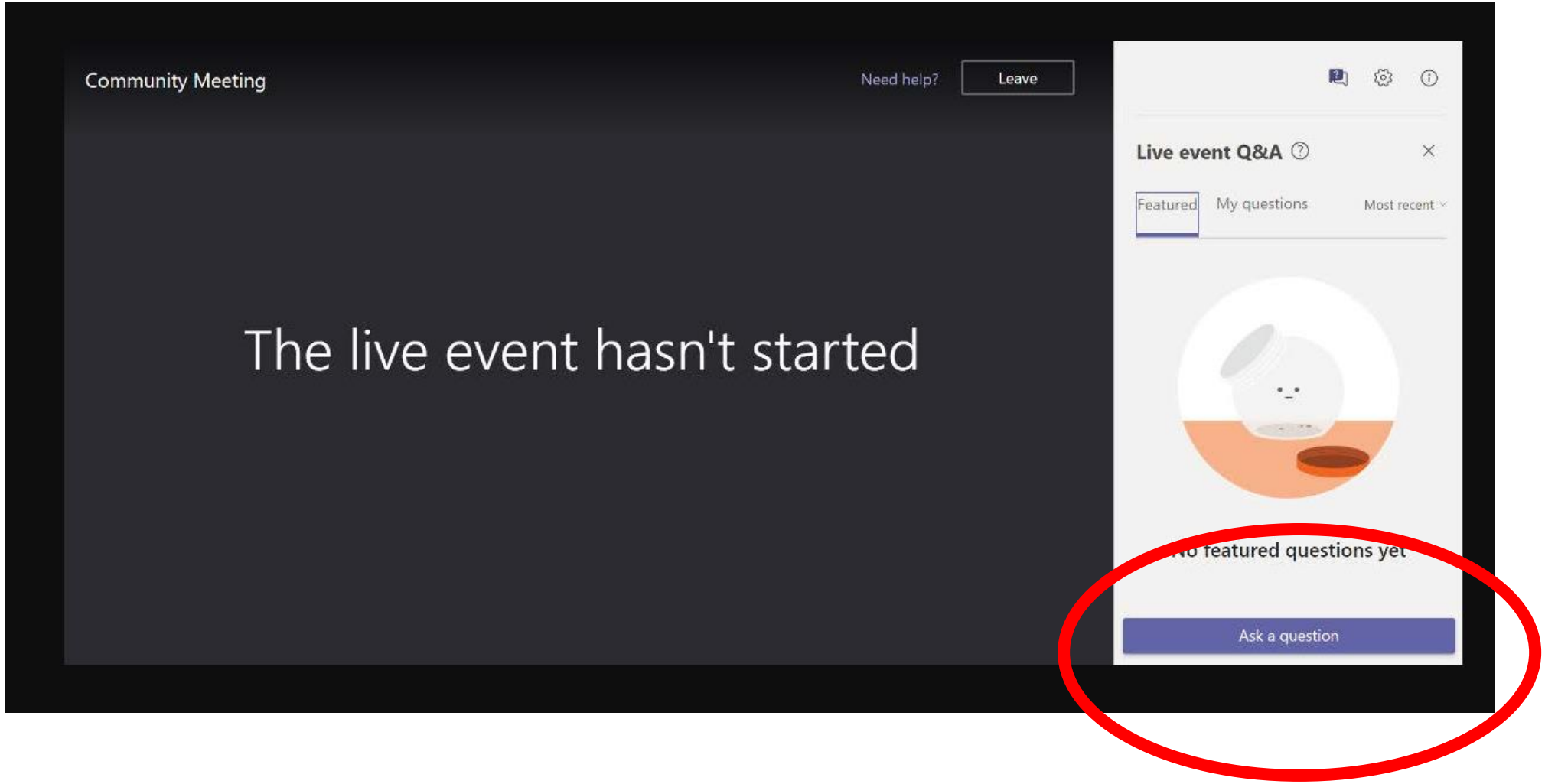
SR 2089, SECTION ALM JACKSONVILLE ROAD AND ALMSHOUSE ROAD INTERSECTION IMPROVEMENT PROJECT

