

Project Development Report

City of Naperville

95TH STREET AND BOOK ROAD INTERSECTION IMPROVEMENTS

May 20th, 2019



Prepared for:

City of Naperville
400 S Eagle Street
Naperville, IL 60540



Prepared by:

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County: Will
Local Public Agency: City of Naperville
Section Number: 18-00171-00-CH
Route: F.A.U. 1644

Project Number: _____ Project Length: 1010 ft (0.19 miles)

Street/Road Name: 95th Street at Book Road Intersection Improvements

Termini: 95th Street from 1100' West and 650' East of Book Road and Book Road from Rebecca Court to Joyce Lane

- ☐ For Township or Road District bridge projects: The County Engineer certifies that the project design speed exceeds the minimum design speed recommended for this classification of roadway as provided in the BLRS Manual in order to prevent a deficient NBIS rating for approach roadway alignment appraisal. All elements have been designed to the chosen design speed unless noted otherwise in Section 2(e) and/or the attached BLR 22120.

County Engineer Date

- ☒ Categorical Exclusion and Design Approval Recommended

Local Agency Date

Regional Engineer Date

This project will not have any significant impacts on the human environment; therefore, the FHWA approves the project as a Categorical Exclusion on _____
Date

- ☒ Design Approval

Bureau of Local Roads & Streets Date

1. LOCATION AND EXISTING CONDITIONS

a. **Location** (attach location map to supplement narrative description)

The 95th Street and Book Road project is located in the City of Naperville, Will County. The study limits extend from Rebecca Court to Joyce Lane on Book Road as well as 1100' west and 650' east of Book Road on 95th Street. The project lies within IDOT District 1, in the Normantown Quadrangle of Will County and in the northeast corner of Wheatland Township.

The total project length measures approximately 1981 ft on Book Road and 1001 ft on 95th Street. The 5-year Functional Classification Map identifies Book Road as a Major Collector and 95th Street as a Minor Arterial. 95th Street is a Strategic Regional Arterial.

Please refer to Exhibit 1-1 for a location map and Exhibit 1-2 for Functional Classification Map.

b. **Description of Existing Facility** - Give narrative description, including such items as width of travel, parking and turn lanes, sidewalks, alignment, traffic control devices, utilities, jurisdiction, maintenance responsibility, drainage, terrain and current land use (including major public facilities and local landmarks). Attach existing typical sections showing roadway widths, bridge widths, ROW widths, sidewalk widths, guardrail, curb and gutter and surface types.

Travel, Parking, Turn Lanes & Sidewalks

Book Road consists of one 11 foot bituminous travel lane in each direction. Turn lanes include one left turn lane in each direction into commercial entrances south of 95th Street and left turn lanes in both directions at Tamahawk Lane and Joyce Lane north of 95th Street. At 95th Street, Book Road has a northbound left and a southbound left turn lane. Book Road has no superelevation within the project limits. The existing curb and gutter on Book Road is B-6.12 with the curb and gutter changing to B-6.18 on the intersection corner radius' of 95th Street. Book Road includes 5' width sidewalk along both sides of the roadway. Existing ROW width varies between 90 and 100 feet. Refer to **Exhibit 1-3** for the existing typical sections. There are no right turn lanes on Book Road.

95th Street consists of two 11 foot bituminous travel lanes in each direction. It has a continuous 16' raised median with reverse-pitch B-6.12 curb and gutter. Turn lanes include one left turn lane in each direction just west of the intersection with Book Road as well as one left turn lane in each direction at Tamahawk Lane just east of the intersection. 95th Street has eastbound and westbound left turn lanes at the intersection with Book Road. No superelevation exists within the project limits. The existing outside curb and gutter on 95th Street is B-6.18. Sidewalks are along both sides of 95th Street within the project limits. The existing ROW width is approximately 100 feet along 95th Street. Refer to **Exhibit 1-3** for existing typical sections. There is no on-street parking on 95th Street or Book Road within the study limits. There are no right turn lanes on 95th Street within the study limits.

Alignment & Terrain

95th Street is located within a tangent section with one deflection angle less than 1-degree. The vertical profile has a high point approximately 350' east of Book Road and the greatest running slope is 0.65%. 95th Street has a low point approximately 250 feet west of Book Road.

Book Road is located within a tangent section with one deflection angle less than 1-degree. The vertical profile has a low point approximately 700 feet north of 95th Street at 256+73 as well as another low point approximately 800 feet south of 95th Street at 241+72. Book Road has a high point approximately 500 feet north of 95th Street at 255+01. The greatest running slope is 1.5%.

Traffic Control Devices

A traffic signal is located at the intersection of Book Road and 95th Street. Two-way stop control is located along Book Road at the intersections of Tamahawk Lane, Joyce Lane, and the commercial entrance south of 95th Street. On 95th Street, two-way stop control is located at the intersections of Tamahawk Lane and the commercial entrance west of Book Road.

Jurisdiction & Maintenance Responsibility

The City of Naperville has jurisdiction and maintenance responsibility along 95th Street as well as Book Road. The city also has jurisdiction and maintenance responsibility of Tamahawk Lane and Joyce Lane.

Drainage

The existing drainage system consists of storm sewers and inlets along the project route. Book Road flows into a 29" X 45" elliptical RCP trunk line which runs down the east side of Book Road ROW then to the east at the southern limits of the project. Within the project limits, 95th Street also drains into this trunk line and joins with the drainage from Book Road at the southern part of the 95th Street and Book Road intersection.

FEMA Flood Insurance Rate Maps (**Exhibit 1-4**) are attached.

The project study limits have one Zone A on the south leg of the intersection, along the west side of Book Road. Zone A is a special flood hazard area inundated by a 100 year flood, but no base flood elevation has been determined. A Federal Emergency Management Agency letter to the city of Naperville received January 20, 1999 is a letter of map revision (LOMR). This is attached as well as the record plan for Naper Glenn.

LOMR and Naper Glenn record plans can be found in **Exhibit 1-4**.

Lighting

There is no lighting present along Book Road. 95th Street has continuous lighting within the project limits. The intersection has traffic signal combination pole lighting.

Utilities

A JULIE inquiry (Dig No. X0670999) was initiated for this project in advance of the study. Coordination with the utilities identified reveals the following facilities:

Owner	Contact Information	Description
Wide Open West	1674 Frontenac Rd Naperville, IL 60563 630-930-7597 Attn: Kevin Rhodes	Communication lines on the north and south sides of 95 th Street throughout the project limits. More on the west side of Book Road from Rebecca Court to 95 th Street
AT&T Distribution	1000 Commerce Drive Oak Brook, IL 60523 630-573-5530 Attn: Donna Szptek	Aerial lines and underground lines on the west side of Book Road. Underground cables and conduit lines exist along the east side of Book Road between Sutton Circle and Rebecca Court as well as north of Tamahawk Lane. There are Underground cables and conduit on the south side of 95 th Street from the west to east project limits.
City of Naperville	400 S. Eagle Street Naperville, IL 60540 630-420-4122 Attn: William Bolster	Sanitary sewer runs under the south side of 95 th Street between west project limits and Book Road where it then runs south on the west side of Book Road until it crosses Book Road near Sta. 240+75 then heads south down Frost Ln. Sanitary Sewer also runs on the east side of Book Road at Tamahawk Lane until Sutton Circle and the south side of Tamahawk Lane. Water main extends under the west side of Book Road from Tamahawk Lane to Sutton circle and the east side of Book Road from 95 th Street to 242+00. Water main runs under the westbound lanes of 95 th Street from the west to east project limits. Naperville Underground Electric: Underground electric cables located on 95 th Street on the north side of the west leg of the 95 th and Book intersection and on the south side of 95 th street from the right in right out commercial entrance to the east project limits. On Book Road, there is underground electric on the east side of the road from Rebecca Court to Sta 244+00 as well as on the east side of Book from Sta 247+00 to 257+00. Underground electric crosses under Book Road near Sta 253+00 and on the west side of the road from Sta 249+00 thru Joyce Lane. There is also an above ground switch at the southwest corner of 95 th Street and Book Road.

ComEd	Public Relocation Dept. 630-437-4855	Overhead Lines exist on the north side of 95 th Street from the west project limits to Book Road as well as the west side of Book Road for the entire project limits. Underground Lines exist on the east side of Book Road from 257+00 to north project limits.
Comcast	224-229-5851 Thomas Munar	Overhead and underground lines exists along the west side of Book Road between Joyce Lane and Rebecca Court. Underground lines exist on the north and south sides of 95 th street from Book Road to the west project limits and on the north side of 95 th Street from Book Road to the eastern project limits.
Nicor Gas	DOT Liaison 630-388-3046 Bruce Koppang	4-inch high pressure gas main located along the west side of Book Road between Joyce Lane and Rebecca Court. 4-inch gas main located along the west side of Prairie Street between Chestnut Street and Laurel Street; 6-inch high pressure gas main located along the south side of 95 th Street between west project limits and Book Road. 8-inch high pressure gas main located along the north side of 95 th Street between Book Road and Tamahawk Lane and a 2" gas line along the north side of Tamahawk Lane.
Wheatland Township	Kevin Martinich Wheatland Township Road District (630) 717-0092	Light Pole at northeast corner of Joyce Lane and Book Road. Storm Sewer behind houses north of Rebecca Court.

See **Exhibit 1-5** for Utility Coordination

Current Land Use

The land use adjacent to 95th Street within the project limits is commercial and institutional use. At the intersection of Book Road and 95th Street, the northwest corner is a health center and the southeast corner is a church. Book Road consists of mainly residential adjacent properties with the exception of the intersection with 95th Street which contains some commercial and institutional use. A gas station is located on the northeast corner as well as a pharmacy on the southwest corner.

See **Exhibit 1-6** for CMAP Coordination

c. **Traffic Data**

Current ADT:	13,700 Book Road	% trucks:	4%
Current ADT:	20,700 95 th Street	% trucks:	5%

Will 80,000 trucks be legally permitted on this route? ☐ Yes ☒ No

Design Year:	2040	ADT:	17,500	DHV:	1,196	% trucks:	4%
Design Year:	2040	ADT:	30,000	DHV:	2,115	% trucks:	5%

- d. **Structures** - Identify location within the proposed improvement of all structures on attached location map. Attach a copy of the Structure Master Report for all structures within the project limits. Attach a copy of the Bridge Condition Report or the Bridge Deck Resurfacing approval letter for structures to be replaced, rehabilitated, or resurfaced.

N/A

- e. **Railroads** - Identify location of all railroad crossings on attached location map and complete the following:

Railroad Name	No. and Type of Tracks (Main or Switching)	Type of Warning Devices*	No. of Trains Per Day	Railroad Width of Crossing at Rt. Angles
N/A				
N/A				

*Include a sketch showing location of railroad protective devices from the edge of roadway and to the nearest track.

- f. **Contiguous Sections** - Describe the existing typical sections at each end of the proposed improvement including number of travel lanes, turning lanes and parking lanes, lane widths and roadway width (f-f of curbs or e-e of shoulders), and sidewalk width.

The south terminus on Book Road is about 300 feet north of Rebecca Court. Book Road has one travel lane in each direction with a tapering painted median. Each lane is 11 feet wide with a roadway width varying between 25 to 32 feet. Book Road has aggregate shoulders at the southern terminus that vary 2 to 6 feet. There is a 5 foot sidewalk on the east side of Book Road.

The north terminus on Book Road is the south leg of the intersection of Joyce Lane. Book Road has a 3-lane section with one travel lane in each direction. Book Road has B-6.12 curb and gutter. Each lane is 11 feet wide with a roadway width of 33 feet. Book Road has 5 foot sidewalks on both sides of the road.

The west terminus on 95th Street ends at the major full access commercial entrance west of Book Road. 95th Street is 60 feet wide with two 11 foot lanes in each direction. It has a 16 foot raised median with 11-foot left turn lanes at full access points. There are 5 foot sidewalks on each side of the road.

The east terminus on 95th Street ends approximately 200 feet west of Tamahawk Lane and has the same typical section as the west terminus.

2. Proposed Improvement

- a. Discuss the purpose and need of the project:

The purpose of this project is to improve the safety and capacity of the intersection of 95th Street and Book Road and to minimize operational impacts at adjacent full access points.

Currently, this intersection is experiencing approximately 20 crashes per year, which is nearly three times the expected crash frequency of a similar intersection in Illinois.

The intersection has movements with high delay. In the current AM peak hour, the eastbound left and westbound thru movements operate at LOS E. In the PM peak hour, the northbound left and southbound thru movements operate at LOS E. Projecting traffic out to the year 2040, the overall intersection will operate at LOS F in the AM and PM peak hours.

The intersection causes operational issues at Book Road at Tamahawk Lane. Southbound queues on Book Road extend into the intersection of Book Road at Tamahawk Lane, approximately 500 feet north of 95th Street, in both the afternoon school peak and the PM peak hour, causing a queue blockage issue. Projecting traffic out to the year 2040, two more locations will have queue blockage issues: the commercial entrance on 95th Street, approximately 500 feet west of Book Road, and the Church / Commercial entrance on Book Road, approximately 500 feet south of 95th Street.

- b. What design guidelines will be used for the proposed improvement? (Check One)

- ☐ Rural (BLRS Manual Chapter 32)
- ☒ Urban (BLRS Manual Chapter 32) For Book Road
- ☐ Suburban (BLRS Manual Chapter 32)
- ☐ 3R Guidelines (BLRS Manual Chapter 33)
- ☐ Bicycle Guidelines (BLRS Manual Chapter 42)
- ☐ Pedestrian Guidelines
- ☒ Other: BDE SRA CH 46 For 95th Street and Thru Lane Turn Tapers on Book Road

Functional Classification: ☒ Arterial 95th Street ☒ Collector Book Road ☐ Local Road ☐ Other _____

Terrain: ☒ Level ☐ Rolling

Regulatory or Posted Speed Limit: 40 Design Speed: 40
Both Both

- c. Describe type of work to be accomplished by the improvement. Discussion should include width of proposed travel, parking, bicycle and turning lanes, sidewalks, shared-use paths, guardrail, traffic control devices, drainage items (including storm sewer outfalls), alignment changes, railroad work, utility adjustments, intersection improvements, side slopes and clear zones. Specify the eamax for horizontal curves. Attach typical sections, plan and profile sheets, and intersection design studies when applicable.

See **Exhibit 2-0** for proposed Plan and Profile Sheets.

Travel, Parking, and Tun Lanes

Book Road will be widened from two to four 11 foot travel lanes with two in each direction. Northbound, the addition of the travel lanes will occur before the church/commercial entrance. A lane drop will occur north of 95th Street with marking through the intersection of Tamahawk Lane to the intersection of Joyce Lane. Southbound, the lane addition will occur south of the intersection of Tamahawk Lane. The lane drop will end south of the church/commercial entrance. The number of travel lanes on 95th Street will remain the same.

There will be no addition of on-street parking or bike lanes.

Northbound and southbound 11 foot right turn lanes will be added to Book Road at the intersection of 95th Street. Eastbound and westbound 11 foot right turn lanes will be added to 95th Street at the intersection of Book Road.

Sidewalks

5 foot sidewalks with 6 plus feet buffers will generally be replaced in kind in the areas of improvements with the following exceptions. There will be a 3 foot parkway and 5 foot sidewalk adjacent to the westbound right turn lane to avoid gas station impacts. A 7 foot carriage walk will extend around the northeast quadrant of the intersection curb return until the end of the gas station site to further avoid gas station site impacts. A 3 foot parkway and 5 foot sidewalk will be implemented adjacent to the northbound right turn lane to avoid tree impacts. 3 feet minimum is the required city standard buffer.

Guardrail

Not applicable.

Traffic Control Devices

The existing traffic signal control device will be replaced to accommodate the proposed capacity improvements occurring at the intersection. It has been designed to accommodate existing and projected 2040 traffic at an acceptable LOS.

Alignment Changes

There will be no changes to the existing horizontal or vertical alignments. All improvements will maintain the same profile grade lines and widen the existing pavement.

Utility Adjustments

The following table summarizes all the potential utility conflicts. Further investigation will need to be made in Phase II to determine if the potential utility conflicts are true conflicts and if they will require adjustment or relocation.

Entrances

All entrances will remain under the same conditions (full or partial access) with the exception of the gas station entrance on the north side of 95th Street at the intersection near station 101+00. This full access entrance is located at the westbound 95th Street stop bar. It is proposed for removal to avoid operational issues with turn movements creating blockage issues.

Owner	Roadway - Side	Station Ranges/Limits
Wide Open West	-95 th Street- South Side -95 th Street – North Side -Book Road – West Side	94+50 to Book Road Book Road to 104+50 239+00 to 95 th Street
AT&T Distribution	-95 th Street – South Side -Book Road – West Side -Book Road – West Side	94+00 to 102+00 239+00 to 257+00 257+00 to 260+00
Naperville Sanitary	-95 th Street – South Side	94+50 to Book Road
Naperville Water	-Service Line to Gas Station Near 95 th Street -Book Road East Side (less likely- 244+00 to 247+00) -Vault Adjustment at northeast corner of Book and Tamahawk -Book Road east side	STA 101+00 242+00 to 250+00 255+00 to 257+00
Naperville Electric	-Adjust vault lids at SW and SE quadrants of intersection -East side of Book -East side of Book Road -West side of Book Road	northeast quadrant of intersection to 252+50 247+50 to 249+00 253+00 to 257+00
Com-Ed Electric	-95 th Street north side -Book Road west side	98+50 to 99+50 244+00 to 256+50
Nicor Gas	-95 th Street south side -95 th Street north side	94+50 to Book Road Book Road to 104+00
Comcast	-95 th Street north side -95 th Street south side -Book Road west side	98+50 to 104+00 94+50 to Book Road 239+00 to 257+00

Intersection Improvements

Other than the aforementioned turn lane improvements, the north leg crosswalk will be redesigned to not terminate on the east side at a driveway entrance. See **Exhibit 2-4** for Intersection Design Study.

Side Slopes and Clear Zones

The area adjacent to the roadway is generally at the same elevation. Some locations have a 4:1 fill slope as part of the widening improvements. The clear zone for both facilities is 10 feet from the edge of pavement.

Drainage

The proposed drainage improvements will consist of new curb and gutter, new curb inlet structures and storm sewer pipes to convey storm runoff into the existing trunk storm sewers on 95th Street and the east side of Book Road. The proposed storm sewer system will use the existing outfall pipe at the southern project limit on Book Road. The existing overland flood routes are preserved at existing elevations.

See **Exhibit 2-5** for Drainage Design Memorandum.

Tree Removal and Replacement

Along the west leg of the 95th and Book intersection, three trees will require removal. Along the south leg of the 95th and Book intersection, eight trees will require removal. Along the north leg of 95th and Book intersection, four trees will require removal. Trees to be replaced per IDOT policy D & E 18.

- d. Discuss items affecting improvement such as hazardous mailbox supports, parking and truck restrictions, mail delivery from traffic lanes, justification (including warrants) for multi-way stop signs, traffic signals and other traffic control and railroad protective devices, stage construction, nearby airports, and additional lighting:

Hazardous Mailbox Supports & Mail Delivery from Traffic Lanes

There is neither hazardous mailbox supports nor mail delivery from the traffic lanes

Parking & Truck Restrictions

Parking will not be permitted along Book Road or 95th Street within the project limits. Neither road within the project limits is a IDOT or Naperville designated truck route.

Traffic Control Justification

Existing traffic signal at the intersection of 95th Street and Book Road performing with LOS E and traffic is projected to increase.

Railroad Protection Devices

There are no railroads within the project limits.

Stage Construction

The first stage will consist of the construction on the west side of Book Road and eastbound right turn lane on 95th street. Traffic will be maintained and lanes narrowed to accommodate the same number of lanes while accommodating the work zone. For stage 2, the east side of Book Road and westbound right on 95th street will be under construction. Once again traffic will be maintained and lanes narrowed.

See **Exhibit 16-0** MOT Typical Sections.

Nearby Airports

The nearest public airport to the project site is approximately 3 miles away and is Boling Brook's Clow International Airport. The nearest private airport is 1.8 miles away and is Naper Aero Club Airport. Therefore, no coordination is needed with IDOT Bureau of Aeronautics in the Office of Intermodal Project Implementation.

Additional Lighting

No additional roadway lighting is part of the proposed improvements. However, the four lightpoles impacted by the roadway widening along the north and south sides of 95th Street will be relocated. Combination poles will be replaced at the intersection. A light pole at the northeast corner of Book Road at Tamahwak Lane will be relocated. Four private light poles will be relocated at the gas station site.

- e. Identify each aspect to be constructed at less than the design guidelines and provide a clear description of required design variances and appropriate justification. (BLRS Manual Section 27-7). If a design variance is required, include a copy of the approved BLR 22120 form as an attachment.

See **Exhibit 2-1** for Book Road and 95th Street Design Variance Checklist.

See **Exhibit 2-2** for Design Variance Justification.

- f. Current estimated cost of proposed improvement? \$ 2.4 million

See **Exhibit 2-3** for the preliminary opinion of probable cost

- g. Analyze the need for accommodating pedestrians, bicyclists and the handicapped. When applicable, describe the facilities to be provided for pedestrians and bicyclists. Discuss the ADA accessibility and maximum longitudinal grade of these facilities. (BLRS Manual Chapter 41)

Existing sidewalks will be replaced on both sides of the street at the intersection. No specific bicycle accommodations are made. Neither of the roads are part of the bike plan. The crosswalk on the north leg will be connected to not terminate in a driveway. All the existing roadway grades, which extrapolate to the longitudinal sidewalk grades, are less than 2%.

Sidewalks/Shared-Use Paths:

Maximum 2% crossslope: ☒ Yes ☐ No ☐ Not Applicable

ADA ramps with detectable warnings at street intersections: ☒ Yes ☐ No ☐ Not Applicable

If no, provide justification.

- h. Discuss any proposed improvements being considered in adjacent segments including the anticipated construction startup date of these improvements.

At this time, there are no improvements scheduled adjacent to the project.

3. Crash Analysis (BLRS Manual Section 22-2.11(b)(9))

- a. Summarize crash data for the past five years, including a spot map or a location map showing crash locations when possible. Detail the types of crashes and include collision diagrams, if possible, especially at cluster sites. Give the source of this data.

The City of Naperville has collected crash reports along 95th Street and Book Road within the project limits from 2013 through 2017. It includes the intersection of 95th Street and Book Road as it related to the traffic analysis for this project. A summary of the crash data as well as collision diagrams can be found in **Exhibit 3-1**.

- b. Analyze available crash data including results of field check. Discussion should include high crash locations, critical wet weather sites, and other crash patterns. If the data is inconclusive, make a statement to that effect.

The number of collisions at the intersection of Book Road and 95th Street number 114 between 2013 and 2017. The most predominant collision type at this intersection was rear end which accounted for 49% of all crashes. 79% of the collisions occurred with a dry road surface with 20% occurring with a wet surface. 24% of all the collisions occurred at night but on the lighted roadway while 65% occurred during the daylight. No fatalities have occurred at this intersection and 25% of the collisions caused an injury. This intersection has three times the amount of collisions when compared to a similar intersection in Illinois. Throughout the years studied, number of collisions from 2013 to 2017 are 17, 29, 14, 27, and 27 respectively.

See **Exhibit 3-1**.

- c. Describe how the proposed project will address any crash issues.

At the intersection of Book Road and 95th Street, it is proposed to bring the design of the intersection up to latest engineering standards as a matter of implementing nominal safety. Adding thru lane capacity to Book Road may help reduce the number of rear end, sideswipe same direction, and turning crashes. Adding dedicated right turn lanes in all directions as well as up to date yellow change intervals will improve safety at the intersection as these are FHWA proven safety countermeasures.

See **Exhibit 3-1** for a B/C ratio of 3.26 for the proposed improvements as safety countermeasures.

4. Right-of-Way

- a. Describe the right-of-way taking, including the total acreage required for each of the following categories: ROW, permanent easements, temporary easements and temporary land use permits. Include the width of taking, number of property owners, acreage of right-of-way and/or easements, character of land; i.e., farm, residential, commercial or publicly owned properties, anticipated impacts to properties that remain, and location of any improvements with respect to required right-of-way. Discuss any impacts on setbacks required by zoning.

In order to construct the proposed improvements, some temporary easements and permanent ROW will need to be acquired. Total preliminary acreage of temporary easements is 0.80. Total preliminary permanent ROW requirements are 0.20 acres. 13 total properties will be affected by either temporary easements or permanent ROW. The following properties will be affected by temporary easements: BP Gas, Wheatland Salem Church, Walgreens, 95th Street Shops, Charles Rutenburg Realty, Burger King, YMCA, Edward-Elmhurst Health Center, 23155 Joyce Lane, 1963 Tamahawk Lane, 1935 95th Street, and Property Pin 07-01-10-201-025. The following properties, will be affected by a permanent ROW acquisition: Wheatland Salem Church, 1935 95th Street, Walgreens, Burger King, 23155 Joyce Lane, 2803 Alandale Circle, and BP Gas. No major impacts anticipated to properties being affected. The biggest impact is at the gas station at the northeast corner of 95th and Book which will require a commercial sign relocation. No setback impacts anticipated.

- b. Are any residents, businesses or farms to be displaced?

☐ Yes ☒ No

If yes, describe the number and type of displacements anticipated and mitigation that will be taken to provide relief for this impact on an attached sheet.

5. Prime Farmland (BLRS Manual Section 20-10)

- a. If the project requires more than 3 acres/mile (0.75 hectares/kilometers), 10 acres (4 hectares) for a non-linear improvement, or the project ROW is not contiguous to the existing ROW, contact the Illinois Department of Agriculture and attach results of the coordination and summarize the results below.

N/A

- b. ☐ The project requires consultation with the Natural Resource Conservation Service., Form AD-1006 has been completed and submitted to the local office of NRCS. The completed AD-1006 form is attached.

☐ The impact of this project on farmland conversion has been evaluated in accordance with the requirements of the US Natural Resources (NRCS). The project will cover 3 acres or less of farmland per mile (0.75 hectares or less of farmland per kilometer) and the conversion will not result in more than minor impacts. Accordingly, the project conforms to the general form AD-1006 prepared by NRCS. Therefore, further coordination with NRCS on this project will not be necessary.

N/A

6. Floodplain Encroachment (BLRS Manual Section 20-7)

Does the proposed work cross or encroach upon a 100-year floodplain, including a regulatory floodway?

☐ Yes ☒ No

If yes, summarize the location hydraulics study, regulatory floodway restrictions, the effect of any encroachment (including a comparison between existing and proposed conditions) and the effect of over-the-road flow on the proposed transportation facility. Attach any available floodplain maps.

The project improvements are outside the studied area of the Zone A floodplain which ends at the headwall at the 58" X 91" culvert @ sta 241+16 o/s 52' LT. As a widening improvement in the area of the overland flood route, the spillover elevations are not being raised. For the emergency over flow route, an estimated high water elevation was determined based upon the elevation of the roadway profile sag. There is no fill proposed on the upstream side of the spillover elevation. No changes will be made to the overland flow route on the downstream side.

7. Phase I & II NPDES Storm Water Permit Requirements (BLRS Manual Section 7-4.01)

Will the project involve soil disturbance of 1 acre (0.4 hectares) or more?

☒ Yes ☐ No

If yes, the project must comply with the Phase II NPDES Storm Water Permit Requirements.

8. "404" Permit (BLRS Manual Section 7-4.02)

Does this project involve waters regulated by Section 404?

☐ Yes ☒ No

If yes, what type of 404 permit is required? ☐ Nationwide ☐ Individual ☐ Regional ☐ None

Attach a copy of any 404 permit authorization and/or coordination letters with the Corps of Engineers.

If an individual Section 404 permit is required, please notify the Illinois Department of Transportation district office before submitting the application.

9. Special Waste (BLRS Manual Section 20-12)

- a. Following the special waste assessment screening criteria shown on Figure 20-12A of the BLRS Manual, is Preliminary Environmental Site Assessment (PESA) required?

☒ Yes ☐ No

- b. Is work being done on property in the name of the state or are contract plans being prepared by the state?

☐ Yes ☒ No

- c. If a PESA is required for either state or local ROW, did the PESA results determine that the project has Recognized Environmental Conditions (REC's) for special waste?

☒ Yes ☐ No

If the PESA results determine that the project contains REC's, describe how the special waste is proposed to be handled (including if a Preliminary Site Investigation (PSI) is required).

The draft PESA identified two sites in the project corridor that will require preliminary site investigation (PSI) to determine what hazardous material management may be necessary during construction: Site 13 Amoco Oil Co. #15926 and Site 22 Signature Cleaners. See **Exhibit 9-0** for PESA

10. **Environmental Survey (BLRS Manual Section 20-2)**

Whenever a project involves land acquisition (including easements), any in-stream work (including drainage structure run-around), is located within or adjacent to historic properties listed in (or eligible for) the National Register of Historic Places, a bridge on the historic list, is near wetlands, or known locations of threatened or endangered species, the Environmental Survey Request Form should be submitted early in the project development phase.

- a. Wild and Scenic Rivers - If this project crosses or affects a river on the National Wild and Scenic Rivers System or a river listed in the Nationwide Inventory of Rivers with potential for inclusion on the system, include coordination between the National Park Service and the Bureau of Design and Environment (BDE).
☐ Involvement ☒ No Involvement
- b. Wetlands - Does the proposed work impact the use of regulatory wetlands?
☐ Yes ☒ No

See **Exhibit 10-2**

If yes, indicate how the wetlands will be migrated. ☐ Banking ☐ Accumulation ☐ On-site ☐ Other

- c. Archaeological and Historical Preservation Include results of coordination. Does the project impact an archaeological or historic preservation site?
☐ Yes ☒ No

See **Exhibit 10-1**

If yes, describe any required documents.

- d. Threatened or Endangered Species – Does the project impact any endangered species or plants?
☐ Involvement ☒ No Involvement

Include copy of biological resources memorandum or signoff by BDE and/or IDNR.

See **Exhibit 10-3 Biological Clearance**

- e. Stream Modification and Wildlife Impacts - Include copies of any correspondence between BDE and IDNR or U.S. Fish and Wildlife Service. Attach copies of any additional coordination between local agency and IDNR or U.S. Fish and Wildlife Service whenever required as a result of biological review by BDE. Address any proposed mitigation measures.
☐ Involvement ☒ No Involvement

11. **Section 4(f) Lands (BLRS Manual Section 20-3)**

- a. Does this project require any right-of-way, including temporary construction easements, from a publicly owned park, recreational area, wildlife and waterfowl, or any historic site in or eligible for the National Register of Historic Places?
☐ Yes ☒ No
- b. If yes, what type of of the Section 4(f) involvement has been completed?
☐ Section 4(f) diminimis ☐ Standard Section 4(f) ☐ Temporary Occupancy ☐ None

12. **Air Quality (BLRS Manual Section 20-11)** Check One:

a. ☐ This project is in an attainment area.

☒ Projects within a portion of a nonattainment area for which the Chicago Metropolitan Agency for Planning (CMAP) is the MPO.

This project is included in the GO TO 2040 Plan (transportation plan) and in the Transportation Improvement Program (TIP), endorsed by CMAP, the region's Metropolitan Planning Organization. The GO TO 2040 PLAN (transportation plan) was found to conform by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) on 6/21/2014

The TIP was found to conform by FHWA on 10/21/2014 and by FTA on 10/21/2014

☐ Projects within a nonattainment area served by a Metropolitan Planning Organization other than CMAP.

This project is included in the Long-Range Transportation Plan and in the _____ Transportation Improvement Program (TIP) endorsed by _____, the Metropolitan Planning Organization (MPO) for the region in which the project is located.

On _____ the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the Long-Range Transportation Plan conforms with the transportation-related provisions of the Clean Air Act Amendments of 1990. The FHWA and the FTA determined on _____ that the TIP conforms with the Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and projects Funded or Approved Under Title 23 USC or the Federal Transit Act."

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing State Implementation Plan and the transportation-related requirements of the 1990 Clean Air Act Amendments.

b. **Mobile Source Air Toxics (See BDE PM 52-06)**

This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the exiting facility, or any other factor that would cause an increase in emissions relative to the no-build alternative. As such, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxic concerns. Consequently, this effort is exempt from analysis for MSATs.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. Even after accounting for a 64 percent increase in VMT, FHWA predicts MSATs will decline in the range of 57 to 87 percent, from 2000 to 2020, based on regulations now in effect, even with a projected 64 percent increase in VMT. This will both reduce the background level of MSATs as well as the possibility of even minor MSAT emissions from this project.

c. **Construction-related Particulate Matter**

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project area. (Equipment-related particulate emissions are usually insignificant when equipment is well maintained.) The potential air quality impacts will be short-term, occurring only when demolition and construction work is in progress and local conditions are appropriate.

The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of materials. The potential is greatest during dry periods, periods of intense construction activity, and during high wind conditions.

The Department's *Standard Specifications for Road and Bridge Construction* include provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities will be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and the Department will meet to review the nature and extent of dust-generating activities and will cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project will not cause any significant, short-term particulate matter air quality impacts.

d. Project-level Hot Spot Analysis. Check One:

- ☐ This project is in an attainment area and does not require a hot spot analysis.
- ☒ This project does not meet the definition of a project of air quality concern as defined in 40 CFR 93.123(b)(1).
Due to
Lack of significant increase to the number of diesel vehicles as a result of the project.
_____ it has been determined that the project will not cause or contribute to any new localized PM_{2.5} or PM₁₀ violations or increase the frequency or severity of any PM_{2.5} or PM₁₀ violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.
- ☐ This project is in a non-attainment or maintenance area and is a project of air quality concern. Therefore, a qualitative hot spot analysis is required. See Attachment _____.

e. COSIM

Are through lanes or auxiliary turn lanes being added with this project?

☒ Yes ☐ No

If yes, has a COSIM pre-screen analysis been completed?

☒ Yes ☐ No

If yes, pre-screen analysis is attached as Attachment Exhibit 12-0.

If no, explain why an analysis has not been performed. _____

If yes, did the COSIM pre-screen analysis pass or fail? ☒ Pass ☐ Fail

If the COSIM pre-screen analysis failed, a full COSIM analysis would be required.

13. Noise (BLRS Manual Section 20-6)

- ☐ The referenced project meets the criteria for a Type III project established in 23 CFR Part 772. Therefore, the proposed project requires no traffic noise analysis or abatement evaluation. Type III projects do not involve added capacity, construction of new through lanes, changes in the horizontal or vertical alignment of the roadway, or exposure of noise sensitive land uses to a new or existing highway noise source.
- ☐ Based on the traffic noise analysis and noise abatement evaluation conducted, highway traffic noise abatement measures are likely to be implemented based on preliminary design. The noise barriers determined to meet the feasible and reasonable criteria are identified on the attachment. If it subsequently develops during final design that constraints not foreseen in the preliminary design or public input substantially change, the abatement measures may need to be modified or removed from the project plans. A final decision of the installation of the abatement measure(s) will be made upon completion of the project's final design and the public involvement process.

A traffic noise analysis was performed for the 95th Street and Book Road Intersection Improvements project in Naperville, Will County, Illinois. Models were prepared for 2018 Existing, 2040 No Build and 2040 Build conditions and the model was validated with field noise measurements. The highest calculated noise level for any Representative Receptor in the 2040 Build condition was 65 dB(A), in a CNE with an adjusted NAC of 66 dB(A). Results ranged from 58 to 65 dB(A). The greatest increase from 2018 Existing to 2040 Build calculated noise levels was 2.2 dB(A). Because no traffic noise impacts were identified, noise abatement is not recommended for implementation.

See **Exhibit 13-0**.

If this project involves a new alignment, additional lanes, or involves a significant alignment change, attach a traffic noise analysis.

14. Work Zone Transportation Management Plans

Does the project intersect or follow a state route?

☐ Yes ☒ No

Is the state or local route considered a significant route?

☐ Yes ☐ No ☒ Not Applicable

If yes, describe how the Work Zone Transportation Management Plan is being implemented.

15. Complete Streets (BLRS Manual Chapter 10)

Does the project include the addition of a travel, turning, or bi-directional turn lane on a state highway?

☐ Yes ☒ No

If yes, describe how the Complete Streets Law requiring accommodating bicyclists on a state route apply.

16. **Maintenance of Traffic (BLRS Manual Section 22-2.11(b)(9))**

Discuss how vehicle traffic and pedestrians will be accommodated during construction, including the impacts of any road and/or sidewalk closure. If the road will be closed, include information concerning location of alternate routes, their ability to handle the additional traffic (street width, number of traffic lanes, structural adequacy, etc.), and the amount of adverse travel. When a marked detour route will be provided, include coordination with appropriate agencies, a description of the adverse travel, and include a map showing the alternate routes or marked detour in the report.

See **Exhibit 16-0** for MOT concept typical sections. Pedestrians will be accommodated throughout construction. Temporary signals will include pedestrian accommodations. Book Road will maintain one travel lane in each direction and left turn channelization will be maintained. 95th Street will maintain two travel lanes in each direction with left turn lanes at Book Road will be maintained.

17. **Public Involvement (BLRS Manual Chapter 21)**

- a. Summarize public informational meetings, formal public hearings, property owner signoffs, council or board meetings, media coverage, and personal contact with public. Include copies of newspaper advertisements, letter to property owners, public comments, and documents showing all public comments have been addressed.

For this project, two open house meetings and one public hearing has been conducted.

In the first public meeting, data collected was presented such as collision data, traffic projections, capacity analysis, and existing condition strip maps. A newspaper ad and a postcard invitation was developed for the notifications of this meeting. For the meeting, a brochure, sign-in sheet, and comment form was provided. All items related to public meeting one can be seen in **Exhibit 17-1**.

In public meeting two, more in depth project information was discussed such as purpose and need, capacity and operations issues, roadway alternative evaluations, costs versus delay improvement, and a strip map showing three build alternatives. A newspaper ad and a mailed invitation postcard were used to notify the public of this public meeting. A simulated traffic video showing operations with three separate build alternatives was also prepared and shown during the meeting. A sign-in sheet as well as comment form was provided for feedback on the project. All items related to public meeting two can be seen in **Exhibit 17-2**.

Public Hearing to be completed.

- b. Has any opposition been expressed toward the improvement?

☐ Yes ☐ No

If yes, briefly discuss the type and extent of opposition.

- c.

If yes, discuss how the opposition has been addressed with the property owners?

18. **Coordination: LA-IDOT-FHWA (BLRS Manual Section 22-1.02)**

Have there been any coordination meetings for this project? ☒ Yes ☐ No

If yes, list the date(s) of the coordination meeting(s) below and attach coordination meeting minutes in the report.

The initial FHWA coordination meeting was held on 6/12/2018. Goals for the project were also discussed which included, project location, project limits / logical termini, jurisdictions / adjacent land uses / key stakeholders, background and history, purpose and need, potential cost / funding, public involvement program, potential environmental impacts / proposed processing, schedule, reports, current efforts, and next steps. Meeting minutes and sign-in sheet can be found in **Exhibit 18-1**.

19. **Other Coordination**

Attach results.

20. **Summary of Commitments**

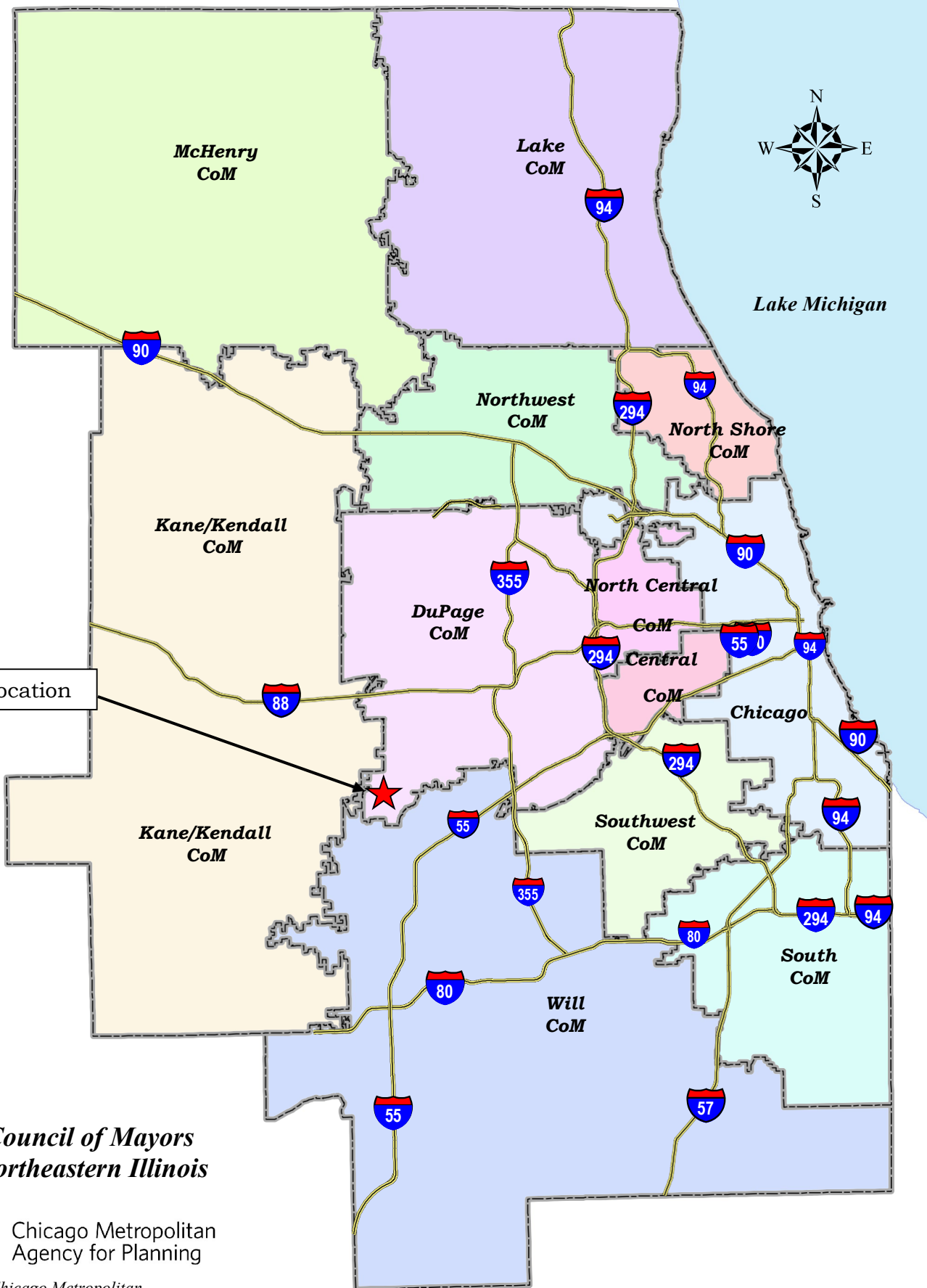
- Trees Replaced per IDOT Policy
 - PSI will be completed in Phase 2 as recommended by PESA
-

Summary of Attachments:

Exhibit 1-0	CMAP Council Location
Exhibit 1-1	Location Map
Exhibit 1-2	Functional Classification Map
Exhibit 1-3	Typical Sections
Exhibit 1-4	FEMA Flood Insurance Map & LOMR
Exhibit 1-5	Utility Coordination
Exhibit 1-6	CMAP Coordination
Exhibit 2-0	Proposed Plan and Profiles
Exhibit 2-1	Design Variances
Exhibit 2-2	Design Variance Justification
Exhibit 2-3	Preliminary Opinion of Probable Cost
Exhibit 2-4	Intersection Design Study (IDS)
Exhibit 2-5	Drainage Design Memorandum
Exhibit 3-1	Crash Information
Exhibit 9-0	PESA Summary
Exhibit 10-1	Cultural Clearance
Exhibit 10-2	Wetland Clearance
Exhibit 10-3	Biological Clearance
Exhibit 12-0	COSIM Pre-Screen Analysis
Exhibit 13-0	Noise Analysis
Exhibit 16-0	MOT Typical Sections
Exhibit 17-1	Public Meeting 1
Exhibit 17-2	Public Meeting 2
Exhibit 17-3	Public Hearing
Exhibit 18-1	FHWA/IDOT Coordination Meeting Minutes

EXHIBIT 1-0

CMAP Council
Location



Project Location

The Council of Mayors for Northeastern Illinois



Chicago Metropolitan
Agency for Planning

Chicago Metropolitan
Agency for Planning
233 S. Wacker Dr., Suite 800
Chicago, IL 60606
www.cmap.illinois.gov

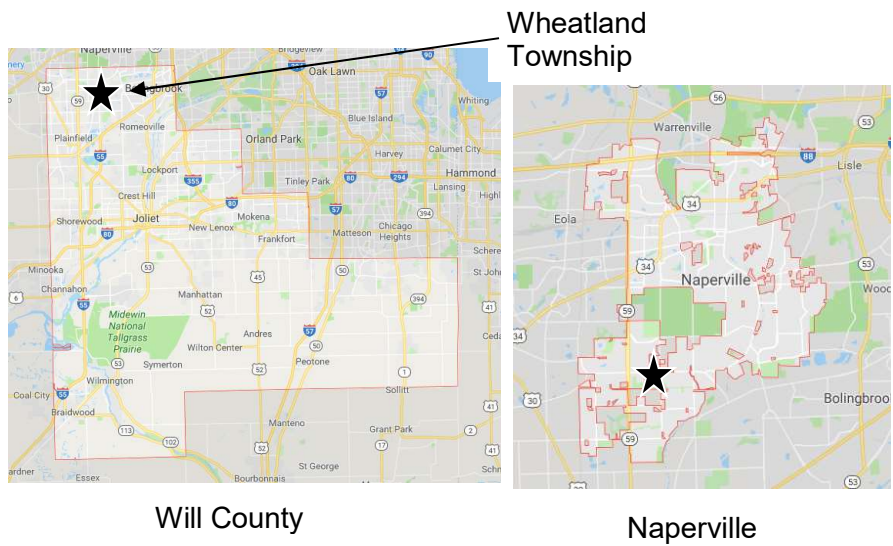
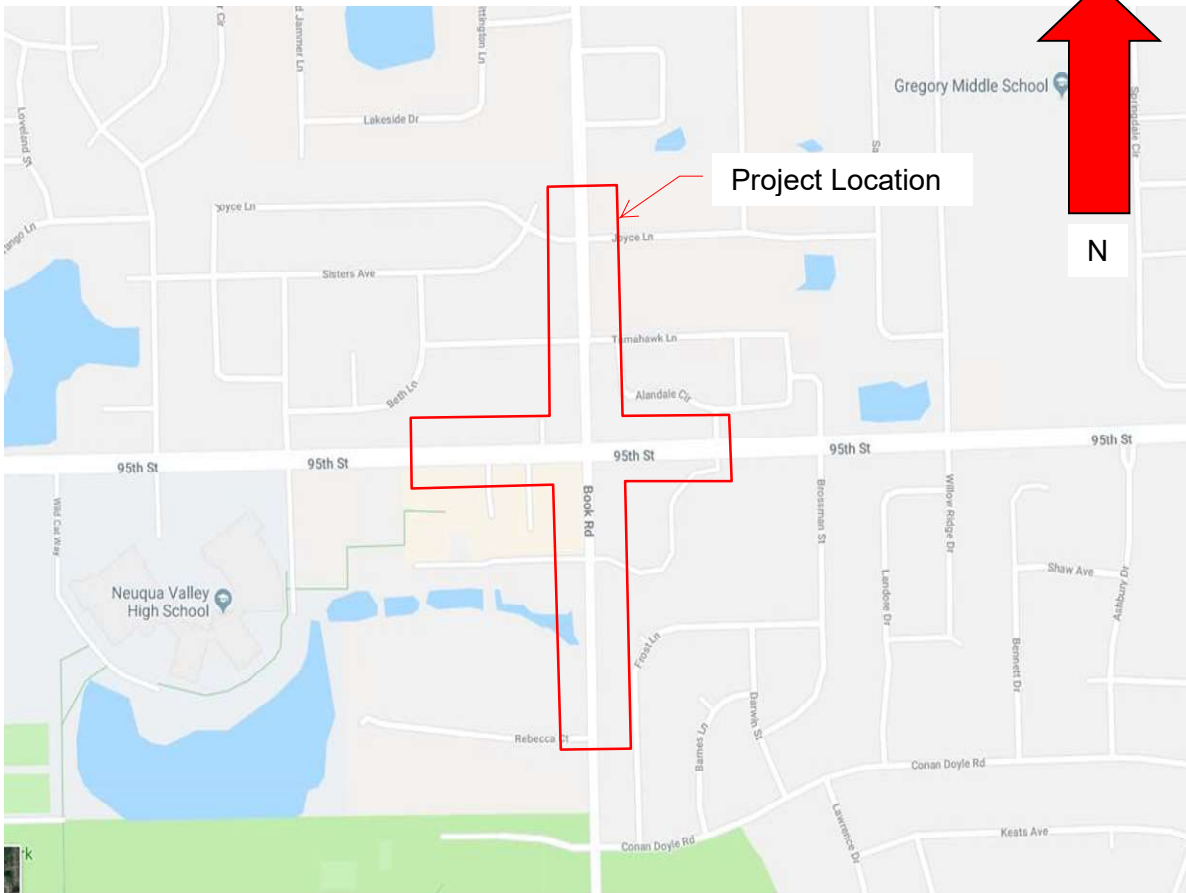
0 5 10 20 30 Miles

April, 2013

EXHIBIT 1-1

Location Map

City of Naperville 95th Street and Book Road Improvements Location Map



Note: City of Naperville is located in DuPage and Will County. Project is located in Will County

EXHIBIT 1-2

Functional Classification Map

Functional Classification Map
Book Road Reconstruction, 95th Street and Book Road Intersection Improvements
Exhibit 1-2

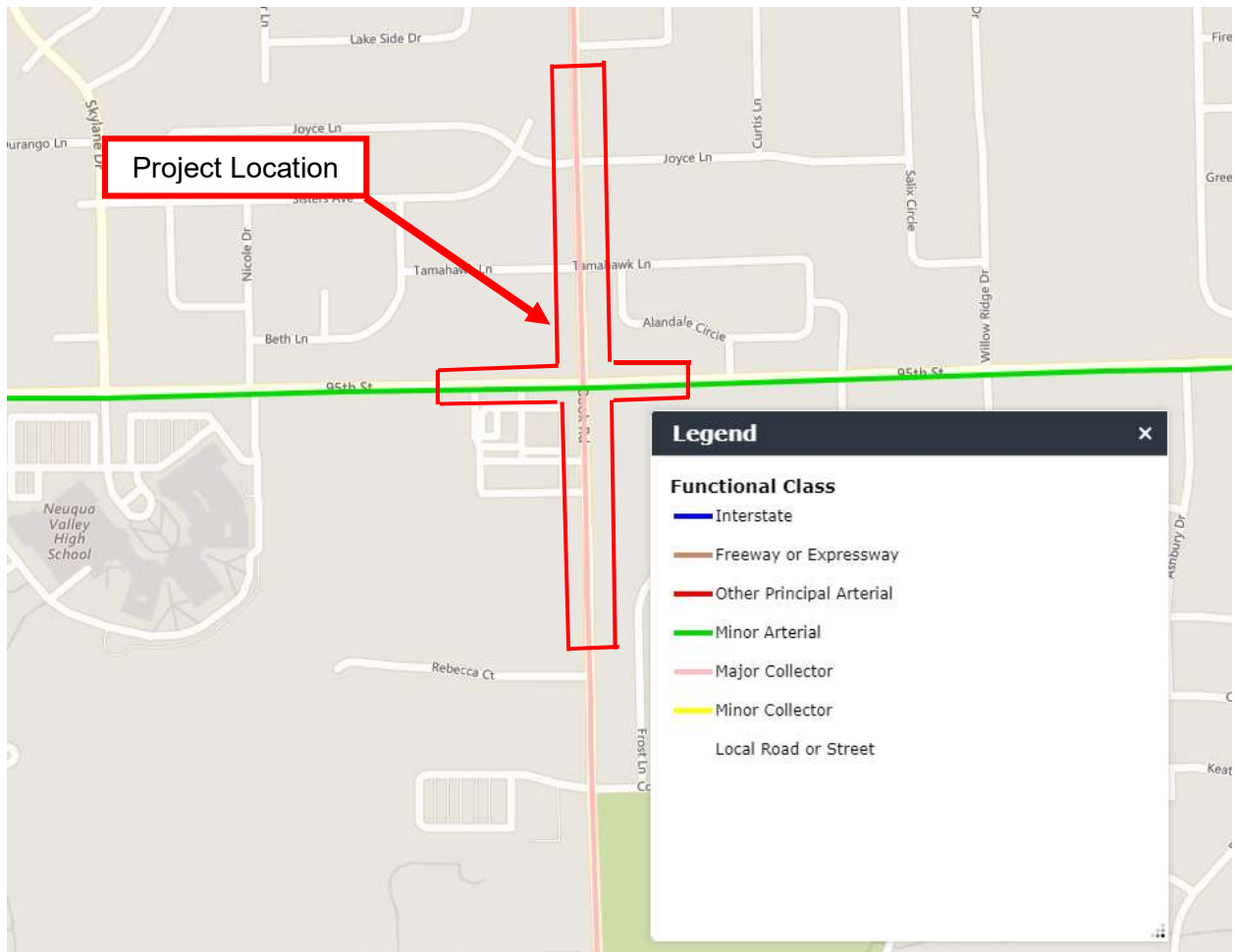


EXHIBIT 1-3

Typical Sections



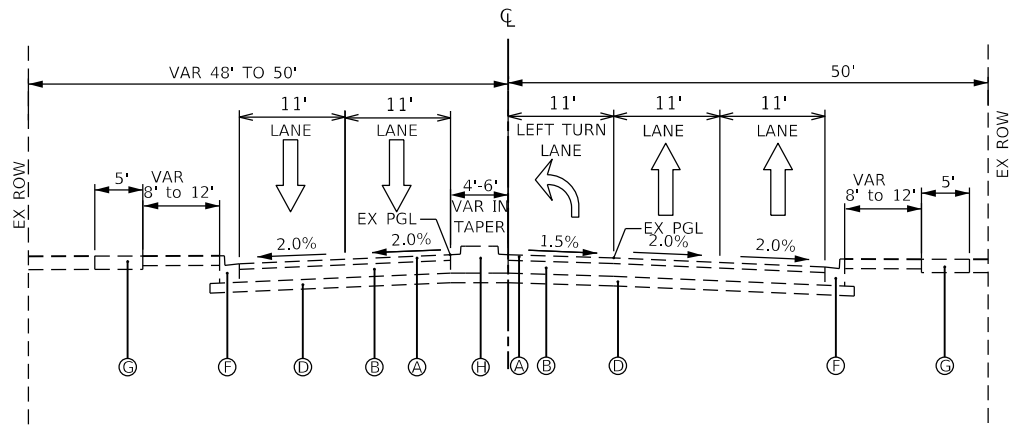
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

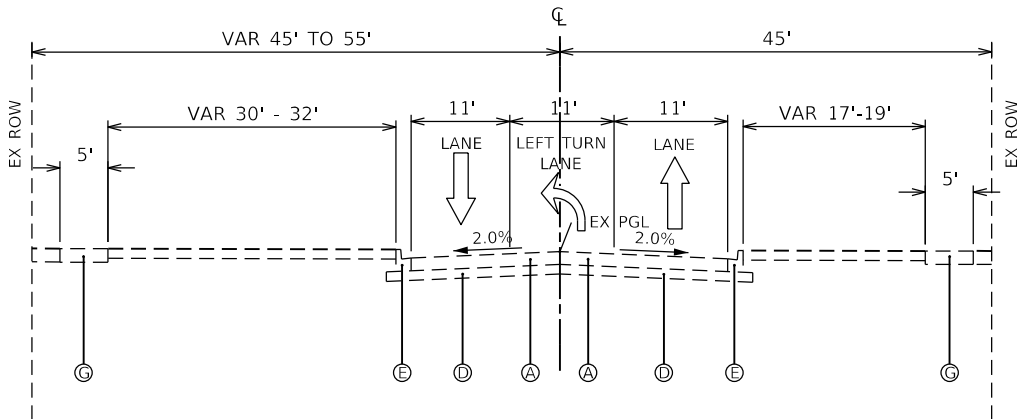
TYPICAL SECTIONS
EXISTING

SCALE: 1"=10' SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	2	2
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



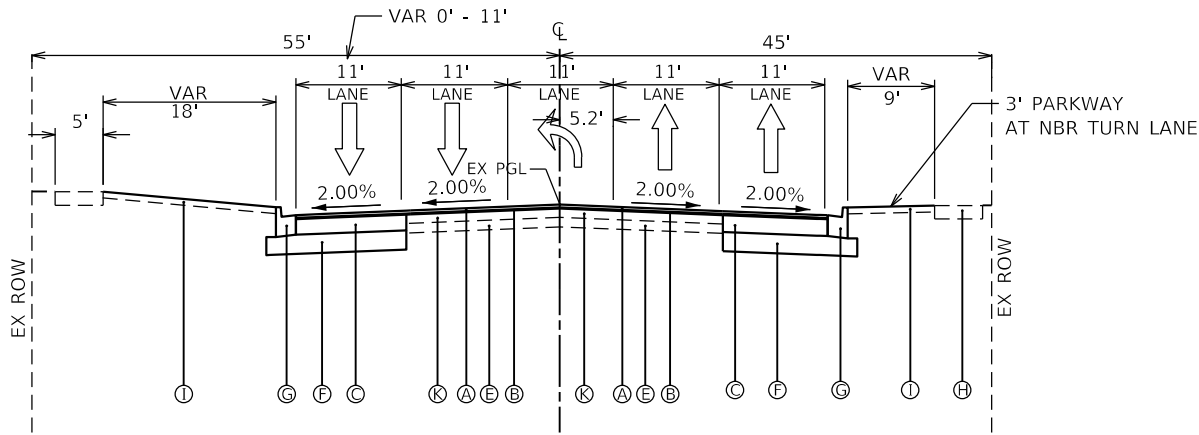
EXISTING 95TH STREET
STA. 97+50 TO 99+50



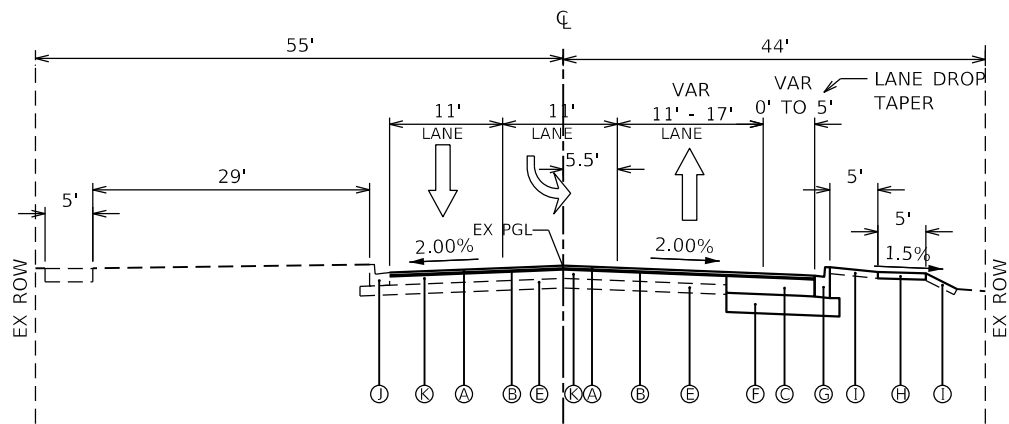
EXISTING BOOK ROAD
STA. 241+50 TO 259+00

EXISTING LEGEND

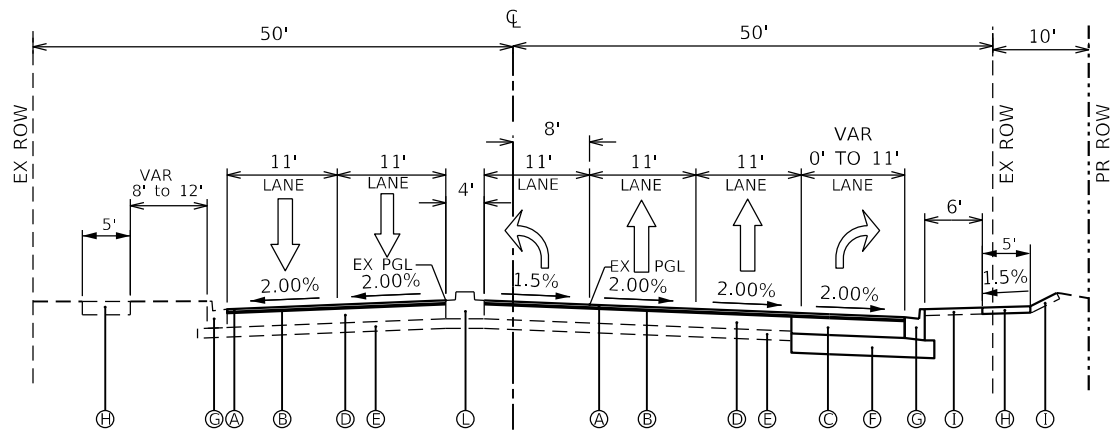
- Ⓐ EXISTING ASPHALT PAVEMENT
- Ⓑ EXISTING CONCRETE BASE COURSE
- Ⓒ EXISTING BITUMINOUS BASE COURSE
- Ⓓ EXISTING AGGREGATE SUBBASE (NOMINAL DEPTH)
- Ⓔ CONCRETE CURB & GUTTER B-6.12
- Ⓕ CONCRETE CURB & GUTTER B-6.18
- Ⓖ EXISTING PCC SIDEWALK
- Ⓖ EXISTING PCC MEDIAN



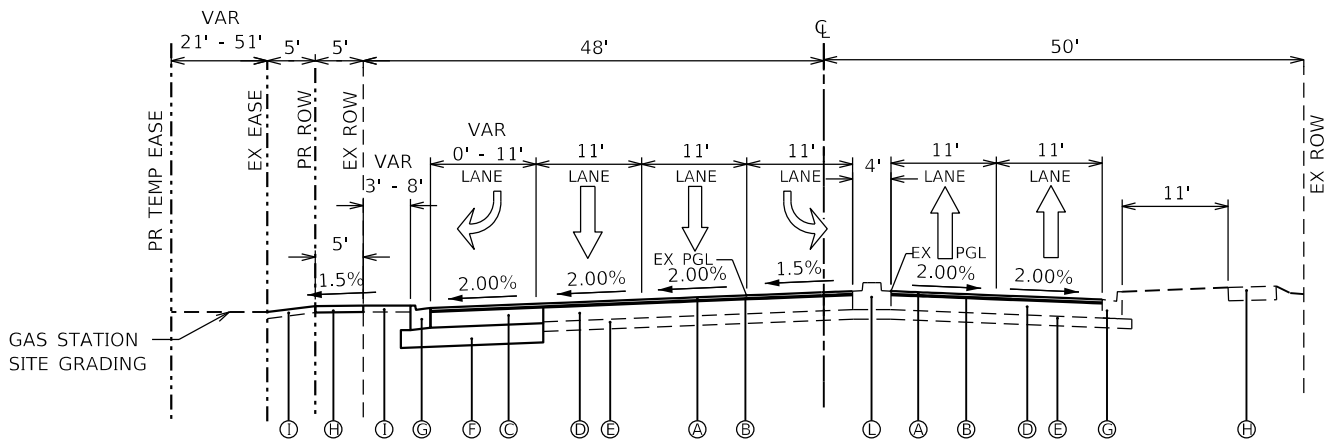
PROPOSED BOOK ROAD
240 + 00 TO 249 + 00



PROPOSED BOOK ROAD
256 + 00 TO 256 + 60



PROPOSED 95TH STREET
97 + 50 TO 99 + 00



PROPOSED 95TH STREET
101 + 50 TO 102 + 20

PROPOSED LEGEND

- Ⓐ HOT-MIX ASPHALT SURFACE COURSE
- Ⓑ HOT-MIX ASPHALT LEVEL BINDER COURSE
- Ⓒ ASPHALT BASE COURSE
- Ⓓ EXISTING CONCRETE BASE COURSE
- Ⓔ EXISTING AGGREGATE SUBGRADE
- Ⓕ AGGREGATE SUBGRADE IMPROVEMENT
- Ⓖ CONCRETE CURB & GUTTER B-6.18
- Ⓗ PCC SIDEWALK
- Ⓢ TOPSOIL
- Ⓣ EXISTING B-6.12 CURB & GUTTER
- Ⓚ EXISTING ASPHALT PAVMENT
- Ⓛ EXISTING MEDIAN



License No. 184-000613 Copyright CMT, Inc.

