CONSTRUCTABILITY REVIEW

PPC IL BEAM DELIVERY AND ERECTION

IDOT DISTRICT 3, PTB 191-007
FAI ROUTE 57 (I-57)
SECTION [(139)VB,HB-3]BR,139R
KANKAKEE COUNTY
CONTRACT NO. 66F74
JOB NO. D-93-045-19

I-57 OVER NS RAILWAY AND DRAINAGE DITCH (SN 046-0156/-0157)

I-57 OVER GRINNELL ROAD (SN 046-0158/-0159)

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January 2, 2020

TABLE OF CONTENTS

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01/02/2020

TABLE OF CONTENTS (CONT.)

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Exhibit Summary

Exhibit #1 – Location Map

Exhibit #2 – Type, Size, and Location Plans

Exhibit #3 – Beam Section Properties

Exhibit #4 – Crane Load Chart

Exhibit #5 – Stage I Crane Placement Plan

Exhibit #6 – Stage II Crane Placement Plan

Exhibit #7 – Beam Delivery Vehicle Detail

Exhibit #8 – Beam Delivery Routes

Exhibit #9 – Turning Movements at Intersections

Exhibit #10 – Delivery Route Structures: Locations and Reports

1.0 INTRODUCTION

1.1 PURPOSE OF REVIEW

The purpose of this review is to identify feasible methods of erection and delivery for the beams for four bridges that are being reconstructed as a part of Section [(139)VB,HB-3]BR,139R in Kankakee County. The purpose of this report is not to mandate means and methods, but rather to verify the feasibility of construction. This study will also cover a series of recommendations for design based on the methods of beam delivery and erection considered here. These will be recommendations for construction sequencing, traffic control and protection, estimate of construction time, and estimate of construction cost.

1.2 LOCATION OF REVIEW

The area of study for this review is within the City of Kankakee, Illinois. A location map of this project can be found in Exhibit #1. This review focuses on the construction areas of proposed Structures No. (SN) 046-0156, 046-0157, 046-0158, and 046-0159 on I-57 (existing SN 046-0008, 046-0009, 046-0010, and 046-0011). These structures carry I-57 over Norfolk Southern (NS) Railway and Grinnell Road in Kankakee. See Exhibit #2 for the Type, Size, and Location sheets for the proposed structures.

There were also three intersections in Kankakee that were evaluated for their ability to accommodate the turning movements of the beam delivery vehicles. These intersections are:

- I-57 Exit and IL Route 50
- IL Route 50 and Grinnell Road
- Eastgate Industrial Parkway and a private road that leads to the bridges over NS Railway

2.0 Feasibility Study

2.1 Beam Erection

This section investigates feasible crane locations for the beam erection of Stages I and II of this project. Due to the feasibility of and room for variation within the conventional crane erection strategy discussed below, options involving beam launching with a gantry crane or other advanced methods were not considered.

2.1.1 Stage I

Stage I of this project involves the reconstruction of the northbound lanes of I-57. Within this stage there are two structures that will require a crane to be constructed:

- SN 046-0156 (NB I-57 over NS Railway)
- SN 046-0158 (NB I-57 over Grinnell Road)

SN 046-0156 (NB I-57 over NS Railway)

This structure consists of three separate spans, with all three spans including precast, prestressed concrete (PPC) IL36-3838 beams that will need to be put in place using a crane. See Exhibit #3 for an IDOT table of PPC IL Beam dimensions and weights. The North and South spans are both 52 feet, 4 inches. The center span is the governing condition for crane placement for this structure as it is the longest span at 97 feet, 10 inches, with its midpoint the farthest from any potential crane location.

The beams for span 2 are approximately 98 feet long (as stated above) and weigh approximately 82,320 pounds. For the sake of this evaluation we assumed the size of the beams to be 100 feet long with a weight of 85,000 pounds.

The first method considered was setting a crane at grade with I-57 and behind the new abutment locations and providing a swing to the midpoint of the center span. This approach required a crane swing range of approximately 140'. This swing radius is possible with typical rough terrain cranes; however, the allowable boom weight at this extension tends to fall between 10,000 pounds – 12,000 pounds depending on which crane is being used. This is drastically lower than what is required and is therefore not a feasible option.

The next option considered was a higher-capacity all-terrain crane with as many as 9 steering axles. One example of the higher end capacity/size range of the all-terrain cranes – a Demag AC700 – has a capacity of 770 tons and a boom swing of 197 feet. From the beam loading chart for this crane, the 140' swing radius has a capacity of approximately 55,000 lbs. While this is a much larger weight capacity, it is still significantly lower than the required weight for the crane, meaning a crane location outside of the limits of the new abutments is likely not a feasible option. For a table showing the capacity of the Demag AC 700 crane under various loading scenarios, see Exhibit #4.

Placement was then checked between the south abutment and new pier. Placing the crane within the flat area at grade with the NS Tracks and in front of the existing abutment slope will provide sufficient swing and capacity when assuming the Demag AC700 in the test configuration. The boom length for this case will be longer vertically, since the crane is not sitting at grade with I-57. The vertical offset coupled with the 60-degree takeoff angle resulted

in a vertical height of approximately 105 feet with a boom length of at least 130 feet. The inclination of the existing slope for the abutment was also considered. The natural ground line is inclined at approximately 24 degrees. The Demag AC700 has a maximum off-road slope incline of 40 degrees, so it is feasible for an all-terrain crane to traverse the slope from I-57 directly and access the area below the bridges.

Placing the crane either in front of the proposed abutment or adjacent to the bridge may provide limitations for construction sequence. The piers must be completed, and center span beams must be set prior to building the bridge embankment cone and then driving the H-piles for the abutment sections.

As the North and South spans are shorter and lighter, both spans could be set with the crane at the North and South ends of the bridge respectively. For a crane to access the North end of the structure, it will need to drive on the Stage I NB lane across the existing SB structure and then cross over the median area to the North end of the proposed NB structure. It was assumed infeasible for a crane to access the north end of the bridge by crossing the NS tracks. A summary of the Stage I crane placement can be found in Exhibit #5.

SN 046-0158 (NB I-57 over Grinnell Road)

The beam lengths for the bridges over Grinnell Road are approximately 45', 70', and 45'. For a beam unit weight of 840 lb/ft, the weights would be 37.8 kips and 58.8 kips respectively. The outrigger distance for the crane is approximately 21' from the center swing radius. Assume the crane will be placed 5' behind the fill face of the abutment. Thus, the total swing radius to reach the south span if the crane is mobilized at grade with I-57 and on the northern approach roadway would be:

L_{swing} = 21' + 5' + 45' + 70' + 45'/2 = 163.5'

The exterior beams will be slightly farther than this distance. Using Bentley MicroStation, the exterior beam distance was measured to be 164.5 feet. Utilizing the same crane as the previous structure – the Demag AC700 - for a horizontal swing of 168', the crane capacity is 38.5 kip. The capacity for this crane is therefore sufficient for the proposed 37.8 kip beam weight with a swing of 164.5 feet. This sufficiency means that a Demag AC700 (or equivalent) can be placed at the South end of the bridge and used to place all the beams for the structure, as shown in Exhibit #5.

2.1.2 Stage II

Stage II of this project involves the reconstruction of the southbound lanes of I-57. Within this stage there are two structures that will require a crane to be constructed:

- SN 046-0157 (SB I-57 over NS Railway)
- SN 046-0159 (SB I-57 over Grinnell Road)

SN 046-0157 (SB I-57 over NS Railway)

Once the Stage I bridges have been completed, traffic will be shifted to the new bridges on the northbound side and construction of the new substructure units will begin.

The presence of the completed slope wall for Stage I, located in front of the new NB abutment will restrict crane access to the center span during Stage II. Due to this restriction, the crane will

need to traverse the existing slope for the abutment down to the area below the bridges, similar to the south span placement for SN 046-0156 (NB I-57 over NS Railway). Temporary shoring at the centerline of I-57 will be used to maintain the existing slope under Structure 046-0157 during this crane placement.

Similar to SN 046-0156, the North and South spans of the bridge could be constructed with the crane at grade with I-57 and at the North and South ends of the bridge, respectively. A summary for the Stage II crane placement can be found in Exhibit #6.

SN 046-0159 (SB I-57 over Grinnell Road)

SN 046-0159 requires the same weight capacity and horizontal swing that was discussed previously for SN 046-0158. Therefore, placing a crane equivalent to the one discussed previously at the South end of the structure will be sufficient for beam placement.

2.2 Beam Delivery

This section investigates a potential strategy for the transportation of the bridge beams to the crane locations in the two separate stages specified in the preceding sections.

2.2.1 Stage I

During this stage, two structures will have beams delivered to them. They are:

- SN 046-0156 (NB I-57 over NS Railway)
- SN 046-0158 (NB I-57 over Grinnell Road)

The primary consideration when choosing delivery routes was avoiding the need for any private access agreements. It is important to note that there is a lack of laydown space without any private access agreements. Alternative routes that require private access agreements include:

- The private access road between Grinnell Road and the NS Railway and east of I-57
- Delivery of beams by rail to the NS siding tracks under I-57
- Eastgate Industrial Parkway to the private access road that leads to the NS Railway
- The access road along the property Southwest of the bridges over the NS Railway

To evaluate potential delivery strategies, turning movements were modeled using the dimensions for the design vehicle shown in Exhibit #7. The dimensions for this vehicle were based off typical delivery vehicle specifications provided by County Materials. A layout plan of the potential delivery paths can be found in Exhibit #8.

SN 046-0156 (NB I-57 over NS Railway)

This structure has three separate crane placements. Due to turning restrictions created as a result of the delivery vehicle's size, delivery to the center crane placement from the private road leading to the project limits from Eastgate Industrial Parkway is infeasible without additional construction at the intersection, as shown in Exhibit #9. Therefore, a more realistic delivery method within the current scope of the project would be to deliver the beams to the central and north crane placements on the Stage I northbound traffic lane of SN 046-0009. This will require a temporary "rolling" closure of the lane, which will almost certainly require the work to be done at night, and with the assistance of flaggers. The south crane placement will be able to receive beams directly south of it on the closed road. This will require flaggers to open and close the traffic control at the southern median crossover to let the delivery vehicles in.

SN 046-0158 (NB I-57 over Grinnell Road)

Due to the closing of Grinnell Road during bridge construction, the least disruptive way to deliver the beams would be directly to Grinnell Road, adjacent to the proposed bridge. A delivery vehicle would exit I-57 onto Illinois Route 50, then drive South to Grinnell Road, and then East along Grinnell Road to the bridge crossing.

According to the IDOT Interactive Map of Obstructions and Restrictions, there are no size or weight restrictions on the route proposed. Exhibit #9 shows modeled turning movements of the delivery vehicle at each of the intersections in this delivery method. This path directs the delivery vehicles over or under three structures. No size or weight restrictions were identified with these structures, and a map of their location along with their IDOT Structure reports can be found in Exhibit #10.

2.2.2 Stage II

During this stage, two structures will have beams delivered to them. They are:

- SN 046-0157 (SB I-57 over NS Railway)
- SN 046-0159 (SB I-57 over Grinnell Road)

The analysis for this stage assumed the same delivery vehicle as the previous stage, shown in Exhibit #7. A layout plan for the delivery paths discussed in this section can be found in Exhibit #8.

SN 046-0157 (SB I-57 over NS Railway)

Similar to the delivery method for SN 046-0156, the most feasible delivery method is limited to a "rolling traffic stop" that would require the beams to be pulled off trailers in the Stage II southbound traffic lane of SN 046-0156. This will require stopping southbound traffic on the bridge while the beam is being removed from the trailer or using flaggers to conduct traffic through a single lane. Since this is an interstate, this would almost certainly require that beam deliveries are made during the night for this structure.

SN 046-0159 (SB I-57 over Grinnell Road)

This structure's proximity to the nearby overhead electric lines makes delivery from Grinnell Road infeasible. Therefore, it is recommended that the beams be delivered using a "rolling" road closure similar to SN 046-0156/-0157, as shown in Exhibit #8.

3.0 Design Recommendations

The following are design items that can be affected by the beam delivery and erection strategies that have been considered.

- Sequence of Construction
- Traffic Control
- Estimate of Time
- Estimate of Cost

There are many feasible ways to organize labor and equipment for beam erections on this project. For the sake of this report, three distinct construction options will be evaluated for their impacts on the above design items:

- Bridges constructed simultaneously, with two cranes
- Bridges constructed sequentially, with one crane
- Bridges constructed simultaneously, with one crane

Within this section of the report, SN 046-0156 and 046-0157 will be referred to as the "Bridges over NS" and SN 046-0158 and 046-0159 will be referred to as the "Bridges over Grinnell". It will be assumed that all beam deliveries that require temporary road closure on I-57 will be completed at night to limit risks and traffic impact.

3.1 Construction Sequencing

This section of the report will discuss how beam delivery and erection might affect the construction sequence of each of the structures in each stage.

3.1.1 Bridges over NS (SN 046-0156/046-0157)

Within each stage, the Bridge over NS of that stage will have the center span beams erected first, followed by the beams for each of the outside spans.

The center span will need to be erected first because the crane placement prevents the construction of the south bridge embankment cone as well as the erection of the south span beams. The north embankment and abutment could be constructed along with the piers, leaving the north span ready for beams before the south span.

3.1.2 Bridges over Grinnell (SN 046-0158/046-0159)

The Bridges over Grinnell do not have any limitations regarding the order of span delivery and erection.

3.1.3 Bridges constructed simultaneously, with two cranes

If there are two cranes erecting the beams, then both structures in each stage can be constructed simultaneously. During Stage I, the structures could be constructed in separate shifts. Beams for SN 046-0156 (NB I-57 over NS Railway) would be delivered during the night, while beams for SN 046-0158 (NB I-57 over Grinnell Road) could be delivered during the day. During Stage II, the limitations on Stage II delivery would require both cranes to work at night for delivery and erection.

3.1.4 Bridges constructed sequentially, with one crane

If only one crane is used for delivery and erection, one option would be to erect the beams for each structure sequentially. This would involve one crane constructing each span for each structure, and completing one structure before moving to the other. Doing this would allow for beam deliveries to each bridge using the closed traffic lanes for I-57, rather than the active stage traffic lanes with temporary lane closures.

3.1.5 Bridges constructed simultaneously, with one crane

Another feasible method for delivery and erection with a single crane would be to move the crane back and forth between structures while the bridges are constructed simultaneously.

3.2 Traffic Control and Protection

This section of the report will discuss the impact that beam delivery and erection will have on traffic control and protection.

3.2.1 Stage I

During this stage traffic control will need to be considered for beam delivery and erection for both SN 046-0156 (NB I-57 over NS Railway) and SN 046-0158 (NB I-57 over Grinnell Road).

SN 046-0156 (NB I-57 over NS Railway)

Sufficient flaggers and warning signs for a temporary lane closure on I-57 will be necessary for beam delivery and erection for this structure. Changeable message boards would also be recommended to keep drivers updated on the changing roadway conditions. Assuming beam delivery and erection are completed during the night, it will also require night work PPE and proper lighting for the roadway and the beam erection site. There will be an alternate detour route in place for any traffic that is diverted during any temporary lane closure on I-57.

SN 046-0158 (NB I-57 over Grinnell Road)

It is assumed that Grinnell Road will be closed during the delivery of the beams. This closure will require proper barricades to prevent the public from traveling into the job site. However, this closure should still allow access to businesses during daytime delivery. Therefore, flaggers will be necessary to allow access to businesses within the closure. It is recommended to have changeable message boards to alert the public of any changes with the roadway conditions.

Temporary traffic control will be necessary at each of the intersections the delivery vehicles will turn on during their delivery to the structure. While Exhibit #9 shows that the vehicle can travel through these intersections, it will need to travel slowly and with enough space to properly maneuver. This will require flaggers to stop traffic and spotters to conduct the vehicle through the intersections.

3.2.2 Stage II

During this stage traffic control will need to be considered for beam delivery and erection for both SN 046-0157 (SB I-57 over NS Railway) and SN 046-0159 (SB I-57 over Grinnell Road).

SN 046-0157 (SB I-57 over NS Railway)

Similar to SN 046-0156 (NB I-57 over NS Railway), beam delivery and erection for this structure will require a temporary lane closure on I-57 with all necessary flaggers and warning signs. It is recommended to have changeable message boards to keep drivers updated on the changing roadway conditions. It is assumed that this structure's beam delivery and erection will be completed during the night, which will require night work PPE and proper lighting for the roadway and beam erection site.

SN 046-0159 (SB I-57 over Grinnell Road)

This structure's beam delivery and erection requires a temporary lane closure on I-57. Therefore, it will require flaggers, warning signs, and night protection similar to SN 046-0156 (NB I-57 over NS Railway) and SN 046-0157 (SB I-57 over NS Railway). It is recommended to have changeable message boards to keep drivers updated on the changing roadway conditions.

3.2.3 Bridges constructed simultaneously, with two cranes

Using two cranes could provide an opportunity to deliver beams to two bridges at the same time. This could reduce the number of lane closures on I-57.