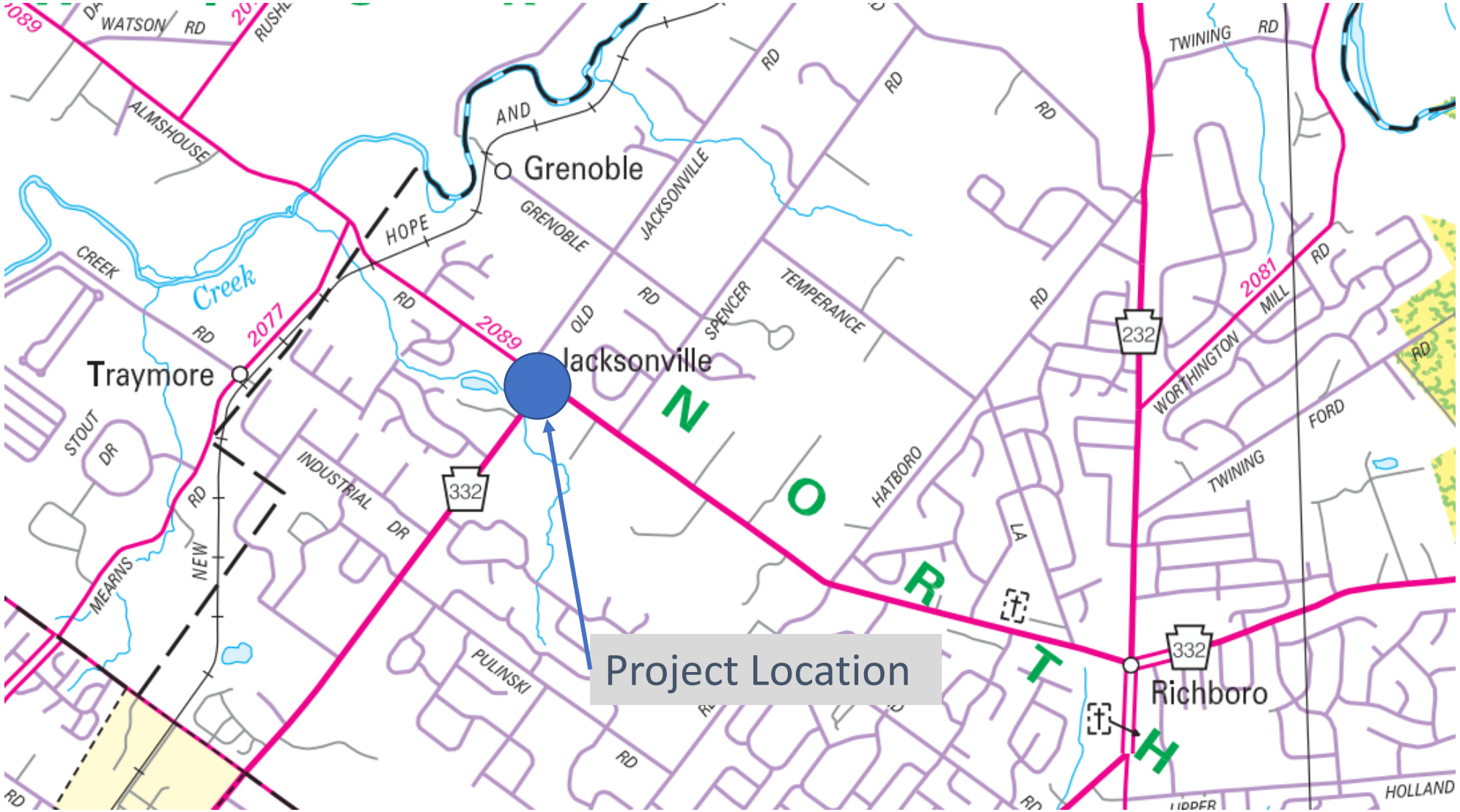
TRAFFIC PLANNING AND DESIGN, INC. OCTOBER 27, 2022

pennsylvania
DEPARTMENT OF TRANSPORTATION

LIVE EVENT Q & A



PROJECT LOCATION



CURRENT ISSUES

Traffic Congestion

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Traffic Signal Operation

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- Traffic Congestion
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- Poor Intersection Geometry

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- Pavement/Shoulder Condition

CURRENT ISSUES

- Traffic Congestion
- Traffic Signal Operation
- Poor Intersection Geometry
- Pavement Condition
- Drainage & Stormwater

PURPOSE AND NEED

- **Project Purpose:**
  - Provide for the safe and effective movement of the traveling public and emergency services. This includes increasing the operational efficiency of the Almshouse Road and Jacksonville Road intersection.

- **Project Needs:**
  - The existing intersection experiences congestion causing Level of Service E in the AM Peak Hour and Level of Service F in the PM Peak Hour.
  - The existing intersection has substandard intersection radii which cause large vehicles to conflict with opposing traffic.
  - The existing intersection experiences frequent flooding during heavy rain events which leads to safety concerns.

PRELIMINARY ENGINEERING

- Survey
- Data Collection
- Traffic Analysis
- Safety Analysis
- Environmental Investigations
- Alternatives Analysis

