

To: Jose DeLeon, FAA

From: Larry Martin, Elgin O'Hare - West Bypass Study

Date: 7/7/2011 **cc:** R. Kula, FAA
A. Hanson, FAA
M. Boland, CDA
K. Wisniewski, CDA
F. Grimaldi, CDA

Subject: Feasibility Study for Elgin O'Hare West Bypass (EOWB) Tier Two Preliminary Engineering Phase Study

We Transmit: Under Separate Cover Via:

For Your:	<input type="checkbox"/> Information	<input type="checkbox"/> Distribution	Other:
	<input type="checkbox"/> Review/Comment	<input type="checkbox"/> Record	
	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Use	
The Following:	<input checked="" type="checkbox"/> Drawings	<input checked="" type="checkbox"/> Correspondence	Other:
	<input type="checkbox"/> Specifications	<input type="checkbox"/> Report	

<u>Copies</u>	<u>Date</u>	<u>Description</u>
8	7/6/11	FAA Form 7460-1 (Signed)
8	7/6/11	7460 Sheets 1 to 39
8	7/6/11	7460 Exhibits 1 to 6
1	7/6/11	CD containing all files in pdf format

Remarks:

This is a feasibility study for locations associated with the Elgin O'Hare - West Bypass (EOWB) Tier Two preliminary engineering phase study. The project is currently in the Draft EIS phase at which level more detailed engineering and environmental study is the primary focus. IDOT requests the FAA evaluate the potential airspace issues that may be associated with the proposed roadway and transit improvements developed as part of this phase of the EOWB Study.

There is no work planned associated with this 7460 feasibility study approval. Ultimately it is anticipated that work associated with the EOWB roadway project would be in the form of construction equipment on, off and in the vicinity of airfield property. At this time no known haul or access roads would be created for this project, but would instead be assumed to access the roadway via the roadway corridor itself to perform the construction. At some point a new airport security fence may delineate a revised secured movement area at O'Hare. Any such changes or approval for actual construction associated with the EOWB would go through separate approval processes in the future.

Sheets 1 through 16 define the critical points for the evaluation to be performed. Runway Safety Areas, Runway Object Free Areas, and Runway Protection Zones are shown on the attached sheets.

Sheets 17 through 34 are more detailed views of the critical points in relation to the runways and include PART 77 surface contours. Profile view are also provided for the final configuration east-west runways as well as where the EOWB may have a critical elevation.

A summary of the proposed locations and associated data, including proposed ground elevations and the anticipated equipment heights are included on sheets 35 through 39.

As the project is currently in the planning phase, it is not possible to share exact construction means and methods. An approximation of the type of construction equipment for each area has been made based upon the type of proposed section (bridge vs. tunnel vs. fill on grade) and the type of auxiliary features such as roadway signage and lighting.

Permanent Clearances

- Standard 17' vehicular clearance for roadway or height of highest vehicle per FAR PART 77. 17' vehicular clearance used over roadway.
- Permanent signage has approximately a 21' clearance over roadway plus a 10' depth for the sign truss which equals 31' above roadway elevation. Permanent light standards estimated at 35' above roadway elevation (exact height is dependant upon spacing so approximations made at this point). Thus typical highway type roadway lighting standards are estimated to be higher than signage in permanent condition, so that was what was used as defining criteria in applicable sections.

Temporary Clearances

- Cut/Fill equipment was estimated to be 25' including conservative clearance for moving components. Paving equipment was estimated to be 22' when truck is in elevated/tipped position. Thus 25' was used as defining temporary criteria to represent construction activities in applicable sections.
- The temporary height to set permanent lighting was estimated to be 15' above the permanent pole height, which was estimated to be 35' (per previous discussion above). Thus the height to set permanent lighting was estimated to be 50' above proposed roadway elevation. The height to set signage was estimated to be approximately the same, so the lighting was still defining criteria as the permanent component was higher.
- The type of construction equipment for a bridge or tunnel would be different than the standard cut/fill section. The height of crane equipment, including pick height, was estimated to be 25-30' above proposed grade for 2 level bridge. 30' was used in the 7460 analysis for single story bridges.
- The height of crane equipment, including pick height, was estimated to be 40-60' above proposed grade for fly over /multiple story bridges. 50' was used in the 7460 analysis for multiple story bridges.
- Work associated with a tunnel was estimated to include up to 100' equipment height for drilling pile or shaft for foundation work associated with the tunnel.

