



Municipality of Lakeshore

Date: February 1, 2023

To: Ryan Donally, Division Leader – Economic Development and Mobility

From: Marco Villella, P. Eng., Division Leader – Engineering and Infrastructure

RE: Battery Energy Storage Proposed Locations, Ranking Criteria

The Engineering and Infrastructure Division was asked to develop a system to assess the proposed locations within the Municipality of Lakeshore related to the Battery Energy Storage Systems (BESS). This memo outlines the criteria and the associated scoring and identifies which locations could be supported at this time.

The criteria include factors such as disclosure of a proposed location, proximity to settlement areas from Lakeshore's Official Plan, the classification/condition of surrounding roadways for required access and proximity to an existing similar land use.

Other factors were also considered in the assessment of these sites but have been ruled out if judgment in scoring became too subjective. Some examples of these are outlined below:

- In some cases, factors were not considered if they were determined to be identical in all locations as this would yield uniform results for all locations under the criterion. An example is accommodation of sanitary servicing and as such was eliminated as all proposed locations are outside a municipal sanitary service area and would require a private septic system, if required.
- In addition, if a factor posed a challenge to evaluate due to limited available information, then it was omitted from the ranking criteria. An example is the ability to provide water servicing, and as such was eliminated due to the limited information provided by proponents with regards to water demand and usage at this stage of the project.
- Further, environmental, social, cultural, and economic factors were not considered, as these would be assessed as part of the Environmental Assessment (EA) process and could be mitigated by all proponents with similar measures. Also, based on the stage of some of the projects (early stages with little information, if the EA was even commenced), this was not able to be considered.

The following outlines the stages of the ranking criteria used:

Ranking Criteria Stages

Stage 1: Location Disclosure Criteria

Proponents would need to disclose the proposed Battery Energy Storage System location to evaluate the location and its surroundings.

Projects that did not meet this criterion were assigned a 'Fail' and were not able to proceed to the next stage(s) of the ranking criteria and was not recommended to be considered for support.

If the proponent disclosed the proposed location, then the project was assigned a 'Pass' and proceeded to Stage 2: Settlement Proximity Criteria for ranking.

Stage 2: Settlement Proximity Criteria

Projects that are adjacent to or near an existing settlement area can have an adverse impact on a larger number of residents. Settlement areas were defined as the following areas from Lakeshore's Official Plan: urban area, urban reserve area, hamlet area, and waterfront area.

If the proposed location directly abuts an existing settlement area or is within close proximity (500 meters or less) of an existing settlement area, then the project was assigned a 'Fail' and did not proceed to Stage 3: Scoring Criteria and was not recommended to be considered for support.

For those proposed locations that are not directly abutting or not within close proximity (greater than 500 meters) to an existing settlement area, they were assigned a 'Pass' and advanced to Stage 3: Scoring Criteria of the ranking criteria.

Stage 3: Scoring Criteria

Under this stage of the ranking criteria, there are two factors that were assessed for all remaining proposed locations that advanced to this stage:

(a) Road Classification and Condition

The proposed sites will require access off a sufficient roadway as part of ingress/egress to the site. Under this evaluation, the existing roadway classification and condition around the proposed location was assessed for both construction traffic and site generated traffic once in operation. A sufficient roadway must be capable of handling heavier traffic loads and provide adequate maneuverability through the road cross-section such as during turning movements.

Sufficient roadways to accommodate such projects are considered as any non-Class B Road, truck route, or a County Road. These roadway classifications are shown in the attached map entitled ‘Lakeshore BESS Proposed Locations’.

Existing road conditions were based on specified Pavement Condition Index (PCI) ratings from Lakeshore’s Street Logix database.

The following scores were used for evaluation under this criterion:

Score	Criteria
0	Access of project site onto a Lakeshore Class B Road in fair/poor condition <u>OR</u> Class B Gravel Road
1	Access of project site onto a Lakeshore Class B Road in good/excellent condition <u>OR</u> Lakeshore Non-Class B Road in fair/poor condition
2	Access of project site onto a Lakeshore Non-Class B Road in good/excellent condition <u>OR</u> Lakeshore Truck Route in fair/poor condition
3	Access of project site onto a County Road <u>OR</u> Lakeshore Truck Route in good/excellent condition

A weight of 5 was applied for this criterion.

(b) Similar Land Use Proximity

Proposed locations were reviewed to determine whether they are in close proximity to similar land uses (such as industrial lands and/or existing hydro/utility transmission stations) that align with the existing aesthetics in the surrounding area and do not create significant alterations to the existing landscape. This can be seen in the attached ‘Detail Maps’ where the aerials are included relative to the location.

It should be noted that this did not consider the proximity to the hydro transmission line/towers as all projects were found to be situated adjacent/within close proximity to a hydro transmission line corridor for ease of connectivity to the electricity grid. However, the vicinity to an existing parcel of land whose sole use is dedicated for a hydro transmission or utility station was evaluated.

The following scores were used for evaluation under this criterion:

Score	Criteria
0	Greater than 500 meters from Industrial Land Use <u>OR</u> Hydro/Utility Station
1	Within 500 meters of Industrial Land Use
2	Adjacent to Industrial Land Use <u>OR</u> within 500 meters of Hydro/Utility Station
3	Directly adjacent to existing Hydro/Utility Station

A weight of 4 was applied for this criterion.

Scoring Results

As calculated, the maximum score achievable was 27 based on the above grading matrices and weights. Projects that had a score of equal to or greater than 20 have been recommended for support.

The attached table shows all the identified projects, and the ranking scored from highest to lowest.

Based on the above scoring criteria as outlined, the Engineering and Infrastructure Division recommends that the below four (4) project locations be supported:

Site Location #	Project Name	Proponent Name	Project Location
2	Rochester Townline Energy Storage Project	Rochester Townline Project Ltd. Penn Energy Group	0 Rochester Townline Road (NW corner of Rochester Townline at County Rd. 46)
11	Comber Battery Energy Storage System Project	Liberty Power	0 County Road 46 (SE corner of Rochester Townline at County Rd. 46)
12	Tilbury Battery Energy Storage System Project	Liberty Power	2825 Essex Kent Road 1
15	Southwest Ontario Energy Storage Project	Baseload Power	0 County Road 46 (NE corner of Rochester Townline at County Rd. 46)