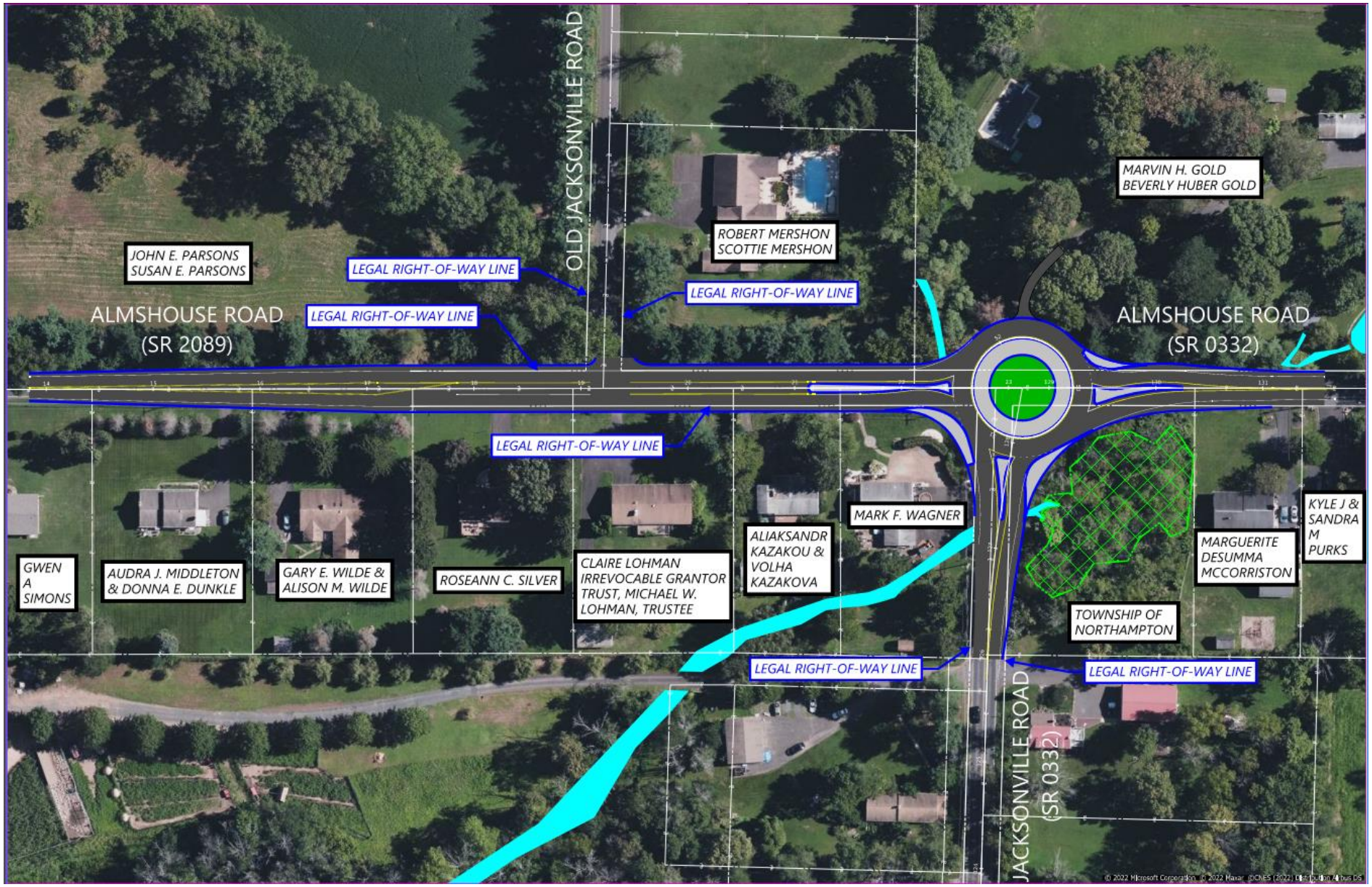
ENVIRONMENTAL ANALYSIS

- Wetlands/Waterways
- Archaeology
- Above Ground Historic Resources
- Threatened and Endangered Species
- Hazardous Waste

DESIGN CONSIDERATIONS

- Improve Traffic Flow
- Improve Driver Safety
- Reduce Drainage Issues
- Minimize Environmental Impacts
- Avoid Residential Displacements
- Minimize Future Maintenance Cost

PROPOSED IMPROVEMENTS



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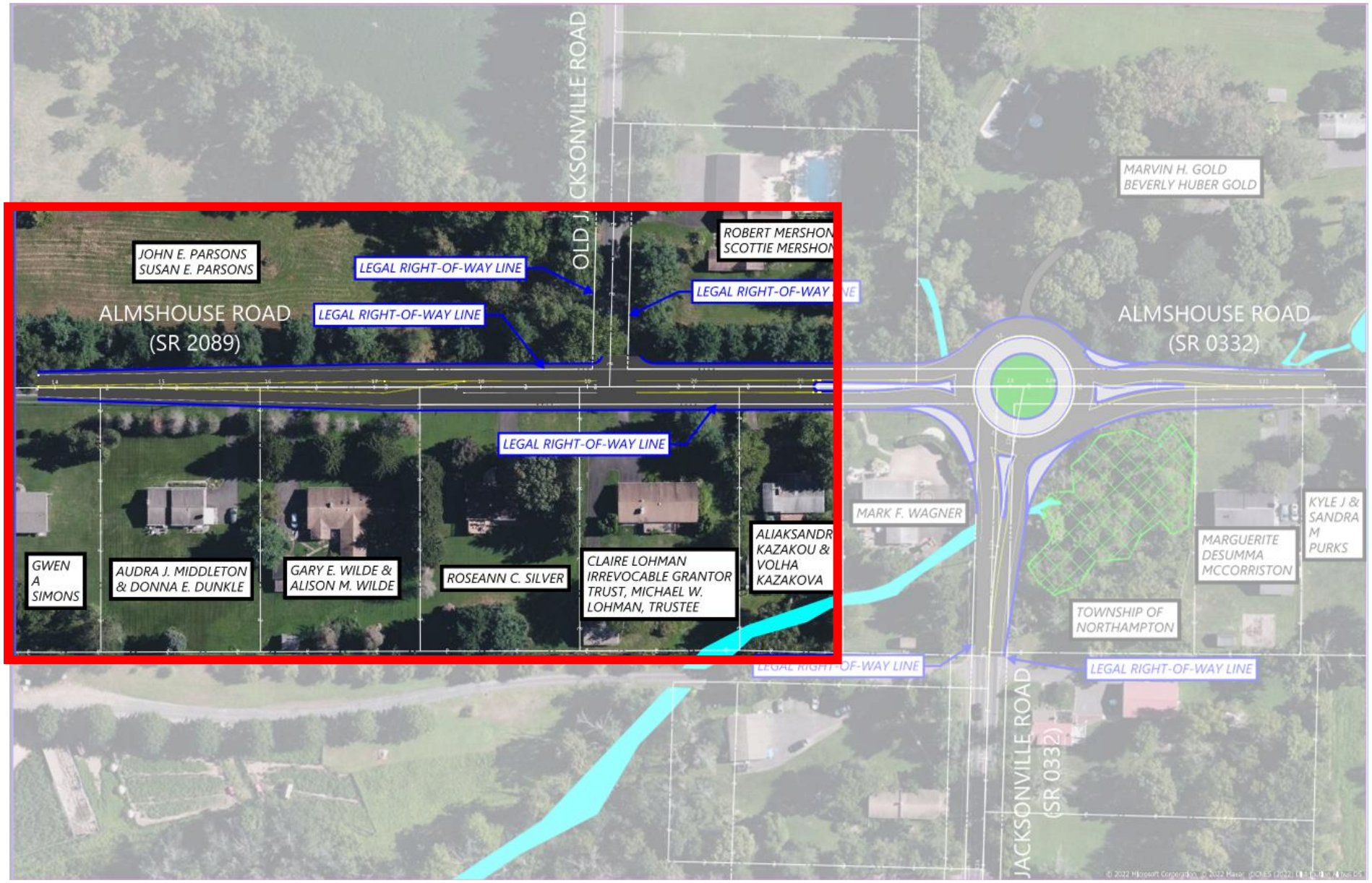

