

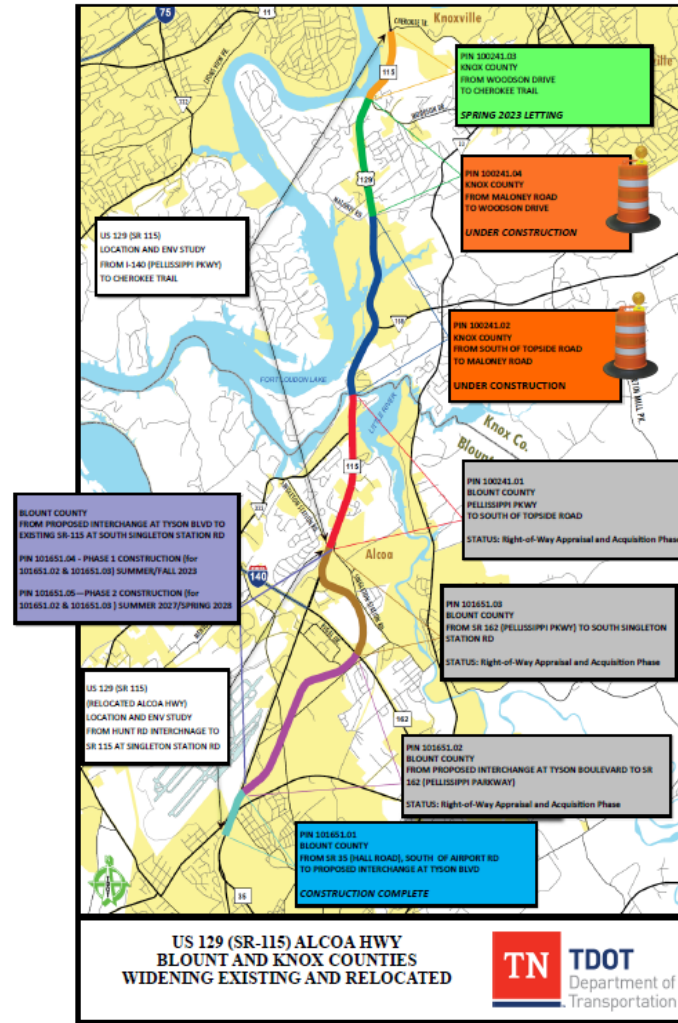


**TDOT**  
Department of  
Transportation

# CNX074 Knox County Mandatory Pre-bid Meeting

April 21, 2023

# Alcoa Highway Corridor Improvements



# Design Features

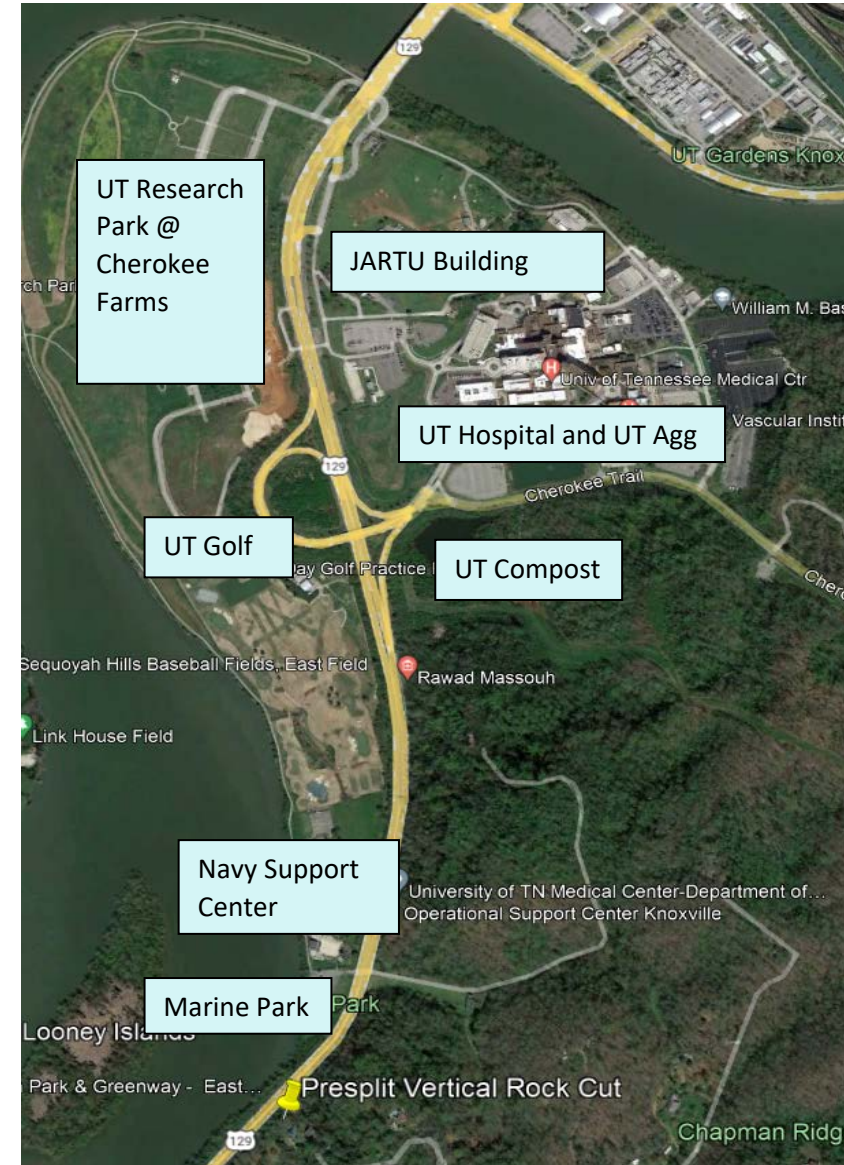
- Roadway Length – 1.6 Miles
- 2 Bridges
- 23 retaining walls
- 1 major interchange
- 2 roundabouts
- 4 traffic signals
- 1 pedestrian tunnel
- Major rock cuts
- Includes continuation of the Knox/Blount County Greenway System.
- Includes expansion of ITS system.