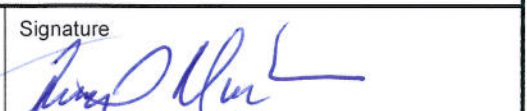
Both the temporary construction and permanent heights described in this submittal need to be evaluated for airspace impacts. The survey data in this submittal is verified to meet or exceed the Federal Aviation Administrator's Class 1A requirement for the location and elevation within 3 feet vertical and 20 feet horizontal.

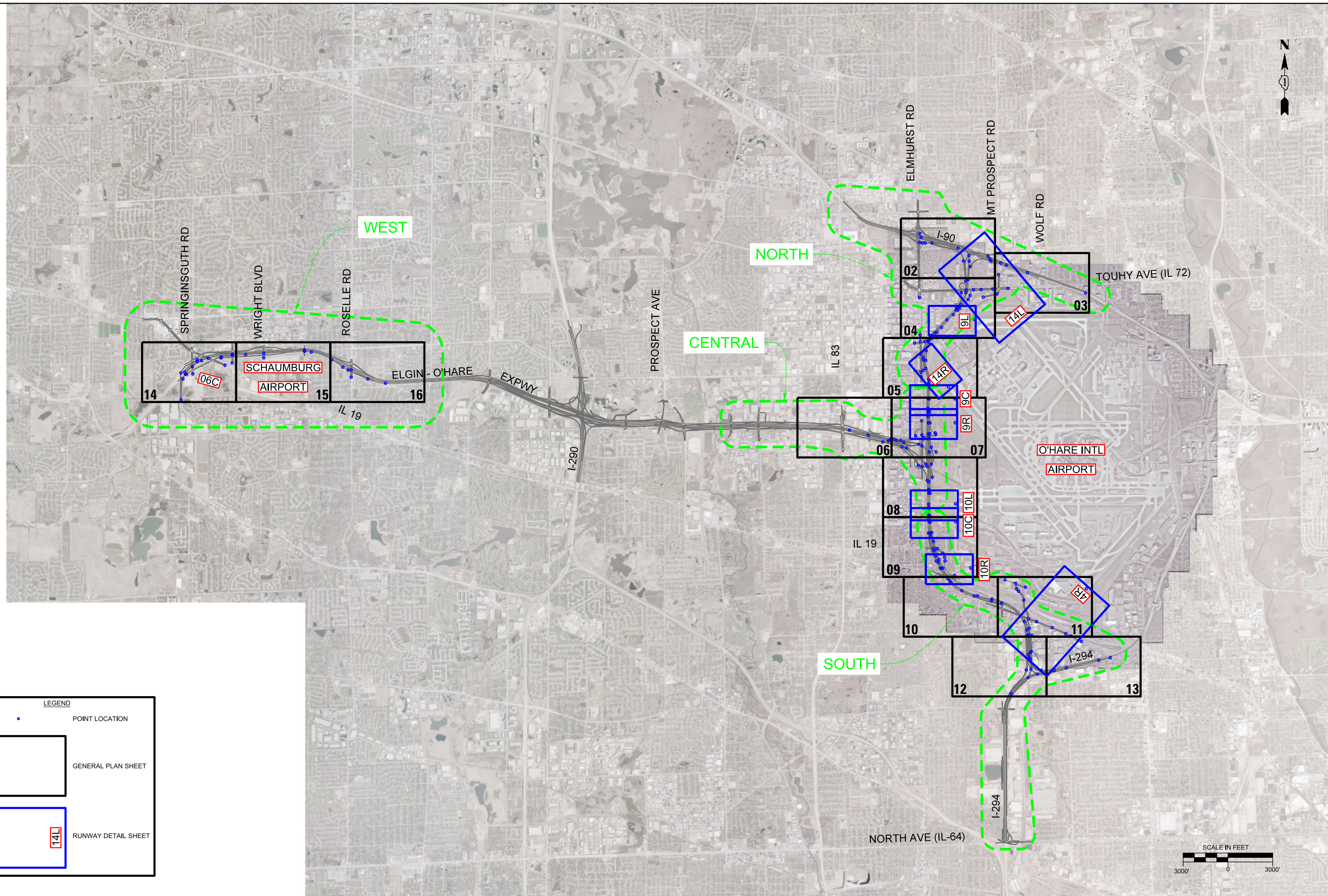
The FAA requested that information pertaining to any modifications that would be needed to the existing or proposed approach light systems that support the existing or proposed Category II/III operations at O'Hare International Airport be provided as part of this feasibility study. Exhibits 1 to 6 have been provided that reflect plan and profile views of the approach lighting system versus the EOWB roadway for each final configuration east-west runway that appears in the approved September 2005 ALP. An ALSF truss structure has been proposed to cross the EOWB roadway at each crossing. The plan and profile view also reflects vehicle clearances for the different features. In addition to those vehicle clearances discussed as part of the 7460 above, a standard 23' clearance for railroad per FAR PART 77 was used over railroad and 15' above other roadways to reflect actual heights of anticipated vehicles.