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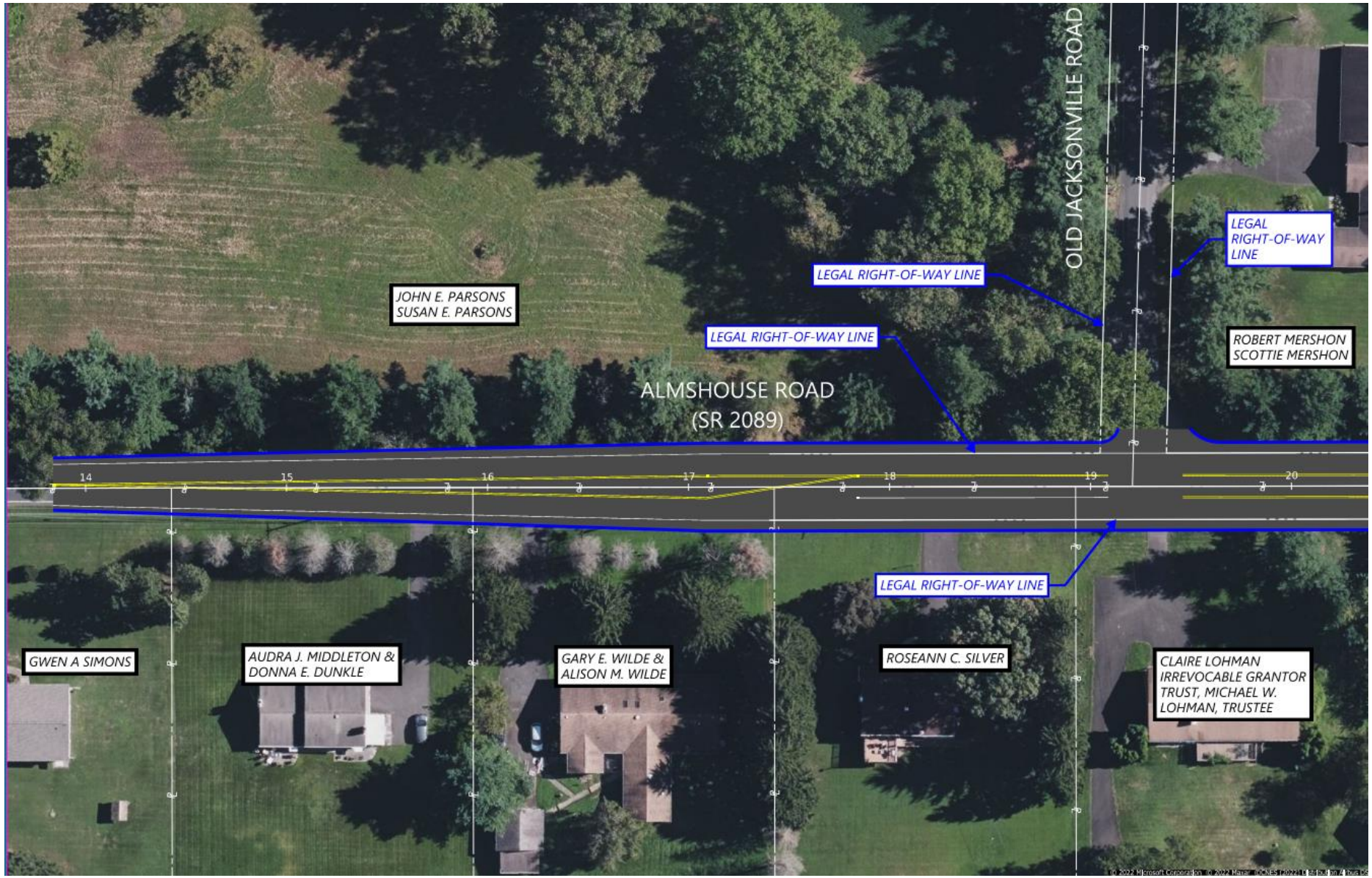