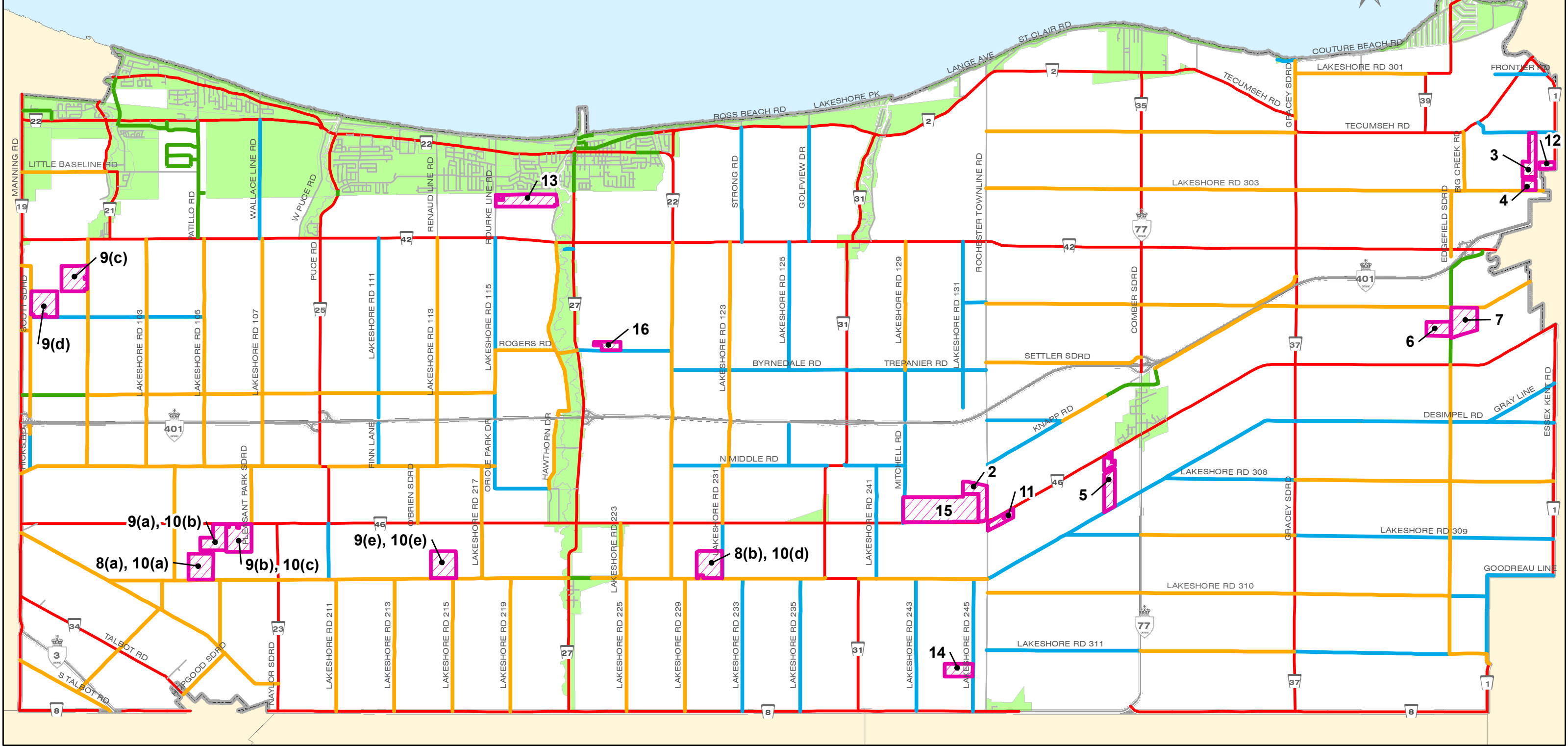


It should be noted that any of the proposed projects would still be required to satisfy a set of conditions and obtain approvals for further advancement of the project. These conditions may include, but are not limited to: completion of the Environmental Assessment (EA) process, entering into a Road User Agreement with the Municipality, obtaining any applicable Municipal and/or County permits, entering into a site plan agreement with the Municipality, consultation and/or approvals with applicable external agencies (such as ERCA, LTVCA, County of Essex, VIA Rail, CP or CN Rail, etc.), providing a decommissioning plan and entering into other relative agreements as required.

Lakeshore Battery Energy Storage Systems - Ranking Criteria

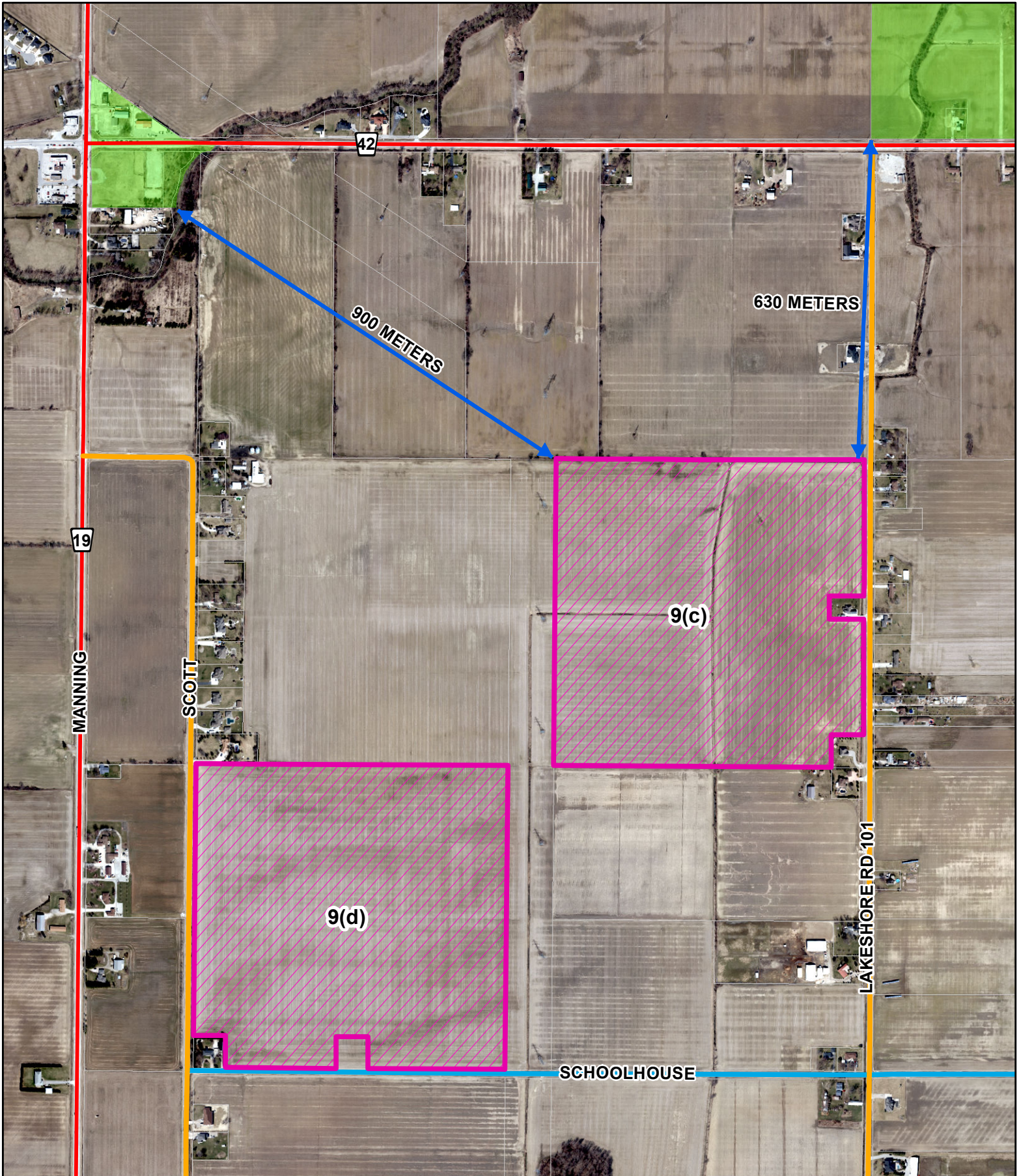
Proponent Information		STAGE 1: Location Disclosure Criteria	STAGE 2: Settlement Proximity Criteria	STAGE 3: Scoring Criteria (out of 3)		Scoring	Recommendation
Site Location #	Project Name <i>Proponent Name</i>	Location Information Provided (Pass or Fail)	Proximity to Settlement Area Greater than 500m (Pass or Fail)	Road Impact and Access (Weight: 5)	Proximity to Similar Type Land Use (Weight: 4)	SCORE (Max Allowable = 27)	Score obtained is greater or equal to 20
11	Comber BESS <i>Liberty Power</i>	Pass	Pass	3	3	27	YES
15	Southwest Ontario Energy Storage Project <i>Baseload Power</i>	Pass	Pass	3	3	27	YES