The FAA requested that information pertaining to Construction Phasing be provided as part of this feasibility study. It is unknown when the work for this project would start. The timing of these improvements is dependant upon funding which has not yet been identified. Actual construction timeline is therefore not yet established, but the best case scenario is that the initial construction phase would be under construction between 2014 and 2019. That initial construction phase would likely consist of a scaled back project, consisting of fewer basic mainline lanes and interchanges that were either scaled back or deferred in some locations.

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of \$1,000 per day until the notice is received, pursuant to 49 U.S.C., section 46301 (a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking and lighting standards as necessary.

Date 7-7-11	Typed or Printed name and Title of Person Filing Notice Larry Martin, Project Manager for Elgin O'Hare - West Bypass Study	Signature 
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LEGEND

- POINT LOCATION
- GENERAL PLAN SHEET
- RUNWAY DETAIL SHEET

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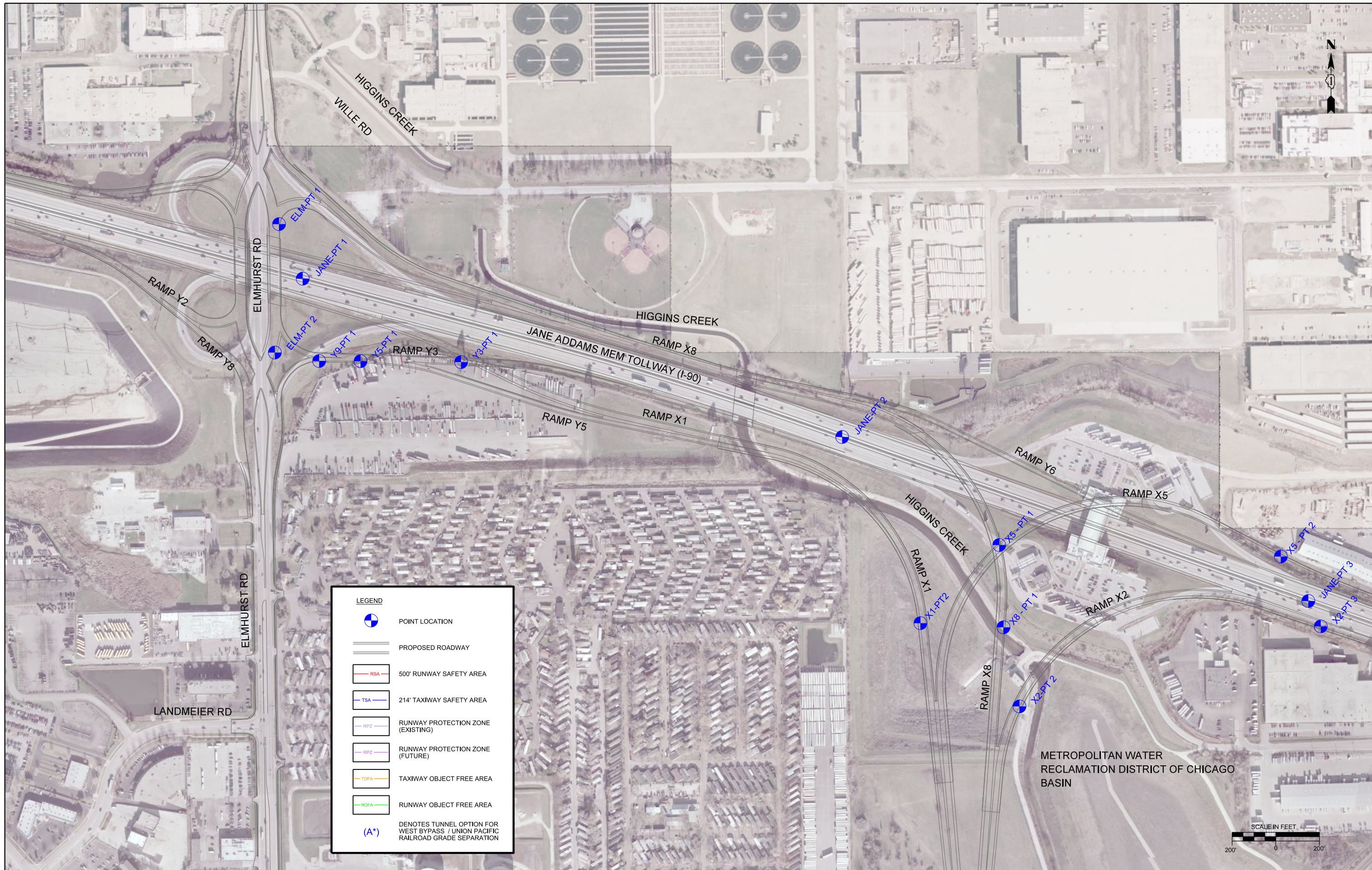
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**FAA FORM 7460
KEY MAP**