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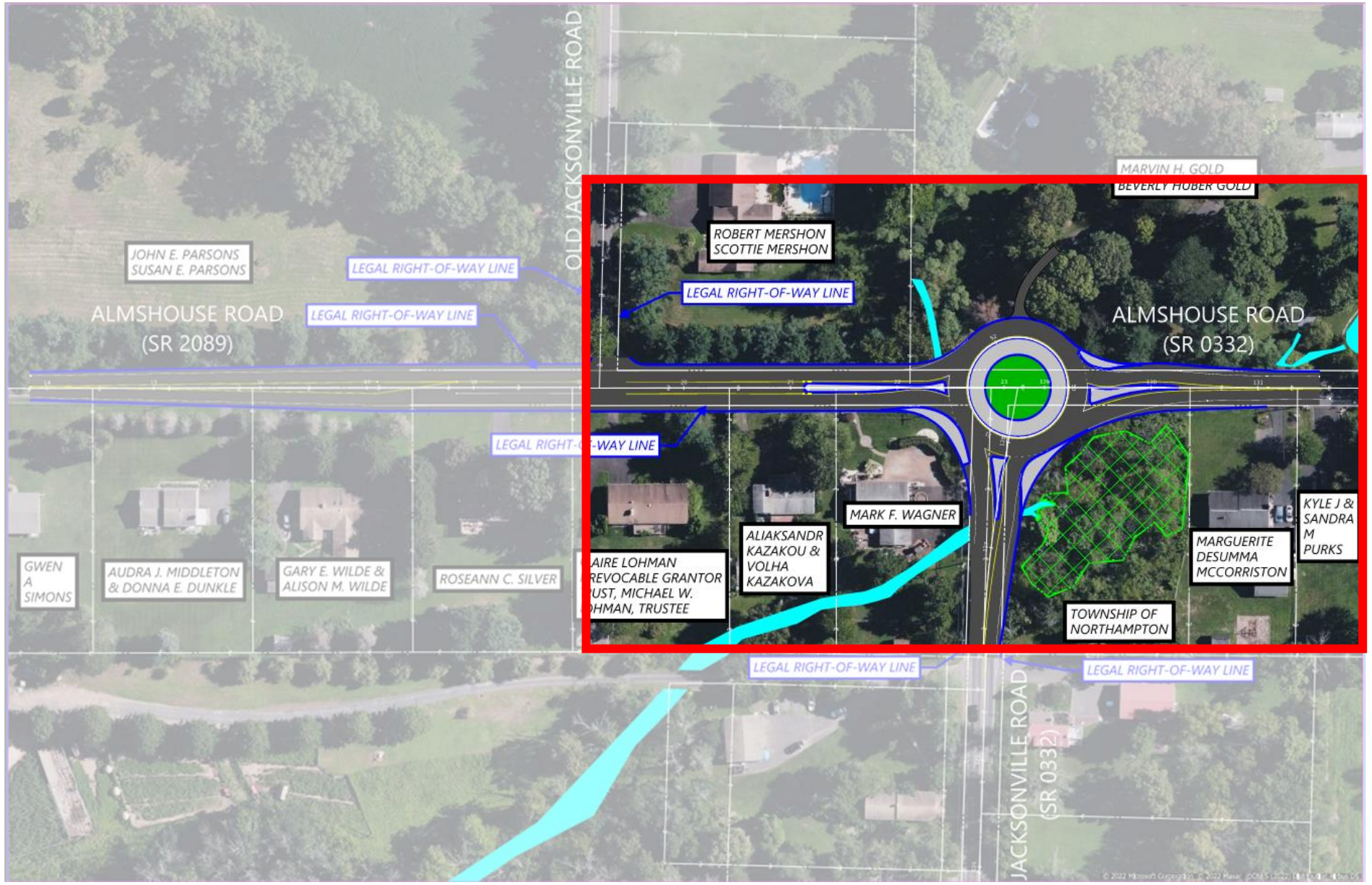

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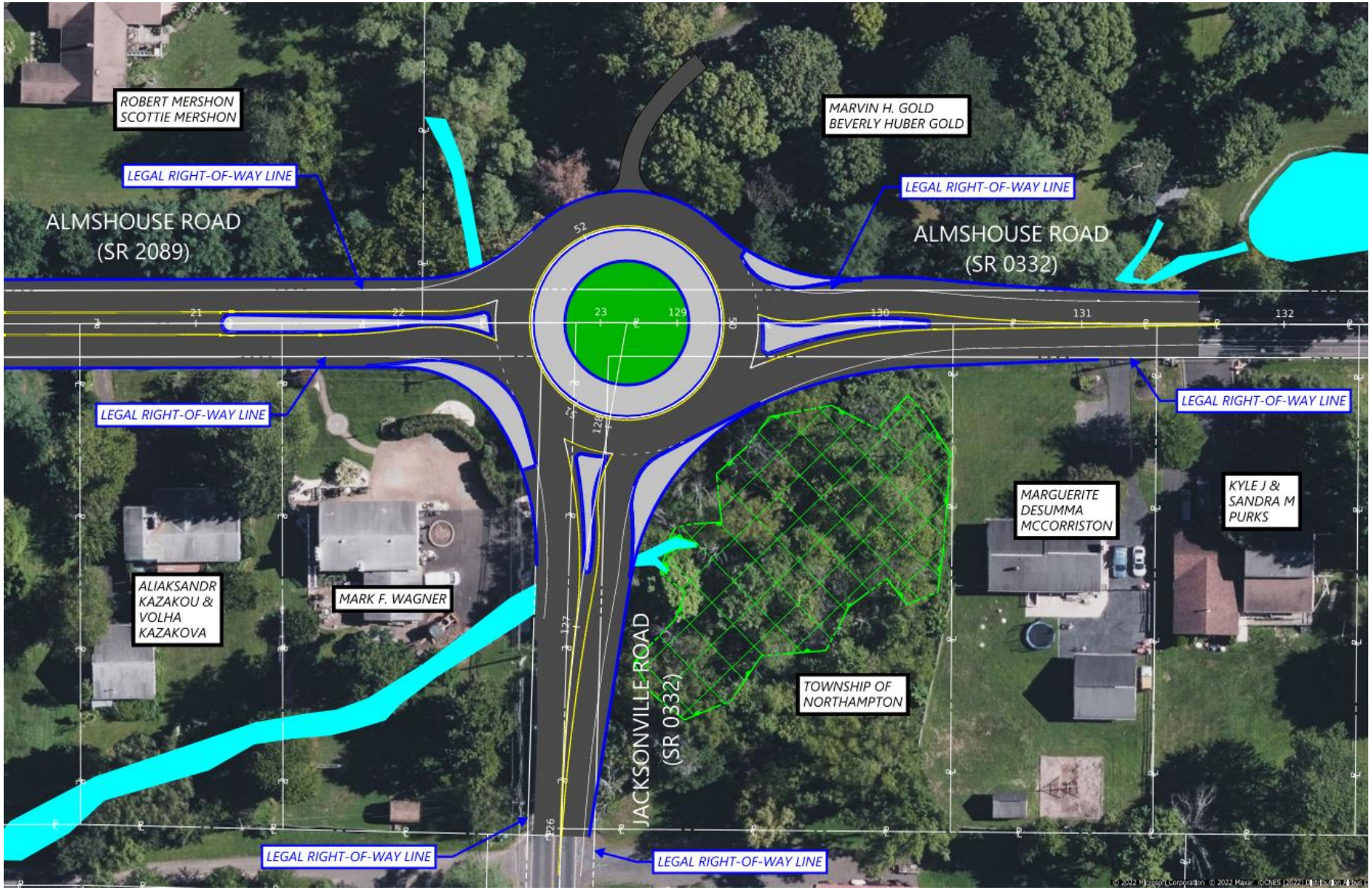