FILE NAME	= pr_Phi-Typical_Sections.dgn	DESIGNED	- MJW	REVISED	-
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

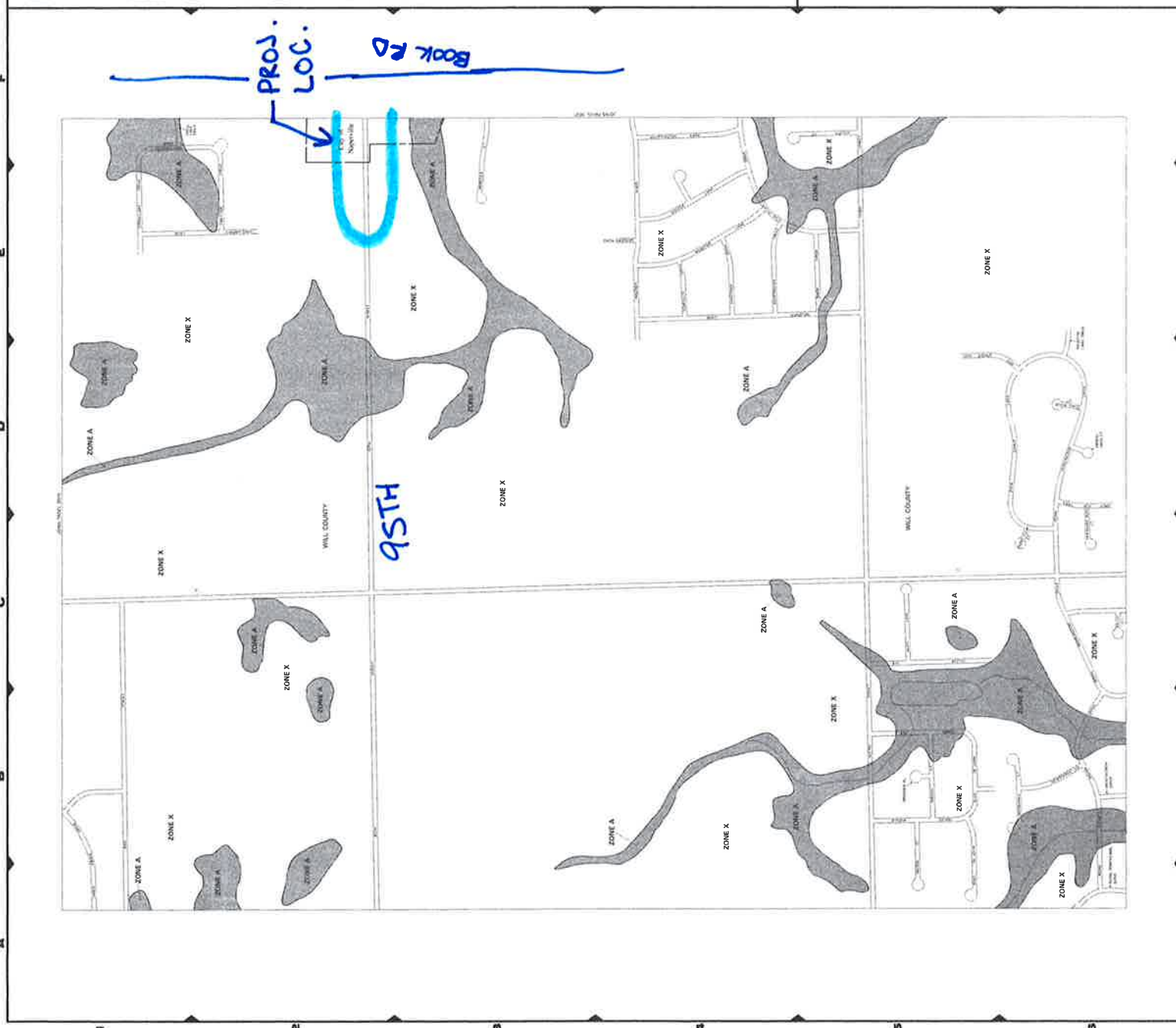
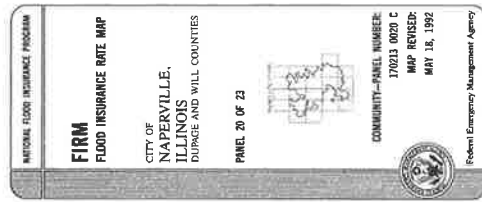
**TYPICAL SECTIONS
PROPOSED**

SCALE: 1"=10' SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	2	1
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

EXHIBIT 1-4

FEMA Flood Insurance Rate Maps
& Letter of Map Revision (LOMR)

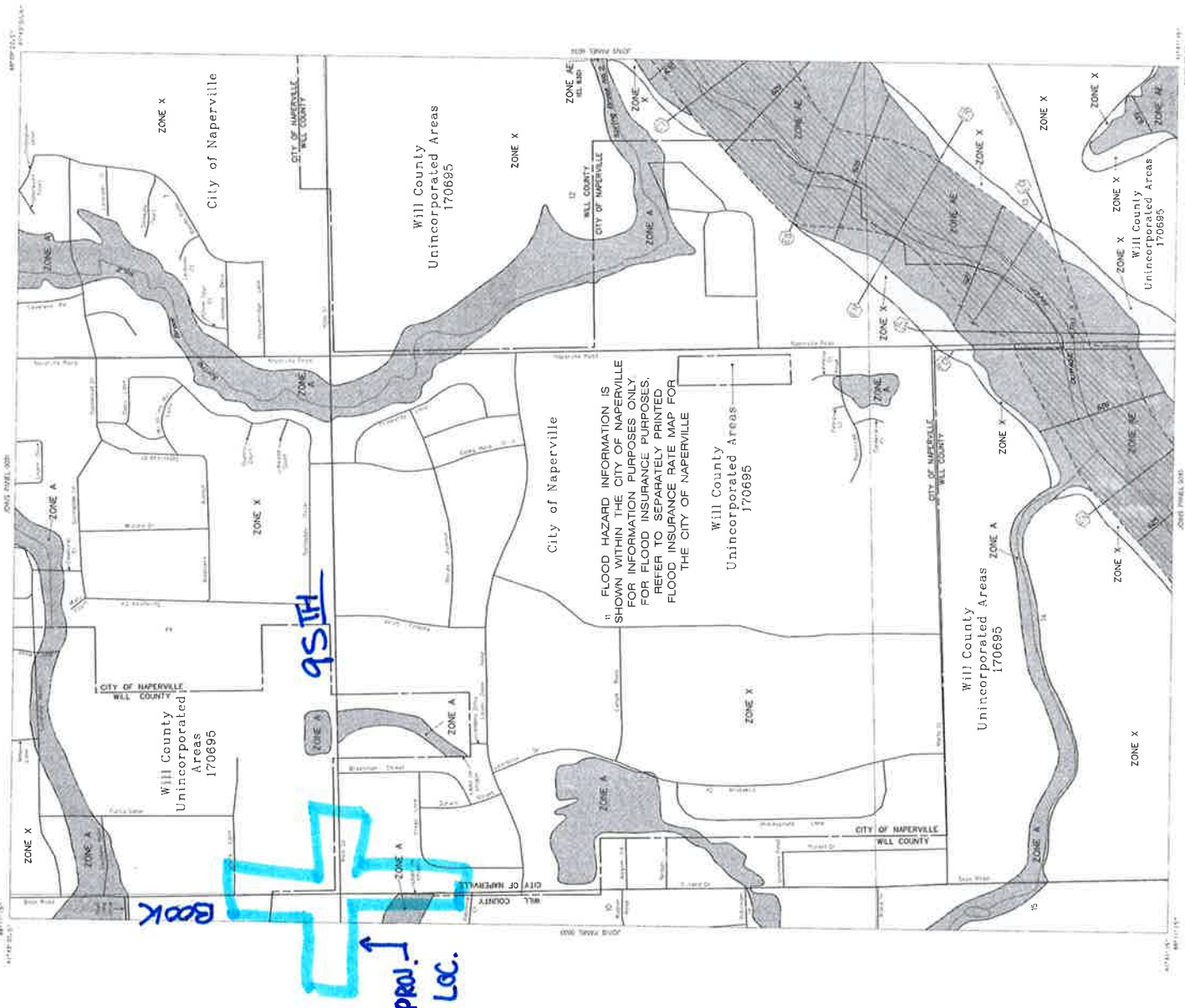


[illegible]



















































ELEVATION REFERENCE MARKS

A leveling bench on top of the monument will allow measurement of points around the monument.

STATIONING: SOUTHERN RAILROAD CO. OF N.C.

[illegible]

FLOOD HAZARD INFORMATION IS
DOWN WITHIN THE CITY OF NAPERVILLE
OR INFORMATION PURPOSES ONLY.
FOR FLOOD INSURANCE PURPOSES,
REFER TO SEPARATELY PRINTED
FLOOD INSURANCE RATE MAP FOR
THE CITY OF NAPERVILLE

 UNDESIGNED FLOOD PLAINS INDICATED BY 100, 500, 1000, 5000, AND 10000 YEAR FLOOD ELEVATIONS		 UNDESIGNED FLOOD PLAINS INDICATED BY 100, 500, 1000, 5000, AND 10000 YEAR FLOOD ELEVATIONS	
 100 YEAR FLOOD PLAIN	 500 YEAR FLOOD PLAIN	 1000 YEAR FLOOD PLAIN	 5000 YEAR FLOOD PLAIN
 10000 YEAR FLOOD PLAIN	 10000 YEAR FLOOD PLAIN	 10000 YEAR FLOOD PLAIN	 10000 YEAR FLOOD PLAIN
 FLOODPLAIN AREA IN ZONE A		 FLOODPLAIN AREA IN ZONE A	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE B		 FLOODPLAIN AREA IN ZONE B	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE C		 FLOODPLAIN AREA IN ZONE C	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE D		 FLOODPLAIN AREA IN ZONE D	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE E		 FLOODPLAIN AREA IN ZONE E	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE F		 FLOODPLAIN AREA IN ZONE F	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE G		 FLOODPLAIN AREA IN ZONE G	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE H		 FLOODPLAIN AREA IN ZONE H	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE I		 FLOODPLAIN AREA IN ZONE I	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	
 FLOODPLAIN AREA IN ZONE J		 FLOODPLAIN AREA IN ZONE J	
 OTHER FLOOD AREAS		 OTHER FLOOD AREAS	



[illegible][illegible]

DATA AVAILABILITY Data files containing the monthly frequency time series are available at <http://www.fitchratings.com/webcontent/Data%20Files>. The monthly frequency time series are available at <http://www.fitchratings.com/webcontent/Data%20Files>.

[illegible]

and the fact that the *in vitro* results are in good agreement with the *in vivo* results, it is likely that the *in vitro* results are a good approximation of the *in vivo* results.

Free Web Survey — www.aaep.com/survey — We want to hear from you! We're looking for your feedback on the new AAEP website. Please take a few minutes to complete the survey. Your input is important to us.

1000000

[illegible]

Book

SPECIAL FLOOD HAZARD AREAS IRRADIATED
BY 100-YEAR FLOOD



[illegible]

NAME _____
DATE _____
SCHOOL _____
CITY _____
STATE _____
ZIP _____
TELEPHONE _____
FAX _____
E-MAIL _____
ADDRESS _____
CITY _____
STATE _____
ZIP _____
TELEPHONE _____
FAX _____
E-MAIL _____

OTHER AREAS

State of	State Department of the Interior
State of	State Department of the Interior

UNDEVELOPED COASTAL BARRIERS

Hatched pattern
 Dotted pattern
 Diagonal line pattern

Problem: Dividing a group of 12000 people into 3 groups of 4000 each.
 Solution: 12000 / 3 = 4000

[illegible]

—PROJ. LOC.

OFFICIAL RATE OF CONTRACTS
FLUO ASSURANCE RATE WAR
 APRIL 1960

1. *Small Print* includes info on copyright, privacy, and other legal issues.

1. \mathcal{A} is a σ -algebra of subsets of Ω .
 2. \mathbb{P} is a probability measure on \mathcal{A} .
 3. $\mathbb{P}(\Omega) = 1$.
 4. $\mathbb{P}(\emptyset) = 0$.
 5. $\mathbb{P}(A) \geq 0$ for all $A \in \mathcal{A}$.
 6. $\mathbb{P}(A \cup B) = \mathbb{P}(A) + \mathbb{P}(B)$ if A and B are disjoint.
 7. $\mathbb{P}(A \cap B) = \mathbb{P}(A) \mathbb{P}(B)$ if A and B are independent.
 8. $\mathbb{P}(A \cap B) = \mathbb{P}(A) \mathbb{P}(B)$ if A and B are independent.
 9. $\mathbb{P}(A \cap B) = \mathbb{P}(A) \mathbb{P}(B)$ if A and B are independent.
 10. $\mathbb{P}(A \cap B) = \mathbb{P}(A) \mathbb{P}(B)$ if A and B are independent.

FIRM
NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP
WILL COUNTY,
ILLINOIS
AND INCORPORATED AREAS

PANEL 30 OF 585

DATE MADE 4-6-79 FIRM PRICE \$1.00 PER SHARE

FUNDING

(SEE PAGE 1)

BRIEF CASE 1-1-79

100

MAP NUMBER
17197C0030 E

EFFECTIVE DATE:
SEPTEMBER 6, 1995

LOMR



Federal Emergency Management Agency

Washington, D.C. 20472

JAN 20 1999

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable A. George Pradel
Mayor of the City of Naperville
400 South Eagle Street
Naperville, Illinois 60566

IN REPLY REFER TO:

Case Number: 98-05-365P
(follow-up to CLOMR: 96-05-2212R)
Community Name: City of Naperville,
DuPage and Will Counties,
Illinois
Community Number: 170213
Map Panel Numbers: 170213 0020
170213 0021
Map Number: 17197C0030
Effective Date of
this Revision:

JAN 20 1999

102-D

NAPER GLEN

Dear Mayor Pradel:

The Flood Insurance Rate Maps (FIRMs) for the City of Naperville and the incorporated areas of Will County have been revised by this Letter of Map Revision (LOMR) to reflect the placement of fill and a new detention pond along an unnamed tributary to the DuPage River. The subject area is located from a point approximately 500 feet south of 95th Street to a point just downstream of Book Road. This revision was initiated by Mr. John W. Stolberg, P.E., of Intech Consultants, Inc., in a letter dated August 3, 1998. A conditional LOMR was issued for this project on September 10, 1996. The subject area is shown on the City of Naperville FIRM number 170213, panels 0020 C and 0021 C, both dated May 18, 1992, and Will County, Illinois, and Incorporated Areas FIRM number 17197C0030 E, dated September 6, 1995; however, the City of Naperville has annexed this area.

We received the following data, prepared by Intech Consultants, Inc., in support of this revision:

- a map entitled Mid America Bank at Naper Glenn, dated November 14, 1997, and revised November 3, 1998, showing the "as-built" plans for the project site;
- a certified map entitled Plat of Annexation to the City of Naperville, dated November 1, 1994, showing the project area within the corporate limits of the City of Naperville;
- a letter from Mr. Stolberg to Mr. Gary Jereb, of the Illinois Department of Natural Resources (IDNR), notifying the IDNR that the project was completed and a LOMR was requested from the Federal Emergency Management Agency (FEMA);
- a letter from Mr. James P. Gierczyk, Manager of The Palmer Glenn Group, dated June 3, 1998, stating that they accept the revision to the 1% annual chance (100-year) (Zone A) floodplain on their property; and
- completed application/certification forms, including community concurrence with the request and fill certification.

Page 1

LOMR
Naperville

2

We received all data necessary to process this revision by November 24, 1998.

Based on our review of the submitted data, we are issuing this LOMR to reflect narrowing of the 1% annual chance (Zone A) floodplain along the unnamed tributary to the DuPage River. This LOMR revises the City of Naperville FIRM number 170213, panels 0020 C and 0021 C, both dated May 18, 1992, and Will County, Illinois, and Incorporated Areas FIRM number 17197C0030 E, dated September 6, 1995, as shown on the enclosed annotated portions of the digitally reproduced FIRMs. The submitted information indicated that the corporate limits for the City of Naperville have changed because of annexations. We have not reflected these corporate limits changes in this LOMR.

This revision is effective as of the date of this letter. Any requests to review or alter this determination should be made within 30 days and must be based on scientific or technical data.

We based this determination on the 1% annual chance flood discharges computed in the TR-20 hydrologic model submitted in support of the aforementioned conditional LOMR, dated September 10, 1996. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges and could, therefore, establish greater flood hazards in this area.

Your community must approve all proposed floodplain development and ensure that permits required by Federal and State law have been obtained. State or community officials, based on knowledge of local conditions, and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If the State of Illinois or the City of Naperville has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum National Flood Insurance Program (NFIP) requirements.

Because of funding constraints, we must limit the number of map republications. Consequently, we will not republish the FIRM for the City of Naperville or Will County, Illinois, and Incorporated Areas to reflect this determination. However, we will incorporate this determination when we next republish the City of Naperville FIRM number 170213, panels 0020 C and 0021 C, both dated May 18, 1992, and Will County, Illinois, and Incorporated Areas FIRM number 17197C0030 E, dated September 6, 1995.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

We have enclosed an updated version of a document entitled "List of Current Flood Insurance Study Data," which now includes this letter, to help your community maintain all information for floodplain management and flood insurance. If any of the items in that document are not filed in

Page 2

LOMR
Naperville

your community's map repository, please contact our Regional Office at the number listed below for information on how to obtain those items.

This revision has met our criteria for removing an area from the 1% annual chance (Zone A) floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to a level at or above the 1% annual chance water-surface elevation.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to "assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained." This provision is incorporated into your community's existing floodplain management regulations; therefore, responsibility for maintenance of the modified channel rests with your community. We may request that your community submit a description and schedule of channel maintenance activities.

Use the map panels listed above and revised by this letter for all flood insurance policies and renewals issued in your community.

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the Flood Insurance Study and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent state or local requirements to which the regulations apply.

If you have any questions, please do not hesitate to contact the Director, Mitigation Division of FEMA in Chicago, Illinois, at (312) 408-5529, or me at our Headquarters Office in Washington, D.C., at (202) 646-3151, or by facsimile at (202) 646-4596.

Sincerely,

William R. Blanton Jr.

William R. Blanton Jr.
Project Engineer
Hazards Study Branch
Mitigation Directorate

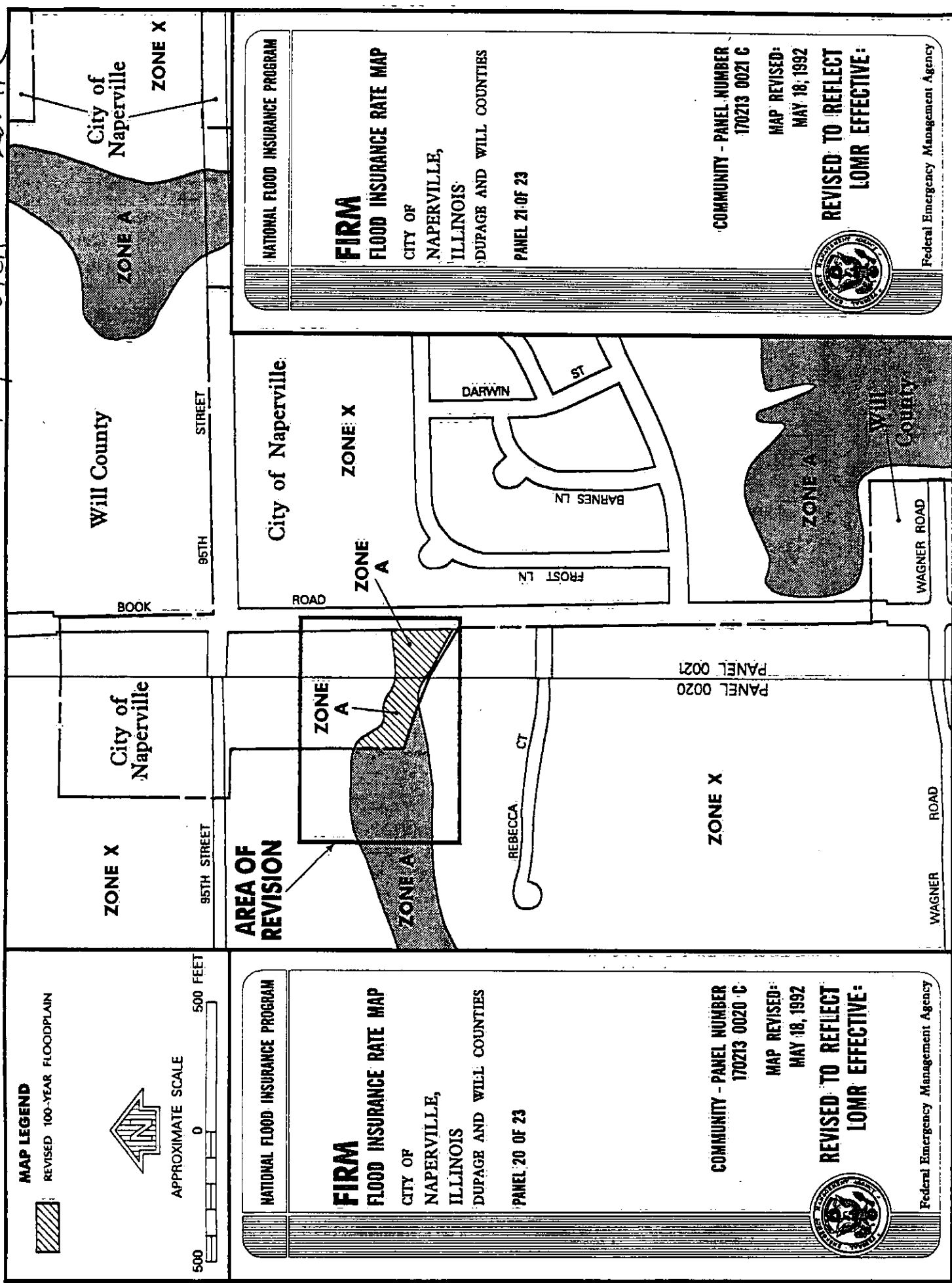
For: Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

Enclosures

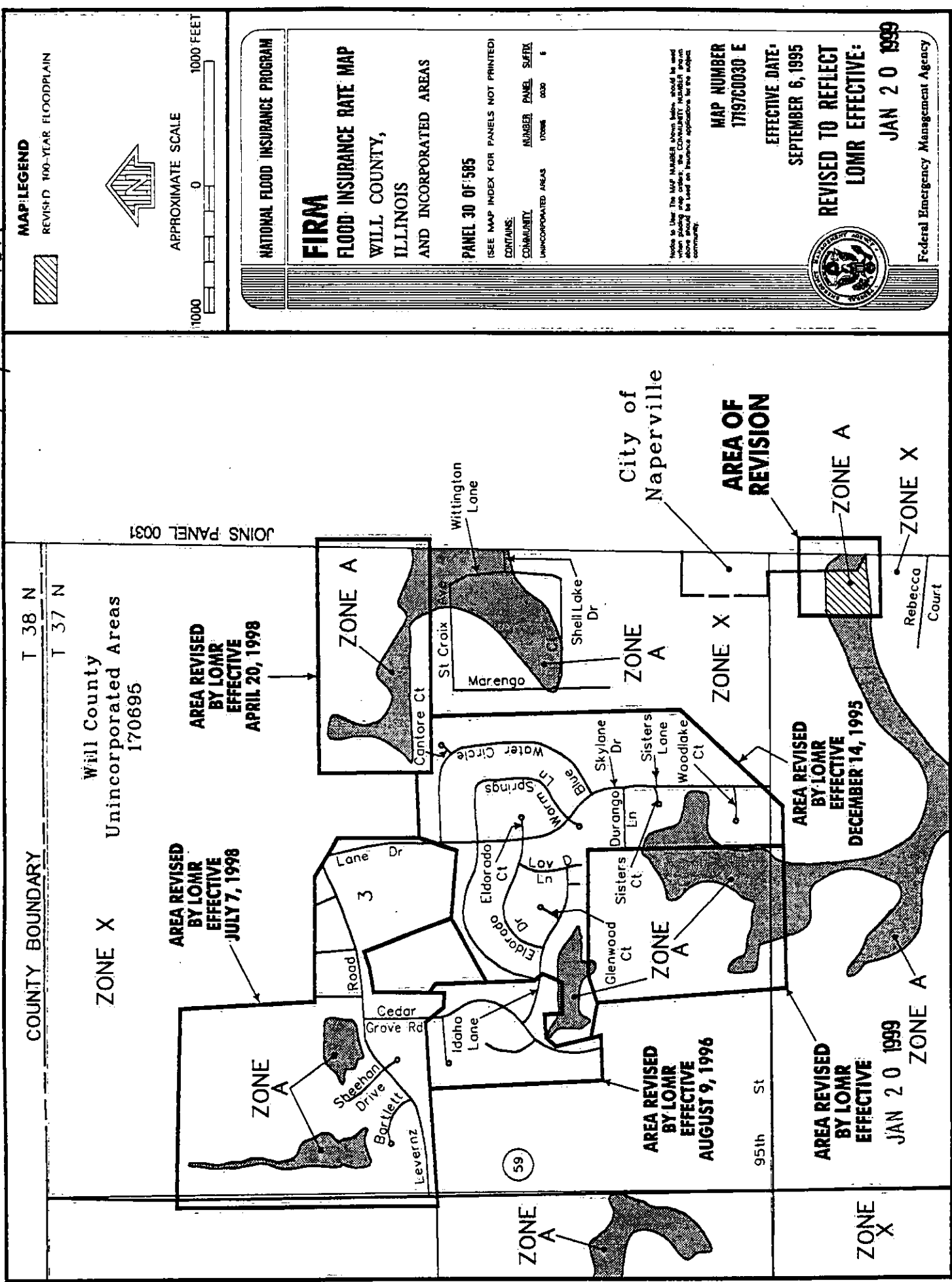
cc: Mr. William J. Novak, Design Engineer-Manager for the City of Naperville
Mr. Erskine Klyce, P.E., Senior Civil Engineer for the City of Naperville
Mr. John W. Stolberg, P.E.
Mr. James P. Gierczyk
State Coordinator

Page 3

Naper Glen LOMR



Naper Glen LOMR

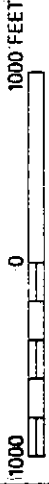


MAP LEGEND

REVISED 100-YEAR FLOODPLAIN



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP
WILL COUNTY,
ILLINOIS
AND INCORPORATED AREAS

PANEL 30 OF 585

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY

UNINCORPORATED AREAS

NUMBER

PANEL

SUFFIX

170695

0030

E

Notes to User: The Map Number shown below should be used when placing map orders. The COMMUNITY NUMBER and PANEL NUMBER shown above should be used on insurance applications for the subject community.

MAP NUMBER
1706950030 E

EFFECTIVE DATE:
SEPTEMBER 6, 1995

REVISED TO REFLECT
LOMR EFFECTIVE:

JAN 20 1999



Federal Emergency Management Agency

LOMR

NAPER GLENN FEMA MAP Rev. Index

LIST OF CURRENT FLOOD INSURANCE STUDY DATA

This list is provided to document all information currently effective for your community for insurance and floodplain management.

Date: JAN 20 1999

This list replaces
previous list dated February 6, 1998

Community: City of Naperville, DuPage and Will Counties, Illinois

Community Number: 170213

Page Number: 1 of 3

CURRENT EFFECTIVE FLOOD INSURANCE STUDY DATE: May 18, 1992

FLOOD INSURANCE RATE MAP

Index Date: May 18, 1992

Panel Numbers

0001 C, 0002 C, 0003 C, 0004 C,
0005 C, 0006 C, 0007 C, 0008 C,
0009 C, 0010 C, 0011 C, 0012 C,
0013 C, 0014 C, 0015 C, 0016 C,
0017 C, 0018 C, 0019 C, 0020 C,
0021 C, 0022 C, and 0023 C

Effective Date

May 18, 1992

LETTERS OF MAP REVISION

Panel Numbers

0011 C

Effective date

December 5, 1995
December 16, 1997

0012 C

December 16, 1997

0013 C

July 27, 1994

0015 C

May 16, 1996

0016 C

December 16, 1996

0017 C

May 6, 1993
October 20, 1993

0020 C

December 14, 1995
August 9, 1996
August 27, 1996

LOMR

Naper Glen

LETTER OF MAP REVISION (continued)

Panel Numbers

0021 C

Effective Date

November 9, 1994
December 19, 1994
August 15, 1995
October 23, 1995

0022C

October 20, 1993
June 30, 1994

17197C0030 E¹

(Will County and incorporated areas)

JAN 20 1999

JAN 20 1999

17197C0037 E¹

(Will County and incorporated areas)

May 20, 1997
February 6, 1998

17197C0045 E¹

(Will County and incorporated areas)

February 6, 1998

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL

Panel Numbers

0005 C

Effective Date

May 21, 1993

0012 C

September 10, 1993
September 30, 1993
May 3, 1996
September 20, 1996
June 25, 1997
August 29, 1997
November 26, 1997

0016C

November 19, 1993
July 13, 1995
September 28, 1995
February 29, 1996
September 6, 1996
April 21, 1997
June 18, 1997

0017 C

April 22, 1994
October 7, 1994
December 28, 1994
August 23, 1996

¹This letter revises a portion of the Will County and incorporated areas Flood Insurance Rate Map (FIRM). The area has been annexed by the City of Naperville.

LOMR

Naper Glen

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL (continued)

Panel Numbers

0021C

Effective Date

April 4, 1995

June 14, 1996

April 7, 1997

April 15, 1997

October 13, 1997

0023 C

August 11, 1994

BEST AVAILABLE DATA LETTERS

None

1. ADD 800 TO ALL PROPOSED ELEVATIONS TO OBTAIN U.S.G.S. DATUM.
2. CONTRACTOR SHALL CONTACT J.U.L.I.E. FOR EXISTING UTILITY LOCATIONS 4 HOURS PRIOR TO CONSTRUCTION.
3. SOIL BORING INFORMATION WAS OBTAINED FROM SOIL MECHANICS INVESTIGATION BY MAX L. CALHOUN DATED SEPTEMBER 12, 1980.
4. SEE SHEET B FOR TYPICAL PAVEMENT SECTION.
5. CONTRACTOR TO PROVIDE BIDDING FOR TWO CURB ALTERNATIVES FOR PARKING LOT:
 - A) BARRIER CURB
 - B) 8"-12 CURB & GUTTER
6. IF 8"-12 CURB AND GUTTER IS SELECTED, CONTRACTOR SHALL PROVIDE ROUSE PITCH GUTTER IN ALL AREAS WHERE PAVEMENT SLOPES AWAY FROM CURB. THOSE LOCATIONS ARE INDICATED BY DRAINAGE ARROWS.
7. ALL DISTURBED AREAS OF THE RIGHT-OF-WAY SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS. A MINIMUM OF TOPSOIL AND SEED IS REQUIRED.
8. SEE SHEET 5 FOR LEGEND.
9. FOR CONSTRUCTION IN FLOOD PLAIN SEE DOT/DOWM PERMIT #20400.
10. MAINTENANCE OF THE RETENTION BASIN WILL BE A RESPONSIBILITY OF THE "WATER CLEAN PARTNERSHIP ASSOCIATION".

Diagram illustrating a proposed rip-rap structure. The structure is shown as a series of circles representing stones. Key labels include:

- PROP T/C = 73.6
- 674.6
- EXISTING TRANSFORMER PAD
- RIP-RAP W/ LARGE DIAMETER STONE (EXTEND 4' BEYOND EDGE OF PAD)

DETENTION VOLUME REQUIRED: —
ON-SITE IMPROVEMENTS = 3.14 AC.FT.
COMPENSATORY STORAGE = 6.20 AC.FT.
TOTAL 9.34 AC.FT.

[illegible]

The portion of the record information detailed above that was obtained and furnished by the SURVEYOR, has been incorporated herein for information purposes only, and no opinion is expressed and no responsibility is assumed by the ENGINEER for the accuracy, veracity, or completeness of said information. Nevertheless, based upon the reliance of the information obtained and furnished by the SURVEYOR, it is my professional opinion that the design of the project is in substantial compliance with the provisions of the contract documents and the design intent of the engineering plans.

Dated this 10th day of December, 1999

Illinois Registered Professional Engineer No. 002-041809
Expires 11-30-02

1. Edward F. Siefert, a registered Professional Engineer of the State of Illinois (hereinafter referred to as the ENGINEER), hereby declares that this "Record Plan" has been prepared for a certain project known as "Naperville, Illinois, Lot 1 Waigrove" (hereinafter referred to as the PROJECT), and contains certain record information which has been obtained from certain of the following sources: Intech Consultants, Inc. (hereinafter referred to as the SURVEYOR). The "Record Plan" is not intended for use by the parties, and has been prepared for the express and limited purpose of providing the City of Naperville with a record of certain information, specifically itemized as follows:

The portion of the record information detailed above that was obtained and furnished by the SURVEYOR, has been incorporated herein for information purposes only, and no opinion is expressed and no responsibility is assumed by the ENGINEER for the accuracy, veracity, or completeness of said information. Nevertheless, based upon the reliability of the information obtained and furnished by the SURVEYOR, it is my professional opinion that the specific PROJECT components detailed above have been constructed in substantial conformance to the design intent of the engineering plans.

This statement and the record information shown constitute neither a guarantee nor a warranty, expressed or implied, as to the existence, location, or quality of the improvements installed within this PROJECT, or to compliance with the PROJECT specifications, or any other matter that was part of the work or within the control of the

Dated this 5th day of June, 1997

Illinois Registered Professional Engineer No. 062-04-0000
Expires 11-30-97

I, Edward F. Senter, a registered Professional Engineer of the State of Illinois (hereinafter referred to as the ENGINEER), hereby declare that this "Record Plan", has been prepared for a certain project known as Napier Glenn, Lot 3 (hereinafter referred to as the PROJECT), and contains certain record information which has been obtained by the surveyor, Intech Consultants, Inc. (hereinafter referred to as the SURVEYOR). This "Record Plan" is not intended for use by third parties, and has been prepared for the express and limited purpose of providing the City of Naperville with a record of certain information, specifically demarcated as follows:

High and low point top-of-curb and/or pavement grades

— FOR PAVEMENT DESIGN SEE
"BOOK ROAD" PLANS BY
INTECH CONSULTANTS

The portion of the record information detailed above that was obtained and furnished to the ENGINEER by the SURVEYOR, has been incorporated herein for information purposes only, and no opinion is expressed and no responsibility is assumed by the ENGINEER for the accuracy, veracity, or completeness of said information. Nevertheless, based upon the reliability of the information obtained and furnished by the SURVEYOR, it is the professional opinion that the specific PROJECT components detailed above have been constructed in substantial conformance to the design intent of the engineering plans.

This statement and the record information shown constitute neither a guarantee nor warranty, expressed or implied, as to the existence, location, or quality of the improvements installed within this PROJECT, or to compliance with the PROJECT specifications, or any other matter that was part of the work or within the control of the CONTRACTOR.

Dated this 16th day of December, 1997

Illinois Registered Professional Engineer No. 062-041806
Expires 11-30-99

RECORD PLAN

JMS		AS OF 12-10-96		JMM	
JMM		LOT 1 06-05-97		JMS, LOT 3 12-16-97 JMS	
BC	DRAWN	SCALE	SHEET		OF
BC	B.C.	1" = 30'	4		9
BC	CHECKED	DATE	PROJECT NO.		
BC	D.J.	9-25-95	89010-A		
BY					

INTECH CONSULTANTS, INC.
5413 WALNUT AVE. DOWNERS GROVE, ILL.

ENGINEERS SURVEYORS

PALMER GLENN GROUP
16200 CLINTON
HARVEY, IL. 60426

NAPER GLENN

GRADING PLAN

09-16-97 11		FIELD CHANGE	JIS	AS OF 12-10-96		JMM
08-15-97 10		FIELD CHANGE	JIS	LOT 1 06-25-97		JIS, LOT 3 12-16-97 JIS
10-05-96 9		NO REV.	JMM	DRAWN		SHEET
09-24-96 9		FIELD CHANGE	JMM	B.C.		1" = 30'
08-01-90 5		NO REV.	—	CHECKED		DATE
07-01-96 5		FIELD CHANGE	BC	D.J.		9-25-95
03-08-96 5		PER CITY REVIEW	BC			PROJECT NO.
01-12-96 3		PER CITY REVIEW	BC			89010 - A
11-10-95 2		PER BURGER KING REVIEW	BC			
10-24-95 1		PER WALGREENS REVIEW	BC			
DATE	NO	REVISION	BY			

EXHIBIT 1-5

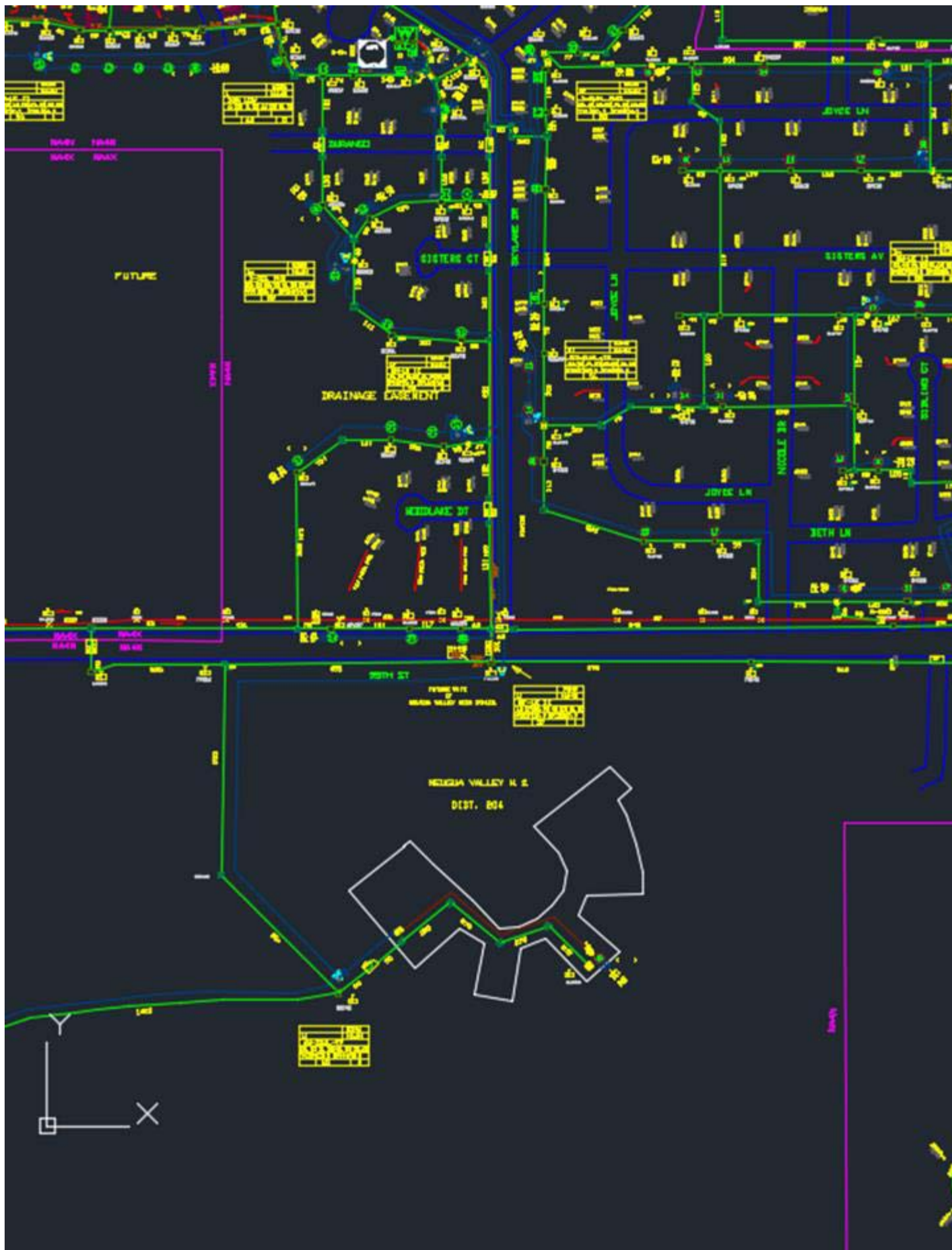
Utility Coordination

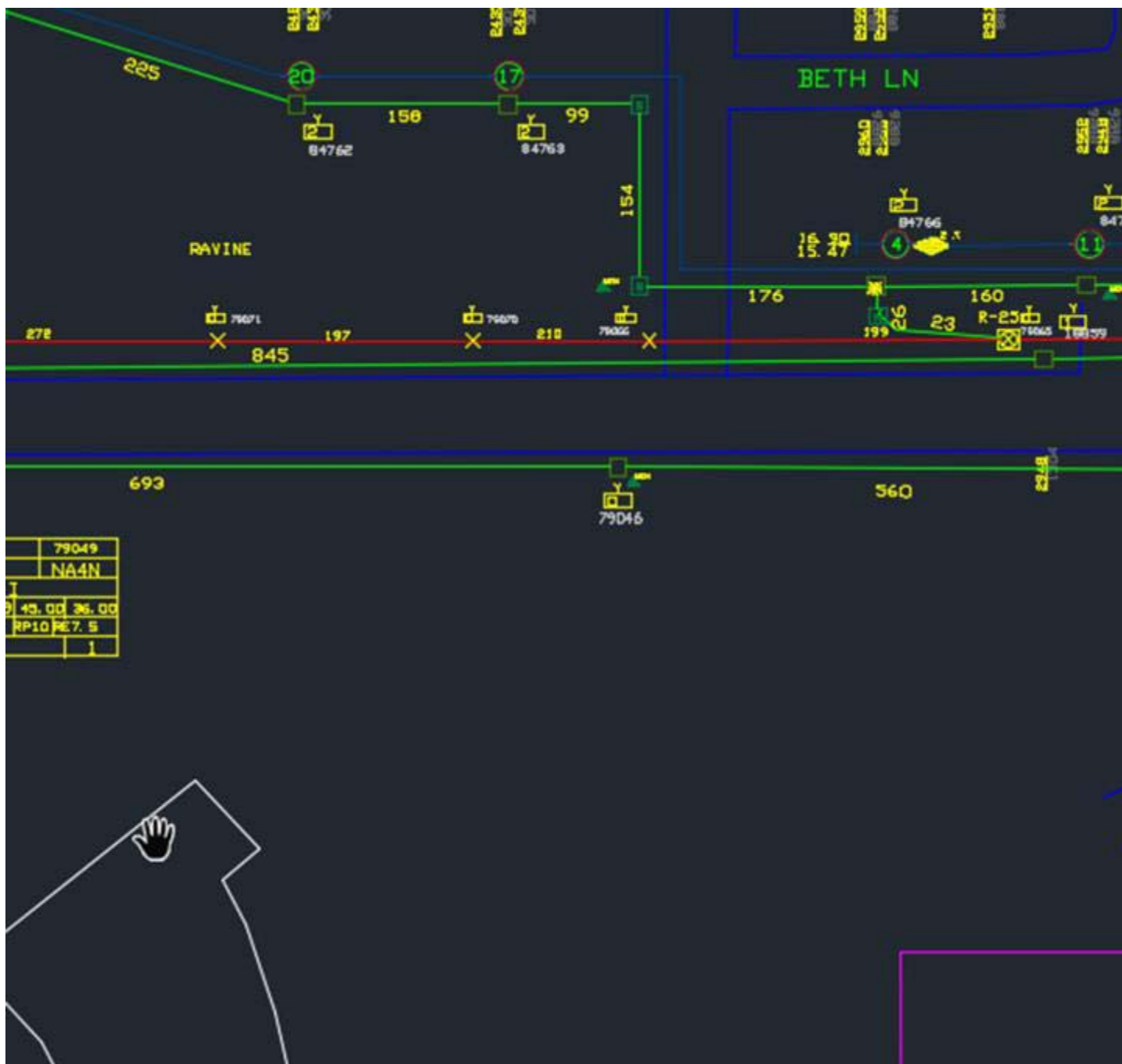
Mike Wittkop

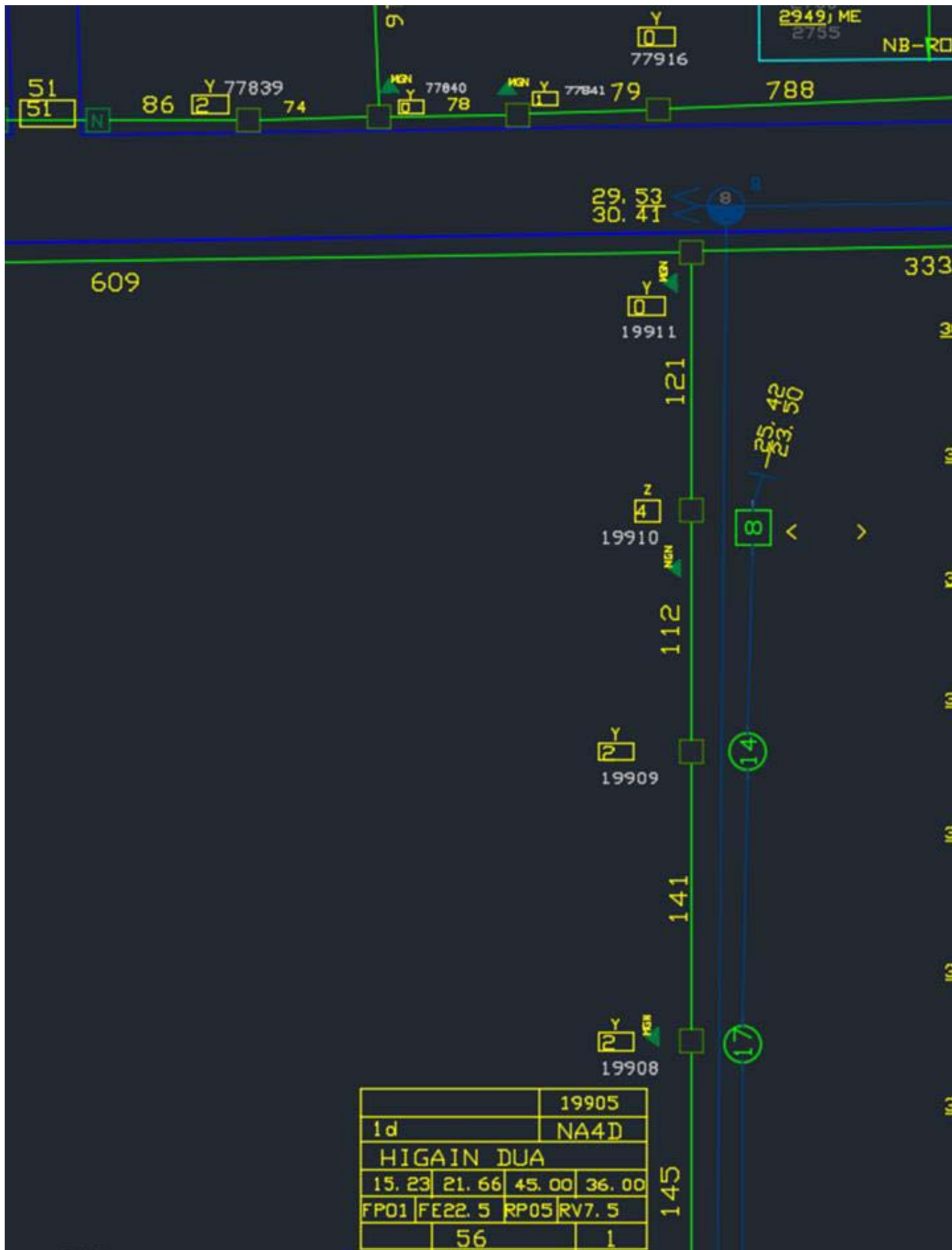
From: Kevin Rhodes <Kevin.Rhodes@wowinc.com>
Sent: Monday, April 9, 2018 10:00 AM
To: Mike Wittkop
Cc: Paul Flinkow
Subject: JULIE Design Req. X0670999

Mike,

Attached are drawings of how our service lines run through your project area.
The first drawing is of our fiber service. These are Underground fiber lines







crossing highlighted in yellow

Thanks

Kevin Rhodes

Construction Engineer

WOW! internet, cable & phone

desk: **mobile:** 630-930-7597 **fax:** 630-536-3106

WOW!



Mike Wittkop

From: Kevin Martinich <KevinM@wheatlandroaddistrict.com>
Sent: Thursday, March 8, 2018 11:44 AM
To: Mike Wittkop
Cc: Info Wheatland Road District
Subject: Wheatland Twp. utilities for 95th & Book Rd.
Attachments: Book&95thWheatland.PNG

Mike,

Attached a Google shot of the area I highlighted them.

There is a street light NE corner which is ours and storm sewer that daylights on Book Rd. roughly 350' north of Rebecca Ct. west side.

Any questions please call.

Kevin Martinich
Wheatland Township Road District
4232 Tower Ct
Naperville, IL 60564
(630) 717-0092
<http://www.wheatlandtownship.com/>



https://www.facebook.com/wheatlandtownshiproaddistrict/?ref=aymt_homepage_panel

Mike Wittkop

From: Koppang, Bruce A. <BKoppan@southernco.com> on behalf of gasmaps
<gasmaps@aglresources.com>
Sent: Tuesday, May 22, 2018 9:10 PM
To: Mike Wittkop
Subject: JULIE X0670999; Eng. # SC15236
Attachments: SC15236 3134111.pdf; SC15236 3134102.pdf; SC15236 3134034.pdf; SC15236 3134023.pdf
Sensitivity: Confidential

Your project has been assigned Engineering #SC15236. Please refer to this number in all future correspondence to assist with expediting any future inquiry.

Details are shown in noted 'boxes'. These details will be provided upon specific request through email if needed. The box title noted on the bottom is required.

Note: Nicor does not field mark 'Design' stage tickets and services typically are not shown on atlas sheets.

With reference to your request received for main details, I am sending atlas page(s) indicating the location of our gas main(s) in the area of your proposed project. **The dimensions and location of Nicor Gas utility facilities as shown on these plans are an estimate for design purposes only, and are not intended for use as field locations for construction. Nicor Gas does not warrant accuracy. These pages are considered confidential. Please handle these pages accordingly. Review and verify that the page(s) attached is the area of your request.** If this is not the page you have requested or you require additional pages, please advise and correction will be made. Please feel free to contact me if you need assistance in reading the attached pages. The date of this email represents the date of the attached page(s) most recent version and should be considered the applicable date/time stamp.

If potential conflicts are anticipated, please supply us with a large set of pre-final/final plans including right-of-way and cross-sections and ample time for design and relocation of our mains and services (if necessary) to adhere to your tentative scheduled letting date. Ample time requires a minimum of 6 months for design and planning. This time does not take into consideration the installation our mains and services or reimbursable requirements if applicable.

Utility rights are generally documented through permit, license or easement and in some cases, Nicor Gas may own property. It is up to the requesting/design party(s) to research existing land rights of their proposed project. Nicor Gas will perform its own investigation to determine if any portion is reimbursable when construction is requested to relocate gas main.

Please phone JULIE at 811 OR 1-800-892-0123, 48 hours prior to construction for location of our facilities within your proposed improvement.

Bruce Koppang
DOT Liaison - Engineering
Nicor Gas
1844 Ferry Rd.
Naperville, IL 60563
Office: 630.388.3046



The information contained in this e-mail message and accompanying documents is intended for the confidential use of the recipient only and is the property of Nicor Gas Company. If the reader of this e-mail message is not the intended recipient, or an employee or agent responsible for delivery of this e-mail message to the intended recipient, you are hereby notified that any dissemination, distribution, copying or forwarding of this e-mail message is strictly prohibited. If you received the e-mail in error, please notify me immediately. Thank you.

Mike Wittkop

From: Bolster, Bill <BolsterB@naperville.il.us>
Sent: Friday, March 9, 2018 9:14 AM
To: Mike Wittkop
Subject: Design JULIE Dig #X0670999
Attachments: 95 book.JPG

Mike,

Hope this helps. Blue is City water main the blue circles within are water valve structures that will require adjustment, the red feature at the NWC is a hydrant. Green is sanitary.

William Bolster, City of Naperville
Utility Inspection Supervisor, DPU-W
630-420-4122

Mike Wittkop

From: Janusz, Kandice <KandiceJanusz@usicllc.com>
Sent: Tuesday, March 13, 2018 1:46 PM
To: Mike Wittkop
Subject: FW: Design Ticket X0670999
Attachments: UG Locating Map Legend.pdf; 473-02S-UGL.pdf; 473-03S-UGL.pdf; 474-10N-UGL.pdf; 474-11N-UGL.pdf

Kandice Janusz

Admin
O: 630-396-8225
F: 630-396-8230

860 Oak Creek Dr
Lombard, IL 60148
USICLLC.com



PROTECTING INFRASTRUCTURE

From: Janusz, Kandice
Sent: Friday, March 9, 2018 5:18 AM
To: mwittkop@cmtenger.com
Subject: Design Ticket X0670999

Mike

If your project is regarding new or renovation construction, supplied electrical voltage needs, or changes in current electrical demands, you must contact ComEd's New Business office at 1-866-NEW-ELEC (1-866-639-3532) to begin the process to complete your request.

If your project is for a publicly funded improvement project such as road widening, sewer, water, or other general public improvement, please call ComEd's Public Relocation Department at 630-437-4855.

ComEd has forwarded your JULIE Design Stage Ticket – [X0670999 – Naperville](#) to our company to provide the attached prints as you requested. I have also attached a ComEd Legend relative to these prints. Note that since we are submitting this information for ComEd, you may need to contact ComEd directly to further develop your project.

It is very important to note that you must take additional steps if your project is for a new or revised electric service or for a publicly funded roadway improvement project.

Have a Great Day & Keep it Safe.

Administrative Asst.
Phone : 630-396-8220

Fax: 630-396-8230



RECEIVED

March 29, 2018

APR 02 2018

Initial: _____

Crawford, Murphy & Tilly, Inc
550 North Commons Dr, Ste. 116
Aurora, IL 60504
Attn: Mike Wittkop, Senior Engineer

**Re: Utility Information Request
Book Rd at 95th St
Naperville, Illinois
JULIE Design Request #X0670999**

Dear Mr. Wittkop:

As requested, enclosed are Comcast system drawings that have been highlighted to indicate the approximate location of our aerial (yellow) and underground (magenta) facilities within and/or adjacent to the referenced project limits..

Feel free to contact us if you have any questions about this information..

Very truly yours,

Robert L. Schuler, Jr.
Central Division Director of Construction

By:

Thomas Munar
Right-of-Way Engineer
(224) 229-5851

Encl: 2 Drawings

Mike Wittkop

From: ATT CIVIC PROJECT ENG IL <g11629@att.com>
Sent: Wednesday, March 28, 2018 1:03 PM
To: Mike Wittkop
Subject: AT&T Facility Map request JULIE Ticket # X0670999 / Naperville
Attachments: Location Map_95th & Book.pdf; CRAWFORD_NapervilleX0670999_9101.zip

Mike,

I have attached maps with the type of facilities AT&T has within your project location. AT&T does not have as-built drawings or atlases that we can provide with accurate locations of our facilities. If you include these facilities on your plans, please note that they are SUE Quality Level D.

Once you have scalable plans and have determined there may be possible conflicts with AT&Ts facilities, please forward to us so we may provide you with an approximate SUE quality drawing.

An AT&T Ref # will be provided once AT&T receives the plans. Please include your Julie Ticket # with your reply until we provide an AT&T reference #.

Email plans to (g05256@att.com)

OR mail all related plans to:

Janet Ahern

AT&T Legal Mandate Engineering

1000 Commerce Drive Oak Brook, IL 60523

As always, call J.U.L.I.E. 48 hours prior to any digging.

Any questions or concerns, please contact me directly.

Kind Regards,

Donna Szpytek

Manager - OSP Planning & Engineering Design

AT&T Technology Operation, Construction & Engineering - MW

AT&T

1000 Commerce Drive, Oak Brook, Illinois 60523

Office 630.573.5530 | ds2674@att.com

MOBILIZING YOUR WORLD

From: Mike Wittkop [<mailto:mwittkop@cmtengr.com>]

Sent: Thursday, March 08, 2018 11:22 AM

To: ATT CIVIC PROJECT ENG IL <g11629@att.com>

Cc: AHERN, JANET C <ja1763@att.com>

Subject: JULIE Design Req. X0670999

Please find attached the approximate area of improvements for the project related to dig number X0670999 (T37N, R9E, Sections 2, 3, 10, and 11). The project will include intersection improvements and widening of both 95th Street and Book Road in the City of Naperville, Illinois.

We kindly request at this time utility information for this future project. Should you have any questions or require additional information, please feel free to contact me.

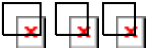
MIKE WITTKOP, P.E. | Senior Engineer



Crawford, Murphy & Tilly | Engineers & Consultants

550 North Commons Drive, Suite 116 | Aurora, IL 60504

w 630.907.7056 | m 630.336.2700 | f 630.820.0350 | mwittkop@cmtengr.com



Centered in Value

Mike Wittkop

From: OCARS_Pro@Julie1Call.com
Sent: Thursday, March 8, 2018 10:50 AM
To: Mike Wittkop
Subject: JULIE EMLCFM 2018/03/08 #00183 X0670999-00X NORM NEW DSGN

EMLCFM 00183 JULIEx 03/08/18 10:49:30 X0670999-00X DESIGN

Thank you for contacting JULIE, Inc. regarding your upcoming digging project.

Please review and print your locate request ticket below for your records. If any of the information is incorrect, please contact a JULIE call center agent by simply dialing 811 or 800-892-0123 and refer to the locate request number. The agents are available 24/7.

For information about the next steps in the process, a copy of JULIE's Homeowner's Guide, and an explanation of the color-code markings, visit www.illinois1call.com/homeowners/whatnext.html

Dig No : X0670999 Rev : 00X Digstart: 09/08/18 10:43
Rcvd : 03/08/18 10:49 Priority: 2 Expires : 01/01/00 00:00
Org Dig: X0670999 Rcvd: 03/08/18 10:43

Firm : CRAWFORD MURPHY AND TILLY Caller: MIKE WITTKOP
CoAddr1: 550 N COMMONS DR SUITE 116
City,St: AURORA, IL Zip : 60504
Phone : 630-820-1022 Ext :
Call Bk: Done For :
SiteCnt: SAME AS ABOVE
Email : MWITTKOP@CMTENGR.COM

County : WILL Place: NAPERVILLE CIT
Address: 95TH ST
Subdiv : Cross: BOOK RD

Grids : T37NR09E02SW T37NR09E03SE T37NR09E10NE T37NR09E11NW

BestFit: 41.714186/-88.187670 41.710153/-88.182118
: 41.709842/-88.190825 41.705809/-88.185273
PreMark: NO Directional Boring: NO Depth>7Ft: NO
Locatn : IN THE CITY OF NAPERVILLE,
WrkType: DESIGN STAGE: FOR INTERSECTION IMPROVEMENTS
Extent : WORK WILL BE DONE AT THE ABOVE INTERSECTION AND 1000 FT IN EACH
: DIRECTION
Remarks: WORK TYPE CONT: ROAD WIDENING

Members:

AMNM0A WIDE OPEN WEST	PAUL FLINKOW-630-803-966 630-536-3139
PAUL.FLINKOW@WOWINC.COM	
ATTD5A ATT/DISTRIBUTION	. 000-000-0000
g11629@att.com	
CECO0A COMED	DESIGN STAGE LOCATE LINE 630-576-7094
COMC0A COMCAST	MARTHA GIERAS 224-229-5862
MARTHA_GIERAS@COMCAST.COM	
NICR0A NICOR GAS	UTILITY CONSULTANT GO3W 630-388-2362
NPVL0A NAPERVILLE, CITY OF	PATRICK SAMEK 630-420-6187
USIC0A USIC LOCATING SERVICES	Information not provided

WLRD0A WHEATLAND TOWNSHIP ROAD DIST ROAD DISTRICT
info@wheatlandroaddistrict.com
WLRD1A WHEATLAND TOWNSHIP ROAD DIST ROAD DISTRICT
INFO@WHEATLANDROADDISTRICT.COM

630-717-0092x3

630-717-0092x3

View map at:

http://newtin.julielcall.com/newtinweb/map_tkt.nap?TRG=D2zzyy1DgLfKVJ2-1

EXHIBIT 1-6

CMAP Coordination



March 26, 2018

Mr. Jose Rodriguez
Senior Planner, Research and Analysis
Attn: Traffic Projections
Chicago Metropolitan Agency for Planning (CMAP)
233 South Wacker Drive, Suite 800
Chicago, Illinois 60606

Re: 95th Street at Book Road – City of Naperville
2040 Traffic Projections at the intersection of 95th St. at Book Rd.
Naperville Project No. 17-122; CMT Project No. 18230-01-00 -01-03

Dear Mr. Rodriguez:

The City of Naperville has retained Crawford, Murphy & Tilly, Inc. (CMT) to prepare a Phase I Study for intersection improvements of 95th Street at Book Road. As part of this project, we will prepare an Intersection Design Study at the intersection of 95th Street at Book Road. This capacity improvement is being performed to address existing congestion issues. The area adjacent to the improvement is fully developed. The improvement will likely include additional northbound/southbound thru lanes with right turn channelization on some approaches as necessary. The proposed improvements will not change the roadway network and traffic patterns. A sketch is attached to illustrate the existing traffic. We are seeking projected 2040 ADT at this intersection.

Thank you for accommodating our request. If you have any questions or require any additional information, please contact me at (630) 907-7059 or ccole@cmtengr.com.

Sincerely,

CRAWFORD, MURPHY & TILLY, INC.

A handwritten signature in black ink, appearing to read "Charles Tice", written over a horizontal line.