3.2.4 Bridges constructed sequentially, with one crane

Sequential construction could allow for delivery vehicles to use either an existing or a recently completed bridge to access the other bridge in a given stage of construction. Because of this, a sequential construction method would have the smallest impact to traffic on I-57 out of the three options examined in this report.

3.2.5 Bridges constructed simultaneously, with one crane

One factor to consider with this method is the additional traffic control required to move the crane between bridges, using an I-57 traffic lane. This may require additional temporary lane closures on I-57 as the crane moves between structures.

3.3 Estimate of Time

This section will examine how beam delivery and erection might influence the estimate of time.

3.3.1 Bridges over NS (SN 046-0156/046-0157)

A special consideration for time should be taken for the Bridges over the NS Railway. As described above, the center span of these structures will need to be placed before the outer spans. To do this, the contractor will need to switch from substructure construction to beam erection and then back to substructure construction. These switches between operation will create inefficiencies for the contractor which will result in a longer construction duration for these bridges.

3.3.2 Bridges constructed simultaneously, with two cranes

This method of construction would be the fastest of the three proposed in this document. Both structures within each stage could be constructed simultaneously.

3.3.3 Bridges constructed sequentially, with one crane

This construction method would be the slowest out of the three choices. The sequential construction pattern would restrict beam erection to one span and one bridge at a time.

3.3.4 Bridges constructed simultaneously, with one crane

The estimate of time for this method would be between the two-crane and the sequential methods. The crane could move between structures when feasible. This would lead to a reduction of time compared to the sequential method. It would also be slower than the two-crane method as each crane movement would have a time cost.

3.4 Estimate of Cost

This section will examine the influence that beam delivery and erection will have on the estimate of cost.

3.4.1 Bridges constructed simultaneously, with two cranes

One clear consideration of cost in this method is the cost for the mobilization and use of a second crane. This method would also require two separate crews of laborers, operators, etc. This method would also include the costs associated with night work for the beam deliveries and crane movements that require a temporary lane closure on I-57.

3.4.2 Bridges constructed sequentially, with one crane

This method would only need one crane mobilized to the project. It would also only require one crew of workers. It would also avoid the additional traffic control costs of repeatedly moving the crane. However, being the slowest construction method recommended, it would require the crane to be on-site for a longer amount of time than either of the other methods, which creates an opportunity cost for the contractor. This method would have the lowest night work costs, limited to the crane movements that will need to be completed at night.

3.4.3 Bridges constructed simultaneously, with one crane

This strategy would only need one crane mobilized to the project. The more efficient use of the crane would reduce the time required relative to the sequential strategy. A second crew of labor might be required to keep both bridges ready for simultaneous construction. There will also be an increased cost in traffic control as the crane will require multiple movements back and forth between structures. This method would require all the night work costs associated with the two-crane method, as well as night work costs for additional movements of the crane between bridges.

3.5 Preferred Option for Design Recommendations

Considering the high traffic volumes and importance of I-57, we assume that completing this construction project within no more than two construction seasons would be a high priority. It is our opinion that bridges constructed simultaneously, with two cranes, is the construction method that will most likely deliver the shortest construction duration. Therefore, we recommend the District use the two-crane construction method to develop estimates of cost and time. Additionally, we recommend the construction sequencing and traffic control factors related to the two crane construction method be incorporated into the plans and specifications.

4.0 Conclusions

4.1 Feasibility Study

The Feasibility Study investigated the potential for the contractor to deliver and erect the bridge beams for SN 046-0156 (NB I-57 over NS Railway), 046-0157 (SB I-57 over NS Railway), 046-0158 (NB I-57 over Grinnell Road), and 046-0159 (SB I-57 over Grinnell Road).

4.1.1 Beam Erection

During this examination of the project, it was determined that a Demag AC700 or equivalent crane could feasibly place the beams for all three spans of each of the four structures.

4.1.2 Beam Delivery

This section of the report determined that it was feasible to deliver the beams to both structures.

SN 046-0156, 046-0157, and 046-0159 will have the beams pulled directly from an I-57 traffic lane and will require a temporary road closure to do so. It is recommended to do this work at night to limit impact to traffic.

There are feasible alternative delivery routes. However, these routes would require private access agreements and were therefore not considered further in this report

SN 046-0158 will have the beams delivered to the structure via Grinnell Road. To complete this delivery, the delivery vehicles will need to turn south onto IL 50 from I-57, and then from IL 50 East onto Grinnell Road. Exhibit #9 demonstrates that a delivery vehicle similar in size to the one shown in Exhibit #7 could navigate those intersections.

Neither IL 50 nor Grinnell Road have any posted weight restrictions. There are three structures that the delivery vehicles will have to navigate over or under get to the job site. No size or weight restrictions were identified with any of the structures. Their location and IDOT Structure Reports can be found in Exhibit #10.

4.2 Design Recommendations

This section investigated the potential impact that beam delivery and erection has on design. The strategies suggested were:

- Bridges constructed simultaneously, with two cranes
- Bridges constructed sequentially, with one crane
- Bridges constructed simultaneously, with one crane

We concluded that Bridges constructed simultaneously, with two cranes is the preferred option for design recommendations.

4.2.1 Construction Sequencing

For the Bridges over NS the center span will need to be erected first as the crane placement will prevent work on the south abutment and the south span. Then the outer spans can be placed.

For the Bridges over Grinnell Road there is no necessary order of span placement.

Both bridges could potentially be constructed simultaneously. The two-crane construction method fully utilizes this capability.

4.2.2 Traffic Control and Protection

A traffic control concern is the additional signage, flaggers, and PPE for the temporary lane closure on I-57 and night work for SN 046-0156 (NB I-57 over NS Railway), 046-0157 (SB I-57 over NS Railway), and 046-0159 (SB I-57 over Grinnell Road). SN 046-0158 (NB I-57 over Grinnell Road) would only require a road closure on Grinnell Road and additional temporary traffic control for intersections while the delivery vehicles are driving through them. The two-crane simultaneous method could provide an opportunity to deliver beams to two bridges at the same time, reducing the number of temporary lane closures on I-57.

4.2.3 Estimate of Time

The bridges over NS will need the beams for the center span erected first. This will require the contractor to switch from substructure construction to beam delivery and erection, and then back to substructure construction. This interruption of the substructure process will add construction time to the bridges over NS.

4.2.4 Estimate of Cost

The discussion of this section found that the two-crane simultaneous method would require an additional mobilization fee and cost of an additional crane. It would also require a second crew of laborers, operators, and all other positions necessary for beam delivery and erection.

CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #1

PROJECT LOCATION MAP

January 2, 2020

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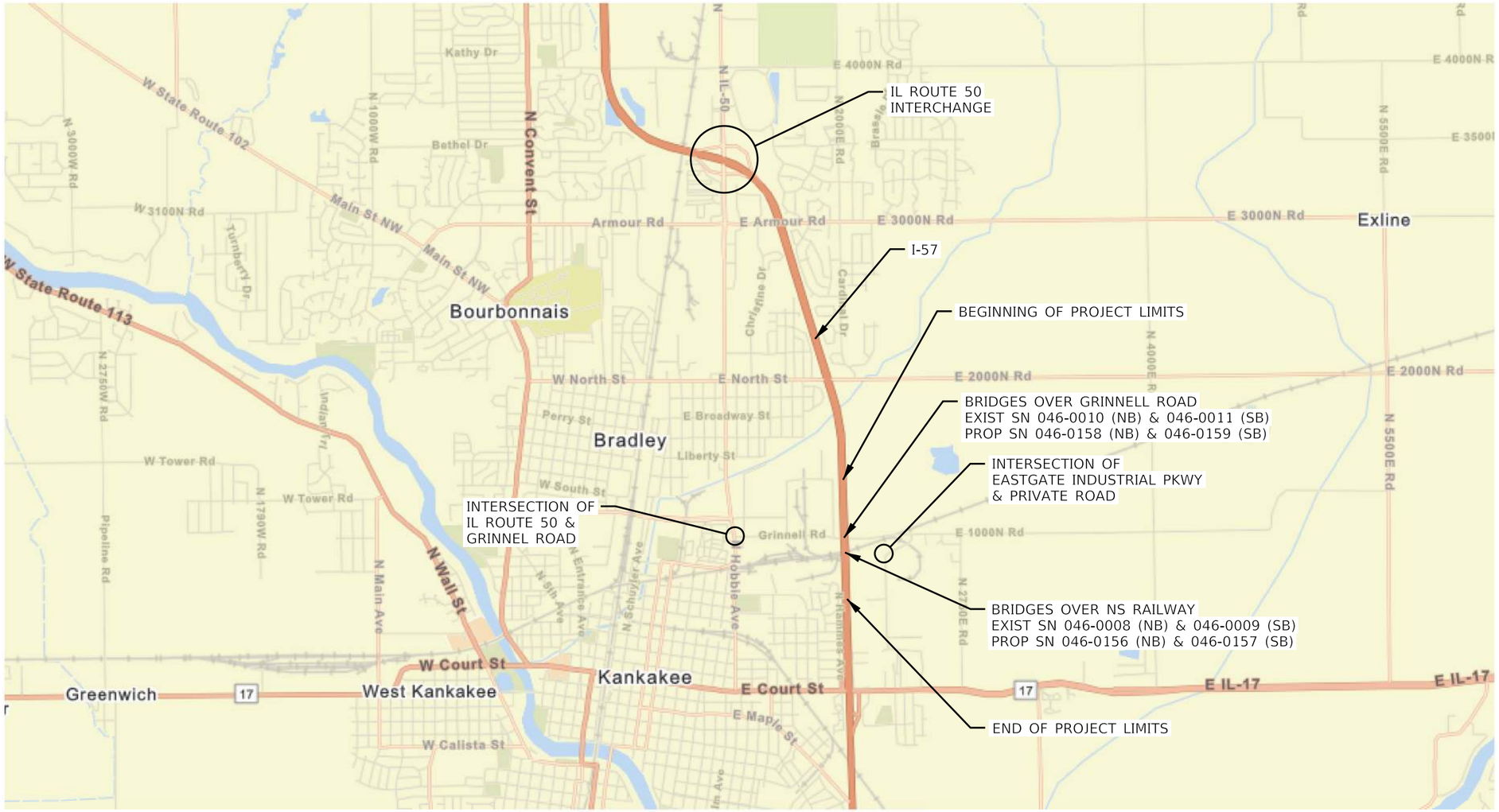

*NOT TO SCALE

USER NAME = jwilliamson	DESIGNED - JLW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONSTRUCTABILITY REVIEW LOCATION MAP	
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PLOT SCALE = 17370.7319 ' / in.	CHECKED - JCZ	REVISED -			
PLOT DATE = 12/30/2019	DATE - 12/30/2019	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB,HB-3]BR,139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS FED. AID PROJECT			

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CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

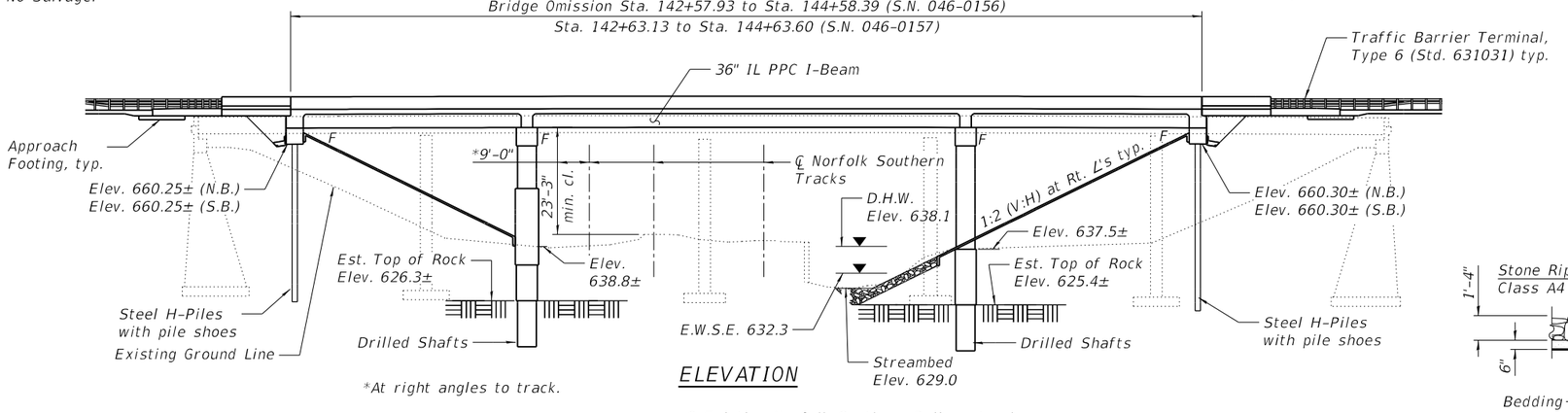
EXHIBIT #2

TYPE, SIZE, AND LOCATION PLANS

January 2, 2020

Bench Mark (BM 145): Chiseled "□" top of curb at southeast end of east parapet wall SN 046-0008, Sta. 145+03, 54' Left, Elev. 665.96.
Existing Structures: S.N. 046-0008 (N.B.) and S.N. 046-0009 (S.B.), built in 1954 as F.A. Rte 26, Section 139-VB-VF, at station 143+72. The bridge decks were replaced and structures widened in 1990 under F.A.I. Rte 57, Section 139VBR. The existing dual structures are 5-span bridges with rolled steel beams supported on spill-thru counterfort abutments and multi-column concrete piers on spread footings. 259'-8" back to back abutments, 43'-2" out to out deck with a 10°-54'-30" right ahead skew. Structures to be removed and replaced. Traffic shall be maintained utilizing crossovers during construction.
No Salvage.

Notes: No freefall deck drains will be permitted in the span over tracks or within 10' of crossarms of a railroad pole line.
Up to ¼" may be ground off the bridge deck, the approach slabs, and the pavement connectors.



*At right angles to track.

ELEVATION

WATERWAY INFORMATION

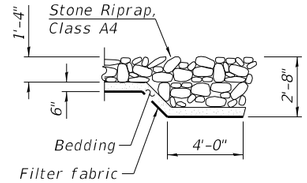
Drainage Area = 2.51 sq. mi. Exist. Low Grade Elev. 641.07 @ Sta. 158+00
Prop. Low Grade Elev. 641.07 @ Sta. 158+00

Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	229	0	0	635.6	0.0	0.0	635.6	635.6
Design	50	355	0	0	638.1	0.0	0.0	638.1	638.1
Base	100	418	0	0	638.9	0.0	0.0	638.9	638.9
Scour Check	200	485	1	2	639.4	0.1	0.1	639.4	639.5
Max. Calc.	500	582	12	12	639.8	0.1	0.1	639.8	639.9

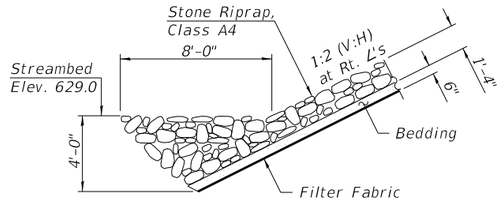
Exist. 10-year velocity = 5.0 fps Prop. 10-year velocity = 5.0 fps