12	Tilbury BESS <i>Liberty Power</i>	Pass	Pass	3	2	23	YES
2	Rochester Townline Energy Storage Project <i>Penn Energy Group</i>	Pass	Pass	2	3	22	YES
9(a) 10(b)	Lakeshore Harvest BESS South Shore BESS <i>Capstone Infrastructure</i>	Pass	Pass	3	0	15	NO
9(b) 10(c)	Lakeshore Harvest BESS South Shore BESS <i>Capstone Infrastructure</i>	Pass	Pass	3	0	15	NO
4	Tilbury South BESS <i>Boralex</i>	Pass	Pass	0	3	12	NO
6	Richardson Storage Project <i>EDF Renewables</i>	Pass	Pass	2	0	10	NO
3	Tilbury North BESS <i>Boralex</i>	Pass	Pass	0	2	8	NO
7	Four Railroads BESS <i>Capstone Infrastructure</i>	Pass	Pass	1	0	5	NO
9(c)	Lakeshore Harvest BESS <i>Capstone Infrastructure</i>	Pass	Pass	1	0	5	NO
8(a) 10(a)	Shore Breeze BESS South Shore BESS <i>Capstone Infrastructure</i>	Pass	Pass	0	0	0	NO
8(b) 10(d)	Shore Breeze BESS South Shore BESS <i>Capstone Infrastructure</i>	Pass	Pass	0	0	0	NO
9(d)	Lakeshore Harvest BESS <i>Capstone Infrastructure</i>	Pass	Pass	0	0	0	NO
9(e) 10(e)	Lakeshore Harvest BESS South Shore BESS <i>Capstone Infrastructure</i>	Pass	Pass	0	0	0	NO
14	Essex BESS <i>Potentia Renewables</i>	Pass	Pass	0	0	0	NO
5	Comber Battery Storage Project <i>Brookfield Renewable</i>	Pass	Fail	N/A	N/A	N/A	N/A
13	Belle River BESS 7 <i>Liberty Power</i>	Pass	Fail	N/A	N/A	N/A	N/A
16	Belle River BESS 7 <i>Belle River BESS 7 Limited Partnership</i>	Pass	Fail	N/A	N/A	N/A	N/A
1	Under Sun Acres Green Energy <i>Chris Del Greco</i>	Fail	N/A	N/A	N/A	N/A	N/A