Charles "Tice" Cole, P.E., PTOE
Project Manager

enclosures: location map, traffic sketch
cc: Kelly Dunne (Naperville), CMT File 18230-01-00-01-03

TRAFFIC FORECAST RECORD

Record Number: du-13-18

Type of Report: Projection

Analyst: BER

Organization requesting forecast: Crawford, Muphy, & Tilly

Contact: Brad Fotsch

Phone number: (630) 820-1022

Sponsor: City of Naperville

Date request was received: March 26, 2018

Date that response was mailed or faxed: March 27, 2018

Facility Location: 95th St @ Book Road

Municipality: Naperville



Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606
312 454 0400
www.cmap.illinois.gov

March 27, 2018

Hon. Steve Chirico
Mayor
City of Naperville
400 S. Eagle Street
Naperville, IL 60540

Subject: 95th St @ Book Road
City of Naperville

Dear: Mayor Chirico

In response to a request made on your behalf and dated March 26, 2018, we have developed year 2040 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2040 ADT
Book Rd (North of 95th St)	13,774	17,000
Book Rd (South of 95th St)	13,712	18,000
95th St (West of Book Rd)	20,626	30,000
95th St (East of Book Rd)	20,798	30,000

Traffic projections are developed using existing ADT data provided in the request letter and the results from the October 2017 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the GO TO 2040 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

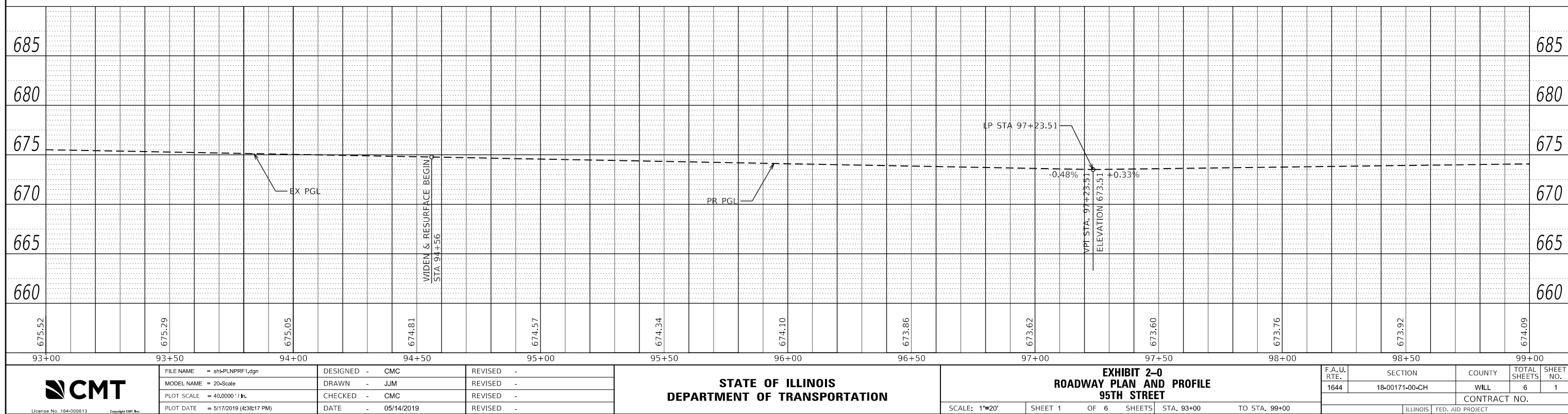
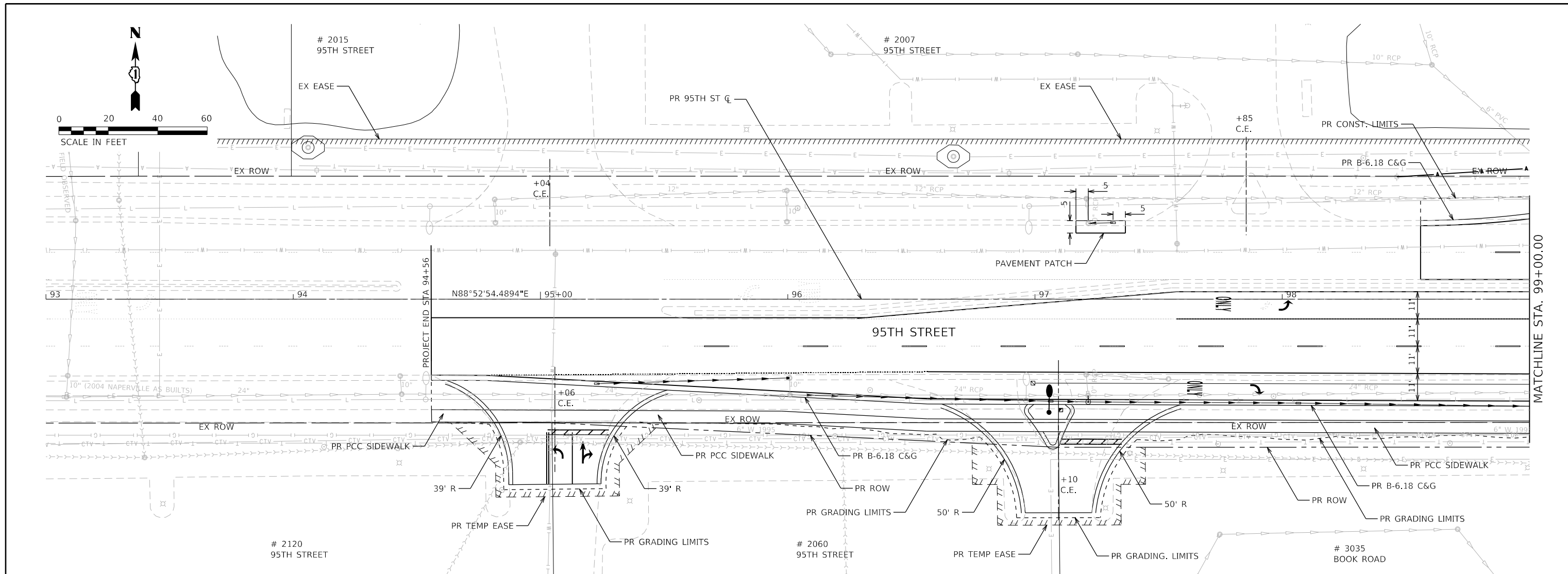
cc: Fotsch (Crawford, Murphy & Tilly)
[du-13-18.docx](#)

EXHIBIT 2-0

Proposed Plan and Profiles

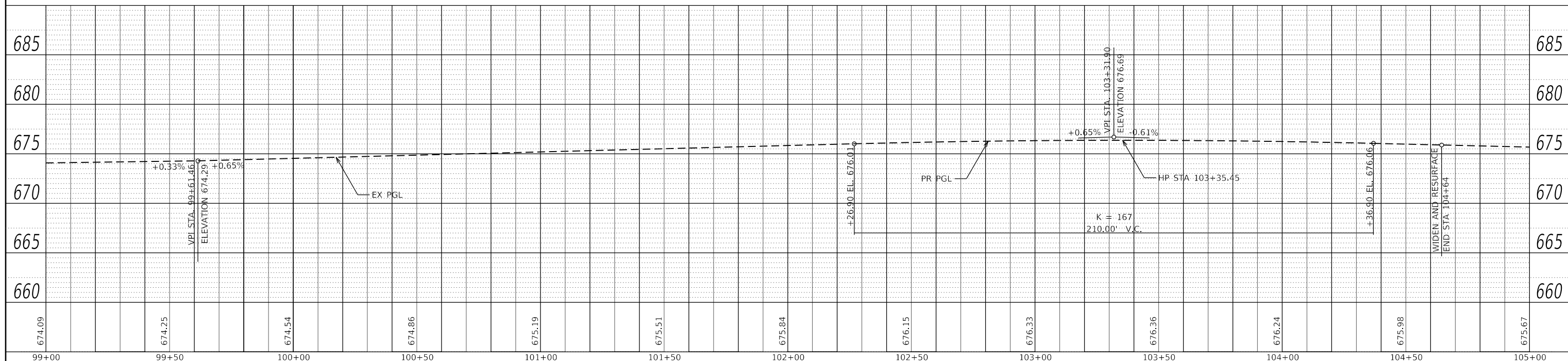
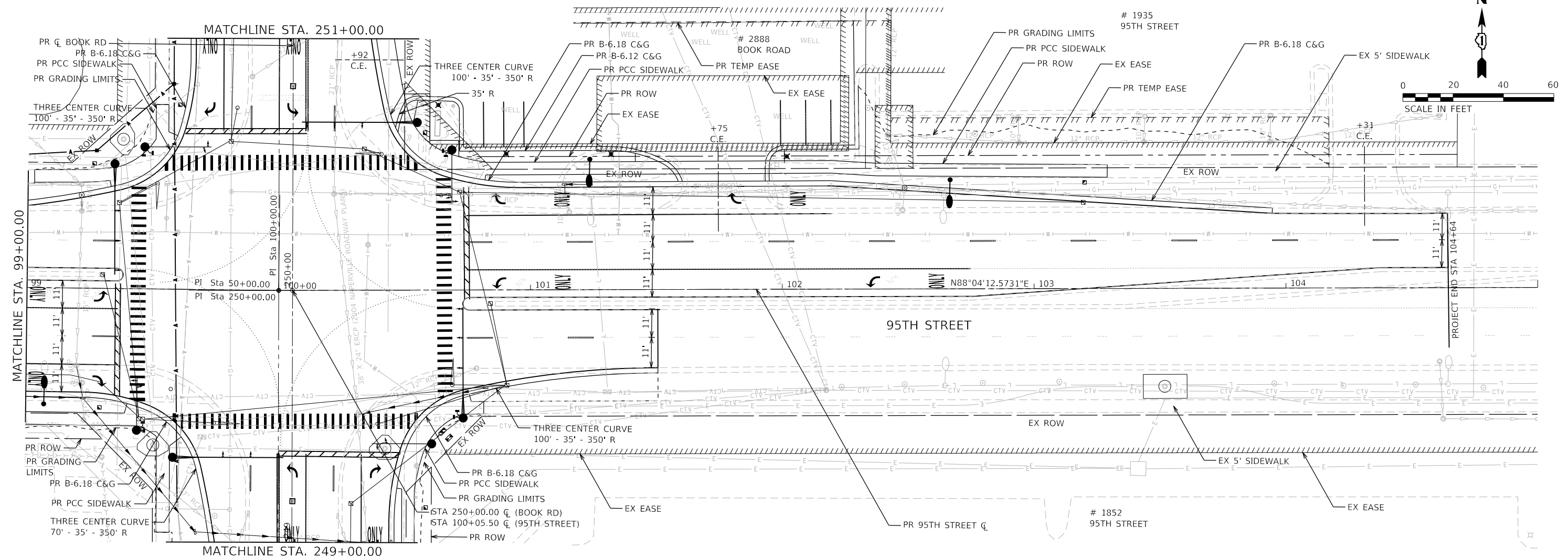
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	PLOTTED		
NOTE BOOK	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		
NO. _____	CADD FILE NAME _____		

PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK _____	GRADES CHECKED _____		
NO. _____	B.M. NOTED _____		
	STRUCTURE NOTATIONS CHECKED _____		



PLAN	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		
NO. _____	CADD FILE NAME _____		

PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK _____	GRADES CHECKED _____		
NO. _____	B.M. NOTED _____		
	STRUCTURE NOTATIONS CHECKED _____		

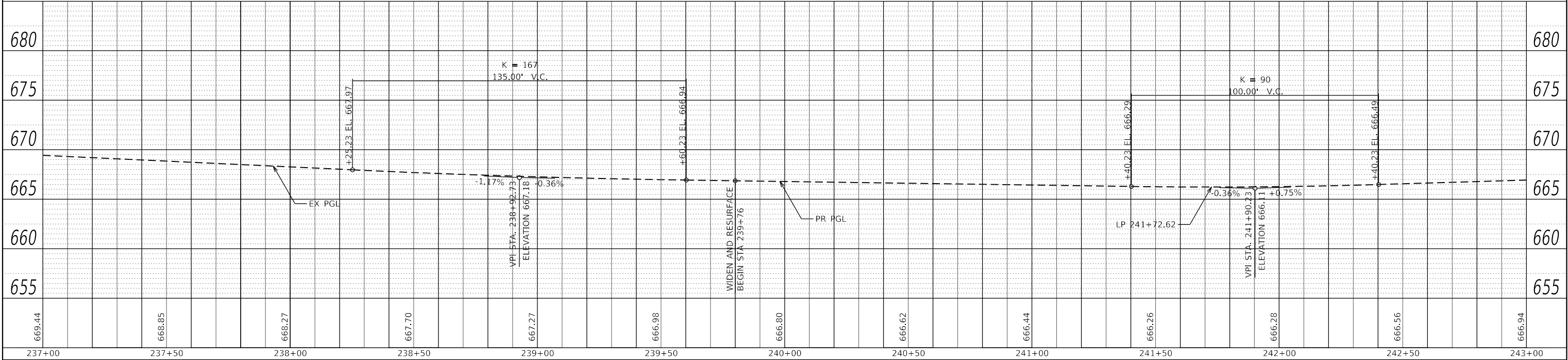


PLAN	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	ALIGNMENT CHECKED		
	CADD FILE NAME		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHKD		

DIRECTORY USER NAME = L:\Naper\1161823\01_gbnBook_Pn1Draw\CADD_Sheets\ - Jeremy Metz

PEN TABLE = ILDOT_Pn1Pn2Screened Out Existing, PLOT DRIVER = PDF_Screening.dwg



 License No. 184-000613 Copyright CMT, Inc.	FILE NAME = sht-PLNPRF3.dgn	DESIGNED - CMC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXHIBIT 2-0 ROADWAY PLAN AND PROFILE BOOK ROAD	F.A.U. RTE. 1644	SECTION 18-00171-00-CH	COUNTY WILL	TOTAL SHEETS 6	SHEET NO. 3
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	PLOT SCALE = 40,0000' / 1" =	CHECKED - CMC	REVISED -							
	PLOT DATE = 5/17/2019 (2:38:47 PM)	DATE - 05/14/2019	REVISED -							

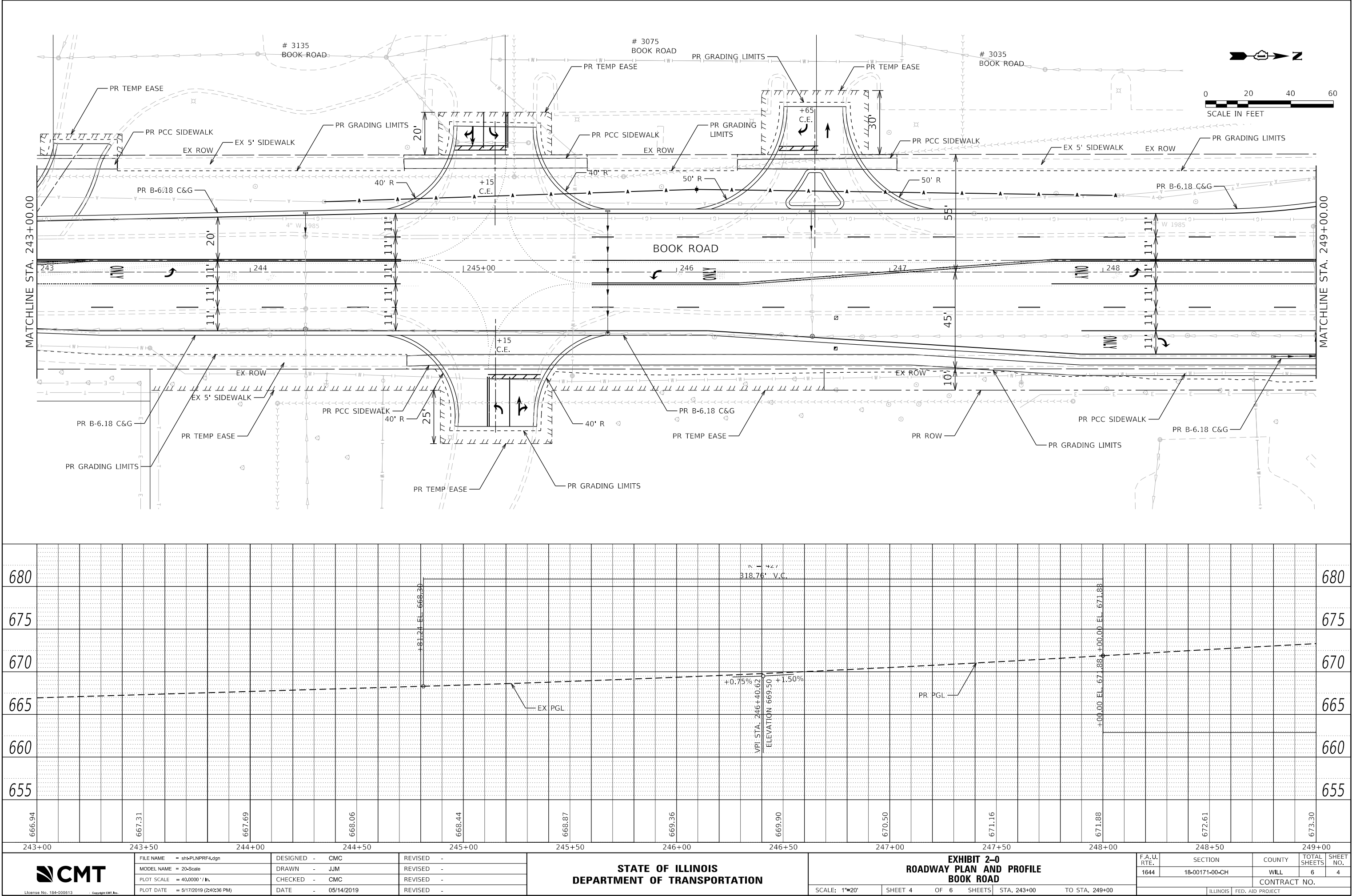
SCALE: 1"=20'	SHEET 3	OF 6	SHEETS	STA. 237+00	TO STA. 243+00
			ILLINOIS	FED. AID PROJECT	

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
	CADD FILE NAME		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	GRADES CHECKED		
	STRUCTURE NOTATIONS CHNG		

DIRECTORY
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= Jeremy Metz

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= PDF_Screening.dwg



FILE NAME	= sht-PLNPRF4.dgn
MODEL NAME	= 20-Scale
PLOT SCALE	= 40,0000' / 1"
PLOT DATE	= 5/17/2019 (240:36 PM)

DESIGNED	- CMC
DRAWN	- JJM
CHECKED	- CMC
DATE	- 05/14/2019

REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

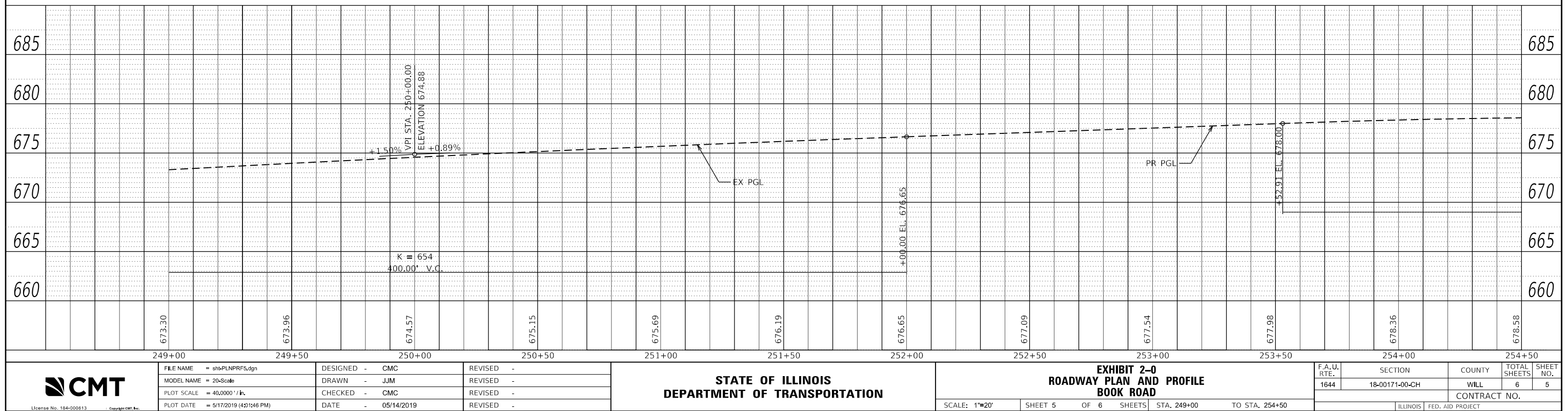
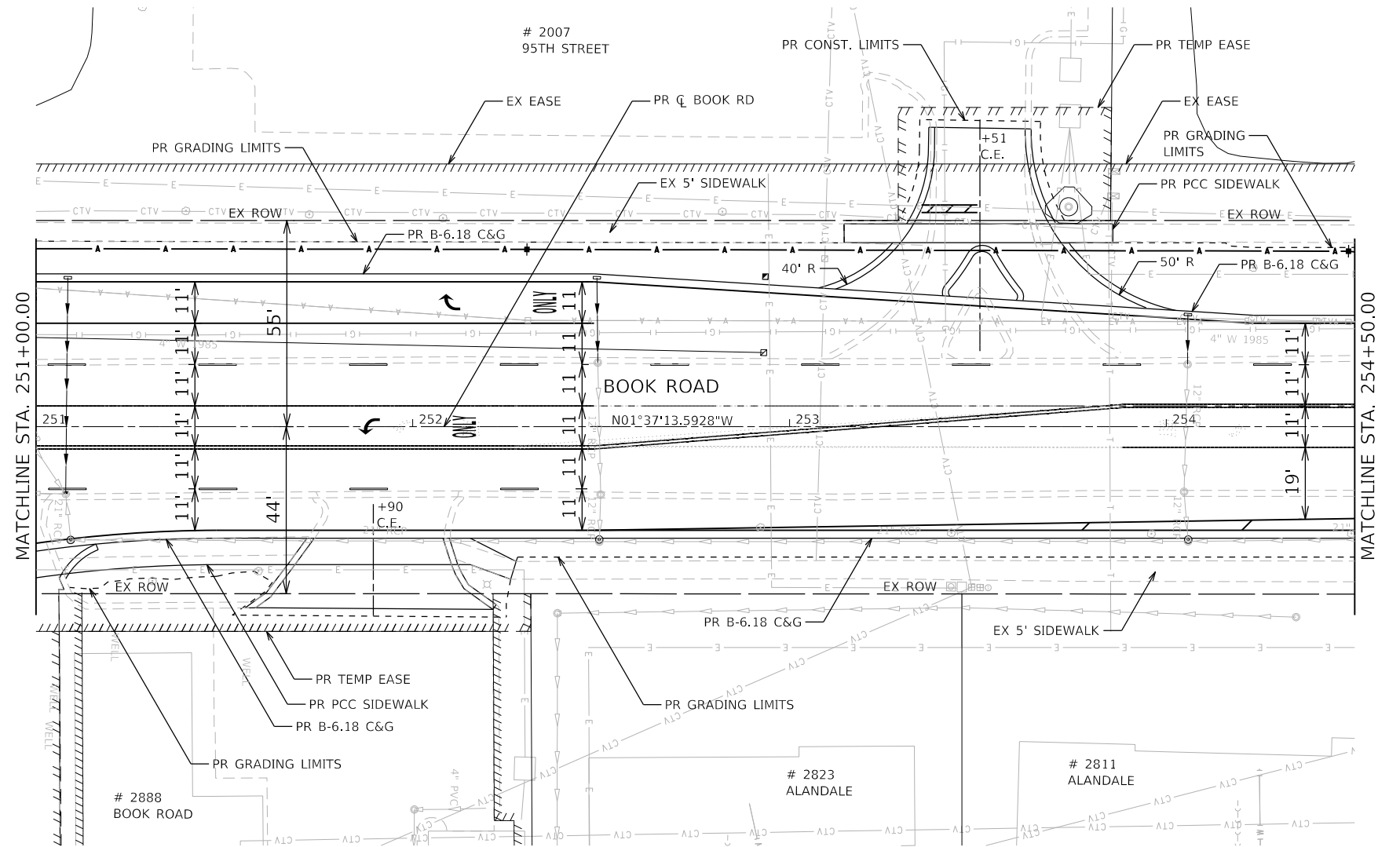
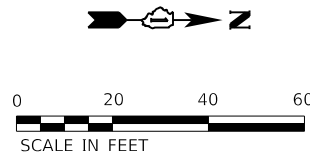
EXHIBIT 2-0
ROADWAY PLAN AND PROFILE
BOOK ROAD

SCALE: 1"=20'	SHEET 4	OF 6	SHEETS	STA. 243+00	TO STA. 249+00
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	6	4
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____ ALIGNMENT CHECKED _____ RT. OF WAY CHECKED _____ CADD FILE NAME _____		
NOTE BOOK			
NO. _____			

PROFILE		BY	DATE
	SURVEYED _____		
	PLOTTED _____		
NOTE BOOK	GRADES CHECKED _____		
	B.M. NOTED _____		
NO. _____	STRUCTURE NOTATIONS CHK'D _____		



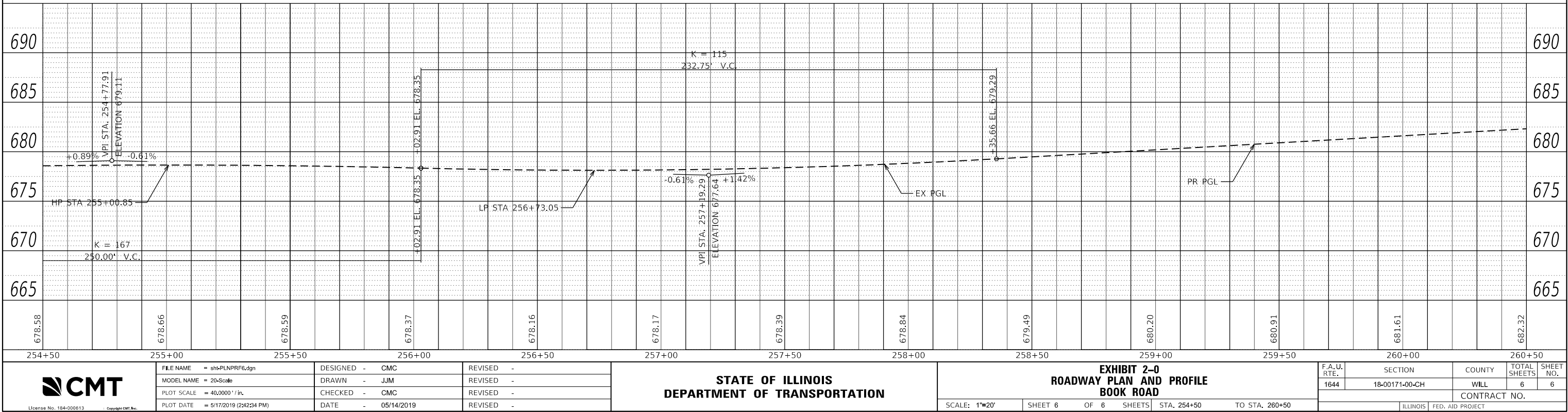
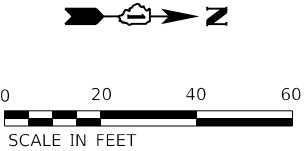
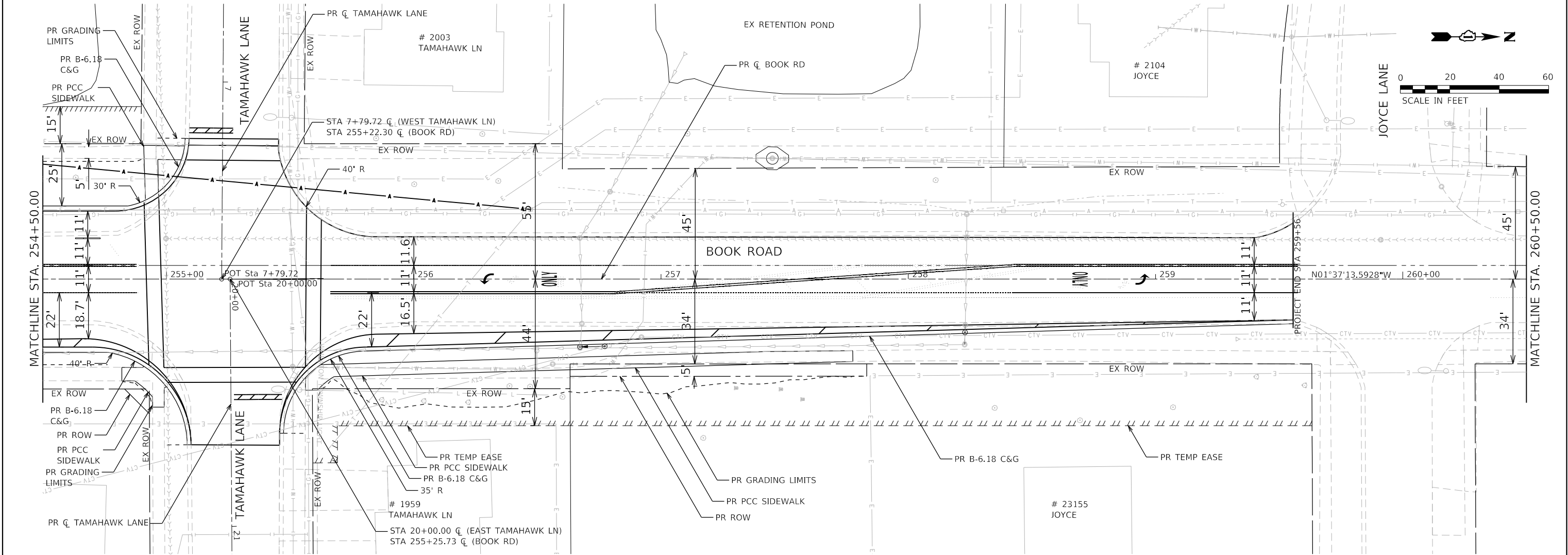


EXHIBIT 2-1

Design Variances



BLR 22120 (Rev. 11/06)

Level One Design Variance Approval

Local Agency: City of Naperville

Section No.: _____

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance		Summary of Variance and Justification
		Yes	No	
1. Design Speed: 40 mph	30-40 mph	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Level of Service (Mainline): C	D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Lane Widths				
a. Through Lanes: 11 feet	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See attached
b. Turn Lanes: 11 feet	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Parking Lanes: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
d. Bike Lanes: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
4. Through Travel Lane Cross Slopes				
Inside Lane: 2% %	2%	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Outside Lane: 2% % (if more than 2 lanes)	2%	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Shoulder Widths: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
6. Horizontal Curvature (Minimum Radius) n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
List curves not meeting criteria				
<u>Sta.</u> <u>Radius</u> <u>Design Speed</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
7. Superelevation Rates				
e_{max} n/a %		<input type="checkbox"/>	<input type="checkbox"/>	
List curves for which e does not meet criteria				
<u>PI Sta.</u> <u>Radius</u> <u>e</u> <u>Design Speed</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
8. Maximum Grade: 2.18 %	7%	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Minimum Intersection Sight Distance 650 feet	445	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
List locations not meeting the criteria				
<u>Cross Road</u> <u>Distance</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
10. Minimum Stopping Sight Distance 650 feet	305	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
a. Crest Vertical Curves – Min. K value 135	44	<input type="checkbox"/>	<input type="checkbox"/>	
List curves not meeting the criteria				
<u>VPI Sta.</u> <u>Sight Distance</u> <u>Design Speed</u> <u>Curve Length</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
b. Sag Vertical Curves – Min. K value 167	64	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
List curves not meeting the criteria				
<u>VPI Sta.</u> <u>Sight Distance</u> <u>Design Speed</u> <u>Curve Length</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	

Level One Design Variance Approval

Local Agency: City of Naperville Section No.: _____

c. Inside of Horizontal Curves

List curves not meeting the criteria

Sta. Sight Distance Design Speed Radius

☐ ☐
☐ ☐
☐ ☐

11. Clear Roadway Bridge Widths:
n/a feet

☐ ☐

12. Freeboard Above Design High Water:
n/a feet

☐ ☐

13. Vertical Clearances:
☐ Over Roadway/RR n/a feet
☐ Under Structure n/a feet

☐ ☐
☐ ☐

14. Accessibility Criteria for Disabled Persons
List any feature not meeting ADA Criteria
n/a

☐ ☐

15. Roadside Clear Zone:
a. Tangent _____ feet
b. Outside of Curve n/a
List criteria for each radius

Radius (ft) Clear Zone (ft)

☐ ☐
☐ ☐

☐ ☐
☐ ☐
☐ ☐

16. Intersection(s) Level of Service: _____

D

☐ ☐

17. Warrants for Stop Signs or Signals

Cross Road Warrant
Book Road Existing

☐ ☒
☐ ☐
☐ ☐

18. Pavement Design (list any variance to policy)

☐ ☐

Prepared By: _____
Designer (Local Agency or Consultant)

Date: _____

When Prepared by Consultant

Local Agency Concurrence: _____

Date: _____

IDOT Regional Engineer Concurrence

Date

Central BLR&S Approval

Date

Level Two Design Variance Approval

Local Agency: City of Naperville

Section No.: _____

Design Criteria for Project (Provide numerical value where indicated)		BLR&S Criteria		Variance Yes No		Summary of Variance and Justification
1.	Design Period: 20 years	20 years		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.	Horizontal Alignment (Mainline)					
	a. Minimum Superelevation Transition Lengths: n/a feet			<input type="checkbox"/>	<input type="checkbox"/>	
	b. Superelevation Distribution Between Tangent and Curve: n/a	2/3 : 1/3		<input type="checkbox"/>	<input type="checkbox"/>	
3.	Vertical Alignment (Mainline)					
	a. Minimum Grade of Urban Cross Section _____ %	0.3%		<input type="checkbox"/>	<input type="checkbox"/>	
	b. Minimum Length of Vertical Curves _____ feet	90		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	c. Maximum K value of Vertical Curves _____ (for curbed facilities)	167		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.	Cross Section Elements (Mainline)					
	a. Design of Parking Lanes			<input type="checkbox"/>	<input type="checkbox"/>	
	• Cross Slope: n/a %					
	b. Design of Sidewalks			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	• Width: 5 feet	4 feet		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	• Buffer Distance: 6 feet	2 feet		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	• Cross Slope: 2% %	2% max.		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	• Longitudinal Grades: 2.18 %	5% max.		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	c. Median			<input type="checkbox"/>	<input type="checkbox"/>	
	• Type: Raised Curb					
	• Width: 16 feet	18		<input checked="" type="checkbox"/>	<input type="checkbox"/>	See attached
	d. Shoulder Cross Slopes: n/a %			<input type="checkbox"/>	<input type="checkbox"/>	
	e. Rollover Factor n/a %			<input type="checkbox"/>	<input type="checkbox"/>	
	f. Curb and Gutter Type B-6.18	B-6.24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	See attached
	g. Roadway Element			<input type="checkbox"/>	<input type="checkbox"/>	
	• Steepest Front Slopes: n/a (H:V)			<input type="checkbox"/>	<input type="checkbox"/>	
	• Steepest Back Slopes: n/a (H:V)			<input type="checkbox"/>	<input type="checkbox"/>	
5.	Drainage (Flood Frequency)					
	a. Pavement: n/a years			<input type="checkbox"/>	<input type="checkbox"/>	
	b. Structure: n/a years			<input type="checkbox"/>	<input type="checkbox"/>	
	c. Storm Sewer: n/a years			<input type="checkbox"/>	<input type="checkbox"/>	
6.	Intersections					
	a. Level of Service for Individual Movement:					
	• Through Lanes: C	C		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	• Turn Lanes: C	C		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	b. Skew Angle: 0 Degrees	Within 15		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	c. Approach Grades: 0.65 %	3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	d. Design Vehicle: WB-55	WB-55		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	e. Turning Radius for Design Vehicle: 60	55		<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Level Two Design Variance Approval

Local Agency: City of Naperville

Section No.:

- f. Minimum Corner Island Size: n/a
- g. Minimum Turn Lane Length 180 feet
- Approach Taper: _____ feet
 - Departure Taper: n/a feet
 - Bay Taper: 130EBL feet
160WBL

305 ft Red
Time Q PM

175 ft

h. Entrances

Entrance Type	Max. Width (ft.)	Min. Width (ft.)	Max. Grade(%)
---------------	------------------	------------------	---------------

Commercial

Residential

<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

7. RR Crossings

- a. Type of Railroad Protection:
n/a
- b. Crossing Width (at 90° angle) _____ feet

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

8. Lighting

- Illuminance n/a lux
- Uniformity Ratio n/a

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

9. Other Items

11

Prepared By: _____
Designer (Local Agency or Consultant)

Date:

When Prepared by Consultant

Local Agency Concurrence:

Date:

IDOT Regional Engineer Concurrence

Date _____

Central BLR&S Approval

Date _____



Project Identification

Local Agency: City of Naperville County: Will

(County, Municipality, Road District / Township)

Section No.: 18 - 00171 - 00 - CH Route: FAU 0080

Street/Road Name: Book Road

Project Limits: 300 feet north of Rebecca Ct to Joyce Ln

Project Length: 0.37 miles Functional Classification: Major Collector

Design Year: 2040 Design Traffic: ☐ DHV ☒ ADT 17500

Existing Structure No.: n/a Proposed Structure No.: n/a

Project Scope of Work

- a. Is this project located on the NHS? ☐ Yes ☒ No
- b. Is this project on a Strategic Regional Arterial (SRA) route? ☐ Yes ☒ No
- c. Funding ☐ MFT/State Assistance ☒ Federal
- d. Type of Work ☐ New Construction ☒ Reconstruction ☐ 3R
- e. Design Guidelines ☐ Urban ☒ Suburban ☐ Rural ☐ 3R ☒ Other SRA at channelize
- f. Provide a brief project description (major construction elements):
The scope of this project includes the widening and resurfacing of Book Road from 300 feet north of Rebecca Court to Joyce Lane. Book Road will be widened from two to four lanes. Right turn lanes will be added to all intersection approaches at 95th Street.

District Coordination Meetings

Has project been previously discussed at district coordination meetings?
(If yes, attach minutes of variance approvals) ☐ Yes ☐ No

Dates:

Level One Design Variance Approval

Local Agency: City of Naperville

Section No.: 18-00171-00-CH

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance		Summary of Variance and Justification
		Yes	No	
1. Design Speed: 40 mph	45-50mph	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Level of Service (Mainline): C	C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Lane Widths				
a. Through Lanes: 11 feet	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Turn Lanes: 11 feet	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Parking Lanes: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
d. Bike Lanes: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
4. Through Travel Lane Cross Slopes				
Inside Lane: 2 %	2%	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Outside Lane: 2 % (if more than 2 lanes)	2%	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Shoulder Widths: 6 feet	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6. Horizontal Curvature (Minimum Radius) n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
List curves not meeting criteria				
<u>Sta.</u> <u>Radius</u> <u>Design Speed</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
7. Superelevation Rates				
e_{max} n/a %	4%	<input type="checkbox"/>	<input type="checkbox"/>	
List curves for which e does not meet criteria				
<u>PI Sta.</u> <u>Radius</u> <u>e</u> <u>Design Speed</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
8. Maximum Grade: _____ %	6%	<input type="checkbox"/>	<input type="checkbox"/>	
9. Minimum Intersection Sight Distance 650 feet	500 feet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
List locations not meeting the criteria				
<u>Cross Road</u> <u>Distance</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
10. Minimum Stopping Sight Distance 650 feet	360 feet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
a. Crest Vertical Curves – Min. K value _____	61	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
List curves not meeting the criteria				
<u>VPI Sta.</u> <u>Sight Distance</u> <u>Design Speed</u> <u>Curve Length</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
b. Sag Vertical Curves – Min. K value 82	79	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
List curves not meeting the criteria				
<u>VPI Sta.</u> <u>Sight Distance</u> <u>Design Speed</u> <u>Curve Length</u>		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	

Level One Design Variance Approval

Local Agency: City of Naperville

Section No.: 18-00171-00-CH

c. Inside of Horizontal Curves

List curves not meeting the criteria

Sta. Sight Distance Design Speed Radius

☐ ☐
☐ ☐
☐ ☐

11. Clear Roadway Bridge Widths:
n/a feet

☐ ☐

12. Freeboard Above Design High Water:
n/a feet

☐ ☐

13. Vertical Clearances:
☐ Over Roadway/RR n/a feet
☐ Under Structure n/a feet

☐ ☐
☐ ☐

14. Accessibility Criteria for Disabled Persons
List any feature not meeting ADA Criteria

☐ ☒

15. Roadside Clear Zone:
a. Tangent n/a feet
b. Outside of Curve n/a
List criteria for each radius
Radius (ft) Clear Zone (ft)

☐ ☐
☐ ☐

☐ ☐
☐ ☐
☐ ☐

16. Intersection(s) Level of Service: C

C

☐ ☐

17. Warrants for Stop Signs or Signals

Cross Road Warrant
95th Street Existing

☐ ☒
☐ ☐
☐ ☐

18. Pavement Design (list any variance to policy)

☐ ☐

Prepared By: _____
Designer (Local Agency or Consultant)

Date: _____

When Prepared by Consultant

Local Agency Concurrence: _____

Date: _____

IDOT Regional Engineer Concurrence

Date

Central BLR&S Approval

Date

Level Two Design Variance Approval

Local Agency: City of Naperville

Section No.: 18-00171-00-CH

Design Criteria for Project (Provide numerical value where indicated)		BLR&S Criteria	Variance Yes No		Summary of Variance and Justification
1.	Design Period: <u>20</u> years	20 years	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Horizontal Alignment (Mainline)				
a.	Minimum Superelevation Transition Lengths: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
b.	Superelevation Distribution Between Tangent and Curve: n/a	2/3 : 1/3	<input type="checkbox"/>	<input type="checkbox"/>	
3.	Vertical Alignment (Mainline)				
a.	Minimum Grade of Urban Cross Section _____ %	0.3%	<input type="checkbox"/>	<input type="checkbox"/>	
b.	Minimum Length of Vertical Curves _____ feet		<input type="checkbox"/>	<input type="checkbox"/>	
c.	Maximum K value of Vertical Curves _____ (for curbed facilities)	167	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Cross Section Elements (Mainline)				
a.	Design of Parking Lanes		<input type="checkbox"/>	<input type="checkbox"/>	
•	Cross Slope: n/a %				
b.	Design of Sidewalks		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
•	Width: 5 feet	4 feet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
•	Buffer Distance: 2 feet	2 feet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
•	Cross Slope: 1.5 %	2% max.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
•	Longitudinal Grades: 1.5 %	5% max.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c.	Median		<input type="checkbox"/>	<input type="checkbox"/>	
•	Type: n/a		<input type="checkbox"/>	<input type="checkbox"/>	
•	Width: n/a feet		<input type="checkbox"/>	<input type="checkbox"/>	
d.	Shoulder Cross Slopes: n/a %		<input type="checkbox"/>	<input type="checkbox"/>	
e.	Rollover Factor n/a %		<input type="checkbox"/>	<input type="checkbox"/>	
f.	Curb and Gutter Type B6.18	B6-24 In Intersection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Attached
g.	Roadway Element		<input type="checkbox"/>	<input type="checkbox"/>	
•	Steepest Front Slopes: n/a (H:V)		<input type="checkbox"/>	<input type="checkbox"/>	
•	Steepest Back Slopes: n/a (H:V)		<input type="checkbox"/>	<input type="checkbox"/>	
5.	Drainage (Flood Frequency)				
a.	Pavement: n/a years		<input type="checkbox"/>	<input type="checkbox"/>	
b.	Structure: n/a years		<input type="checkbox"/>	<input type="checkbox"/>	
c.	Storm Sewer: n/a years		<input type="checkbox"/>	<input type="checkbox"/>	
6.	Intersections				
a.	Level of Service for Individual Movement:				
•	Through Lanes: C	C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
•	Turn Lanes: C	C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b.	Skew Angle: 0 Degrees	Within 15°	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c.	Approach Grades: 1.5 %	3%	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d.	Design Vehicle: WB-55	WB-55	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
e.	Turning Radius for Design Vehicle: 60	55	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Level Two Design Variance Approval

Local Agency: City of Naperville

Section No.: 18-00171-00-CH

f. Minimum Corner Island Size: n/a					<input type="checkbox"/>	<input type="checkbox"/>	
g. Minimum Turn Lane Length	68 ft SBL at church		145	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See attached	
	100 ft NBL at Tamahawk		145				
	115 ft NBL at Joyce		145				
	115 ft SBL at Tamahawk		145				
	160' NBL at 95th feet		341 Red Time Q AM				
<ul style="list-style-type: none"> Approach Taper: _____ feet Departure Taper: n/a _____ feet Bay Taper: 160 feet at NBL at Joyce and SBL at Tamahawk ft 175 140 feet at NBL at Tamahawk and SBL at 95th 145 feet at SBL to church and NBL at 95th _____ 				<input type="checkbox"/>	<input type="checkbox"/>	See attached	
h. Entrances							
<u>Entrance Type</u>	<u>Max. Width (ft.)</u>	<u>Min. Width (ft.)</u>	<u>Max. Grade(%)</u>				
Commercial	_____	_____	_____	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Residential	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>		
7. RR Crossings							
a. Type of Railroad Protection: n/a					<input type="checkbox"/>	<input type="checkbox"/>	
b. Crossing Width (at 90° angle) _____ feet					<input type="checkbox"/>	<input type="checkbox"/>	
8. Lighting							
a. Illuminance n/a lux					<input type="checkbox"/>	<input type="checkbox"/>	
b. Uniformity Ratio n/a					<input type="checkbox"/>	<input type="checkbox"/>	
9. Other Items							
_____					<input type="checkbox"/>	<input type="checkbox"/>	

Level Two Design Variance Approval

Local Agency: City of Naperville Section No.: 18-00171-00-CH

Prepared By: _____ Date: _____
Designer (Local Agency or Consultant)

When Prepared by Consultant

Local Agency Concurrence: _____ Date: _____

IDOT Regional Engineer Concurrence

Date

Central BLR&S Approval

Date

EXHIBIT 2-2

Design Variance Justification

Summary of Variance and Justification Attachment
to form BLR 22120 – Approval of Design Variance

Level One Design Variances (1)

95th Street (1)

3-a. Travel Lanes:

Location: 95th Street

SRA Criteria: 12 ft.

Proposed Design: 11 ft

Justification: Scope is only widening. This is the existing Condition. Match existing 95th Street Corridor.

Book Road (0)

None

Level Two Design Variances (12)

95th Street (5)

Using B-6.18 C&G instead of B-6.24

Location: 95th Street and Book Road to end of channelization

SRA Criteria: B-6.24 C&G

Proposed Design: B-6.18 C&G

Justification: Existing C&G is B-6.18 along the entire 95th Street Corridor, match existing for consistency

Median Width

Location: 95th Street

SRA Criteria: 18 ft min

Proposed Design: 16 ft

Justification: reuse existing median, match existing median throughout 95th Street corridor

Eastbound Left Design Storage Length

Location: EBL of Book and 95th intersection

SRA: 145 ft , Red Time Queue PM 305 ft

Proposed Design: 180ft

Justification: Length constrained to maintain access for commercial entrances to west

Eastbound Left Turn Lane Taper

Location: EBL at Book Road

Criteria: 175 feet

Proposed Design: 130 feet

Justification: Existing Condition, Out of Scope of Work, Proximity of Book Road to Full Access
Commercial Entrance

Westbound Left Turn Lane Taper

Location: WBL at Book Road

Criteria: 175 feet

Proposed Design: 160 feet

Justification: Existing Condition, Out of Scope of Work, Proximity of Book Road to Tamahawk Lane

Book Road (7)

Southbound Left Design Storage Length

Location: SBL of Book and Church Entrance

Decel: 145 ft

Proposed Design: 68ft

Justification: Proximity between intersections of 95th and Church/Commercial Entrance

Northbound Left Design Storage Length

Location: NBL of Book and 95th intersection

Red Time Queue AM: 341 ft

Proposed Design: 160 ft

Justification: Proximity between intersections of 95th and Church/Commercial Entrance

Northbound Left Design Storage Length

Location: NBL at Joyce Lane

Proposed Design: 115 feet

Justification: Proximity between Joyce Lane and Tamahawk Lane

Southbound Left Design Storage Length

Location: NBL at Tamahawk Lane

Decel: 185

Proposed Design: 115 feet

Justification: Proximity between Joyce Lane and Tamahawk Lane

NBL Turn Lane Taper into Joyce Ln and SBL Turn Lane Taper into Tamahawk Ln

BLRS Criteria: 175 ft

Proposed Design: 160 ft

Justification: Proximity between Joyce Lane and Tamahawk Lane

NBL Turn Lane Taper into Tamahawk Lane and SBL Turn Lane Taper into 95th Street

BLRS Criteria: 175 ft

Proposed Design: 140 ft

Justification: Proximity between Tamahawk Lane and 95th Street

NBL Turn Lane Taper into 95th Street and SBL Turn Lane Taper into Church/Commercial Entrance

BLRS Criteria: 175 ft

Proposed Design: 140 ft

Justification: Proximity between 95th Street and Church/Commercial Entrance

EXHIBIT 2-3

Preliminary opinion of Probable Cost

95th Street at Book Road Intersection Improvements

Conceptual Opinion of Probable Construction Cost for Alternative Intersection Configurations

Date: 7/3/2018
Route: 95th Street
Section: 18-00171-00-CH

Designer: Crawford, Murphy & Tilly
City/County: Naperville / Will
Base Year: 2018

Work Classification		Proposed Build	
		Thru Lanes - Book Right Turn Lanes	
1	Clearing, Minor Removal Items	\$	5,475
2	Earthwork	\$	137,550
3	Erosion Control and Landscaping	\$	39,248
4	Drainage	\$	99,513
5	Subbase, Base, Surface, Shoulders	\$	821,530
6	Marking and Signing	\$	13,143
7	Guardrail, Roadside Safety	\$	-
8	Traffic Signals and Roadway Lighting	\$	259,600
9	Detours, Temporary Traffic Control - Roadway	\$	50,000
10	Railroad Crossing Improvements	\$	-
11	Field Office and Laboratory	\$	10,000
12	Environmental Mitigation/Incidental Items	\$	56,797
13	Miscellaneous Items	\$	106,000
14	Roadway Subtotal (Categories 1-13)	\$	1,598,856
15	Structure Removal	\$	-
16	Major Culverts	\$	-
17	Bridges	\$	-
18	Structures for Detours and Temporary Traffic Control	\$	-
19	Miscellaneous Items (0% Structure Costs)	\$	-
20	Miscellaneous Items (1% Structure Costs)	\$	-
21	Roadway and Structure Subtotal (Lines 14 and 20)	\$	1,598,856
22	Contingency (20% Concept)	\$	319,771
23	Total Construction Cost (Lines 21 and 22)	\$	1,918,627
24	Utility Adjustments	\$	8,500
25	Land Acquisition and Relocations	\$	15,750
26	Design Engineering (Phase I and II) - Phase II 8%	\$	232,859
27	Construction Engineering - 10%	\$	191,863
28	Total Project Cost (Lines 23-28)	\$	2,367,599

EXHIBIT 2-4

Intersection Design Study (IDS)

PLOT DATE = 5/14/2019 (4:50:25 PM)
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PLOT SCALE = 100,000' / in.
USER NAME = Jeremy Malz

SIGNALIZED CAPACITY DESIGN ANALYSIS

PROGRAM USED: HCS VERSION: 7 SIGNAL TYPE: ACTUATED AREA TYPE: NON CBD
NUMBER OF PHASES: (A.M.) 6 (P.M.) 6 CYCLE LENGTH: (A.M.) 90 SEC. (P.M.) 90 SEC. PEAK HOUR FACTOR: 0.92
INTERSECTION DELAY/LEVEL-OF-SERVICE A.M. 23.4 SECONDS LOS C P.M. 24 SECONDS LOS C

APPROACH	EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND			
LANE GROUP	L	T	R		L	T	R		L	T	R		L	T	R	
NUMBER OF LANES	1	2	1		1	2	1		1	2	1		1	2	1	
2040 30TH MAX. HOUR TRAFFIC (veh/h)	A.M. 243 P.M. 315	673 784	144 278		89 193	871 917	95 119		343 221	427 306	41 45		85 137	149 459	151 202	
BASE SATURATION FLOW RATE (veh/h)	1900	2000	1900		1900	2000	1900		1900	2000	1900		1900	2000	1900	
LANE WIDTH (FT)	11	11	11		11	11	11		11	11	11		11	11	11	
VOLUME OF RIGHT TURN ON RED (veh/h)	A.M. N/A P.M. 10	P.M. N/A P.M. 10			A.M. N/A P.M. 10	P.M. N/A P.M. 10			A.M. N/A P.M. 10	P.M. N/A P.M. 10			A.M. N/A P.M. 10	P.M. N/A P.M. 10		
PEDESTRIANS/HOUR (ped/h)	3	4	3		3	3	3		3	3	3		3	3	3	
ARRIVAL TYPE (AM & PM)	3	4	3		3	3	3		3	3	3		3	3	3	
LANE UTILIZATION ADJ. FACTOR	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0	
GREEN TIME (SECONDS)	A.M. 7.2 P.M. 9.7	35.4 33.4	49.4 41.9		4.6 8.6	32.8 32.3	38.3 40.2		14.0 8.5	20.5 16.0	25.1 24.6		5.5 7.9	12.0 15.4	19.2 25.1	
GREEN RATIO (g/C)	A.M. 0.50 P.M. 0.52	0.43 0.40	0.62 0.53		0.42 0.45	0.36 0.36	0.42 0.45		0.34 0.32	0.26 0.21	0.31 0.31		0.19 0.26	0.13 0.17	0.25 0.31	
CAPACITY (c)	A.M. 372 P.M. 412	1556 1523	903 839		385 411	1371 1394	666 719		517 357	976 796	489 481		311 359	509 665	383 503	
v/c RATIO (X)	A.M. 0.711 P.M. 0.832	0.470 0.560	0.173 0.360		0.251 0.511	0.691 0.715	0.155 0.180		0.722 0.674	0.476 0.418	0.091 0.102		0.297 0.415	0.318 0.750	0.428 0.437	
STORAGE QUEUE (FEET)	A.M. 134.0 P.M. 173.6	177.0 216.0	58.1 152.9		53.1 112.1	342.7 351.6	60.4 71.2		291.1 174.4	184.1 136.2	28.7 31.9		77.4 114.5	71.3 217.6	133.6 160.1	
LANE GROUP DELAY (SECONDS)	A.M. 18.6 P.M. 19.5	14.4 16.9	7.9 13.4		16.7 16.5	27.2 28.1	16.4 15.5		29.2 26.3	28.2 30.8	21.9 22.3		31.1 27.4	35.5 36.1	28.9 24.9	
LANE GROUP LEVEL-OF-SERVICE	A.M. B P.M. B	B B	A B		B B	C C	B B		C C	C C	C C		C C	D D	C C	
APPROACH DELAY (SECONDS/VEHICLE)	A.M. 14.5 P.M. 16.8				25.3 25.0				28.3 28.4				31.9 31.8			
APPROACH LEVEL-OF-SERVICE	A.M. B P.M. B				C C				C C				C C			

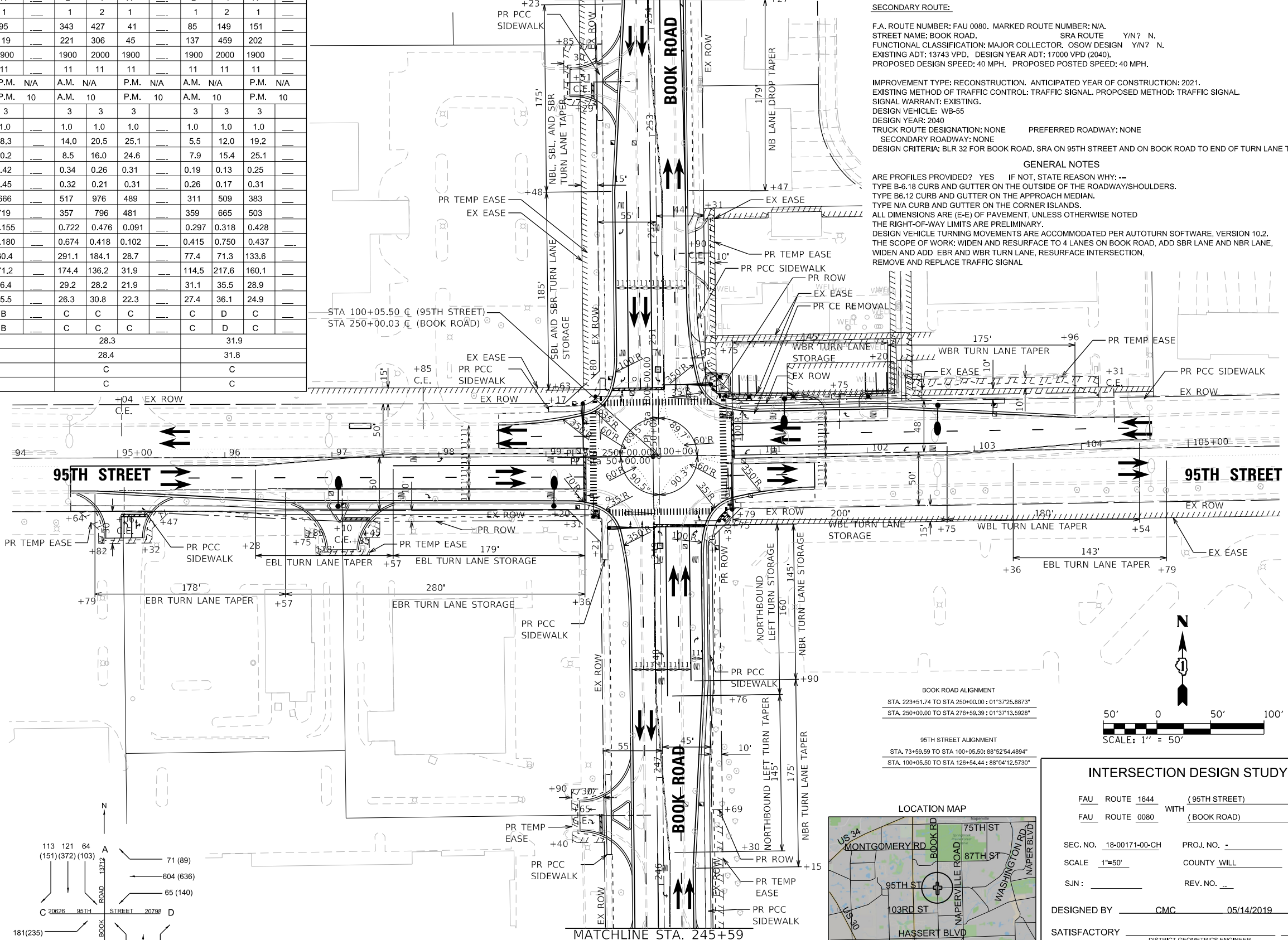
PHASE 1		PHASE 2		PHASE 3		AMBER ALL RED
	AMBER		AMBER			
AM G = 4.6 Sec. PM G = 8.6 Sec.	3 3	G = 2.6 Sec. G = 1.1 Sec.	3 3	G = 32.8 Sec. G = 32.3 Sec.		6 6
PHASE 4		PHASE 5		PHASE 6		AMBER ALL RED
	AMBER		AMBER			
AM G = 5.5 Sec. PM G = 7.9 Sec.	3 3	G = 8.5 Sec. G = 0.6 Sec.	3 3	G = 12.0 Sec. G = 15.4 Sec.		6 6

MOVEMENT	DESIGN YEAR		TRAFFIC DATA			
	YEAR 2018 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR		ESTIMATED PERCENT INCREASE BY 2040 AM (PM)	YEAR 2040 30TH MAXIMUM HOUR TRAFFIC
	A.M.	P.M.	A.M.	P.M.		
AD (L)	64	103	5%	3%	33%(33%)	85
AB (T)	121	372	2%	0%	23%(23%)	149
AC (R)	113	151	4%	0%	34%(34%)	151
BC (L)	248	160	6%	0%	38%(38%)	221
BA (T)	325	233	2%	1%	31%(31%)	427
BD (R)	30	33	0%	0%	37%(36%)	41
CA (L)	181	235	2%	1%	34%(34%)	243
CD (T)	463	539	5%	1%	45%(45%)	673
CB (R)	104	201	9%	0%	38%(38%)	144
DB (L)	65	140	2%	1%	37%(38%)	89
DC (T)	604	636	4%	0%	44%(44%)	871
DA (R)	71	89	3%	0%	34%(34%)	95
TOTAL A	875	1183				1150
TOTAL B	893	1139				1193
TOTAL C	1713	1922				2425
TOTAL D	1297	1540				1854

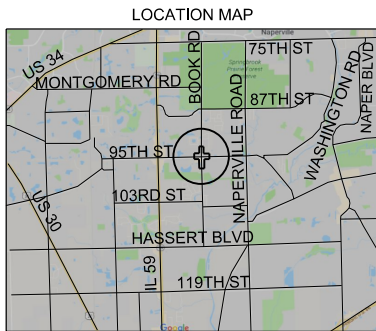
T = THROUGH, L = LEFT, R = RIGHT

INTERSECTION DESIGN EXCEPTIONS:
NORTHBOUND LEFT DESIGN STORAGE LENGTH LIMITED DUE TO PROXIMITY OF SBL INTO WHEATON SALEM CHURCH
EASTBOUND LEFT STORAGE LENGTH LIMITED IN ORDER TO MAINTAIN COMMERCIAL ENTRANCE TO WEST
B-6.18 C&G ON 95TH INSTEAD OF B-6.24 TO MATCH EXISTING
SOUTHBOUND LEFT STORAGE LENGTH ON BOOK ROAD INTO CHURCH ENTRANCE DUE TO PROXIMITY TO 95TH AND BOOK INTERSECTION
NBL AND SBL TURN LANE TAPER INTO TAMAHAWK LANE AND JOYCE LANE DUE TO PROXIMITY OF INTERSECTIONS
ADDITIONAL NOTES:
-SOUTHBOUND LEFT STORAGE REDUCED FROM EXISTING TO BALANCE NBL TURN STORAGE AT TAMAHAWK LANE
-EASTBOUND RIGHT STORAGE LONGER THAN NECESSARY SO THAT FIRST RIGHT IN RIGHT OUT IS FULLY WITHIN 12' LANE

MATCHLINE STA. 254+27



BOOK ROAD ALIGNMENT
STA. 223+51.74 TO STA 250+00.00: 01°37'25.8873"
STA. 250+00.00 TO STA 276+59.39: 01°37'13.5928"
95TH STREET ALIGNMENT
STA. 73+59.59 TO STA 100+05.50: 88°52'54.4894"
STA. 100+05.50 TO STA 126+54.44: 88°04'12.5730"



INTERSECTION DESIGN STUDY

FAU ROUTE 1644 (95TH STREET)
FAU ROUTE 0080 WITH (BOOK ROAD)

SEC. NO. 18-00171-00-CH PROJ. NO. -
SCALE 1"=50' COUNTY WILL
SUN: REV. NO. -

DESIGNED BY CMC 05/14/2019

SATISFACTORY DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE

SATISFACTORY DISTRICT OPERATIONS ENGINEER DATE

APPROVED REGIONAL ENGINEER DATE

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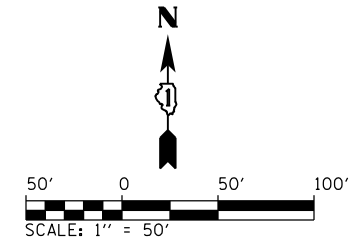
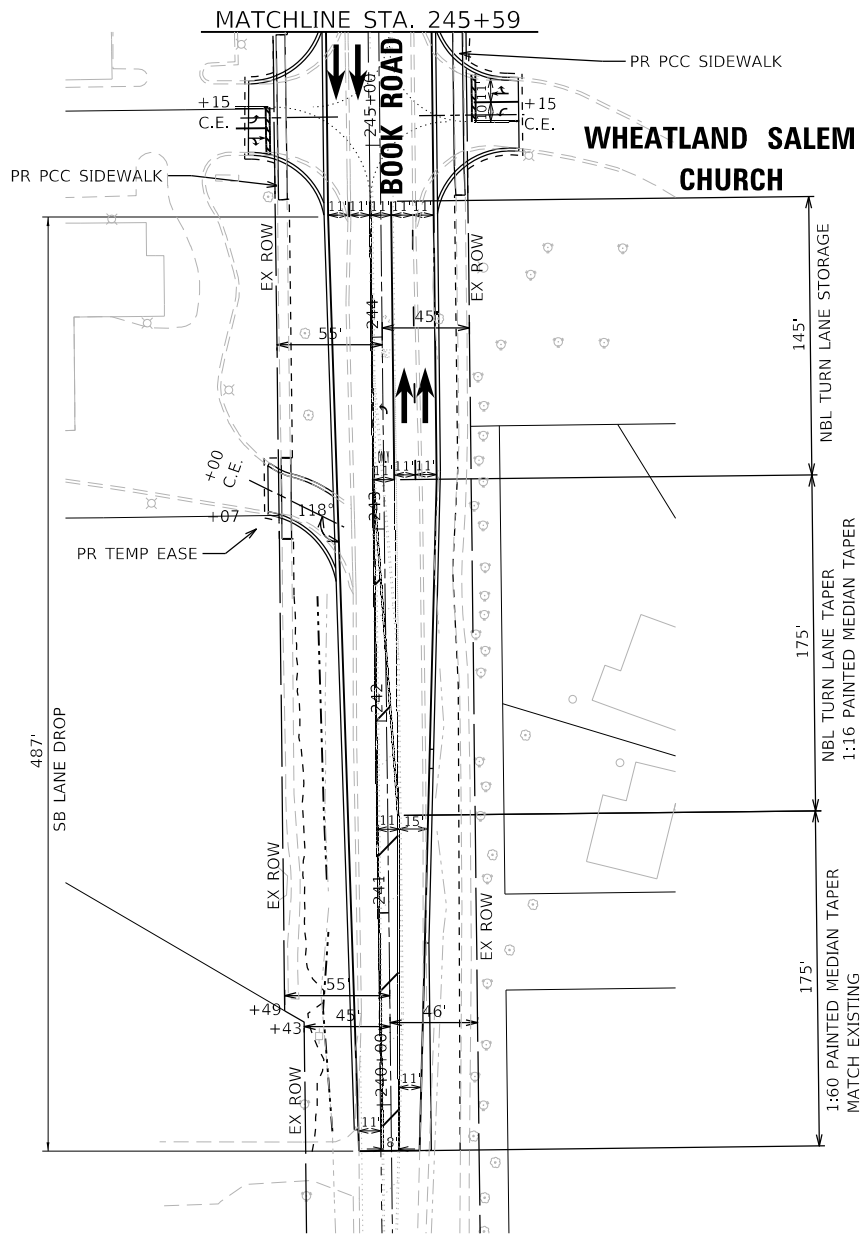
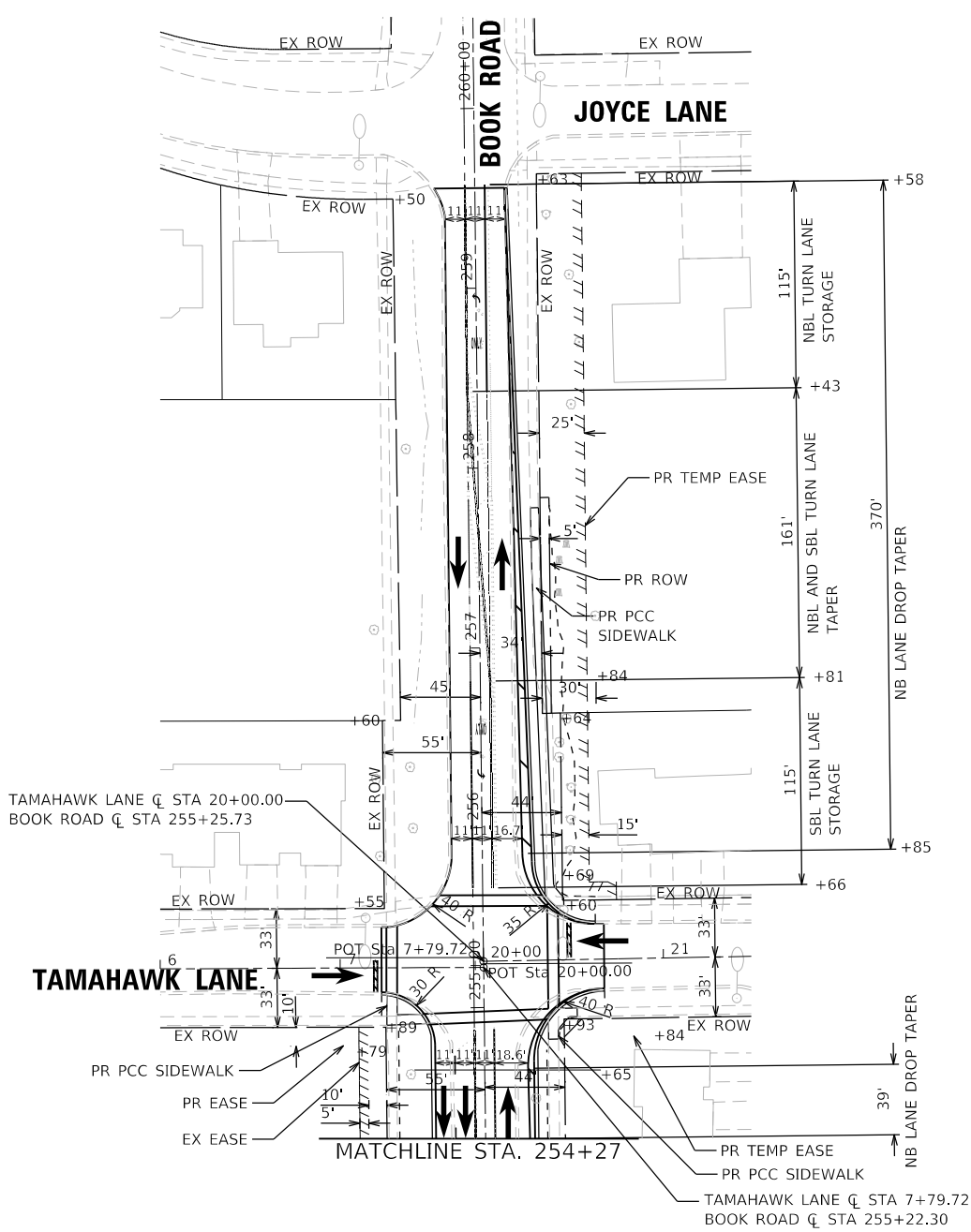
PREPARED BY:



PROJ. MGR. CMC

PROJ. ENG. JJM

2018 EXISTING ADT: AM (PM)



INTERSECTION DESIGN STUDY

FAU ROUTE 1644 (95TH STREET)
FAU ROUTE 0080 WITH (BOOK ROAD)

SEC. NO. 18-00171-00-CH PROJ. NO. -
SCALE 1"=50' COUNTY WILL
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SATISFACTORY DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE

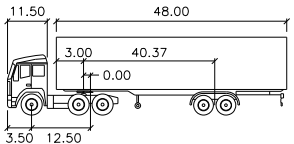
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APPROVED REGIONAL ENGINEER DATE