DESIGN SCOUR ELEVATION TABLE

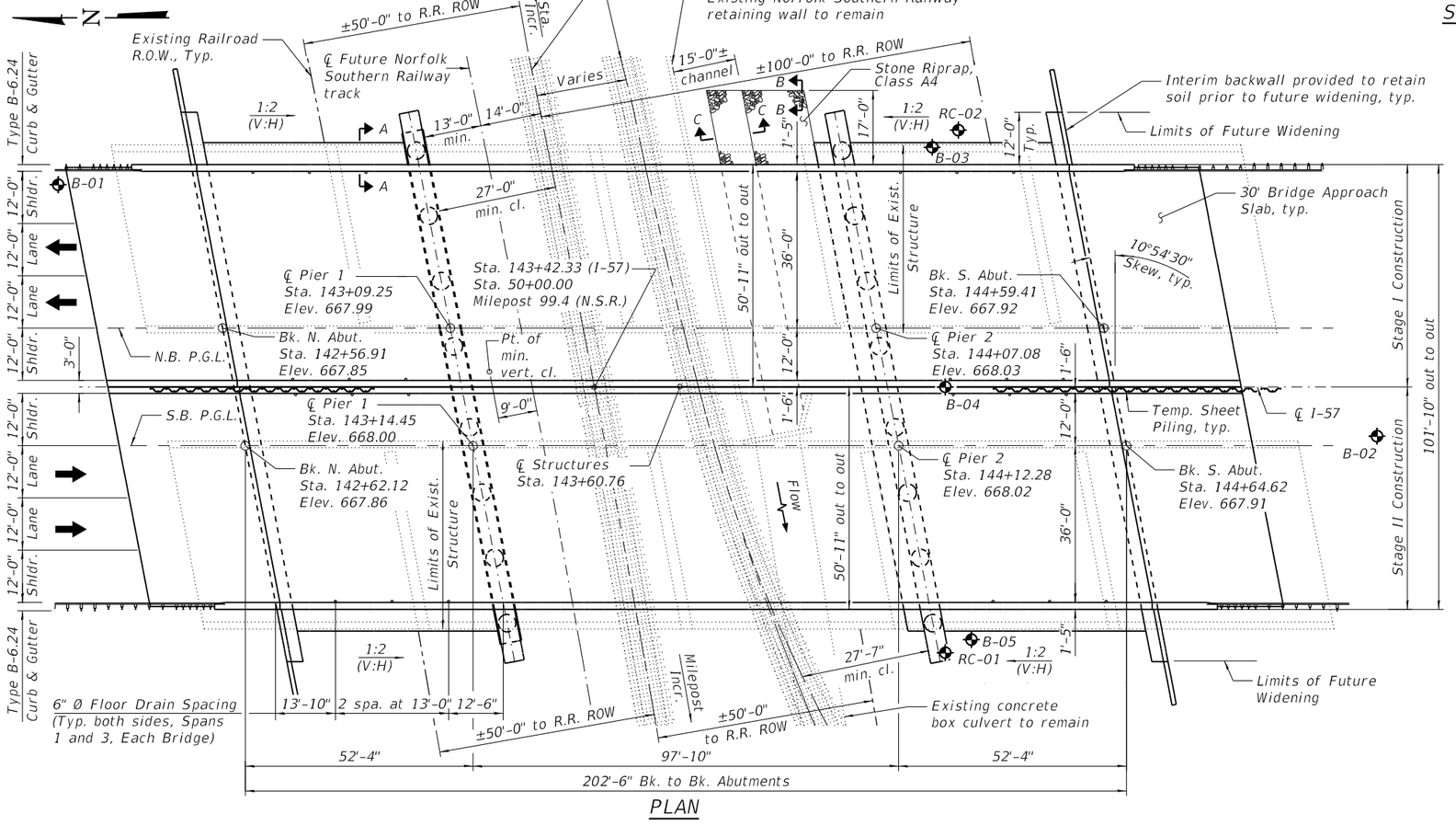
Event / Limit State	Design Scour Elevations (ft.) N. Abut.	Pier 1	Pier 2	S. Abut.	Item 113
Q100	660.2	638.8	637.5	660.3	8
Q200	660.2	638.8	637.5	660.3	
Design	660.2	638.8	637.5	660.3	
Check	660.2	638.8	637.5	660.3	



SECTION B-B



SECTION C-C
(within open channel only)



PLAN

HIGHWAY CLASSIFICATION

F.A.I. Rte. 57
Functional Class: Interstate
ADT: 31,392 (2021); 37,152 (2041)
ADTT: 7,409 (2021); 8,768 (2041)
DHV: 3,139 (2021); 3,715 (2041)
Design Speed: 75 m.p.h.
Posted Speed: 70 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

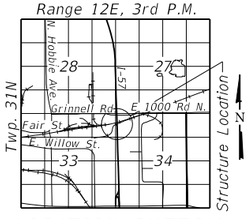
DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS
f'c = 8,500 psi
f'ci = 7,000 psi
fpu = 270,000 psi (0.6" ○ low lax. strands)
fpbt = 202,300 psi (0.6" ○ low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.072 g
Design Spectral Acceleration at 0.2 sec. (SDS) = .0125 g
Soil Site Class = C



LOCATION SKETCH

GENERAL PLAN & ELEVATION I-57 OVER NORFOLK SOUTHERN RAILWAY (M.P. 99.4) & DRAINAGE DITCH F.A.I. RTE 57 - SEC. [(139)VB]ES KANKAKEE COUNTY STATION 143+60.76 STRUCTURE NO. 046-0156 (N.B.) STRUCTURE NO. 046-0157 (S.B.)

MODEL: Default
FILE NAME: E:\1903\Struct\Revised TSLs\D366F74-046-0156&0157-001-GPE.dgn

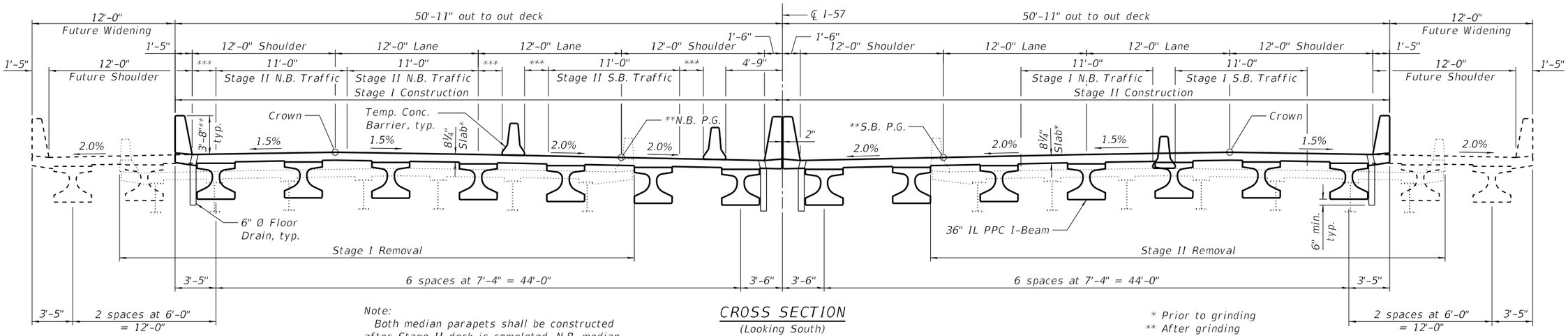
LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - MTH	REVISED -
		CHECKED - VPT	REVISED -
	PLOT SCALE =	DRAWN - CGY	REVISED -
	PLOT DATE = 10/3/2019	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB]ES	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		

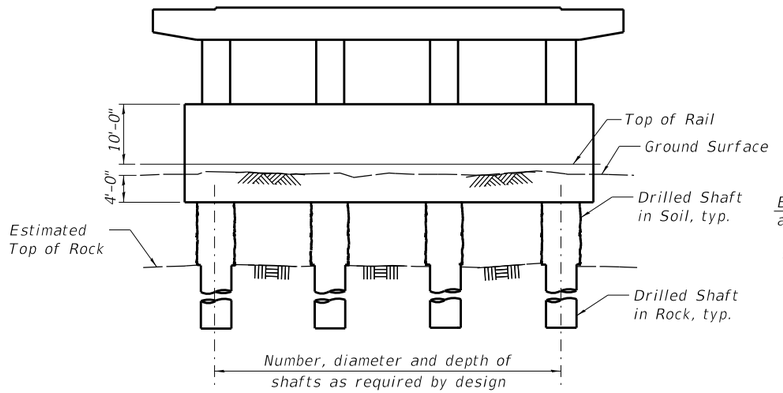
10/3/2019 8:20:46 AM



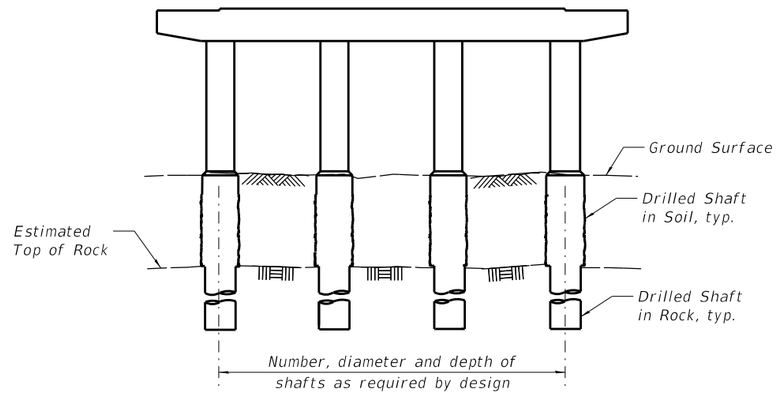
Note:
Both median parapets shall be constructed after Stage II deck is completed. N.B. median parapet will be constructed during Stage III.

CROSS SECTION
(Looking South)

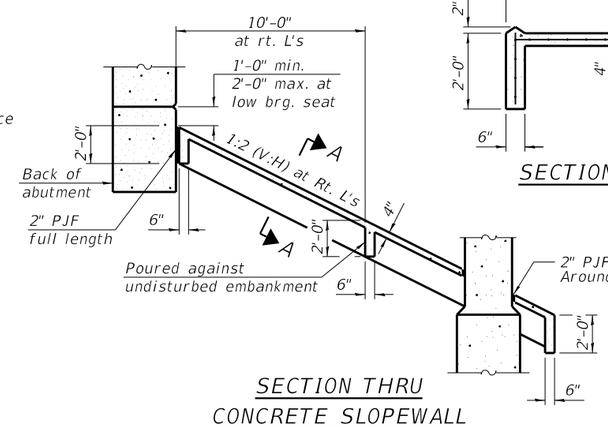
* Prior to grinding
** After grinding
*** 2'-0" Shoulder



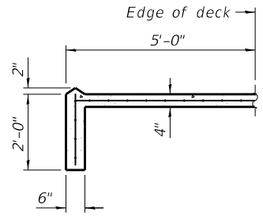
PIER 1 SKETCH



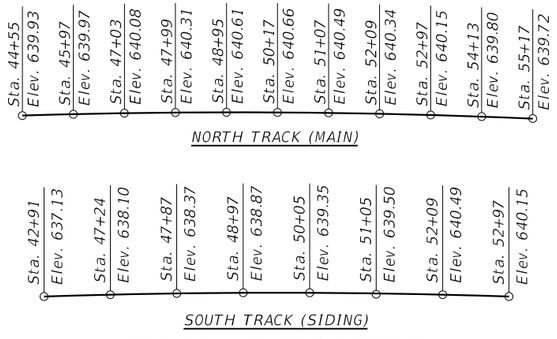
PIER 2 SKETCH



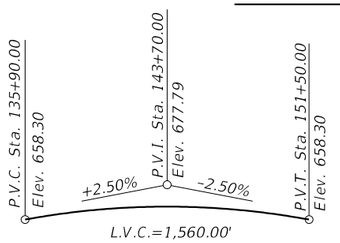
SECTION THRU CONCRETE SLOPEWALL
(Pier 2 shown; Pier 1 similar)



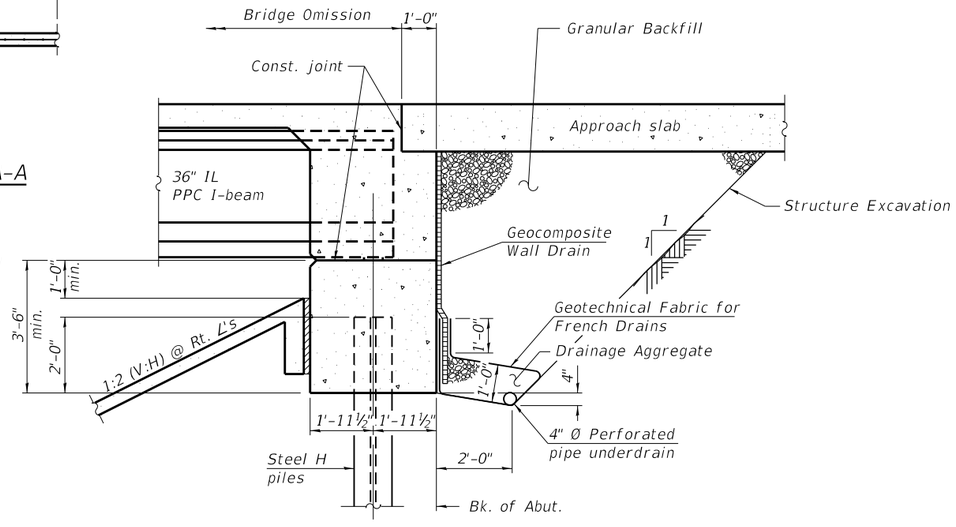
SECTION A-A



TOP OF RAIL ELEVATIONS NORFOLK SOUTHERN RAILWAY



I- 57 PROFILE GRADE
(Along inside edge of pavement)
(PG shows final elevations after grinding)



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

GENERAL DATA
I-57 OVER NORFOLK SOUTHERN RAILWAY (M.P. 99.4) & DRAINAGE DITCH
F.A.I. RTE 57 - SEC. [(139)VB]ES
KANKAKEE COUNTY
STATION 143+60.76
STRUCTURE NO. 046-0156 (N.B.)
STRUCTURE NO. 046-0157 (S.B.)

MODEL: Default
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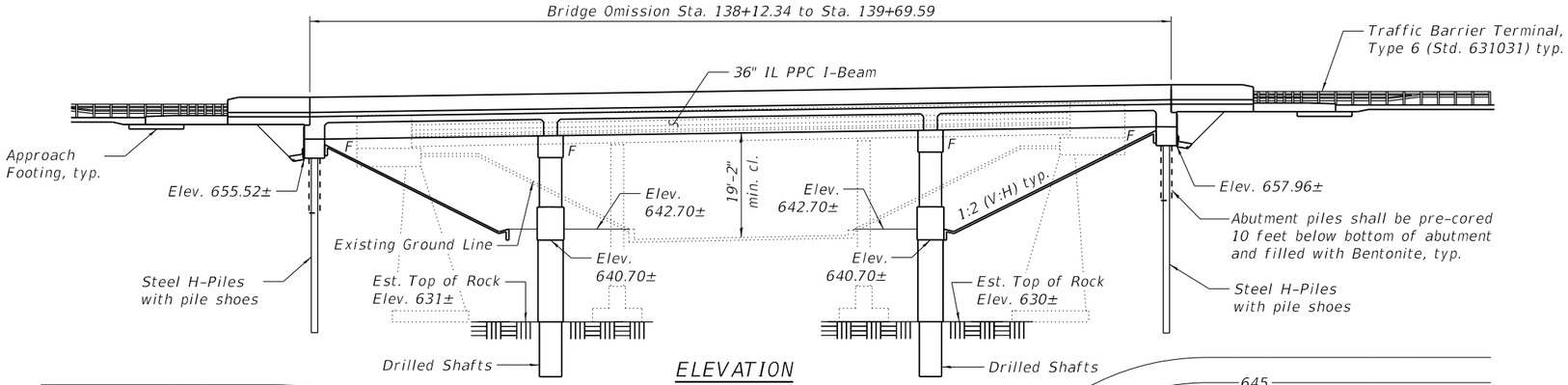
LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - MTH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
		CHECKED - VPT	REVISED -		
	PLOT SCALE =	DRAWN - CGY	REVISED -		
	PLOT DATE = 10/3/2019	CHECKED - MTH	REVISED -		SHEET 2 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB]ES	KANKAKEE		
		CONTRACT NO. 66F74		
		ILLINOIS	FED. AID PROJECT	

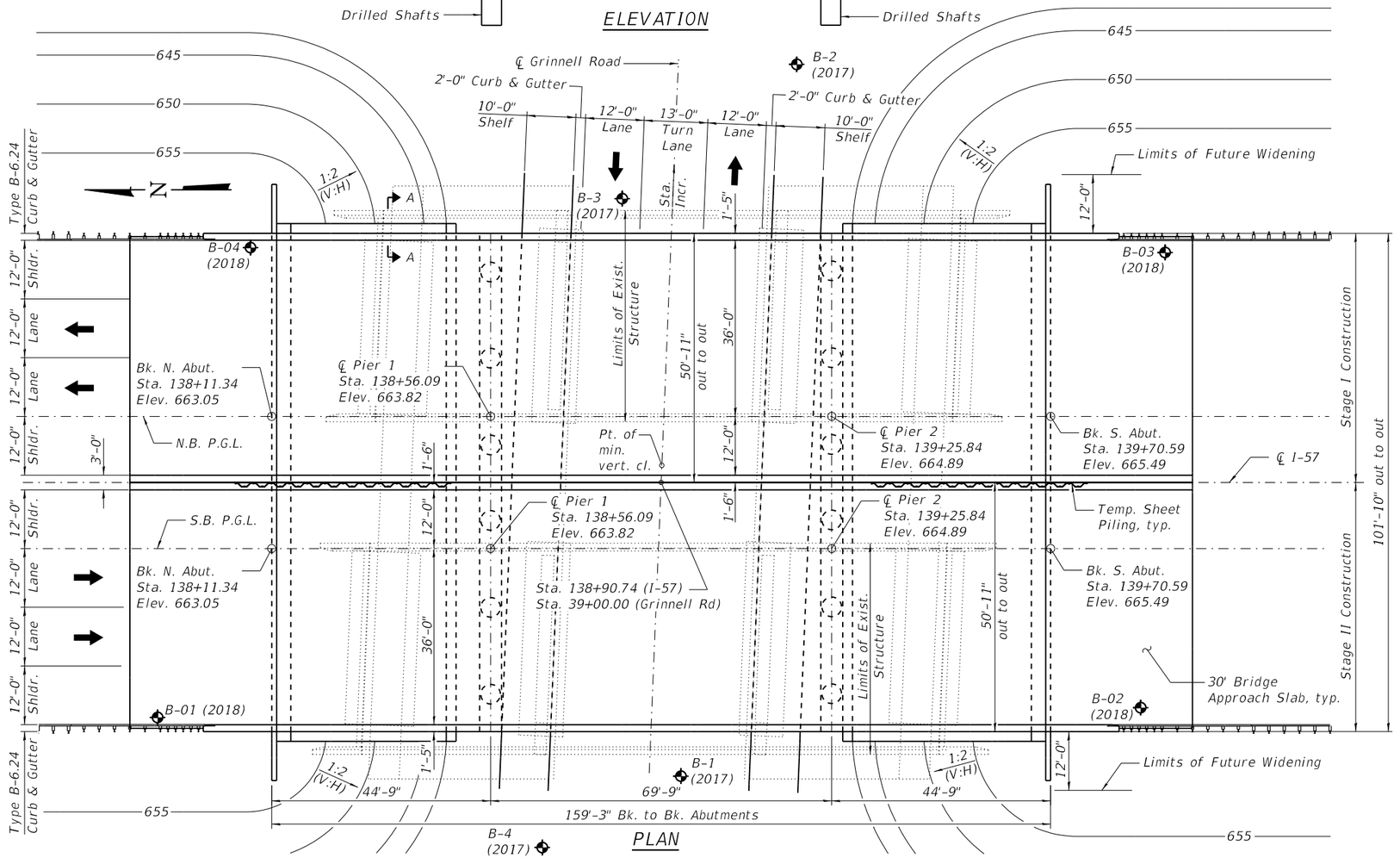
10/3/2019 8:21:59 AM

Bench Mark (BM 140): Chiseled "□" top of curb at southeast end of east parapet wall SN 046-0010, Sta. 139+61, 54' Left, Elev. 663.37.
Existing Structures: S.N. 046-0010 (N.B.) and S.N. 046-0011 (S.B.), built in 1954 as F.A. Rte 26, Section 139-HB3-HF3, at station 138+90.96. The bridge decks were replaced and structures widened in 1990 under F.A.I. Rte 57, Section 139HBR-3. The existing dual structures are 3-span bridges with rolled steel beams supported on spill-thru counterfort abutments and multi-column concrete piers on spread footings. 120'-2" back to back abutments, 43'-2" out to out deck with a 2°-21'-00" left ahead skew. Structures to be removed and replaced. Traffic shall be maintained utilizing crossovers during construction. No Salvage.

