44
12:30 PM	0	20	1	0	0	25	0	0	0	0	1	0	1	0	0	0	48
12:45 PM	4	13	0	0	0	17	0	0	2	0	0	0	0	0	0	0	36
1:00 PM	0	28	0	0	0	18	0	0	0	0	0	0	0	0	0	0	46
1:15 PM	3	29	0	0	0	16	0	0	0	0	4	0	0	0	0	0	52
1:30 PM	2	21	0	0	0	19	1	0	0	0	1	0	0	0	0	0	44
1:45 PM	0	24	0	0	0	20	0	0	0	0	4	0	0	0	0	0	48
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH % :	21	309	1	0	0	293	3	0	3	0	22	0	1	0	0	0	653
PEAK HR :	11:30 AM - 12:30 PM				0.00%				12.00%				100.00%				TOTAL
PEAK HR VOL :	9	81	0	0	0	94	1	0	0	0	6	0	0	0	0	0	191
PEAK HR FACTOR :	0.750	0.750	0.000	0.000	0.000	0.904	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.853
	0.804				0.913				0.500								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	3	28	0	0	0	16	1	0	2	0	1	0	0	0	0	0	51
2:15 PM	0	32	0	0	0	12	0	0	0	0	1	0	0	0	0	0	45
2:30 PM	3	45	0	0	0	24	0	0	2	0	1	0	0	0	0	0	75
2:45 PM	1	37	0	0	0	27	0	0	0	0	0	0	0	0	0	0	65
3:00 PM	2	30	0	0	0	14	1	0	0	0	2	0	0	0	0	0	49
3:15 PM	2	25	0	0	0	27	1	0	0	0	0	0	0	0	0	0	55
3:30 PM	4	26	0	0	0	21	0	0	0	0	0	0	0	0	0	0	51
3:45 PM	5	24	0	0	0	30	0	0	0	0	1	0	0	0	0	0	60
4:00 PM	3	35	0	0	0	44	1	0	0	0	1	0	0	0	0	0	84
4:15 PM	2	36	0	0	0	37	1	0	1	0	4	0	0	0	0	0	81
4:30 PM	0	39	0	0	0	27	0	0	0	0	2	0	0	0	0	0	68
4:45 PM	3	47	0	0	0	46	1	0	0	0	0	0	0	0	0	0	97
5:00 PM	2	64	0	0	0	44	1	0	0	0	1	0	0	0	0	0	112
5:15 PM	2	55	1	0	0	44	0	0	1	0	1	0	0	0	0	0	104
5:30 PM	0	66	0	0	0	34	0	0	0	0	2	0	0	0	0	0	102
5:45 PM	2	47	1	0	0	37	0	0	0	0	1	0	2	0	0	0	90
6:00 PM	1	32	0	0	0	31	0	0	0	0	1	0	0	0	0	0	65
6:15 PM	1	16	0	0	0	26	0	0	0	0	1	0	0	0	0	0	44
6:30 PM	0	22	0	0	0	19	0	0	0	0	0	0	0	0	0	0	41
6:45 PM	0	11	0	0	0	14	1	0	0	0	0	0	0	0	0	0	26
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH % :	36	717	2	0	0	574	8	0	6	0	20	0	2	0	0	0	1365
PEAK HR :	04:45 PM - 05:45 PM				0.00%				23.08%				100.00%				TOTAL
PEAK HR VOL :	7	232	1	0	0	168	2	0	1	0	4	0	0	0	0	0	415
PEAK HR FACTOR :	0.583	0.879	0.250	0.000	0.000	0.913	0.500	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.926
	0.909				0.904				0.625								





NOTE:
 ASSUMES GRAYBEAL ROAD
 CLOSURE BETWEEN BUTTERMILK
 ROAD AND PITTMAN DRIVE.