LAKESHORE BESS PROPOSED LOCATIONS







- PROPOSED LOCATIONS
- SETTLEMENT AREAS
- CLASS B SURFACE TREATED ROADS
- CLASS B GRAVEL ROADS
- COUNTY ROADS
- TRUCKING ROUTES
- NON CLASS B ROADS / NON TRUCKING ROUTES

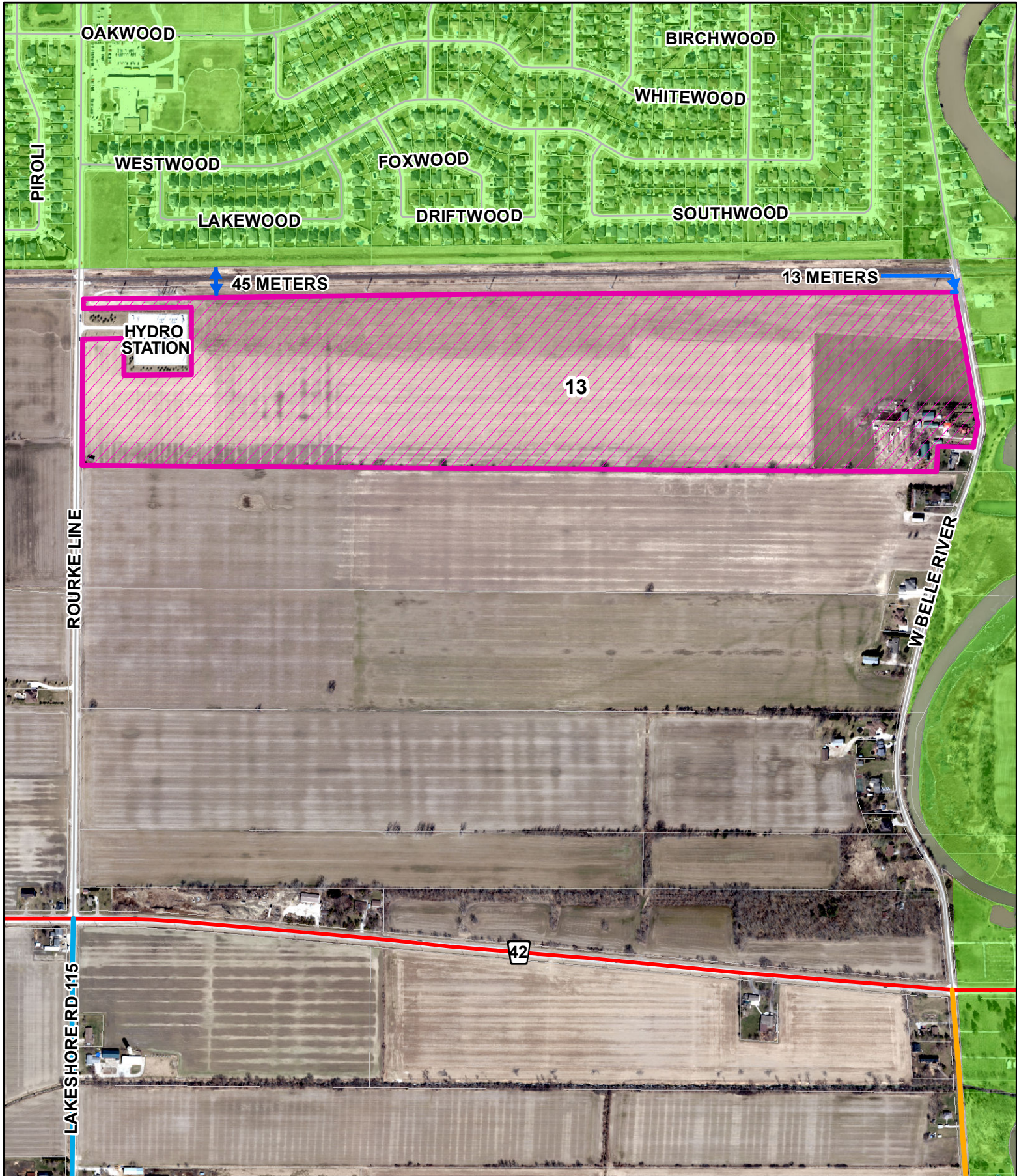
DETAIL MAP 1










-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

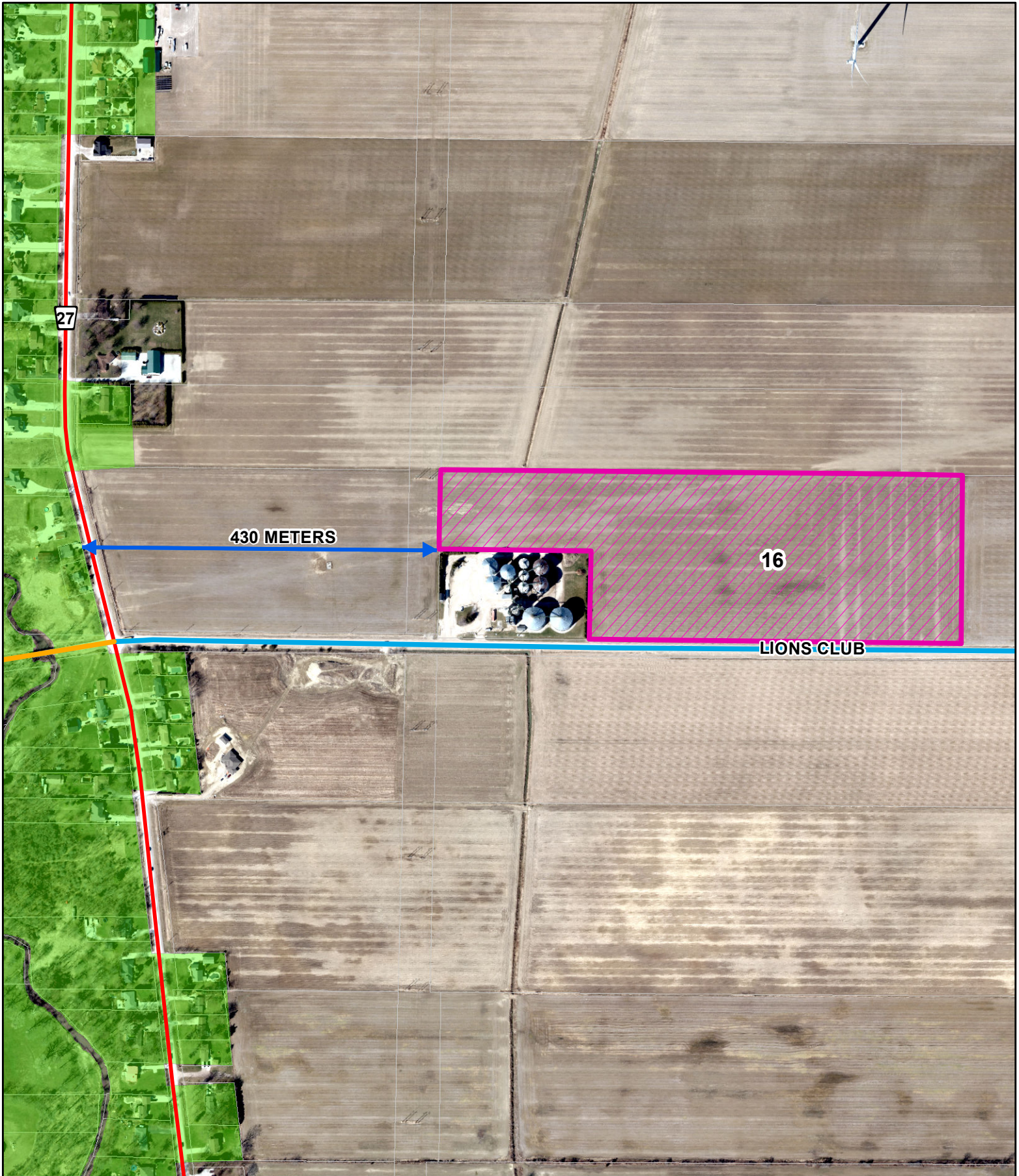
-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES




DETAIL MAP 2







- | | | | |
|---|--------------------|---|---|
|  | PROPOSED LOCATIONS |  | CLASS B SURFACE TREATED ROADS |
|  | SETTLEMENT AREAS |  | CLASS B GRAVEL ROADS |
|  | COUNTY ROADS |  | TRUCKING ROUTES |
| | |  | NON CLASS B ROADS / NON TRUCKING ROUTES |