ROUNDABOUT STATISTICS

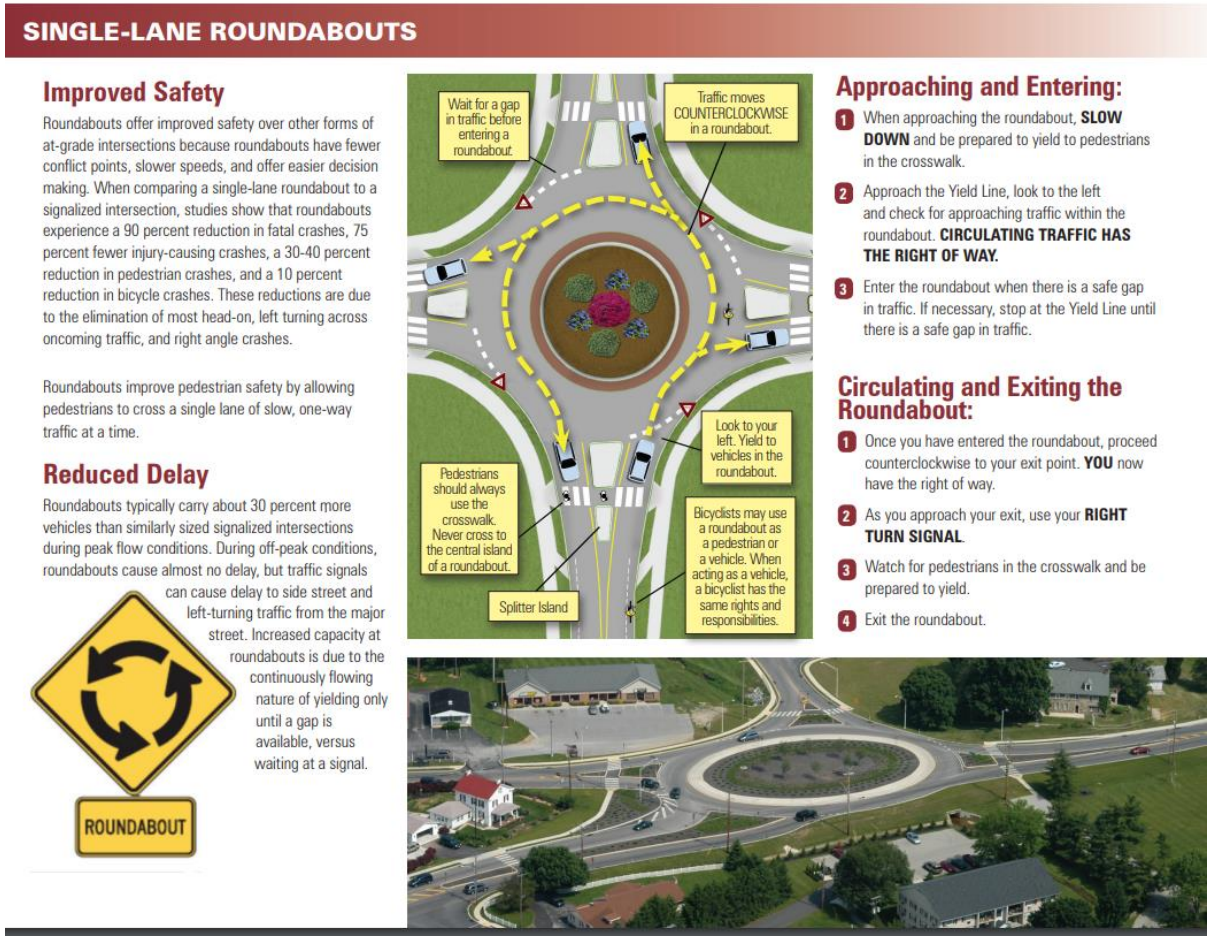
90% Reduction in Fatal Crashes

75% Reduction in Injury Crashes

30% Reduction in Pedestrian Crashes

10% Reduction in Bicycle Crashes

30% Increase in Vehicle Capacity



SINGLE-LANE ROUNDABOUTS

Improved Safety

Roundabouts offer improved safety over other forms of at-grade intersections because roundabouts have fewer conflict points, slower speeds, and offer easier decision making. When comparing a single-lane roundabout to a signalized intersection, studies show that roundabouts experience a 90 percent reduction in fatal crashes, 75 percent fewer injury-causing crashes, a 30-40 percent reduction in pedestrian crashes, and a 10 percent reduction in bicycle crashes. These reductions are due to the elimination of most head-on, left turning across oncoming traffic, and right angle crashes.