Note: Up to ¼" may be ground off the bridge deck, the approach slabs, and the pavement connectors.



ELEVATION



PLAN

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)

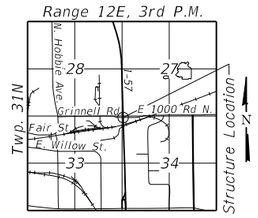
PRECAST PRESTRESSED UNITS
f'c = 8,500 psi
f'ci = 7,000 psi
fpu = 270,000 psi (0.6" ○ low lax. strands)
fpbt = 202,300 psi (0.6" ○ low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.072 g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.125 g
Soil Site Class = C

HIGHWAY CLASSIFICATION

F.A.U. Rte. 6221 (Grinnell Rd.)	F.A.I. Rte. 57
Functional Class: Minor Arterial	Functional Class: Interstate
ADT: 3,120 (2021); 3,720 (2041)	ADT: 31,392 (2021); 37,152 (2041)
ADTT: 250 (2021); 298 (2041)	ADTT: 7,409 (2021); 8,768 (2041)
DHV: 312 (2021); 372 (2041)	DHV: 3,139 (2021); 3,715 (2041)
Design Speed: 30 m.p.h.	Design Speed: 75 m.p.h.
Posted Speed: 30 m.p.h.	Posted Speed: 70 m.p.h.
Two-Way Traffic	Two-Way Traffic
Directional Distribution: 50:50	Directional Distribution: 50:50



LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-57 OVER GRINNELL ROAD
F.A.I. RTE 57 - SEC. [(139)HB-3]ES
KANKAKEE COUNTY
STATION 138+90.74
STRUCTURE NO. 046-0158 (N.B.)
STRUCTURE NO. 046-0159 (S.B.)

MODEL: Default
FILE NAME: E:\1903\Struct\Revised TSLs\D366F74-046-0010&0011-001-GPE.dgn
10/3/2019 8:20:20 AM

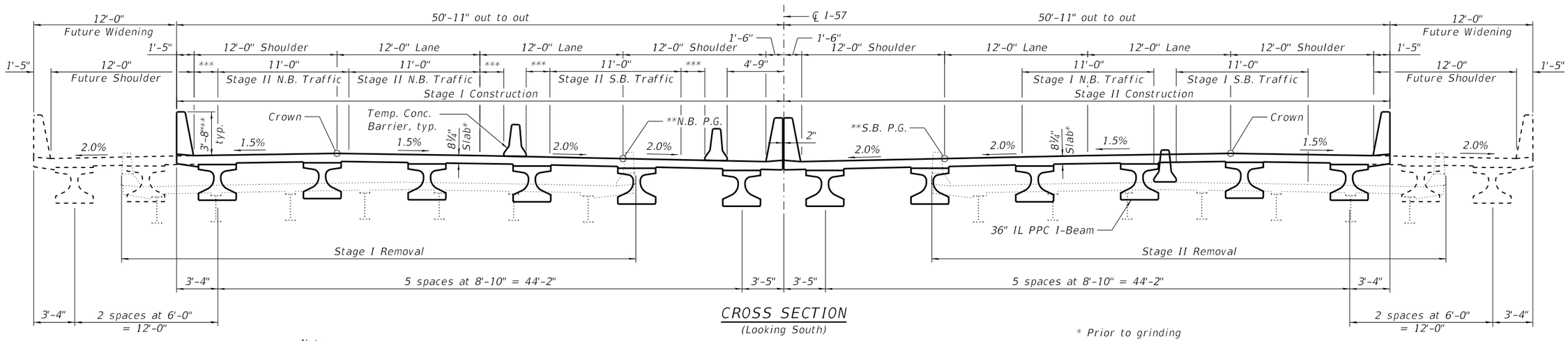
LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

USER NAME =	DESIGNED - MTH	REVISED -	
	CHECKED - VPT	REVISED -	
PLOT SCALE =	DRAWN - DAS	REVISED -	
PLOT DATE = 10/3/2019	CHECKED - MTH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 2 SHEETS

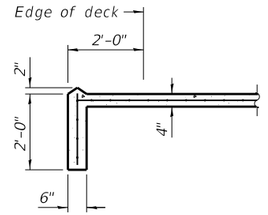
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)HB-3]ES	KANKAKEE		
		CONTRACT NO. 66F74		
		ILLINOIS	FED. AID PROJECT	



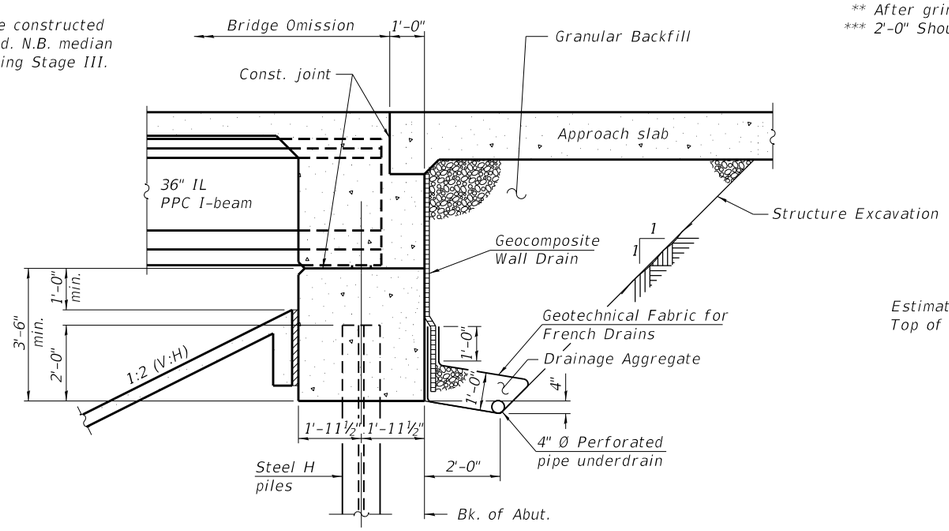
CROSS SECTION
(Looking South)

Note:
Both median parapets shall be constructed after Stage II deck is completed. N.B. median parapet will be constructed during Stage III.

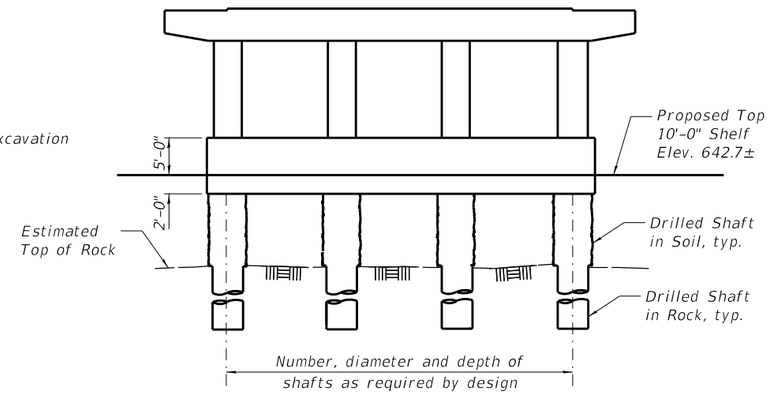
* Prior to grinding
** After grinding
*** 2'-0" Shoulder



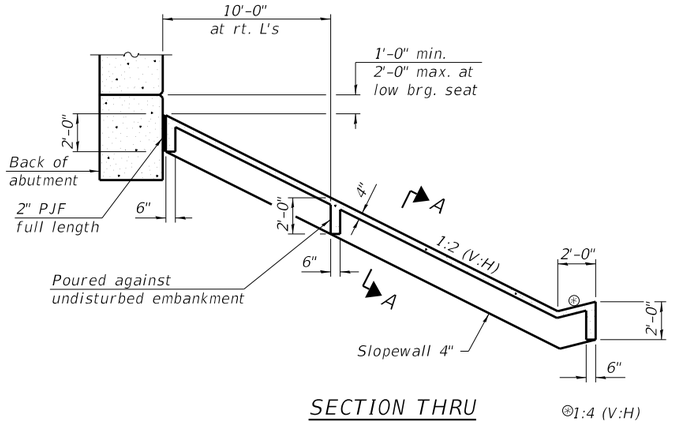
SECTION A-A



SECTION THRU INTEGRAL ABUTMENT

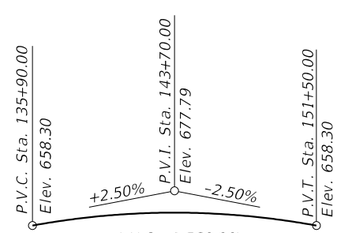


PIER SKETCH
(Separate piers for N.B. and S.B. bridges)



SECTION THRU CONCRETE SLOPEWALL

Ⓢ1:4 (V:H)



I-57 PROFILE GRADE
(Along inside edge of pavement)
(PG shows final elevations after grinding)

GRINNELL ROAD PROFILE GRADE
(Along ℄ roadway)

GENERAL DATA
I-57 OVER GRINNELL ROAD
F.A.I. RTE 57 - SEC. [(139)HB-3]ES
KANKAKEE COUNTY
STATION 138+90.74
STRUCTURE NO. 046-0158 (N.B.)
STRUCTURE NO. 046-0159 (S.B.)

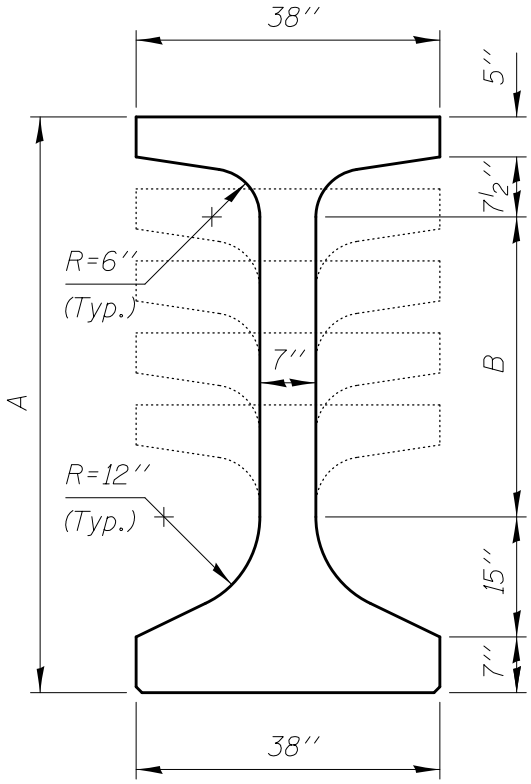
CONSTRUCTABILITY REPORT

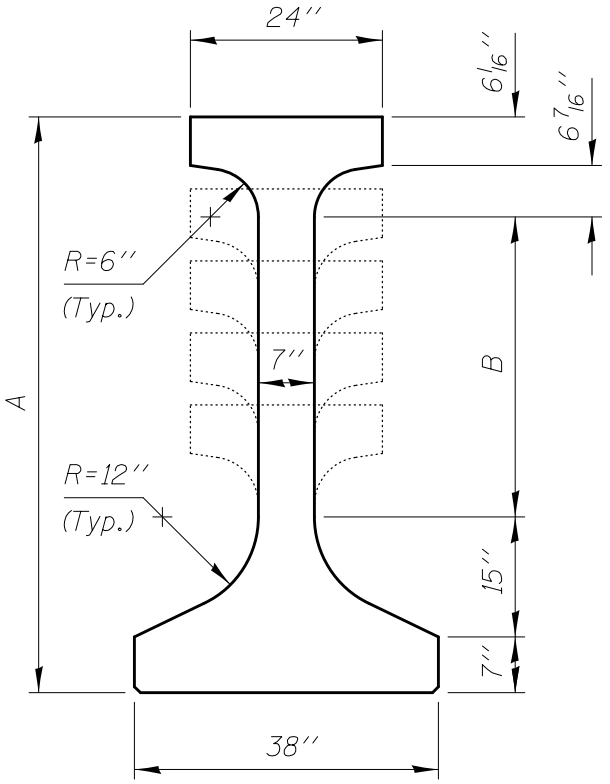
PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #3

BEAM SECTION PROPERTIES

January 2, 2020

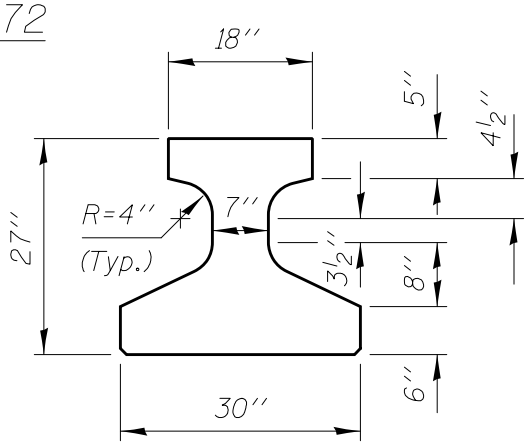




IL36 THRU IL72

DIMENSIONS

Beam	A (in)	B (in)
IL36	36	1½
IL45	45	10½
IL54	54	19½
IL63	63	28½
IL72	72	37½



IL27

SECTION PROPERTIES

Beam	Area (in^2)	Ix (in^4)	Iy (in^4)	Sb (in^3)	St (in^3)	Cb (in)	Ct (in)	Wt.(lbs/ft)
IL27-1830	457.9	33879	20442	3060.4	2126.7	11.07	15.93	477
IL36-2438	728.0	100433	50889	6832.1	4715.1	14.70	21.30	759
IL36-3838	805.4	124639	69530	7563.0	6385.1	16.48	19.52	840
IL45-2438	791.0	182623	51146	10045.2	6809.2	18.18	26.82	825
IL45-3838	868.4	223604	69787	11004.1	9060.1	20.32	24.68	905
IL54-2438	854.0	295427	51403	13551.6	9174.7	21.80	32.20	890
IL54-3838	931.4	357078	70044	14730.9	11998.5	24.24	29.76	971
IL63-2438	917.0	441689	51661	17294.0	11790.9	25.54	37.46	956
IL63-3838	994.4	527741	70302	18687.7	15182.4	28.24	34.76	1036
IL72-2438	980.0	624180	51918	21237.8	14648.6	29.39	42.61	1021
IL72-3838	1057.4	738236	70559	22855.6	18595.3	32.30	39.70	1102

Beam nomenclature: ILXX-YYZZ
XX=Beam depth
YY=Top flange width
ZZ=Bottom flange width