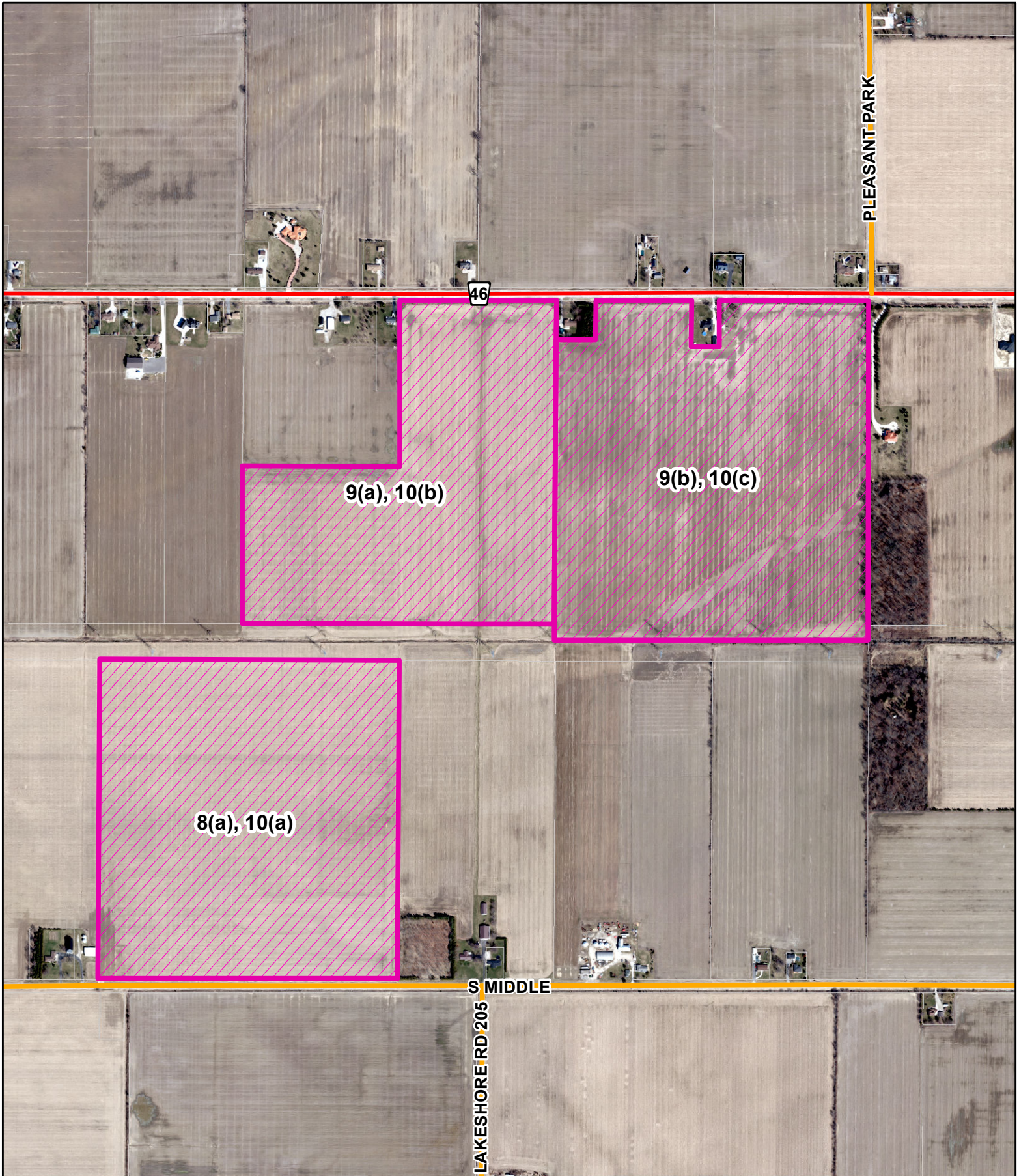
DETAIL MAP 3









-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

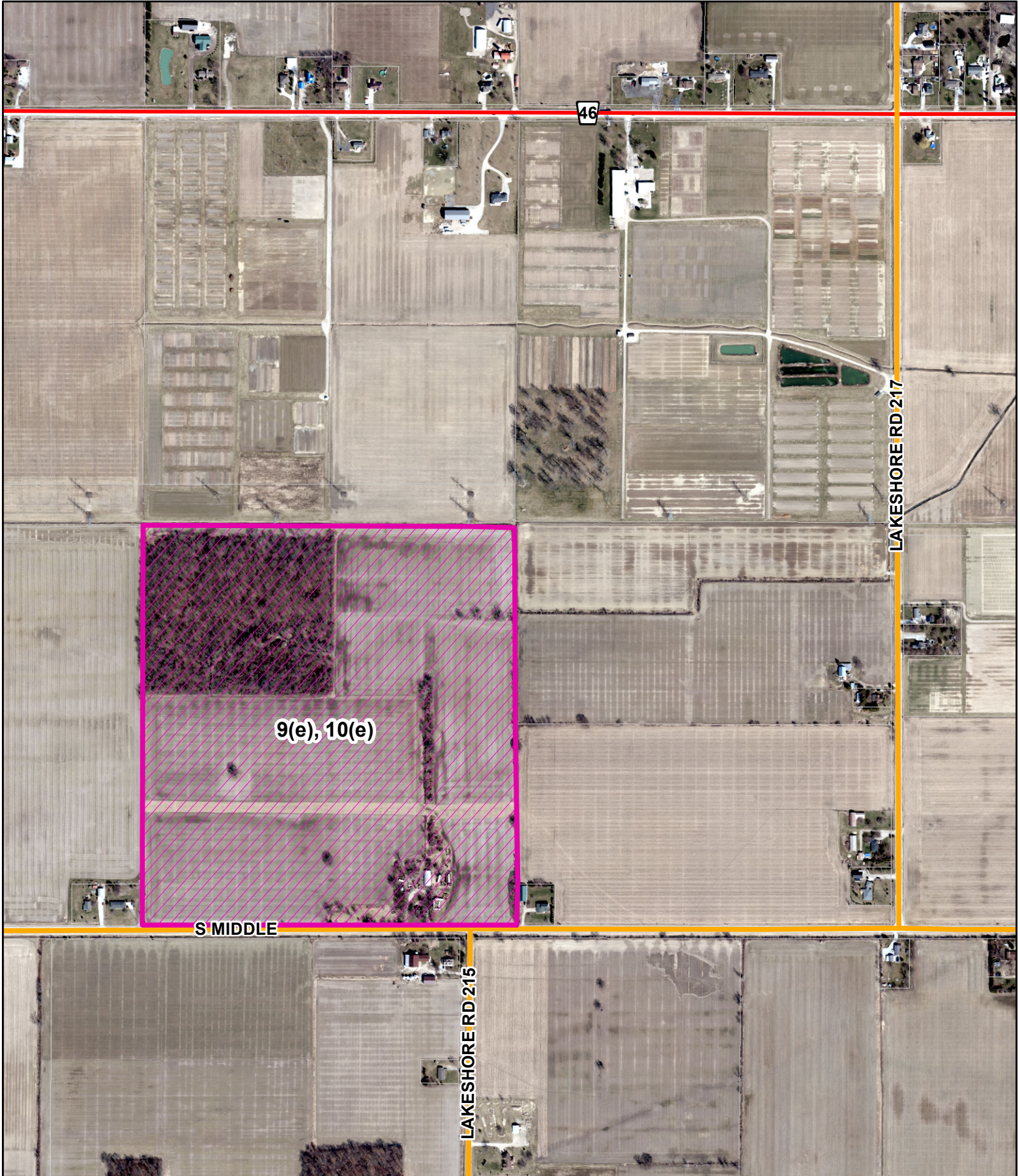
DETAIL MAP 4









-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

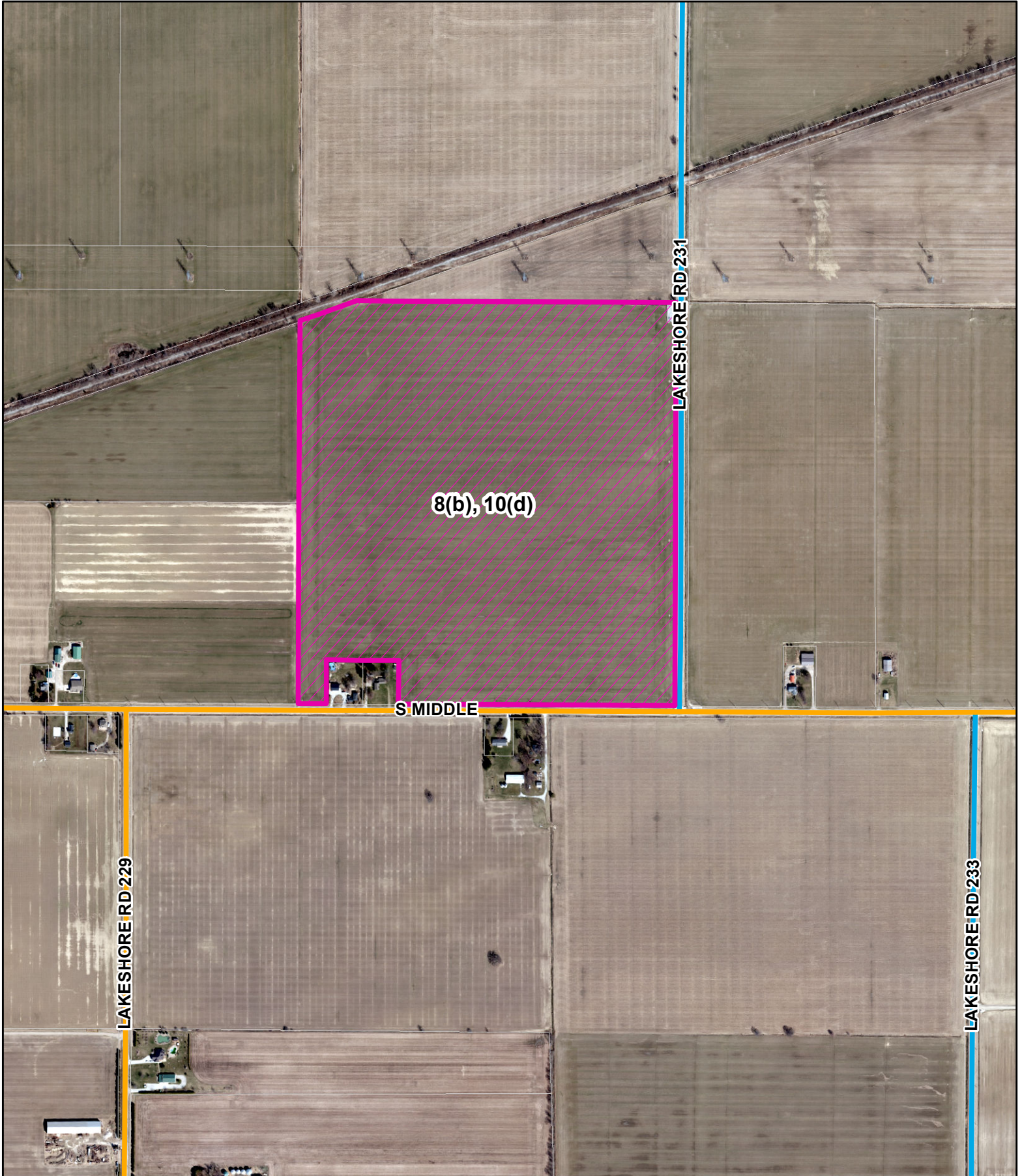