VOLUME LEGEND
 AM PEAK HOUR
 (PM) PEAK HOUR

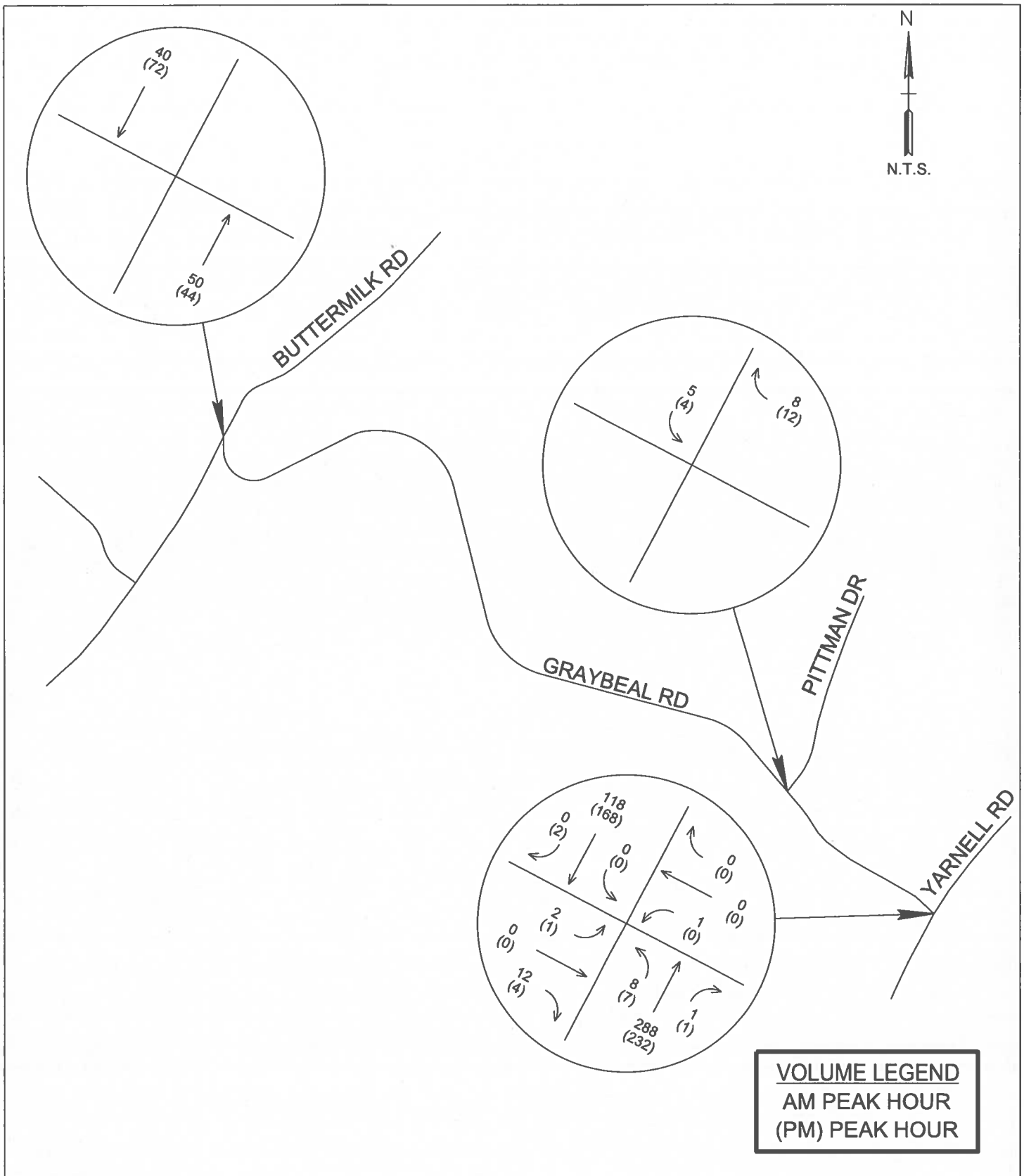


10025 Investment Drive, Suite 120
 Knoxville, TN 37932

865.670.8555
www.cci-corp.com

FIGURE 2
 REDISTRIBUTED VOLUMES (2026)

**GRAYBEAL ROAD CLOSURE
 TRANSPORTATION IMPACT LETTER**



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FIGURE 3
 COMBINED VOLUMES (2026)

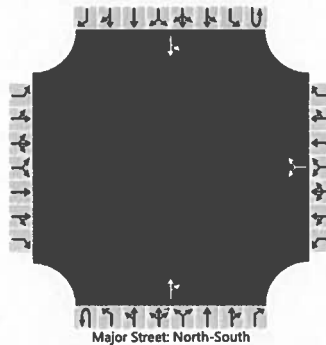
**GRAYBEAL ROAD CLOSURE
 TRANSPORTATION IMPACT LETTER**

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Buttermilk Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Buttermilk Road
Time Analyzed	Existing AM Peak	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						1		8			48	2		7	33	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.42		6.22						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

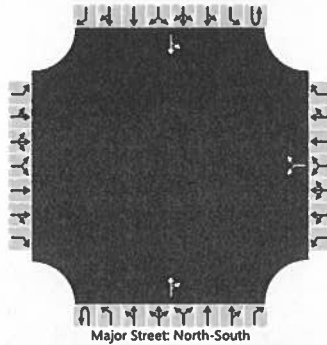
Flow Rate, v (veh/h)						11								8		
Capacity, c (veh/h)						992								1545		
v/c Ratio						0.01								0.01		
95% Queue Length, Q ₉₅ (veh)						0.0								0.0		
95% Queue Length, Q ₉₅ (ft)						0.0								0.0		
Control Delay (s/veh)						8.7								7.3	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					8.7								1.3			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Buttermilk Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Buttermilk Road
Time Analyzed	Existing PM Peak	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						2		8			43	1		1	71	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.42		6.22						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