SCALE: SHEET NO. 1 OF 39 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			39	1
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



LEGEND

- POINT LOCATION
- PROPOSED ROADWAY
- 500' RUNWAY SAFETY AREA
- 214' TAXIWAY SAFETY AREA
- RUNWAY PROTECTION ZONE (EXISTING)
- RUNWAY PROTECTION ZONE (FUTURE)
- TAXIWAY OBJECT FREE AREA
- RUNWAY OBJECT FREE AREA
- DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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
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CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



LEGEND

-  POINT LOCATION
-  PROPOSED ROADWAY
-  500' RUNWAY SAFETY AREA
-  214' TAXIWAY SAFETY AREA
-  RUNWAY PROTECTION ZONE (EXISTING)
-  RUNWAY PROTECTION ZONE (FUTURE)
-  TAXIWAY OBJECT FREE AREA
-  RUNWAY OBJECT FREE AREA
-  (A*) DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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			39	3
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



LEGEND

- POINT LOCATION
- PROPOSED ROADWAY
- 500' RUNWAY SAFETY AREA
- 214' TAXIWAY SAFETY AREA
- RUNWAY PROTECTION ZONE (EXISTING)
- RUNWAY PROTECTION ZONE (FUTURE)
- TAXIWAY OBJECT FREE AREA
- RUNWAY OBJECT FREE AREA
- (A*) DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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			39	4
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



LEGEND

- POINT LOCATION
- PROPOSED ROADWAY
- 500' RUNWAY SAFETY AREA
- 214' TAXIWAY SAFETY AREA
- RUNWAY PROTECTION ZONE (EXISTING)
- RUNWAY PROTECTION ZONE (FUTURE)
- TAXIWAY OBJECT FREE AREA
- RUNWAY OBJECT FREE AREA
- (A*)** DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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






FAA FORM 7460 PLAN

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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.				
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LEGEND