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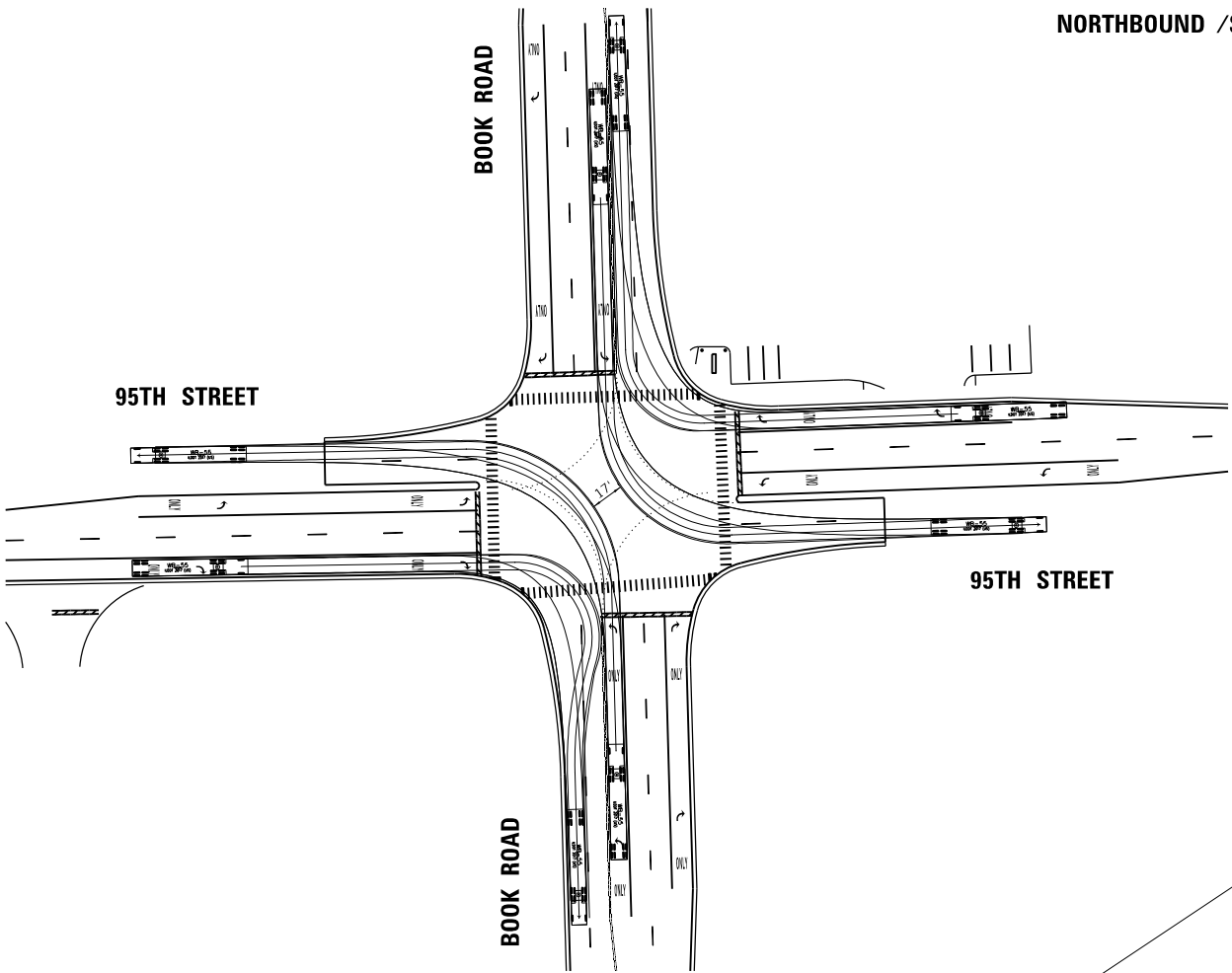
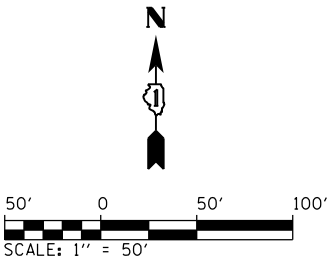
TURN TEMPLATES
EASTBOUND /WESTBOUND RIGHT
NORTHBOUND /SOUTHBOUND LEFT



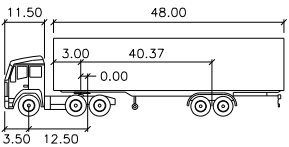
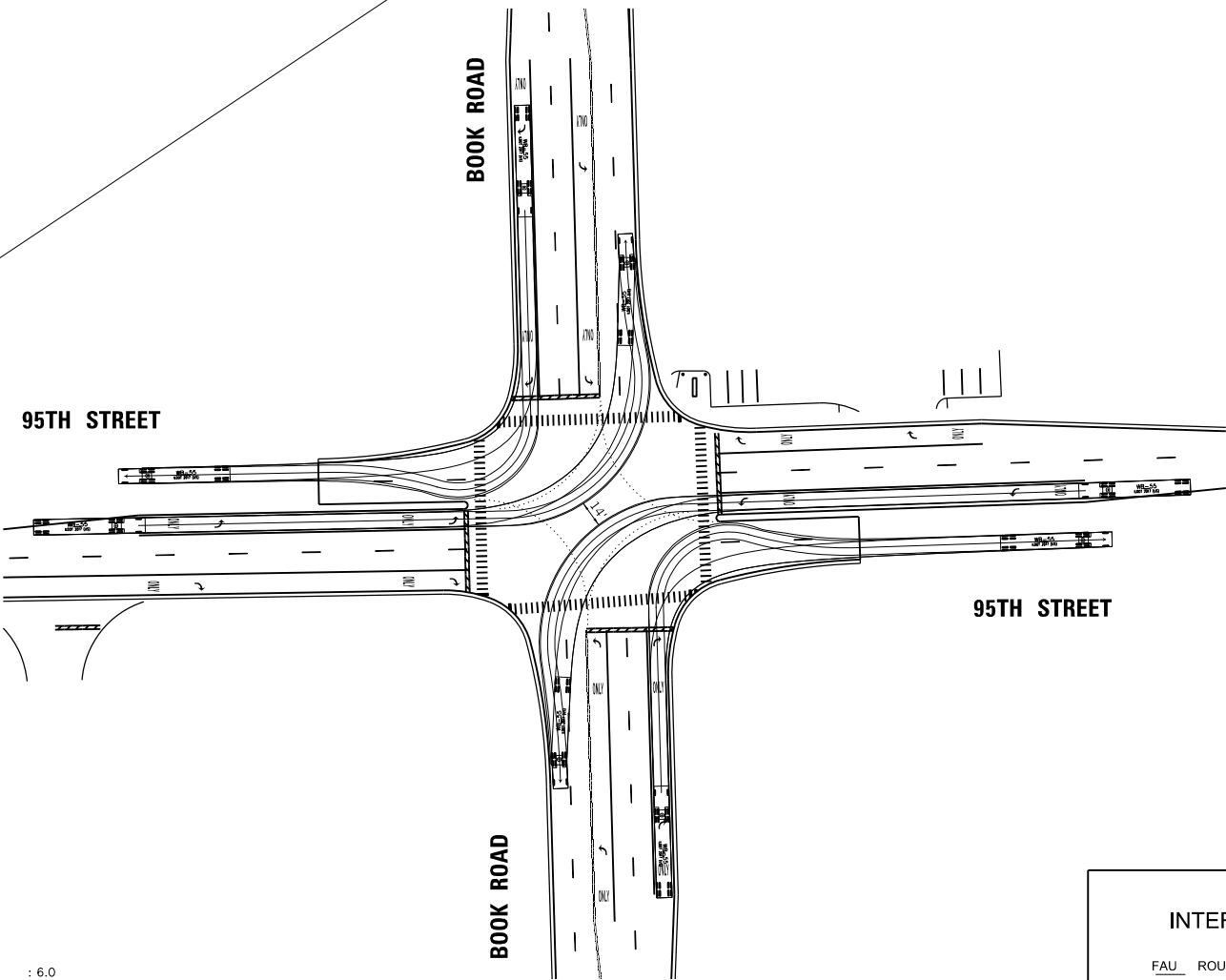
WB-55

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 18.1
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE PROFILE - NOT TO SCALE



TURN TEMPLATES
EASTBOUND /WESTBOUND LEFT
NORTHBOUND /SOUTHBOUND RIGHT



WB-55

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 18.1
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE PROFILE - NOT TO SCALE

PREPARED BY:

 **CMT**
License No. 184-000613

PROJ. MGR. CMC PROJ. ENG. JJM

INTERSECTION DESIGN STUDY

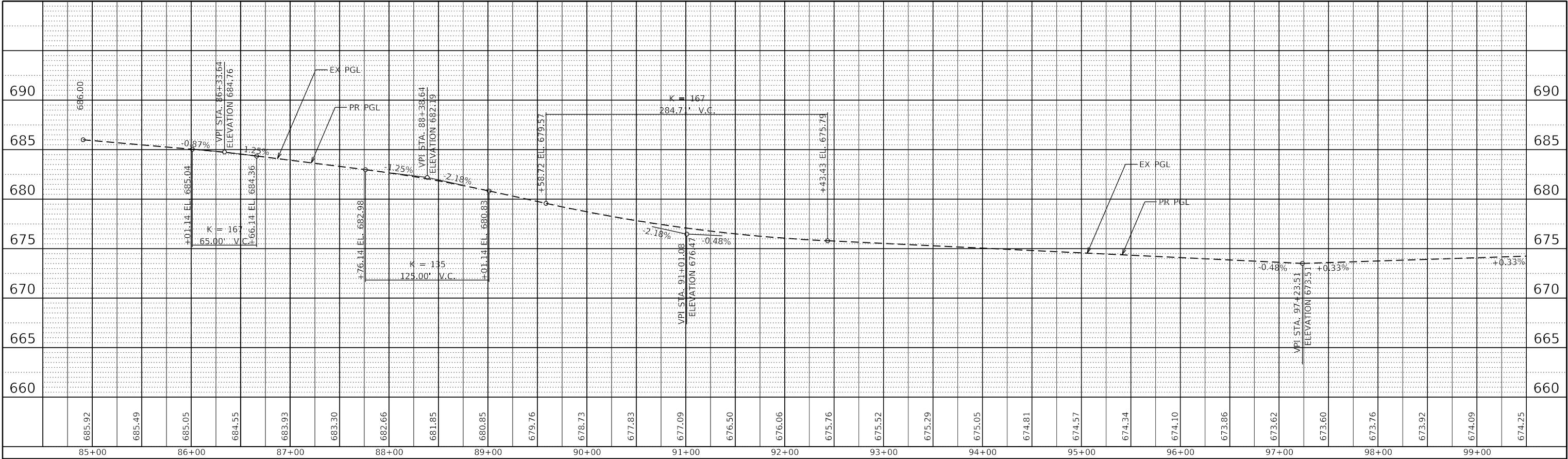
FAU ROUTE 1644 (BOOK ROAD)
N/A ROUTE 0080 WITH ()

SEC. NO. 18-00171-00-CH PROJ. NO. -
SCALE 1"=50' COUNTY WILL
SUN : REV. NO. -

PLAN	SURVEYED PLOTTED	BY	DATE
NOTE BOOK NO.	ALIGNMENT CHECKED DATE	PLOT DRIVER	PLOT TABLE

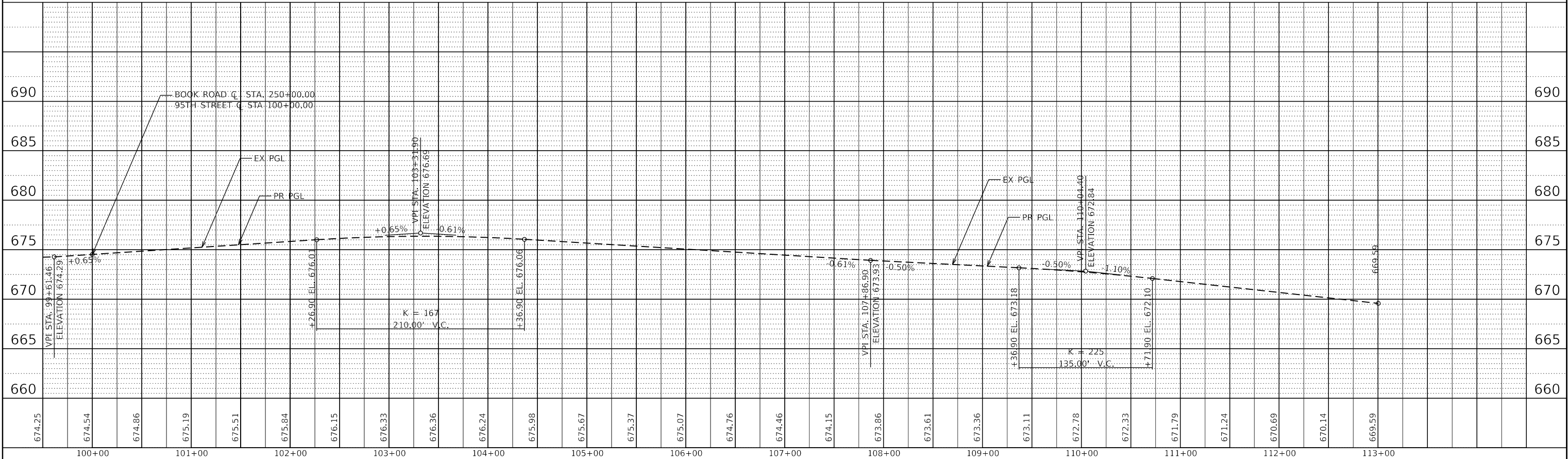
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NOTE BOOK NO.	GRADES CHECKED DATE	STRUCTURE NOTATIONS CHWD	

USER NAME
J. Metz
J:\Users\jmetz\18230-01_95thBook_Plan\Draw\CADD_Sheets\4.



95TH STREET

95TH STREET



License No. 184-000613 Copyright CMT, Inc.

FILE NAME = IDS_Profile.dgn	DESIGNED - MJW	REVISED -
MODEL NAME = Default	DRAWN - JJM	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED - CMC	REVISED -
PLOT DATE = 1/18/2019 (4:38:00 PM)	DATE - 01/25/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

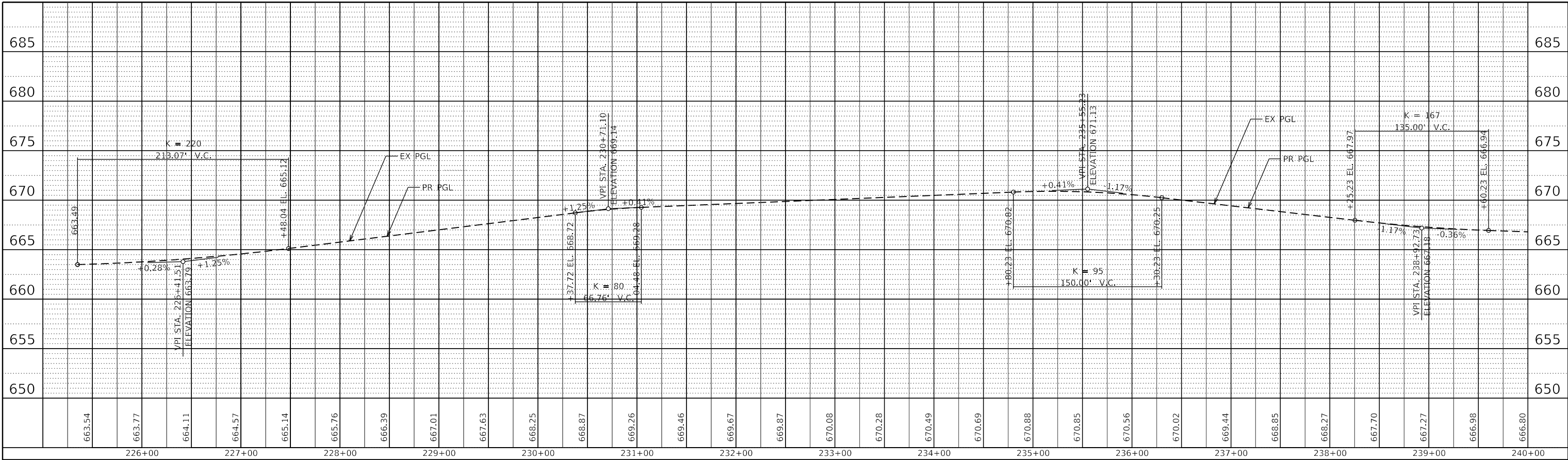
95TH STREET AND BOOK ROAD IDS - PROFILES
95TH STREET PROFILE

SCALE: 1"=50' SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	6	4
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED PLOTTED	BY	DATE
NOTE BOOK NO.	ALIGNMENT CHECKED DATE	PLOT DRIVER	PLOT TABLE

PDF_ScreenShotg
LIDOT_Blocks.kit

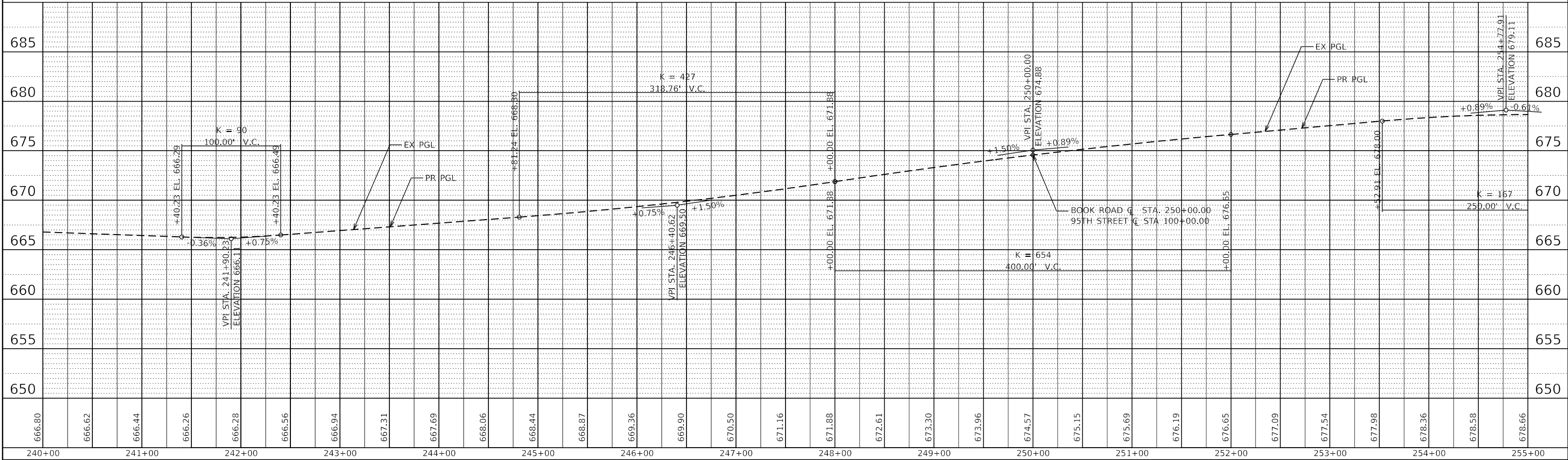


BOOK ROAD

BOOK ROAD

PROFILE	SURVEYED PLOTTED	BY	DATE
NOTE BOOK NO.	GRADES CHECKED DATE	STRUCTURE NOTATIONS CHWD	

Jeremy Metz
L:\Users\jmetz\18230-01_95thBook_Plan\Draw\CADD_Sheets\4.



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MODEL NAME = Default	DRAWN - JJM	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED - CMC	REVISED -
PLOT DATE = 1/18/2019 (4:38:29 PM)	DATE - 01/25/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

95TH STREET AND BOOK ROAD IDS - PROFILES
BOOK ROAD PROFILE

SCALE: 1"=50' SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	6	5
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

PLAN

SURVIVED
PLOTTED

ALIGNMENT CHECKED
FILED

CADD FILE NAME

BY

DATE

NOTE BOOK
NO.

PLOT DRIVER
PLOT TABLE

PDF_ScreenInfo
LIDOT Blackbox

PROFILE

SURVIVED
PLOTTED

GRADES CHECKED
FILED

STRUCTURE NOTATIONS CHWD

BY

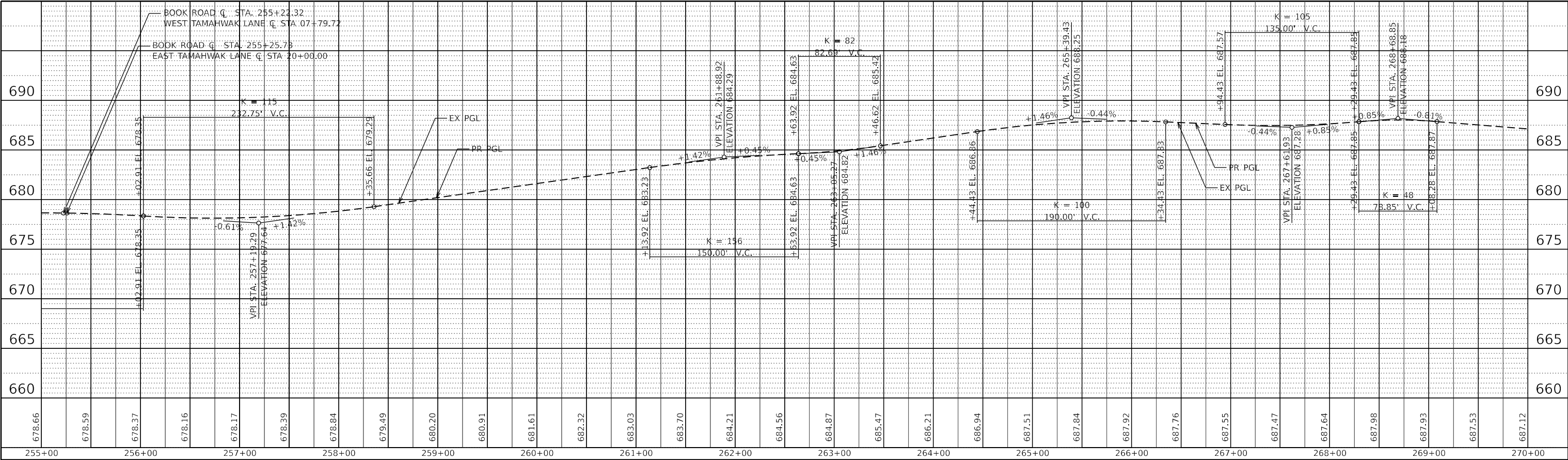
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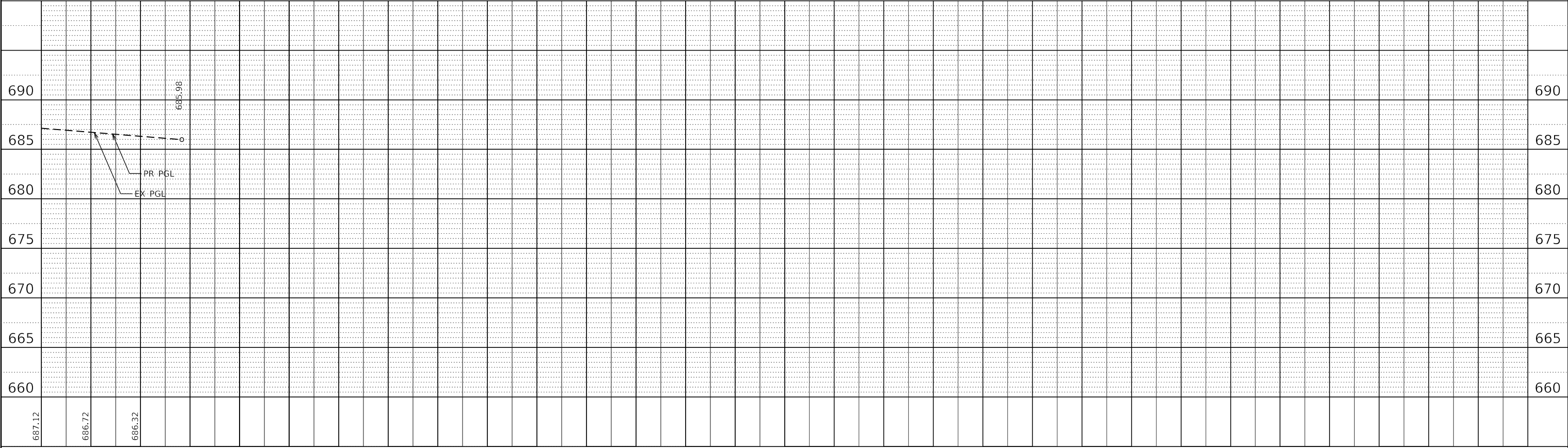
USER NAME
DIRECTOR

Jeremy Metz
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BOOK ROAD

BOOK ROAD



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FILE NAME	= IDS_Profile.dgn
MODEL NAME	= Default
PLOT SCALE	= 100.0000' / in.
PLOT DATE	= 1/18/2019 (4:38:52 PM)

DESIGNED	- MJW
DRAWN	- JJM
CHECKED	- CMC
DATE	- 01/25/2019

REVISED	-
REVISED	-
REVISED	-
REVISED	-

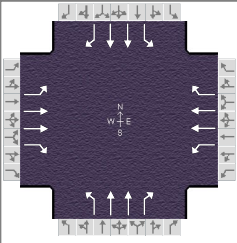
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

95TH STREET AND BOOK ROAD IDS - PROFILES
BOOK ROAD PROFILE

SCALE: 1"=50' SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	6	6
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

HCS7 Signalized Intersection Input Data

General Information						Intersection Information						
Agency	Naperville/CMT			Duration, h	0.25							
Analyst	Charles Cole	Analysis Date	Jan 8, 2019	Area Type	Other							
Jurisdiction	Naperville/Naperville		Time Period	AM Peak Hour	PHF	0.92						
Urban Street	95th Street		Analysis Year	2040	Analysis Period	1> 7:00						
Intersection	Book Road		File Name	2040 AM Peak Build 3.xus								
Project Description		Build Alternative 3										

Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				243	673	144	89	871	95	343	427	41	85	149	151

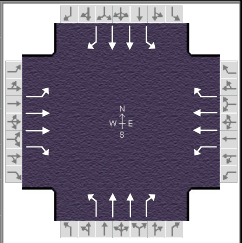
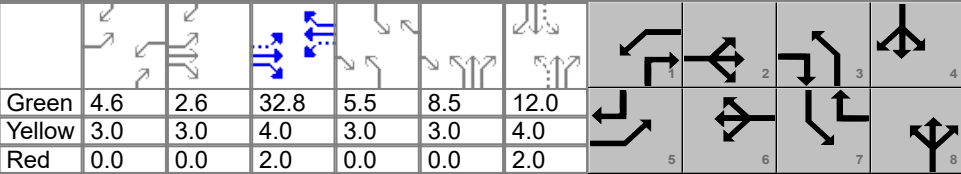
Signal Information													
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	4.6	2.6	32.8	5.5	8.5	12.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.0	3.0	4.0	3.0	3.0	4.0			
				Red	0.0	0.0	2.0	0.0	0.0	2.0			

Traffic Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				243	673	144	89	871	95	343	427	41	85	149	151
Initial Queue (Q _b), veh/h				0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s _o), veh/h				1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N _m), man/h					None			None			None			None	
Heavy Vehicles (P _{HV}), %				2	5	9	2	4	3	6	2	0	5	2	4
Ped / Bike / RTOR, /h				10	10	0	10	10	0	10	10	0	10	10	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	4	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft				11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Turn Bay Length, ft				0	0	0	0	0	0	0	0	0	0	0	0
Grade (P _g), %					1			-1			1			-1	
Speed Limit, mi/h				40	40	40	40	40	40	40	40	40	40	40	40

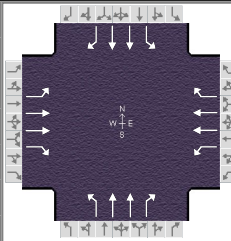
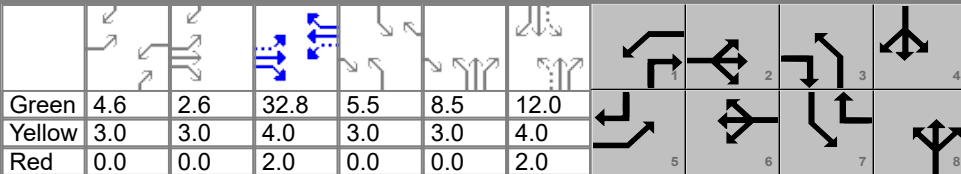
Phase Information		EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		20.0	20.0	20.0	20.0	20.0	30.0	20.0	30.0
Yellow Change Interval (Y), s		3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance Interval (R _c), s		0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G _{min}), s		3	3	3	3	3	3	3	3
Start-Up Lost Time (lt), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode		Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry		No	Yes	No	Yes	No	Yes	No	Yes
Walk (Walk), s		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Multimodal Information				EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft				9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb				0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft				12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking				No		0.50	No		0.50	No		0.50	No		0.50

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information															
Agency		Naperville/CMT				Duration, h		0.25													
Analyst		Charles Cole		Analysis Date		Jan 8, 2019		Area Type		Other											
Jurisdiction		Naperville/Naperville		Time Period		AM Peak Hour		PHF		0.92											
Urban Street		95th Street		Analysis Year		2040		Analysis Period		1> 7:00											
Intersection		Book Road		File Name		2040 AM Peak Build 3.xus															
Project Description		Build Alternative 3																			
Demand Information						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h						243	673	144	89	871	95	343	427	41	85	149	151				
Signal Information																					
Cycle, s	90.0	Reference Phase	2																		
Offset, s	0	Reference Point	End																		
Uncoordinated	No	Simult. Gap E/W	On																		
Force Mode	Fixed	Simult. Gap N/S	On																		
						Green	4.6	2.6	32.8	5.5	8.5	12.0									
						Yellow	3.0	3.0	4.0	3.0	3.0	4.0									
						Red	0.0	0.0	2.0	0.0	0.0	2.0									
Timer Results						EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						5		2		1		6		3		8		7		4	
Case Number						1.1		3.0		1.1		3.0		1.1		3.0		1.1		3.0	
Phase Duration, s						13.3		44.4		7.6		38.8		20.0		29.5		8.5		18.0	
Change Period, (Y+R c), s						3.0		6.0		3.0		6.0		3.0		6.0		3.0		6.0	
Max Allow Headway (MAH), s						3.1		0.0		3.1		0.0		3.1		3.1		3.1		3.1	
Queue Clearance Time (g s), s						9.9				5.0				18.3		11.4		6.0		10.2	
Green Extension Time (g e), s						0.4		0.0		0.1		0.0		0.0		1.9		0.1		1.7	
Phase Call Probability						1.00				0.91				1.00		1.00		0.90		1.00	
Max Out Probability						0.00				0.00				1.00		0.00		0.00		0.01	
Movement Group Results						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement						5	2	12	1	6	16	3	8	18	7	4	14				
Adjusted Flow Rate (v), veh/h						264	732	157	97	947	103	373	464	45	92	162	164				
Adjusted Saturation Flow Rate (s), veh/h/ln						1776	1824	1456	1818	1883	1563	1719	1868	1554	1776	1913	1513				
Queue Service Time (g s), s						7.9	10.6	4.2	3.0	19.2	3.7	16.3	9.4	1.8	4.0	3.4	8.2				
Cycle Queue Clearance Time (g c), s						7.9	10.6	4.2	3.0	19.2	3.7	16.3	9.4	1.8	4.0	3.4	8.2				
Green Ratio (g/C)						0.50	0.43	0.62	0.42	0.36	0.42	0.34	0.26	0.31	0.19	0.13	0.25				
Capacity (c), veh/h						372	1556	903	385	1371	666	517	976	489	311	509	383				
Volume-to-Capacity Ratio (X)						0.711	0.470	0.173	0.251	0.691	0.155	0.722	0.476	0.091	0.297	0.318	0.428				
Back of Queue (Q), ft/ln (95 th percentile)						134	177	58.1	53.1	342.7	60.4	291.1	184.1	28.7	77.4	71.3	133.6				
Back of Queue (Q), veh/ln (95 th percentile)						5.3	6.8	2.2	2.1	13.3	2.4	11.1	7.2	1.1	3.0	2.8	5.2				
Queue Storage Ratio (RQ) (95 th percentile)						0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Uniform Delay (d 1), s/veh						17.6	13.4	7.5	16.6	24.3	15.9	25.0	28.1	21.9	30.9	35.3	28.6				
Incremental Delay (d 2), s/veh						0.9	1.0	0.4	0.1	2.9	0.5	4.3	0.1	0.0	0.2	0.1	0.3				
Initial Queue Delay (d 3), s/veh						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Control Delay (d), s/veh						18.6	14.4	7.9	16.7	27.2	16.4	29.2	28.2	21.9	31.1	35.5	28.9				
Level of Service (LOS)						B	B	A	B	C	B	C	C	C	C	D	C				
Approach Delay, s/veh / LOS						14.5		B		25.3		C		28.3		C		31.9		C	
Intersection Delay, s/veh / LOS						23.4						C									
Multimodal Results						EB			WB			NB			SB						
Pedestrian LOS Score / LOS						2.9		C		2.9		C		3.0		C		3.0		C	
Bicycle LOS Score / LOS						1.4		A		1.4		A		1.2		A		0.8		A	

HCS7 Signalized Intersection Intermediate Values

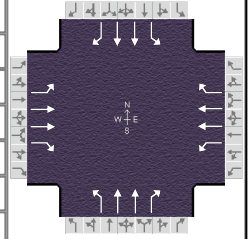
General Information						Intersection Information											
Agency		Naperville/CMT				Duration, h		0.25									
Analyst		Charles Cole		Analysis Date		Jan 8, 2019		Area Type		Other							
Jurisdiction		Naperville/Naperville		Time Period		AM Peak Hour		PHF		0.92							
Urban Street		95th Street		Analysis Year		2040		Analysis Period		1> 7:00							
Intersection		Book Road		File Name		2040 AM Peak Build 3.xus											
Project Description		Build Alternative 3															
Demand Information						EB			WB			NB			SB		
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h						243	673	144	89	871	95	343	427	41	85	149	151
Signal Information																	
Cycle, s		90.0	Reference Phase		2												
Offset, s		0	Reference Point		End												
Uncoordinated		No	Simult. Gap E/W		On												
Force Mode		Fixed	Simult. Gap N/S		On												
						Green	4.6	2.6	32.8	5.5	8.5	12.0					
						Yellow	3.0	3.0	4.0	3.0	3.0	4.0					
						Red	0.0	0.0	2.0	0.0	0.0	2.0					
Saturation Flow / Delay						L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f _w)						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f _{HVg})						0.981	0.958	0.927	1.005	0.989	0.997	0.950	0.981	0.997	0.981	1.005	0.989
Parking Activity Adjustment Factor (f _p)						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f _{bb})						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f _a)						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f _{LU})						1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
Left-Turn Adjustment Factor (f _{LT})						0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f _{RT})							0.000	0.847		0.000	0.847		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f _{LPB})						0.999			0.997			0.988			0.988		
Right-Turn Ped-Bike Adjustment Factor (f _{Rpb})								0.976			0.974			0.968			0.950
Work Zone Adjustment Factor (f _{wz})						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f _{DDI})						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h						1776	3648	1456	1818	3766	1563	1719	3737	1554	1776	3827	1513
Proportion of Vehicles Arriving on Green (P)						0.11	0.57	0.43	0.05	0.36	0.36	0.19	0.26	0.26	0.06	0.13	0.13
Incremental Delay Factor (k)						0.04	0.50	0.50	0.04	0.50	0.50	0.24	0.04	0.04	0.04	0.04	0.04
Signal Timing / Movement Groups						EBL	EBT/R		WBL	WBT/R		NBL	NBT/R		SBL	SBT/R	
Lost Time (t _L)						3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Green Ratio (g/C)						0.50	0.43		0.42	0.36		0.34	0.26		0.19	0.13	
Permitted Saturation Flow Rate (s _p), veh/h/ln						590	0		740	0		1181	0		925	0	
Shared Saturation Flow Rate (s _{sh}), veh/h/ln																	
Permitted Effective Green Time (g _p), s						34.8	0.0		32.8	0.0		14.0	0.0		12.0	0.0	
Permitted Service Time (g _u), s						13.5	0.0		25.8	0.0		8.5	0.0		12.0	0.0	
Permitted Queue Service Time (g _{ps}), s						13.5			1.1			2.5			0.0		
Time to First Blockage (g _t), s						0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Queue Service Time Before Blockage (g _{ts}), s																	
Protected Right Saturation Flow (s _R), veh/h/ln							1492			1605			1605			1593	
Protected Right Effective Green Time (g _R), s							17.0			5.5			4.6			10.3	
Multimodal						EB			WB			NB			SB		
Pedestrian F _w / F _v						2.224	0.00		2.224	0.00		2.224	0.00		2.224	0.00	
Pedestrian F _s / F _{delay}						0.000	0.108		0.000	0.116		0.000	0.128		0.000	0.141	
Pedestrian M _{corner} / M _{cw}																	
Bicycle c _b / d _b						853.19	14.87		727.84	18.30		522.17	24.69		265.90	34.00	
Bicycle F _w / F _v						-3.64	0.95		-3.64	0.95		-3.64	0.73		-3.64	0.35	

HCS7 Signalized Intersection Results Graphical Summary

General Information

Agency	Naperville/CMT		
Analyst	Charles Cole	Analysis Date	Jan 8, 2019
Jurisdiction	Naperville/Naperville	Time Period	AM Peak Hour
Urban Street	95th Street	Analysis Year	2040
Intersection	Book Road	File Name	2040 AM Peak Bu
Project Description	Build Alternative 3		

Intersection Information



Demand Information

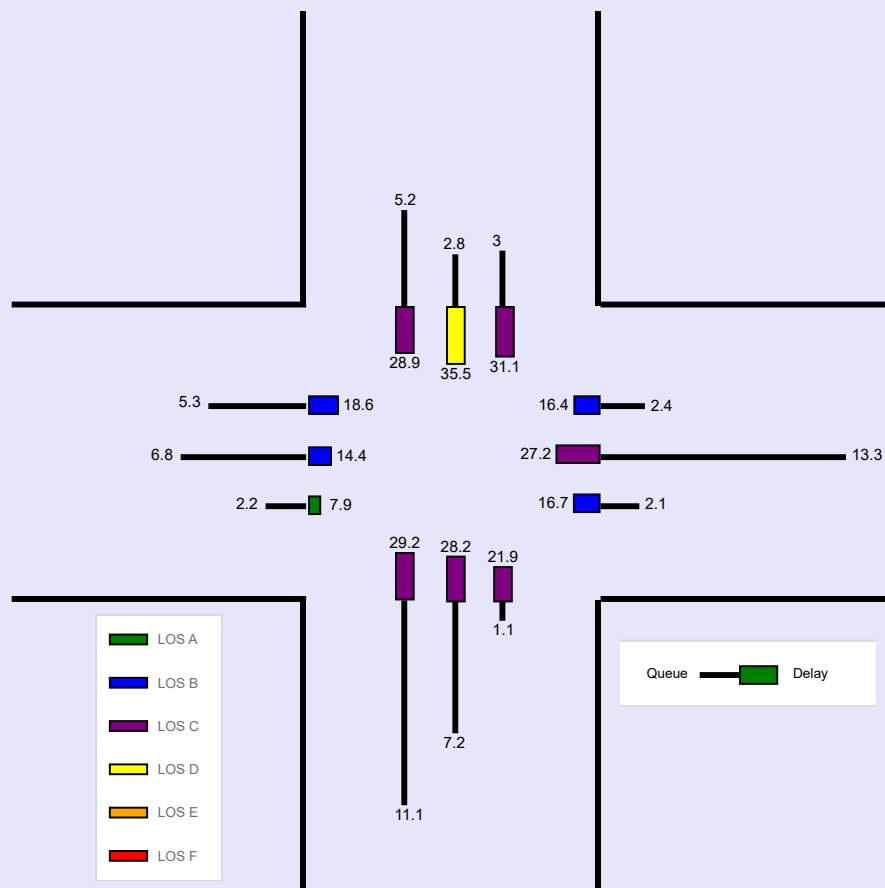
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	243	673	144	89	871	95	343	427	41	85	149	151

Signal Information

Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								
	Green	4.6	2.6	32.8	5.5	8.5	12.0	1	2	3	4
	Yellow	3.0	3.0	4.0	3.0	3.0	4.0	5	6	7	8
	Red	0.0	0.0	2.0	0.0	0.0	2.0				

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (Q), ft/ln (95 th percentile)	134	177	58.1	53.1	342.7	60.4	291.1	184.1	28.7	77.4	71.3	133.6
Back of Queue (Q), veh/ln (95 th percentile)	5.3	6.8	2.2	2.1	13.3	2.4	11.1	7.2	1.1	3.0	2.8	5.2
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Control Delay (d), s/veh	18.6	14.4	7.9	16.7	27.2	16.4	29.2	28.2	21.9	31.1	35.5	28.9
Level of Service (LOS)	B	B	A	B	C	B	C	C	C	C	D	C
Approach Delay, s/veh / LOS	14.5		B	25.3		C	28.3		C	31.9		C
Intersection Delay, s/veh / LOS	23.4						C					

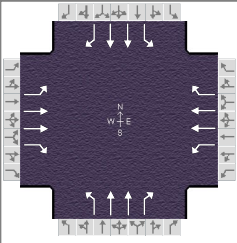


--- Messages ---

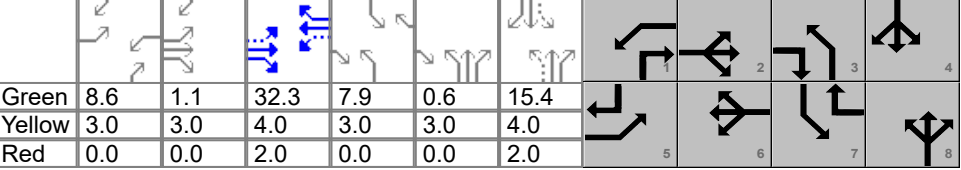
No errors or warnings exist.

--- Comments ---

HCS7 Signalized Intersection Input Data

General Information					Intersection Information							
Agency	Naperville/CMT				Duration, h	0.25						
Analyst	Charles Cole	Analysis Date	Jan 8, 2019		Area Type	Other						
Jurisdiction	Naperville/Naperville		Time Period	PM Peak Hour	PHF	0.92						
Urban Street	95th Street		Analysis Year	2040	Analysis Period	1> 7:00						
Intersection	Book Road		File Name	2040 PM Peak Build 3.xus								
Project Description	Build Alternative 3											

Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				315	784	278	193	917	119	221	306	45	137	459	202

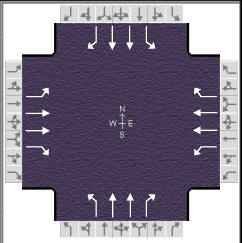
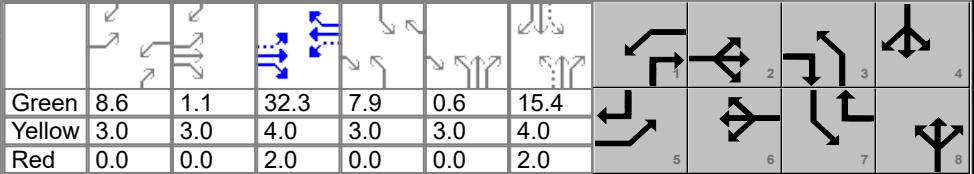
Signal Information															
Cycle, s	90.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On												
Green	8.6	1.1	32.3	7.9	0.6	15.4									
Yellow	3.0	3.0	4.0	3.0	3.0	4.0									
Red	0.0	0.0	2.0	0.0	0.0	2.0									

Traffic Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				315	784	278	193	917	119	221	306	45	137	459	202
Initial Queue (Q _b), veh/h				0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s _o), veh/h				1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N _m), man/h				None			None			None			None		
Heavy Vehicles (P _{HV}), %				1	1	0	1	0	0	0	1	0	3	0	0
Ped / Bike / RTOR, /h				10	10	0	10	10	0	10	10	0	10	10	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	4	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft				11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Turn Bay Length, ft				0	0	0	0	0	0	0	0	0	0	0	0
Grade (P _g), %				1			-1			1			-1		
Speed Limit, mi/h				40	40	40	40	40	40	40	40	40	40	40	40

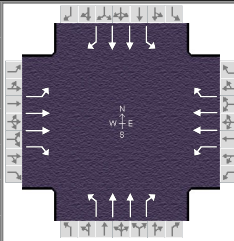
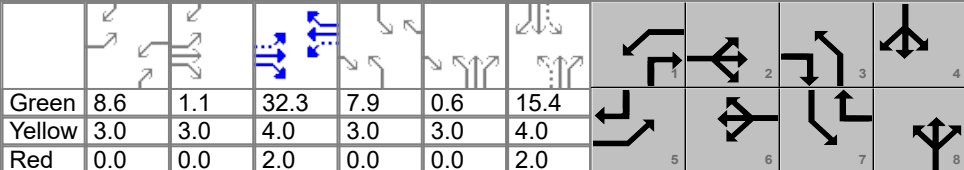
Phase Information		EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		20.0	20.0	20.0	20.0	20.0	30.0	20.0	30.0
Yellow Change Interval (Y), s		3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance Interval (R _c), s		0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G _{min}), s		3	3	3	3	3	3	3	3
Start-Up Lost Time (I _t), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode		Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry		No	Yes	No	Yes	No	Yes	No	Yes
Walk (Walk), s		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Multimodal Information				EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft				9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb				0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft				12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking				No	0.50		No	0.50		No	0.50		No	0.50	

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information															
Agency		Naperville/CMT				Duration, h		0.25													
Analyst		Charles Cole		Analysis Date		Jan 8, 2019		Area Type		Other											
Jurisdiction		Naperville/Naperville		Time Period		PM Peak Hour		PHF		0.92											
Urban Street		95th Street		Analysis Year		2040		Analysis Period		1> 7:00											
Intersection		Book Road		File Name		2040 PM Peak Build 3.xus															
Project Description		Build Alternative 3																			
Demand Information						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h						315	784	278	193	917	119	221	306	45	137	459	202				
Signal Information																					
Cycle, s		90.0	Reference Phase		2																
Offset, s		0	Reference Point		End																
Uncoordinated		No	Simult. Gap E/W		On																
Force Mode		Fixed	Simult. Gap N/S		On																
						Green	8.6	1.1	32.3	7.9	0.6	15.4									
						Yellow	3.0	3.0	4.0	3.0	3.0	4.0									
						Red	0.0	0.0	2.0	0.0	0.0	2.0									
Timer Results						EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						5		2		1		6		3		8		7		4	
Case Number						1.1		3.0		1.1		3.0		1.1		3.0		1.1		3.0	
Phase Duration, s						15.8		42.4		11.6		38.3		14.6		25.0		10.9		21.4	
Change Period, (Y+R c), s						3.0		6.0		3.0		6.0		3.0		6.0		3.0		6.0	
Max Allow Headway (MAH), s						3.1		0.0		3.1		0.0		3.1		3.1		3.1		3.1	
Queue Clearance Time (g s), s						12.2				8.3				11.4		8.9		8.0		13.0	
Green Extension Time (g e), s						0.6		0.0		0.3		0.0		0.2		2.5		0.2		2.4	
Phase Call Probability						1.00				0.99				1.00		1.00		0.98		1.00	
Max Out Probability						0.00				0.00				0.09		0.00		0.00		0.01	
Movement Group Results						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement						5	2	12	1	6	16	3	8	18	7	4	14				
Adjusted Flow Rate (v), veh/h						342	852	302	210	997	129	240	333	49	149	499	220				
Adjusted Saturation Flow Rate (s), veh/h/ln						1790	1883	1566	1833	1943	1600	1804	1883	1547	1804	1943	1575				
Queue Service Time (g s), s						10.2	13.4	10.1	6.3	19.9	4.4	9.4	6.9	2.0	6.0	11.0	10.0				
Cycle Queue Clearance Time (g c), s						10.2	13.4	10.1	6.3	19.9	4.4	9.4	6.9	2.0	6.0	11.0	10.0				
Green Ratio (g/C)						0.52	0.40	0.53	0.45	0.36	0.45	0.32	0.21	0.31	0.26	0.17	0.31				
Capacity (c), veh/h						412	1523	839	411	1394	719	357	796	481	359	665	503				
Volume-to-Capacity Ratio (X)						0.832	0.560	0.360	0.511	0.715	0.180	0.674	0.418	0.102	0.415	0.750	0.437				
Back of Queue (Q), ft/ln (95 th percentile)						173.6	216	152.9	112.1	351.6	71.2	174.4	136.2	31.9	114.5	217.6	160.1				
Back of Queue (Q), veh/ln (95 th percentile)						6.9	8.6	6.1	4.4	14.1	2.8	7.0	5.4	1.3	4.5	8.7	6.4				
Queue Storage Ratio (RQ) (95 th percentile)						0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Uniform Delay (d 1), s/veh						17.8	15.5	12.2	16.2	24.9	15.0	25.1	30.7	22.3	27.1	35.5	24.7				
Incremental Delay (d 2), s/veh						1.7	1.5	1.2	0.4	3.2	0.5	1.1	0.1	0.0	0.3	0.6	0.2				
Initial Queue Delay (d 3), s/veh						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Control Delay (d), s/veh						19.5	16.9	13.4	16.5	28.1	15.5	26.3	30.8	22.3	27.4	36.1	24.9				
Level of Service (LOS)						B	B	B	B	C	B	C	C	C	C	D	C				
Approach Delay, s/veh / LOS						16.8		B		25.0		C		28.4		C		31.8		C	
Intersection Delay, s/veh / LOS						24.0						C									
Multimodal Results						EB			WB			NB			SB						
Pedestrian LOS Score / LOS						2.9		C		2.9		C		3.0		C		3.0		C	
Bicycle LOS Score / LOS						1.7		B		1.6		B		1.0		A		1.2		A	

HCS7 Signalized Intersection Intermediate Values

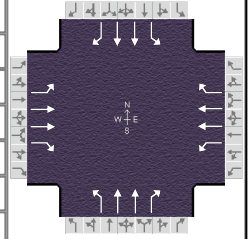
General Information						Intersection Information									
Agency		Naperville/CMT				Duration, h		0.25							
Analyst		Charles Cole		Analysis Date		Jan 8, 2019		Area Type		Other					
Jurisdiction		Naperville/Naperville		Time Period		PM Peak Hour		PHF		0.92					
Urban Street		95th Street		Analysis Year		2040		Analysis Period		1> 7:00					
Intersection		Book Road		File Name		2040 PM Peak Build 3.xus									
Project Description		Build Alternative 3													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				315	784	278	193	917	119	221	306	45	137	459	202
Signal Information															
Cycle, s	90.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On												
				Green	8.6	1.1	32.3	7.9	0.6	15.4					
				Yellow	3.0	3.0	4.0	3.0	3.0	4.0					
				Red	0.0	0.0	2.0	0.0	0.0	2.0					
Saturation Flow / Delay				L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_HVg)				0.989	0.989	0.997	1.013	1.021	1.021	0.997	0.989	0.997	0.997	1.021	1.021
Parking Activity Adjustment Factor (f_p)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_bb)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_LU)				1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000
Left-Turn Adjustment Factor (f_LT)				0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_RT)					0.000	0.847		0.000	0.847		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_Lpb)				0.999			0.998			0.995			0.991		
Right-Turn Ped-Bike Adjustment Factor (f_Rpb)						0.975			0.974			0.964			0.958
Work Zone Adjustment Factor (f_wz)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_DDI)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h				1790	3766	1566	1833	3887	1600	1804	3766	1547	1804	3887	1575
Proportion of Vehicles Arriving on Green (P)				0.14	0.54	0.40	0.10	0.36	0.36	0.13	0.21	0.21	0.09	0.17	0.17
Incremental Delay Factor (k)				0.04	0.50	0.50	0.04	0.50	0.50	0.05	0.04	0.04	0.04	0.04	0.04
Signal Timing / Movement Groups				EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R				
Lost Time (t_L)				3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Green Ratio (g/C)				0.52	0.40	0.45	0.36	0.32	0.21	0.26	0.17				
Permitted Saturation Flow Rate (s_p), veh/h/ln				568	0	666	0	910	0	1061	0				
Shared Saturation Flow Rate (s_sh), veh/h/ln															
Permitted Effective Green Time (g_p), s				34.3	0.0	32.3	0.0	17.4	0.0	15.4	0.0				
Permitted Service Time (g_u), s				12.4	0.0	20.9	0.0	4.4	0.0	10.1	0.0				
Permitted Queue Service Time (g_ps), s				12.4		5.2		4.4		0.9					
Time to First Blockage (g_t), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Queue Service Time Before Blockage (g_ts), s															
Protected Right Saturation Flow (s_R), veh/h/ln					1605		1644		1605		1644				
Protected Right Effective Green Time (g_R), s					11.6		7.9		8.6		12.8				
Multimodal				EB		WB		NB		SB					
Pedestrian F_w / F_v				2.224	0.00	2.224	0.00	2.224	0.00	2.224	0.00				
Pedestrian F_s / F_delay				0.000	0.111	0.000	0.117	0.000	0.134	0.000	0.138				
Pedestrian M_corner / M_cw															
Bicycle c_b / d_b				808.53	16.05	717.16	18.61	422.68	28.13	342.38	31.07				
Bicvcle F_w / F_v				-3.64	1.23	-3.64	1.10	-3.64	0.51	-3.64	0.72				

HCS7 Signalized Intersection Results Graphical Summary

General Information

Agency	Naperville/CMT		
Analyst	Charles Cole	Analysis Date	Jan 8, 2019
Jurisdiction	Naperville/Naperville	Time Period	PM Peak Hour
Urban Street	95th Street	Analysis Year	2040
Intersection	Book Road	File Name	2040 PM Peak Bu
Project Description	Build Alternative 3		

Intersection Information



Demand Information

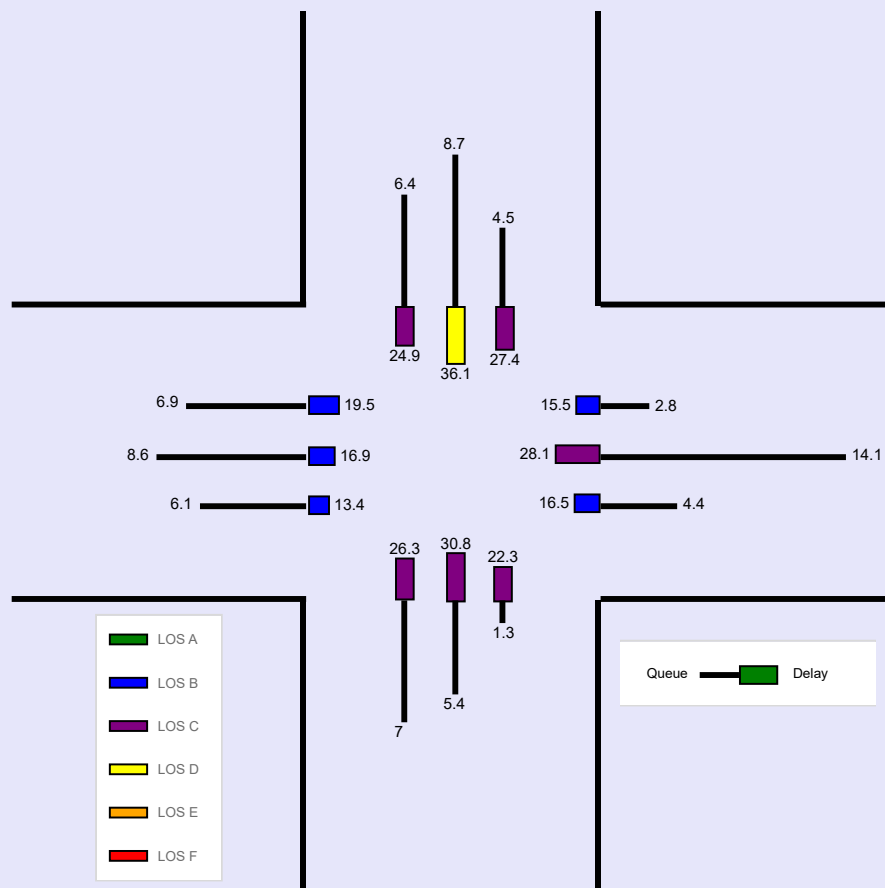
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	315	784	278	193	917	119	221	306	45	137	459	202

Signal Information

Cycle, s	90.0	Reference Phase	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (Q), ft/ln (95 th percentile)	173.6	216	152.9	112.1	351.6	71.2	174.4	136.2	31.9	114.5	217.6	160.1
Back of Queue (Q), veh/ln (95 th percentile)	6.9	8.6	6.1	4.4	14.1	2.8	7.0	5.4	1.3	4.5	8.7	6.4
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Control Delay (d), s/veh	19.5	16.9	13.4	16.5	28.1	15.5	26.3	30.8	22.3	27.4	36.1	24.9
Level of Service (LOS)	B	B	B	B	C	B	C	C	C	C	D	C
Approach Delay, s/veh / LOS	16.8		B	25.0		C	28.4		C	31.8		C
Intersection Delay, s/veh / LOS	24.0						C					



--- Messages ---

No errors or warnings exist.

--- Comments ---

95th Street and Book Road

TURN LANE STORAGE REQUIREMENTS

95% Queue Storage Length

LANE	MOVEMENT	95% Car Queue AM	95% Car Queue PM	95% Vehicle Queue AM	95% Vehicle Queue PM
		(# Vehicles)	(# Vehicles)	(feet)	(feet)
SBL	AD			77	115
SBT	AB			71	218
SBR	AC			134	160
NBL	BC			291	174
NBT	BA			184	136
NBR	BD			29	32
EBL	CA			134	174
EBT	CD			177	216
EBR	CB			58	153
WBL	DB			53	112
WBT	DC			343	352
WBR	DA			60	71

Note: SRA Criteria for all legs (150ft min storage length) BDE Ch 36-3.02(b) criteria 2c.

Project Information

Project:	95th and Book		
Major Road:	95th Street	Direction:	East-West
Minor Road:	Book Road	Direction:	North-South
Design Year:	2040		
Date:	1/9/2019		
By:	JJM		
Checked By:	CMC		

Red Time Queue

LANE	MOVEMENT	DHV		% TRUCK		2	V / 3600		CYCLE		Used G/C						RED TIME		25	Tf		N	LENGTH	
		AM	PM	AM	PM		AM	PM	AM	PM	g	g _u	G/C	g	g _u	G/C	AM	PM		AM	PM		AM	PM
											AM			PM										
SBL	AD	85	137	5	3	2	0.024	0.038	90	90	5.5	12	0.194	7.9	10.1	0.200	73	72	25	1.05	1.03	1	90	141
SBT	AB	149	459	2	0	2	0.041	0.128	90	90	12	0	0.133	15.4	0	0.171	78	75	25	1.02	1.00	2	82	238
SBR	AC	151	202	4	0	2	0.042	0.056	90	90	16.6	0	0.184	25.1	0	0.279	73	65	25	1.04	1.00	1	160	182
NBL	BC	343	221	6	0	2	0.095	0.061	90	90	14	8.5	0.250	8.5	4.4	0.143	68	77	25	1.06	1.00	1	341	237
NBT	BA	427	306	2	1	2	0.119	0.085	90	90	20.5	0	0.228	16	0	0.178	70	74	25	1.02	1.01	2	210	159
NBR	BD	41	45	0	0	2	0.011	0.013	90	90	16.6	0	0.184	24.6	0	0.273	73	65	25	1.00	1.00	1	42	41
EBL	CA	243	315	2	1	2	0.068	0.088	90	90	7.2	13.5	0.230	8.6	12.4	0.233	69	69	25	1.02	1.01	1	239	305
EBT	CD	673	784	5	1	2	0.187	0.218	90	90	35.4	0	0.393	33.4	0	0.371	55	57	25	1.05	1.01	2	268	311
EBR	CB	144	278	9	0	2	0.040	0.077	90	90	35.4	0	0.393	41.9	0	0.466	55	48	25	1.09	1.00	1	119	186
WBL	DB	89	193	2	1	2	0.025	0.054	90	90	4.6	25.8	0.338	8.6	20.9	0.328	60	61	25	1.02	1.01	1	75	164
WBT	DC	871	917	4	0	2	0.242	0.255	90	90	32.8	0	0.364	32.3	0	0.359	57	58	25	1.04	1.00	2	360	367
WBR	DA	95	119	3	0	2	0.026	0.033	90	90	38.3	0	0.426	40.2	0	0.447	52	50	25	1.03	1.00	1	70	82

Existing and Proposed Evaluation

LANE	MOVEMENT	Existing Storage Length (feet)	Minimum Decel Storage Length (feet)	95% Queue AM (feet)	95% Queue PM (feet)	Red Time Queue AM (feet)	Red Time Queue PM (feet)	Max of Decel, 95th Queue, and Red Time Queue	Criteria for Storage Length Selection	Selected Length (Round to nearest 5')	95th Percentile Design Exception (Yes or No)	Red Time Queue Design Exception (Yes or No)	Note
SBL	AD	150	145	77	115	90	141	150	DECEL	145	NO	NO	REDUCED FROM EXISTING TO BALANCE NBL TURN STORAGE AT TAMAHAWK LN
SBT	AB	412	145	71	218	82	238	412	-	THRU	-	-	
SBR	AC	0	145	134	160	160	182	182	PM RED	185	NO	NO	
NBL	BC	168	145	291	174	341	237	341	AM RED	160	YES	YES	LENGTH CONSTRAINED BY SBL INTO WHEATON SALEM SHURCH
NBT	BA	395	145	184	136	210	159	395	-	THRU	-	-	
NBR	BD	0	145	29	32	42	41	145	DECEL	145	NO	NO	
EBL	CA	178	145	134	174	239	305	305	PM RED	180	NO	YES	MAINTAIN ACCESS FOR COMMERCIAL ENTRANCES TO WEST
EBT	CD	546	145	177	216	268	311	546	-	THRU	-	-	
EBR	CB	0	145	58	153	119	186	186	PM RED	280	NO	NO	LONGER THAN NECCESARY SO THAT FIRST RIGHT IN RIGHT OUT IS FULLY WITHIN 12 FT LANE
WBL	DB	200	145	53	112	75	164	200	EXISTING	200	NO	NO	
WBT	DC	400	145	343	352	360	367	400	-	THRU	-	-	
WBR	DA	0	145	60	71	70	82	145	DECEL	145	NO	NO	

Note: Thru Lane existing storage length until next intersection

EXHIBIT 2-5

Drainage Design Memorandum

DRAINAGE DESIGN MEMORANDUM

95TH AND BOOK INTERSECTION IMPROVEMENTS

City of Naperville
Will County, Illinois

January 2019

Prepared by:



550 N Commons Drive, Suite 116
Aurora, IL 60504

TABLE OF CONTENTS

<u>TITLE</u>	<u>PAGE</u>
TABLE OF CONTENTS	
EXECUTIVE SUMMARY	1
APPENDIX 1 – EXHIBITS	
EXHIBIT A – USGS Topographic Map	3
EXHIBIT B – Existing Drainage Plan and Profile Sheets	4-9
EXHIBIT C – Proposed Drainage Plan and Profile Sheets	10-15
APPENDIX 2 – EXISTING DRAINAGE CALCULATIONS	16-22
APPENDIX 3 - PROPOSED DRAINAGE CALCULATIONS	23-25

EXECUTIVE SUMMARY

1.0 INTRODUCTION:

The following storm drainage analysis was performed for the proposed intersection improvements at 95th Street and Book Road in the City of Naperville, IL. The proposed improvements consist of pavement widening to accommodate the addition of right turn lanes on 95th Street and two additional travel lanes and new right turn lanes on Book Road. The limits of the improvements extend from Rebecca Court to Joyce Lane on Book Road and 1100-foot west to 650-foot east of Book Road on 95th Street.

2.0 EXISTING CONDITIONS:

The adjacent land usage is primarily commercial and institutional use with some adjacent residential properties. The surrounding area is developed with turf lawns, some trees, and offsite detention/retention ponds for the majority of developed commercial lots and subdivisions. There are several storm sewers from ponds outside of ROW or other captured offsite runoffs that connect into the roadway drainage system. There is no history of flooding within the project area.

Profile grades through the project limits are relatively flat. The existing drainage conveyance consists of curb inlets with storm sewer and a few turf swales between existing curb and sidewalks. Existing swale flows are captured via ditch inlets and conveyed into the roadway sewer system. The existing watershed extends beyond the project limits on 95th Street and conveys runoff to one outfall location at the south end of improvements on Book Road. The project drainage outfall is a 58" x 91" elliptical storm sewer pipe that conveys flow east of Book Road under an existing subdivision and ultimately to the DuPage River. There are no existing surface bypass flows leaving the project site.

See Appendix 2 for the detailed existing drainage calculations.

3.0 DESIGN CRITERIA AND CONDITIONS:

The procedures outlined in the City of Naperville's Design Manual for Public Improvements, the Will County Technical Guidance Manual, the IDOT Drainage Manual, and City and County Ordinances are the basis for analysis and design of the proposed stormwater facilities. Minor drainage systems (inlets and storm sewers) will be designed for the 10-year storm rainfall event. Pavement encroachments will meet IDOT Drainage Manual criteria within project limits.

The existing outfall storm sewer pipe will remain. Since the project limits are contained within a larger watershed with additional existing offsite runoffs entering the storm sewer system, unknown storm sewer flows entering the project limits will be assumed at full pipe capacity. To account for varying outfall conditions, three tailwater conditions will be assessed. These conditions include:

1. Free Outfall with no Tailwater
2. Outfall Tailwater Elevation at the crown of the Book Road trunk sewer pipe (34" x 53"), Elevation = 661.75
3. Outfall Tailwater Elevation at the crown of the Outfall pipe (58" x 91"), Elevation = 663.75

Per the Will County Technical Guidance Manual, site runoff storage is required for roadway development of greater than two (2) acres of new impervious area. This project involves one (1) acre of new impervious area and therefore no site runoff storage is required.

The project improvements are outside the studied area of the Zone A floodplain located on the west side of Book Road near Station 241+10. Proposed improvements are preserving overland flood routes at existing elevations and there is no history of roadway flooding in the area. Therefore, hydrologic and hydraulic modeling of the floodplain will not be conducted for this project.

3.0 PROPOSED CONDITIONS:

The proposed drainage improvements will consist of new curb and gutter, new curb inlet structures, manholes and storm sewer pipes to convey storm runoff into the existing trunk storm sewers on 95th Street and the east side of Book Road. Limited sections of trunk storm sewer on 95th Street are proposed to be replaced for constructability. The proposed storm sewer system will use the existing outfall pipe at the southern project limit on Book Road.