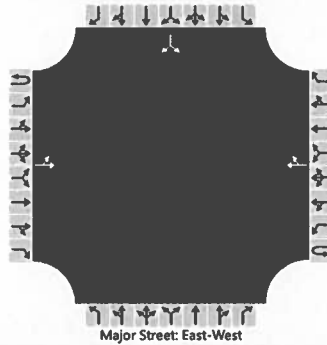
Flow Rate, v (veh/h)						12								1		
Capacity, c (veh/h)						980								1554		
v/c Ratio						0.01								0.00		
95% Queue Length, Q ₉₅ (veh)						0.0								0.0		
95% Queue Length, Q ₉₅ (ft)						0.0								0.0		
Control Delay (s/veh)						8.7								7.3	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					8.7								0.1			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Pittman Drive at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Pittman Drive
Time Analyzed	Existing AM Peak	Peak Hour Factor	0.82
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	9				7	1						5		0
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

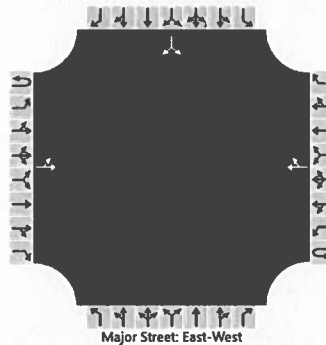
Flow Rate, v (veh/h)		1													6	
Capacity, c (veh/h)		1610													993	
v/c Ratio		0.00													0.01	
95% Queue Length, Q ₉₅ (veh)		0.0													0.0	
95% Queue Length, Q ₉₅ (ft)		0.0													0.0	
Control Delay (s/veh)		7.2	0.0												8.6	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.7												8.6			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Pittman Drive at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Pittman Drive
Time Analyzed	Existing PM Peak	Peak Hour Factor	0.72
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	7				9	3						2		2
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

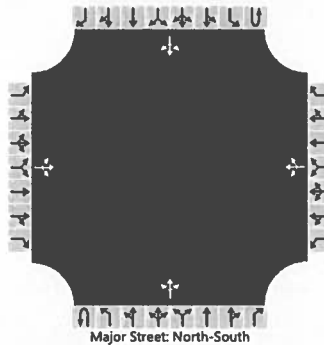
Flow Rate, v (veh/h)		0													6	
Capacity, c (veh/h)		1601													1027	
v/c Ratio		0.00													0.01	
95% Queue Length, Q ₉₅ (veh)		0.0													0.0	
95% Queue Length, Q ₉₅ (ft)															0.0	
Control Delay (s/veh)		7.2	0.0												8.5	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.0												8.5			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Yarnell Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Yarnell Road
Time Analyzed	Existing AM Peak	Peak Hour Factor	0.87
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	0	12		1	0	0		8	288	1		0	118	0
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

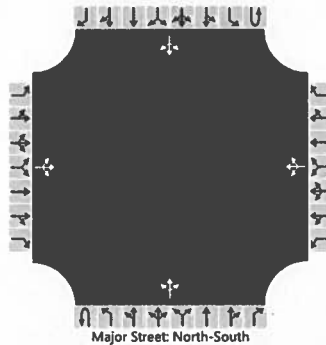
Flow Rate, v (veh/h)			16				1			9				0		
Capacity, c (veh/h)			812				476			1449				1227		
v/c Ratio			0.02				0.00			0.01				0.00		
95% Queue Length, Q ₉₅ (veh)			0.1				0.0			0.0				0.0		
95% Queue Length, Q ₉₅ (ft)			2.5				0.0									
Control Delay (s/veh)			9.5				12.6			7.5	0.1	0.1		7.9	0.0	0.0
Level of Service (LOS)			A				B			A	A	A		A	A	A
Approach Delay (s/veh)	9.5				12.6				0.3				0.0			
Approach LOS	A				B				A				A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Yarnell Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Yarnell Road
Time Analyzed	Existing PM Peak	Peak Hour Factor	0.93
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	4		0	0	0		7	232	1		0	168	2
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

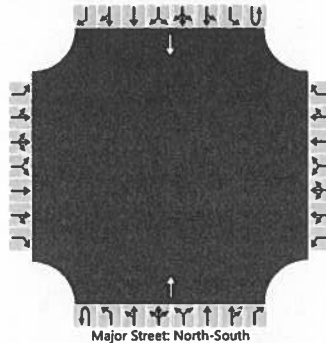
Flow Rate, v (veh/h)			5				0			8				0		
Capacity, c (veh/h)			761				0			1392				1315		
v/c Ratio			0.01							0.01				0.00		
95% Queue Length, Q ₉₅ (veh)			0.0							0.0				0.0		
95% Queue Length, Q ₉₅ (ft)			0.0													
Control Delay (s/veh)			9.8							7.6	0.0	0.0		7.7	0.0	0.0
Level of Service (LOS)			A							A	A	A		A	A	A
Approach Delay (s/veh)	9.8								0.3				0.0			
Approach LOS	A								A				A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Buttermilk Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Buttermilk Road
Time Analyzed	Combined AM Peak	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	0	1	0	0	0	1	0
Configuration											T				T	
Volume (veh/h)											50				40	
Percent Heavy Vehicles (%)																
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