[TDOT Alcoa Highway Little River to Cherokee Trail Flythrough Animation - YouTube](#)



# Key Stakeholders

- University of Tennessee
  - Agriculture Campus
  - Athletics
- UT Medical Center
- UT Research Park at Cherokee Farms
- Navy Support Center/Marine Corps Reserve Center
- Marine Park – Knox County Parks and Rec



# Coordination w/ University of Tennessee and UT Medical Center.



- Discussions between Region 1 and leadership from UT and UT Medical Center began in 2016.
- Multiple interchange configurations were studied with the following criteria considered:
  - 85% of traffic exiting hospital/UT Ag Property are travelling north towards Knoxville.
  - Having public vehicle traffic separated from current ingress/egress for UT staff/students and UT Medical Center employees. This public vehicle traffic includes local traffic from Cherokee Trail.
  - Having traffic separated between UT Medical personnel and UT Agriculture Staff/Students.
  - Replacement of loss of at-grade access to Alcoa Highway.
  - Emergency Vehicle Access – Minimize number of signals needed for entrance to the hospital and provide preemption.
  - Connectivity (both vehicle and pedestrian) between Cherokee Farms and properties on eastern side of interchange.
  - Maintain access to UT Golf Facilities, Navy/Marine Center, and Marine Park.

# UT Medical Center

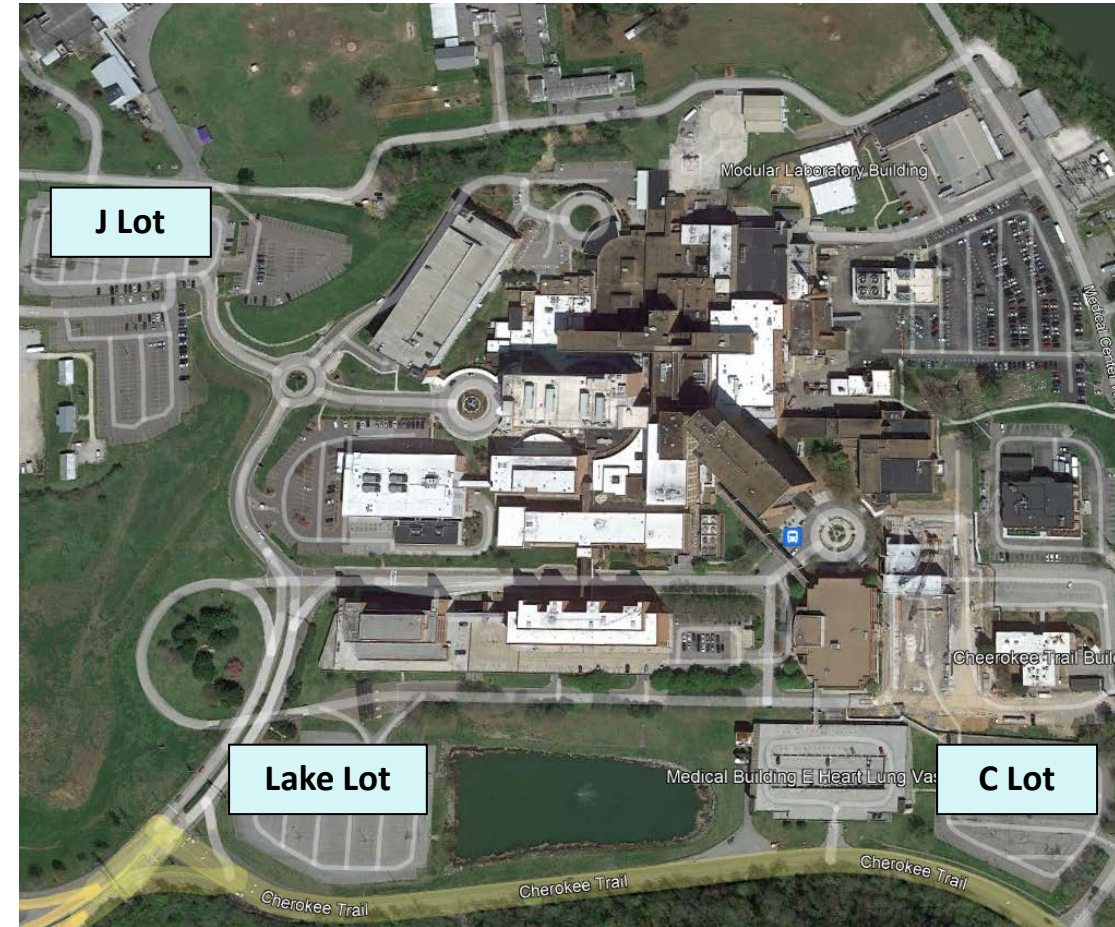
- Region's Academic Medical Center and Level 1 Trauma Center serving Eastern Tennessee, Southeastern Kentucky, and Western North Carolina.
- Hospital requires two separate ingresses/egresses for:
  - General Public-Visitors/Patients
  - Employees
- Existing ingress/egress
  - Public Entrance/Exit – Cherokee Trail Interchange
  - Employees – At-grade intersections/ramps on both Northbound and Southbound Alcoa Highway.
- UT Medical Center Master Plan
  - Proposed interchange design required heavy coordination with UT Medical to help best fit their future growth plans.