DETAIL MAP 5









-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

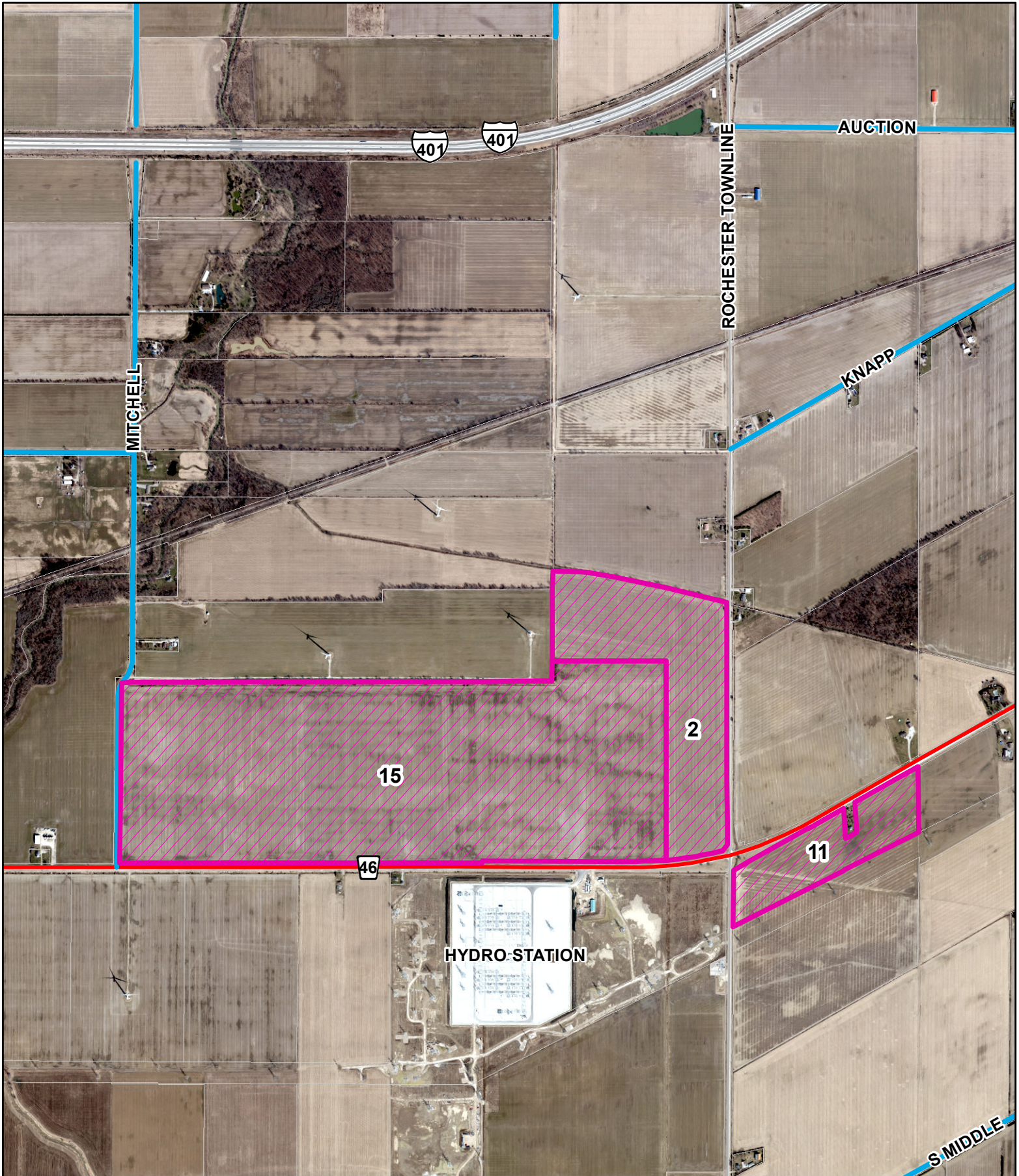
DETAIL MAP 6










-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

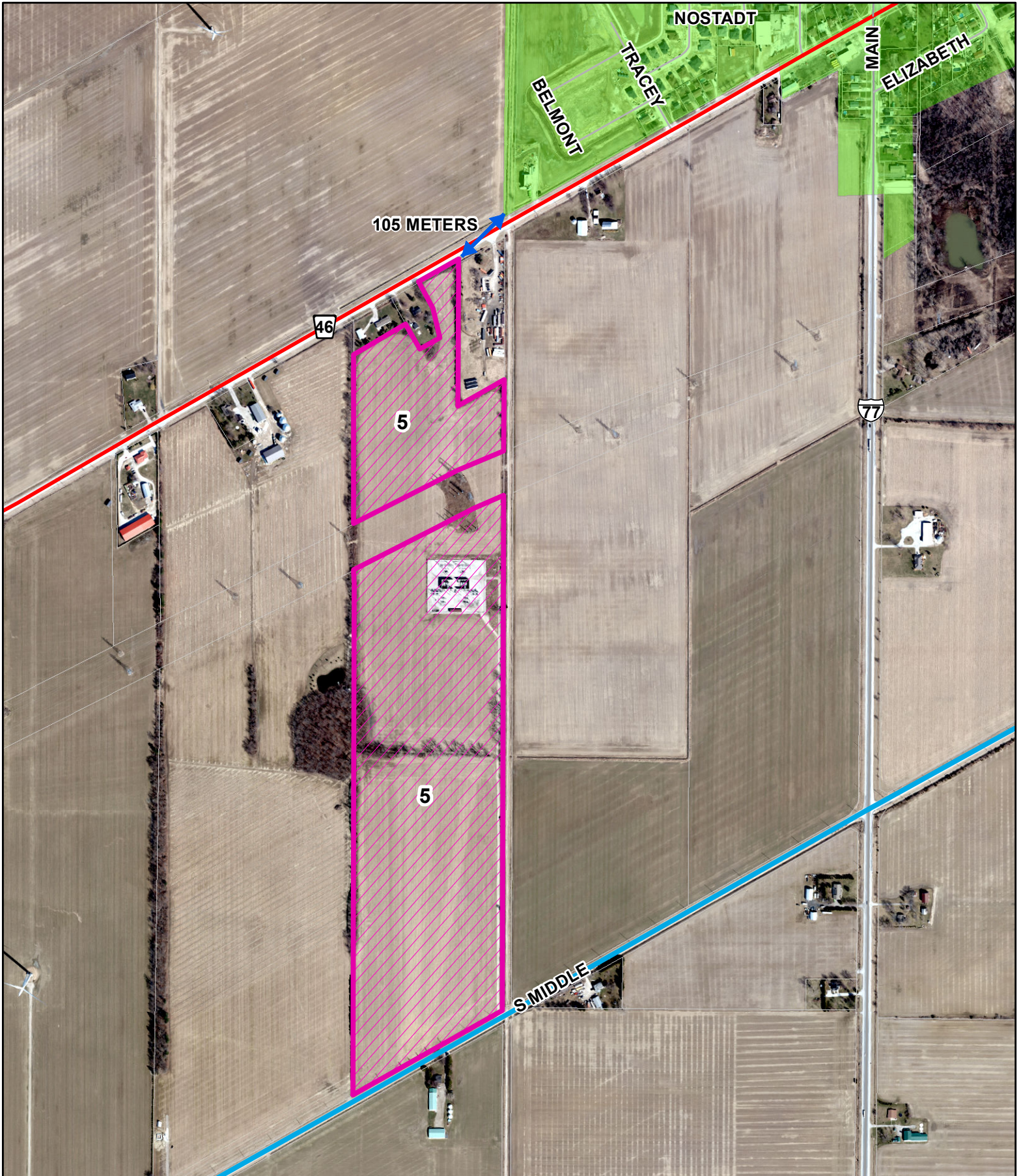
DETAIL MAP 7










-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