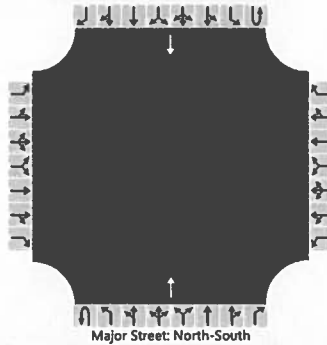
Flow Rate, v (veh/h)																
Capacity, c (veh/h)																
v/c Ratio																
95% Queue Length, Q ₉₅ (veh)																
95% Queue Length, Q ₉₅ (ft)																
Control Delay (s/veh)																
Level of Service (LOS)																
Approach Delay (s/veh)																
Approach LOS																

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Buttermilk Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Buttermilk Road
Time Analyzed	Combined PM Peak	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	0	1	0	0	0	1	0
Configuration											T				T	
Volume (veh/h)											44				72	
Percent Heavy Vehicles (%)																
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

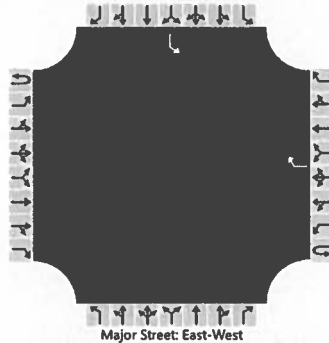
Flow Rate, v (veh/h)																
Capacity, c (veh/h)																
v/c Ratio																
95% Queue Length, Q ₉₅ (veh)																
95% Queue Length, Q ₉₅ (ft)																
Control Delay (s/veh)																
Level of Service (LOS)																
Approach Delay (s/veh)																
Approach LOS																

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Pittman Drive at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Pittman Drive
Time Analyzed	Combined AM Peak	Peak Hour Factor	0.82
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	0	0	0	0	0	1		0	0	0		1	0	0
Configuration								R						L		
Volume (veh/h)								8						5		
Percent Heavy Vehicles (%)														2		
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized					No											
Median Type Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)														6.4		
Critical Headway (sec)														5.74		
Base Follow-Up Headway (sec)														3.8		
Follow-Up Headway (sec)														3.82		

Delay, Queue Length, and Level of Service

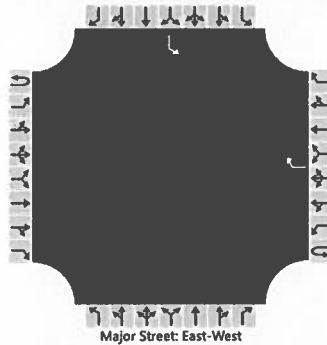
Flow Rate, v (veh/h)														6		
Capacity, c (veh/h)														942		
v/c Ratio														0.01		
95% Queue Length, Q ₉₅ (veh)														0.0		
95% Queue Length, Q ₉₅ (ft)														0.0		
Control Delay (s/veh)														8.8		
Level of Service (LOS)														A		
Approach Delay (s/veh)													8.8			
Approach LOS													A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Pittman Drive at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Pittman Drive
Time Analyzed	Combined PM Peak	Peak Hour Factor	0.72
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	0	0	0	0	0	1		0	0	0		1	0	0
Configuration								R						L		
Volume (veh/h)								12						4		
Percent Heavy Vehicles (%)														2		
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized					No											
Median Type Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)														6.4		
Critical Headway (sec)														5.74		
Base Follow-Up Headway (sec)														3.8		
Follow-Up Headway (sec)														3.82		

Delay, Queue Length, and Level of Service

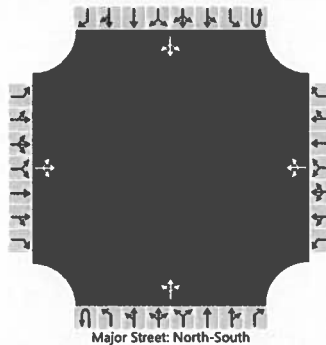
Flow Rate, v (veh/h)														6		
Capacity, c (veh/h)														942		
v/c Ratio														0.01		
95% Queue Length, Q ₉₅ (veh)														0.0		
95% Queue Length, Q ₉₅ (ft)														0.0		
Control Delay (s/veh)														8.8		
Level of Service (LOS)														A		
Approach Delay (s/veh)													8.8			
Approach LOS													A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Yarnell Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Yarnell Road
Time Analyzed	Combined AM Peak	Peak Hour Factor	0.87
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	0	12		1	0	0		8	288	1		0	118	0
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