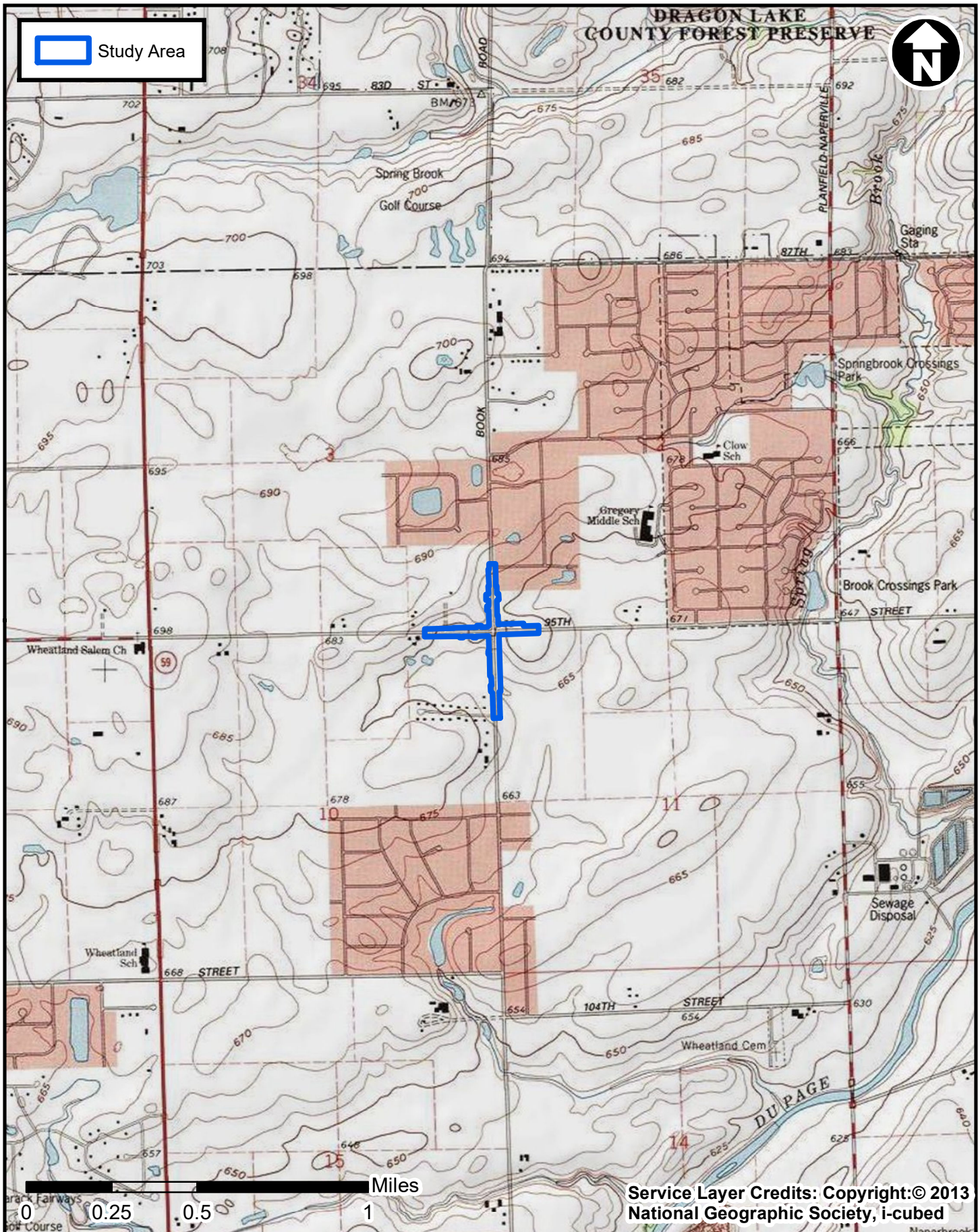
Based on the highest assessed tailwater condition (Elev. 663.75), the storm sewers will convey the 10-year storm event without overtopping the roadway. Several pipes, particularly existing trunk sewer pipes not being replaced, will be under pressure similar to the calculated results of the existing system for the same tailwater condition.

See Appendix 3 for the detailed existing drainage calculations.

4.0 CONCLUSIONS:

The attached calculations demonstrate that the proposed project will meet or exceed the City of Naperville, Will County and IDOT's requirements, thereby minimizing impacts resulting from this project. Analysis of the proposed drainage improvements with varying tailwater conditions validate that roadway pavements and appurtenances will not be overtopped by the 10-year storm rainfall event.

APPENDIX 1: EXHIBITS



95th St & Book Rd Intersection Improvements - Naperville, Will Co., IL

USGS Topographic Map - Normantown, IL Quadrangle

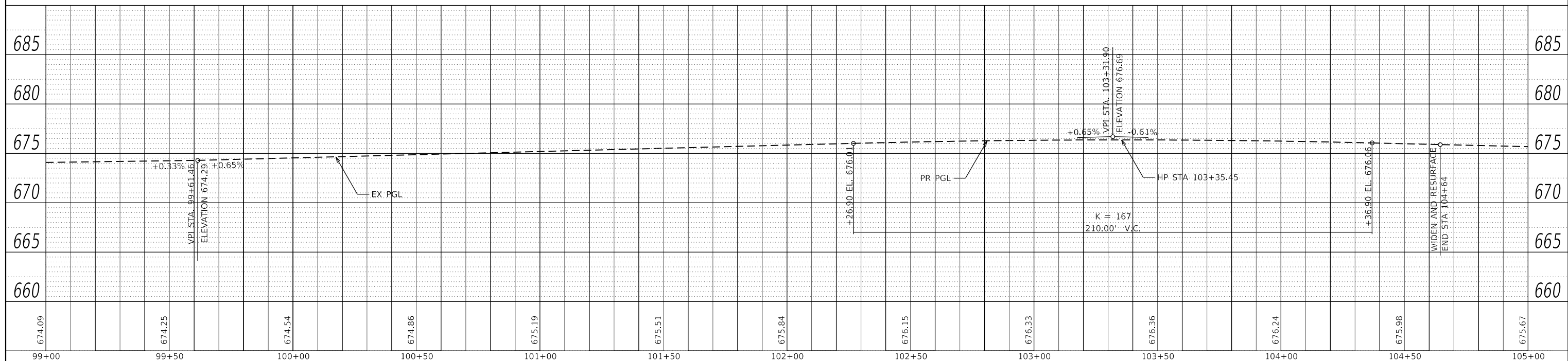
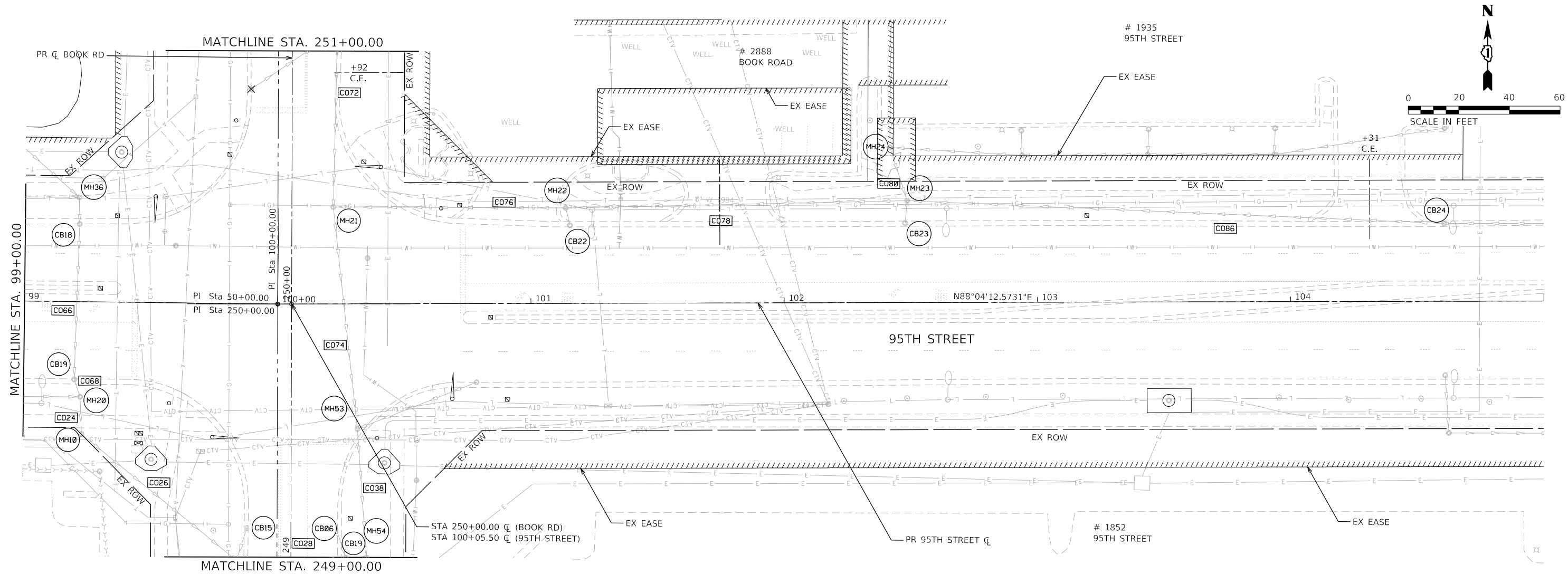
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NOTE BOOK _____	STRUCTURE NOTATIONS CHKD _____		
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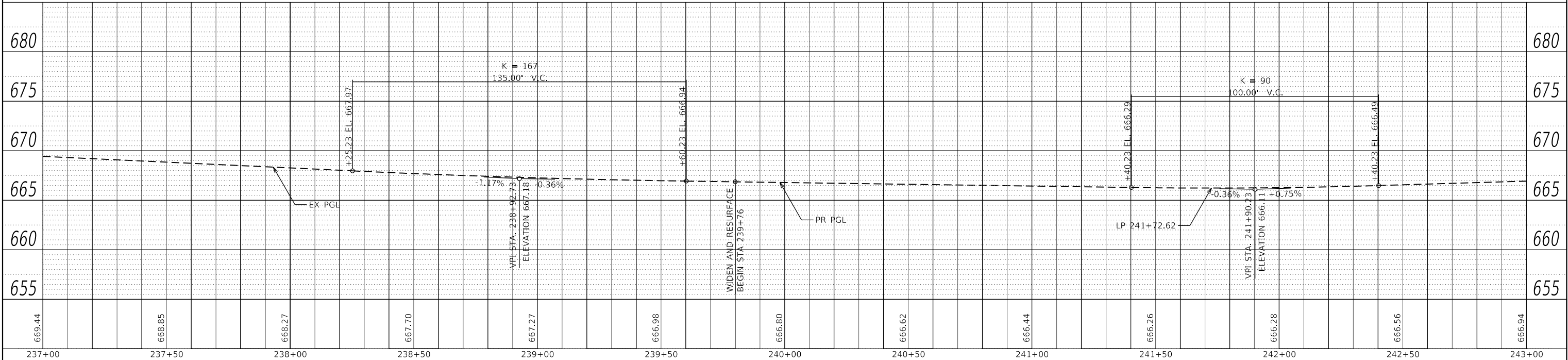
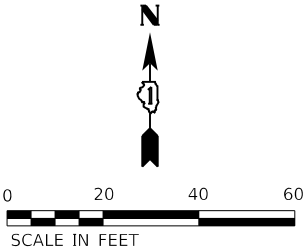
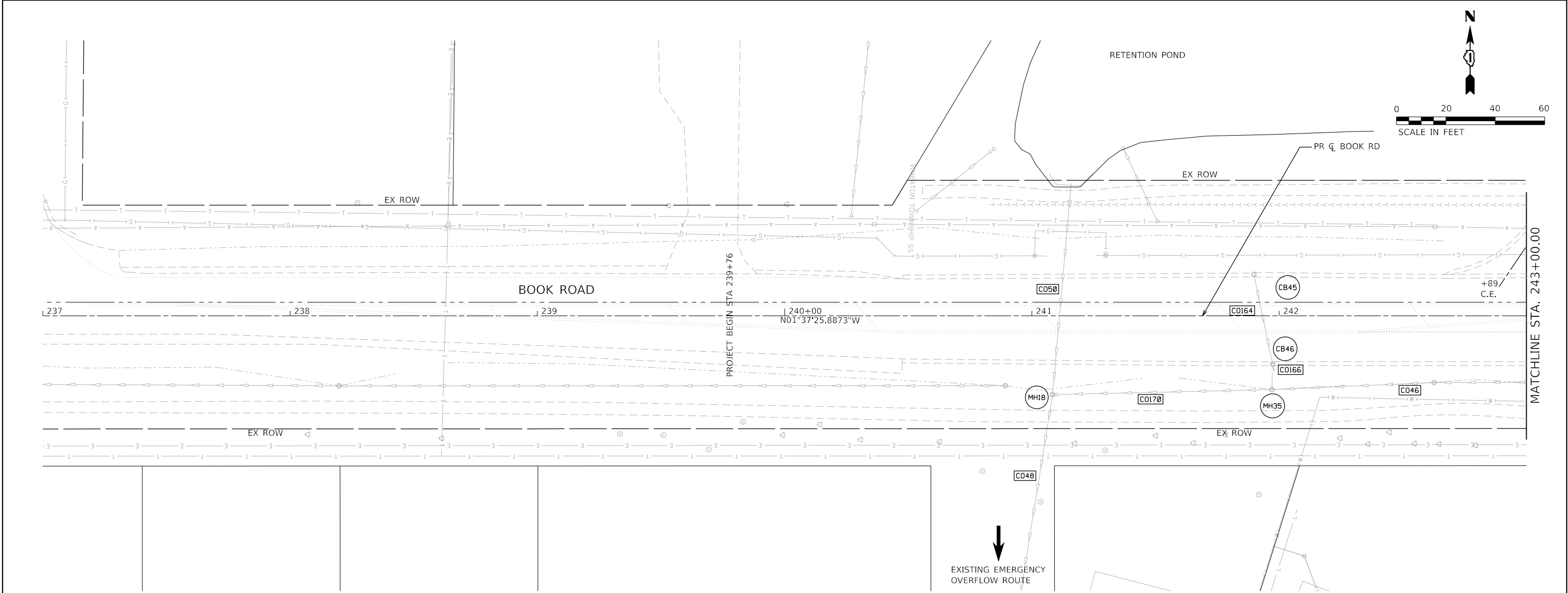
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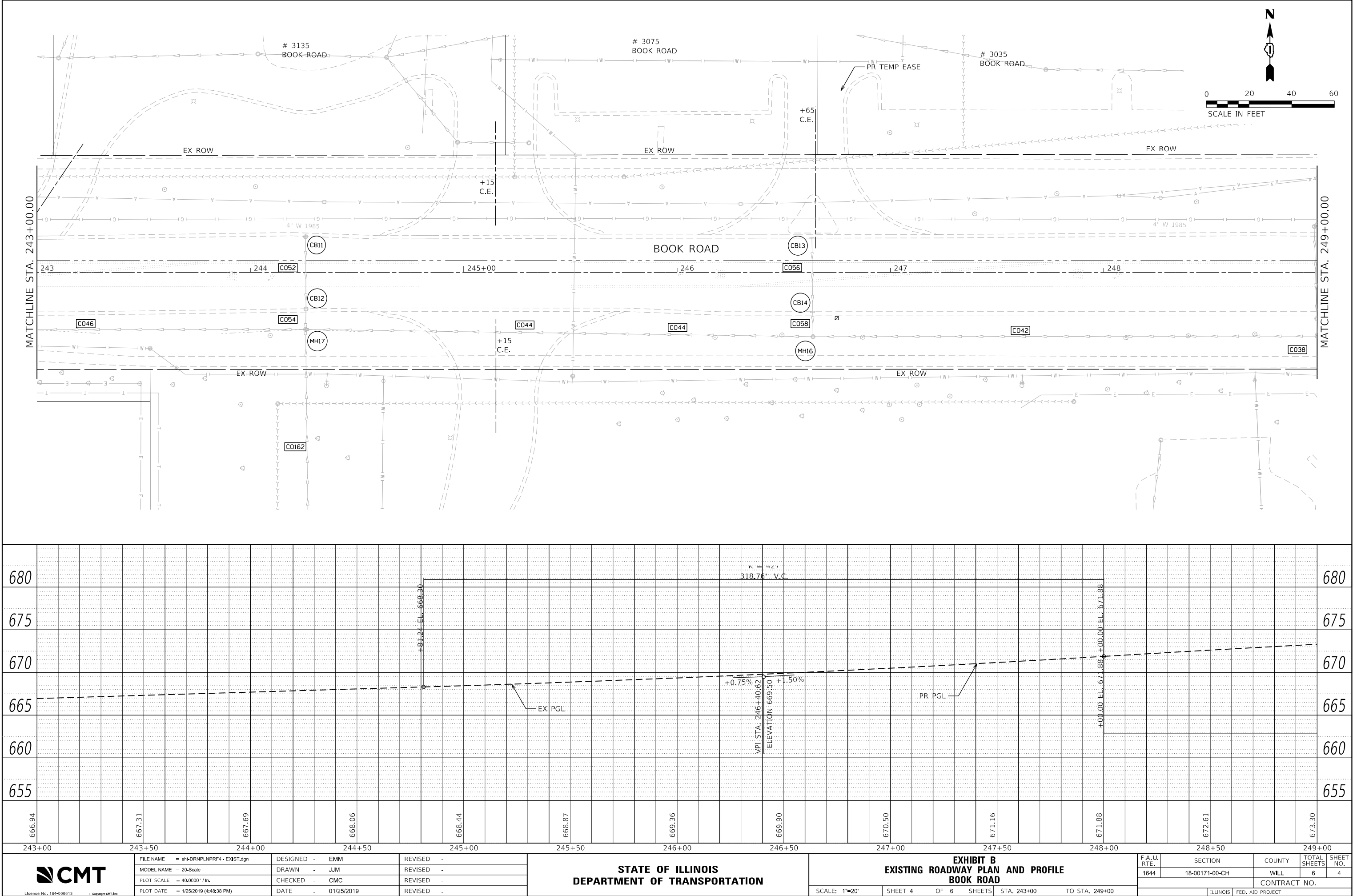
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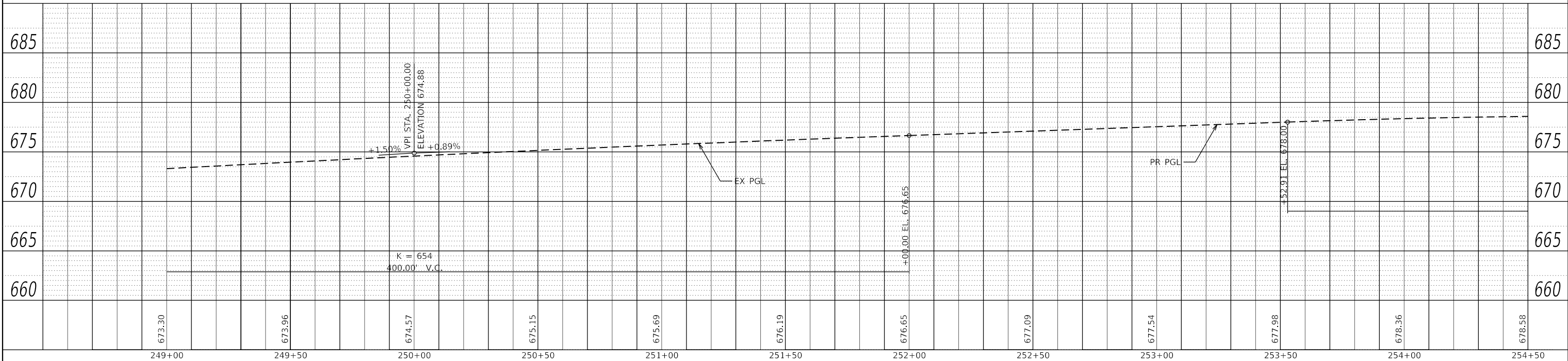
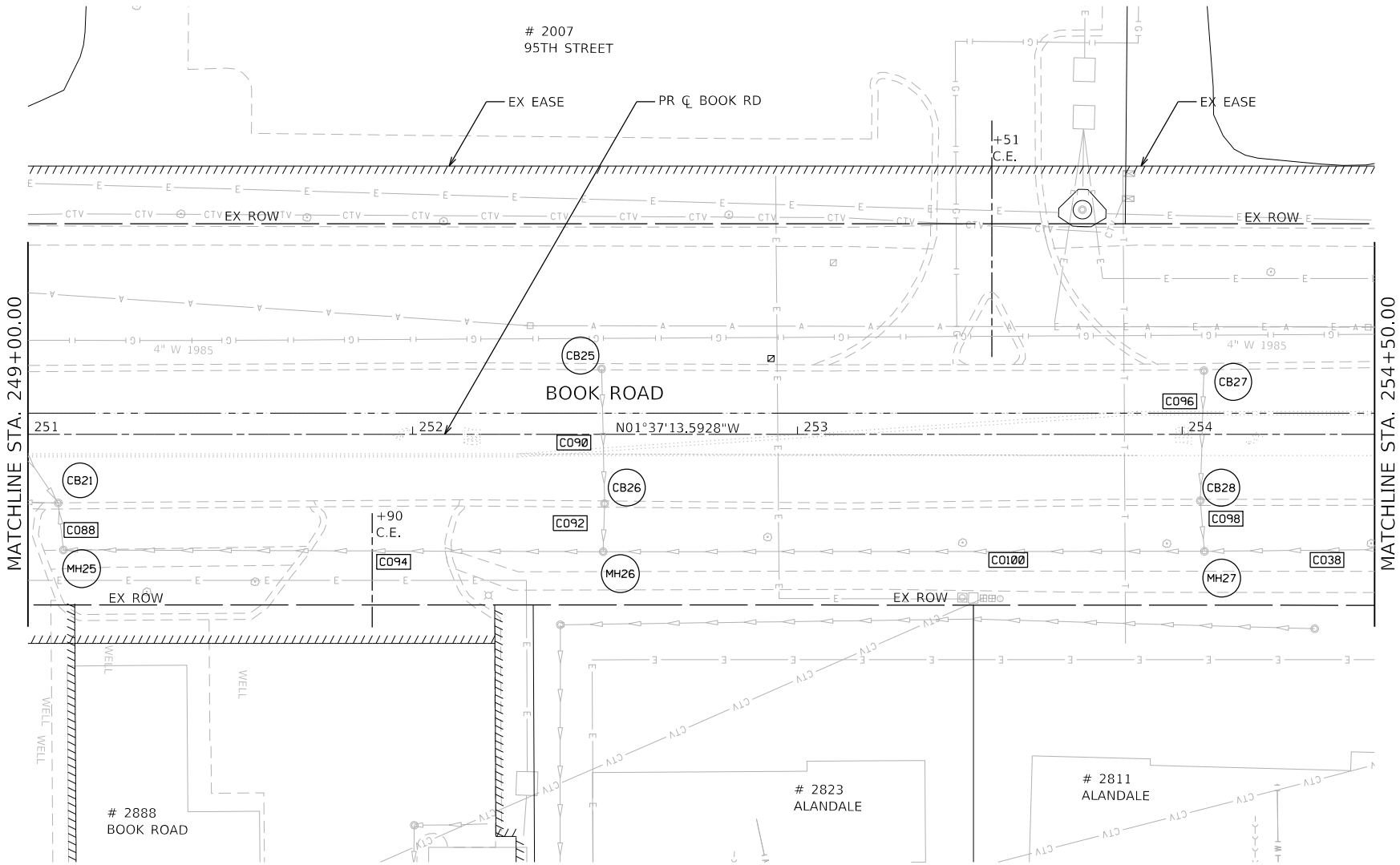
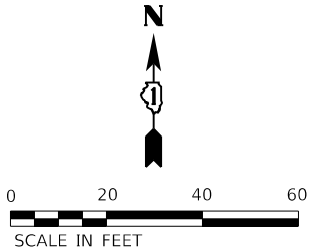


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			CHECKED		
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			NOTATION		
			STRUCTURE		

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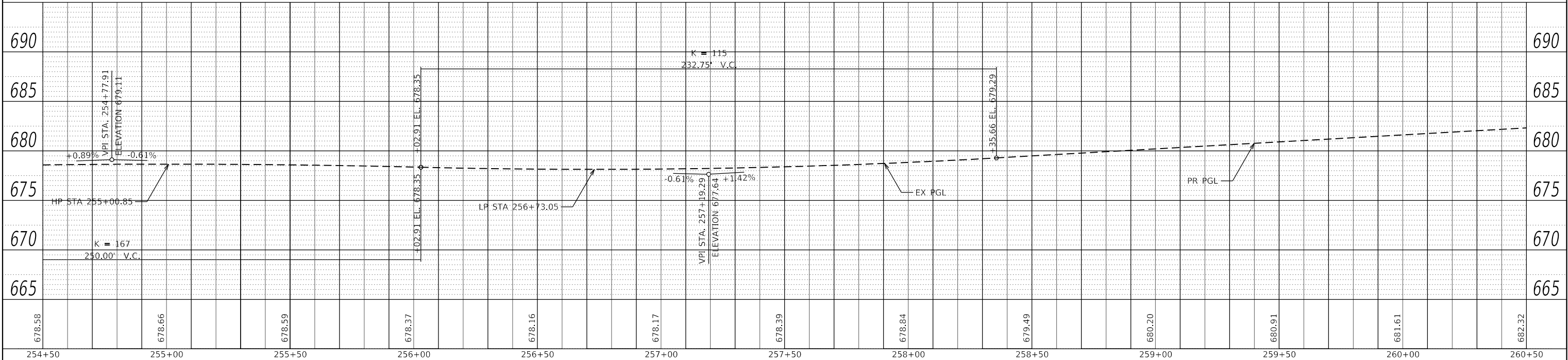
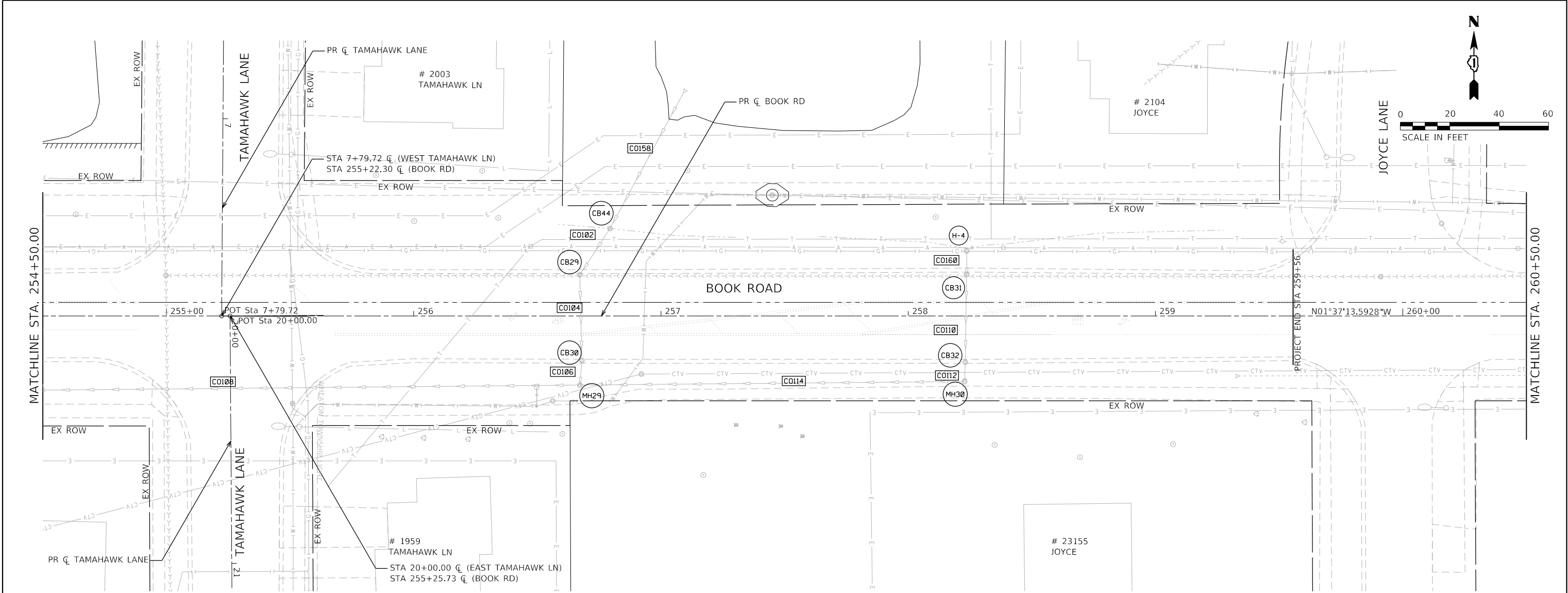
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F.A.U. RTE. 1644				SECTION 18-00171-00-CH				COUNTY WILL			
TOTAL SHEETS 6				SHEET NO. 5				CONTRACT NO.			
SCALE: 1"=20'				SHEET 5 OF 6 SHEETS				STA. 249+00 TO STA. 254+50			
ILLINOIS				FED. AID PROJECT							

PLAN	SURVIVED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	ALIGNED		
	CHECKED		
	CADD FILE NAME		

PROFILE	SURVIVED	BY	DATE
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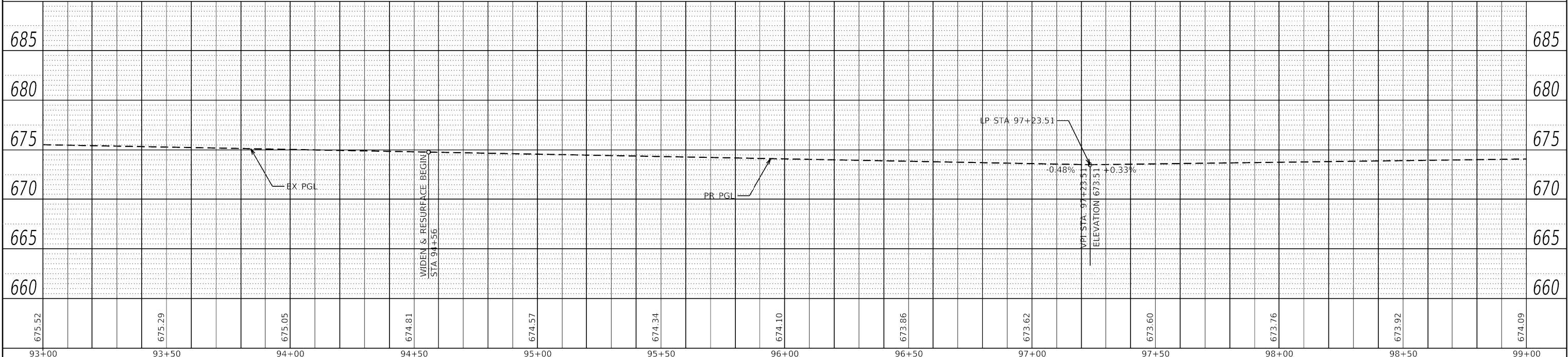
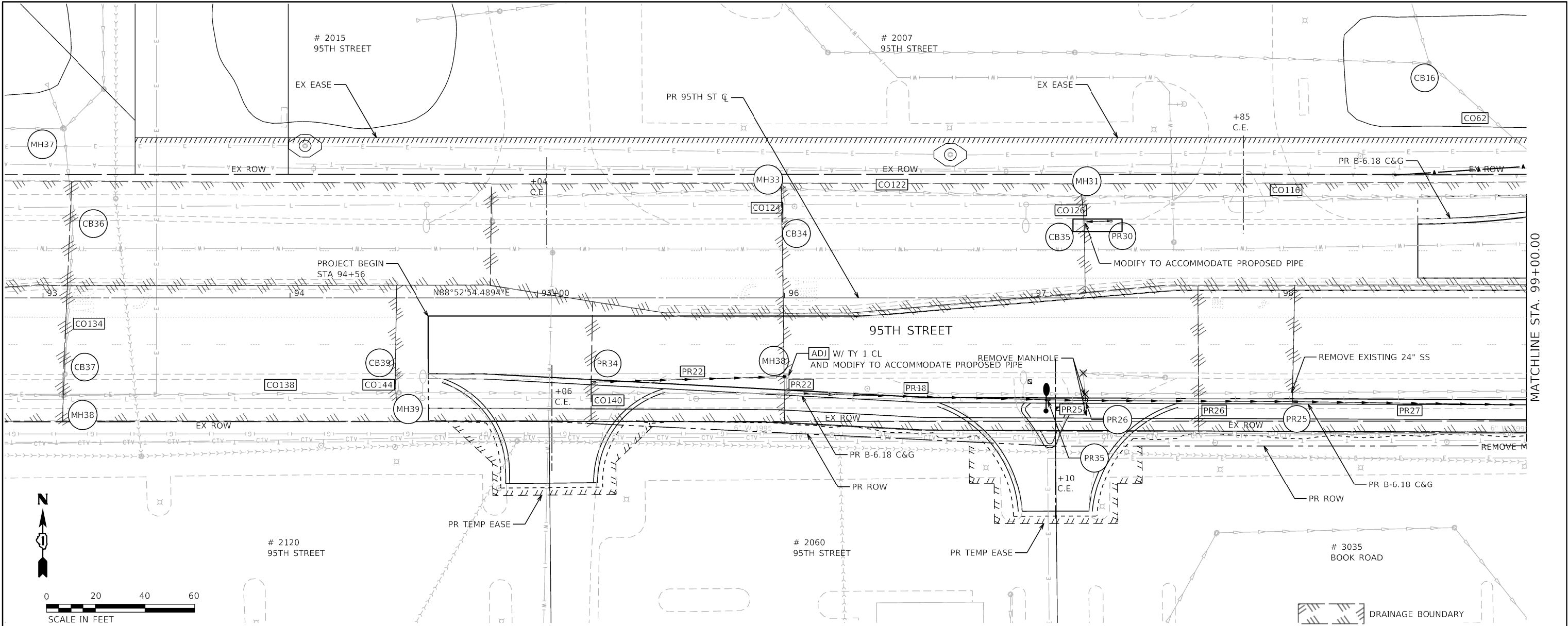
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SCALE: 1"=20'		SHEET 6 OF 6 SHEETS		STA. 254+50 TO STA. 260+50		ILLINOIS FED. AID PROJECT					

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
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NOTE BOOK	PLOTTED		
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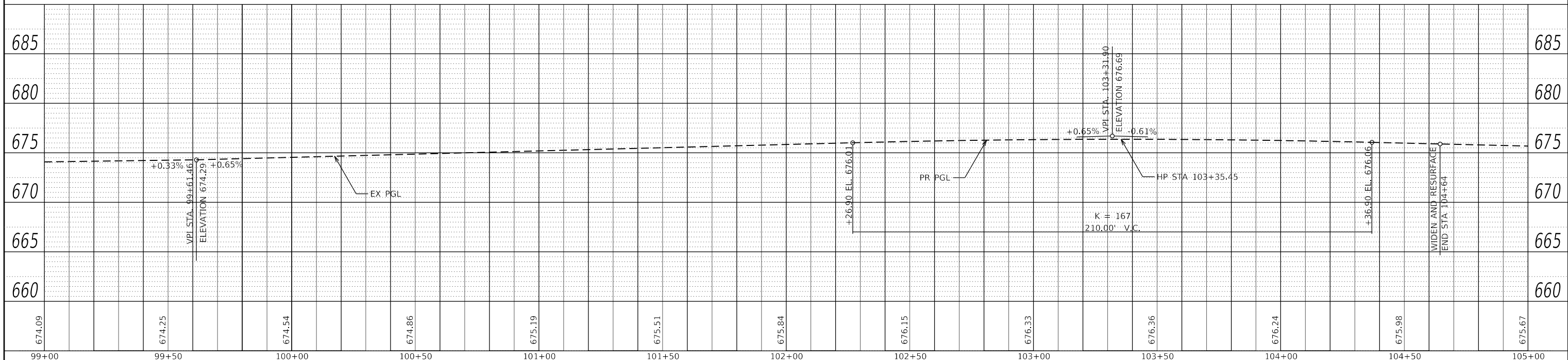
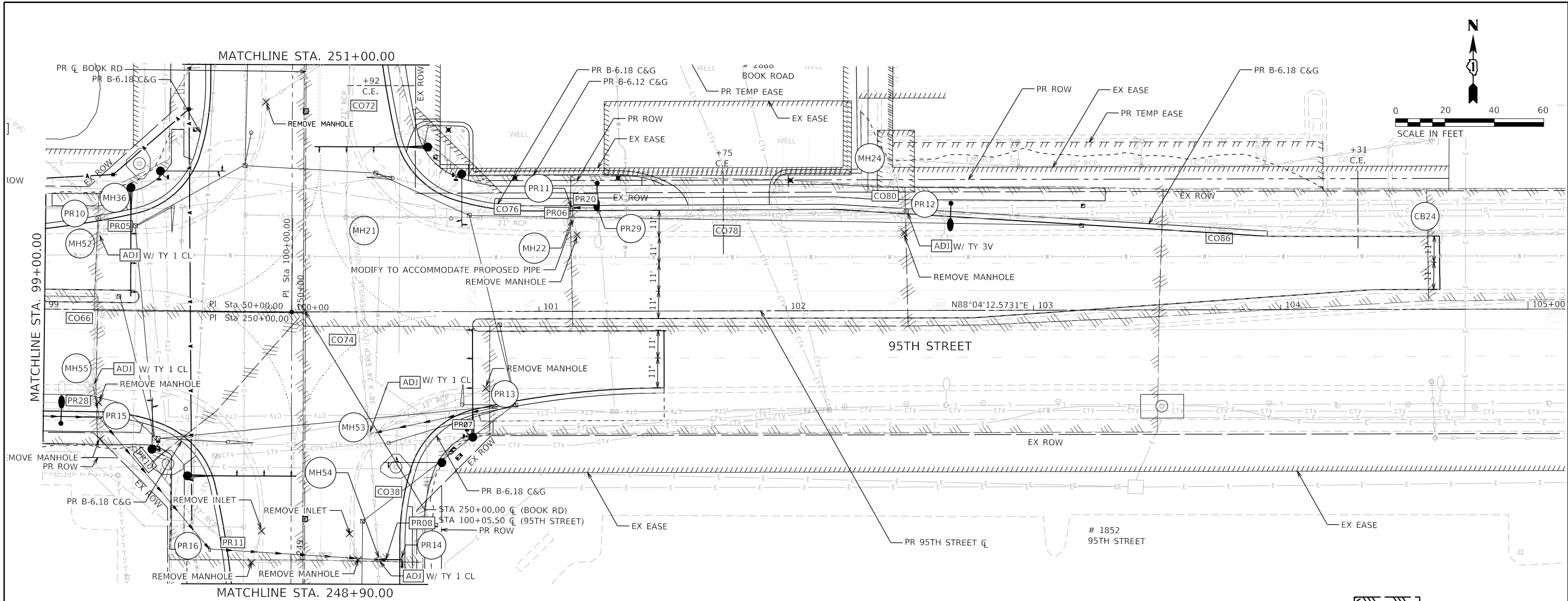
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NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
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PROFILE	SURVEYED	BY	DATE
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	STRUCTURE NOTATIONS CHNG		

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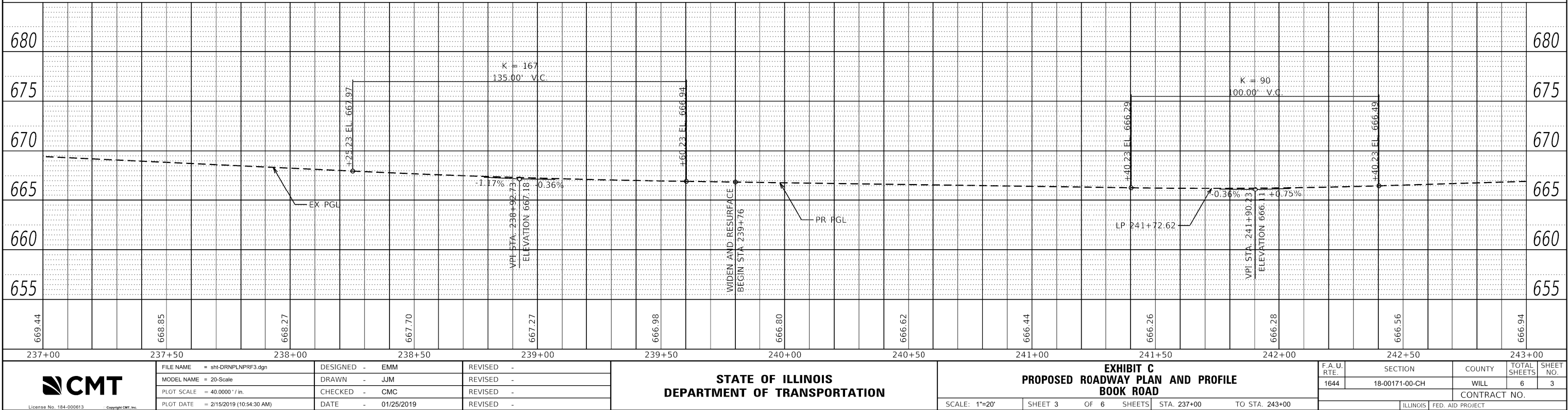
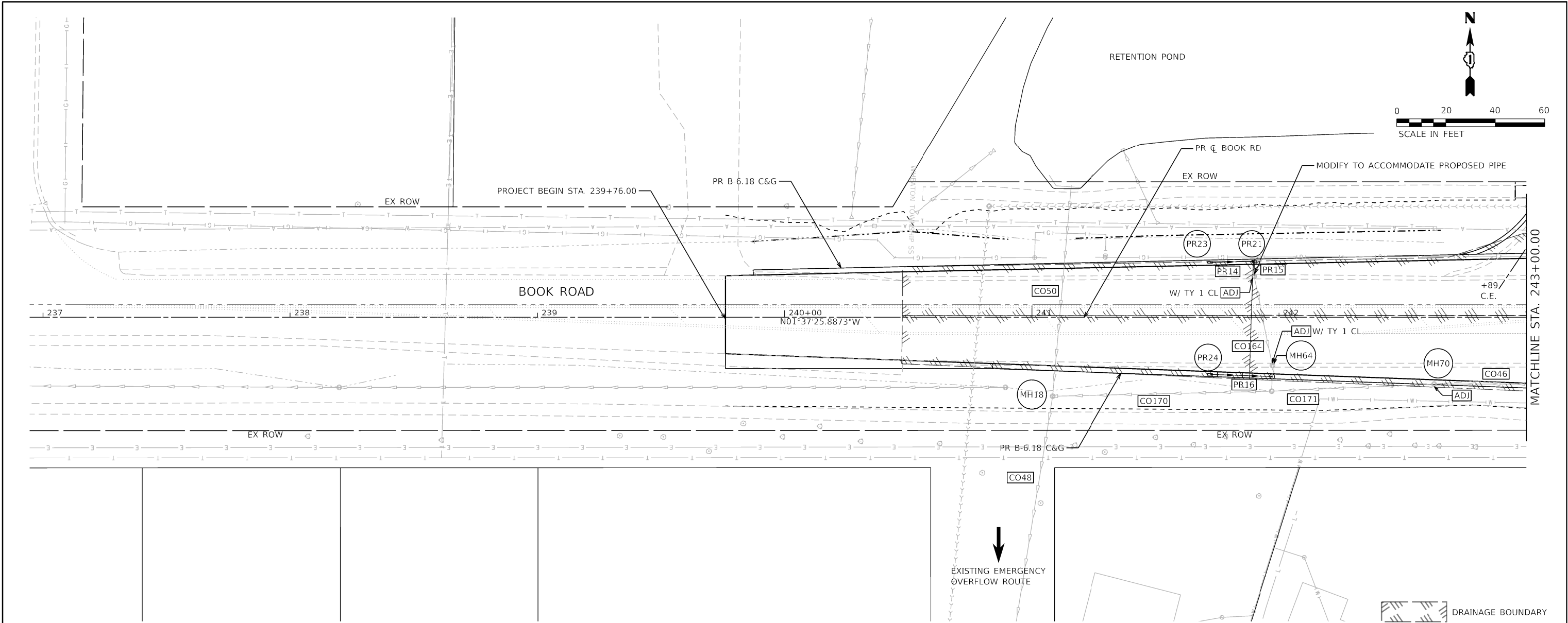
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PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
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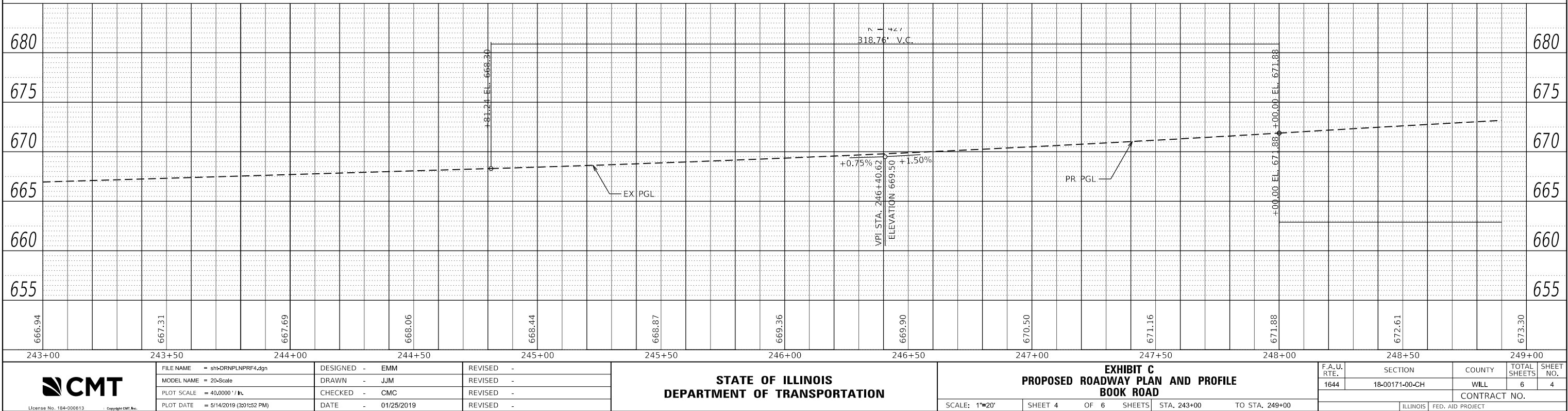
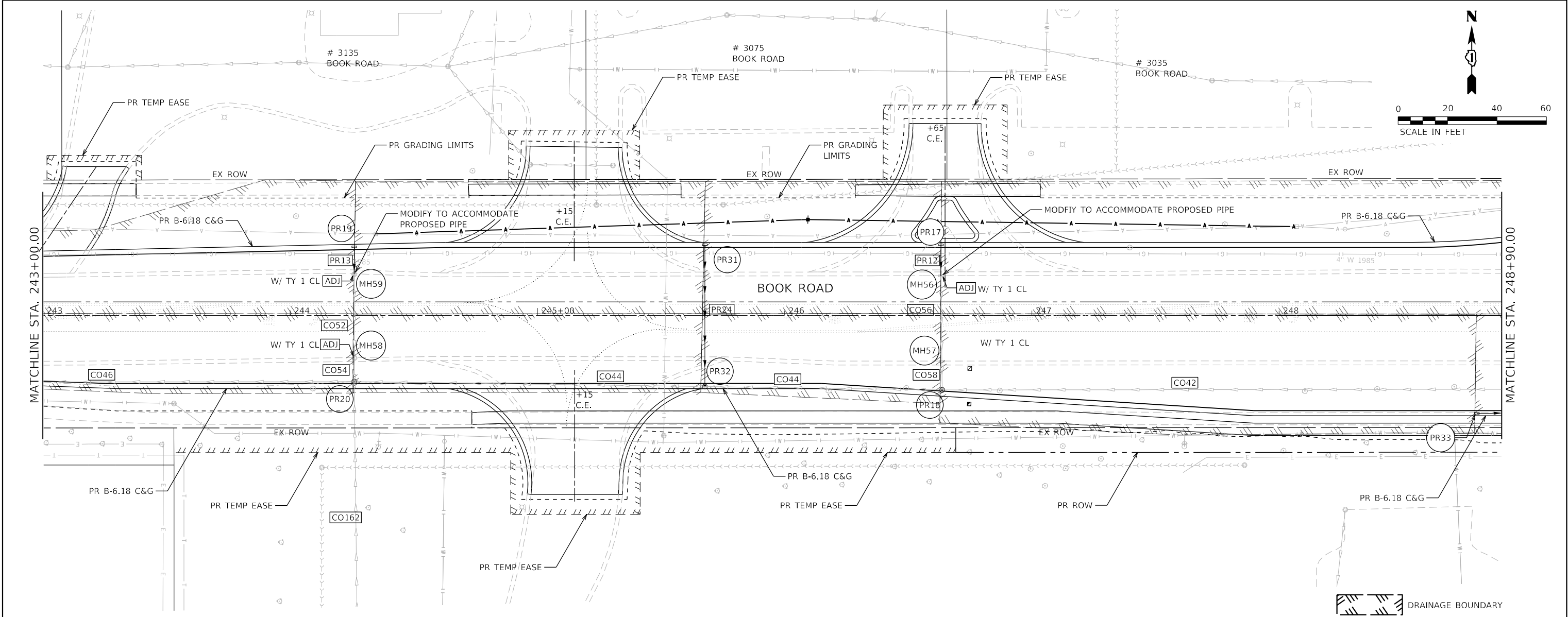


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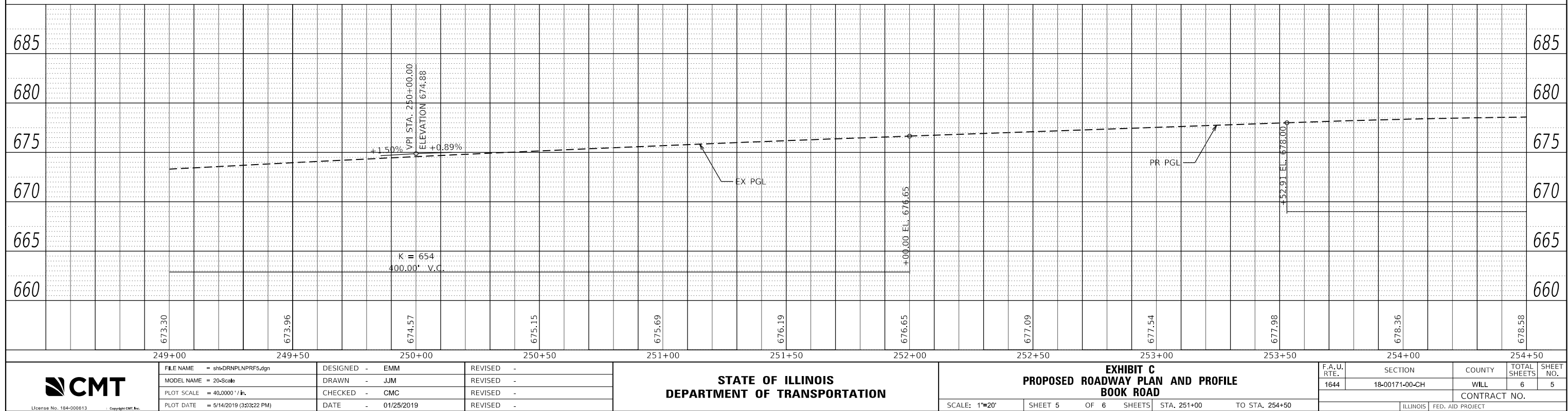
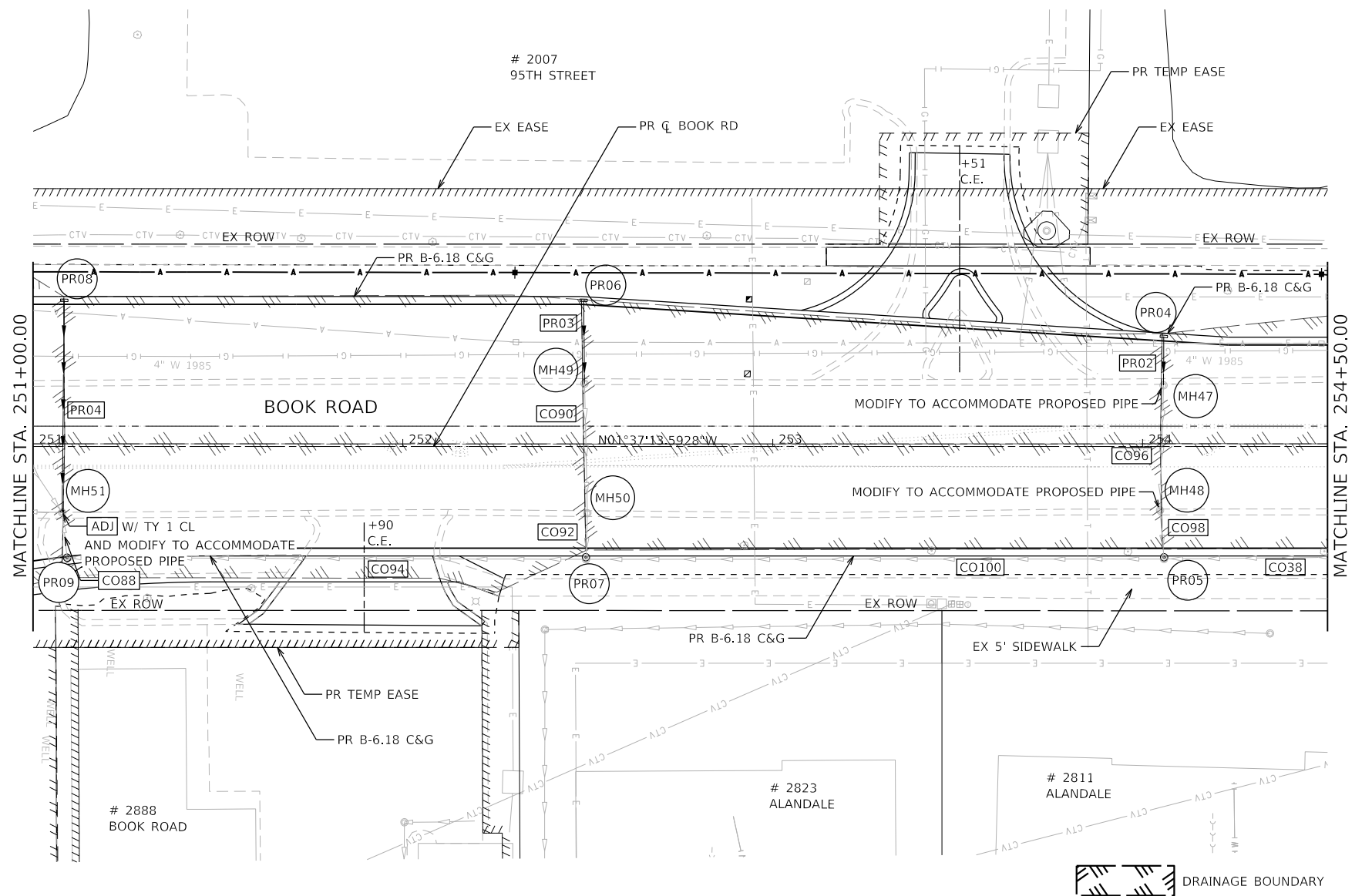
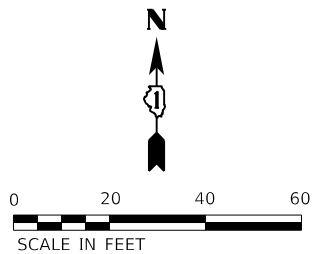
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243+00	243+50	244+00	244+50	245+00	245+50	246+00	246+50	247+00	247+50	248+00	248+50	249+00
666.94	667.31	667.69	668.06	668.44	668.87	669.36	669.90	670.50	671.16	671.88	672.61	673.30
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PLAN	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____ ALIGNMENT CHECKED _____ RT. OF WAY CHECKED _____ CADD FILE NAME _____		
NOTE BOOK			
NO. _____			

PROFILE		BY	DATE
NOTE BOOK NO. _____	SURVEYED _____		
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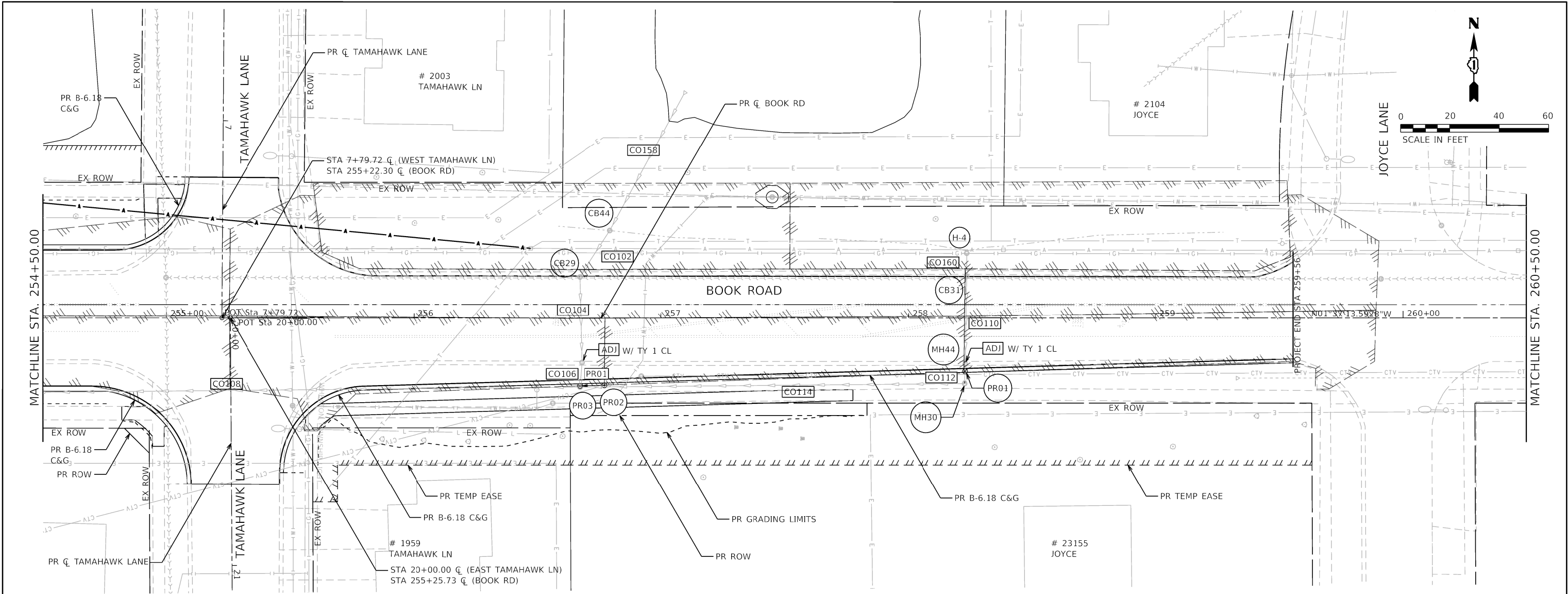


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NOTE BOOK	PLOTTED		
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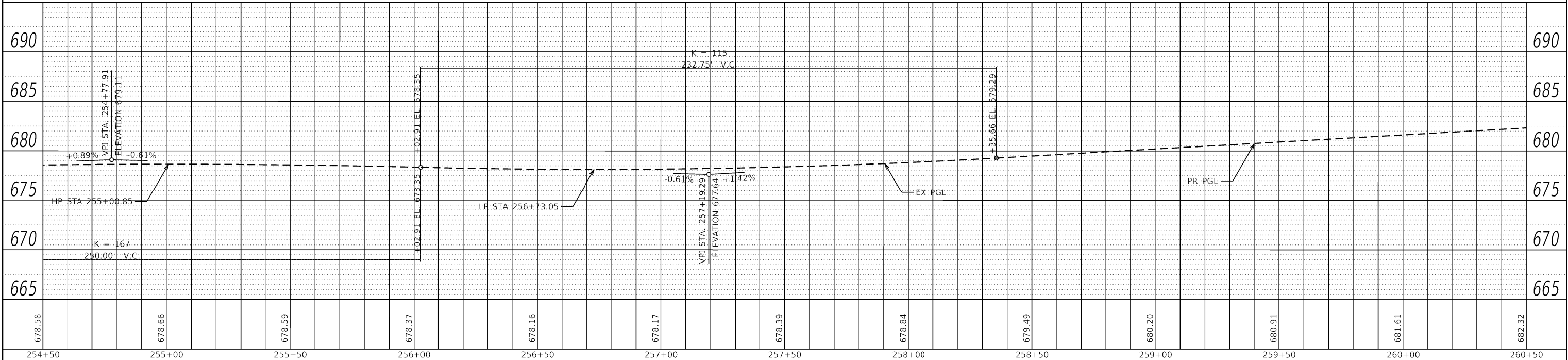
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= Emma Woods

PEN TABLE
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DRAINAGE BOUNDARY



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	MODEL NAME = 20-Scale	DRAWN - JJM	REVISED -		PROPOSED ROADWAY PLAN AND PROFILE					1644	18-00171-00-CH	WILL	6	6
	PLOT SCALE = 40.0000' / in.	CHECKED - CMC	REVISED -		BOOK ROAD					CONTRACT NO.				
	PLOT DATE = 2/15/2019 (11:03:12 AM)	DATE - 01/25/2019	REVISED -		SCALE: 1"=20'	SHEET 6	OF 6	SHEETS	STA. 254+50	TO STA. 260+50	ILLINOIS FED. AID PROJECT			



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXHIBIT C
PROPOSED ROADWAY PLAN AND PROFILE
BOOK ROAD

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	6	6
CONTRACT NO.				