# UT Medical Center

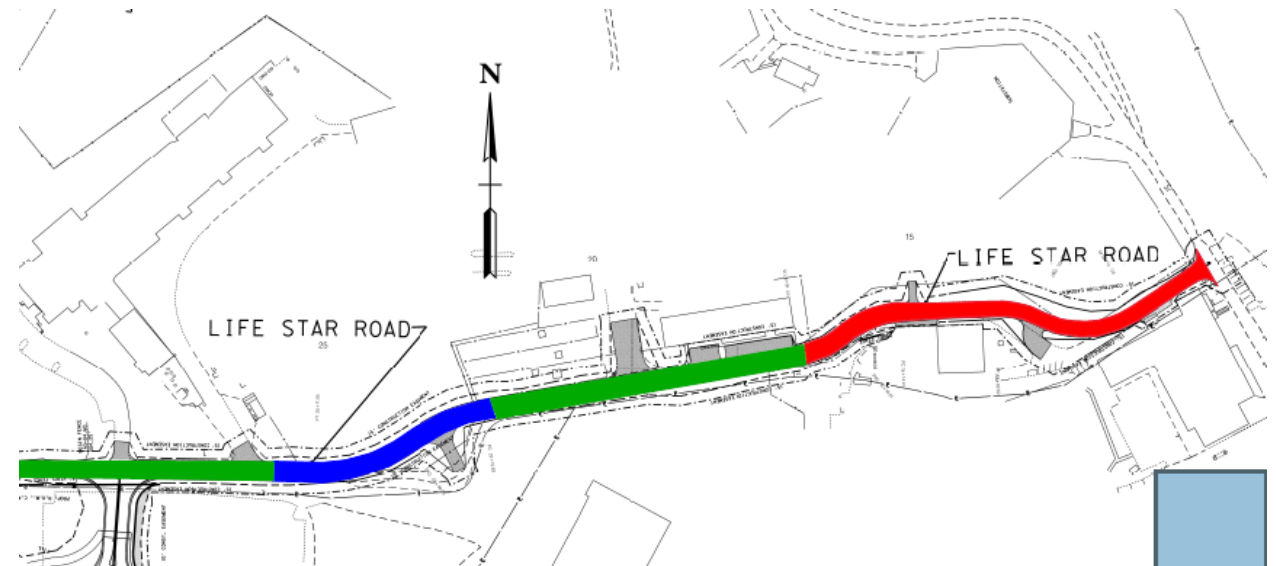
## UT Hospital Parking

- The plans are specific as to which parking lots can be used and when.
- At no point can two parking lots be under construction simultaneously.
- The contractor shall only use the construction easement shown in the parking lots for active construction (no parking of equipment or storage of material).
- Parking lot names have recently changed, however, plans are referenced using old naming convention.



# Lifestar Road

- All work including utility relocation must be performed in Phase 1 of Construction and is limited to 12 consecutive months from start to completion.
- All construction activities performed on Lifestar Road shall be performed during daytime hours.
- Access to all facilities and parking on Lifestar Road shall be maintained at all times during the project.
- Portions of Lifestar Road can be closed during construction.
  - The eastern portion of Lifestar Road (shown in red below), from approx. Sta. 10+00 to approx. Sta. 17+00 can be closed to thru traffic and shall be constructed first.
  - The western portion of Lifestar Road (shown in blue below), from approx. Sta. 22+00 to approx. Sta. 26+00 can be closed to thru traffic only after the eastern portion (shown in red below), has been completed and fully opened to thru traffic.
- These intermittent closures along Lifestar Road will be permitted for a maximum of 30 days for the installation of utilities, grading, curve correction, and general roadway construction.
- All closures shall be approved 14 days in advance by the engineer.
- Unencumbered access to the remaining portion of Lifestar Road and all facilities shall be maintained, open, and free from construction activities.