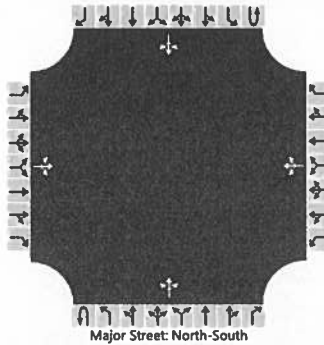
Flow Rate, v (veh/h)			16				1				9				0	
Capacity, c (veh/h)			812				476				1449				1227	
v/c Ratio			0.02				0.00				0.01				0.00	
95% Queue Length, Q ₉₅ (veh)			0.1				0.0				0.0				0.0	
95% Queue Length, Q ₉₅ (ft)			2.5				0.0									
Control Delay (s/veh)			9.5				12.6				7.5	0.1	0.1		7.9	0.0
Level of Service (LOS)			A				B				A	A	A		A	A
Approach Delay (s/veh)	9.5				12.6				0.3				0.0			
Approach LOS	A				B				A				A			

HCS Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	Yarnell Road at Graybeal Road
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	1/15/2026	East/West Street	Graybeal Road
Analysis Year	2026	North/South Street	Yarnell Road
Time Analyzed	Combined PM Peak	Peak Hour Factor	0.93
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Graybeal Road Closure TIL		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	4		0	0	0		7	232	1		0	168	2
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				0			8				0		
Capacity, c (veh/h)			761				0			1392				1315		
v/c Ratio			0.01							0.01				0.00		
95% Queue Length, Q ₉₅ (veh)			0.0							0.0				0.0		
95% Queue Length, Q ₉₅ (ft)			0.0													
Control Delay (s/veh)			9.8							7.6	0.0	0.0		7.7	0.0	0.0
Level of Service (LOS)			A							A	A	A		A	A	A
Approach Delay (s/veh)	9.8								0.3				0.0			
Approach LOS	A								A				A			

Proposed Permitted Area (Parcel 129 08001)

Metes and Bounds Description

TRACT III: BEGINNING at an iron pin in the Northern or Northeastern right of way of Graybeal Road, a distance of 497.70 feet, more or less, along said right of way line in a northwesterly direction from its point of intersection with the centerline of Pittman Road; thence with the right of way of said Graybeal Road the following calls: along a curve to the left having a chord of N. 66-54 W. for 262.94 feet to a point; thence N. 78-08 W. for 224.84 feet to a point; thence N. 72-31 W. for 469.91 feet to a point; thence along a curve to the right having a chord of N. 46-22 W. for 337.70 feet to an iron pin, being a corner with Jack Truitt; thence with Jack Truitt N. 69-48 E. for 524.04 feet to an iron pin; thence with Jack Truitt N. 57-17 E. for 773.00 feet to an iron pin, being a common corner with Jack Truitt and Edward Bryant; thence with Bryant and with a fence S. 42-52 E. for 889.44 feet to an iron pin, being a common corner with Bryant and Dunaway; thence with Dunaway and with a fence S. 51-34 W. for 756.60 feet to the point of beginning and containing 23.11 acres by the survey dated February 15, 1989 of Sizemore-Lynch and Associates.

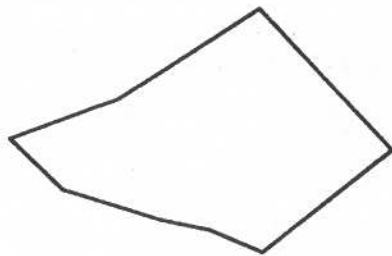
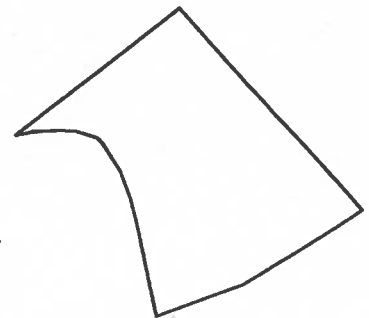


EXHIBIT
7.0

Proposed Permitted Area (Parcel 129 080)

Metes and Bounds Description

TRACT II: BEGINNING at an iron pin located in the Northern or Northeastern right of way of Graybeal Road, a distance of 1,793.09 feet, more or less, along said right of way line in a northwesterly direction from its point of intersection with the centerline of Pittman Road, said pin being a corner with Richard Truitt; thence with the right of way of said Graybeal Road the following calls: along a curve to the right having a chord of N. 15-51W. for 58.16 feet to a point; thence N. 11-30 W. for 496.84 feet to a point; thence N. 15-17 W. for 203.07 feet to a point; thence N. 23-36 W. for 172.02 feet to a point; thence N. 40-34 W. for 142.95 feet to a point; thence N. 71-25 W. for 128.24 feet to a point; thence N. 88-19 W. for 178.09 feet to a point; thence S. 79-24 W. for 155.77 feet to an iron pin; thence leaving the right of way of Graybeal Road and continuing N. 51-46 E. for 229.78 feet to an iron pin, being a corner with Sims; thence with Sims N. 51-50 E. for 263.50 feet to an iron pin, being a common corner with Sims and Bowerman; thence with Bowerman N. 52-32 E. for 124.52 feet to an iron pin; thence N. 52-32 E. for 124.51 feet to an iron pin, being a common corner with Bowerman and Perry; thence with Perry N. 52-01 E. for 119.91 feet to an iron pin, being a corner with Perry and Lamans; thence with Lamans N. 52-36 E. for 123.70 feet to an iron pin, being a corner with Lamans and Sims; thence with Sims N. 51-26 E. for 170.74 feet to an iron pin, being a corner with Sims and Bryant; thence with Bryant and with a fence S. 41-45 E. for 1,522.05 feet to an iron pin, being a corner with Bryant and Richard Truitt; thence with Richard Truitt S. 57-17 W. for 773.00 feet to an iron pin; thence S. 69-48 W. for 524.04 feet to the point of beginning and containing 33.56 acres by the survey dated February 15, 1989, by Sizemore-Lynch and Associates.