APPENDIX 2: EXISTING DRAINAGE CALCULATIONS

EXISTING INLET COMPUTATIONS
95th Street and Book Road Intersection Improvements

Label	Inlet	Inlet Location	Longitudinal Slope (Inlet) (ft/ft)	Catalog Gutter	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Spread / Top Width (ft)	Depth (Gutter) (in)	Flow (Local Surface) (cfs)	Flow (Captured) (cfs)	Flow (Total Bypassed) (cfs)	Is Overflowing?	Bypass Target	Notes
CB-4	CB 4' GrateOnly B6.18	In Sag		Ty B6.18	672.55	667.5	18.8	5.2	3.23	3.23	0	FALSE	<None>	
CB-6	IN TY A B6.12	On Grade	0.005	Ty B6.12	674.16	671.11	4.9	1.7	0.4	0.27	0.13	FALSE	CB-14	
CB-9	CB 6' B6.18	On Grade	0.008	Ty B6.12	674.27	662.5	6.7	2.1	1.08	0.8	0.28	FALSE	CB-6	
CB-10	CB 4' B6.18	On Grade	0.007	Ty B6.18	675.15	670.34	7.4	2.5	1.43	0.8	0.63	FALSE	CB-9	
CB-11	IN TY A B6.12	On Grade	0.008	Ty B6.12	668.11	664.9	8.2	2.4	1.77	0.77	1	FALSE	CB-45	
CB-12	CB 4' B6.12	On Grade	0.008	Ty B6.12	667.84	663.75	6.5	2.1	1.02	0.52	0.49	FALSE	CB-46	
CB-13	CB 4' GrateOnly B6.12	On Grade	0.015	Ty B6.12	669.92	664.1	6.3	2	1.24	0.62	0.62	FALSE	CB-11	
CB-14	CB 4' B6.12	On Grade	0.015	Ty B6.12	669.85	663.4	5.3	1.8	0.84	0.47	0.36	FALSE	CB-12	
CB-15	IN TY A B6.12	On Grade	0.007	Ty B6.12	673.69	670.91	3.4	1.3	0.22	0.17	0.04	FALSE	CB-13	
CB-16	Ditch - CB 4'	In Sag		<None>	670.07	665.96	0	0	0	0	0	TRUE	<None>	
CB-18	CB 4' B6.18	On Grade	0.008	Ty B6.18	675.21	664.31	6.4	2.3	1.1	0.68	0.42	FALSE	CB-35	
CB-19	CB 5' B6.18	On Grade	0.009	Ty B6.18	674.42	663.57	4.4	1.8	0.53	0.41	0.11	FALSE	CB-4	
CB-20	IN TY A B6.12	On Grade	0.009	Ty B6.12	675.96	672.71	5.3	1.8	0.65	0.39	0.26	FALSE	CB-18	
CB-21	CB 5' B6.12	On Grade	0.005	Ty B6.12	676.21	664.3	5.8	1.9	0.58	0.36	0.23	FALSE	CB-22	
CB-22	CB 4' B6.18	In Sag		Ty B6.18	675.13	671.33	9.5	5.3	2.6	2.6	0	FALSE	<None>	
CB-23	IN TYA B6.18	On Grade	0.003	Ty B6.18	676.03	670.97	6.8	2.3	0.75	0.49	0.26	FALSE	CB-22	
CB-24	CB 4' B6.18	On Grade	0.003	Ty B6.18	675.58	664.68	6.6	2.3	0.71	0.47	0.24	FALSE	O-8	
CB-25	IN TY A B6.12	On Grade	0.009	Ty B6.12	677.29	674.04	5.1	1.7	0.59	0.36	0.22	FALSE	CB-20	
CB-26	CB 4' B6.12	On Grade	0.009	Ty B6.12	677.06	672.69	4.9	1.7	0.54	0.34	0.2	FALSE	CB-21	
CB-27	CB 4' B6.12	On Grade	0.01	Ty B6.12	678.81	668.21	4.7	1.6	0.5	0.32	0.18	FALSE	CB-25	
CB-28	CB 4' B6.12	On Grade	0.01	Ty B6.12	678.52	667.32	4.2	1.5	0.4	0.28	0.12	FALSE	CB-26	
CB-29	CB 4' B6.12	In Sag		Ty B6.12	678.3	674.83	6.8	3.6	1.16	1.16	0	FALSE	<None>	
CB-30	IN TY A B6.12	In Sag		Ty B6.12	678.2	673.11	6.3	3.5	1.05	1.05	0	FALSE	<None>	
CB-31	CB 4' B6.12	On Grade	0.008	Ty B6.12	679.69	675.09	5	1.7	0.53	0.34	0.2	FALSE	CB-29	
CB-32	CB 4' B6.12	On Grade	0.008	Ty B6.12	679.36	674.01	4.9	1.6	0.49	0.32	0.18	FALSE	CB-30	
CB-33	CB 4' GrateOnly B6.18	On Grade	0.005	Ty B6.18	674.84	670.66	8.1	2.7	1.49	0.93	0.55	FALSE	CB-34	
CB-34	CB 4' B6.18	On Grade	0.005	Ty B6.18	673.9	669.4	7.7	2.6	1.33	0.74	0.59	FALSE	CB-35	
CB-35	IN TYA B6.18	In Sag		Ty B6.18	673.53	669.03	10.4	5.5	2.94	2.94	0	FALSE	<None>	
CB-36	CB 4' B6.18	On Grade	0.005	Ty B6.18	675.43	671.33	7.5	2.5	1.24	0.71	0.53	FALSE	CB-33	
CB-37	CB 4' B6.18	On Grade	0.005	Ty B6.18	675.28	670.45	7.4	2.5	1.18	0.69	0.5	FALSE	CB-39	
CB-38	CB 4' B6.18	On Grade	0.005	Ty B6.18	674.12	668.82	8.7	2.8	1.75	0.89	0.86	FALSE	CB-4	
CB-39	CB 4' B6.18	On Grade	0.004	Ty B6.18	674.84	669.66	8.5	2.8	1.49	0.79	0.7	FALSE	CB-38	
CB-40	IN TYA B6.18	On Grade	0.012	Ty B6.18	677.71	675.01	6	2.1	1.13	0.73	0.4	FALSE	CB-42	
CB-41	CB 4' B6.18	On Grade	0.012	Ty B6.18	677.54	673.55	5.4	2	0.92	0.63	0.29	FALSE	CB-43	
CB-42	CB 4' B6.18	On Grade	0.009	Ty B6.18	676.26	671.06	6.9	2.4	1.35	0.79	0.56	FALSE	CB-36	
CB-43	CB 4' B6.18	On Grade	0.01	Ty B6.18	675.95	670.64	6.2	2.2	1.11	0.71	0.41	FALSE	CB-37	
CB-44	Ditch - CB 4'	In Sag		<None>	676.7	669.65	5.1	0.6	0.25	0.25	0	FALSE	<None>	
CB-45	IN TY A B6.12	In Sag		Ty B6.12	666.13	663.08	10.9	4.6	2.34	2.34	0	FALSE	<None>	
CB-46	CB 4' B6.12	In Sag		Ty B6.12	665.72	661.32	8.3	4	1.54	1.54	0	FALSE	<None>	
CB-47	Ditch - CB 6'	In Sag		<None>	671.7	662.26	3.7	0.3	0.1	0.1	0	FALSE	<None>	

EXISTING PIPE COMPUTATIONS - CONDITION 1 TAILWATER
95TH Street and Book Road Intersection Improvements

Label	Start Node	Stop Node	Length (Unified) (ft)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Size	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Is Surcharged?	Notes
CO-14	MH-6	MH-7	120.4	666.74	665.74	0.008	24 inch	19.07	20.61	6.07	TRUE	
CO-20	CB-4	MH-7	8.6	667.5	666.45	0.123	10 inch	3.23	7.67	13.47	TRUE	
CO-22	MH-7	MH-20	201.2	665.74	662.86	0.014	24 inch	22.16	27.06	7.05	TRUE	
CO-24	MH-20	MH-10	14.7	662.86	662.75	0.008	24 inch	28.32	19.6	9.01	TRUE	
CO-26	MH-10	MH-11	79.3	662.75	662.63	0.002	27 inch	28.31	12.05	7.12	TRUE	
CO-28	MH-11	MH-12	43	662.55	662.4	0.003	27 inch	28.43	18.28	7.15	TRUE	
CO-30	MH-12	CB-47	8.1	662.4	662.3	0.012	27 inch	28.64	34.41	7.2	TRUE	
CO-32	CB-6	MH-12	11.3	671.11	670.52	0.052	12 inch	0.25	8.14	4.71	FALSE	
CO-38	CB-9	CB-47	50.9	662.5	662.26	0.005	29x45 inch	18.39	45.29	5.94	TRUE	
CO-40	CB-10	CB-9	54	670.34	665.91	0.082	12 inch	0.88	10.2	7.95	FALSE	
CO-42	CB-47	MH-16	236.5	662.26	661.11	0.005	29x45 inch	46.74	46.01	6.55	TRUE	
CO-44	MH-16	MH-17	237.5	661.11	660.28	0.003	29x45 inch	47.45	39.01	6.65	TRUE	
CO-46	MH-17	MH-35	228.9	660.23	658.95	0.006	34x53 inch	60.52	76.2	8.77	FALSE	
CO-48	MH-18	MH-19	249.6	658.92	657.74	0.005	58x91 inch	0	287.99	0	FALSE	
CO-50	H-1	MH-18	86.3	659.28	658.92	0.004	58x91 inch	0	270.54	0	FALSE	
CO-52	CB-11	CB-12	33.9	664.9	663.78	0.033	12 inch	0.77	6.48	5.54	FALSE	
CO-54	CB-12	MH-17	9.8	663.75	663.03	0.074	12 inch	1.28	9.68	8.55	FALSE	
CO-56	CB-13	CB-14	34.6	664.1	663.4	0.02	12 inch	0.62	5.07	4.38	FALSE	
CO-58	CB-14	MH-16	11.6	663.4	663.15	0.022	12 inch	1.09	5.22	5.25	FALSE	
CO-60	CB-15	MH-11	13.5	670.91	669.55	0.1	12 inch	0.17	11.29	5.26	FALSE	
CO-62	CB-16	MH-36	83	665.96	664.36	0.019	6 inch	0.77	0.78	3.92	TRUE	Dry Detention & Offsite Sewers- Assume full flow
CO-64	MH-36	CB-18	10.5	664.36	664.31	0.005	15 inch	5.25	4.47	4.28	TRUE	
CO-66	CB-18	CB-19	60.8	664.31	663.57	0.012	15 inch	5.91	7.12	4.81	TRUE	
CO-68	CB-19	MH-20	7.7	663.57	662.86	0.093	15 inch	6.28	19.67	5.12	TRUE	
CO-70	CB-20	CB-21	41.3	672.71	672.31	0.01	12 inch	0.39	3.51	2.94	FALSE	
CO-72	CB-21	MH-21	69.4	664.3	663.61	0.01	21 inch	6.58	15.79	6.27	FALSE	
CO-74	MH-21	CB-9	88.2	663.36	662.9	0.005	24x38 inch	16.9	29.22	6.17	FALSE	
CO-76	MH-22	MH-21	91.8	663.61	663.36	0.003	21 inch	10.45	8.27	4.34	FALSE	
CO-78	MH-23	MH-22	134.7	663.89	663.61	0.002	18 inch	8	4.79	4.53	TRUE	
CO-80	MH-24	MH-23	22	664.94	664.34	0.027	12 inch	5.85	5.88	7.45	TRUE	Offsite Sewers- Assume full flow
CO-82	CB-22	MH-22	7	671.33	671.11	0.032	10 inch	2.6	3.89	7.64	FALSE	
CO-84	CB-23	MH-23	10.8	670.97	670.66	0.029	12 inch	0.49	6.05	4.61	FALSE	
CO-86	CB-24	MH-23	212.2	664.68	663.89	0.004	15 inch	1.71	3.94	1.39	TRUE	Assumed flow from roadway sewer to east.
CO-88	MH-25	CB-21	12.7	664.41	664.3	0.009	21 inch	5.87	14.72	5.77	FALSE	
CO-90	CB-25	CB-26	35.4	674.04	673.69	0.01	12 inch	0.36	3.54	2.9	FALSE	
CO-92	CB-26	MH-26	12.5	672.69	671.04	0.132	12 inch	0.7	12.95	8.79	FALSE	
CO-94	MH-26	MH-25	140.2	665.83	664.41	0.01	21 inch	5.9	15.95	6.13	FALSE	
CO-96	CB-27	CB-28	34.4	668.21	667.82	0.011	12 inch	0.32	3.79	2.95	FALSE	
CO-98	CB-28	MH-27	13	667.32	667.22	0.008	12 inch	0.6	3.13	3.07	FALSE	
CO-100	MH-27	MH-26	156.4	667.22	665.83	0.009	21 inch	5.26	14.94	5.67	FALSE	
CO-102	CB-44	CB-29	22.2	669.65	674.83	-0.234	12 inch	1.65	17.22	2.09	TRUE	
CO-104	CB-29	CB-30	34.8	674.83	673.26	0.045	12 inch	2.8	7.57	8.92	FALSE	
CO-106	CB-30	MH-29	9.8	673.11	672.82	0.03	12 inch	3.84	6.14	8.25	FALSE	
CO-108	MH-29	MH-27	261.5	669.42	667.22	0.008	21 inch	4.73	14.53	5.4	FALSE	
CO-110	CB-31	CB-32	35.1	675.09	674.01	0.031	12 inch	0.6	6.25	5.03	FALSE	
CO-112	CB-32	MH-30	7.9	674.01	673.83	0.023	15 inch	0.92	9.76	4.99	FALSE	
CO-114	MH-30	MH-29	155.5	673.83	669.42	0.028	15 inch	0.92	10.88	5.39	FALSE	
CO-116	MH-31	MH-36	200.8	668.12	664.36	0.019	12 inch	4.53	4.87	5.77	TRUE	
CO-118	CB-33	MH-32	10.3	670.66	670.61	0.005	10 inch	0.93	1.53	2.94	FALSE	
CO-120	MH-32	MH-33	118.7	670.8	669.37	0.012	12 inch	0.93	3.91	4.09	FALSE	
CO-122	MH-33	MH-31	121	669.37	668.12	0.01	12 inch	1.66	3.62	4.51	TRUE	
CO-124	CB-34	MH-33	11.8	669.4	669.37	0.003	10 inch	0.74	1.1	2.17	TRUE	
CO-126	CB-35	MH-31	10.6	669.03	668.96	0.007	10 inch	2.94	1.78	5.38	TRUE	
CO-132	MH-37	CB-36	36.7	671.53	671.33	0.005	15 inch	4.2	4.77	3.42	TRUE	Dry Detention & Offsite Storm - Assume flow full (12" downstream)
CO-134	CB-36	CB-37	62.6	671.33	670.45	0.014	12 inch	4.91	4.22	6.25	TRUE	
CO-136	CB-37	MH-38	8.6	670.45	669.76	0.08	12 inch	5.59	10.09	7.12	TRUE	
CO-138	MH-38	MH-39	135.5	669.76	668.35	0.01	24 inch	17.48	23.07	8.08	FALSE	
CO-140	MH-39	MH-6	156.9	668.35	666.74	0.01	24 inch	18.23	22.91	8.1	TRUE	
CO-142	CB-38	MH-6	7.1	668.82	666.74	0.294	10 inch	0.89	11.88	12.83	TRUE	
CO-144	CB-39	MH-39	7.4	669.66	669.11	0.074	10 inch	0.79	5.98	7.6	FALSE	
CO-146	MH-40	MH-38	108.3	670.64	669.76	0.008	24 inch	11.92	20.39	6.74	FALSE	
CO-148	CB-40	CB-41	63.6	675.01	673.55	0.023	12 inch	0.73	5.4	4.8	TRUE	
CO-150	CB-41	MH-41	6.9	673.55	673.5	0.007	12 inch	1.36	3.04	1.73	TRUE	
CO-152	MH-41	MH-40	134.7	673.5	671.14	0.018	24 inch	10.45	29.94	8.68	FALSE	Assumed flow from roadway sewers to west
CO-154	CB-42	CB-43	62.1	671.06	670.64	0.007	18 inch	0.79	8.64	3.05	FALSE	

EXISTING PIPE COMPUTATIONS - CONDITION 1 TAILWATER
95TH Street and Book Road Intersection Improvements

CO-156	CB-43	MH-40	7.1	670.64	670.64	0	18 inch	1.49	0	0.84	FALSE	
CO-158	H-3	CB-44	49	674.05	670.15	0.08	6 inch	1.4	1.58	7.13	TRUE	Offsite Wet Detention-Invert below Road sewer invert
CO-160	H-4	CB-31	17.9	676.12	675.54	0.032	12 inch	0.27	6.41	4.02	FALSE	
CO-162	MH-42	MH-17	189.1	663.22	660.63	0.014	18 inch	12.2	12.29	6.9	TRUE	Offsite Sewers- Assume full flow
CO-164	CB-45	CB-46	37.6	663.08	661.32	0.047	12 inch	2.34	7.71	8.61	FALSE	
CO-166	CB-46	MH-35	10.7	661.32	658.95	0.221	12 inch	3.87	16.73	17.33	TRUE	
CO-168	MH-19	O-3	75.9	657.74	657.59	0.002	58x91 inch	0	186.15	0	FALSE	
CO-170	MH-35	O-1	83.1	658.95	658.92	0	34x53 inch	63.6	19.36	6.44	FALSE	

EXISTING PIPE COMPUTATIONS - CONDITION 2 TAILWATER
95TH Street and Book Road Intersection Improvements

Label	Start Node	Stop Node	Length (Unified) (ft)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Size	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Is Surcharged?	Notes
CO-14	MH-6	MH-7	120.4	666.74	665.74	0.008	24 inch	19.07	20.61	6.07	TRUE	
CO-20	CB-4	MH-7	8.6	667.5	666.45	0.123	10 inch	3.23	7.67	5.92	TRUE	
CO-22	MH-7	MH-20	201.2	665.74	662.86	0.014	24 inch	22.16	27.06	7.05	TRUE	
CO-24	MH-20	MH-10	14.7	662.86	662.75	0.008	24 inch	28.28	19.6	9	TRUE	
CO-26	MH-10	MH-11	79.3	662.75	662.63	0.002	27 inch	28.28	12.05	7.11	TRUE	
CO-28	MH-11	MH-12	43	662.55	662.4	0.003	27 inch	28.39	18.28	7.14	TRUE	
CO-30	MH-12	CB-47	8.1	662.4	662.3	0.012	27 inch	28.6	34.41	7.19	TRUE	
CO-32	CB-6	MH-12	11.3	671.11	670.52	0.052	12 inch	0.25	8.14	4.71	FALSE	
CO-38	CB-9	CB-47	50.9	662.5	662.26	0.005	29x45 inch	18.35	45.29	2.57	TRUE	
CO-40	CB-10	CB-9	54	670.34	665.91	0.082	12 inch	0.88	10.2	7.95	FALSE	
CO-42	CB-47	MH-16	236.5	662.26	661.11	0.005	29x45 inch	46.56	46.01	6.53	TRUE	
CO-44	MH-16	MH-17	237.5	661.11	660.28	0.003	29x45 inch	47.26	39.01	6.62	TRUE	
CO-46	MH-17	MH-35	228.9	660.23	658.95	0.006	34x53 inch	60.18	76.2	8.76	TRUE	
CO-48	MH-18	MH-19	249.6	658.92	657.74	0.005	58x91 inch	0	287.99	0	FALSE	
CO-50	H-1	MH-18	86.3	659.28	658.92	0.004	58x91 inch	0	270.54	0	FALSE	
CO-52	CB-11	CB-12	33.9	664.9	663.78	0.033	12 inch	0.77	6.48	5.54	FALSE	
CO-54	CB-12	MH-17	9.8	663.75	663.03	0.074	12 inch	1.28	9.68	8.55	FALSE	
CO-56	CB-13	CB-14	34.6	664.1	663.4	0.02	12 inch	0.62	5.07	4.38	FALSE	
CO-58	CB-14	MH-16	11.6	663.4	663.15	0.022	12 inch	1.09	5.22	5.25	FALSE	
CO-60	CB-15	MH-11	13.5	670.91	669.55	0.1	12 inch	0.17	11.29	5.26	FALSE	
CO-62	CB-16	MH-36	83	665.96	664.36	0.019	6 inch	0.77	0.78	3.92	TRUE	Dry Detention & Offsite Sewers- Assume full flow
CO-64	MH-36	CB-18	10.5	664.36	664.31	0.005	15 inch	5.21	4.47	4.24	TRUE	
CO-66	CB-18	CB-19	60.8	664.31	663.57	0.012	15 inch	5.86	7.12	4.77	TRUE	
CO-68	CB-19	MH-20	7.7	663.57	662.86	0.093	15 inch	6.23	19.67	5.08	TRUE	
CO-70	CB-20	CB-21	41.3	672.71	672.31	0.01	12 inch	0.39	3.51	2.94	FALSE	
CO-72	CB-21	MH-21	69.4	664.3	663.61	0.01	21 inch	6.58	15.79	6.27	TRUE	
CO-74	MH-21	CB-9	88.2	663.36	662.9	0.005	24x38 inch	16.9	29.22	3.42	TRUE	
CO-76	MH-22	MH-21	91.8	663.61	663.36	0.003	21 inch	10.45	8.27	4.34	TRUE	
CO-78	MH-23	MH-22	134.7	663.89	663.61	0.002	18 inch	8	4.79	4.53	TRUE	
CO-80	MH-24	MH-23	22	664.94	664.34	0.027	12 inch	5.85	5.88	7.45	TRUE	Offsite Sewers- Assume full flow
CO-82	CB-22	MH-22	7	671.33	671.11	0.032	10 inch	2.6	3.89	7.64	FALSE	
CO-84	CB-23	MH-23	10.8	670.97	670.66	0.029	12 inch	0.49	6.05	4.61	FALSE	
CO-86	CB-24	MH-23	212.2	664.68	663.89	0.004	15 inch	1.71	3.94	1.39	TRUE	Assumed flow from roadway sewer to east.
CO-88	MH-25	CB-21	12.7	664.41	664.3	0.009	21 inch	5.87	14.72	5.77	FALSE	
CO-90	CB-25	CB-26	35.4	674.04	673.69	0.01	12 inch	0.36	3.54	2.9	FALSE	
CO-92	CB-26	MH-26	12.5	672.69	671.04	0.132	12 inch	0.7	12.95	8.79	FALSE	
CO-94	MH-26	MH-25	140.2	665.83	664.41	0.01	21 inch	5.9	15.95	6.13	FALSE	
CO-96	CB-27	CB-28	34.4	668.21	667.82	0.011	12 inch	0.32	3.79	2.95	FALSE	
CO-98	CB-28	MH-27	13	667.32	667.22	0.008	12 inch	0.6	3.13	3.07	FALSE	
CO-100	MH-27	MH-26	156.4	667.22	665.83	0.009	21 inch	5.26	14.94	5.67	FALSE	
CO-102	CB-44	CB-29	22.2	669.65	674.83	-0.234	12 inch	1.65	17.22	2.09	TRUE	
CO-104	CB-29	CB-30	34.8	674.83	673.26	0.045	12 inch	2.8	7.57	8.92	FALSE	
CO-106	CB-30	MH-29	9.8	673.11	672.82	0.03	12 inch	3.84	6.14	8.25	FALSE	
CO-108	MH-29	MH-27	261.5	669.42	667.22	0.008	21 inch	4.73	14.53	5.4	FALSE	
CO-110	CB-31	CB-32	35.1	675.09	674.01	0.031	12 inch	0.6	6.25	5.03	FALSE	
CO-112	CB-32	MH-30	7.9	674.01	673.83	0.023	15 inch	0.92	9.76	4.99	FALSE	
CO-114	MH-30	MH-29	155.5	673.83	669.42	0.028	15 inch	0.92	10.88	5.39	FALSE	
CO-116	MH-31	MH-36	200.8	668.12	664.36	0.019	12 inch	4.49	4.87	5.71	TRUE	
CO-118	CB-33	MH-32	10.3	670.66	670.61	0.005	10 inch	0.93	1.53	2.94	FALSE	
CO-120	MH-32	MH-33	118.7	670.8	669.37	0.012	12 inch	0.93	3.91	4.09	TRUE	
CO-122	MH-33	MH-31	121	669.37	668.12	0.01	12 inch	1.66	3.62	2.11	TRUE	
CO-124	CB-34	MH-33	11.8	669.4	669.37	0.003	10 inch	0.74	1.1	1.36	TRUE	
CO-126	CB-35	MH-31	10.6	669.03	668.96	0.007	10 inch	2.94	1.78	5.38	TRUE	
CO-132	MH-37	CB-36	36.7	671.53	671.33	0.005	15 inch	4.2	4.77	3.42	TRUE	Dry Detention & Offsite Storm - Assume flow full (12" downstream)
CO-134	CB-36	CB-37	62.6	671.33	670.45	0.014	12 inch	4.91	4.22	6.25	TRUE	
CO-136	CB-37	MH-38	8.6	670.45	669.76	0.08	12 inch	5.59	10.09	7.12	TRUE	
CO-138	MH-38	MH-39	135.5	669.76	668.35	0.01	24 inch	17.48	23.07	8.08	FALSE	
CO-140	MH-39	MH-6	156.9	668.35	666.74	0.01	24 inch	18.23	22.91	8.1	TRUE	
CO-142	CB-38	MH-6	7.1	668.82	666.74	0.294	10 inch	0.89	11.88	12.83	TRUE	
CO-144	CB-39	MH-39	7.4	669.66	669.11	0.074	10 inch	0.79	5.98	7.6	TRUE	
CO-146	MH-40	MH-38	108.3	670.64	669.76	0.008	24 inch	11.92	20.39	6.74	FALSE	
CO-148	CB-40	CB-41	63.6	675.01	673.55	0.023	12 inch	0.73	5.4	4.8	TRUE	
CO-150	CB-41	MH-41	6.9	673.55	673.5	0.007	12 inch	1.36	3.04	1.73	TRUE	
CO-152	MH-41	MH-40	134.7	673.5	671.14	0.018	24 inch	10.45	29.94	8.68	FALSE	Assumed flow from roadway sewers to west
CO-154	CB-42	CB-43	62.1	671.06	670.64	0.007	18 inch	0.79	8.64	3.05	FALSE	

EXISTING PIPE COMPUTATIONS - CONDITION 2 TAILWATER
95TH Street and Book Road Intersection Improvements

CO-156	CB-43	MH-40	7.1	670.64	670.64	0	18 inch	1.49	0	0.84	FALSE	
CO-158	H-3	CB-44	49	674.05	670.15	0.08	6 inch	1.4	1.58	7.13	TRUE	Offsite Wet Detention-Invert below Road sewer invert
CO-160	H-4	CB-31	17.9	676.12	675.54	0.032	12 inch	0.27	6.41	4.02	FALSE	
CO-162	MH-42	MH-17	189.1	663.22	660.63	0.014	18 inch	12.2	12.29	6.9	TRUE	Offsite Sewers- Assume full flow
CO-164	CB-45	CB-46	37.6	663.08	661.32	0.047	12 inch	2.34	7.71	8.61	FALSE	
CO-166	CB-46	MH-35	10.7	661.32	658.95	0.221	12 inch	3.87	16.73	17.33	TRUE	
CO-168	MH-19	O-3	75.9	657.74	657.59	0.002	58x91 inch	0	186.15	0	FALSE	
CO-170	MH-35	O-1	83.1	658.95	658.92	0	34x53 inch	63.2	19.36	6.4	TRUE	

EXISTING PIPE COMPUTATIONS - CONDITION 3 TAILWATER
95TH Street and Book Road Intersection Improvements

Label	Start Node	Stop Node	Length (Unifed) (ft)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Size	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Is Surcharged?	Notes
CO-14	MH-6	MH-7	120.4	666.74	665.74	0.008	24 inch	18.81	20.61	5.99	TRUE	
CO-20	CB-4	MH-7	8.6	667.5	666.45	0.123	10 inch	3.23	7.67	5.92	TRUE	
CO-22	MH-7	MH-20	201.2	665.74	662.86	0.014	24 inch	21.76	27.06	6.92	TRUE	
CO-24	MH-20	MH-10	14.7	662.86	662.75	0.008	24 inch	27.66	19.6	8.8	TRUE	
CO-26	MH-10	MH-11	79.3	662.75	662.63	0.002	27 inch	27.65	12.05	6.96	TRUE	
CO-28	MH-11	MH-12	43	662.55	662.4	0.003	27 inch	27.76	18.28	6.98	TRUE	
CO-30	MH-12	CB-47	8.1	662.4	662.3	0.012	27 inch	27.96	34.41	7.03	TRUE	
CO-32	CB-6	MH-12	11.3	671.11	670.52	0.052	12 inch	0.25	8.14	4.71	FALSE	
CO-38	CB-9	CB-47	50.9	662.5	662.26	0.005	29x45 inch	18.34	45.29	2.57	TRUE	
CO-40	CB-10	CB-9	54	670.34	665.91	0.082	12 inch	0.88	10.2	7.95	TRUE	
CO-42	CB-47	MH-16	236.5	662.26	661.11	0.005	29x45 inch	46.17	46.01	6.47	TRUE	
CO-44	MH-16	MH-17	237.5	661.11	660.28	0.003	29x45 inch	46.65	39.01	6.54	TRUE	
CO-46	MH-17	MH-35	228.9	660.23	658.95	0.006	34x53 inch	59.44	76.2	6.02	TRUE	
CO-48	MH-18	MH-19	249.6	658.92	657.74	0.005	58x91 inch	0	287.99	0	FALSE	
CO-50	H-1	MH-18	86.3	659.28	658.92	0.004	58x91 inch	0	270.54	0	FALSE	
CO-52	CB-11	CB-12	33.9	664.9	663.78	0.033	12 inch	0.77	6.48	5.54	TRUE	
CO-54	CB-12	MH-17	9.8	663.75	663.03	0.074	12 inch	1.28	9.68	1.63	TRUE	
CO-56	CB-13	CB-14	34.6	664.1	663.4	0.02	12 inch	0.62	5.07	0.79	TRUE	
CO-58	CB-14	MH-16	11.6	663.4	663.15	0.022	12 inch	1.07	5.22	1.37	TRUE	
CO-60	CB-15	MH-11	13.5	670.91	669.55	0.1	12 inch	0.17	11.29	5.26	FALSE	
CO-62	CB-16	MH-36	83	665.96	664.36	0.019	6 inch	0.77	0.78	3.92	TRUE	Dry Detention & Offsite Sewers- Assume full flow
CO-64	MH-36	CB-18	10.5	664.36	664.31	0.005	15 inch	5.1	4.47	4.15	TRUE	
CO-66	CB-18	CB-19	60.8	664.31	663.57	0.012	15 inch	5.73	7.12	4.67	TRUE	
CO-68	CB-19	MH-20	7.7	663.57	662.86	0.093	15 inch	6.1	19.67	4.97	TRUE	
CO-70	CB-20	CB-21	41.3	672.71	672.31	0.01	12 inch	0.39	3.51	2.94	FALSE	
CO-72	CB-21	MH-21	69.4	664.3	663.61	0.01	21 inch	6.52	15.79	2.71	TRUE	
CO-74	MH-21	CB-9	88.2	663.36	662.9	0.005	24x38 inch	16.89	29.22	3.42	TRUE	
CO-76	MH-22	MH-21	91.8	663.61	663.36	0.003	21 inch	10.45	8.27	4.34	TRUE	
CO-78	MH-23	MH-22	134.7	663.89	663.61	0.002	18 inch	8	4.79	4.53	TRUE	
CO-80	MH-24	MH-23	22	664.94	664.34	0.027	12 inch	5.85	5.88	7.45	TRUE	Offsite Sewers- Assume full flow
CO-82	CB-22	MH-22	7	671.33	671.11	0.032	10 inch	2.6	3.89	7.64	FALSE	
CO-84	CB-23	MH-23	10.8	670.97	670.66	0.029	12 inch	0.49	6.05	4.61	FALSE	
CO-86	CB-24	MH-23	212.2	664.68	663.89	0.004	15 inch	1.71	3.94	1.39	TRUE	Assumed flow from roadway sewer to east.
CO-88	MH-25	CB-21	12.7	664.41	664.3	0.009	21 inch	5.82	14.72	2.42	TRUE	
CO-90	CB-25	CB-26	35.4	674.04	673.69	0.01	12 inch	0.36	3.54	2.9	FALSE	
CO-92	CB-26	MH-26	12.5	672.69	671.04	0.132	12 inch	0.7	12.95	8.79	FALSE	
CO-94	MH-26	MH-25	140.2	665.83	664.41	0.01	21 inch	5.9	15.95	2.45	TRUE	
CO-96	CB-27	CB-28	34.4	668.21	667.82	0.011	12 inch	0.32	3.79	2.95	FALSE	
CO-98	CB-28	MH-27	13	667.32	667.22	0.008	12 inch	0.6	3.13	3.07	FALSE	
CO-100	MH-27	MH-26	156.4	667.22	665.83	0.009	21 inch	5.26	14.94	5.67	TRUE	
CO-102	CB-44	CB-29	22.2	669.65	674.83	-0.234	12 inch	1.65	17.22	2.09	TRUE	
CO-104	CB-29	CB-30	34.8	674.83	673.26	0.045	12 inch	2.8	7.57	8.92	FALSE	
CO-106	CB-30	MH-29	9.8	673.11	672.82	0.03	12 inch	3.84	6.14	8.25	FALSE	
CO-108	MH-29	MH-27	261.5	669.42	667.22	0.008	21 inch	4.73	14.53	5.4	FALSE	
CO-110	CB-31	CB-32	35.1	675.09	674.01	0.031	12 inch	0.6	6.25	5.03	FALSE	
CO-112	CB-32	MH-30	7.9	674.01	673.83	0.023	15 inch	0.92	9.76	4.99	FALSE	
CO-114	MH-30	MH-29	155.5	673.83	669.42	0.028	15 inch	0.92	10.88	5.39	FALSE	
CO-116	MH-31	MH-36	200.8	668.12	664.36	0.019	12 inch	4.38	4.87	5.58	TRUE	
CO-118	CB-33	MH-32	10.3	670.66	670.61	0.005	10 inch	0.93	1.53	1.71	TRUE	
CO-120	MH-32	MH-33	118.7	670.8	669.37	0.012	12 inch	0.93	3.91	1.19	TRUE	
CO-122	MH-33	MH-31	121	669.37	668.12	0.01	12 inch	1.62	3.62	2.07	TRUE	
CO-124	CB-34	MH-33	11.8	669.4	669.37	0.003	10 inch	0.74	1.1	1.36	TRUE	
CO-126	CB-35	MH-31	10.6	669.03	668.96	0.007	10 inch	2.94	1.78	5.38	TRUE	
CO-132	MH-37	CB-36	36.7	671.53	671.33	0.005	15 inch	4.2	4.77	3.42	TRUE	Dry Detention & Offsite Storm - Assume flow full (12" downstream)
CO-134	CB-36	CB-37	62.6	671.33	670.45	0.014	12 inch	4.91	4.22	6.25	TRUE	
CO-136	CB-37	MH-38	8.6	670.45	669.76	0.08	12 inch	5.59	10.09	7.12	TRUE	
CO-138	MH-38	MH-39	135.5	669.76	668.35	0.01	24 inch	17.31	23.07	5.51	TRUE	
CO-140	MH-39	MH-6	156.9	668.35	666.74	0.01	24 inch	18.02	22.91	5.74	TRUE	
CO-142	CB-38	MH-6	7.1	668.82	666.74	0.294	10 inch	0.89	11.88	1.64	TRUE	
CO-144	CB-39	MH-39	7.4	669.66	669.11	0.074	10 inch	0.79	5.98	1.45	TRUE	
CO-146	MH-40	MH-38	108.3	670.64	669.76	0.008	24 inch	11.82	20.39	3.76	TRUE	
CO-148	CB-40	CB-41	63.6	675.01	673.55	0.023	12 inch	0.73	5.4	4.8	TRUE	
CO-150	CB-41	MH-41	6.9	673.55	673.5	0.007	12 inch	1.36	3.04	1.73	TRUE	
CO-152	MH-41	MH-40	134.7	673.5	671.14	0.018	24 inch	10.45	29.94	8.68	TRUE	Assumed flow from roadway sewers to west
CO-154	CB-42	CB-43	62.1	671.06	670.64	0.007	18 inch	0.79	8.64	0.45	TRUE	

EXISTING PIPE COMPUTATIONS - CONDITION 3 TAILWATER
95TH Street and Book Road Intersection Improvements

CO-156	CB-43	MH-40	7.1	670.64	670.64	0	18 inch	1.43	0	0.81	TRUE	
CO-158	H-3	CB-44	49	674.05	670.15	0.08	6 inch	1.4	1.58	7.13	TRUE	Offsite Wet Detention-Invert below Road sewer invert
CO-160	H-4	CB-31	17.9	676.12	675.54	0.032	12 inch	0.27	6.41	4.02	FALSE	
CO-162	MH-42	MH-17	189.1	663.22	660.63	0.014	18 inch	12.2	12.29	6.9	TRUE	Offsite Sewers- Assume full flow
CO-164	CB-45	CB-46	37.6	663.08	661.32	0.047	12 inch	2.34	7.71	2.98	TRUE	
CO-166	CB-46	MH-35	10.7	661.32	658.95	0.221	12 inch	3.86	16.73	4.91	TRUE	
CO-168	MH-19	O-3	75.9	657.74	657.59	0.002	58x91 inch	0	186.15	0	FALSE	
CO-170	MH-35	O-1	83.1	658.95	658.92	0	34x53 inch	62.15	19.36	6.29	TRUE	

APPENDIX 3 : PROPOSED DRAINAGE CALCULATIONS

PROPOSED INLET COMPUTATIONS
95th Street and Book Road Intersection Improvements

Label	Inlet	Inlet Location	Longitudinal Slope (Inlet) (ft/ft)	Catalog Gutter	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Spread / Top Width (ft)	Depth (Gutter) (in)	Flow (Local Surface) (cfs)	Flow (Captured) (cfs)	Flow (Total Bypassed) (cfs)	Is Overflowing?	Bypass Target	Notes
CB-16	Ditch - CB 4' TY8F&G	In Sag		<None>	670.07	665.96	0	0	0	0	0	TRUE	<None>	Open inlet in dry detention. Top Pond Elevation = 674.00
CB-24	CB 4' TY 3VF&G	On Grade	0.003	Ty B6.18	675.58	664.68	6.6	2.3	0.7	0.46	0.24	FALSE	O-8	
CB-29	CB 4' TY 11VF&G	In Sag		Ty B6.12	678.3	674.83	6.7	3.6	1.15	1.15	0	FALSE	<None>	
CB-31	CB 4' TY 11VF&G	On Grade	0.014	Ty B6.12	679.69	675.09	4.5	1.5	0.53	0.35	0.19	FALSE	CB-29	
CB-33	CB 4' GrateOnly TY23F&G	On Grade	0.005	Ty B6.18	674.84	670.66	8.1	2.7	1.49	0.93	0.55	FALSE	CB-34	Outside Proposed Improv.
CB-34	CB 4' TY 3VF&G	On Grade	0.005	Ty B6.18	673.9	669.4	7.7	2.6	1.33	0.74	0.59	FALSE	CB-35	Outside Proposed Improv.
CB-35	IN TYB TY11VF&G	In Sag		Ty B6.18	673.53	669.03	6.6	3.8	1.39	1.39	0	FALSE	<None>	
CB-36	CB 4' TY 3VF&G	On Grade	0.005	Ty B6.18	675.43	671.33	7.5	2.5	1.24	0.71	0.53	FALSE	CB-33	Outside Proposed Improv.
CB-37	CB 4' TY 3VF&G	On Grade	0.005	Ty B6.18	675.28	670.45	7.4	2.5	1.18	0.69	0.5	FALSE	CB-39	Outside Proposed Improv.
CB-39	CB 4' TY 3VF&G	On Grade	0.004	Ty B6.18	674.84	669.66	8.5	2.8	1.49	0.79	0.7	FALSE	PR-34	Outside Proposed Improv.
CB-40	IN TYA TY3VF&G	On Grade	0.012	Ty B6.18	677.71	675.01	6	2.1	1.13	0.73	0.4	FALSE	CB-42	
CB-41	CB 4' TY 3VF&G	On Grade	0.012	Ty B6.18	677.54	673.55	5.4	2	0.92	0.63	0.29	FALSE	CB-43	Outside Proposed Improv.
CB-42	CB 4' TY 3VF&G	On Grade	0.009	Ty B6.18	676.26	671.06	6.9	2.4	1.35	0.79	0.56	FALSE	CB-36	
CB-43	CB 4' TY 3VF&G	On Grade	0.01	Ty B6.18	675.95	670.64	6.2	2.2	1.11	0.71	0.41	FALSE	CB-37	
CB-44	Ditch - CB 4' TY8F&G	In Sag		<None>	676.7	669.65	5.1	0.6	0.25	0.25	0	FALSE	<None>	
PR-1	IN TYB TY11VF&G	On Grade	0.014	Ty B6.12	679.14	673.92	4.4	1.5	0.53	0.35	0.18	FALSE	PR-2	
PR-2	CB 4' TY 11VF&G	In Sag		Ty B6.12	678.02	669.72	4.6	3.1	0.7	0.7	0	FALSE	<None>	
PR-3	CB 5' TY 11VF&G	In Sag		Ty B6.12	678	669.42	4.5	3.1	0.67	0.67	0	FALSE	<None>	
PR-4	IN TYB TY3VF&G	On Grade	0.009	Ty B6.18	678.59	668.35	4.6	1.8	0.58	0.44	0.14	FALSE	PR-6	
PR-5	CB 5' TY 3VF&G	On Grade	0.009	Ty B6.18	678.26	667.22	4.4	1.8	0.53	0.41	0.11	FALSE	PR-7	
PR-6	IN TYA TY3VF&G	On Grade	0.009	Ty B6.18	676.89	674.24	5.7	2.1	0.89	0.6	0.29	FALSE	PR-8	
PR-7	CB 5' TY 3VF&G	On Grade	0.009	Ty B6.18	676.82	665.83	5.3	2	0.75	0.53	0.22	FALSE	PR-9	
PR-8	IN TYA TY3VF&G	On Grade	0.009	Ty B6.18	675.77	672.71	6.2	2.2	1.09	0.69	0.4	FALSE	PR-10	
PR-9	CB 4' TY 3VF&G	On Grade	0.009	Ty B6.18	675.97	664.41	5.9	2.1	0.94	0.62	0.32	FALSE	PR-11	
PR-10	CB 4' TY 3VF&G	On Grade	0.009	Ty B6.18	675.09	664.34	7	2.4	1.39	0.81	0.58	FALSE	PR-30	
PR-11	IN TYB TY3VF&G	In Sag		Ty B6.18	675.03	671.33	6.3	4.5	1.6	1.6	0	FALSE	<None>	
PR-12	CB 4' TY 3VF&G	On Grade	0.007	Ty B6.18	675.83	663.89	5.6	2.1	0.76	0.52	0.24	FALSE	PR-29	
PR-13	CB 4' TY 3VF&G	On Grade	0.007	Ty B6.18	674.95	670.34	7.5	2.5	1.42	0.79	0.63	FALSE	PR-14	At Intersection existing was 7.4'
PR-14	IN TYB TY3VF&G	On Grade	0.015	Ty B6.18	671.5	665.26	6.4	2.3	1.48	0.9	0.58	FALSE	PR-33	
PR-15	CB 5' TY 3VF&G	On Grade	0.009	Ty B6.18	674.22	662.82	4	1.7	0.44	0.36	0.08	FALSE	PR-25	
PR-16	CB 5' TY 3VF&G	On Grade	0.015	Ty B6.18	673.49	662.53	3	1.4	0.35	0.32	0.03	FALSE	PR-17	
PR-17	IN TYB TY3VF&G	On Grade	0.015	Ty B6.18	669.72	664.2	6.2	2.2	1.4	0.87	0.54	FALSE	PR-31	
PR-18	CB 5' TY 3VF&G	On Grade	0.015	Ty B6.18	669.63	661.11	6.8	2.3	1.68	0.98	0.7	FALSE	PR-32	
PR-19	IN TYB TY3VF&G	On Grade	0.008	Ty B6.18	667.93	665	6.8	2.3	1.23	0.74	0.49	FALSE	PR-21	
PR-20	CB 6' TY3VF&G	On Grade	0.008	Ty B6.18	667.93	660.23	6.4	2.3	1.1	0.68	0.42	FALSE	PR-22	
PR-21	IN TYB TY3VF&G	In Sag		Ty B6.18	665.85	663.1	6.2	4.5	1.57	1.57	0	FALSE	<None>	
PR-22	CB 4' TY 3VF&G	In Sag		Ty B6.18	665.88	660.09	5.7	4.3	1.44	1.44	0	FALSE	<None>	
PR-23	IN TYA TY3VF&G	In Sag		Ty B6.18	665.79	663.18	1.4	3.2	0.42	0.42	0	FALSE	<None>	
PR-24	IN TYA TY3VF&G	In Sag		Ty B6.18	665.77	661.77	1.4	3.2	0.45	0.45	0	FALSE	<None>	
PR-25	CB 4' TY 3VF&G	On Grade	0.005	Ty B6.18	673.12	664.5	6.9	2.4	1.01	0.62	0.39	FALSE	PR-26	
PR-26	CB 4' GrateOnly TY23F&G	In Sag		Ty B6.18	672.85	665.3	6.5	2.3	0.7	0.7	0	FALSE	<None>	
PR-27	CB 4' TY 3VF&G	On Grade	0.005	Ty B6.18	673.98	666.74	7	2.4	1.02	0.62	0.4	FALSE	PR-34	Existing spread was 8.7'
PR-29	IN TYA TY3VF&G	In Sag		Ty B6.18	675.09	672	5.5	4.3	1.38	1.38	0	FALSE	<None>	
PR-30	IN TYA TY3VF&G	In Sag		Ty B6.18	673.63	669.1	6.7	4.6	1.7	1.7	0	FALSE	<None>	
PR-31	IN TYA TY3VF&G	On Grade	0.008	Ty B6.18	668.98	663.8	6.4	2.3	1.09	0.68	0.41	FALSE	PR-19	
PR-32	CB 5' TY 3VF&G	On Grade	0.008	Ty B6.18	668.98	660.77	6.6	2.3	1.18	0.71	0.46	FALSE	PR-20	
PR-33	IN TYA TY3VF&G	On Grade	0.008	Ty B6.18	671.34	668.34	5.3	2	0.72	0.51	0.21	FALSE	PR-18	
PR-34	IN TYA TY3VF&G	On Grade	0.005	Ty B6.18	674.48	671.48	7.6	2.5	1.27	0.72	0.55	FALSE	PR-27	
PR-35	CB 4' TY 3VF&G	In Sag		Ty B6.18	672.85	665.45	6.3	4.5	1.59	1.59	0	FALSE	<None>	

PROPOSED STORM SEWER COMPUTATIONS - CONDITION 3 TAILWATER
95TH STREET AND BOOK ROAD INTERSECTION IMPROVEMENTS

Label	Start Node	Stop Node	Length (Unified) (ft)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Size	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Is Surcharged?	Notes
CO-38	MH-53	MH-54	50.9	662.5	662.26	0.005	29x45 inch	19.45	45.29	2.73	TRUE	
CO-42	MH-54	PR-18	236.5	662.26	661.11	0.005	29x45 inch	49.05	46.01	6.87	TRUE	
CO-44(1)	PR-18	PR-32	96.9	661.11	660.77	0.003	29x45 inch	50.42	39.01	7.07	TRUE	
CO-44(2)	PR-32	PR-20	140.6	660.77	660.28	0.003	29x45 inch	51.56	39.01	7.23	TRUE	
CO-46	PR-20	MH-35	228.9	660.23	658.95	0.006	34x53 inch	64.7	76.2	6.55	TRUE	
CO-48	MH-18	MH-19	249.6	658.92	657.74	0.005	58x91 inch	0	287.99	0	FALSE	
CO-50	H-1	MH-18	86.3	659.28	658.92	0.004	58x91 inch	0	270.54	0	FALSE	
CO-52	MH-59	MH-58	33.9	664.9	663.78	0.033	12 inch	0.74	6.48	5.47	TRUE	
CO-54	MH-58	PR-20	9.8	663.75	663.03	0.074	12 inch	0.73	9.68	0.93	TRUE	
CO-56	MH-56	MH-57	34.6	664.1	663.4	0.02	12 inch	0.86	5.07	1.1	TRUE	
CO-58	MH-57	PR-18	11.6	663.4	663.15	0.022	12 inch	0.86	5.22	1.09	TRUE	
CO-62	CB-16	MH-36	83	665.96	664.36	0.019	6 inch	0.77	0.78	3.92	TRUE	Dry Detention & Offsite Sewers- Assume full flow
CO-64	MH-36	PR-10	4	664.36	664.34	0.005	15 inch	5.25	4.46	4.28	TRUE	
CO-66	MH-52	MH-55	60.8	664.31	663.57	0.012	15 inch	6	7.12	4.89	TRUE	
CO-72	MH-51	MH-21	69.4	664.3	663.61	0.01	21 inch	8.05	15.79	3.35	TRUE	
CO-74	MH-21	MH-53	88.2	663.36	662.9	0.005	24x38 inch	18.79	29.22	3.8	TRUE	
CO-76	MH-22	MH-21	91.8	663.61	663.36	0.003	21 inch	10.84	8.27	4.51	TRUE	
CO-78	PR-12	MH-22	134.7	663.89	663.61	0.002	18 inch	8.03	4.79	4.54	TRUE	
CO-80	MH-24	PR-12	22	664.94	664.34	0.027	12 inch	5.85	5.88	7.45	TRUE	Offsite Sewers- Assume full flow
CO-86	CB-24	PR-12	212.2	664.68	663.89	0.004	15 inch	1.7	3.94	1.39	TRUE	Assumed flow from roadway sewer to east.
CO-88	PR-9	MH-51	12.7	664.41	664.3	0.009	21 inch	7.4	14.72	3.08	TRUE	
CO-90	MH-49	MH-50	35.4	674.04	673.69	0.01	12 inch	0.6	3.54	3.35	FALSE	
CO-92	MH-50	PR-7	12.5	672.69	671.04	0.132	12 inch	0.6	12.95	8.38	FALSE	
CO-94	PR-7	PR-9	140.2	665.83	664.41	0.01	21 inch	6.9	15.95	2.87	TRUE	
CO-96	MH-47	MH-48	34.4	668.21	667.82	0.011	12 inch	0.44	3.79	3.22	FALSE	
CO-98	MH-48	PR-5	13	667.32	667.22	0.008	12 inch	0.44	3.13	0.56	TRUE	
CO-100	PR-5	PR-7	156.4	667.22	665.83	0.009	21 inch	5.85	14.94	5.83	TRUE	
CO-102	CB-44	CB-29	22.2	669.65	674.83	-0.234	12 inch	1.65	17.22	2.09	TRUE	
CO-104	CB-29	MH-46	34.8	674.83	673.26	0.045	12 inch	2.79	7.57	8.91	FALSE	
CO-106	MH-46	PR-3	9.8	673.11	672.72	0.04	12 inch	2.79	7.12	8.52	FALSE	
CO-108	PR-3	PR-5	261.5	669.42	667.22	0.008	21 inch	5.07	14.53	5.5	FALSE	
CO-110	CB-31	MH-44	35.1	675.09	674.01	0.031	12 inch	0.61	6.25	5.06	FALSE	
CO-112b	PR-1	MH-30	3.9	673.92	673.83	0.023	15 inch	0.96	9.76	5.05	FALSE	
CO-114(1)	MH-30	PR-2	144.9	673.83	669.72	0.028	15 inch	0.96	10.88	5.46	FALSE	
CO-116	MH-31	MH-36	200.8	668.12	664.36	0.019	12 inch	4.53	4.87	5.77	TRUE	
CO-118	CB-33	MH-32	10.3	670.66	670.61	0.005	10 inch	0.93	1.53	1.71	TRUE	
CO-120	MH-32	MH-33	118.7	670.8	669.37	0.012	12 inch	0.93	3.91	1.19	TRUE	
CO-122	MH-33	MH-31	121	669.37	668.12	0.01	12 inch	1.62	3.62	2.07	TRUE	
CO-124	CB-34	MH-33	11.8	669.4	669.37	0.003	10 inch	0.74	1.1	1.36	TRUE	
CO-126	CB-35	MH-31	10.6	669.03	668.96	0.007	10 inch	3.09	1.78	5.66	TRUE	
CO-132	MH-37	CB-36	36.7	671.53	671.33	0.005	15 inch	4.2	4.77	3.42	TRUE	Dry Detention & Offsite Storm - Assume flow full (12" downstream)
CO-134	CB-36	CB-37	62.6	671.33	670.45	0.014	12 inch	4.91	4.22	6.25	TRUE	
CO-136	CB-37	MH-38	8.6	670.45	669.76	0.08	12 inch	5.59	10.09	7.12	TRUE	
CO-138	MH-38	MH-39	135.5	669.76	668.35	0.01	24 inch	17.48	23.07	5.56	TRUE	
CO-140	MH-39	PR-27	156.9	668.35	666.74	0.01	24 inch	18.22	22.91	5.8	TRUE	
CO-142	MH-38	PR-27	7	668.82	666.74	0.298	12 inch	0.72	19.44	0.91	TRUE	
CO-144	CB-39	MH-39	7.4	669.66	669.11	0.074	10 inch	0.79	5.98	1.45	TRUE	
CO-146	MH-40	MH-38	108.3	670.64	669.76	0.008	24 inch	11.92	20.39	6.74	TRUE	
CO-148	CB-40	CB-41	63.6	675.01	673.55	0.023	12 inch	0.73	5.4	4.8	TRUE	
CO-150	CB-41	MH-41	6.9	673.55	673.5	0.007	12 inch	1.36	3.04	1.73	TRUE	
CO-152	MH-41	MH-40	134.7	673.5	671.14	0.018	24 inch	10.45	29.94	8.68	FALSE	Assumed flow from roadway sewers to west
CO-154	CB-42	CB-43	62.1	671.06	670.64	0.007	18 inch	0.79	8.64	3.05	FALSE	
CO-156	CB-43	MH-40	7.1	670.64	670.64	0	18 inch	1.49	0	0.84	FALSE	
CO-158	H-3	CB-44	49	674.05	670.15	0.08	6 inch	1.4	1.58	7.13	TRUE	Offsite Wet Detention-Invert below Road sewer invert
CO-160	H-4	CB-31	17.9	676.12	675.54	0.032	12 inch	0.27	6.41	4.02	FALSE	
CO-162	MH-42	PR-20	189.1	663.22	660.63	0.014	18 inch	12.2	12.29	6.9	TRUE	Offsite Sewers- Assume full flow
CO-164	MH-65	MH-64	37.6	663.08	661.32	0.047	12 inch	1.97	7.71	2.51	TRUE	
CO-166(1)	MH-64	PR-22	5.6	661.32	660.09	0.221	12 inch	1.96	16.73	2.5	TRUE	
CO-168	MH-19	O-3	75.9	657.74	657.59	0.002	58x91 inch	0	186.15	0	FALSE	
CO-170	MH-35	O-1	83.1	658.95	658.92	0	34x53 inch	67.49	19.36	6.83	TRUE	
CO-230	MH-55	PR-15	14.8	663.57	662.82	0.051	15 inch	5.98	14.52	4.88	TRUE	
PR-01	PR-2	PR-3	10.6	669.72	669.42	0.028	15 inch	1.64	10.88	6.38	FALSE	
PR-02	PR-4	MH-47	11.7	668.35	668.21	0.012	12 inch	0.44	3.9	3.29	FALSE	
PR-03	PR-6	MH-49	20.7	674.24	674.04	0.01	12 inch	0.6	3.5	3.33	FALSE	
PR-04	PR-8	MH-51	56.7	672.71	672.31	0.007	12 inch	0.69	2.99	3.09	FALSE	
PR-05	PR-10	MH-52	6	664.34	664.31	0.005	15 inch	6.01	4.64	4.89	TRUE	
PR-06	PR-11	MH-22	4.6	671.33	671.11	0.048	12 inch	2.98	7.79	9.26	FALSE	
PR-07	PR-13	MH-53	51.9	670.34	665.91	0.085	12 inch	0.79	10.41	7.83	TRUE	

PROPOSED STORM SEWER COMPUTATIONS - CONDITION 3 TAILWATER
95TH STREET AND BOOK ROAD INTERSECTION IMPROVEMENTS

PR-08	PR-14	MH-54	10.3	665.26	664.26	0.097	12 inch	1.41	11.08	1.79	TRUE	
PR-10	PR-15	PR-16	73.7	662.82	662.53	0.004	36 inch	28.27	41.84	4	TRUE	
PR-11	PR-16	MH-54	64.8	662.53	662.26	0.004	36 inch	28.47	43.06	4.03	TRUE	
PR-12	PR-17	MH-56	10.9	664.2	664.1	0.009	12 inch	0.87	3.41	1.1	TRUE	
PR-13	PR-19	MH-59	9.1	665	664.9	0.011	12 inch	0.74	3.74	3.7	FALSE	
PR-14	PR-23	PR-21	17.6	663.18	663.1	0.005	12 inch	0.42	2.4	0.54	TRUE	
PR-15	PR-21	MH-65	4.2	663.1	663.08	0.005	12 inch	1.97	2.47	2.51	TRUE	
PR-16	PR-24	PR-22	25.7	661.77	660.09	0.066	12 inch	0.45	9.12	0.58	TRUE	
PR-17	PR-22	MH-35	5.2	660.09	658.95	0.221	12 inch	3.82	16.73	4.86	TRUE	
PR-18	PR-27	PR-34	105.6	666.74	665.45	0.012	24 inch	19.48	25	6.2	TRUE	
PR-20	PR-29	PR-11	10.8	672	671.33	0.062	12 inch	1.38	8.87	8.21	FALSE	
PR-21	PR-30	CB-35	12.8	669.1	669.03	0.005	12 inch	1.7	2.64	2.17	TRUE	
PR-22	MH-44	PR-1	4	674.01	673.92	0.023	15 inch	0.61	9.76	4.43	FALSE	
PR-22	PR-34	MH-38	78.9	671.48	668.82	0.034	12 inch	0.72	6.54	5.48	TRUE	
PR-23	PR-33	PR-14	20.8	668.34	667.34	0.048	12 inch	0.51	7.82	5.62	FALSE	
PR-24	PR-31	PR-32	55	663.8	662.7	0.02	12 inch	0.68	5.04	0.86	TRUE	
PR-25	PR-34	PR-26	15.1	665.45	665.3	0.01	24 inch	20.62	22.56	6.56	TRUE	
PR-26	PR-26	PR-25	84.9	665.3	664.5	0.009	24 inch	21.64	21.95	6.89	TRUE	
PR-27	PR-25	PR-15	116.4	664.5	663.34	0.01	30 inch	22.2	40.95	4.52	TRUE	

EXHIBIT 3-1

Crash
Information

Crashes By Collision Type							
Collision Type	2013	2014	2015	2016	2017	Total	%
Angle	5	6	2	4	3	20	18%
Fixed Object	0	0	0	1	0	1	1%
Head On	0	0	0	0	0	0	0%
Other Non Collision	0	0	0	0	0	0	0%
Overtaken	0	0	0	0	0	0	0%
Parked Motor Vehicle	0	0	0	0	0	0	0%
Pedalcyclist	0	0	0	0	0	0	0%
Pedestrian	0	0	0	0	1	1	1%
Rear End	6	15	7	13	15	56	49%
Sideswipe Opposite	0	0	0	0	0	0	0%
Sideswipe Same Direction	2	3	3	2	2	12	11%
Turning	4	5	2	7	6	24	21%
Unknown	0	0	0	0	0	0	0%
Total	17	29	14	27	27	114	100%

Crashes by Weather Conditions							
Weather Conditions	2013	2014	2015	2016	2017	Total	%
Clear	15	25	12	20	21	93	82%
Rain	2	3	1	6	4	16	14%
Snow	0	0	0	0	0	0	0%
Fog/Smoke/Haze	0	0	1	0	0	1	1%
Sleet/Hail	0	0	0	1	0	1	1%
Severe Cross Wind	0	0	0	0	0	0	0%
Other	0	0	0	0	0	0	0%
Cloudy/Overcast	0	0	0	0	2	2	2%
Unknown	0	1	0	0	0	1	1%
Total	17	29	14	27	27	114	100%

Crashes by Road Surface Conditions							
Road Surface Condition	2013	2014	2015	2016	2017	Total	%
Dry	14	25	12	18	21	90	79%
Wet	3	3	2	9	6	23	20%
Snow or Slush	0	0	0	0	0	0	0%
Ice	0	0	0	0	0	0	0%
Other	0	0	0	0	0	0	0%
Unknown	0	1	0	0	0	1	1%
Total	17	29	14	27	27	114	100%

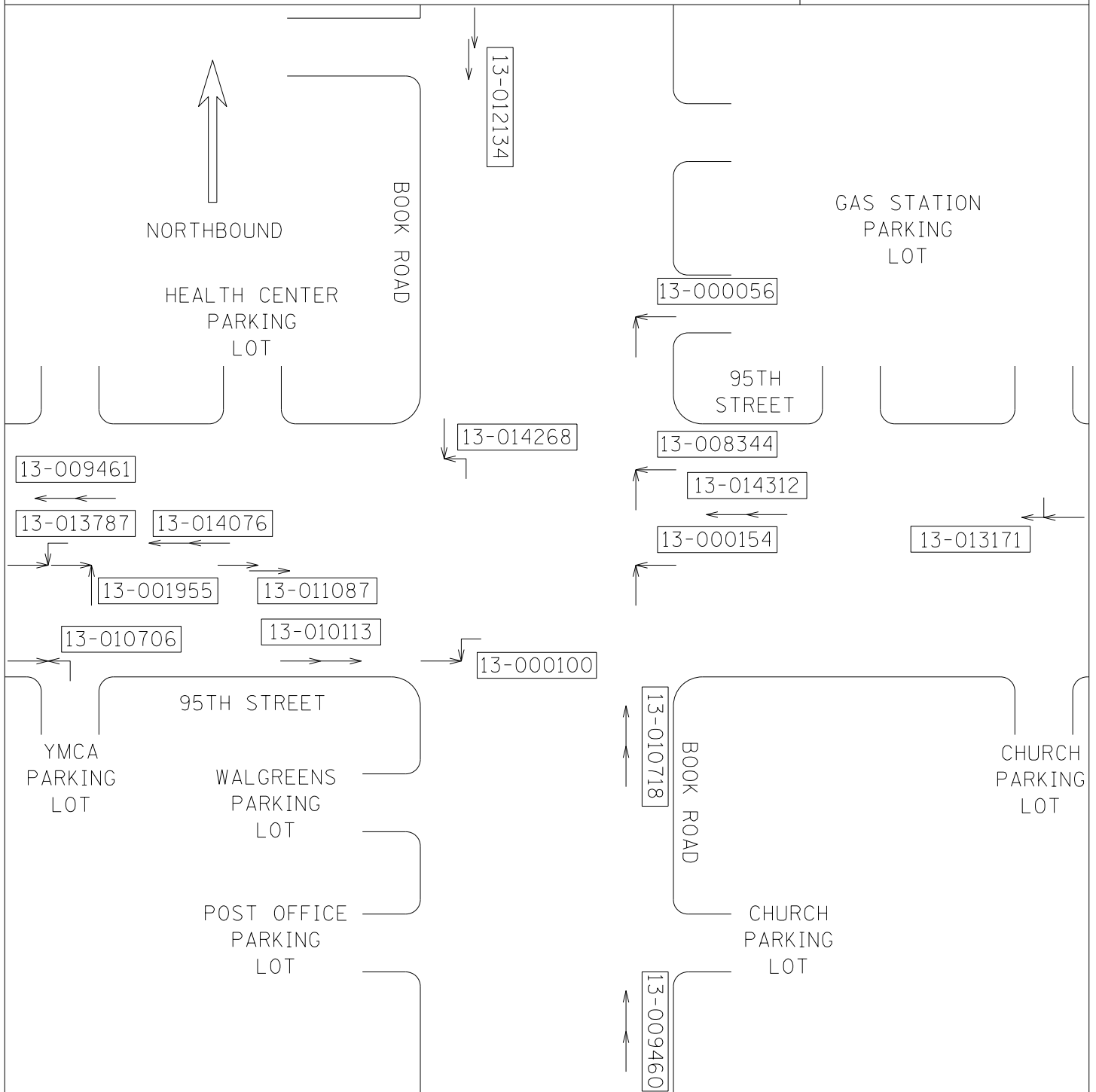
Crashes by Light Condition							
Lighting Condition	2013	2014	2015	2016	2017	Total	%
Daylight	11	17	9	19	18	74	65%
Darkness	0	2	0	2	3	7	6%
Darkness, Lighted Road	5	10	4	4	4	27	24%
Dusk	1	0	0	2	2	5	4%
Dawn	0	0	1	0	0	1	1%
Unknown	0	0	0	0	0	0	0%
Total	17	29	14	27	27	114	100%

Crash Severity							
Worst Occurrence	2013	2014	2015	2016	2017	Total	%
Fatality	0	0	0	0	0	0	0%
Injury	7	8	2	1	10	28	25%
Property Damage Only	10	21	12	26	17	86	75%
No Reported Injury/Damage	0	0	0	0	0	0	0%
Total	17	29	14	27	27	114	100%

COLLISION DIAGRAM

MUNICIPALITY: CITY OF NAPERVILLE COUNTY: WILL
 INTERSECTION: 95TH ST AT BOOK RD
 PERIOD: 1 YEARS 0 MONTHS FROM 1/1/13 TO 12/31/13

FILE: _____
 CASE #: _____
 BY: BRF DATE: 3/20/18

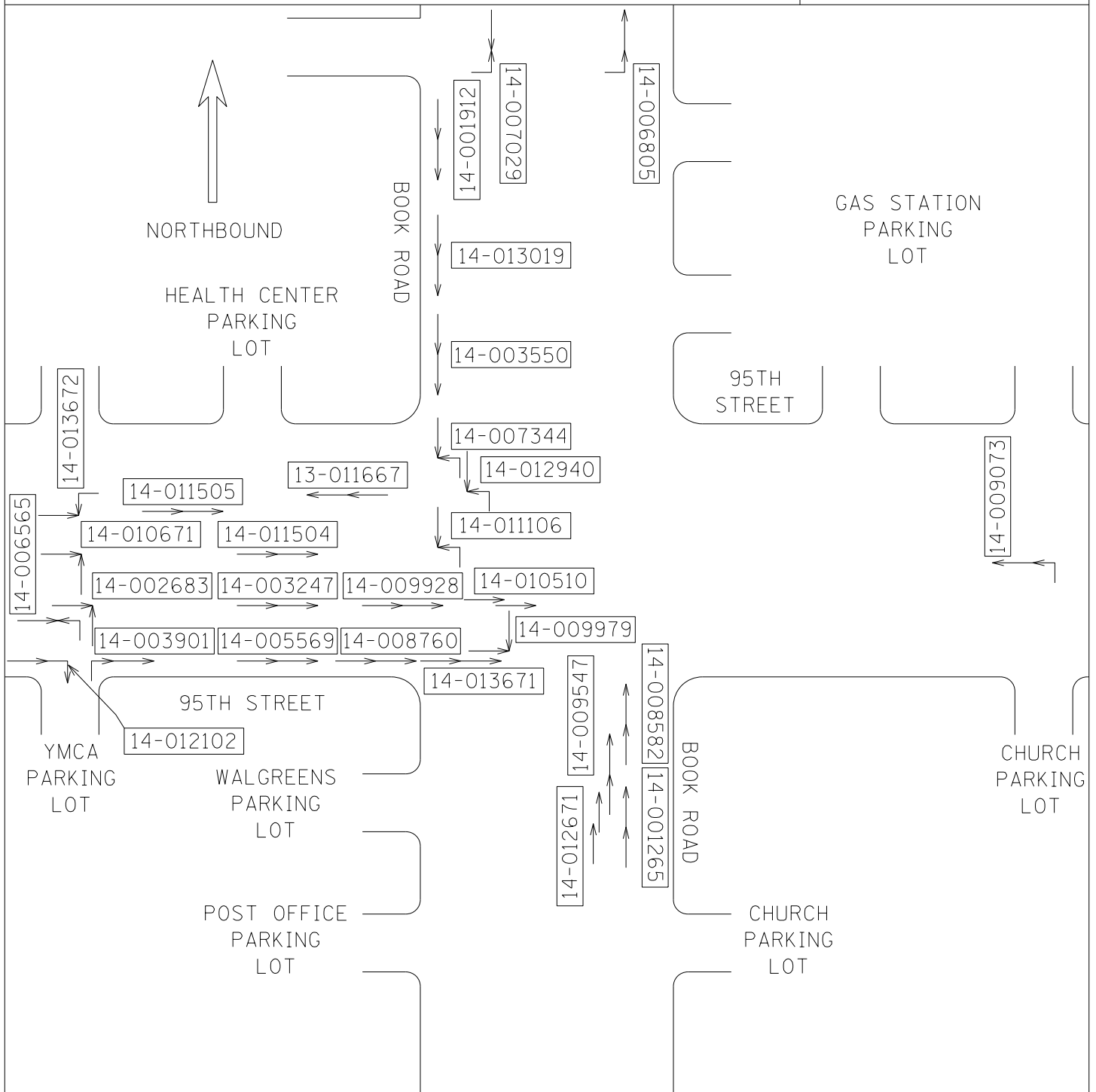


SYMBOLS		MANNER OF COLLISION	
→ MOVING VEHICLE	▭ PARKED VEHICLE	→→ REAR END	→↔ HEAD ON
M MOTORCYCLE	P PEDESTRIAN	→↗ OVERTAKE	→↖ LEFT TURN
↔ BACKING VEHICLE	A ANIMAL	→~ OUT OF CONTROL	→↘ RIGHT TURN
→ STOPPED VEHICLE	B BICYCLE	→~ SKIDDING	→↘ RIGHT ANGLE
⊠ TRAFFIC SIGNAL	□ FIXED OBJECT	→↘ OVERTURNED	→↗ SIDE SWIPE
	■ FATAL		

COLLISION DIAGRAM

MUNICIPALITY: CITY OF NAPERVILLE COUNTY: WILL
 INTERSECTION: 95TH ST AT BOOK RD
 PERIOD: 1 YEARS 0 MONTHS FROM 1/1/14 TO 12/31/14

FILE: _____
 CASE #: _____
 BY: BRF DATE: 3/20/18



SYMBOLS

→ MOVING VEHICLE	▭ PARKED VEHICLE
M MOTORCYCLE	P PEDESTRIAN
↔ BACKING VEHICLE	A ANIMAL
→ STOPPED VEHICLE	B BICYCLE
⊠ TRAFFIC SIGNAL	□ FIXED OBJECT
	■ FATAL

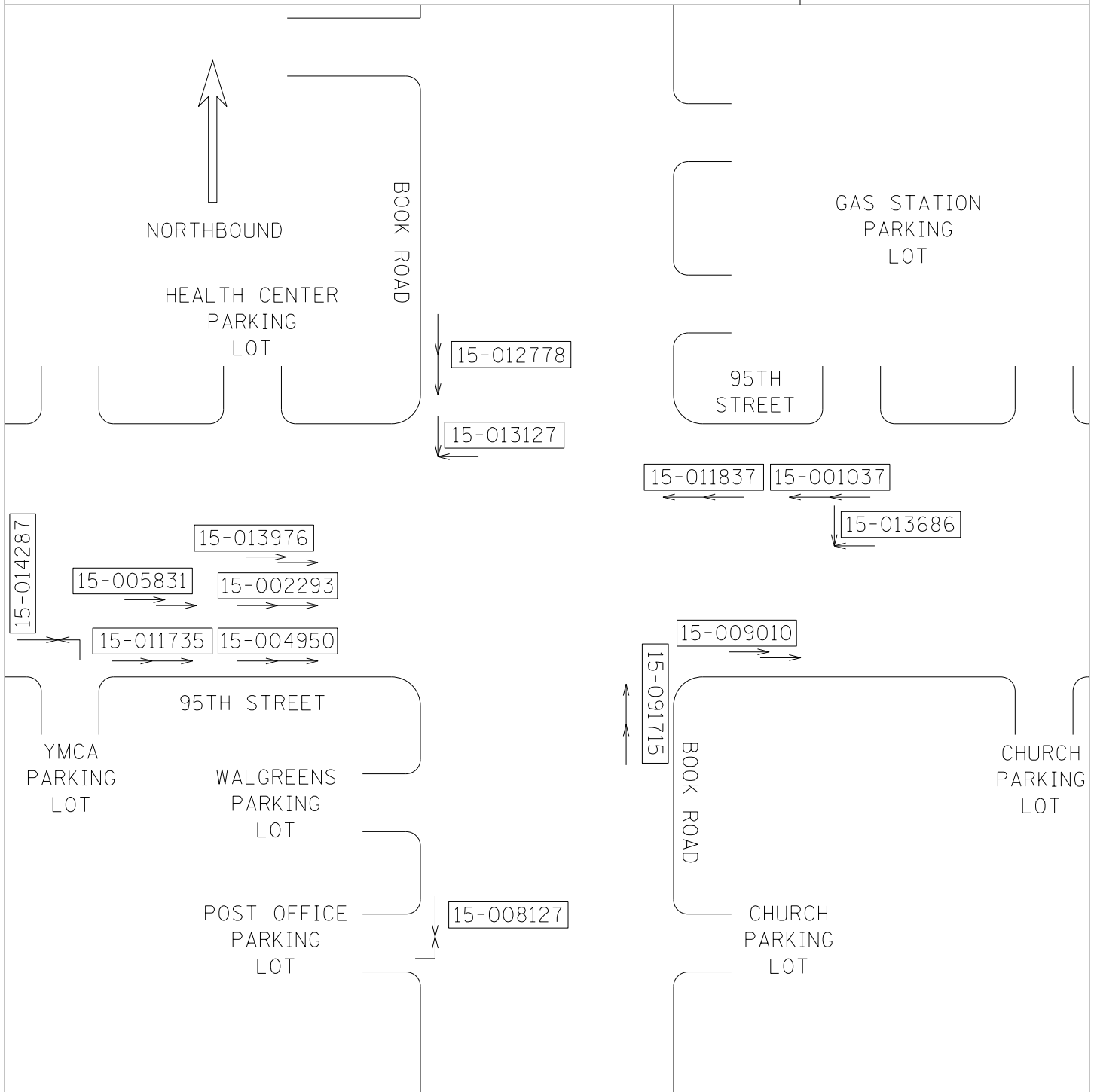
MANNER OF COLLISION

→→ REAR END	→↔ HEAD ON
→→ OVERTAKE	→↔ LEFT TURN
→~ OUT OF CONTROL	→↔ RIGHT TURN
→~ SKIDDING	→↔ RIGHT ANGLE
→→ OVERTURNED	→↔ SIDE SWIPE