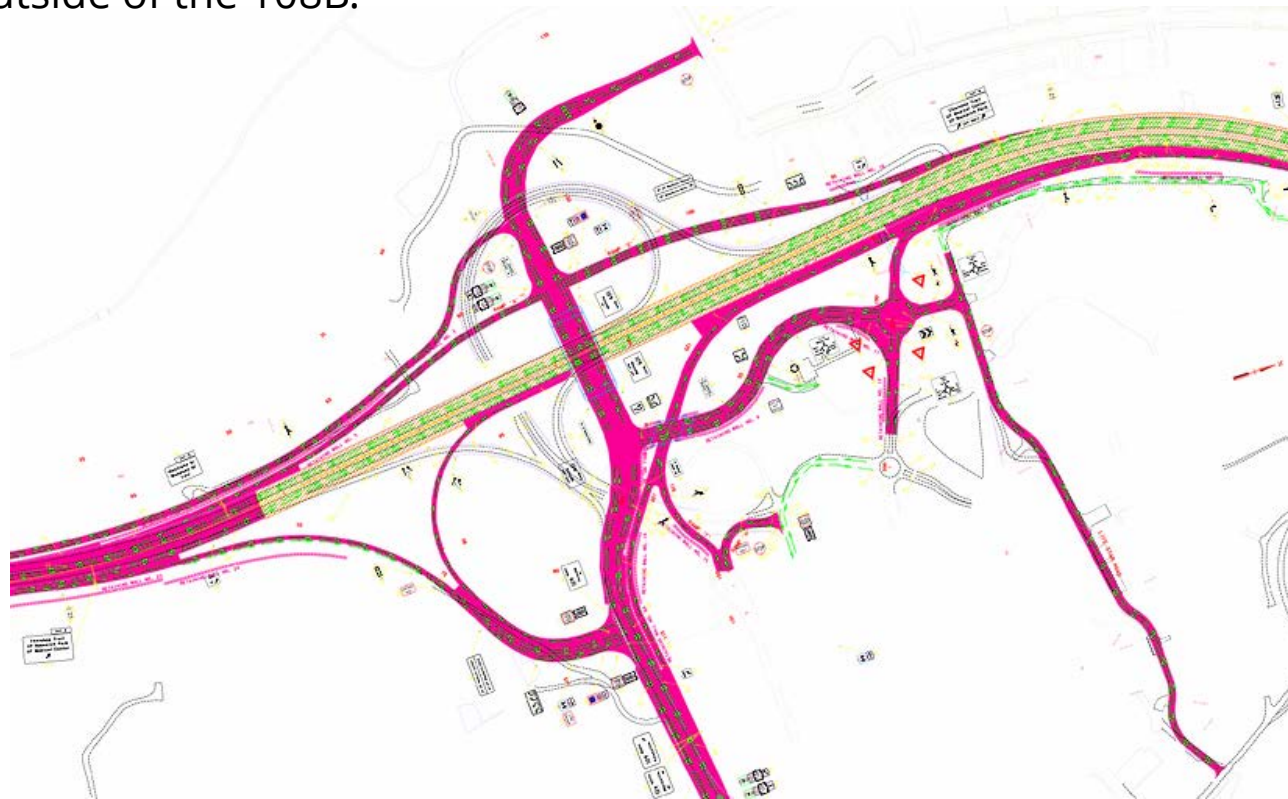


# Additional Project Commitments

- Communication
  - TDOT has committed to the stakeholders frequent communication for the duration of the project. Timelines of submittals and requests is important.
  - Transparency is expected to maintain trust of the stakeholders, local partners, and administration.
  - The Department is committed to holding twice monthly project meetings. Items of discussion include scheduling, progression of work, utilities, and communication.
- The 3 UT Insect Buildings may not be impacted during the construction of adjacent walls and grading activities.
- Signing and temporary lighting requirements have been included in the contract plans for the duration of the project.

# Traffic Control Plan

- While the Department recognizes the importance of innovation, the expectation is that the traffic control phasing plan be following in detail, with no deviation. The CPM shall reflect phasing as noted in the contract plans.
- Walls, Bridges, Grading, and all construction features are required to be constructed as noted in the contract plans.
- Two lanes in each direction are required to be maintained on Alcoa Highway. No lane closures will be permitted outside of the 108B.



# Geotech

## Sinkholes

- Active sinkhole areas exist especially north of Cherokee Trail.
- Previous repairs include grout curtains, rip-rap, flowable fill, on numerous occasions.



# Geotech

## Rock cuts

- Blasting Special Provision
- Could run into clay seams, possible need for soil nails and wire mesh
- Rockfall Drape included in the contract plans
- Daytime Rolling Roadblocks allowed during non-peak for blasting and vegetation removal. See 108B for liquidated damages.



# Geotech

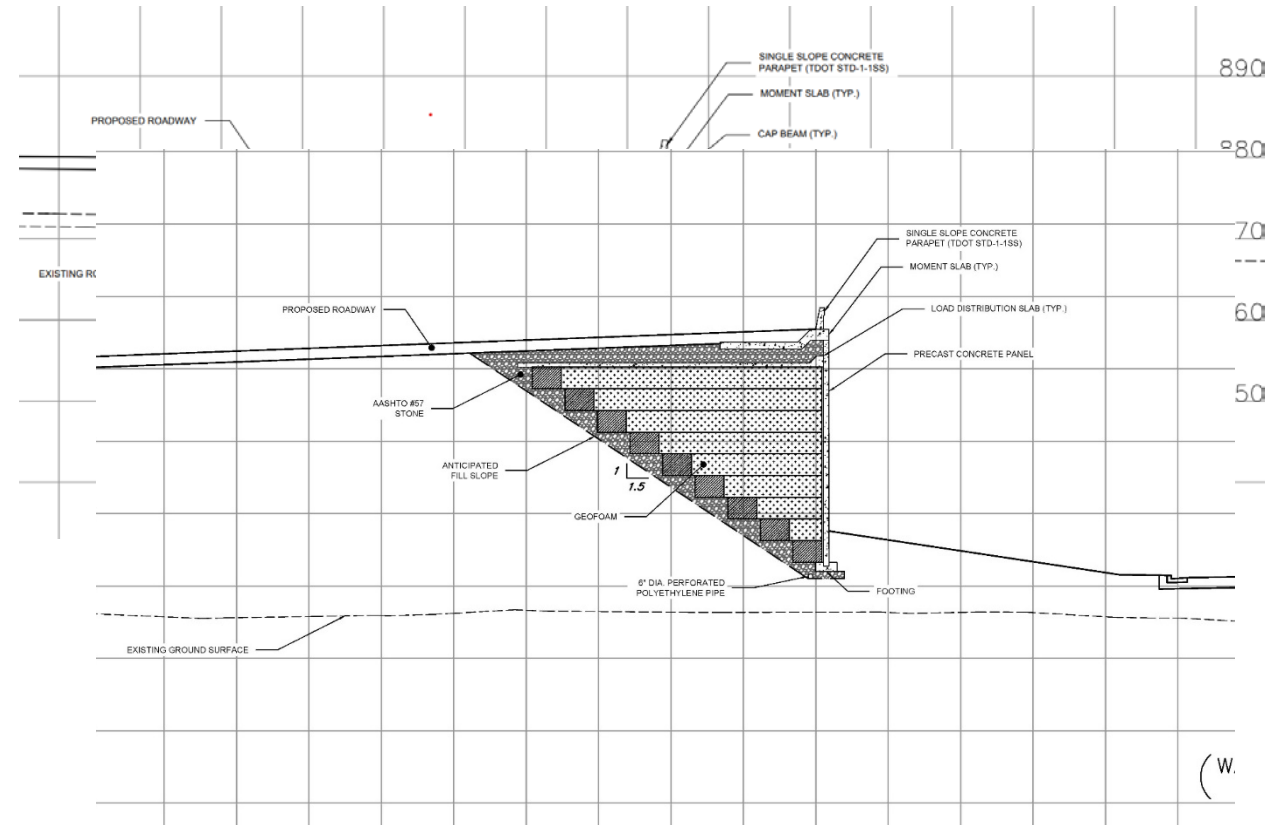
23 Retaining Walls included within the project numbered 1 through 24, Wall #4 was omitted