Consistent with the current quarry operations, the extension area will be screened by vegetated berms.



The vegetated screening berm will be approximately 20-25 feet high above grade and follow the existing topography. It will be planted with fast-growing nurse crop mixed with deep rooted perennial grasses, native grasses and wildflowers.

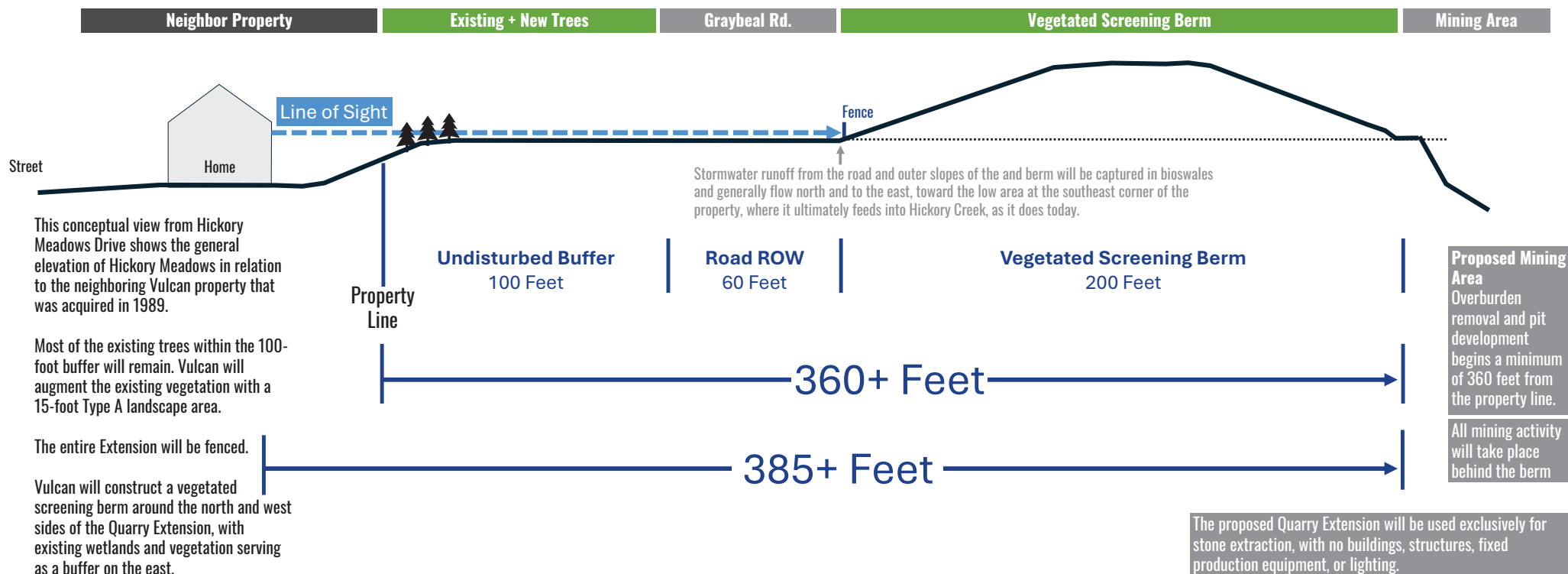
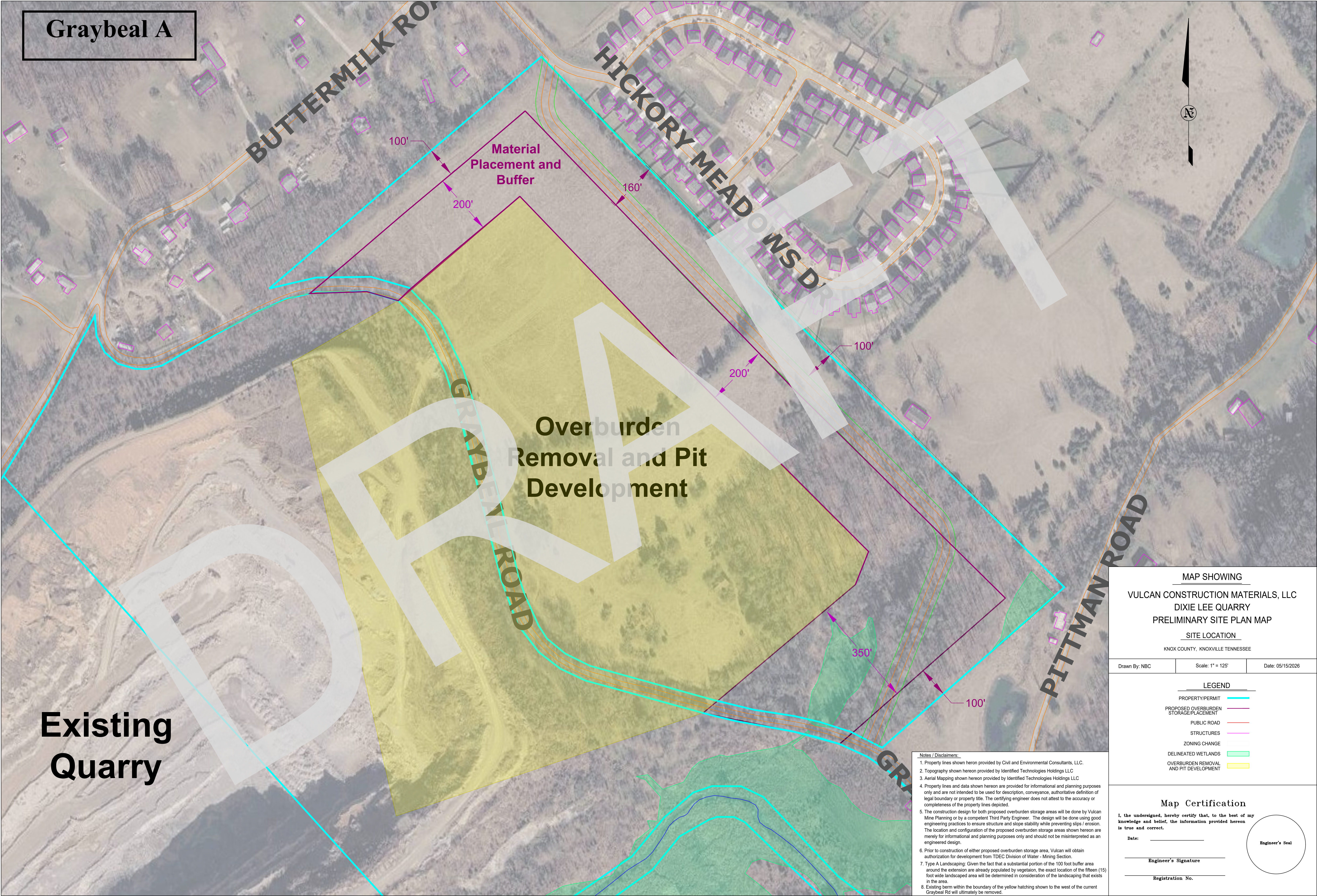