-  POINT LOCATION
-  PROPOSED ROADWAY
-  500' RUNWAY SAFETY AREA
-  214' TAXIWAY SAFETY AREA
-  RUNWAY PROTECTION ZONE (EXISTING)
-  RUNWAY PROTECTION ZONE (FUTURE)
-  TAXIWAY OBJECT FREE AREA
-  RUNWAY OBJECT FREE AREA
-  DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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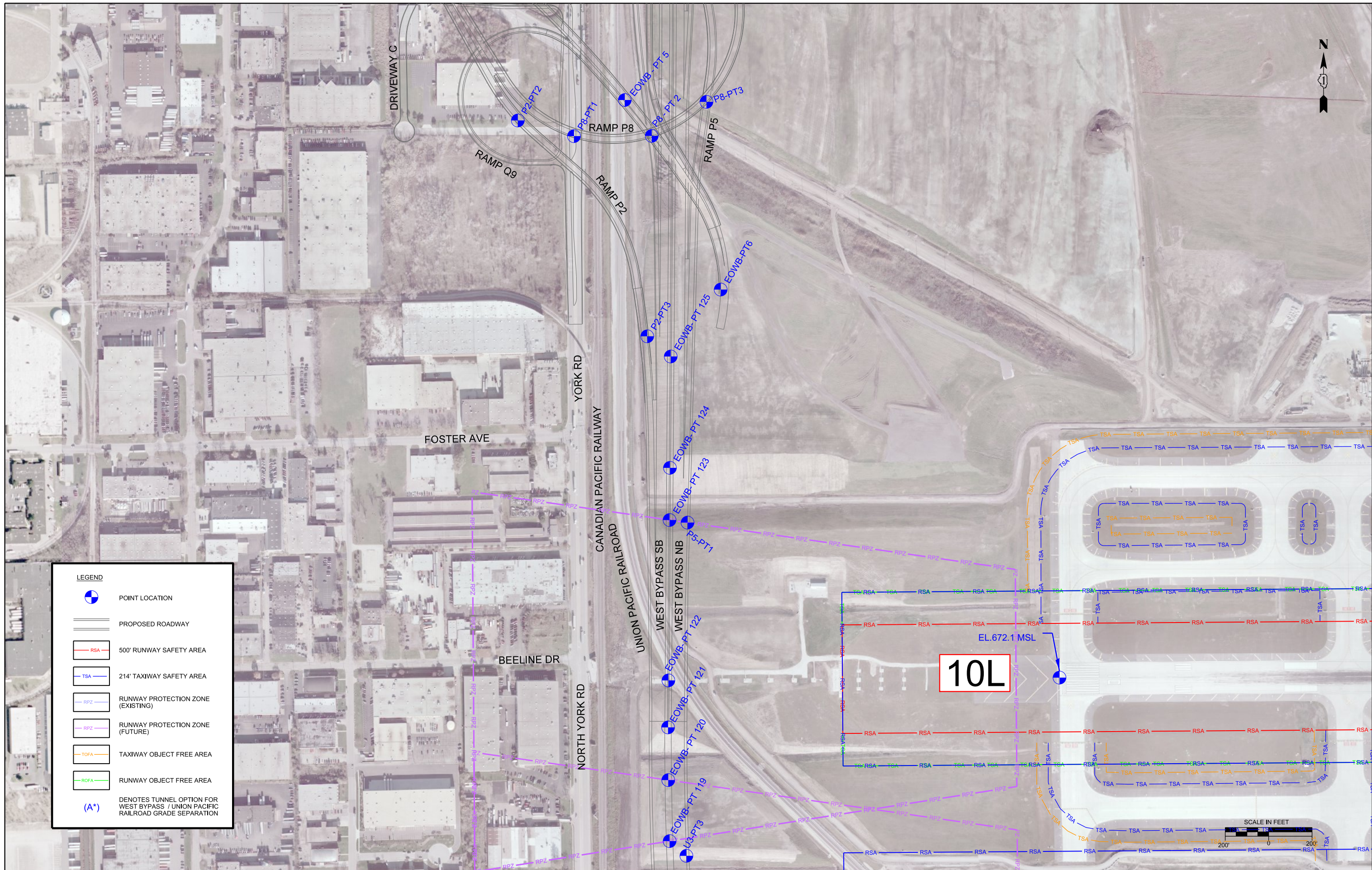


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SCALE: SHEET NO. 6 OF 39 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			39	6
CONTRACT NO.				
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LEGEND