- Walls 1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, & 17
  - Conceptual wall drawings and parameters given
  - Paid by square foot as usual
  - To be designed by Contractor
  - Walls to be built as shown in traffic control plan.
  - Wall 3 built in 2 phases and coordination needed with Marine Base for entrance
  - Wall 11 built in very close proximity to a building
- Wall #6 Geofoam Wall
  - Has been designed
  - No VECP will be considered
- Walls 18, 19, 20, 21, 22, 23, & 24
  - Soil Nail Walls
  - Have been designed
  - No VECP will be considered



## Wall 6

- Traffic along Cherokee Trail during construction
- Geofoam decided based on:
  - Height of fill
  - Proximity to traffic
  - Loading of soils for Abutment 1 of Bridge 2
  - Construction speed for hospital entrance
- Begins as partial cut and partial fill wall and transitions to full geofoam backfill with tilt up panels



## Wall 6 (Cont'd)

- Portions of this wall are constructed in Phase 1
- The portion of the wall built during Phase 3B has a No Excuse Bonus attached
- The contractor is required to have a Manufacturer's representative on site during Geofoam placement and construction.

***\*VECP will not be considered on Wall 6***



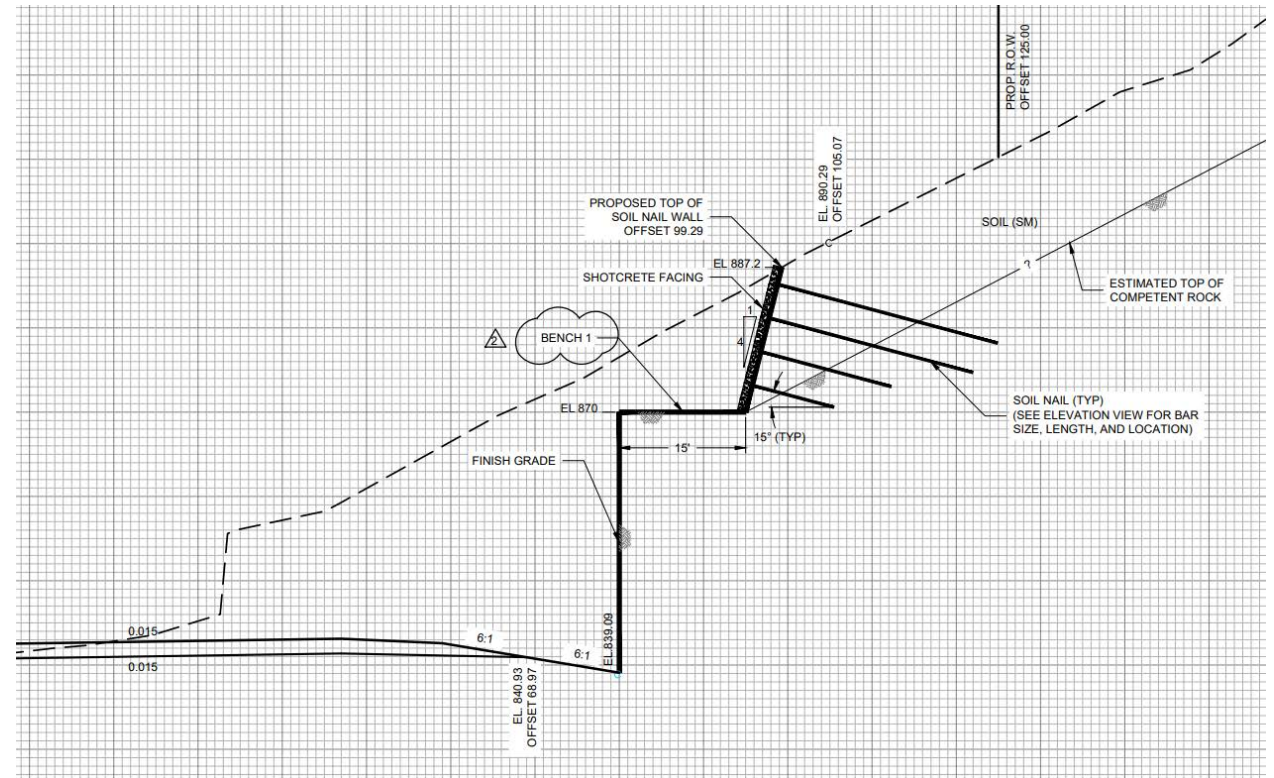
Photo of Yeager Airport Geofoam Wall Construction  
Photo credit: Schnabel Engineering