Figure 1

IL-BEAM SECTION PROPERTIES

CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

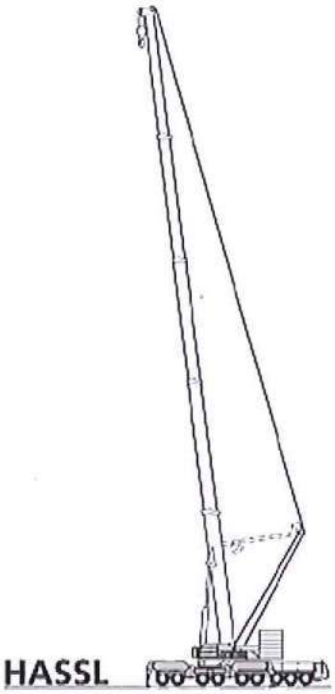
EXHIBIT #4

CRANE LOAD CHART

January 2, 2020

Boom Combinations

HA



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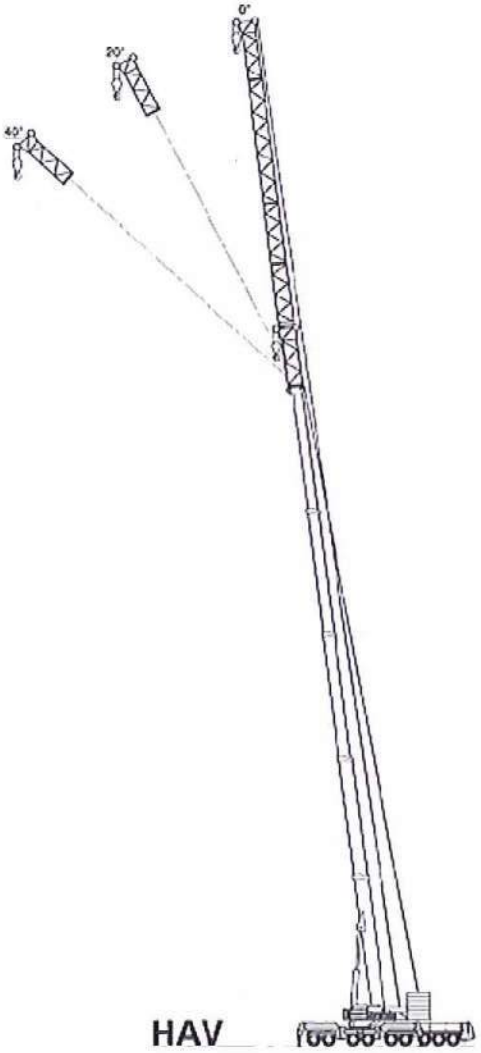
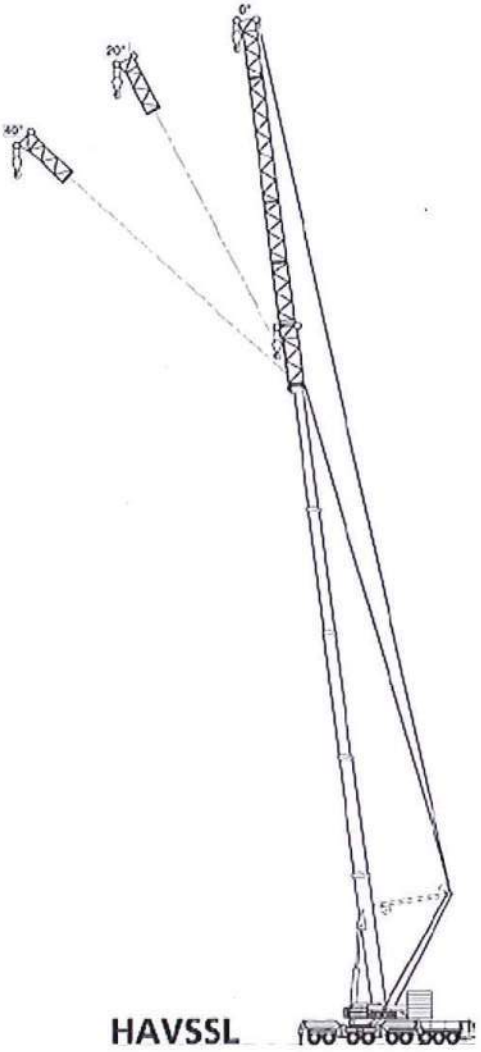


HAV



HAVSSL

308,600 lb					360°								85 %	
	50.9 ft*	50.9 ft	67.3 ft*	67.3 ft	83.7 ft*	83.7 ft	100.1 ft	116.5 ft	132.9 ft	149.3 ft	165.7 ft	182.1 ft	196.9 ft	
ft	1,000 lb													ft
	1543.5[1]	-	-	-	-	-	-	-	-	-	-	-	-	
10	1255.1[2]	687.8	687.8	687.8	-	-	-	-	-	-	-	-	-	10
12	1067.8[2]	687.8	687.8	687.8	-	-	-	-	-	-	-	-	-	12
14	967.5[2]	687.8	687.8	687.8	661.4	661.4	-	-	-	-	-	-	-	14
16	884.3[2]	674.5	687.8	672.9	661.4	661.4	-	-	-	-	-	-	-	16
18	817.2[2]	635.9	670.7	633.7	630.3	630.3	494.2	423.6	-	-	-	-	-	18
20	755.0[2]	594.4	646.2	592.0	591.5	591.5	478.1	409.9	345.8	-	-	-	-	20
24	659.7	529.3	568.4	525.5	519.8	519.8	446.5	381.1	314.2	266.3	-	-	-	24
28	581.1	473.7	504.4	471.5	461.5	461.5	415.8	354.2	285.9	248.7	-	-	-	28
32	513.5	429.2	452.9	425.4	412.7	412.7	385.2	327.3	260.6	232.5	214.9	-	-	32
36	450.0	393.2	412.0	388.8	374.5	374.5	355.6	302.6	239.6	216.9	200.9	174.4	-	36
40	-	-	374.5	355.1	339.9	339.9	326.7	279.4	220.2	201.8	187.6	162.8	142.0	40
48	-	-	318.9	303.5	290.9	290.9	277.7	245.9	190.4	176.0	163.4	144.6	126.9	48
56	-	-	252.0	239.5	252.6	252.6	238.2	219.9	165.3	154.3	143.9	129.7	114.8	56
64	-	-	-	-	223.7	223.7	208.3	198.4	144.9	135.8	127.6	117.9	104.4	64
72	-	-	-	-	188.2	179.6	185.7	177.9	128.2	120.5	113.8	107.2	95.0	72
80	-	-	-	-	-	-	167.7	160.6	113.8	107.4	103.2	97.9	87.1	80
88	-	-	-	-	-	-	-	145.4	102.7	96.7	93.8	89.9	80.4	88
96	-	-	-	-	-	-	-	132.6	93.2	87.3	85.1	82.5	73.7	96
104	-	-	-	-	-	-	-	113.1	85.7	80.2	78.0	75.8	67.9	104
112	-	-	-	-	-	-	-	-	78.0	73.5	71.3	69.2	63.2	112
120	-	-	-	-	-	-	-	-	-	67.3	65.1	64.6	58.4	120
128	-	-	-	-	-	-	-	-	-	62.8	60.4	59.8	54.1	128
136	-	-	-	-	-	-	-	-	-	58.1	55.7	55.6	50.4	136
144	-	-	-	-	-	-	-	-	-	-	51.8	51.8	46.9	144
152	-	-	-	-	-	-	-	-	-	-	-	48.3	43.7	152
160	-	-	-	-	-	-	-	-	-	-	-	45.1	41.0	160
168	-	-	-	-	-	-	-	-	-	-	-	-	38.5	168
176	-	-	-	-	-	-	-	-	-	-	-	-	36.1	176

* central jack leg + 352,700 lb counterweight

1) over rear, special attachment required, on request

2) over rear, heavy-lift attachment required

DEMAG TADANO GROUP

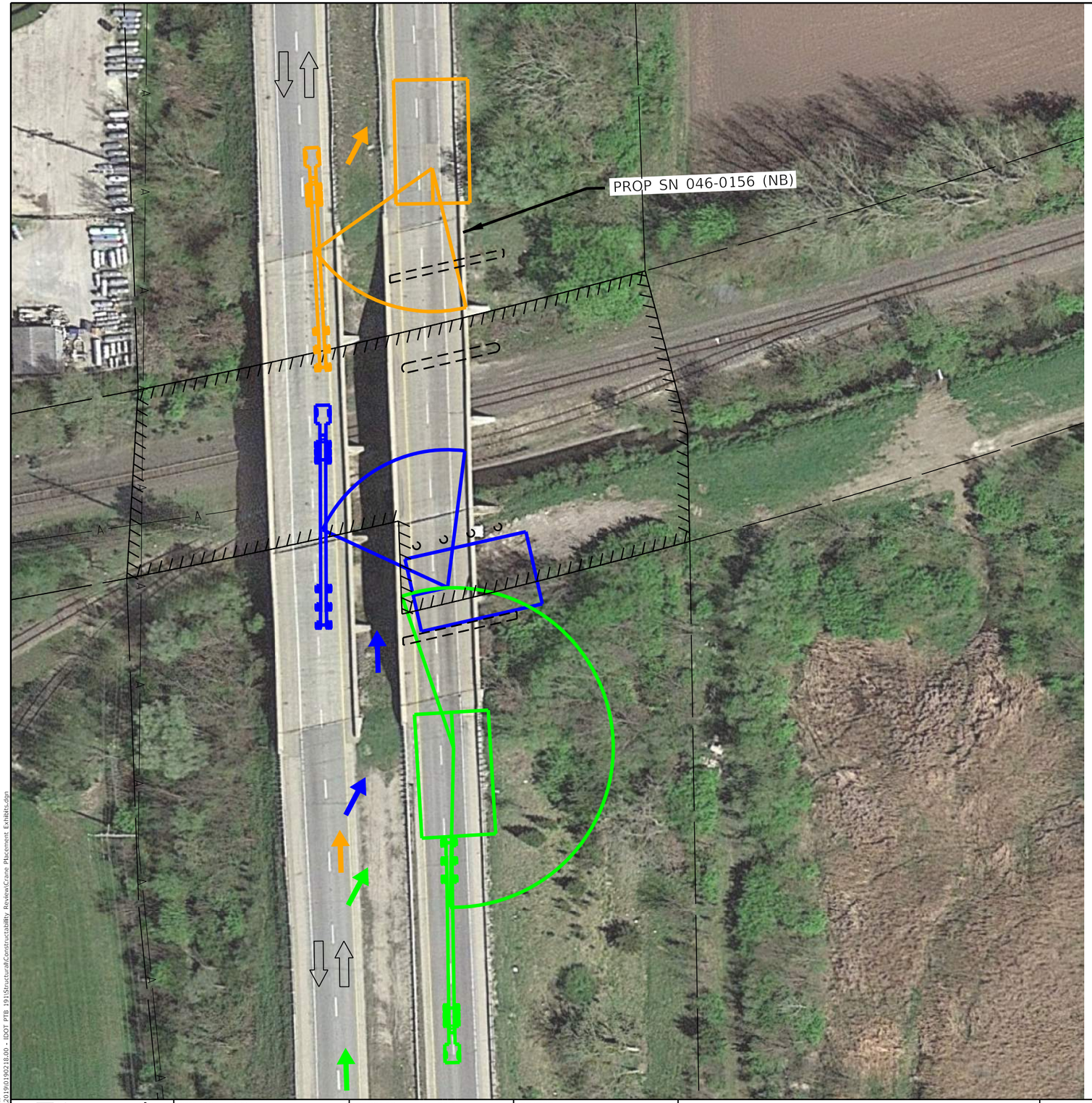
CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #5

STAGE I CRANE PLACEMENT PLAN

January 2, 2020



N

0 30 60 90

SCALE IN FEET

LEGEND

- CENTER SPAN CRANE PLACEMENT
- SOUTH SPAN CRANE PLACEMENT
- NORTH SPAN CRANE PLACEMENT
- OVERHEAD ELECTRIC LINE
- EXISTING ROW
- PROPOSED PERMANENT EASMENT
- CRANE LOCATION
- PROPOSED CRANE REACH
- CRANE TRAVEL ARROW
- SUBSTRUCTURE UNIT
- STAGE TRAFFIC LANES
- PROPOSED DELIVERY VEHICLE

MODEL: Default
FILE NAME: J:\2019\01902\18.00 - IDOT PTB 191\Structural\Constructability Review\Crane Placement Exhibits.dgn

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

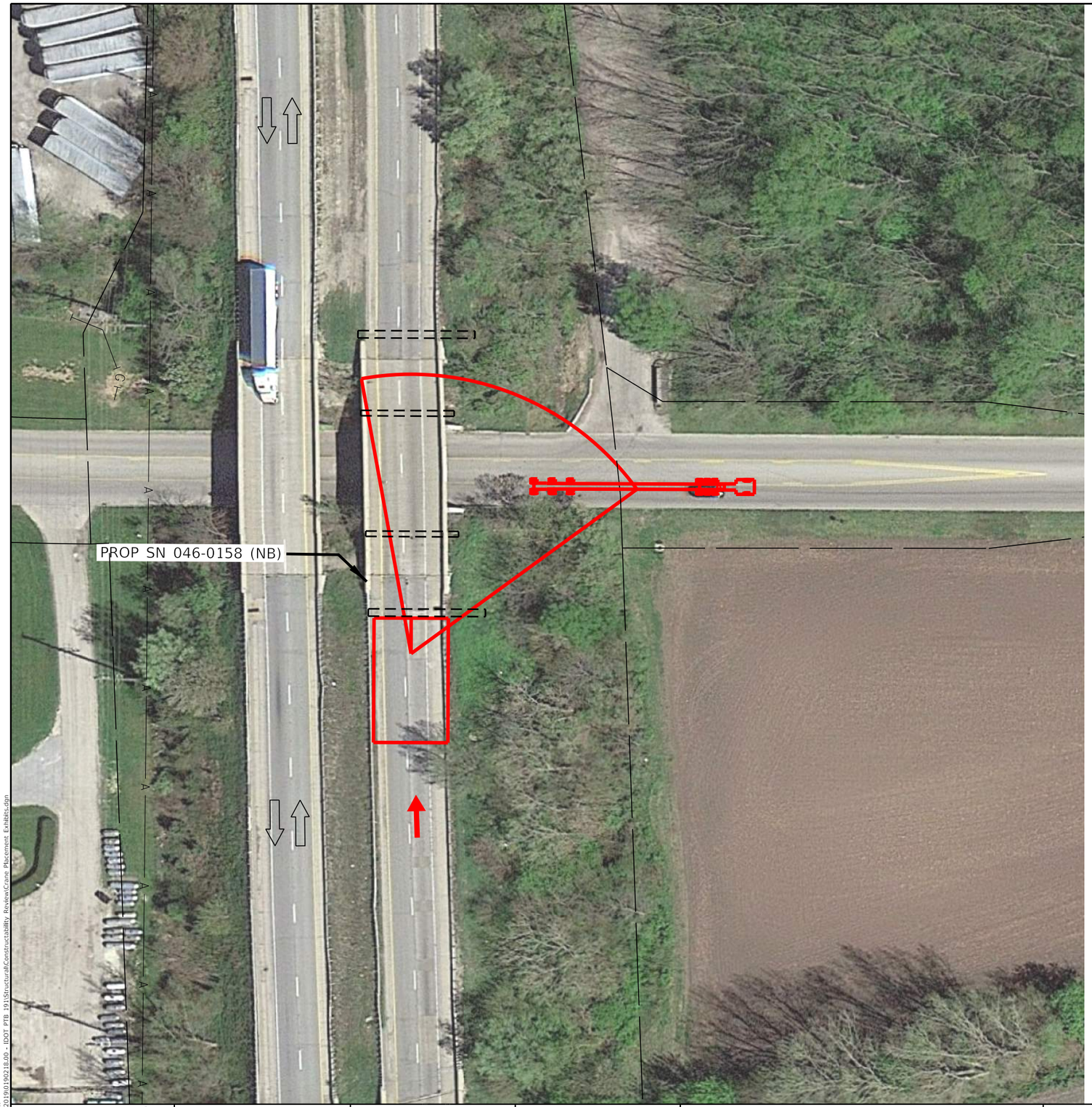
USER NAME = jwilliamson	DESIGNED - DAH	REVISED -
	DRAWN - JLW	REVISED -
PLOT SCALE = 60.0662 ' / in.	CHECKED - JCZ	REVISED -
PLOT DATE = 12/30/2019	DATE - 12/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
STAGE I CRANE PLACEMENT PLAN

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB, HB-3]BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		



N

0 30 60 90

SCALE IN FEET

LEGEND

- STRUCTURE NO. 046–0158 CRANE PLACEMENT
- OVERHEAD ELECTRIC LINE
- EXISTING ROW
- GAS LINE
- CRANE LOCATION
- PROPOSED CRANE REACH
- CRANE TRAVEL ARROW
- SUBSTRUCTURE UNIT
- STAGE TRAFFIC LANES
- PROPOSED DELIVERY VEHICLE

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

USER NAME = jwilliamson	DESIGNED - DAH	REVISED -
	DRAWN - JLW	REVISED -
PLOT SCALE = 60.0662 ' / in.	CHECKED - JCZ	REVISED -
PLOT DATE = 12/30/2019	DATE - 12/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
STAGE I CRANE PLACEMENT PLAN