Roundabouts improve pedestrian safety by allowing pedestrians to cross a single lane of slow, one-way traffic at a time.

Reduced Delay

Roundabouts typically carry about 30 percent more vehicles than similarly sized signalized intersections during peak flow conditions. During off-peak conditions, roundabouts cause almost no delay, but traffic signals can cause delay to side street and left-turning traffic from the major street. Increased capacity at roundabouts is due to the continuously flowing nature of yielding only until a gap is available, versus waiting at a signal.

ROUNDABOUT

Wait for a gap in traffic before entering a roundabout.

Traffic moves COUNTERCLOCKWISE in a roundabout.

Look to your left. Yield to vehicles in the roundabout.

Pedestrians should always use the crosswalk. Never cross to the central island of a roundabout.

Bicyclists may use a roundabout as a pedestrian or a vehicle. When acting as a vehicle, a bicyclist has the same rights and responsibilities.

Splitter Island

Approaching and Entering:

1. When approaching the roundabout, **SLOW DOWN** and be prepared to yield to pedestrians in the crosswalk.
2. Approach the Yield Line, look to the left and check for approaching traffic within the roundabout. **CIRCULATING TRAFFIC HAS THE RIGHT OF WAY.**
3. Enter the roundabout when there is a safe gap in traffic. If necessary, stop at the Yield Line until there is a safe gap in traffic.

Circulating and Exiting the Roundabout:

1. Once you have entered the roundabout, proceed counterclockwise to your exit point. **YOU** now have the right of way.
2. As you approach your exit, use your **RIGHT TURN SIGNAL**.
3. Watch for pedestrians in the crosswalk and be prepared to yield.
4. Exit the roundabout.

ROUNDABOUT VS CIRCLE

ROUNDABOUTS VS. TRAFFIC CIRCLES

IN A ROUNDABOUT...

- Vehicles entering just **SLOW DOWN** and **YIELD** to traffic already in the roundabout.
- Circulating traffic **DOES NOT STOP.** This constant flow allows the roundabout to accomodate high volumes of traffic.
- Vehicle speeds are geometrically restricted — essentially limiting motorists to **BELOW 30 MPH**.
- Vehicles **DO NOT CHANGE LANES**, unless exiting multilane roundabouts.

IN A TRAFFIC CIRCLE...

- Vehicles entering are often stop controlled by a **SIGNAL OR STOP SIGN**.
- Circulating traffic is commonly required to **STOP FOR ENTERING TRAFFIC**. This results in congestion and significant delays.
- Large traffic circles typically have **HIGH-SPEED** entries.
- Vehicles are **PERMITTED TO CHANGE LANES**. When paired with high speeds, it can lead to dangerous crashes.

National studies show that modern roundabouts reduce:

- Fatal crashes by 90 percent
- Injury crashes by 75 prcent
- Pedestrian crashes by 30-40 percent
- Bicycle crashes by 10 percent

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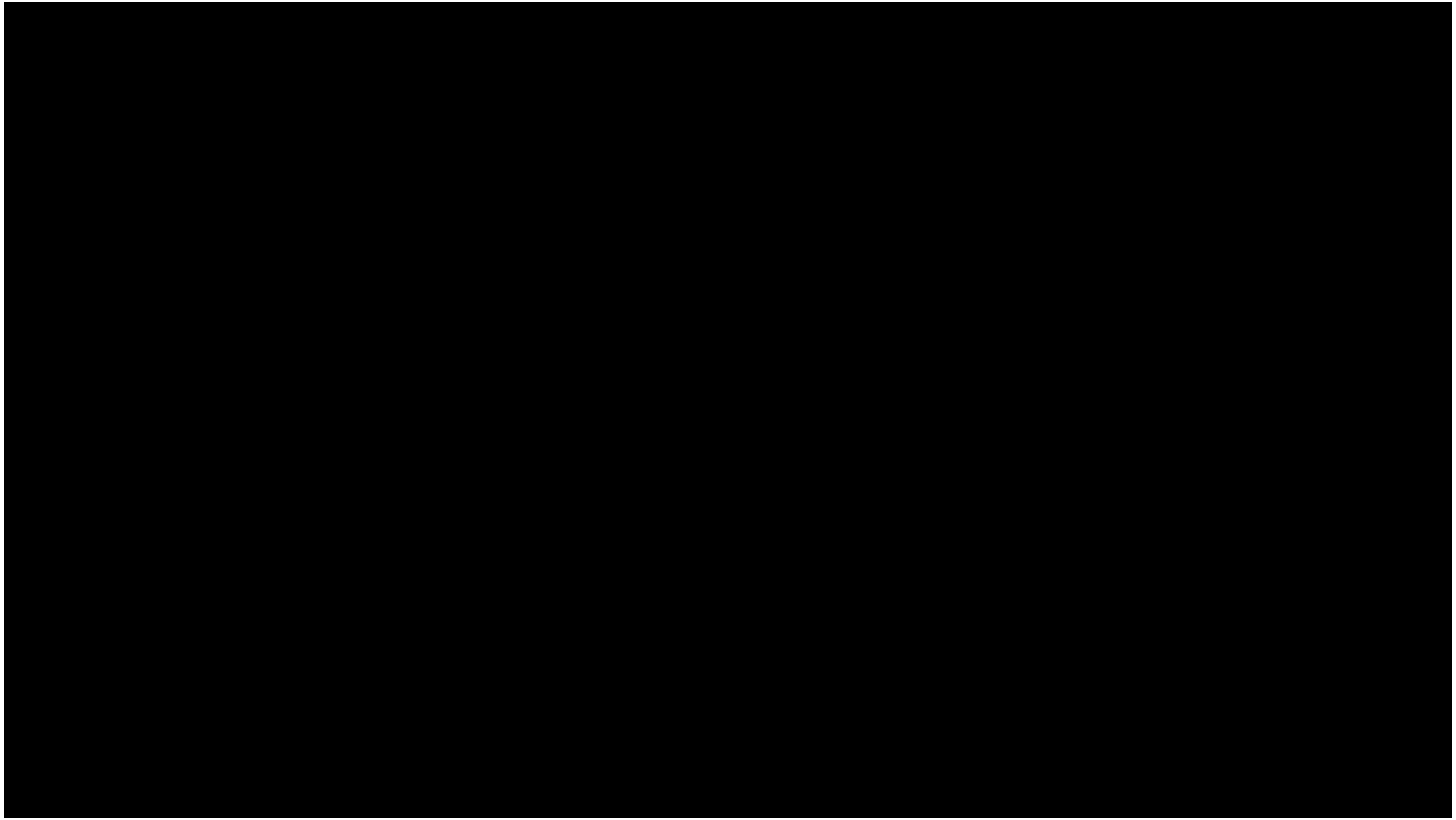
ROUNDABOUT VIDEO