# Geotech

## Walls 18-24

- All soil nail walls predesigned due to ROW constraints
- Top-down construction
- Coupled with rock cuts
- Some have tiebacks and anchor blocks

**\*VECP will not be considered on Walls 18-24**





# Geotech

## Wall 18

- Multilayer
- With soil nails, tie be
- Design based on a w

***\*VECP will not be considered***



# Utilities

## Move In State

- AT&T
- KUB Electric
- KUB Gas
- KUB Water
- Verizon

## No Conflict

- KUB Sewer

## No Cost

- Comcast

## Schedule of Calendar Days

- AT&T – 448 Days
  - AT&T to self-perform certain work
- KUB Electric
  - Estimated 110 Days to stock pile
- KUB Gas
  - Estimated 360 Days to stock pile
- KUB Water
  - Estimated 300 Days to stock pile
- Verizon – 67 Days
  - Verizon to self-perform splicing, 17 Days

# Utility Considerations

## Materials and Lead Times

- 16" Steel Gas line- 1000' (875' HDD)
- 54 Metal poles
- 13,000' various sized DIP
- 12" HDPE - 1,658'

## Construction Considerations

- Existing utilities from Wye Way to Marine Base must remain until large cut is completed and proposed utilities can be built.
- 875' of 16" gas HDD bore
- All services to the hospital are critical and must be maintained and coordinated
- 16" water crossing on Alcoa shown as open cut do to concerns of karst area.
- Coordination with Lifestar when aerial work is conducted near helicopter pad
- KUB waterline to be encased in sensitive areas (Crossings, karst areas, and retaining walls) see plans for locations

# Project Overview

- Project Overview
- Project Commitments
- 108B and No Excuse Bonus/Disincentive
- Project Restrictions
- Special Provisions regarding Scheduling
- Special Notes Regarding Blasting

# Project Overview

- Letting Date: May 12, 2023
- The grading, drainage, construction of bridges and retaining walls, ITS, signals and paving on U.S. 129 (S.R. 115, Alcoa Highway) from Woodson Drive (L.M. 3.76) to Cherokee Trail interchange (L.M. 5.36).
- ADT: 49,310
- Completion Date: September 30, 2027
- Designer: Robert G. Campbell and Assoc. L.P.



# Project Commitments-108B

TDOT has committed to minimize disruptions to UT Hospital traffic

## Lane Closures for Alcoa Highway

- All lane closures must be approved in advance by the Engineer.
- A minimum of fourteen days written approval must be obtained in advance of any closure.
- Any work requiring lane closures including pavement marking operations shall be at night between the hours of 7PM and 6AM (Sunday through Thursday) and 10PM and 8AM (Friday and Saturday) unless otherwise directed by the TDOT Operations District Engineer and the Regional Traffic Incident Management Coordinator.
- Liquidated Damages: \$2,500 per hour per lane apply

# Project Commitments-108B

TDOT has committed to minimize disruptions to UT Hospital traffic

## Rolling Road Blocks

- Approval for each rolling roadblock must be obtained by the engineer (14) fourteen days in advance. A written plan of operation shall be submitted prior to obtaining approval.
- For clearing, grading, and blasting operations will be allowed only during nonpeak hours from 9:00 AM to 3:00 PM and from 7:00 PM to 6:00 AM
- Blasting shall only occur during daylight hours as stated in Rules of Department of Commerce and Insurance Division of Fire Prevention
- Duration of each rolling roadblock shall not exceed twenty (20) minutes. Traffic shall be allowed to return to free flow conditions before beginning another rolling roadblock.
- Liquidated Damages: \$500 per minute per lane