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB, HB-3]BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: J:\2019\019028.00 - IDOT PTB 191\Structural\Constructability Review\Crane Placement Exhibits.dgn

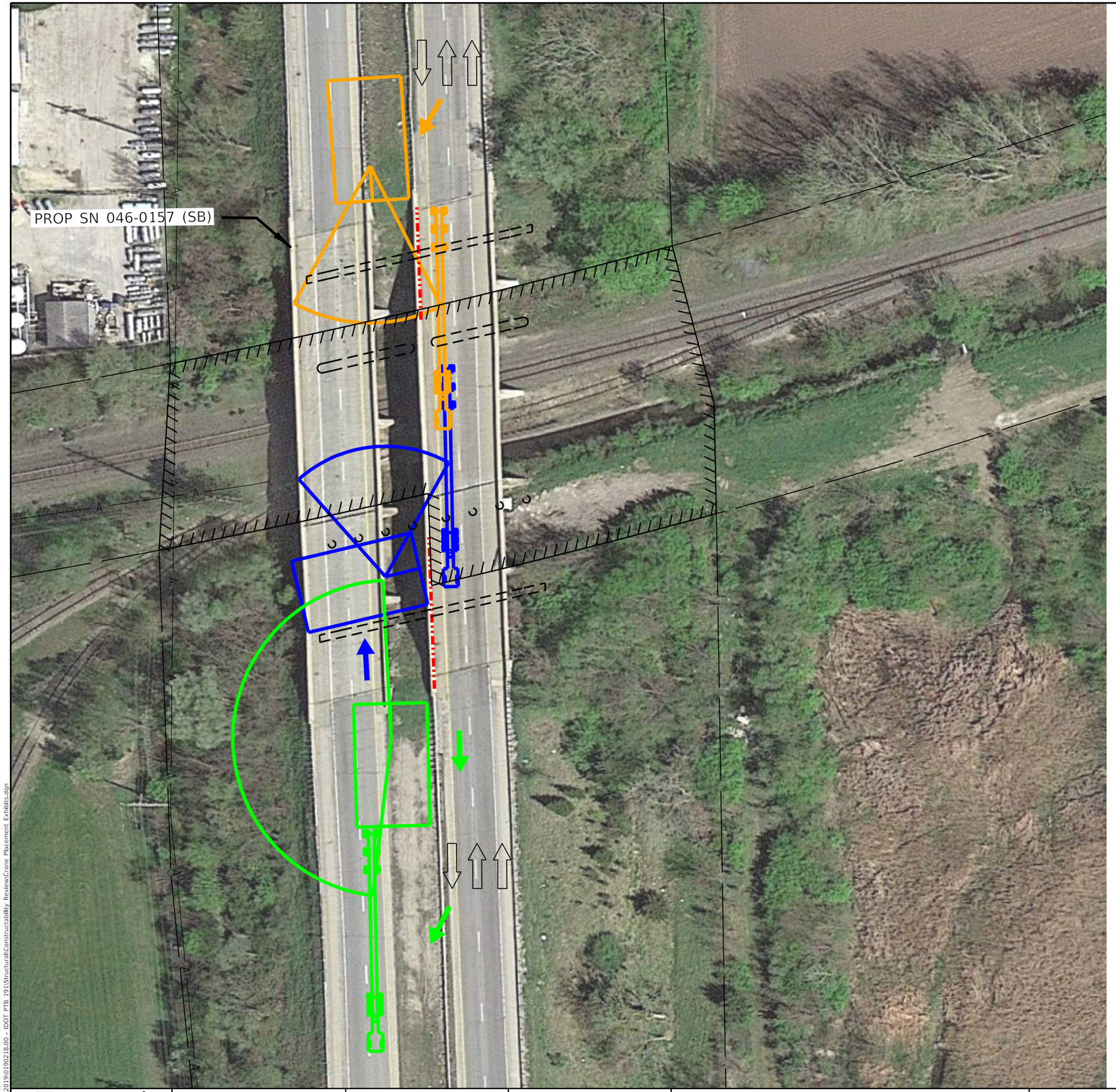
CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #6

STAGE II CRANE PLACEMENT PLAN

January 2, 2020



N

0 30 60 90

SCALE IN FEET

LEGEND

- CENTER SPAN CRANE PLACEMENT
- SOUTH SPAN CRANE PLACEMENT
- NORTH SPAN CRANE PLACEMENT
- OVERHEAD ELECTRIC LINE
- EXISTING ROW
- PROPOSED PERMANENT EASEMENT
- CRANE LOCATION
- PROPOSED CRANE REACH
- CRANE TRAVEL ARROW
- TEMPORARY SHEET PILING/ SOIL RETENTION SYSTEM
- SUBSTRUCTURE UNIT
- STAGE TRAFFIC LANES
- PROPOSED DELIVERY VEHICLE

MODEL: Default
FILE NAME: R:\2019\190218.00 - IDOT PTB 191\Structural\Constructability Review\Crane Placement Exhibits.dgn

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

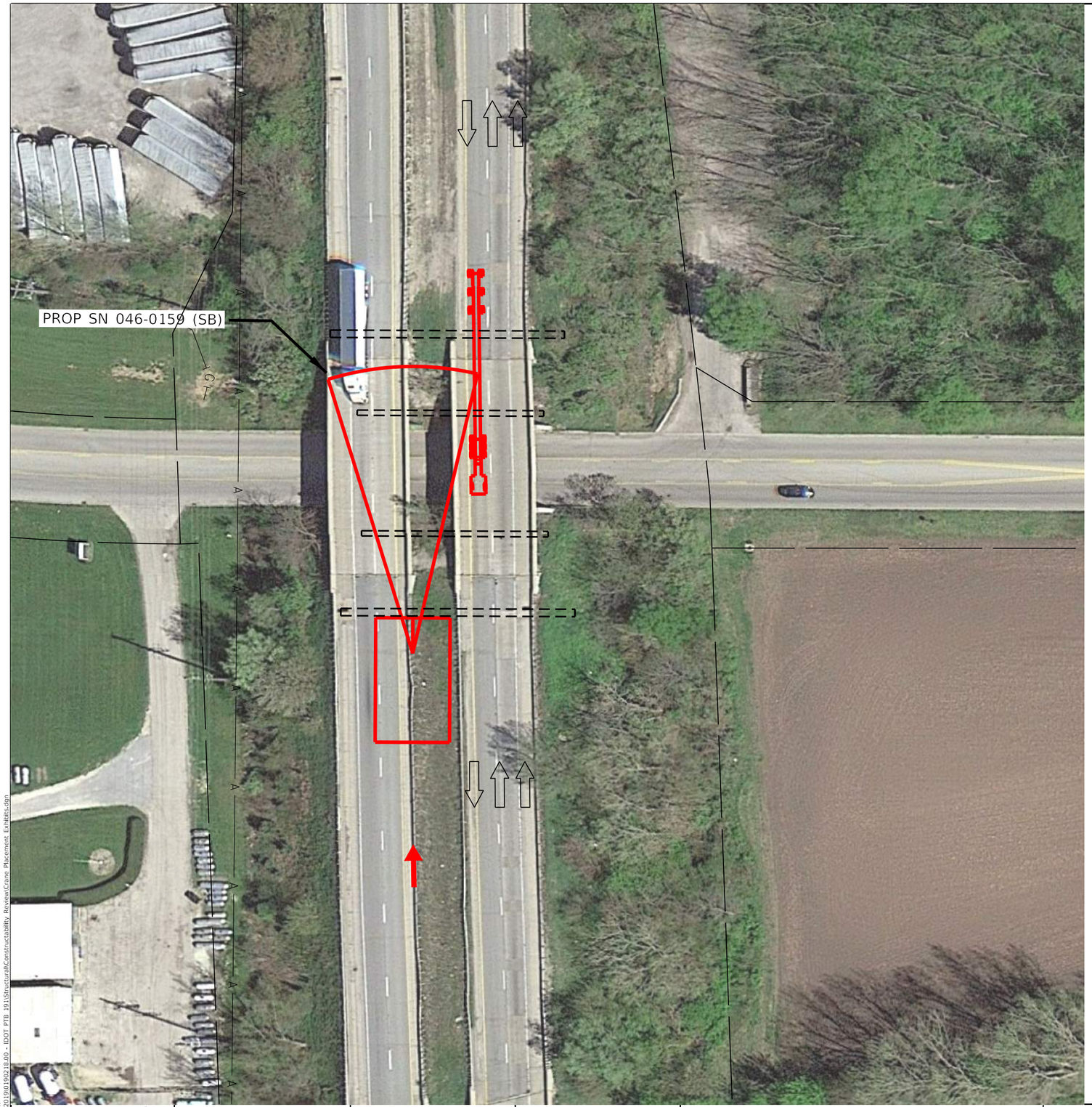
USER NAME = jwilliamson	DESIGNED - DAH	REVISED -
	DRAWN - JLW	REVISED -
PLOT SCALE = 60.0662 ' / in.	CHECKED - JCZ	REVISED -
PLOT DATE = 12/30/2019	DATE - 12/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
STAGE II CRANE PLACEMENT PLAN

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(139)VB, HB-3)BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		



N

0 30 60 90

SCALE IN FEET

LEGEND

- STRUCTURE NO. 046–0158 CRANE PLACEMENT
- OVERHEAD ELECTRIC LINE
- EXISTING ROW
- GAS LINE
- CRANE LOCATION
- PROPOSED CRANE REACH
- CRANE TRAVEL ARROW
- STAGE TRAFFIC LANES
- PROPOSED DELIVERY VEHICLE

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

USER NAME = jwilliamson	DESIGNED - DAH	REVISED -
	DRAWN - JLW	REVISED -
PLOT SCALE = 60.0662 ' / in.	CHECKED - JCZ	REVISED -
PLOT DATE = 12/30/2019	DATE - 12/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
STAGE II CRANE PLACEMENT PLAN

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(139)VB, HB-3)BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: z:\2019\190218.00 - IDOT PTB 191\Structural\Constructability Review\Crane Placement Exhibits.dgn

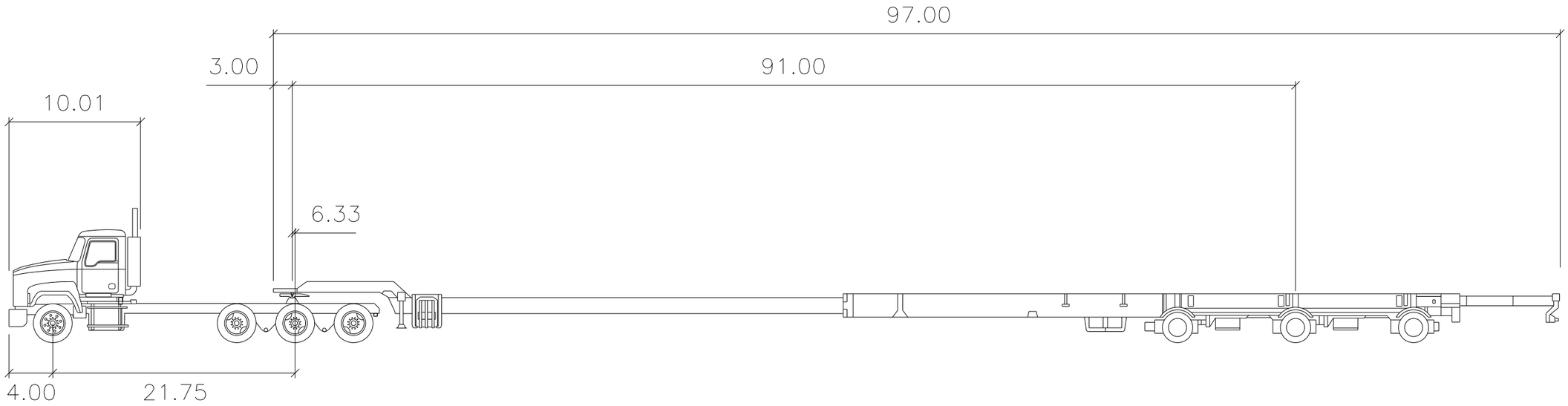
CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #7

BEAM DELIVERY VEHICLE DETAIL

January 2, 2020



I–57 Beam Delivery Vehicle

	feet		
First Unit Width	: 8.01	Lock to Lock Time	: 6.0
Trailer Width	: 2.99	Steering Angle	: 40.0
First Unit Track	: 8.01	Articulating Angle	: 70.0
Trailer Track	: 8.01		

MODEL: Default
FILE NAME: J:\2019\01902\18.00 - IDOT PTB 191\Structural\Constructability Review\Vehicle Dimensions.dgn

USER NAME = jwilliamson	DESIGNED - JJO	REVISED -	
	DRAWN - JLW	REVISED -	
PLOT SCALE = 17370.7319 ' / in.	CHECKED - JCZ	REVISED -	
PLOT DATE = 12/3/2019	DATE - 12/03/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
BEAM DELIVERY VEHICLE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(139)VB,HB-3]BR,139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		

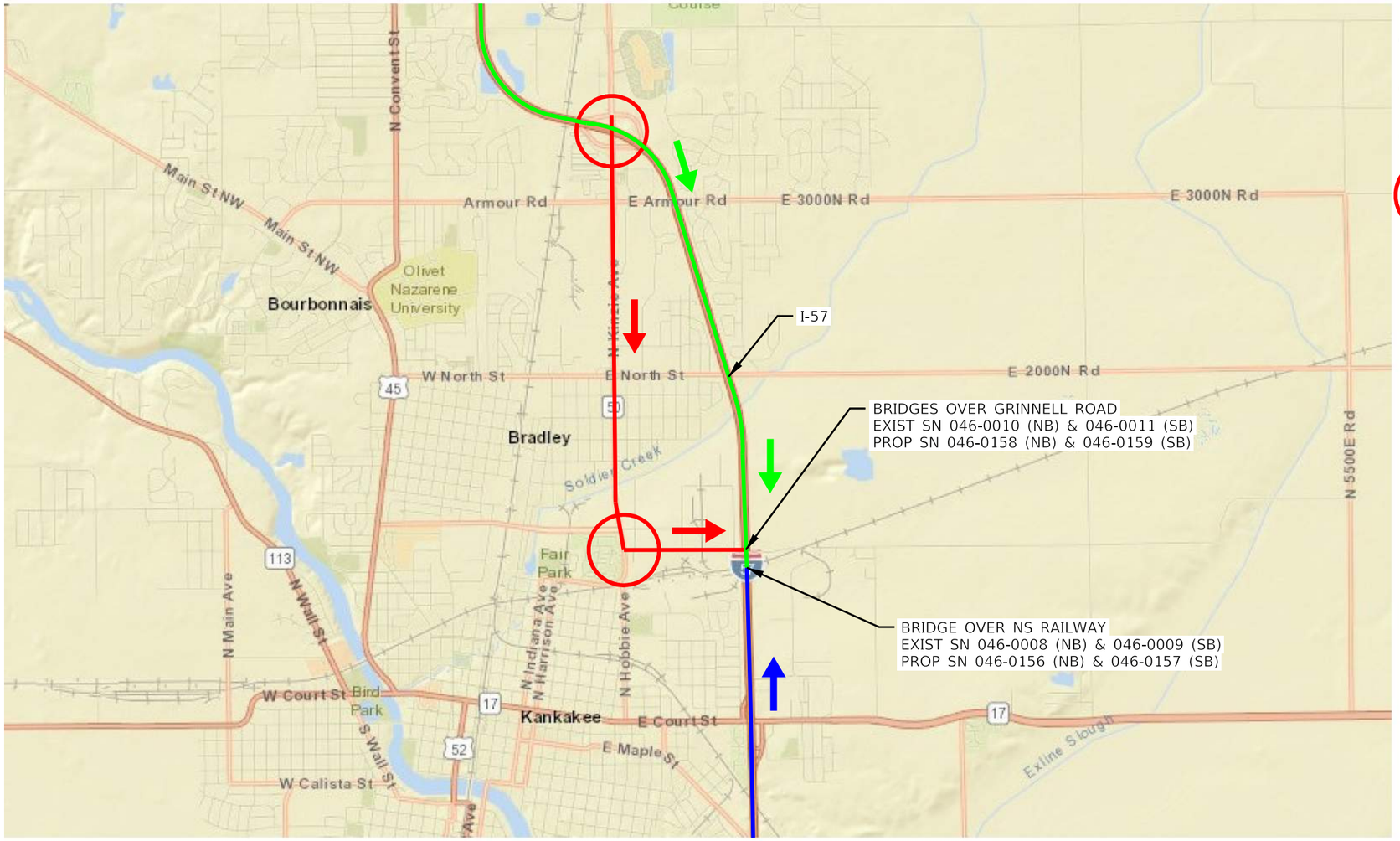
CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #8

BEAM DELIVERY ROUTES

January 2, 2020



*NOT TO SCALE

MODEL: Default
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	DRAWN - DRR	REVISED -	
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PLOT DATE = 12/30/2019	DATE - 12/30/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
BEAM DELIVERY ROUTES

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(139)VB,HB-3]BR,139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS FED. AID PROJECT			