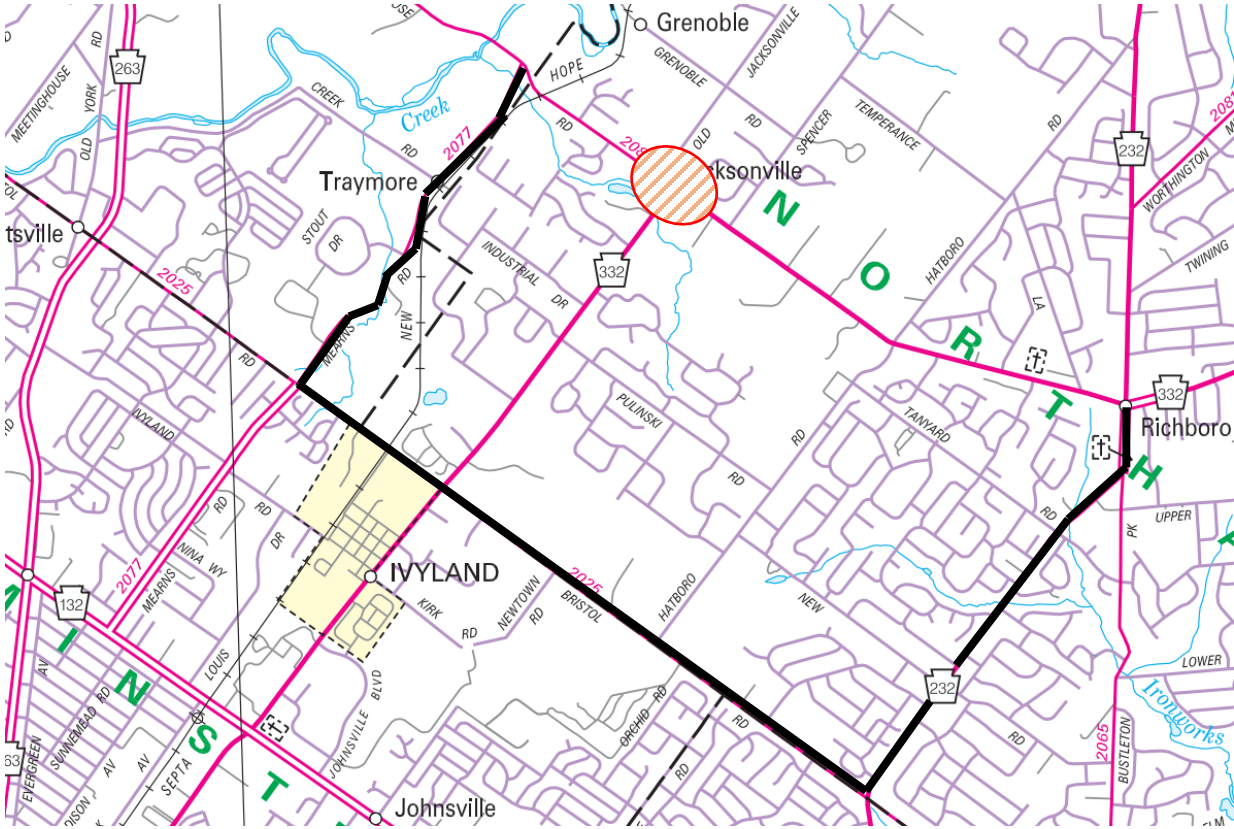


TRAFFIC CONTROL

Staged Construction
- Maintain traffic in existing lanes
- Shift traffic on new lanes

Short Term Lane Closure (flagging)

Short Term Detour (if needed)
- Mearns Road
- E Bristol Road
- Hatboro Road



FINAL DESIGN – NEXT STEPS

- Environmental Permitting
- Utility Coordination
- Right-of-Way Acquisition
- Final Plan Approvals
- Bid Package Preparation
- Project Advertisement – Late 2024

CONTACT INFORMATION

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