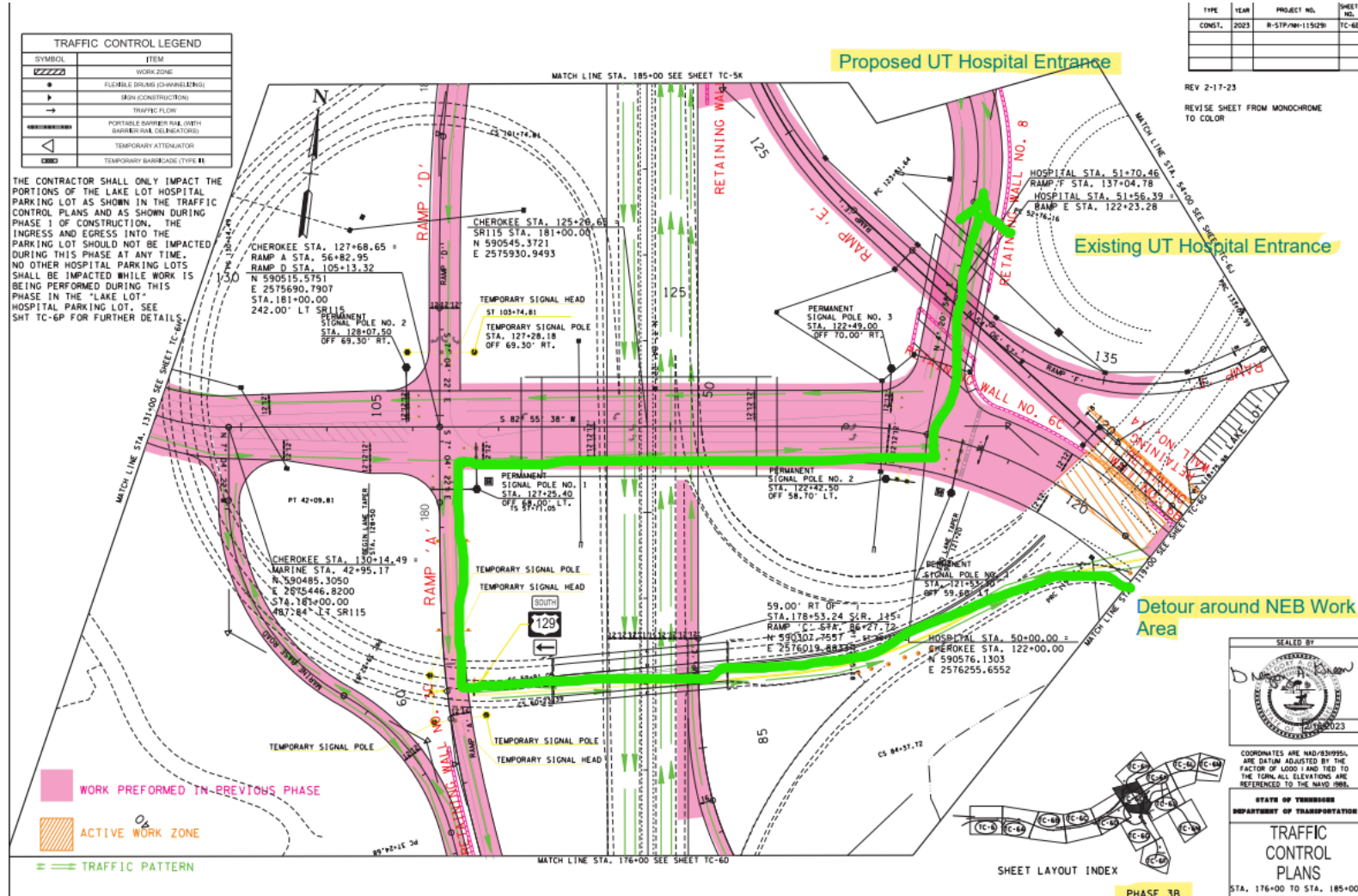
# Project Commitments-108B

TDOT has committed to minimize disruptions to UT Hospital traffic

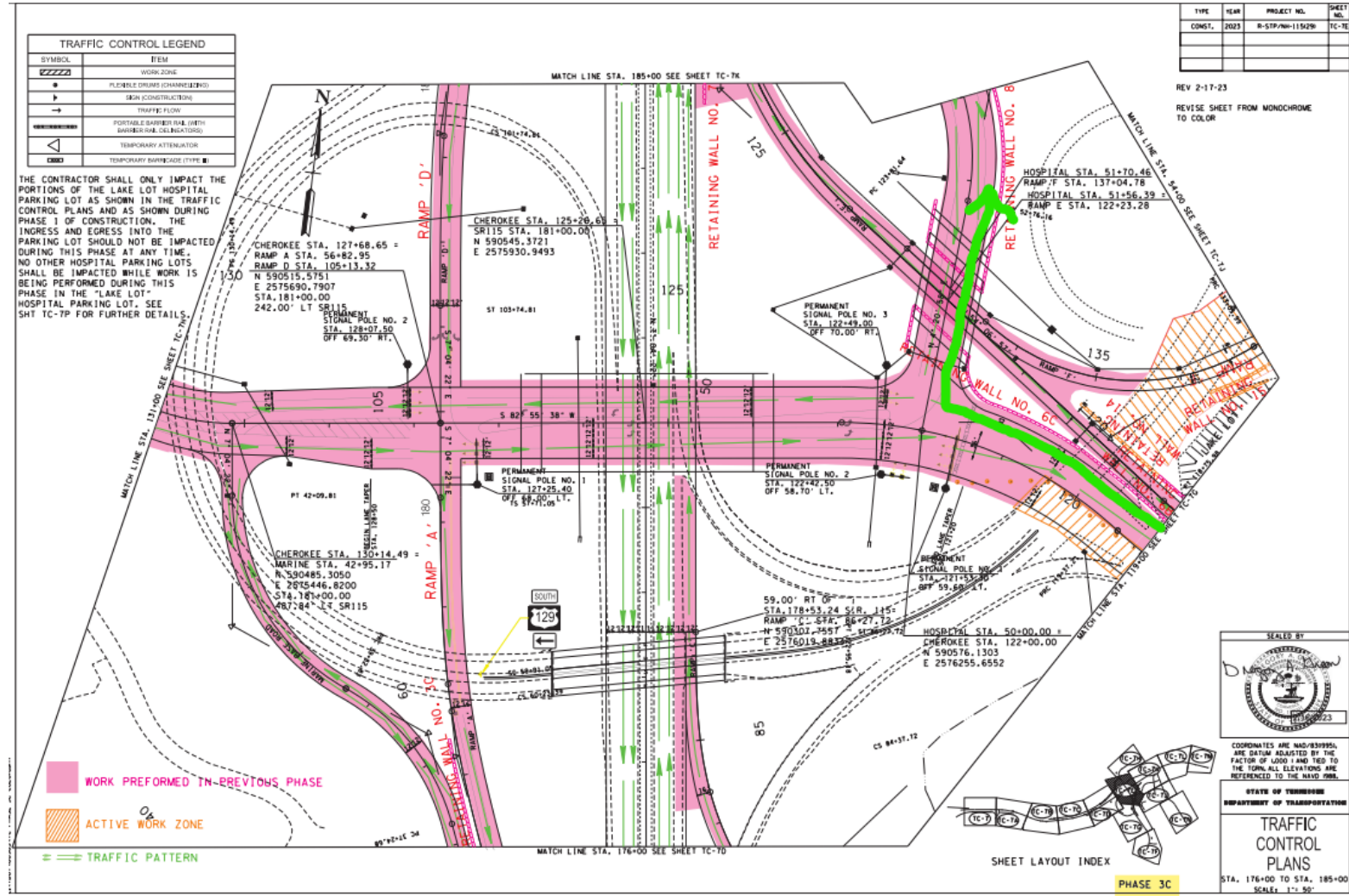
- Lifestar Road
  - Commitments concerning Lifestar Road (see SP 108B).
  - Construction on Lifestar Road shall be completed in Phase 1 of the project and completed in its entirety within 12 months of construction commencing.
  - Access is required to be maintained at all times.
  - Liquidated Damages: \$1,000 per day
- NO EXCUSE BONUS
  - NO EXCUSE BONUS of \$1,000,000 for completion of Work in 28 days or less
  - TDOT has committed to UT Hospital to complete the work involving the construction of Retaining Wall 6 in Phase 3B of the traffic control plans in 28 days or less
  - Disincentive of \$30,000/Day for each day beyond 28 days
  - No Excuse Bonus waived if the Contractor or any Subcontractors/Suppliers experience a fatality arising from the performance of work included in the No Excuse Bonus of the project.