- POINT LOCATION
- PROPOSED ROADWAY
- 500' RUNWAY SAFETY AREA
- 214' TAXIWAY SAFETY AREA
- RUNWAY PROTECTION ZONE (EXISTING)
- RUNWAY PROTECTION ZONE (FUTURE)
- TAXIWAY OBJECT FREE AREA
- RUNWAY OBJECT FREE AREA
- (A*)** DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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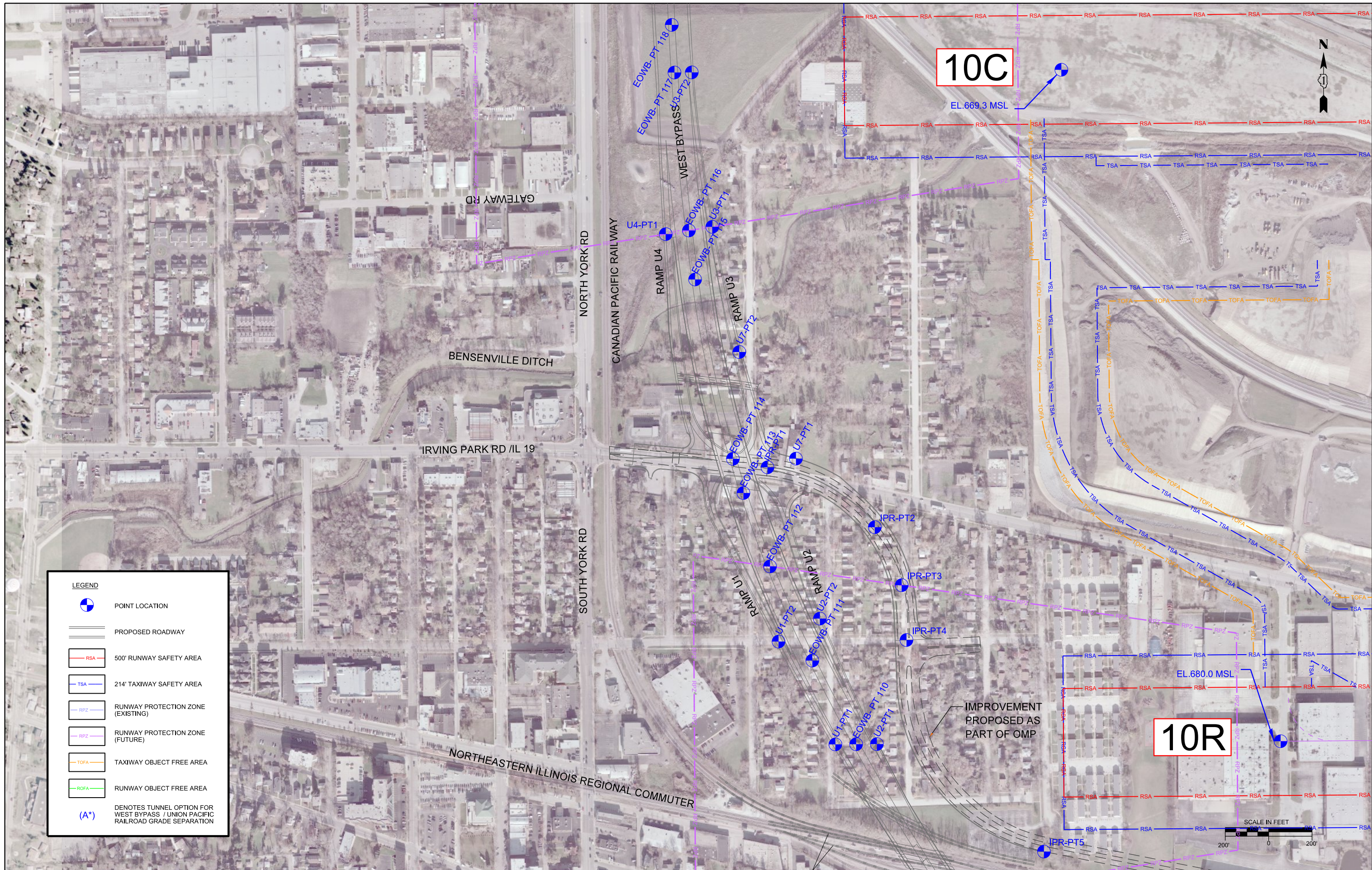
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			39	8
CONTRACT NO.				
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LEGEND

- POINT LOCATION
- PROPOSED ROADWAY
- 500' RUNWAY SAFETY AREA
- 214' TAXIWAY SAFETY AREA
- RUNWAY PROTECTION ZONE (EXISTING)
- RUNWAY PROTECTION ZONE (FUTURE)
- TAXIWAY OBJECT FREE AREA
- RUNWAY OBJECT FREE AREA
- DENOTES TUNNEL OPTION FOR WEST BYPASS / UNION PACIFIC RAILROAD GRADE SEPARATION

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SCALE: SHEET NO. 9 OF 39 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			39	9
CONTRACT NO.				
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