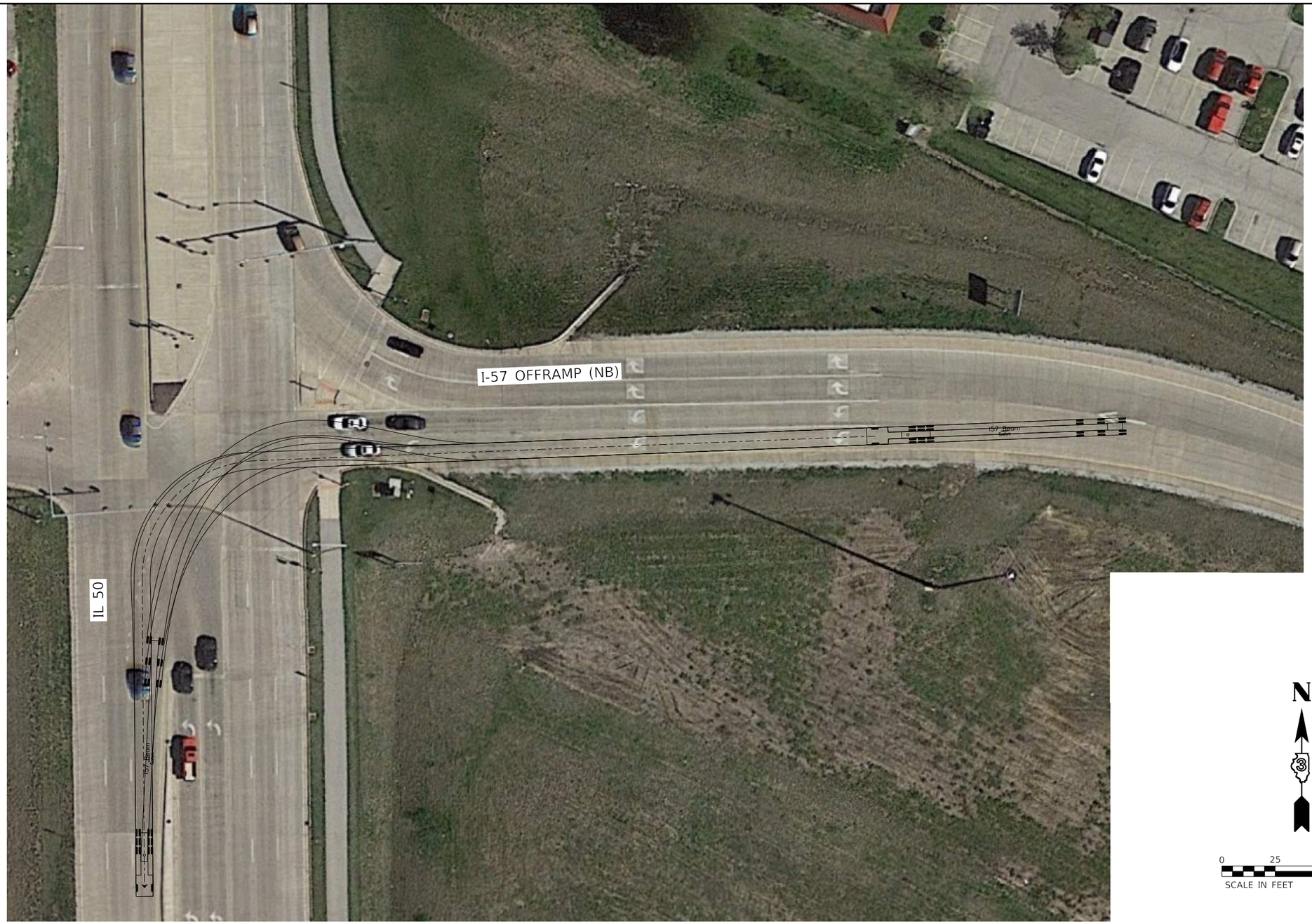
CONSTRUCTABILITY REPORT

PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #9

TURNING MOVEMENTS AT INTERSECTIONS

January 2, 2020



N

0 25 50 75

SCALE IN FEET

MODEL: Default
FILE NAME: J:\2019\19002\18.00 - IDOT PTB 191\04_Drawings\DGN_Working\Turning movements.dgn

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

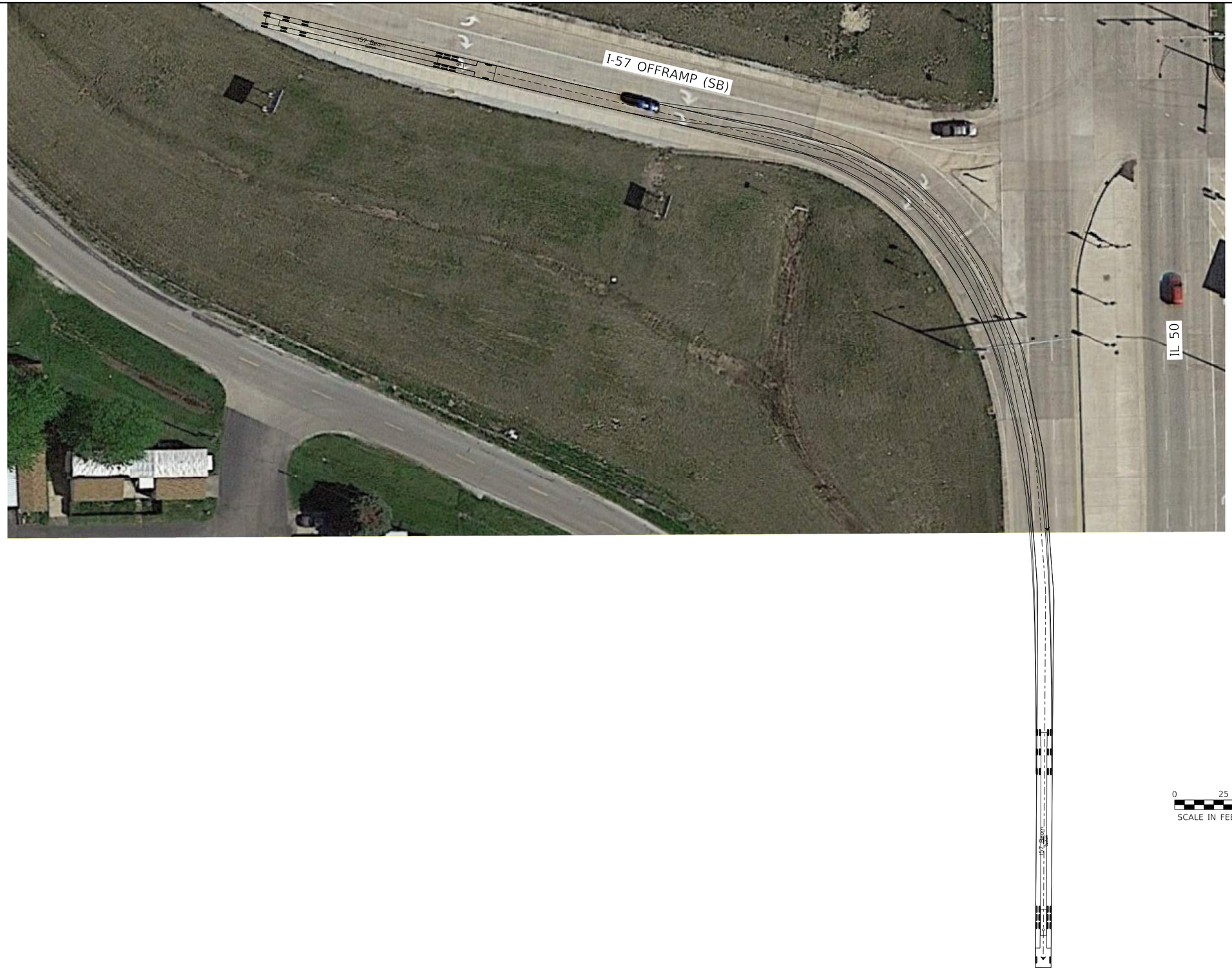
USER NAME = jwilliamson	DESIGNED - JLW	REVISED -	
	DRAWN - JLW	REVISED -	
PLOT SCALE = 49.9999 ' / in.	CHECKED - JCZ	REVISED -	
PLOT DATE = 12/3/2019	DATE - 12/03/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
BEAM DELIVERY INTERSECTIONS

SCALE: | SHEET 1 OF 4 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB, HB-3]BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		



MODEL: Default
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Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

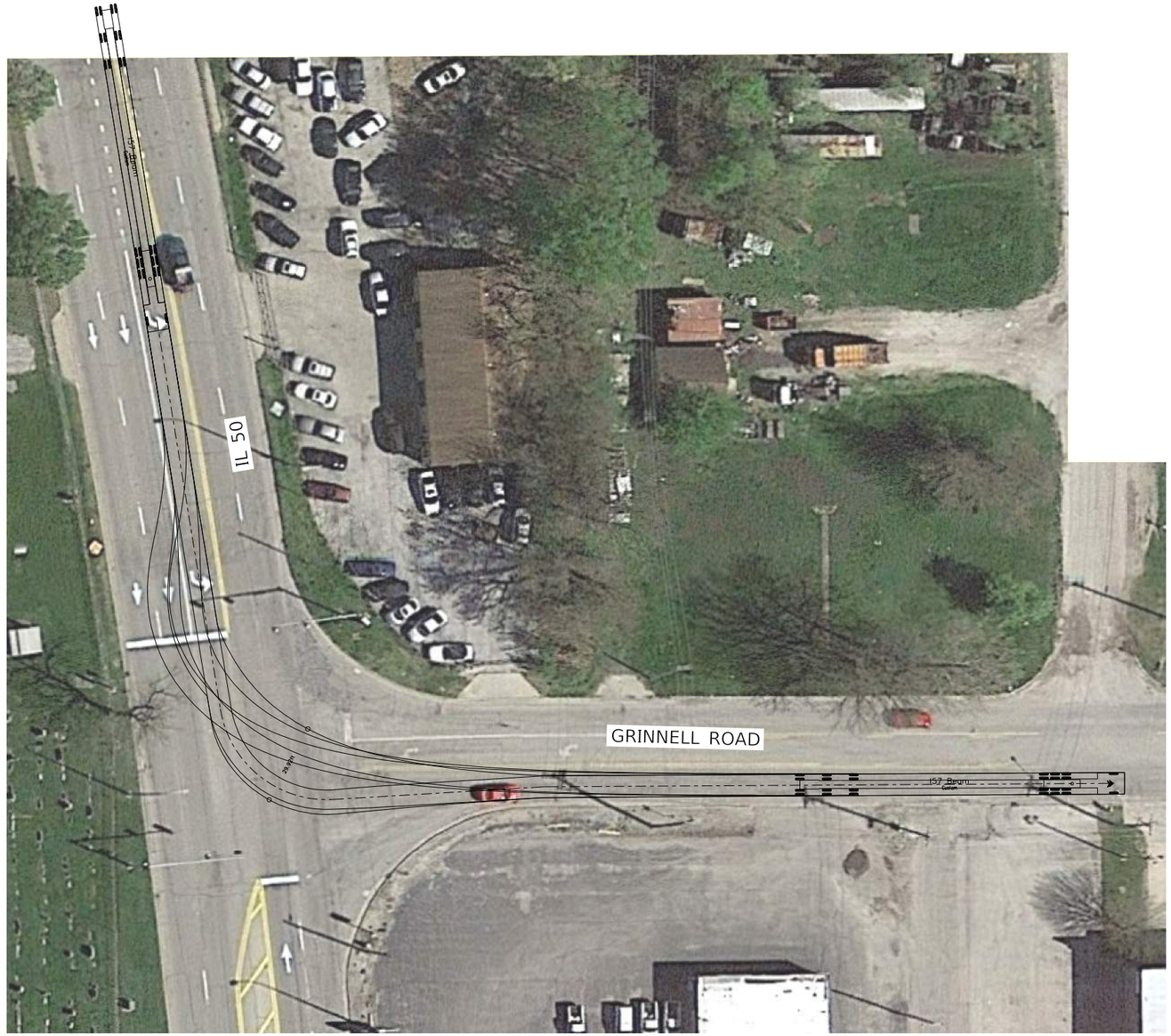
USER NAME = jwilliamson	DESIGNED - JLW	REVISED -	
	DRAWN - JLW	REVISED -	
PLOT SCALE = 49.9999 ' / in.	CHECKED - JCZ	REVISED -	
PLOT DATE = 12/3/2019	DATE - 12/03/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
BEAM DELIVERY INTERSECTIONS

SCALE: | SHEET 2 OF 4 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB, HB-3]BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS FED. AID PROJECT			



N

0 25 50 75

SCALE IN FEET

MODEL: Default
FILE NAME: i:\2019\19021818.00 - IDOT PTB 191\04 Drawings\IDGN_Working\Turning movements.dgn

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

USER NAME = jwilliamson	DESIGNED - JLW	REVISED -	
	DRAWN - JLW	REVISED -	
PLOT SCALE = 49.9999 ' / in.	CHECKED - JCZ	REVISED -	
PLOT DATE = 12/3/2019	DATE - 12/03/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
BEAM DELIVERY INTERSECTIONS

SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(139)VB, HB-3)BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: J:\2019\0190218.00 - IDOT PTB 191\04_Drawings\DGN_Working\Turning movements.dgn

Farnsworth GROUP 2709 McGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / info@f-w.com	USER NAME = jwilliamson	DESIGNED - JLW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		DRAWN - JLW	REVISED -	
	PLOT SCALE = 49.9999 ' / in.	CHECKED - JCZ	REVISED -	
	PLOT DATE = 12/3/2019	DATE - 12/03/2019	REVISED -	

CONSTRUCTABILITY REVIEW
BEAM DELIVERY INTERSECTIONS

SCALE:	SHEET 4 OF 4 SHEETS	STA.	TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB, HB-3]BR, 139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS	FED. AID PROJECT		

CONSTRUCTABILITY REPORT

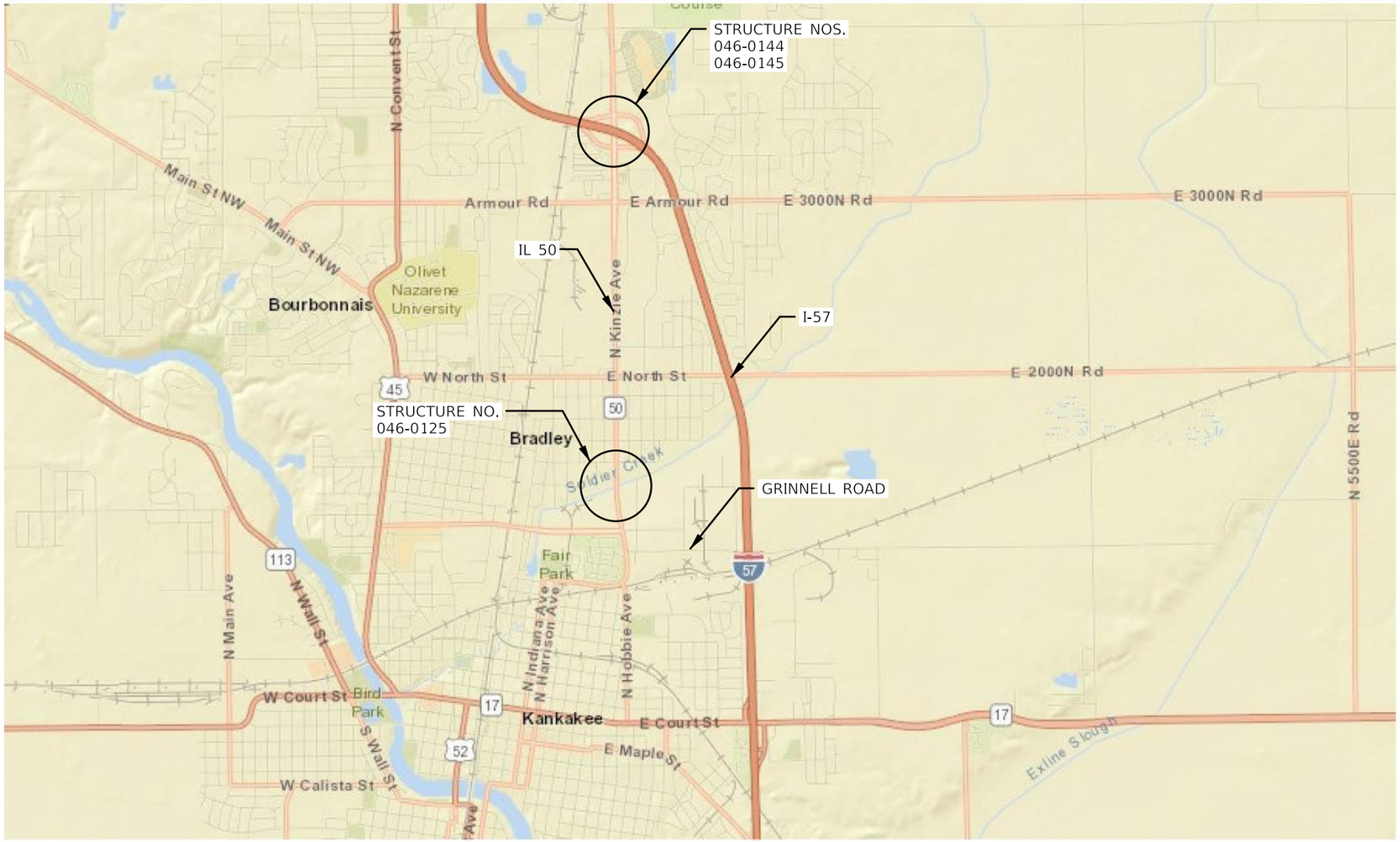
PPC IL BEAM DELIVERY AND ERECTION

EXHIBIT #10

DELIVERY ROUTE STRUCTURES: LOCATIONS AND REPORTS

January 2, 2020

N



*NOT TO SCALE

MODEL: Default
FILE NAME: J:\2019\190218.00 - IDOT PTB 191\Structural\Constructability Review\Structure Location Map.dgn