EXHIBIT R8: SIGHTLINE DRAWING

Perspective from Hickory Meadows Drive



Graybeal A

Graybeal A

Existing
Quarry

Overburden
Removal and Pit
Development

MAP SHOWING

VULCAN CONSTRUCTION MATERIALS, LLC
DIXIE LEE QUARRY
PRELIMINARY SITE PLAN MAP

SITE LOCATION

KNOX COUNTY, KNOXVILLE TENNESSEE

Drawn By: NBC

Scale: 1" = 125'

Date: 05/15/2026

LEGEND

PROPERTY/PERMIT

PROPOSED OVERBURDEN
STORAGE/PLACEMENT

PUBLIC ROAD

STRUCTURES

ZONING CHANGE

DELINEATED WETLANDS

OVERBURDEN REMOVAL
AND PIT DEVELOPMENT

Notes / Disclaimers:

1. Property lines shown heron provided by Civil and Environmental Consultants, LLC.
2. Topography shown hereon provided by Identified Technologies Holdings LLC
3. Aerial Mapping shown hereon provided by Identified Technologies Holdings LLC
4. Property lines and data shown hereon are provided for informational and planning purposes only and are not intended to be used for description, conveyance, authoritative definition of legal boundary or property title. The certifying engineer does not attest to the accuracy or completeness of the property lines depicted.
5. The construction design for both proposed overburden storage areas will be done by Vulcan Mine Planning or by a competent Third Party Engineer. The design will be done using good engineering practices to ensure structure and slope stability while preventing slips / erosion. The location and configuration of the proposed overburden storage areas shown hereon are merely for informational and planning purposes only and should not be misinterpreted as an engineered design.
6. Prior to construction of either proposed overburden storage area, Vulcan will obtain authorization for development from TDEC Division of Water - Mining Section.
7. Type A Landscaping: Given the fact that a substantial portion of the 100 foot buffer area around the extension are already populated by vegetation, the exact location of the fifteen (15) foot wide landscaped area will be determined in consideration of the landscaping that exists in the area.
8. Existing berm within the boundary of the yellow hatching shown to the west of the current Graybeal Rd will ultimately be removed.