# No Excuse Bonus



# No Excuse Bonus



# Project Restrictions

- Temporary lane closures only allowed nightly from 7 PM to 6 AM Sunday through Thursday and 10 PM to 8 AM Friday and Saturday.
- **No Lane Closures on Saturdays when UT football is at home**
- Rolling roadblocks will be allowed during non-peak hours from 9 AM to 3 PM and from 7 PM to 6AM. Rolling Roadblocks shall not exceed 20 minutes in duration. Blasting can only be done during the daytime hours.
- Access to UT Medical Center/UT Properties shall be maintained at all times

# Special Provisions regarding Scheduling

- Work Included in the NO EXCUSE BONUS will require its own CPM Schedule (SP 108B)
- Scheduling conference held on the same day as the pre-con
- Shortened and/or specific time-frames for submittals of IPS, Baseline, and Updates
- Additional requirements for reporting with schedule updates
- 10% of monthly estimate withheld until Baseline Schedule accepted
- Additional section (E) & (F) after 108.03.D addressing changes, delays, and schedule impacts and TIA's

# Special Provision for Rock Blasting & Control of Vibration

- Pre-construction Surveys
- Vibration and Air-Overpressure Limitations
- Blasting Support Personnel
  - Pre-construction Condition Survey Specialist
  - Vibration Monitoring Consultant
  - Independent Blasting Consultant
- Submittals
  - Blasting Contractor Personnel and Experience including Blasting Consultant and Blasting Specialist
  - General Blast Plan including Vibration Monitoring Consultant
  - Pre-construction Condition Surveys
  - Drill logs, Individual Blast Plans and Post-blast Reports
  - Blast Damage Reports

# Special Provision for Rock Blasting & Control of Vibration

- Blasting Personnel Experience
  - Blasting Contractor (5 blasting projects within the last 3 years)
  - Blaster-in-Charge (Verification of employment with the Blasting Contractor for the Blaster- in-Charge and any alternate Blasters-in-Charge assigned to this project. Documentation that each Blaster-in-Charge has a minimum of 5 years' experience in blasting with past projects of scope and complexity similar to that anticipated for this project.)
  - Blasting Consultant (10+ years experience, no damage claims)
  - Pre-construction Condition Survey Specialist ( 5 years experience)
- Plans and Reports
  - General Blast Plan
  - Individual Blast Plans
  - Post Blast Reports
- Seismographs shall be placed for one week following the pre-construction conference at the beginning of the project to determine ambient vibration levels at the Southwest corner of parking garage E and G on UT Medical Center property, as well as the Navy Operational Support Center, University Orthopedic Surgeons building, and IIAM facility. These seismographs should be kept in place during pre-construction, during blasting and post blasting to continuously monitor until vibration levels return to pre-construction measurements

# Questions

Please submit RFIs by email to [Jamie.Fitzpatrick@tn.gov](mailto:Jamie.Fitzpatrick@tn.gov).

Please submit with subject line as, “CNX074 Knox RFI”

RFIs will be accepted up until Friday, May 5, at 4:00 p.m. CDT.

Responses will be posted on TDOT Construction website as informational addendums.



# Questions