COLLISION DIAGRAM

MUNICIPALITY: CITY OF NAPERVILLE COUNTY: WILL
 INTERSECTION: 95TH ST AT BOOK RD
 PERIOD: 1 YEARS 0 MONTHS FROM 1/1/15 TO 12/31/15

FILE: _____
 CASE #: _____
 BY: BRF DATE: 3/20/18



SYMBOLS

→ MOVING VEHICLE	▮ PARKED VEHICLE
M MOTORCYCLE	P PEDESTRIAN
↔ BACKING VEHICLE	A ANIMAL
→ STOPPED VEHICLE	B BICYCLE
ⓧ TRAFFIC SIGNAL	□ FIXED OBJECT
	■ FATAL

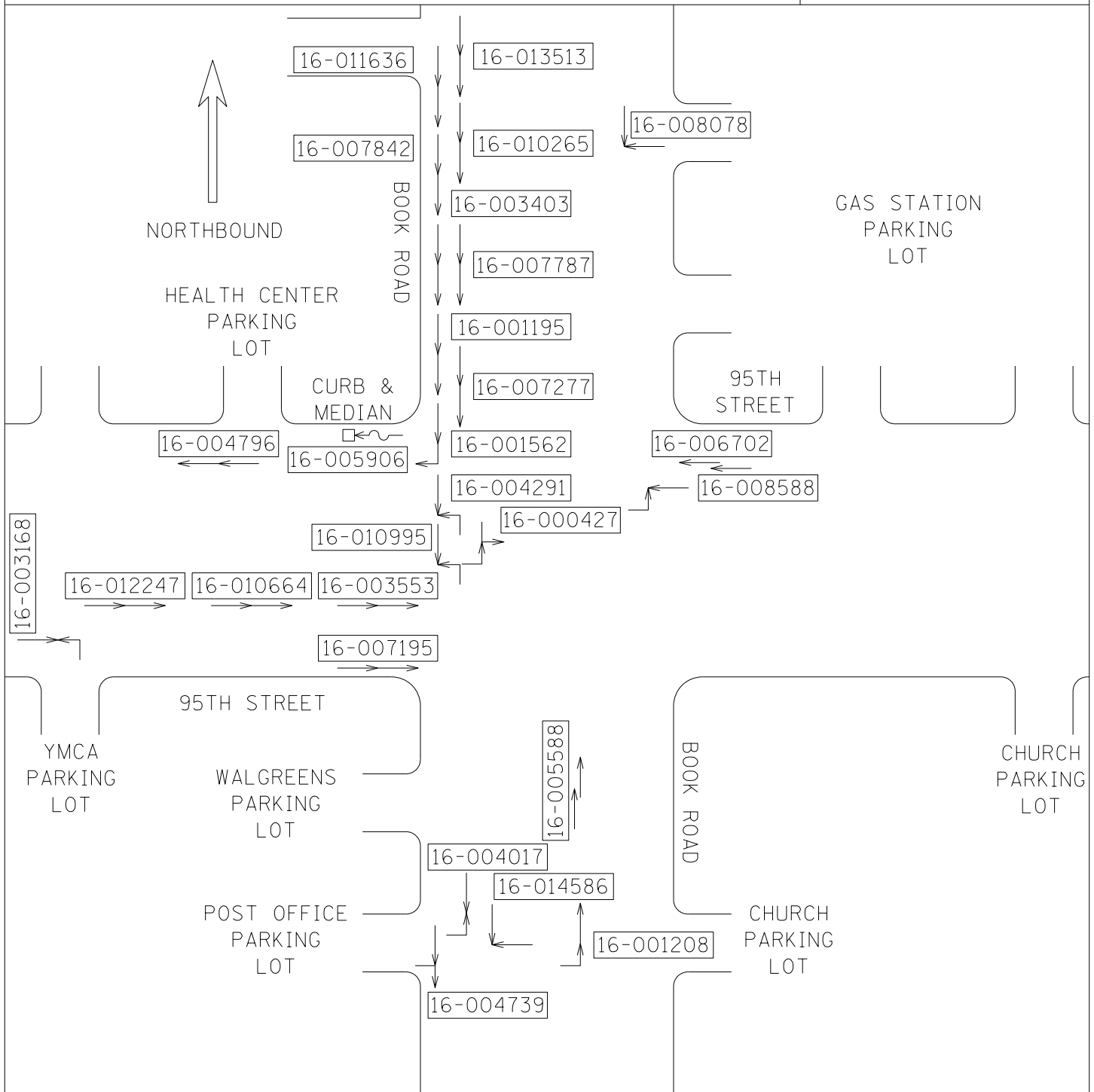
MANNER OF COLLISION

→→ REAR END	→↔ HEAD ON
↔ OVERTAKE	→↗ LEFT TURN
~ OUT OF CONTROL	↘↔ RIGHT TURN
↗ SKIDDING	↘↘ RIGHT ANGLE
↗ OVERTURNED	→↘ SIDE SWIPE

COLLISION DIAGRAM

MUNICIPALITY: CITY OF NAPERVILLE COUNTY: WILL
 INTERSECTION: 95TH ST AT BOOK RD
 PERIOD: 1 YEARS 0 MONTHS FROM 1/1/16 TO 12/31/16

FILE: _____
 CASE #: _____
 BY: BRF DATE: 3/20/18



SYMBOLS

→ MOVING VEHICLE	▭ PARKED VEHICLE
M MOTORCYCLE	P PEDESTRIAN
↔ BACKING VEHICLE	A ANIMAL
→ STOPPED VEHICLE	B BICYCLE
ⓧ TRAFFIC SIGNAL	□ FIXED OBJECT
	■ FATAL

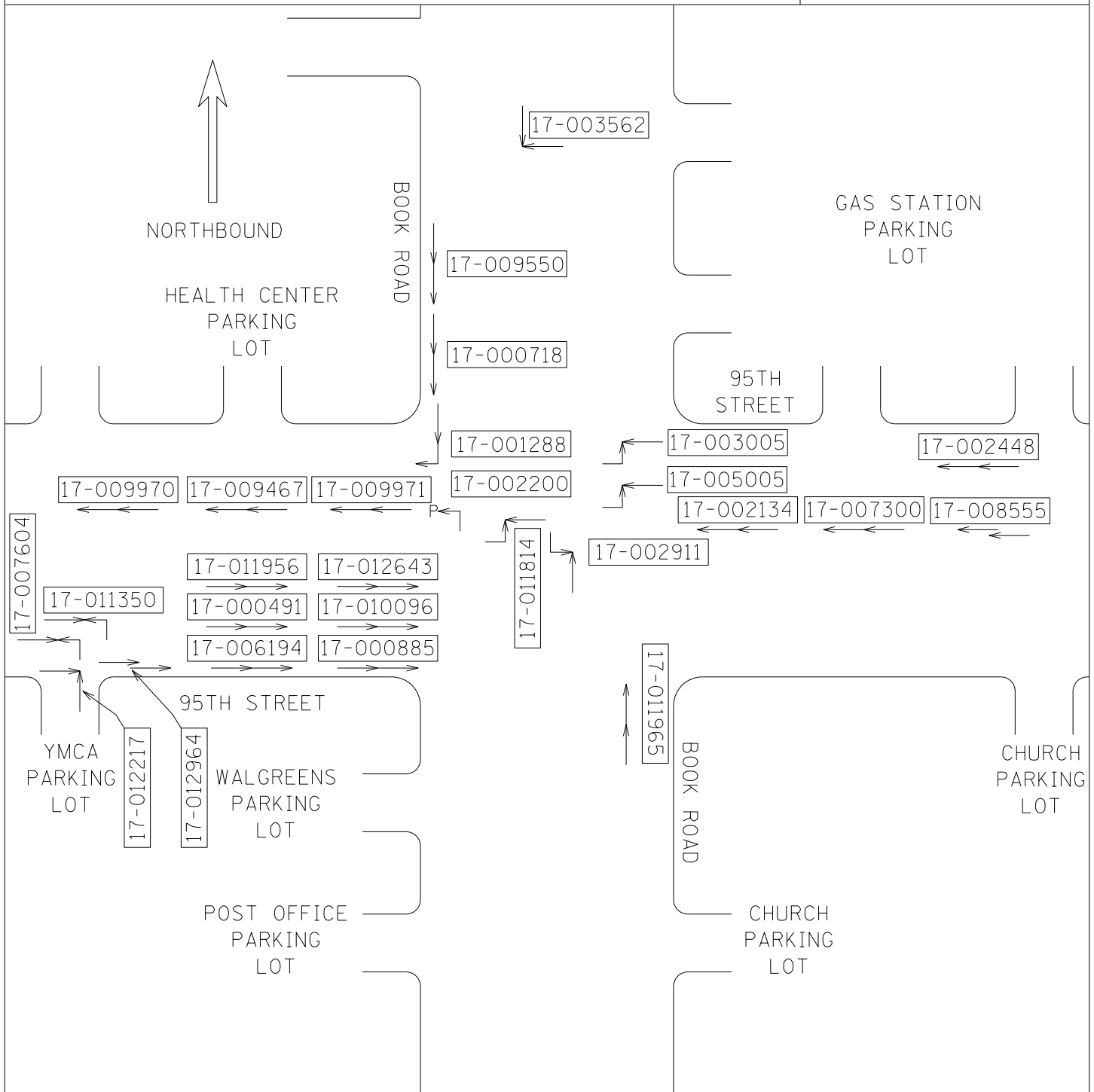
MANNER OF COLLISION

→→ REAR END	→↔ HEAD ON
→→ OVERTAKE	→↗ LEFT TURN
→↗ OUT OF CONTROL	→↘ RIGHT TURN
→↘ SKIDDING	→↘ RIGHT ANGLE
→↘ OVERTURNED	→↘ SIDE SWIPE

COLLISION DIAGRAM

MUNICIPALITY: CITY OF NAPERVILLE COUNTY: WILL
 INTERSECTION: 95TH ST AT BOOK RD
 PERIOD: 1 YEARS 0 MONTHS FROM 1/1/17 TO 12/31/17

FILE: _____
 CASE #: _____
 BY: BRF DATE: 3/20/18



SYMBOLS

→ MOVING VEHICLE	▭ PARKED VEHICLE
M MOTORCYCLE	P PEDESTRIAN
↔ BACKING VEHICLE	A ANIMAL
→ STOPPED VEHICLE	B BICYCLE
⊠ TRAFFIC SIGNAL	□ FIXED OBJECT
	■ FATAL

MANNER OF COLLISION

→→ REAR END	→↔ HEAD ON
→→ OVERTAKE	→↔ LEFT TURN
→→ OUT OF CONTROL	→↔ RIGHT TURN
→→ SKIDDING	→↔ RIGHT ANGLE
→→ OVERTURNED	→↔ SIDE SWIPE

Benefit Cost Analysis - Build 3

Project:	95th and Book Intersection Improvements, Build 3										Prepared by:	JJM					
District:	1			County:	Will			City:	Naperville			Date	7/24/2018				
Key Route:					Marked Route:					MilePost:			Current AADT:	Major Street	20712		
Location:	95th and Book, Naperville										Minor Street	13743					
Crash data:	5 Years														Traffic Growth factor:	3.0%	
	From	2013		to	2017										Interest rate:	4.0%	
Peer Group:	Peer Group 7 - Urban Signalized Intersection																

Messages

Please provide a detailed cost estimation for all countermeasures along with this summary sheet.

3.2.12.17.1 - Pavement - Add Right Turn Lane on One Approach AADT is not within HSM limits

The combined effect of multiple countermeasures is limited to 0.60 or the smallest CMF

LOCAL INTERSECTION CRASH SEVERITY DISTRIBUTION BY CRASH TYPE FOR ANALYSIS PERIOD

Crash Type	All Crashes (Aggregated crash input only)	CRASH TYPE																	SPECIAL CASE		Total
		Angle	Animal	Fixed Object	Head On	Left Turn	Other Noncollision	Other Object	Overturned	Pedestrian	Pedalcyclist	Parked Vehicle	Rear End	Right Turn	Sideswipe Same Direction	Sideswipe Opposite Direction	Turning	Train	Night Time	Wet Pavement	
Crash Severity	ALL	AG	AN	FO	HO	LT	OtherNC	OtherO	OVT	PD	PDC	PKV	RE	RT	SSD	SOD	T	TR	NGT	WP	TOT
Fatal Crashes																			0	0	0
A-Injury Crashes		2											2				2		2	0	6
B-Injury Crashes		1								1			11		1		4		10	2	18
C-Injury Crashes																			0	0	0
PDO Crashes		12		1									40		11		10		19	8	74

LOCAL INTERSECTION BENEFIT COST ANALYSIS

BENEFIT CALCULATIONS				COUNTERMEASURE COST CALCULATIONS						
COUNTERMEASURE	CMF *	Crash Type affected by this improvement		Unit Cost	Quantity	Units	Total Cost	Service Life	Present Worth	EUAC **
3.2.8.AL.1 - Pavement - Lane Addition	0.50	RE,SSD, LT,RT,T		\$1,482,419	1	Unit Qnty	\$1,482,419	20	\$1,482,419	\$109,100
3.2.12.17.1 - Pavement - Add Right Turn Lane on One Approach	0.91	All		\$109,052	4	Unit Qnty	\$436,208	15	\$436,208	\$32,100
		All								
		All								
TOTAL BENEFIT		\$459,700		TOTAL COST						\$141,200

BENEFIT/ COST	3.26	ANNUAL NUMBER OF FATALITIES POTENTIALLY PREVENTED	0.00	TOTAL FATALITIES PREVENTED	0.00
---------------	------	---	------	----------------------------	------

***NOTE: IF THE NUMBER OF LEGS AFFECTED VARIES BY COUNTERMEASURES SELECTED, THEN CALCULATE THE BENEFIT-COST RATIO FOR EACH COUNTERMEASURE SEPARATELY (Use separate spreadsheets for each countermeasure applied).

* CMF = Crash Modification Factor

** EUAC = Estimated Uniform Annual Cost

EXHIBIT 9-0

PESA Summary

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

95TH STREET AND BOOK ROAD INTERSECTION IMPROVEMENTS
NAPERVILLE, WILL COUNTY, ILLINOIS

JANUARY 30, 2019



PREPARED FOR:

CITY OF NAPERVILLE
400 SOUTH EAGLE STREET
NAPERVILLE, IL 60540

PREPARED BY:

CRAWFORD, MURPHY & TILLY, INC.
550 NORTH COMMONS DRIVE
SUITE 116
AURORA, IL 60504



EXECUTIVE SUMMARY

This report provides the results of a Preliminary Environmental Site Assessment (PESA) for improvements to the proposed project corridor of the 95th Street and Book Road Intersection Improvements project, located in Naperville, Will County, Illinois. This report was prepared on behalf of the City of Naperville by Crawford, Murphy & Tilly, Inc. (CMT) for submittal to the Illinois Department of Transportation (IDOT). Figure 1 summarizes the results of this PESA.

The process used to identify sites that may pose a hazard to the project included a historical review, a database search, review of other applicable information, and site reconnaissance. Historical resources included historical aerial photographs and topographic maps of the project, which were reviewed for evidence of past property uses. The database search provided information (on a local, state or federal level) on properties where materials of concern may have been used, managed or disposed. Information not provided in the database search, such as water quality data, and the national pipeline mapping system was also reviewed with regards to the project. Site reconnaissance was conducted on August 22, 2018 to inspect the sites identified through the screening process, as well as identify additional sites adjacent to the project with storage areas, spills, staining, or other indicators of potential environmental concern. Sites identified through the screening process were further reviewed to determine their status as potential recognized environmental conditions (REC) with respect to the project.

The tables below list sites along the project corridor at which RECs were identified (Table 1); sites along the project for which only *de minimis* conditions were identified (Table 2); sites along the project



FIGURE 1: PESA SITE MAP

for which no RECs or *de minimis* conditions were identified (Table 3); and sites adjoining but not within the project corridor that were identified on environmental databases (Table 4). The colors on the tables correspond to the site status as indicated on Figure 1: PESA Site Map, on the previous page.

TABLE 1: SITES ALONG THE PROJECT DETERMINED TO CONTAIN RECS

Site Name	Site #	Address	Reason(s)
Amoco Oil Co. #15926 / BP	12	2888 Book Road	Proximity; associated with underground storage tanks (USTs) and on-site monitoring wells; enrolled in the UST and RCRA programs but not the Site Remediation Program (SRP)

TABLE 2: SITES ALONG THE PROJECT DETERMINED TO CONTAIN DE MINIMIS CONDITIONS ONLY

Site Name	Site #	Address	Reason(s)
95 th Cleaners	13	1935 95 th Street, #111	Proximity, associated with hazardous materials, and enrolled in the Site Remediation Program (SRP); contamination not expected to migrate outside of site remediation boundaries per IEPA
Signature Cleaners	22	3075 Book Road, #127	Proximity and associated with hazardous materials (enrolled in the RCRA program); no recorded releases or violations

TABLE 3: SITES ALONG THE PROJECT DETERMINED NOT TO CONTAIN RECS OR DE MINIMIS CONDITIONS

Site Name	Site #	Address	Reason(s)
Residential Properties	4, 6-11, 14, 16, 18 & 19	Various	No areas of concern
Childtime of Naperville	1	2015 95 th Street	No areas of concern
Edward-Elmhurst Health Center - 95th Street	2	2007 95 th Street	No areas of concern
Vacant lot (detention basin)	3	Tamahawk Lane	No areas of concern
Pond	5	Book Road	No areas of concern

Site Name	Site #	Address	Reason(s)
Wheatland Salem Christian Academy	15	1852 95 th Street	No areas of concern
Outlot (landscaping/drainage)	17	Frost Lane	No areas of concern
Pond	20	Book Road	No areas of concern
Former bank	21	3135 Book Road	No areas of concern
Walgreens	23	3035 Book Road	No areas of concern
Burger King	24	2060 95 th Street	No areas of concern
Fry Family YMCA	25	2120 95 th Street	No areas of concern

TABLE 4: SITES NOT ADJOINING THE PROJECT IDENTIFIED ON ENVIRONMENTAL DATABASES

Site Name	Site #	Address	Reason(s)
Naperville Park District South Maintenance Facility	26	3411 Book Road	Presence of aboveground storage tanks (ASTs); located downgradient - no areas of concern with respect to the project

RECOMMENDATIONS

As potential impacts to groundwater and soils exist within the project corridor, a preliminary site investigation (PSI) is recommended on Site 12: Amoco Oil Co. #15926 which has an identified REC and cannot be avoided by the project. Excavation and right of way will be necessary from this parcel to construct the proposed improvements. The PSI should include a review of Illinois Environmental Protection Agency (IEPA) files for the site, the installation of soil borings, and the sampling and analytical analysis of soils to identify the possible presence of hazardous substances and to determine if any special management of waste will be necessary.

EXHIBIT 10-1

Cultural Clearance



Illinois Department of Transportation

Memorandum

To: Maureen Kastl Attn: William Raffensperger
From: Jack Elston By: Brad Koldehoff
Subject: Cultural Resources Clearance – No Historic Properties Affected
Date: December 17, 2018

Will County
FAU 1644A, TR 80, 95th Street, Book Road
Naperville
Sec. 18-00171-00-CH
Seq. 21760

For the above referenced undertaking, IDOT's qualified Cultural Resources staff hereby make a **"No Historic Properties Affected"** finding pursuant to Section 106 of the National Historic Preservation Act.

This finding concludes the Section 106 process in accordance with the stipulations of the Programmatic Agreement Regarding Section 106 Implementation for Federal-Aid Transportation Projects in the State of Illinois, executed March 6, 2018 by FHWA, Illinois SHPO, IDOT and the Advisory Council on Historic Preservation.

No further cultural resources coordination is required for this undertaking.

A handwritten signature in black ink, reading "Brad Koldehoff".

Brad H. Koldehoff
Cultural Resources Unit Chief
Bureau of Design & Environment

BK:km

EXHIBIT 10-2

Wetland Clearance

Wetlands

Submittal Date:	07/03/2018	Sequence No:	21760			
District:	1	Requesting Agency:	Local	City of Naperville	Project No:	
Contract #:		Job No.:				
Counties:	Will					
Route:	FAU 1644A		Marked:	TR 80		
Street:	95th Street / Book Road		Section:	18-00171-00-CH		
Municipality(ies):	Naperville		Project Length:	1.2714 km	0.79 miles	
FromTo (At):	Book Rd between Rebecca Crt and Joyce Ln, and 95th St, approx 0.2 mile west to 0.13 mile east of Boo					
Quadrangle:	Normantown, Illinois		Township-Range-Section:	T37N-R9E-S2, 3, 10 & 11		
Survey Target Date:	01/06/2019	Anticipated Design Apprvl:	01/31/2019	Cleared for Design Apprvl:	01/15/2019	
Cleared for Letting:	01/15/2019	Mitigation:				

Initial Survey and WIE		Addendum No:							
Initiated	Due Date	Results Received	Wetland Present	District Notified	WIE Requested	WIE Received	Wetland Impacts	Resp to District	Coord Complete
		12/17/2018	No						Yes

Comments: consultant did ecological report (SDH)

Clearances: Cultural: 12/17/2018 Bio 1/15/2019 SW:

Processing

Individual Compensation Plan Required:

404 Individual Permit Required:

Mitigation Site:
Mitigation Basin:
Bank:
Accumulation:

Owner:
Name:
Location:
Size:
Types:
Quad:
Basin:

Processing
Comments:

Wetland Impacts Evaluation

Wetland Impacts and Mitigation Required

Mitigation Site Suitability Study:

Wetland Compensation Plan:

Preparer:

Preparer:

Conceptual					Final				
Plan Received	Agency	Report Sent and District Notified	Agency Response	District Notified	Plan Received	Agency	Report Sent and District Notified	Agency Response	District Notified
	IDNR					IDNR			
	USFWS					USFWS			
	COE					COE			

Monitoring

	Monitoring Reports				Monitoring Agency:
	Received	COE Notified	IDNR Notified	District Notified	
Year 1					Construction Begin Date: <input type="text"/> Construction Complete Date: <input type="text"/> Tasked Date: <input type="text"/> Monitoring Begin Date: <input type="text"/> Monitoring Complete Date: <input type="text"/>
Year 2					
Year 3					
Year 4					
Year 5					

Monitoring Comments:

Permit(s) Type: Corps Dist.: Permit Issued:

☐ Special Conditions:

☐ Permit Agreements/Commitments:

Project Phase

Project Phase Comments:

EXHIBIT 10-3

Biological Clearance



Illinois Department of Transportation

Memorandum

To: Maureen E. Kastl Attn: Greg S. Lupton
From: Jack A. Elston By: Thomas C. Brooks
Subject: Natural Resources Review
Date: January 15, 2019

Thomas C. Brooks

Book Road at 95th Street
Sec. 18-00171-00-CH
T37NR9E/S 2
Seq. No.: 21760
Will County

The proposed project involves improvement of the intersection of Book Road and 95th Street in Naperville. An additional through lane in both northbound and southbound directions along Book Road is proposed, as well as widening and resurfacing with traffic signal improvements.

There are 2.55 acres of new land acquisition for the project. There will be no in stream work for the project. There will be 1.67 acres of urban landscape trees removed for the project. The land cover in the vicinity of the project is urban.

Review for Illinois Endangered Species Protection and Illinois Natural Areas Preservation – Part 1075

The Illinois Natural Heritage Database contains records of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project. Springbrook Prairie Nature Preserve and Natural Areas Inventory Site containing listed birds occurs one mile north of the project. There will be no adverse effect to any of these resources due to their distance from the project area and lack of habitat in and surrounding the project area. **Therefore, consultation under Part 1075 is terminated.**

This review for compliance with 17 Ill. Adm. Code Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed improvement is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the proposed improvement has not been implemented within two years of the date of this memorandum, or any of the above listed conditions develop, a new review will be necessary.

Review for Illinois Interagency Wetland Policy Act – Part 1090

The proposed improvement was surveyed for wetlands. We reviewed the wetland survey report and approve it. There are no wetlands located within the ESR limits. **Our review for compliance under Part 1090 is terminated.**

Review for Endangered Species Act - Section 7

The proposed improvement was reviewed in fulfillment of our obligation under Section 7(a)(2) of the Endangered Species Act. Our review included use of the US Fish and Wildlife Service's Information for Planning and Conservation (IPaC) web-based review tool. Through IPaC, an official species list was received and is saved to the project folder. The list contains the endangered, threatened, proposed and candidate species and proposed and designated critical habitat that may be present within or in the vicinity of the proposed improvement. The following species are listed in Will County: Northern long-eared bat (NLEB), Eastern massasauga, sheepsnose mussel, Hine's emerald dragonfly, rattlesnake-master borer moth, lakeside daisy, leafy prairie-clover, Mead's milkweed, Eastern prairie fringed orchid (EPFO), and Rusty patched bumble bee. There is no Critical Habitat in the project vicinity. **Under 50 CFR 402.12(e), the accuracy of the species list is limited to 90 days.**

Northern long-eared bat

Northern long-eared bat suitable summer habitat consists of a wide variety of forested or wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees or snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, or hollows) as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested or wooded habitat. Trees found in highly-developed urban areas (e.g., street trees, downtown areas) are extremely unlikely to be suitable NLEB habitat.

There will be 1.67 acres of urban landscape trees removed as a result of this project. There are no records of maternity roost trees, maternity colonies or hibernacula in the vicinity of the project corridor.

We assessed the potential for adverse impacts to the NLEB in accordance with the Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions and determined that the proposed improvement will have no effect to the NLEB.

Eastern prairie fringed orchid

Eastern prairie fringed orchid occurs in a wide variety of habitats, from mesic prairie to wetland communities such as sedge meadows, marsh edges and even bogs. It requires full sunlight for optimum growth and flowering, which restricts it to grass- and sedge-dominated plant communities. The substrate of the sites where it occurs ranges from neutral to mildly calcareous. Occasionally the orchid colonizes successional habitats or recolonizes previously occupied areas.

We evaluated the limits of the proposed improvement for the presence of potentially suitable EPFO habitat. Our evaluation included the use of EPFO guidance from the US Fish and Wildlife Service, Chicago Ecological Services Field Office. There are no prairies

or high quality wetlands in the project corridor. We determined there would be no effect to EPFO from the proposed improvement.

Rusty patched bumble bee

We evaluated the limits of the proposed improvement for the presence of potentially suitable Rusty patched bumble bee habitat. Our evaluation included the use of the guidance issued by USFWS dated March 21, 2017 and titled "The Rusty Patched Bumble Bee (*Bombus affinis*), Interagency Cooperation under Section 7(a)(2) of the Endangered Species Act, Voluntary Implementation Guidance" ("USFWS Interagency Guidance"). According to the guidance, if a project is outside of a high potential zone, then the USFWS advises that the incidental take coverage is not necessary (<https://www.fws.gov/midwest/endangered/insects/rpbb/guidance.html>). Therefore, if the project is outside of a high potential zone, then a "no effect" determination is appropriate.

We cross referenced the preferred habitat of the Rusty patched bumble bee with our knowledge of the project areas and determined that there is no USFWS High Potential Zone or RPBB record in the project vicinity. USFWS shapefiles dated August 15, 2018, were reviewed January 7, 2019. In accordance with Section 7 of the Endangered Species Act, we determined that there will be no effect to the Rusty patched bumble bee.

Other Federally Listed Species

We cross-referenced the preferred habitat of each of the remaining listed species with our knowledge of the project area and determined that there are no suitable habitats present. We have determined that the proposed improvement will have no effect on any of the remaining listed species.

We have determined that the proposed improvement is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of any critical habitat.

Should the proposed improvement be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination should be initiated.

Attachment — USFWS species list

SDH

Sequence #: 21760

95th St at Book Rd

Resource in Vicinity of Project Polygon

*T&E

*Ducks Unlimited Wetlands

INAI & NP w/in 1 mile

*INAI

*Nature Preserve

No Resource Found

*INHS Wetland

*National Wetlands Inventory

*Roadside Prairie Inventory

County: WILL

Section(PLSS): 3 37N9E2

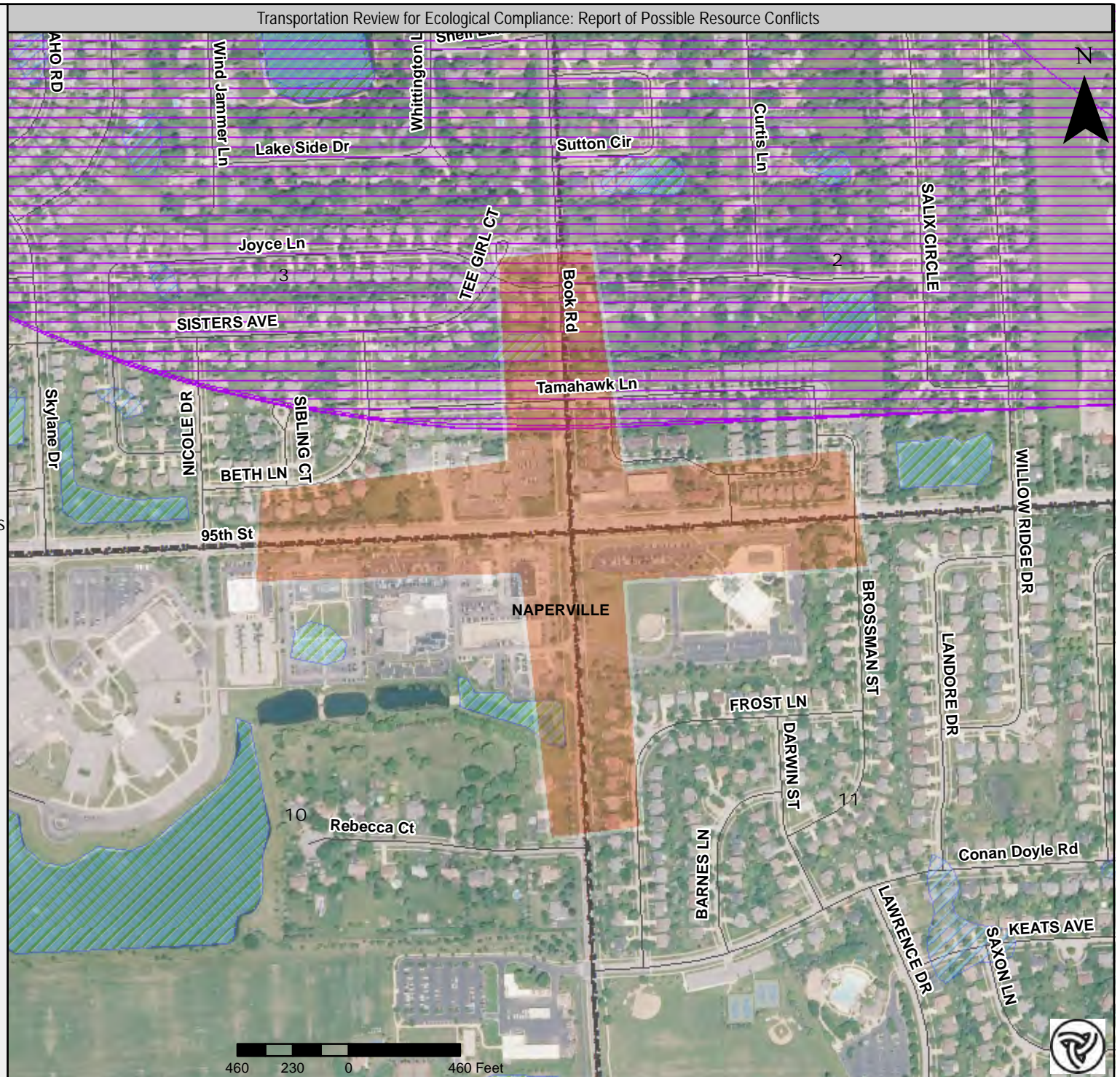
Area: -0.07069 sq. miles = -45.24216 acres

Report created by Susan Dees Hargrove

-  Threatened & Endangered Species (T&E)
-  Nature Preserve (NP)
-  Illinois Natural Areas Inventory (INAI)
-  Wetlands
-  INHS Wetland
-  Roadside Prairie Inventory



Include as additional documentation with permit applications (USACE).



Will	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
Field Office to Contact:Chicago Field Office			

230 South Dearborn St., Suite 2938 Chicago, Illinois 60604 Phone: 312-216-4720 e:mail Chicago@fws.gov Cathy_Pollack@fws.gov	Hine's emerald dragonfly <i>Somatochlora hineana</i>	Endangered	Spring fed wetlands, wet meadows and marshes
	Hine's emerald dragonfly <i>Somatochlora hineana</i>	Critical Habitat Designated	Map and written description of the areas designated as Critical Habitat (PDF)
	Sheepnose mussel <i>Plethobasus cyphus</i>	Endangered	Shallow areas in larger rivers and streams
	Rattlesnake-master borer moth <i>Papaipema eryngii</i>	Candidate	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master (<i>Eryngium yuccifolium</i>).
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i> Go here for specific guidance on how to determine whether this species is present on a site.	Threatened	Moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairie
	Lakeside daisy <i>Hymenopsis herbacea</i>	Threatened	Dry rocky prairies
	Leafy-prairie clover <i>Dalea foliosa</i>	Endangered	Prairie remnants on thin soil over limestone
	Mead's milkweed <i>Asclepias meadii</i>	Threatened	Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil

EXHIBIT 12-0

COSIM Pre-Screen Analysis

Jeremy Metz

From: Tice 'Charles' Cole
Sent: Wednesday, January 23, 2019 1:53 PM
To: Dunne, Kelly
Cc: Jeremy Metz; Heather Lacey; Alexandra Zelles; Mike Wittkop
Subject: FW: Naperville - 95th/Book - Seq 21760 - Sec 18-00171-00-CH - Environmental - Air Quality

To all: See below. Air Quality prescreen passed.

Jeremy, print email and worksheets and include in the PDR appendix accordingly.

Thanks,
Tice

From: Daas, Iyad <Iyad.Daas@illinois.gov>
Sent: Wednesday, January 23, 2019 1:29 PM
To: Tice 'Charles' Cole <ccole@cmtengr.com>
Cc: Solomon, Marilyn D <Marilyn.Solomon@illinois.gov>
Subject: FW: Naperville - 95th/Book - Seq 21760 - Sec 18-00171-00-CH - Environmental - Air Quality

Tice,
Please see below and advise.

Thank you,

Iyad Daas
Associate Field Engineer
Illinois Department of Transportation, Dist. 1
Bureau of Local Roads and Streets
P: (847) 705 - 4205
E-Mail: Iyad.Daas@illinois.gov

From: Raffensperger, William
Sent: Wednesday, January 23, 2019 6:59 AM
To: Daas, Iyad <Iyad.Daas@illinois.gov>; Percy, Elmer <Elmer.Percy@illinois.gov>
Cc: Solomon, Marilyn D <Marilyn.Solomon@illinois.gov>
Subject: RE: Naperville - 95th/Book - Seq 21760 - Sec 18-00171-00-CH - Environmental - Air Quality

Based on the information provided and in accordance with BDE Section 26-14.03(c) this project is exempt from a project level CO air quality analysis.

In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because the highest design-year approach volume on the busiest leg of the intersection is less than 5,000 vph or 62,500 ADT.

Please ensure that a copy of the COSIM worksheets and this email are inserted in to the project development report when it is submitted for review.

If you have any questions, please call,

William Raffensperger, PE, PTOE, PTP
Project Development Engineer
Illinois Department of Transportation
Bureau of Local Roads and Streets
2300 S. Dirksen Parkway
Springfield, IL 62764
Work hours: 7:00 am to 3:00 pm.
(O) 217-785-1676
(C) 217-720-2787
(F) 217-782-3971
william.raffensperger@illinois.gov

From: Daas, Iyad
Sent: Tuesday, January 22, 2019 4:33 PM
To: Percy, Elmer <Elmer.Percy@illinois.gov>
Cc: Raffensperger, William <William.Raffensperger@illinois.gov>; Solomon, Marilyn D <Marilyn.Solomon@illinois.gov>
Subject: FW: Naperville - 95th/Book - Seq 21760 - Sec 18-00171-00-CH - Environmental - Air Quality

Jr,

Please see attached COSIM Prescreen Analysis for the subject project.

Thank you,

Iyad Daas

*Associate Field Engineer
Illinois Department of Transportation, Dist. 1
Bureau of Local Roads and Streets
P: (847) 705 - 4205
E-Mail: Iyad.Daas@illinois.gov*

From: Tice 'Charles' Cole <ccole@cmtengr.com>
Sent: Friday, January 18, 2019 12:51 PM
To: Daas, Iyad <Iyad.Daas@illinois.gov>
Cc: Solomon, Marilyn D <Marilyn.Solomon@illinois.gov>; Heather Lacey <hlacey@cmtengr.com>; Dunne, Kelly <DunneK@naperville.il.us>
Subject: [External] Naperville - 95th/Book - Sec 18-00171-00-CH - Environmental - Air Quality

Iyaad,

Please find attached information to have the COSIM Prescreen Analysis performed for this project. Please provide documentation of the results.

Thanks,

Tice

CHARLES “TICE” COLE, P.E., PTOE | Project Engineer



Crawford, Murphy & Tilly | Engineers & Consultants

550 North Commons Drive, Suite 116 | Aurora, IL 60504

w 630.907.7059 | f 630.820.0350 | ccole@cmtengr.com

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WORKSHEET for COSIM PRE-SCREEN ANALYSIS



Intersection Location:

Will County, IL

(county the project is located in)

Average Daily Traffic or Peak Hourly Traffic Approaching the Intersection:

30,000 (2040)

ADT

or

2,717 (2040)

vph

(Design year traffic volume on the busiest leg of the intersection. Should be the highest traffic volume on any leg of the intersection for the proposed improvement)

Closest Receptor Distance: (if distance is unknown, enter 10 feet)

38.8

feet

(to any one edge of roadway after the proposed improvement.)

Project Name:

95th Street and Book Road Intersection Improvements

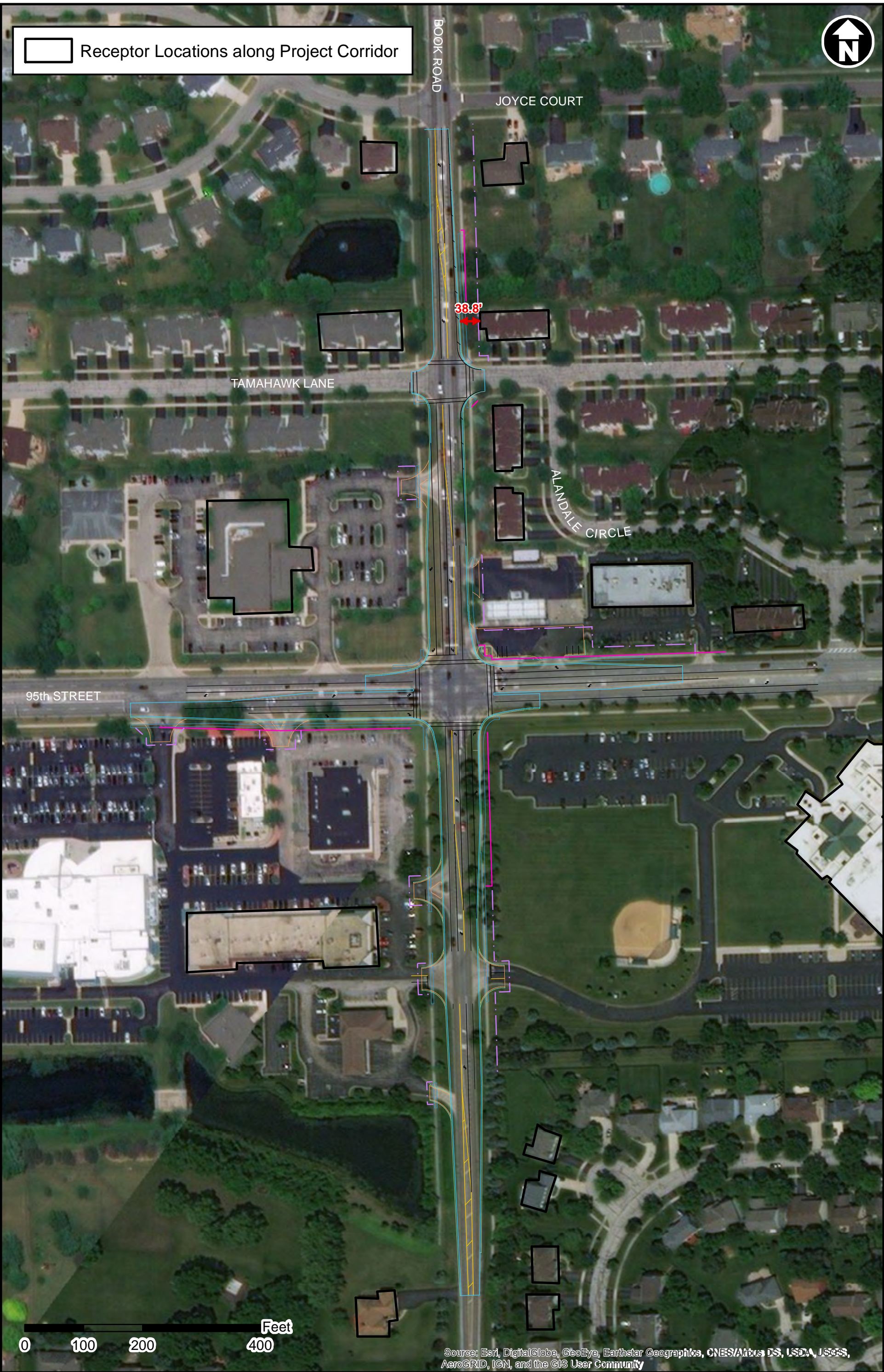
(route name and project limits)

Intersection Name:

95th Street and Book Road

(names of the intersecting streets)

Receptor Locations along Project Corridor



95th St & Book Rd Intersection Improvements - Naperville, Will Co., IL
COSIM Pre-Screen Analysis



EXHIBIT 13-0

Noise Analysis

TRAFFIC NOISE REPORT

95TH STREET AND BOOK ROAD
PHASE I INTERSECTION IMPROVEMENTS
NAPERVILLE, WILL COUNTY, ILLINOIS
CIP# SC196

MARCH 20, 2019

PREPARED FOR:

CITY OF NAPERVILLE
400 SOUTH EAGLE STREET
NAPERVILLE, IL 60540

PREPARED BY:

CRAWFORD, MURPHY & TILLY, INC.
550 NORTH COMMONS DRIVE
SUITE 116
AURORA, IL 60504



TABLE OF CONTENTS

Introduction	1
Noise Background and Regulations	3
Noise Background	3
Federal Regulations	3
Table 1: FHWA Noise Abatement Criteria (NAC) Activity Categories	4
IDOT Policy	5
Noise Receptor Selection	7
Table 2: Representative Receptor Locations	8
Field Noise Measurements	9
Field Noise Measurement Methodology	9
Field Noise Monitoring Results	9
Table 3: Model Validation Results	9
Noise Analysis Methodology	11
Traffic Volumes and Composition	11
Receptor Distance/Elevation	11
Speed Conditions	11
TNM Results	13
Table 4: Noise Impact Summary – TNM Modeling Results	13
Abatement Analysis	14
Coordination With Local Officials for Undeveloped Lands	14
Construction Noise	14
Conclusions	15

APPENDICES

APPENDIX A: Figures

APPENDIX B: Field Data

INTRODUCTION

The 95th Street and Book Road Phase I Intersection Improvements project is located in southern Naperville, Will County, Illinois. The project area is a relatively recently developed, high density suburb of Chicago which experienced the beginning of platted residential development in the mid-1970s; most project area buildings were constructed between 1994 and 2005. Book Road and 95th Street each remained two-lane rural roads with no turn lanes or sidewalks through the mid-1990s. Improvements constructed in the mid-1990s created the current configurations of both roadways.

Development surrounding the intersection includes retail uses on the northeast and southwest corners, offices and a day care on the northwest and a church on the southeast. Residential uses are located further north and east of the intersection, residential and institutional/office uses are located further to the west, and office and residential uses are located further to the south.

The purpose of the current project is to improve the safety and capacity of the intersection and to minimize the impact of intersection operations at nearby access points including side streets and commercial entries. The intersection is currently experiencing three times the expected crash frequency of similar intersections in Illinois. Traffic at the intersection is experiencing delays in the peak hours which are expected to worsen by the design year of 2040 to the point at which the intersection would be considered to fail by accepted Illinois traffic engineering standards. In addition, the delays create access issues at the intersection of Book Road and Tamahawk Lane during current afternoon traffic peaks, and additional blockages are anticipated by the design year at the entrance to Fry Family YMCA west of the intersection and the entrances to Wheatland Salem Church, 95th Street Shops and the adjacent office buildings south of the intersection.

The proposed project extends on Book Road from Rebecca Court on the south to Joyce Lane on the north. On 95th Street, the project extends from approximately 600 feet west of the intersection to approximately 425 feet east of the intersection. The existing 95th Street includes the following:

- Two 11-foot travel lanes in each direction
- Center turn lane with low concrete median dividing eastbound from westbound, providing left turn lanes for westbound 95th Street at Fry Family YMCA entrance, Book Road and Wheatland Salem Church entrance, and for eastbound 95th Street at Edward-Elmhurst Health Center/Childtime Care Center entrance, Book Road and Tamahawk Lane

Proposed 95th Street improvements include the following:

- Add one 11-foot right turn lane in each direction at Book Road
- Resurface; retain existing horizontal and vertical alignments
- Accompanying signal, sidewalk and utility location changes/upgrades

The existing Book Road includes the following:

- One 11-foot travel lane in each direction
- Center 11-foot turn lane added by a gore beginning at Rebecca Court and reaching full width approximately 500 feet south of the Wheatland Salem Church/95th Street Shops entrances, providing left turn lanes for northbound Book Road at 95th Street Shops

entrance, 95th Street, Tamahawk Lane and Joyce Lane, and for southbound Book Road at Wheatland Salem Church entrance, Book Road and Tamahawk Lane

Proposed Book Road improvements include the following:

- Add one 11-foot travel lane in each direction, tapering to existing approximately 605 feet south of 95th Street and 185 feet north of 95th Street
- Add one 11-foot right turn lane in each direction at 95th Street
- Resurface; retain existing horizontal and vertical alignments
- Accompanying signal, sidewalk and utility location changes/upgrades

The proposed alternative adds through-traffic lanes on Book Road north and south of its intersection with 95th Street. Therefore, the entire project is a Type I project and noise analysis and abatement procedures apply. An alternative limited to adding right turn lanes to eastbound 95th Street and southbound Book Road was considered but discarded due to projected operational issues and is not included in this noise analysis. The No Build alternative was also considered.

NOISE BACKGROUND AND REGULATIONS

NOISE BACKGROUND

Noise is generally defined as unwanted sound. Its loudness is measured in terms of sound pressure levels expressed in decibels (dB) and is composed of a wide range of frequencies. The decibel scale is logarithmic and expresses the ratio of the sound pressure unit being measured to a standard reference level. Most sounds occurring in the environment do not consist of a single frequency, but rather a broad band of differing frequencies. Frequencies are measured in hertz (Hz), which is the number of cycles per second. The human ear is typically capable of hearing frequencies from approximately 20 to 20,000 Hz, and is less sensitive to higher and lower frequencies than mid-range frequencies. To compensate for low-end and high-end frequency insensitivity and to render noise levels readings more relevant to human experience, an "A-weighting" scale is used to approximate the response of the human ear. The A-weighted decibel (dB(A)) unit emphasizes measurement of perceptible sound energy and factors out the frequencies not perceptible to humans.

The dB(A) unit may indicate the level of environmental noise at an instant in time, but community noise levels vary continuously. Most environmental noise includes a composite of noise from different sources, creating a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of traffic noise, the equivalent hourly sound level $Leq(h)$, is commonly used. $Leq(h)$ is defined as the equivalent steady-state sound level over a one-hour period which contains the same acoustic energy as the time-varying sound level during the same period. Noise levels referred to in this report are stated as hourly-equivalent sound pressure levels $Leq(h)$ expressed in units of dB(A).

As decibels are logarithmic units, sound levels cannot be added by ordinary arithmetic means. The following general relationships provide a basic understanding of sound generation and propagation:

- The noise level from a line source, such as moving traffic on a road, will decrease approximately 3 dB(A) with every doubling of distance from the source.
- Research has indicated that a difference of 10 dB(A) is perceived as twice as loud (or half as loud) to the human ear.
- Typically, the human ear can barely perceive a 3 dB(A) change in loudness.

FEDERAL REGULATIONS

The Federal Aid Highway Act of 1970 required the Federal Highway Administration (FHWA) to develop noise standards and abatement requirements for highway traffic noise. These standards are contained in Title 23, Code of Federal Regulations (CFR), Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise. This regulation applies to highway construction projects where a state department of transportation has requested federal funding for participation in the project. 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. The regulations do not mandate that the abatement criteria be met in all situations, but rather require that reasonable and feasible efforts be made to provide noise mitigation when the abatement criteria are approached or exceeded. Per 23 CFR 772.3, all highway projects that are developed in conformance with this regulation are deemed to be in conformance with FHWA noise standards.

FHWA has developed three “project types” to assess noise analysis applicability. Federal regulations only apply to Type I and Type II projects. Type III projects are ones that do not meet the definition of a Type I or Type II project and do not require a noise analysis. The 95th Street and Book Road Intersection Improvements project is a Type I project because it will add through-traffic lanes to northbound and southbound Book Road. Therefore, a traffic noise analysis is required for the full project limits. The FHWA regulations establish Noise Abatement Criteria (NAC) activity categories based on land use to assess potential traffic noise impacts as defined in 23 CFR 772. The FHWA NAC and description of activity categories are shown in Table 1. Traffic noise impacts occur when predicted design year noise levels under the build scenario approach, meet or exceed the NAC, or if there are substantial increases in traffic noise over existing conditions, independent of the NAC.

The FHWA NAC are used to identify locations where traffic noise impacts occur. The NAC are not used as goals for noise attenuation design criteria or design targets. FHWA requires use of FHWA Traffic Noise Model (TNM) 2.5 to determine current and future traffic noise levels created by a proposed project; TNM 2.5 has been used to perform this noise analysis. FHWA has deferred to the state agencies to define the noise level that “approaches” the NAC and to define a substantial increase in traffic noise levels.

TABLE 1: FHWA NOISE ABATEMENT CRITERIA (NAC) ACTIVITY CATEGORIES

Activity Category	Leq (1 hour)	Description of Activity Category
A	57 dB(A) (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 dB(A) (exterior)	Residential.
C	67 dB(A) (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52 dB(A) (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools and television studios.
E	72 dB(A) (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing.
G	-	Undeveloped lands that are not permitted.

Source: 23CFR772, Table 1

If one or both of these conditions (noise level approaching the NAC or substantial increase in noise level) are met as a result of the proposed project, 23 CFR 772 requires that noise abatement measures must be considered. Noise abatement measures may include the following:

- Noise barrier construction: Noise barriers reduce noise by blocking the path of sound between the source of the noise and the receiver. To be effective, a noise barrier should be located adjacent to either the noise source or the receiver. There must be a long, continuous break of the line-of-sight from the highway to the receiver.
- Traffic management measures: These may include restrictions on speed, restrictions on traffic volumes, restricted access for certain motor vehicle types, and restricted times of travel.
- Alteration of horizontal and vertical alignments: Alignment of the road refers to the physical layout and location of the highway. A highway's noise impacts may be altered by shifting it in the horizontal or vertical direction.
- Noise insulation of public use or non-profit institution structures: For buildings listed under Category D in Table 1, insulation may be considered as a noise mitigation strategy; this strategy is not available to other types of noise-sensitive development.
- Acquisition of real property: In this case, the DOT acquires, or acquires interest in, primarily undeveloped property near the roadway that is the noise source, to preempt its future development with noise-sensitive uses.

IDOT POLICY

FHWA requires that all states have an approved policy to identify and address highway traffic noise impacts. The Illinois Department of Transportation (IDOT) Highway Traffic Noise Assessment Manual, effective April 2018, was developed to implement the requirements of 23 CFR Part 772 and the noise-related requirements of the National Environmental Policy Act (NEPA) of 1969. The manual carries out the Illinois state policy established in Chapter 26-6 of IDOT's Bureau of Design and Environment (BDE) Manual, which includes:

- Criteria and procedures for noise analyses
- Noise abatement measures and related coordination
- Noise abatement criteria prescribed by Federal regulations

IDOT policy defines noise impacts as modeled traffic-generated noise levels that are predicted to be within 1 dB(A) of (to approach), meet, or exceed the NAC for the appropriate activity category (the Noise Abatement Criterion) in the design year if the project is constructed, or that increase by 15 dB(A) or more over the existing traffic-generated noise levels (the Substantial Increase Criterion) in the design year if the project is constructed. Modeled noise levels are rounded to the nearest whole number; thus a result of 65.5 dB(A) at an Activity Category B receptor is considered an impact.

To evaluate noise impacts, IDOT requires that all property uses within 500 feet of the project alignment be grouped into Common Noise Environments (CNE) that include receptors in the same Activity Category that are exposed to similar noise sources and levels; traffic volumes, traffic mix and speed; and topographic features. One Representative Receptor per CNE is modeled; the Representative Receptor has the worst-case noise condition of all receptors in its CNE. If a

Representative Receptor is found to have a noise impact then all of the receptors in the CNE, including the Representative Receptor, are studied for abatement.

IDOT policy states that barriers to mitigate traffic noise impacts are considered only if they are feasible and reasonable to construct. To be feasible, the barrier must provide a substantial decrease in noise levels, defined as at least 5 decibels for at least two impacted receptors, and must meet engineering requirements of constructability. A barrier that is reasonable to construct must achieve the noise reduction design goal of at least 8 decibels for at least one benefited receptor, must not exceed the allowable noise abatement cost and must be desired by more than 50% of benefited receptors as reflected by received votes in viewpoints solicitation.

The allowable noise abatement cost is based on a cost per benefited receptor comparison, where a benefited receptor is defined as a receptor receiving at least 5 decibels of noise reduction. Adjustments are made to the per-benefited-receptor cost based on the magnitude of predicted noise levels, the increase in predicted noise levels in the design year over existing noise levels, and the construction date of the receptor compared to that of the original construction of the highway. Cost of right of way obtained solely for purposes of constructing the noise abatement measures is included in the total cost of the abatement. IDOT allows cost averaging among CNEs when multiple CNEs are being considered for abatement and the proposed abatement measures meet certain requirements.

The objectives of this noise study are to:

- Identify noise sensitive land uses within the traffic noise analysis area.
- Characterize the existing noise environment through field noise measurement at representative noise receptor sites. Validate the computer model using traffic data collected during the field measurement period. Use TNM to predict the existing year and design year traffic noise levels at noise receptor sites using current and projected traffic volumes developed from March 2018 peak hour traffic counts.
- Identify impacted receptor sites and use TNM to determine if noise abatement measures are reasonable and feasible.

NOISE RECEPTOR SELECTION

The area around the 95th Street and Book Road intersection is fully developed with commercial, institutional and residential land uses. The following noise sensitive areas were identified and were submitted to IDOT for review in July 2018:

- Residential neighborhoods along Joyce Road east and west of Book Road, along Tamahawk Lane east and west of Book Road and north of 95th Street, along Beth Lane north of 95th Street, along Rebecca Court west of Book Road and Frost Lane east of Book Road. The neighborhoods consisted of single-family homes or condominiums; the homes and condominiums each had yards, patios and/or porches classified in NAC Activity Category B
- Wheatland Salem Church southeast of the intersection had a ballfield with benches and bleachers, a church entrance, a daycare entrance and play area and assorted exterior benches classified in NAC Activity Category C
- The Compass Church and Fry Family YMCA south of 95th Street across from Beth Lane had a daycare entrance and multiple exterior benches and play areas classified in NAC Activity Category C
- Edward-Elmhurst Health Center northwest of the intersection had a bench and an employee picnic table identified during noise measurement activities that have been classified in NAC Activity Category E
- Childtime Care Center (daycare) west of Edward-Elmhurst Health Center had a daycare entrance and outdoor play area classified in NAC Activity Category C

Area land uses that were determined not to be noise sensitive included the retail shops (95th Street Shops, Walgreen), restaurants (Burger King, restaurants within 95th Street Shops) and offices (Charles Rutenberg Realty, Caputo Dental) in the southwest quadrant of the intersection and the BP filling station and retail shops (95th Street Plaza) in the northeast quadrant of the intersection. No exterior noise-sensitive uses were present in any of these NAC Activity Category E and F areas, either on aerial photographs or as reviewed during field activities.

Based on the identified noise-sensitive areas, initial Common Noise Environments (CNEs) and Representative Receptor locations were developed. IDOT/BDE concurred with the proposed locations on July 27, 2018.

During project design and after noise field work and initial noise modeling were complete, the project limits were adjusted to reflect use of Highway Capacity Software storage lengths for the proposed turn lanes, which resulted in the eastern and western legs of the project becoming shorter. As a result of that change and the IDOT policy not to consider noise impacts to neighborhoods located beyond the project termini, CNE-4 and CNE-6 were eliminated from consideration and CNE-3, CNE-5, CNE-7 and CNE-8 were truncated. The residences that were originally included in CNE-6 and that are within 500 feet of Book Road were moved to CNE-9. Because this put a greater emphasis on noise from Book Road for this CNE, a secondary Representative Receptor for CNE-9 was modeled along Book Road at these reassigned residences, in a location at the patio closest to the northern end of the added through lane on that roadway.

Table 2 identifies the CNEs and Representative Receptor locations for the project.

TABLE 2: REPRESENTATIVE RECEPTOR LOCATIONS

CNE/ Representative Receptor	Activity Category/ NAC	Type of Development	Adjacent Road	Distance to Existing Edge of Pavement, ft
CNE-1/RR-1	B/67	SFR ¹ (Joyce Ln W of Book Rd)	Book Rd	83
CNE-2/RR-2	B/67	SFR (Joyce Ln E of Book Rd)	Book Rd	64
CNE-3/RR-3	B/67	SFR (Tamahawk Dr W of Book Rd)	Book Rd	61
CNE-4/RR-4	<i>Receptor no longer within noise study area following project design refinement</i>			
CNE-5/RR-5	C/67	Daycare (Childtime Care Center)	95 th St	149
CNE-6/RR-6	<i>Receptor no longer within noise study area following project design refinement</i>			
CNE-7/RR-7 ²	C/67	Recreation Area (Fry Family YMCA)	95 th St	99
CNE-8/RR-8 & RR-8eq ²	C/67	Church/Recreation Area (Wheatland Salem Church at entrance)	95 th St	200
CNE-9/RR-9	B/67	Condominiums (Tamahawk Ln E of Book Rd)	Book Rd	48
CNE-9/RR-9a				63
CNE-10/RR-10	B/67	SFR (Rebecca Ct W of Book Rd)	Book Rd	108
CNE-11/RR-11	B/67	SFR (Frost Ln E of Book Rd)	Book Rd	62
CNE-12/RR-12	E/72	Office (Edward-Elmhurst Health Center, exterior seating area)	Book Rd	247

1 SFR = Single-family residence

2 RR-7 and RR-8/RR-8eq were retained as originally proposed despite the revised project area because CNE-7 and CNE-8 were retained and road and traffic conditions in the vicinity of the retained Representative Receptors were similar to or more exposed to noise than those in other representative locations that could have been substituted

FIELD NOISE MEASUREMENTS

FIELD NOISE MEASUREMENT METHODOLOGY

CMT collected field noise measurements on August 22, 2018. Six noise measurement locations were selected for measurement. Noise measurement locations are shown on the sensitive area map in Appendix A.

Field data collection sheets are included in Appendix B and show measurement times, weather conditions and details of each measurement location. Measurement times were selected based on traffic peaks identified during previous traffic data collection events performed for design. Traffic was counted manually at the edge of the adjacent roadway. Weather at the time of field noise measurements included temperatures ranging from 79 to 86°F, wind speeds ranging from calm to 8 miles per hour (mph) with occasional brief gusts not exceeding 12 mph, and relative humidity ranging from 79% to 90%. Pavement was dry throughout the field measurement effort. Weather conditions met those specified by IDOT's Highway Traffic Noise Assessment Manual and by the instrument manual.

All noise measurements were collected with a Quest SoundPro DL2 sound level meter that had been laboratory-calibrated by Premier Safety on March 14, 2018 and field-calibrated with a Quest QC-10 acoustical calibrator at the time of field measurements. The meter was mounted on a tripod to establish a sampling height of five feet. The meter was set to Leq mode with slow response and 3 dB exchange rate, and the frequency response was set to the A-weighted scale as required by FHWA. All measurements were collected over 15-minute periods with simultaneous traffic counts on the applicable roadway(s).

FIELD NOISE MONITORING RESULTS

The TNM model of the existing condition was adjusted to reflect atmospheric conditions observed during the noise measurements. The traffic data collected during noise measurement were used to validate the model by multiplying the traffic counts from the 15-minute measurement period by four to obtain hourly traffic counts that were then entered into each model. A model is considered validated when the modeled and measured noise levels are within 3 dB(A) for at least 25% of the Representative Receptors. Model validation results are provided in Table 2. All of the modeled results were within 3 dB(A) of the measured results, which represents more than 25% of the ten CNEs/Representative Receptors, and therefore the model is validated.

TABLE 3: MODEL VALIDATION RESULTS

Model Measurement Location	Address	Field Measurement (dB(A))	TNM Model Result (dB(A))	Difference
RR-2	23155 Joyce Ln	60	63	3
RR-5	2015 95 th St	57	60	3
RR-7	Compass Church	63	63	0

Draft Noise Analysis Report
95th Street and Book Road Intersection Improvements

Model Measurement Location	Address	Field Measurement (dB(A))	TNM Model Result (dB(A))	Difference
RR-8a ¹	1852 95 th St	59	57	2
RR-10	23200 Rebecca Ct	58	60	2

1 Measurement point was offset from church entrance due to concrete canopy columns and other structures surrounding the entrance

NOISE ANALYSIS METHODOLOGY

TRAFFIC VOLUMES AND COMPOSITION

For the 2018 Existing, 2040 No Build and 2040 Build TNM models, traffic volumes and composition were developed by CMT, Inc. using standard traffic projection methods from manual turn counts performed on March 13 and 18, 2018. Where traffic is split between two lanes in the model, traffic volumes were divided evenly between the two lanes. Traffic was not modeled on turn lanes.

Initially, conditions were modeled for the AM Peak, School Peak and PM Peak traffic in the 2018 Existing model. The PM Peak model had the most results that were highest among the three peak periods and also had the highest results for Representative Receptors whose results were closest to the applicable noise abatement criterion. Therefore, PM Peak traffic is considered to represent the worst-case traffic noise environment and was used for all models in this noise study.

The TNM models of the intersection were set up using signalized intersection modeling methods described in NCHRP Report 791, Supplemental Guidance on the Application of FHWA's Traffic Noise Model (TNM). Book Road was selected as the continuously modeled roadway due to its greater number of adjacent receivers. Queue lengths for Book Road in each model were taken from CMT's traffic analysis results. Queue lengths calculated by the traffic analysis for the existing condition were representative of those observed in the field during noise measurements and therefore the Validation model uses the 2018 Existing queue lengths.

RECEPTOR DISTANCE/ELEVATION

Representative Receptor locations that were used for noise measurement were collected in the field using a GPS receiver with an accuracy of +/- 2 feet. The field data points were added to a GIS map using ArcMap, which was also used to develop the x-y locations of all other TNM model objects. The objects were exported to .dxf files and imported into TNM. Elevations were developed using the surveyed roadway profiles for the roadway objects, coordinated with a one-foot contour layer developed from LIDAR by Will County that provided elevations for all other TNM objects. The distance of each Representative Receptor from the nearest edge of existing pavement is provided in Table 2.

SPEED CONDITIONS

Traffic speed on each leg of the intersection was calculated using data collected during field measurements. Near the end of each leg of the project adjacent to field noise measurement locations, starting and ending points were set up along the roadway. The points were set at least 250 feet apart. Three times for each location and traffic direction, a stopwatch was used to measure the speed of a vehicle travelling between the starting and ending points. Measurements were taken only when traffic was free-flowing. The speed of each vehicle was calculated and the three results were averaged. On most of the roadway segments, the average rounded to the nearest whole number was used in all TNM models. A review of the field data indicated overestimated speed on the north leg of the intersection, likely due to the greater distance between the starting and ending points compared to those on the other legs of the intersection and a related difficulty in accurately determining the start and end points of the timed interval from the measurement point. For this

reason, the modeled speeds on this leg were adjusted downward from the calculated average but remained within the limits of the individual field observations.

TNM RESULTS

Once the model was determined valid, TNM was used to predict existing and future traffic noise impacts at noise sensitive land uses throughout the analysis area. The majority of the project's noise-sensitive Common Noise Environments consist of Activity Category B residential single-family homes or condominiums. The exceptions include CNE-5 (Childtime Care Center), CNE-7 (Fry Family YMCA) and CNE-8 (Wheatland Salem Church), which fall in Activity Category C, and CNE-12 (Edward-Elmhurst Health Center), which falls in Activity Category E.