Map Certification

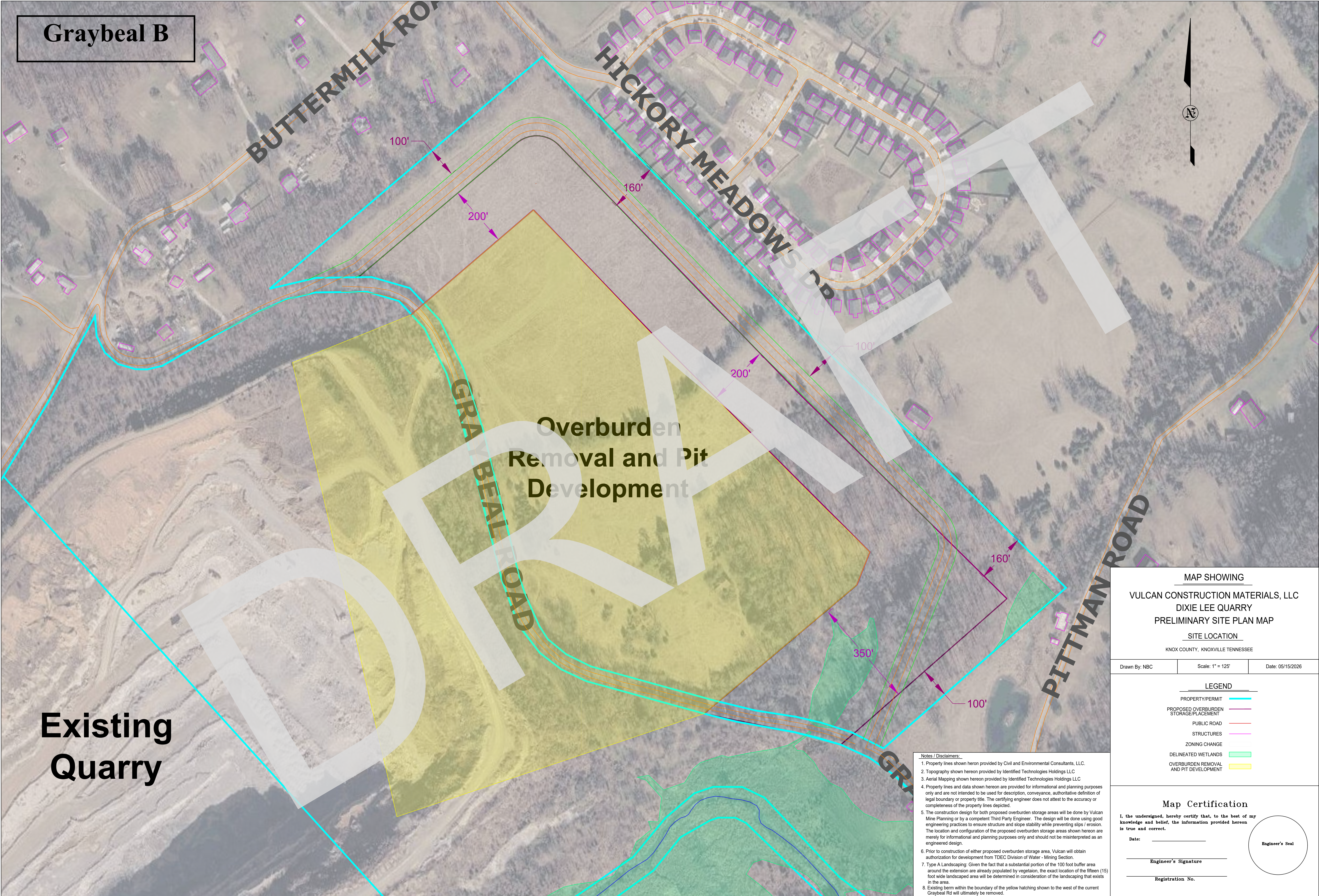
I, the undersigned, hereby certify that, to the best of my knowledge and belief, the information provided hereon is true and correct.

Date: _____

Engineer's Signature

Registration No.

Engineer's Seal



Graybeal B

BUTTERMILK ROAD

HICKORY MEADOWS DR

GRAYBEAL ROAD

PITTMAN ROAD

Overburden
Removal and Pit
Development

Existing
Quarry



MAP SHOWING

VULCAN CONSTRUCTION MATERIALS, LLC
DIXIE LEE QUARRY
PRELIMINARY SITE PLAN MAP

SITE LOCATION

KNOX COUNTY, KNOXVILLE TENNESSEE

Drawn By: NBC

Scale: 1" = 125'

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LEGEND

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DELINEATED WETLANDS

OVERBURDEN REMOVAL AND PIT DEVELOPMENT

Map Certification

I, the undersigned, hereby certify that, to the best of my knowledge and belief, the information provided hereon is true and correct.

Date:

Engineer's Signature

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