USER NAME = jwilliamson	DESIGNED - JLW	REVISED -	
	DRAWN - DRR	REVISED -	
PLOT SCALE = 17370.7319 ' / in.	CHECKED - JCZ	REVISED -	
PLOT DATE = 12/3/2019	DATE - 12/03/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTABILITY REVIEW
DELIVERY ROUTE STRUCTURE LOCATION MAP

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	[(139)VB,HB-3]BR,139R	KANKAKEE		
		CONTRACT NO. 66F74		
	ILLINOIS FED. AID PROJECT			

Structure Number: 046-0125 **District: 3**

Inventory Data

Facility Carried:	IL 50 FAP 840	**Bridge Name:**		**Sufficiency Rating:**	97.4
Feature Crossed:	SOLDIER CREEK	**Location:**	N LMTS KKK	**HBP Eligible:**	No
Bridge Remarks:				**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	10/1/2003 12:00:00 AM	**Replaces:**	046-0044
Status Remarks:	OPEN TO TRAFFIC NO RESTRICTIONS.			**Last Update Date:**	07/05/2012
Maint County:	046 KANKAKEE	**Maint Township:**	02 BOURBONNAIS	**Parallel Structure:**	None
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**	
Service On/Under:	1 HIGHWAY	5 /	WATERWAY	**Skew Direction:**	R Right
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	20 **D**
Main Span Matl/Type:	2 CONCRETE CONTINUOUS	/	01 SLAB	**Structure Flared:**	No
Nbr Of Main Spans:	3	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No
*****Approaches*****				**Border Bridge State:**	
Near #1 Matl/Type:		/		**Bdr State SN:**	
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0
Far #2 Matl/Type:		/		**Substructure Material:**	

Structure Length:	90.0						
AASHTO Bridge Length:	89.0						
Length of Long Span:	33.5						
Bridge Roadway Width:	65.6						
Appr Roadway Width:	65.6						
Deck Width:	79.4						
Sidewalk Width Right:	4.4						
Sidewalk Width Left:	4.9						
Navigation Control:	0 No						
Navigation Horiz Clear:	0						
Navigation Vert Clear:	0						
Culvert Fill Depth:	0.0						
Number Culvert Cells:	0						
Culvert Opening Area:	0.0						
Culvert Cell Height:	0.00						
Culvert Cell Width:	0.00						

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.245(44) **Load Rating Date:** 04/16/2004 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.075(74) **Crossing 1 Nbr:**

Latitude: 41.13881501 **S** **Longitude:** 87.85091000 **S** **Design Load:** 05 H15 **Crossing 1 Nbr:**

Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 15 **SD:** N **FO:** N **RR Lateral Underclear:** 0.0

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0840 **Station:** 11.2100
Appurtenances Main Route 00000 **Segment:**
Inventory County: 046 KANKAKEE **Linked:** Y
Township/Road Dist 02 BOURBONNAIS **Natl. Hwy System:** On NHS
Municipality 2915 KANKAKEE **Inventory Direction:**
Urban Area: 2915 2915 **Curr AADT Yr/Count:** 2019 / 18800
Functional Class: 3 OTHER PRINCIPAL ARTERIAL **Est Truck Percentage:** 7

** CLEARANCES **	South/East	North/West
Max Rdwy Width:	65.6	
Horizontal:	66.8	0.0
Lateral:		

Number Of Lanes: 4
One Or Two Way: 2 Two-Way
Bypass Length: 2
Future AADT Yr/Cnt: 2032 / 20431
Designated Truck Rte: NONE
Special Systems: No

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:

South/East	North/West

Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	3 State Highway	050
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

Designation	Kind	Number

Structure Number: 046-0125 **District: 3**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	48 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 03/04/2019 **Inspection Temperature:** 10Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE			
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	15.0				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	111	Does Not Exist	Does Not Exist	Does Not Exist					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 11/05/2003

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year: 2003 Original Reconstructed
Route: FAP 840 **Sta:** 1+584.96 **Sta:**
Section Nbr: (140)W&RS-1BR
Contract Nbr: 66072
Fed Aid Pr#: 00000000
Built By: 1 I.D.O.T.

Illinois Department of Transportation
Structures Information Management System
Master Structure Report (S-107)

Structure Number: 046-0144 **District: 3**

Inventory Data

Facility Carried:	I-57 SB	**Bridge Name:**		**Sufficiency Rating:**	94.8
Feature Crossed:	IL 50	**Location:**	I-57 & IL 50 INTRCHG	**HBP Eligible:**	No
Bridge Remarks:	C#66409. - NEW 046-0144 REPLACED OLD 046-0014 in 2011 & 2012. STAGE 1 9/1/1			**Replaced By:**	
Bridge Status:	1 OPEN - NO RESTRICT	**StatusDate:**	2013-04-12	**Replaces:**	046-0014
Status Remarks:				**Last Update Date:**	02/24/2015
Maint County:	046 KANKAKEE	**Maint Township:**	02 BOURBONNAIS	**Parallel Structure:**	Left
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**	
Service On/Under:	5 SECOND LEVEL INTERCHANGE / 1 HIGHWAY			**Skew Direction:**	Right
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	19 D
Main Span Matl/Type:	4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER			**Structure Flared:**	No
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No

Structure Length:	229.8				
AASHTO Bridge Length:	99.9				
Length of Long Span:	67.8				
Bridge Roadway Width:	58.7				
Appr Roadway Width:	58.7				
Deck Width:	62.3				
Sidewalk Width Right:	0.0				
Sidewalk Width Left:	0.0				
Navigation Control:	0 No				
Navigation Horiz Clear:	0				
Navigation Vert Clear:	0				
Culvert Fill Depth:	0.0				
Number Culvert Cells:	0				
Culvert Opening Area:	0.0				
Culvert Cell Height:	0.00				
Culvert Cell Width:	0.00				

Approaches				**Border Bridge State:**	
Near #1 Matl/Type:	/			**Bdr State SN:**	
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0
Far #1 Matl/Type:	/			**Structural Steel Wt:**	591,630
Far #2 Matl/Type:	/			**Substructure Material:**	
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	2 IDOT
Guardrail Type L/R:	0 None / 0 None			**Inventory Rating:**	1.240 (44)
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.071 (74)
Latitude:	41.16871336	**Longitude:**	87.85107509	**Design Load:**	02 HS20
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	8.0	**SD:** N	**FO:** N
Sidewalks Under Structure:	0 None				

Rate Method:	6 LOAD FACTOR (LF) REP
Load Rating Date:	04/12/2013
Railroad Crossing Info	
Crossing 1 Nbr:	
Crossing 1 Nbr:	
RR Lateral Underclear:	0.0
RR Vertical Underclear:	0 Ft 0 In

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE	0057	**Station:**	13.5100	
Appurtenances	Main Route	00000	**Segment:**		
Inventory County:	046 KANKAKEE		**Linked:**	Y	
Township/Road Dist	02 BOURBONNAIS		**Natl. Hwy System:**	On NHS	
Municipality	0600 BRADLEY		**Inventory Direction:**		
Urban Area:	2915		**Curr AADT Yr/Count:**	2017 / 15400	
Functional Class:	1 INTERSTATE		**Est Truck Percentage:**	19 %	
Number Of Lanes:	3				
One Or Two Way:	1 One-Way				
Bypass Length:	2				
Future AADT Yr/Cnt:	2032 / 17189				
Designated Truck Rte:	CLASS I				
Special Systems:	Yes				

** CLEARANCES **	South/East	North/West
Max Rdwy Width:	58.8	
Horizontal:	59.6	
Min Vertical:	99 Ft 11 In	Ft In
10 Ft Vertical:	99 Ft 11 In	99 Ft 11 In
Lateral:		

Key Route Under Data

Key Route Nbr:	FEDERAL-AID PRIMARY	0840	**Station:**	9.1700	
Appurtenances	Main Route	00000	**Segment:**		
Inventory County:	046 KANKAKEE		**Linked:**	Y	
Township/Road Dist	02 BOURBONNAIS		**Natl. Hwy System:**	On NHS	
Municipality	0600 BRADLEY		**Inventory Direction:**		
Urban Area:	2915		**Curr AADT Yr/Count:**	2017 / 27100	
Functional Class:	3 OTHER PRINCIPAL ARTERIAL		**Est Truck Percentage:**	4 %	
Number Of Lanes:	4				
One Or Two Way:	2 Two-Way				
Bypass Length:	2				
Future AADT Yr/Cnt:	2032 / 32430				
Designated Truck Rte:	NONE				
Special Systems:	No				

	South/East	North/West
	51.0	
	53.0	53.0
	14 Ft 09 In	14 Ft 03 In
	14 Ft 11 In	14 Ft 03 In
	5.4 Ft	15.8 Ft

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	057
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	3 State Highway	050
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Master Structure Report (S-107)

Structure Number: 046-0144 **District: 3**

Data Related to Inspection Information

***Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
Fracture Critical:	MOS	Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2:	Tons		

Inspection/Appraisal Information

Inspection Date:	01/11/2019	Inspection Temperature:	30 Deg. F	Insp by (Name):	HenrichsMW	** Actual Posted Limits **			
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS		Insp by (Name):	BlaseyJ	Single Unit Vehicles:	Tons		
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS		Utilities Attached:	9 ELECTRIC	Combination Type 3S-1:	Tons		
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED			N N/A	Combination Type 3S-2:	Tons		
Culvert:	N	NOT APPLICABLE			N N/A	One Truck At A Time:	0		
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A BARE DECK NO OVRLAY	Last Paint Type:			
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F NONE	Z	FIELD O Z E&P		
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Protection:	A EPOXY COATED REINF				
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Total Deck Thick:	8.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	09/2013				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Inspection Remarks:					
Bridge Railing Appraisal:	3	Meets Standards		2019 Deck has transverse and longitudinal cracks. Approaches have mapcracking. Approach joint has 5' pushed down. NW corner is undermined at the abutment. Sof fit has transverse cracks w/leaching. There is some minor rust on top flange of					
Approach Guardrail:	333	Acceptable	Acceptable Acceptable						
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:					
Temperature:		Inspection Method:			
Inspected By:		Inspected By:		Appraisal Rating:	
Inspection Remarks:					

Scour Critical Information

Rating:		Evaluation Method:	
Analysis Date:		Analysis By:	

Miscellaneous

Fracture Critical Members:	No
Microfilm Data Recorded:	No

Construction Information

Year:	2012 Original			Reconstructed	
Route:	FAI 57	Sta:	311+37.70	Sta:	
Section Nbr:	(46-2)I, HBR, VBR				
Contract Nbr:	66409				
Fed Aid Pr #:	ACIM-057-6(190				
Built By:	1 I.D.O.T.				

Proposed Improvement

Cost Estimate Year:		Length:	
Type of Work:		*** Costs in Dollars ***	
Done By:		Bridge Cost:	
Remarks:		Roadway Cost:	
		Total Project Cost:	

Illinois Department of Transportation
Structures Information Management System
Master Structure Report (S-107)

Structure Number: 046-0145 **District: 3**

Inventory Data

Facility Carried:	I-57 NB	**Bridge Name:**		**Sufficiency Rating:**	91.7	**Structure Length:**	229.9
Feature Crossed:	IL 50	**Location:**	I-57 & IL 50 INTRCHG	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	REPLACES OLD 046-0015, SEE C#66409. 2011 & 2012. STAGE 1- 9/1/2011Stage 2= 01/			**Replaced By:**		**Length of Long Span:**	67.8
Bridge Status:	1 OPEN - NO RESTRICT	**StatusDate:**	2014-03-19	**Replaces:**	046-0015	**Bridge Roadway Width:**	59.3
Status Remarks:				**Last Update Date:**	06/20/2019	**Appr Roadway Width:**	59.3
Maint County:	046 KANKAKEE	**Maint Township:**	02 BOURBONNAIS	**Parallel Structure:**	Right	**Deck Width:**	63.1
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE / 1 HIGHWAY			**Skew Direction:**	Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	19 D	**Navigation Control:**	0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER			**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt:**	591,630	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**	55	**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	2 IDOT	**Rate Method:**	6 LOAD FACTOR (LF) REP
Guardrail Type L/R:	0 None / 0 None			**Inventory Rating:**	1.470 (52)	**Load Rating Date:**	03/17/2014
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750 (99)		
Latitude:	41.16876985	**Longitude:**	87.85131479	**Design Load:**	02 HS20		
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	8.0	**SD:** N	**FO:** Y
Sidewalks Under Structure:	0 None						

*****Railroad Crossing Info*****

Crossing 1 Nbr:	
Crossing 1 Nbr:	
RR Lateral Underclear:	0.0
RR Vertical Underclear:	0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0057	**Station:**	13.5200
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	046 KANKAKEE	**Linked:**	Y
Township/Road Dist	02 BOURBONNAIS	**Natl. Hwy System:**	On NHS
Municipality	0600 BRADLEY	**Inventory Direction:**	
Urban Area:	2915	**Curr AADT Yr/Count:**	2017 / 15900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	21 %
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	59.4	**One Or Two Way:**	1 One-Way
Horizontal:	60.2	**Bypass Length:**	2
Min Vertical:	99 Ft 11 In / Ft In	**Future AADT Yr/Cnt:**	2033 / 15090
10 Ft Vertical:	99 Ft 11 In / Ft In	**Designated Truck Rte:**	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

	FEDERAL-AID PRIMARY 0840	**Station:**	9.1600
	Main Route 00000	**Segment:**	
	046 KANKAKEE	**Linked:**	Y
	02 BOURBONNAIS	**Natl. Hwy System:**	On NHS
	0600 BRADLEY	**Inventory Direction:**	
	2915	**Curr AADT Yr/Count:**	2017 / 27100
	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	4 %
	South/East **North/West**	**Number Of Lanes:**	3
	51.0	**One Or Two Way:**	1 One-Way
	53.0 / 53.0	**Bypass Length:**	1
	17 Ft 05 In / 16 Ft 11 In	**Future AADT Yr/Cnt:**	2032 / 28219
	17 Ft 05 In / 16 Ft 11 In	**Designated Truck Rte:**	NONE
	Ft / Ft	**Special Systems:**	No

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	057
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**
	1 Mainline	3 State Highway	050
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Master Structure Report (S-107)

Structure Number: 046-0145 **District: 3**

Data Related to Inspection Information

***Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
Fracture Critical:	MOS	Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2:	Tons		

Inspection/Appraisal Information

Inspection Date:	01/11/2019	Inspection Temperature:	30 Deg. F	Insp by (Name):	HenrichsMW	** Actual Posted Limits **			
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS		Insp by (Name):	BlaseyJ	Single Unit Vehicles:	Tons		
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS		Utilities Attached:	N N/A	Combination Type 3S-1:	Tons		
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED			N N/A	Combination Type 3S-2:	Tons		
Culvert:	N	NOT APPLICABLE			N N/A	One Truck At A Time:	0		
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A BARE DECK NO OVRLAY	Last Paint Type:			
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F NONE	Z	FIELD O Z E&P		
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Protection:	A EPOXY COATED REINF				
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	8.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	09/2013				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Inspection Remarks:					
Bridge Railing Appraisal:	3	Meets Standards		2019 Deck has transverse, diagonal and longitudinal cracks. Soffit has transver se cracks w/leaching and wet.					
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:					
Temperature:		Inspection Method:			
Inspected By:		Inspected By:		Appraisal Rating:	
Inspection Remarks:					

Scour Critical Information

Rating:		Evaluation Method:	
Analysis Date:		Analysis By:	

Miscellaneous

Fracture Critical Members:	No
Microfilm Data Recorded:	No

Construction Information

Year:	2012 Original			Reconstructed	
Route:	I-57	Sta:	311+37.70		Sta:
Section Nbr:	(46-2)I, HBR,VBR				
Contract Nbr:	66409				
Fed Aid Pr #:	see below				
Built By:	1 I.D.O.T.				

Proposed Improvement

Cost Estimate Year:		Length:	
Type of Work:			
Done By:			
Remarks:			

*** Costs in Dollars ***

Bridge Cost:	
Roadway Cost:	
Total Project Cost:	