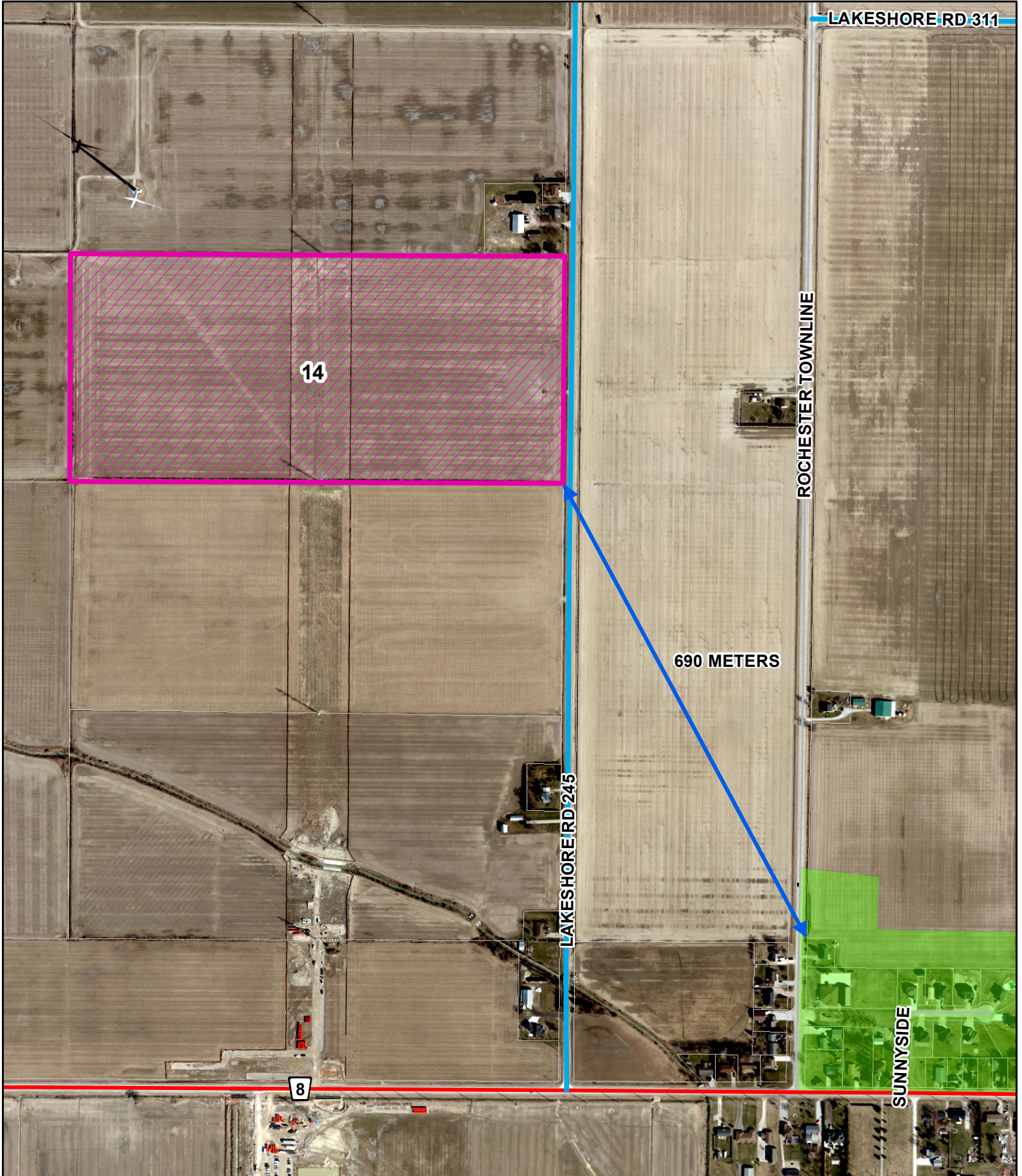
DETAIL MAP 8










-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

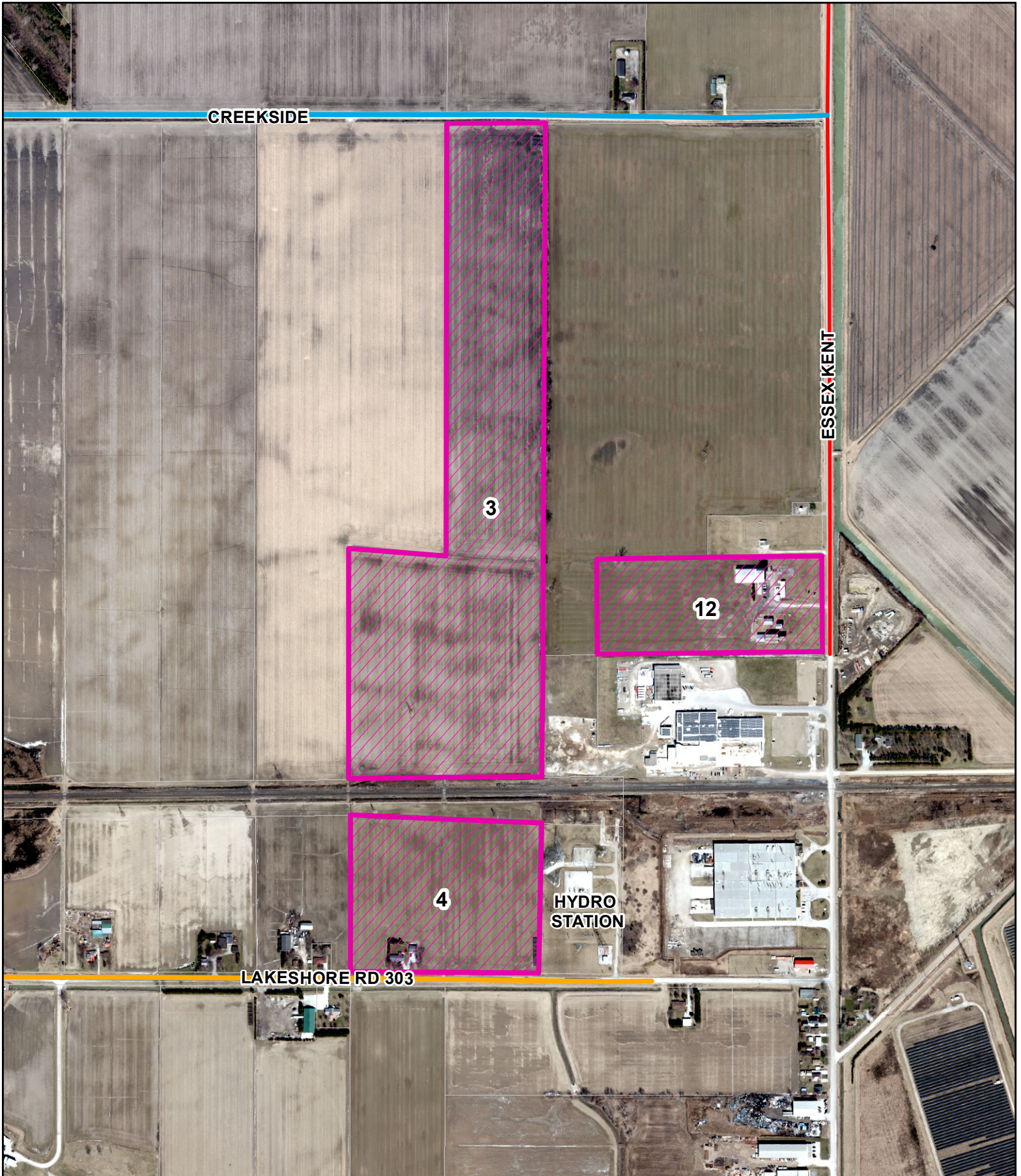
DETAIL MAP 9










-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

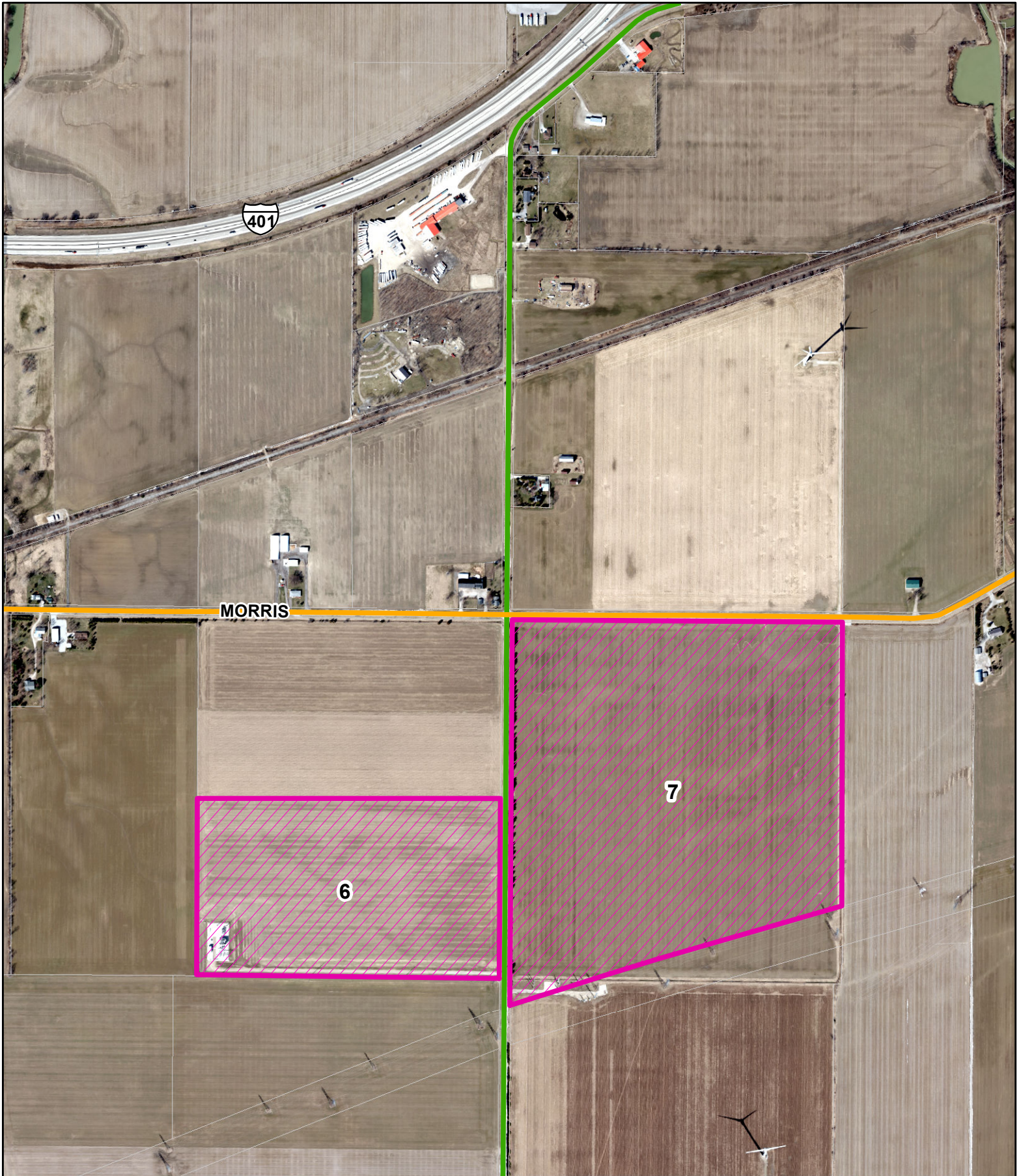
DETAIL MAP 10









-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES

DETAIL MAP 11



-  PROPOSED LOCATIONS
-  SETTLEMENT AREAS
-  COUNTY ROADS

-  CLASS B SURFACE TREATED ROADS
-  CLASS B GRAVEL ROADS
-  TRUCKING ROUTES
-  NON CLASS B ROADS / NON TRUCKING ROUTES