The model results were evaluated to assess whether the proposed project results in noise levels that meet one or both of the traffic noise impact criteria described in the "Traffic Noise Analysis Overview" section discussed on page 5.

Table 4 provides the TNM results for the project area receptors. Future noise levels for the receptors would not approach, meet, or exceed the noise abatement criteria, or substantially exceed existing noise levels.

TABLE 4: NOISE IMPACT SUMMARY – TNM MODELING RESULTS

Representative Receptor	Number of Dwelling Units (DUs) Represented ¹	Adjusted NAC (dB(A)) ²	Existing Noise Level (2018) (dB(A))	Future No Build Noise Level (2040) (dB(A))	Build Noise Level (2040) (dB(A))	Noise Level Change (Build minus Existing) (dB(A))	Is there a traffic noise impact?
RR-1	12 residences	66	61	62	62	1	No
RR-2	5 residences	66	62	64	63	1	No
RR-3	24 residences	66	63	65	64	1	No
RR-5	1 day care	66	61	62	62	1	No
RR-7	1 recreation center	66	63	64	64	1	No
RR-8a	1 church/ 1 sports area	66	56	58	58	2	No
RR-9	41 residences	66	64	65	65	1	No
RR-9a	(see RR-9)	66	65	66	65	0	No
RR-10	5 residences	66	60	61	61	1	No
RR-11	30 residences	66	63	64	64	1	No
RR-12	1 office	71	58	59	60	2	No

¹ Equivalent receptor calculations were not performed for the non-residential Representative Receptors because noise modeling at the worst-case receptor point did not show noise impacts at any of these CNEs. A description of the use(s) represented is provided.

² Adjusted to 1 dB below the FHWA NAC for the category to reflect IDOT's noise policy

ABATEMENT ANALYSIS

Because future noise levels for the receptors would not approach, meet, or exceed the noise abatement criteria, or substantially exceed existing noise levels, no abatement measures were considered.

COORDINATION WITH LOCAL OFFICIALS FOR UNDEVELOPED LANDS

No undeveloped properties are present in the project study area, and therefore no coordination with local government officials to identify permitted development or to communicate future noise level contours was required.

CONSTRUCTION NOISE

Noise from construction activities, including operation of construction machinery, will add to the average noise level for residents and businesses along the project alignment during the construction phase of the project. Noise may also be generated by increases in heavy truck traffic to and from the project area.

To minimize or eliminate the effect of construction noise on these receptors, mitigation measures have been incorporated into the Illinois Department of Transportation's Standard Specifications for Road and Bridge Construction as Article 107.35.

CONCLUSIONS

A traffic noise analysis was performed for the 95th Street and Book Road Intersection Improvements project in Naperville, Will County, Illinois. The study initially identified twelve Common Noise Environments (CNEs) including eight residential neighborhoods, a medical office, a day care, a YMCA and church with day care, and a church with a day care and athletic fields. When the project area was revised in January 2019 due to revised turn lane length calculations, two residential neighborhoods were removed from the study.

Field noise measurements were collected at six locations including one of the CNEs that was later removed from the study. All of the remaining field noise measurements were within 3 dB(A) of the results modeled using FHWA TNM 2.5, representing over 25% of the total number of Representative Receptors included in the project, and therefore the noise model was validated.

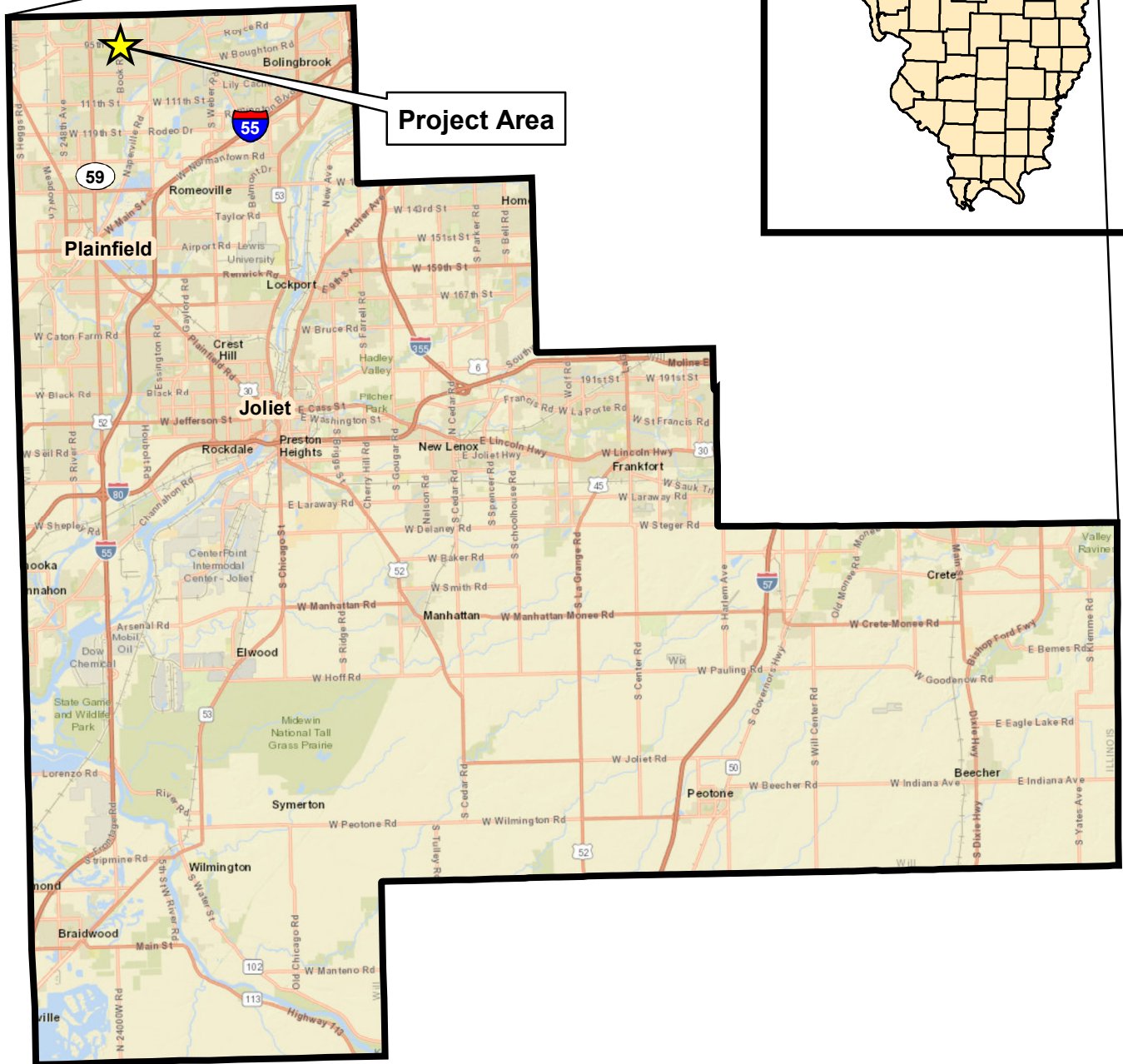
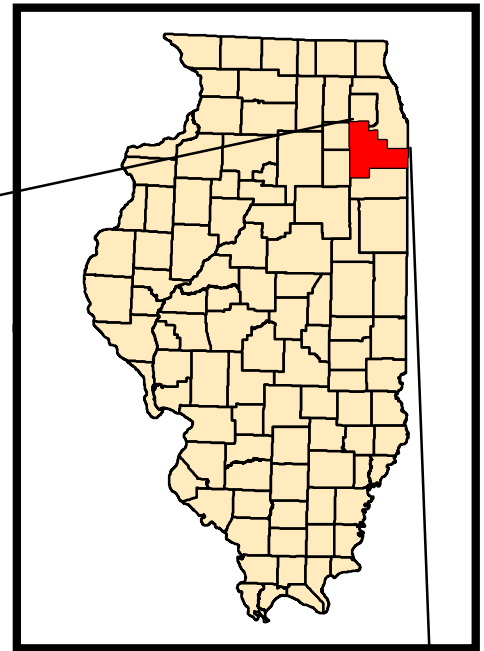
Models were prepared for 2018 Existing, 2040 No Build and 2040 Build conditions. The highest calculated noise level for any Representative Receptor in the 2040 Build condition was 65 dB(A), in a CNE with an adjusted NAC of 66 dB(A). Results ranged from 58 to 65 dB(A). The greatest increase from 2018 Existing to 2040 Build calculated noise levels was 2 dB(A).

Future noise levels for the receptors would not approach, meet, or exceed the noise abatement criteria, or substantially exceed existing noise levels.

95th Street and Book Road

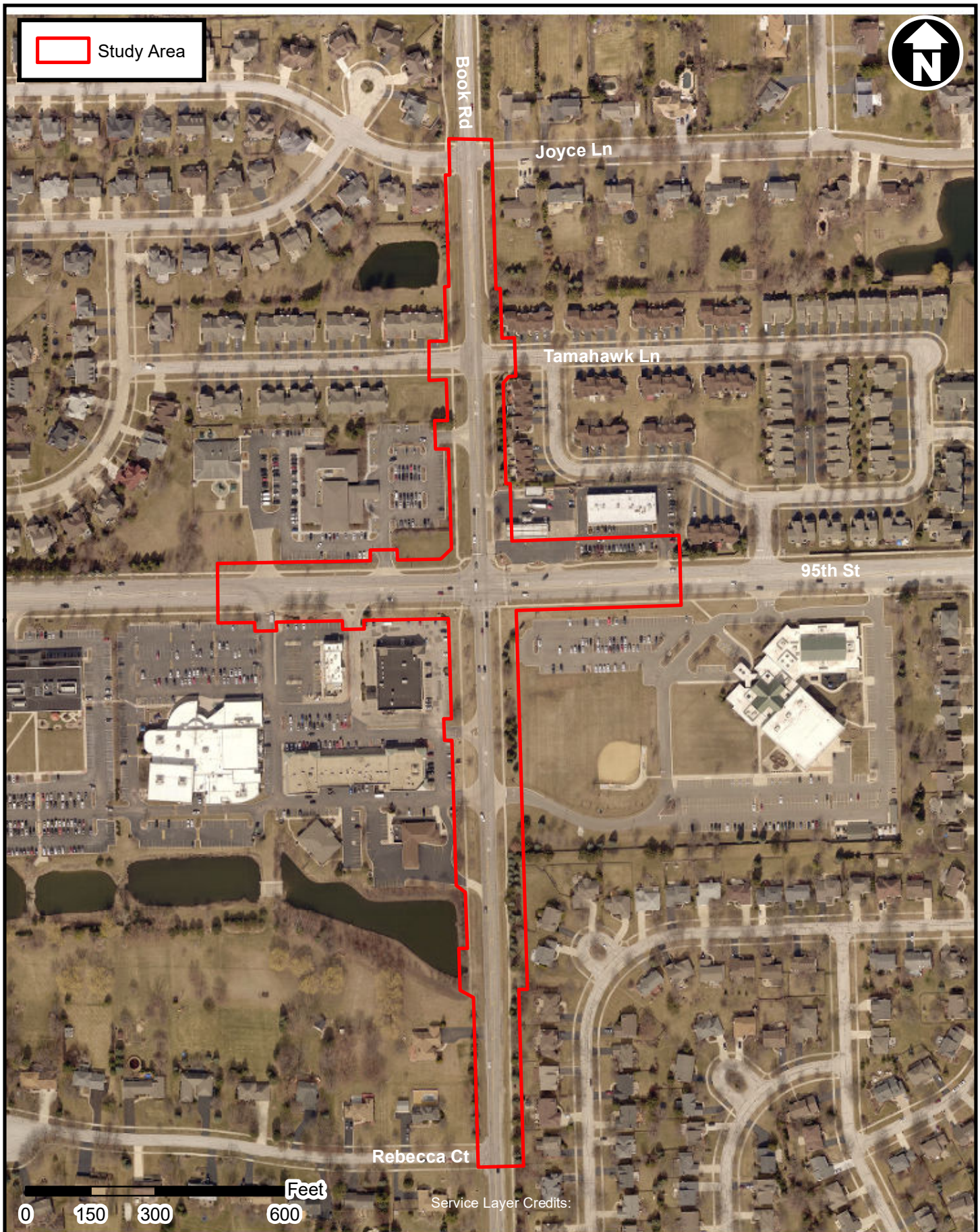
APPENDIX A: FIGURES





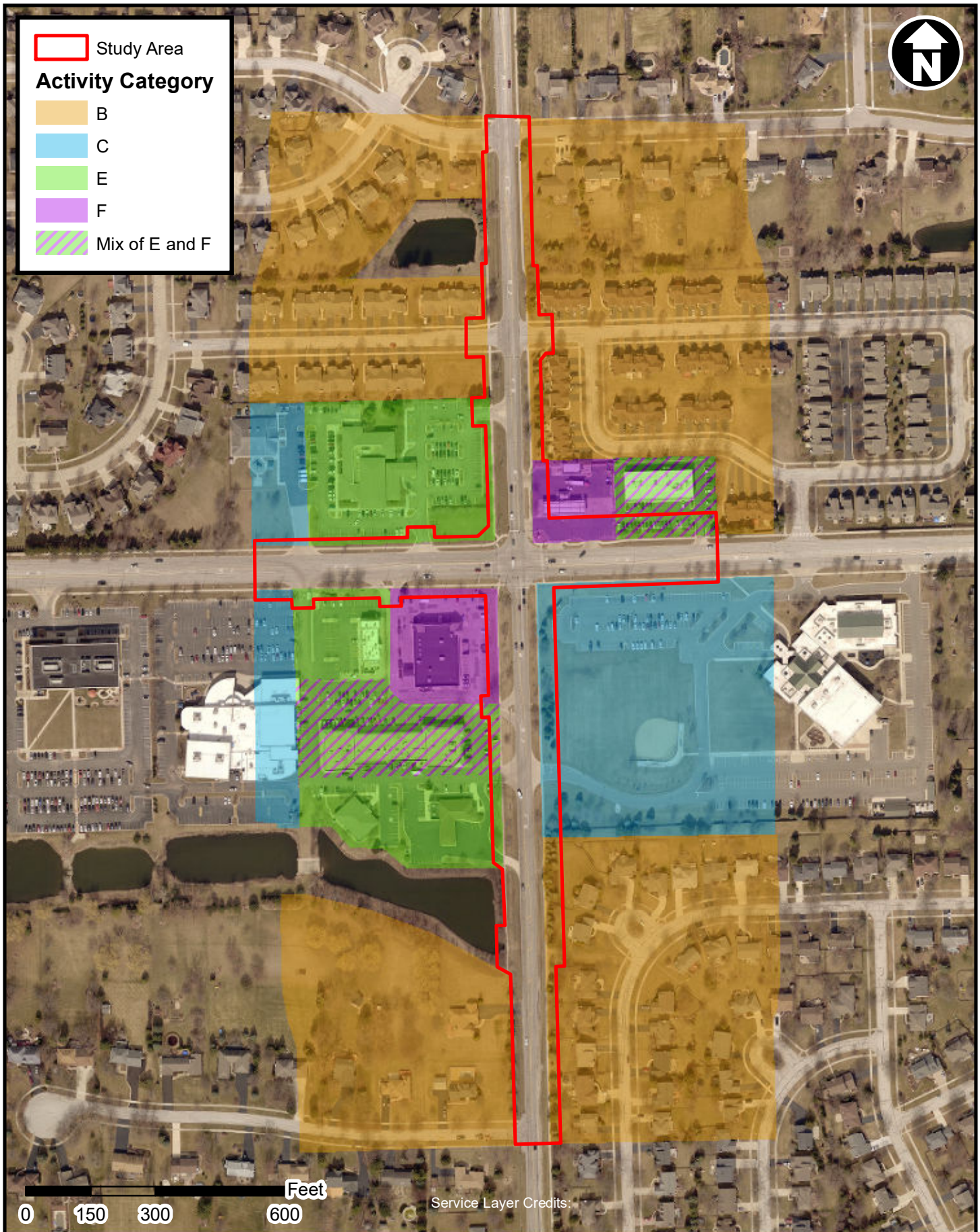
95th St & Book Rd Intersection Improvements - Naperville, IL

Location Map - Will County, Illinois



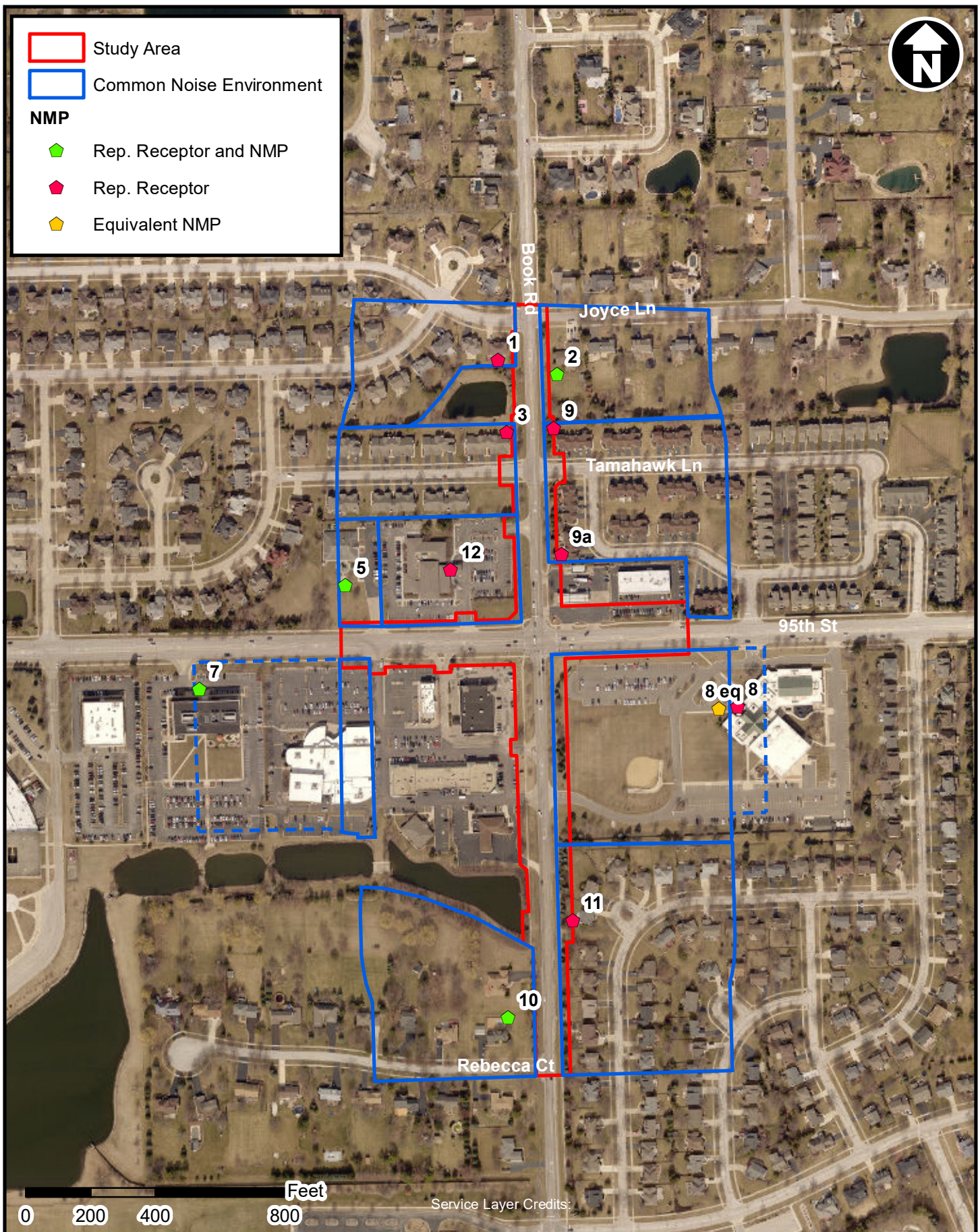
95th St & Book Rd Intersection Improvements - Naperville, Will Co., IL

Aerial Map



95th St & Book Rd Intersection Improvements - Naperville, Will Co., IL

FHWA Land Use Categories



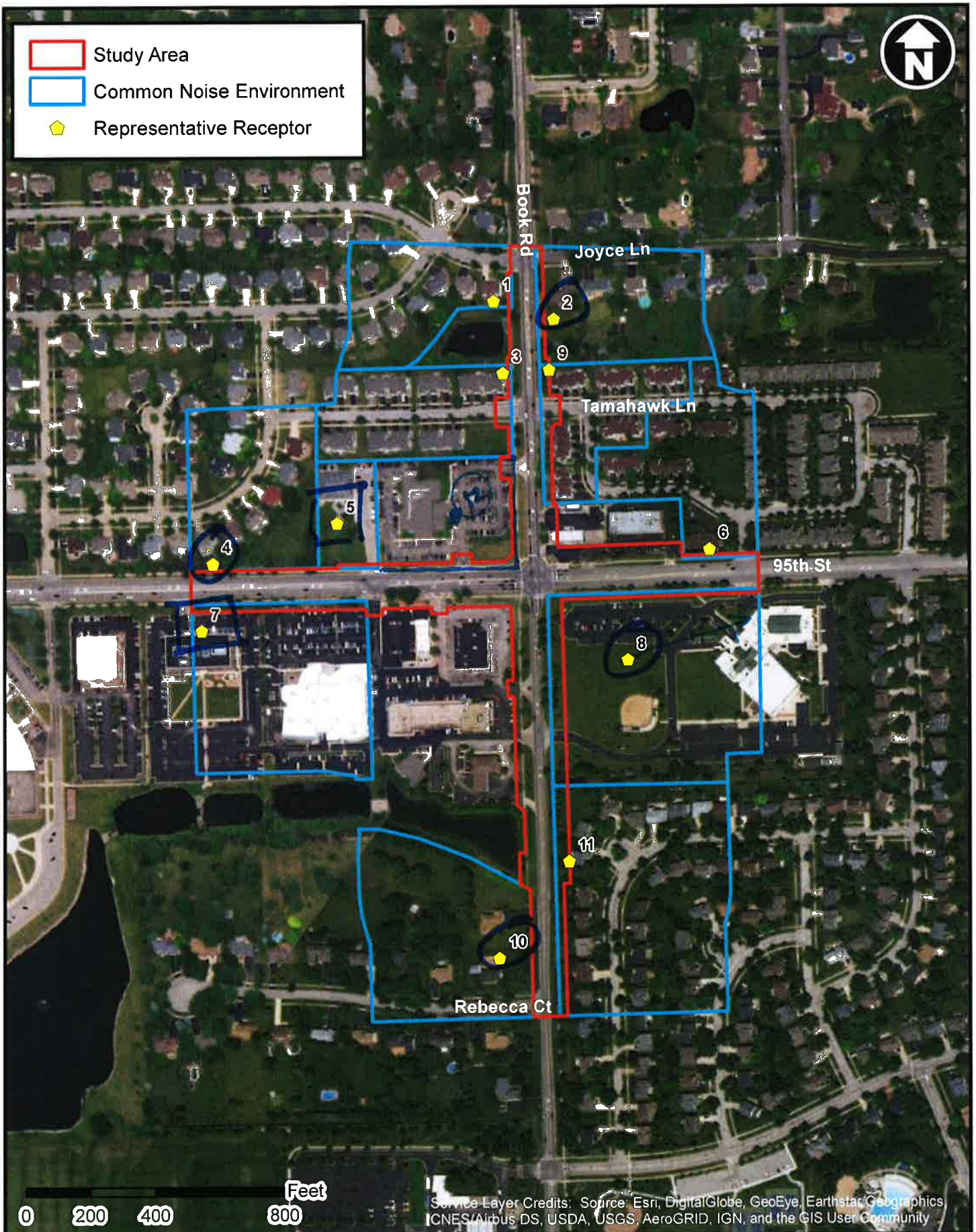
95th St & Book Rd Intersection Improvements - Naperville, Will Co., IL

Representative Receptor Locations

95th Street and Book Road

APPENDIX B: FIELD DATA



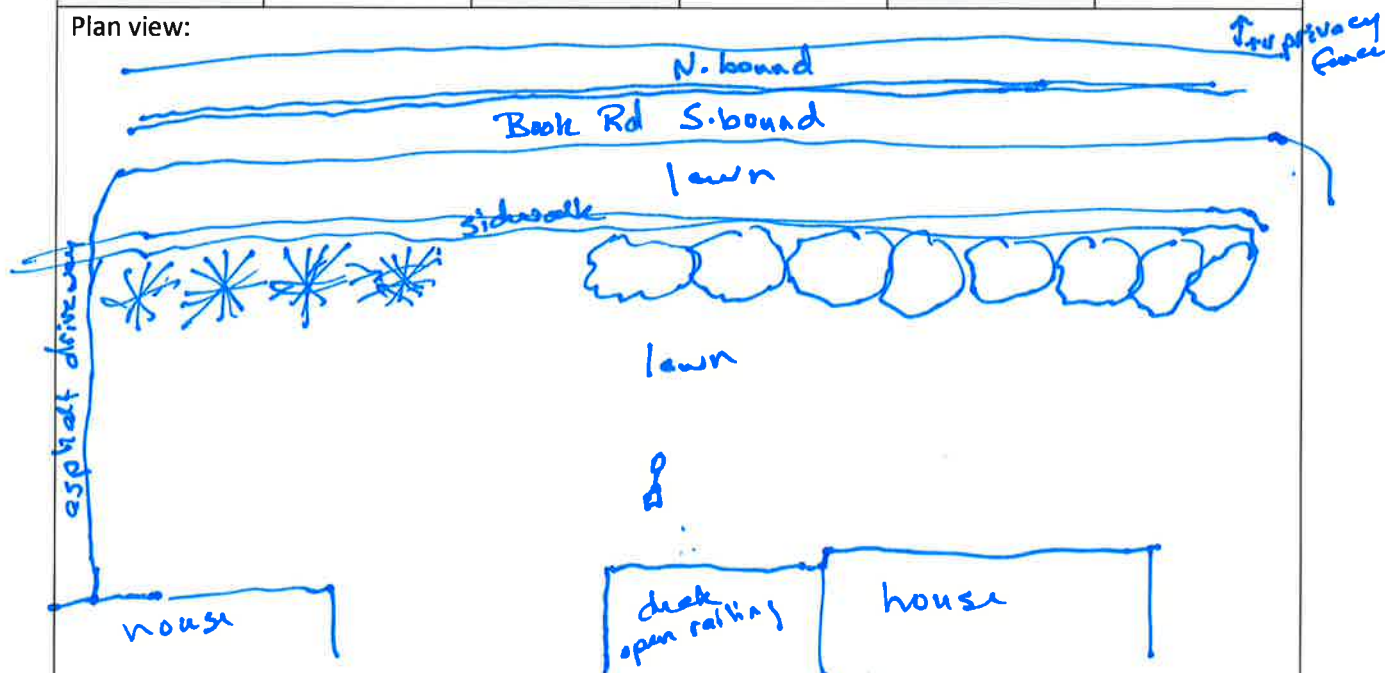


95th St & Book Rd Intersection Improvements - Naperville, Will Co., IL

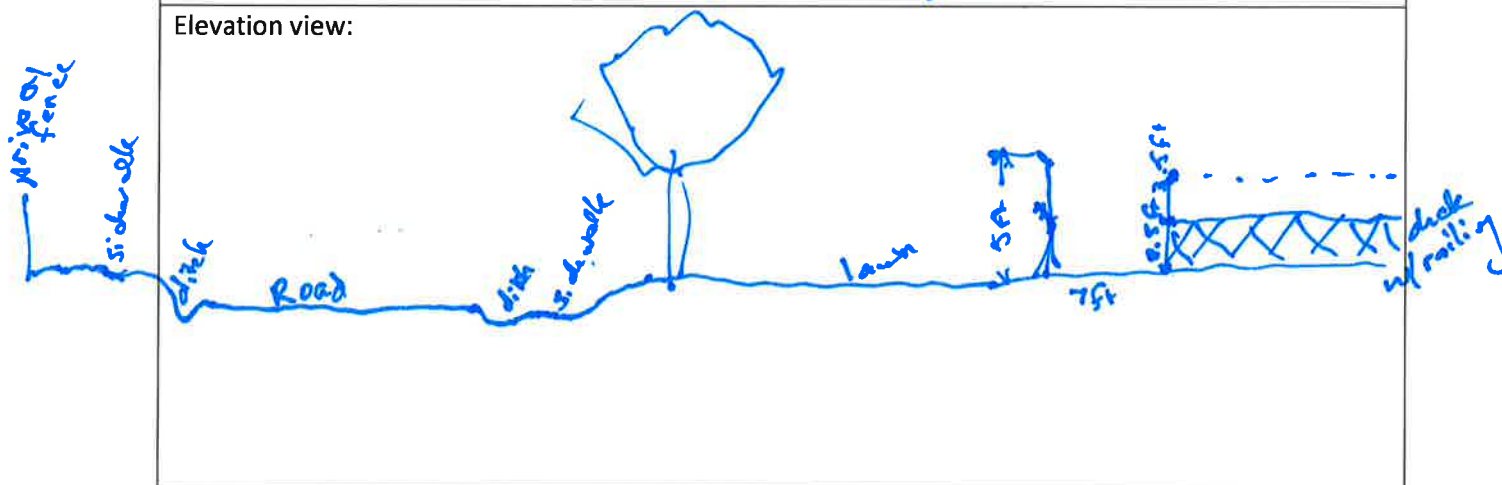
CNEs and Representative Receptors

Site ID:	23200 Rebecca Ct		Location	95th & Book St int. imp. Naperville IL	
Observer	JKM	Date	8/22/18	Count location	NMP-10
Temperature	83 °F	Cloud cover	Partly cloudy	Humidity	79%.
Wind direction	Shifting S : W	Wind speed, avg	< 3 mph	Wind speed, max	8 mph
Start time	15:05	Stop time	15:20	Leq/avg and Lmax	58.1 dB(A) 66.1 dB(A)

Plan view:



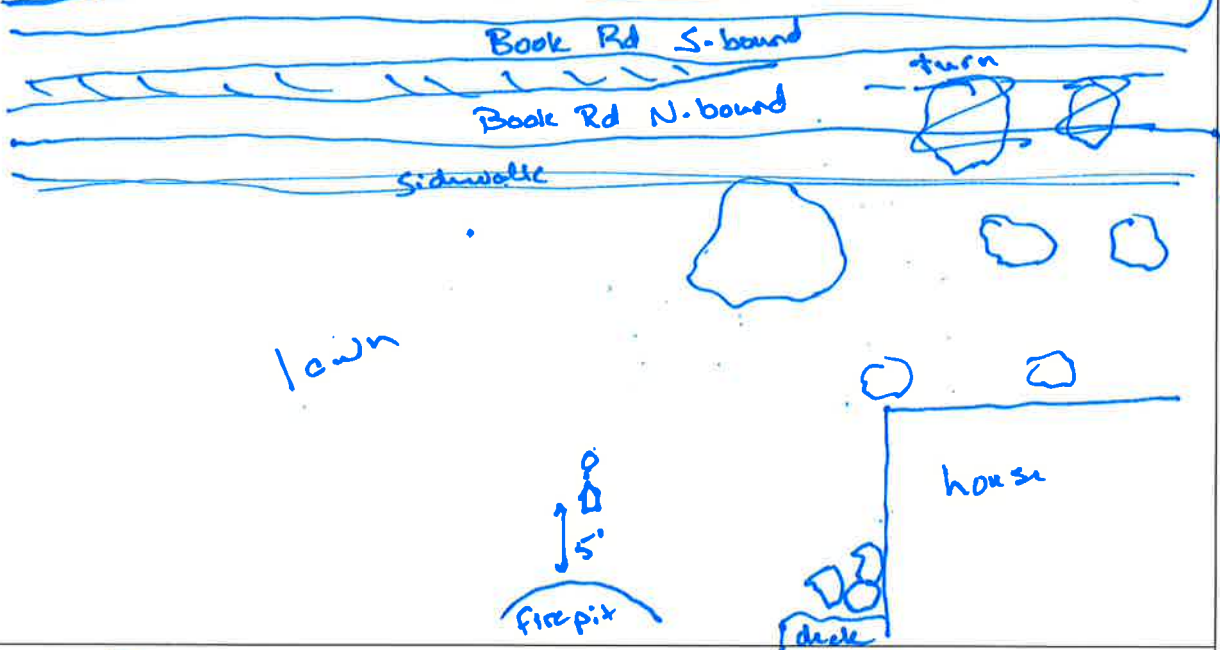
Elevation view:



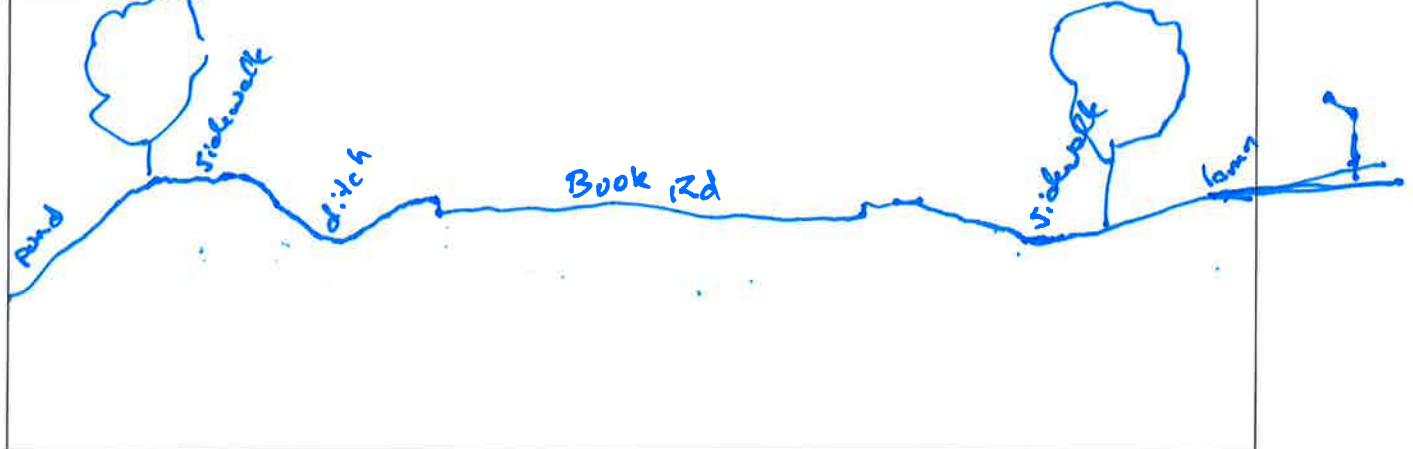
14:05 - 14:43 Airplane overhead (jet, passenger)

Site ID:	23155 Joyce Ln		Location	95th: Book Rd int. impr. Naperville, IL	
Observer	JKM	Date	8/22/18	Count location	NMP-2
Temperature	83°F	Cloud cover	Partly Cloudy	Humidity	82%
Wind direction	W-N variable	Wind speed, avg	< 3 mph	Wind speed, max	8 mph
Start time	13:40	Stop time	14:00	Leq/avg and Lmax	60.3 dB(A) 71.7 dB(A)

Plan view:



Elevation view:



Lawnmower operating to E throughout 13:05 min
Traffic light line backing up to NMP by 5:50 -
cars immediately

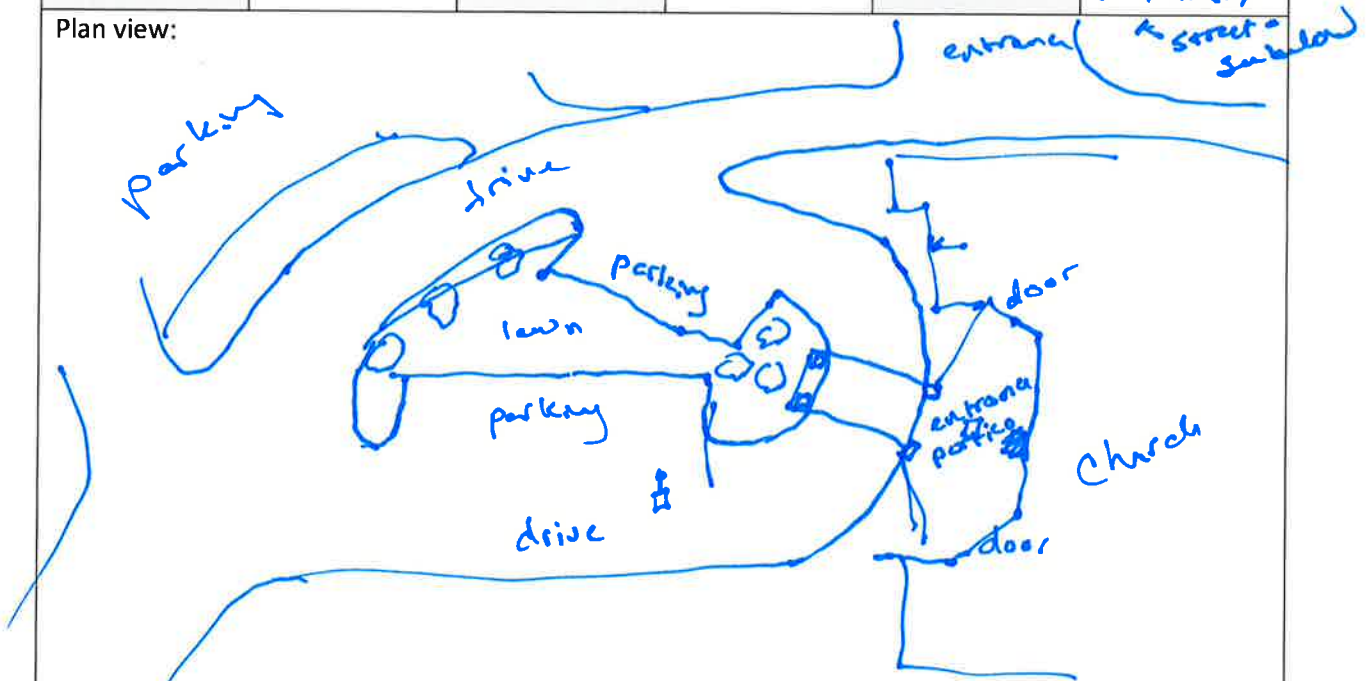
Primary roadway/direction: <u>Book Rd. - North</u>		
Cars (94)	Med Trucks 11 (2)	Heavy Trucks <u>Timing (sec.)</u> 4.06 4.71 3.86
Primary roadway/2 nd direction: <u>Book Rd. - South</u>		
Cars (59)	Med Trucks 1 (6)	Heavy Trucks <u>Timing (sec.)</u> 4.66 4.59 4.25
Secondary roadway/direction: <u>Book Rd. - South</u>		
Cars (108)	Med Trucks 11 (2) 	Heavy Trucks <u>Timing (Sec.)</u> 5.17 6.02 5.31
Secondary roadway/2 nd direction: <u>Book Rd. - North</u>		
Cars (55)	Med Trucks 1111 (4)	Heavy Trucks <u>Timing (sec.)</u> 5.42 5.10 5.11

NMP ID

NMP 2

Site ID:	Wheatland - Salem U Me 1852 95th St Front entrance - offset W		Location	95th & Book Rd int. impr. Naperville IL	
Observer	JKM	Date	8/22/18	Count location	NMP-8
Temperature	86°F	Cloud cover	Partly Cloudy	Humidity	85%
Wind direction	W with occ. shift N	Wind speed, avg	5 mph or less	Wind speed, max	12 mph (W)
Start time	16:20	Stop time	16:35	Leq/avg and Lmax	59.3 dB(A) 70.4 dB(A)

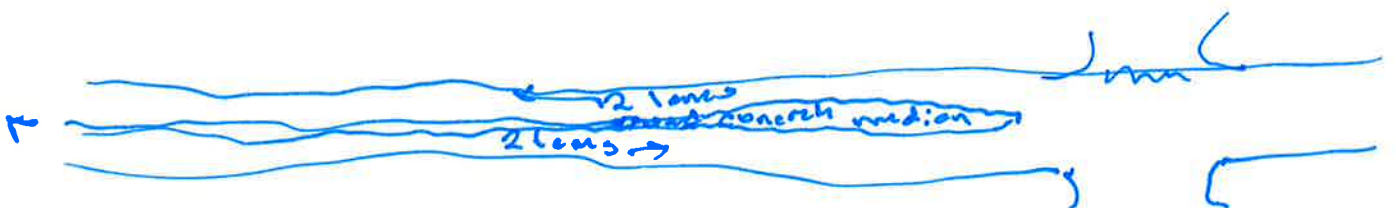
Plan view:



Elevation view:

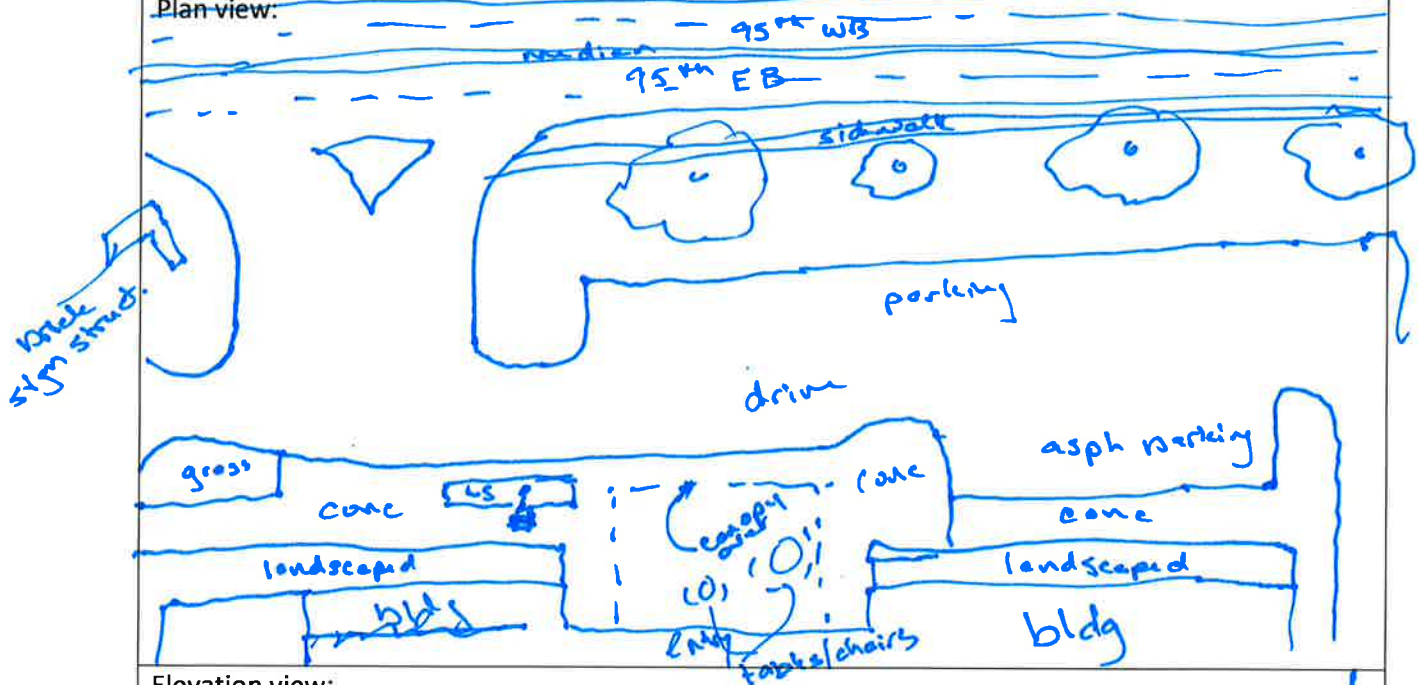


to Book

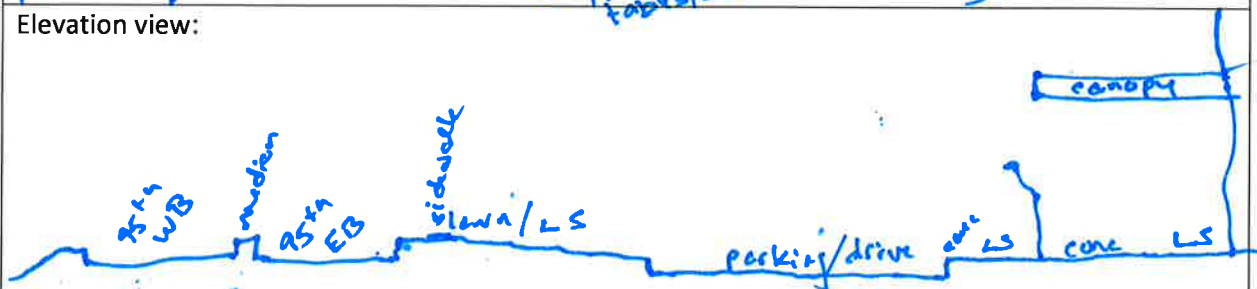


Site ID:	Compass Church bldg Main ent. - offset to avoid canopy effects		Location	95th, Boole Rd int. imp Naperville, IL	
Observer	JKM	Date	8/22/18	Count location	NMP-7
Temperature	80°F	Cloud cover	Partly cloudy	Humidity	89%
Wind direction	W w/variable gusts	Wind speed, avg	< 3 mph	Wind speed, max	10 mph
Start time	17:00	Stop time	17:15	Leq/avg and Lmax	69.0 dB(A) 72.1 dB(A)

Plan view:



Elevation view:



Traffic Count

Primary roadway/direction: 95th - EAST West		
Cars 	Med Trucks 	Heavy Trucks
		Timing (sec.) 7.16 4.06 5.43 3.73 3.55
Primary roadway/2nd direction: 95th - West East		
Cars 	Med Trucks 	Heavy Trucks Timing (sec.) 3.99 3.41 3.07
Secondary roadway/direction: 95th St - West East		
Cars 	Med Trucks 	Heavy Trucks
		Timing (sec.) 4.58 4.45 5.10
Secondary roadway/2nd direction: 95th St - East West		
Cars 	Med Trucks 	Heavy Trucks Timing (sec.) 4.71 4.24 4.20

17 8 6 6

+ 189

226

111 111 111 111

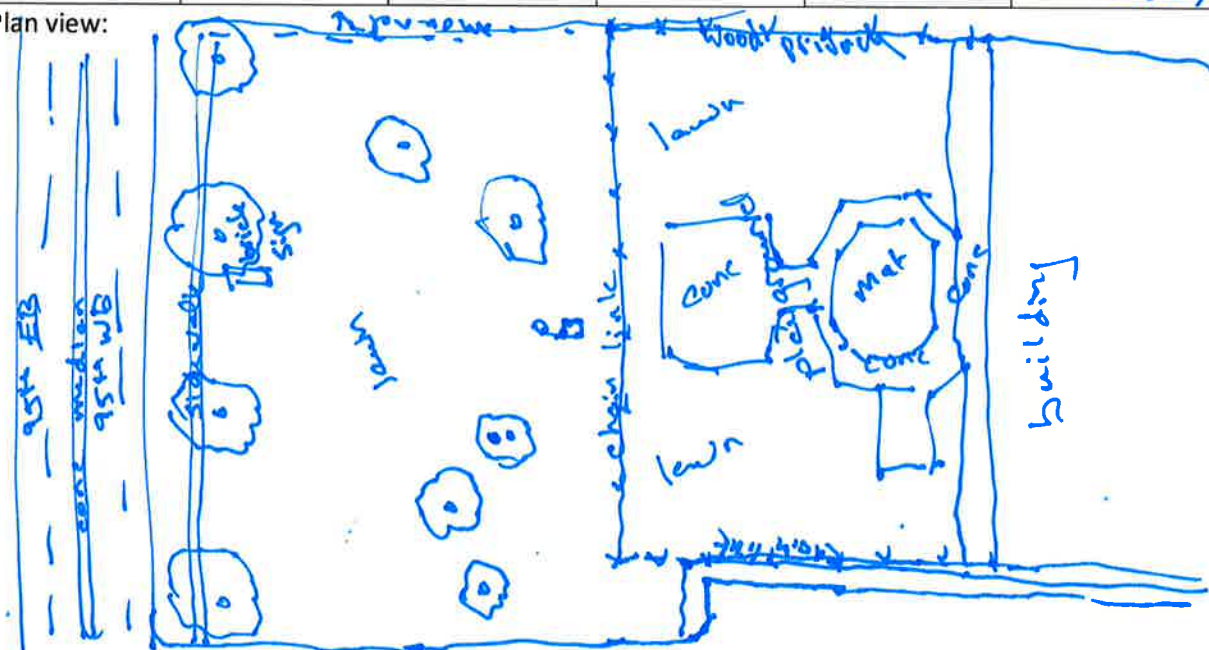
111 111

8 AM

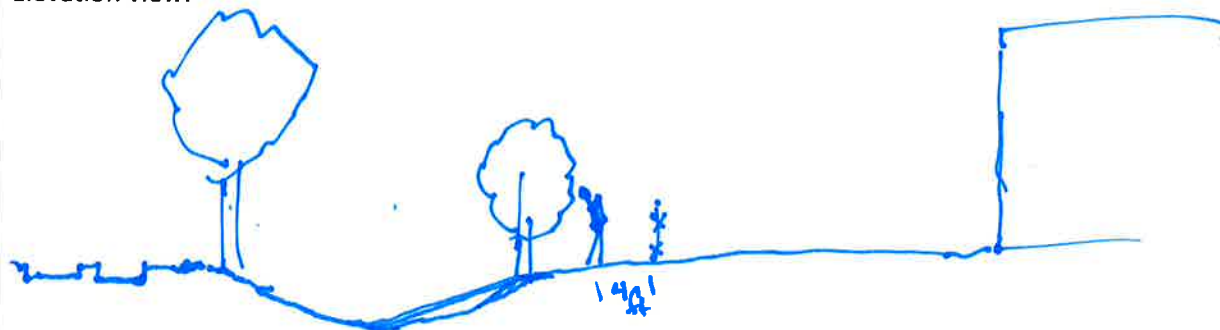
7 AM

Site ID:	Child Home Learning Center 2015 95th St		Location	7592; Book Rd inters. imp. Naperville, IL	
Observer	JKM	Date	8/22/18	Count location	NMP-5
Temperature	79°F	Cloud cover	clear	Humidity	90%
Wind direction	W-NW-N	Wind speed, avg	≤ 3 mph	Wind speed, max	11 mph infrequent 8 mph typ
Start time	17:56	Stop time	18:11	Leq/avg and Lmax	56.7 dB(A) 65.4 dB(A)

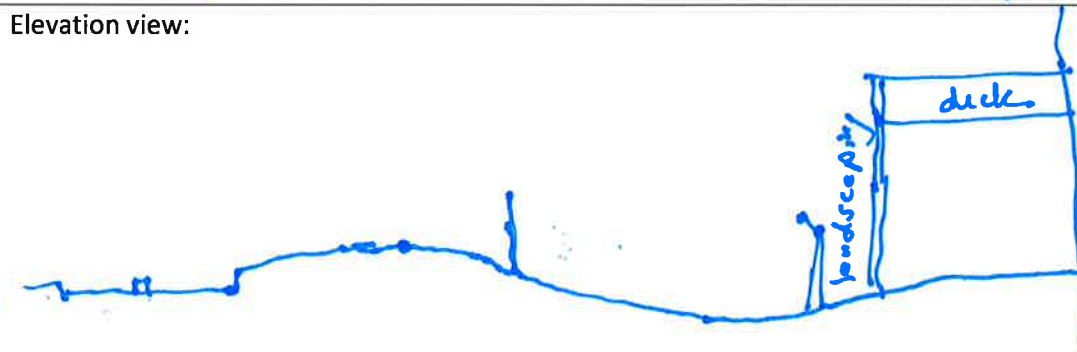
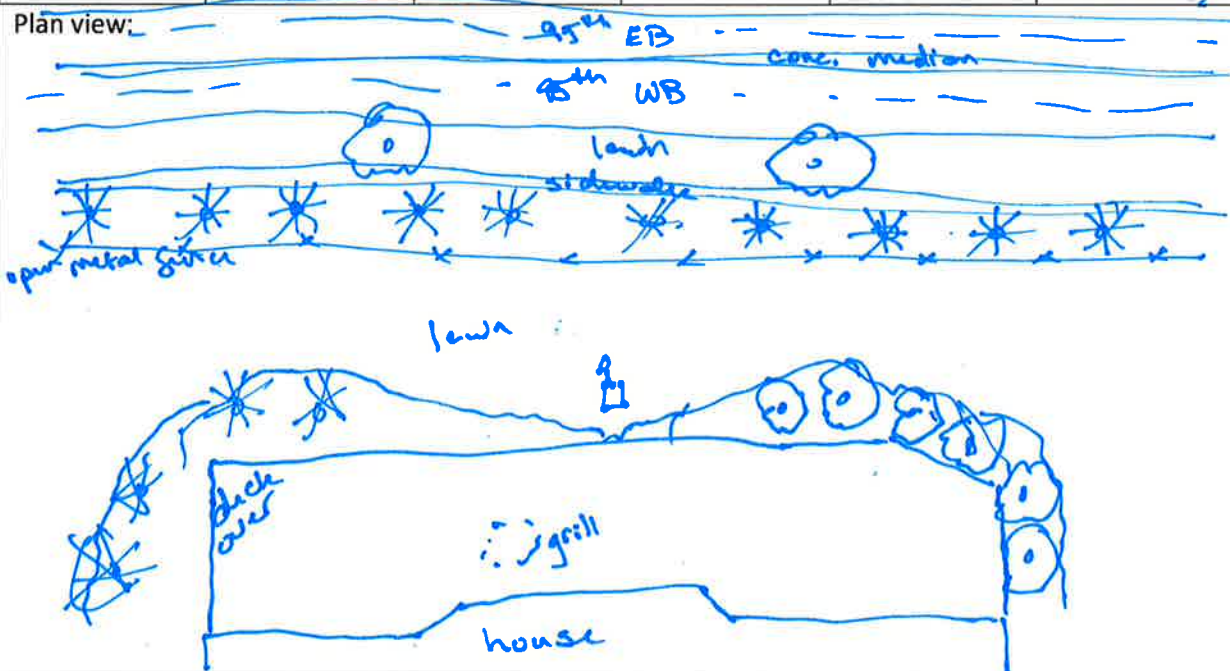
Plan view:



Elevation view:



Site ID:	2940 Beth Ln Rear yard @ base of deck		Location	95m; Book Rd inter. imp. Naperville, IL	
Observer	JKM	Date	8/22/18	Count location	NMA-4
Temperature	81°F	Cloud cover	Clear	Humidity	90%
Wind direction	W	Wind speed, avg	< 1 mph	Wind speed, max	3 mph
Start time	13:30	Stop time	17:45	Leq/avg and Lmax	64.6 dB(A) 77.6 dB(A)



Motorcycle @ 5:15
loud truck @ 10:15

lots of insect noise

Traffic Count

Primary roadway/direction: 95th St - East		
<p>Cars</p> <p>12 5 9 2</p>	<p>Med Trucks</p> <p>1 (1)</p>	<p>Heavy Trucks</p> <p>24 (242)</p>
Primary roadway/2nd direction: 95th St - West		
<p>Cars</p> <p>12 6</p>	<p>Med Trucks</p> <p>5</p>	<p>Heavy Trucks</p> <p>269</p>
Secondary roadway/direction: 95th St - East		
<p>Cars</p>	<p>Med Trucks</p> <p>1 (1)</p>	<p>Heavy Trucks</p> <p>211</p>
Secondary roadway/2nd direction: 95th St - West		
<p>Cars</p>	<p>Med Trucks</p> <p>1 (1)</p>	<p>Heavy Trucks</p> <p>1 (1)</p>

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NMP 4

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NMP 5

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(219)



Calibration Certificate No. ELM1291

Instrument: **Sound Level Meter**
Model: **SoundPro SE_DL2**
Manufacturer: **Quest**
Serial number: **BIF030006**
Tested with: **Microphone QE7052 s/n 44472**
Preamplifier n/a s/n 0215 0302
Type (class): **2**
Customer:

Tel/Fax: **/**

Date Calibrated: **3/14/2018** Cal Due: **3/14/2019**

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		
Contains non-accredited tests:	Yes X No	
Calibration service:	Basic X Standard	
Address:		

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/22/2012
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	June 22, 2017	Norsonic SA	June 22, 2018
DS-360-SRS	Function Generator	123268	June 22, 2017	SRS	June 22, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	July 14, 2017	Agilent Provider #93107	July 14, 2018
SD700-Extech	Meteo Station	Q769118	June 22, 2017	INNOCAL	June 22, 2018
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	34103	July 18, 2017	Scantek, Inc./ NVLAP	July 18, 2018

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0	99.00	26.0

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	STEVEN BOERTMANN	Signature	ERIC FORD
Date	3-14-18	Date	3-14-18

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT ^{2,3}	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
INDICATION AT THE CALIBRATION CHECK FREQUENCY - ANSI S1.4 CLAUSE 3.2	Passed	0.20.15
FREQUENCY WEIGHTINGS: A NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: C NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: Z NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY AND TIME WEIGHTINGS AT 1 KHZ IEC 61672-3 ED.1 CLAUSE 13	Passed	0.2
LEVEL LINEARITY ON THE REFERENCE LEVEL RANGE - IEC 61672-3 ED.1 CLAUSE 14	Passed	0.3
LEVEL LINEARITY INCLUDING THE LEVEL RANGE CONTROL - IEC 61672-3 ED.1 CLAUSE 15	Passed	0.3
TONEBURST RESPONSE - IEC 61672-3 ED.1 CLAUSE 16	Passed	0.3
PEAK C SOUND LEVEL - IEC 61672-3 ED.1 CLAUSE 17	Passed	0.35
FILTER TEST 1/OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25
FILTER TEST 1/3OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

² Parameters are certified at actual environmental conditions.

³

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. Compliance with any standard cannot be claimed based solely on the periodic tests.

Tests made with the following attachments to the instrument:

Microphone:	Quest QE7052 s/n 44472 for acoustical test
Preamplifier:	Quest n/a s/n 0215 0302 for all tests
Other:	line adaptor ADP005 (18pF) for electrical tests and 1448 (18pF) for noise test
Accompanying acoustical calibrator:	Quest QC-10 s/n QIB030186
Windscreen:	none

Measured Data: in Test Report # of ... pages.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

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Page 2 of 2

SoundPro SE_DL2 s/n: BIF030006 ID:
Date: 3/14/2018 By: SB
Due: 3/14/2019



Calibration Certificate

0040294

Instrument: **Acoustical Calibrator**
Model: **QC-10**
Manufacturer: **Quest**
Serial number: **QE2120254**
Class (IEC 60942): **1**
Barometer type:
Barometer s/n:

Date Calibrated: **3/13/2018** Cal Due: **3/13/2019**
Status:
In tolerance:
Out of tolerance:
See comments:
Contains non-accredited tests: Yes X No

Received	Sent
X	X

Customer:
Tel/Fax: /

Address:

Tested in accordance with the following procedures and standards:

Calibration of Noise Dosimeters, Sound Meters, and Calibrators., Rev. Chf 04

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	June 22, 2017	Norsonic SA	June 22, 2018
DS-360-SRS	Function Generator	123268	June 22, 2017	SRS	June 22, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	July 14, 2017	Agilent Provider #93107	July 14, 2018
SD700-Extech	Meteo Station	Q769118	June 22, 2017	INNOCAL	June 22, 2018
140-Norsonic	Real Time Analyzer	1405966	June 22, 2017	Norsonic SA	June 22, 2018
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	
40AG-GRAS	Microphone	173539	July 18, 2017	Scantek, Inc. / NVLAP	July 18, 2018
NN1203-Norsonic	Preamplifier	138531	July 18, 2017	Norsonic SA	July 18, 2018

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	STEVEN BOERTMANN	Signature	ERIC FORD
Date	3-13-18	Date	3-13-18

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM STANDARDS REFERENCED IN PROCEDURES:	MET ²	NOT MET	COMMENTS
Manufacturer specifications			
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		Unit older than the standard
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		Unit older than the standard
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	Unit older than the standard
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		Unit older than the standard
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		Unit older than the standard
Older standards (obsolete)			
IEC 60942: 1997 B.2 - Preliminary inspection	X		
IEC 60942: 1997 B.3.3 - Sound pressure level	X		
IEC 60942: 1997 B.3.4 - Sound pressure level stability	X		
IEC 60942: 1997 B.3.5 - Frequency	X		
IEC 60942: 1997 B.3.6 - Total harmonic distortion	X		
ANSI S1.40: 1984 (R1997) 4.4.2 Sound pressure level in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.4 Frequency sound in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.10 Total harmonic distortion	X		Not applicable

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

²

Main measured parameters ³:

Measured ⁴ /Acceptable ⁵ Tone frequency (Hz):	Measured ⁴ /Acceptable ⁵ Total Harmonic Distortion (%):	Measured ⁴ /Acceptable Level ⁵ (dB):
1017.24 ± 1.0/1000.0 ± 10.0	0.40 ± 0.10/ < 3	114.05 ± 0.00/114.0 ± 0.4

³ The stated level is valid at reference conditions.

⁴ The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=2.00

⁵ Acceptable parameters values are from the current standards

Barometer indication	Nominal indication

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0 ± 1.0	99.00 ± 0.001	26.0 ± 2.0

Tests made with following attachments to instrument:

Calibrator ½" Adaptor Type:
Other:

Adjustments: Unit was not adjusted.

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.

Compliance with any standard cannot be claimed based solely on the periodic tests.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

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Page 2 of 2

EXHIBIT 16-0

MOT Typical Sections



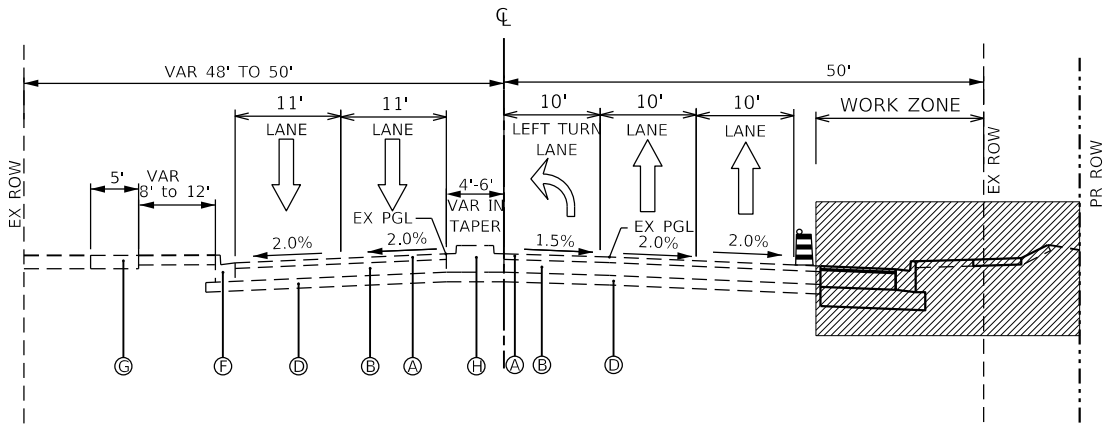
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MODEL NAME	= Default	DRAWN	- JJM	REVISED	-
PLOT SCALE	= 20,0000' / 1in.	CHECKED	- CMC	REVISED	-
PLOT DATE	= 1/25/2019 (1:36:39 PM)	DATE	- 01/25/2019	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

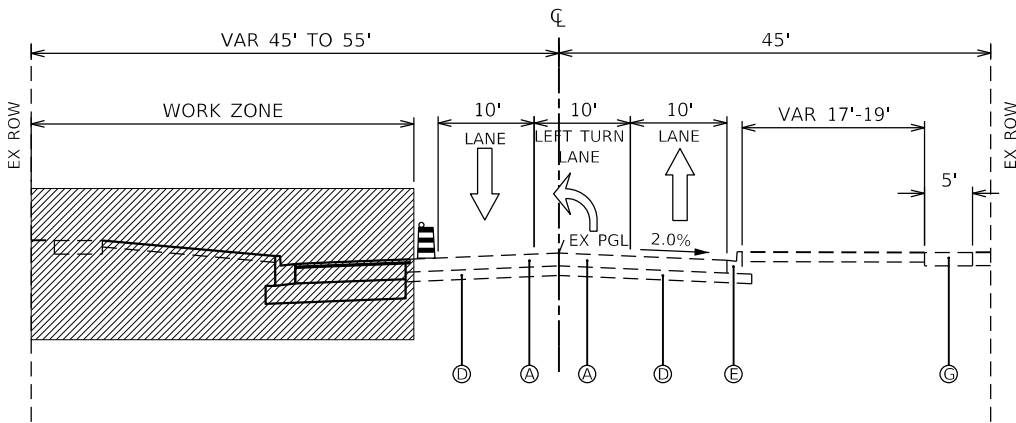
MOT TYPICAL SECTIONS
STAGE 1

SCALE: 1"=10' SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	2	1
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



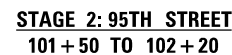
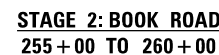
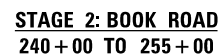
STAGE 1: 95TH STREET



STAGE 1: BOOK ROAD

EXISTING LEGEND

- Ⓐ EXISTING ASPHALT PAVEMENT
- Ⓑ EXISTING CONCRETE BASE COURSE
- Ⓒ EXISTING BITUMINOUS BASE COURSE
- Ⓓ EXISTING AGGREGATE SUBBASE (NOMINAL DEPTH)
- Ⓔ CONCRETE CURB & GUTTER B-6.12
- Ⓕ CONCRETE CURB & GUTTER B-6.18
- Ⓖ EXISTING PCC SIDEWALK
- Ⓖ EXISTING PCC MEDIAN



- (A) HOT-MIX ASPHALT SURFACE COURSE
- (B) HOT-MIX ASPHALT LEVEL BINDER COURSE
- (C) ASPHALT BASE COURSE
- (D) EXISTING CONCRETE BASE COURSE
- (E) EXISTING AGGREGATE SUBGRADE
- (F) AGGREGATE SUBGRADE IMPROVEMENT
- (G) CONCRETE CURB & GUTTER B-6.18
- (H) PCC SIDEWALK
- (I) TOPSOIL
- (J) EXISTING B-6.12 CURB & GUTTER
- (K) EXISTING ASPHALT PAVMENT
- (L) EXISTING MEDIAN

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PLOT DATE = 1/25/2019 (1:35:14 PM)	DATE - 01/25/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOT TYPICAL SECTIONS STAGE 2

SCALE: 1"=10'	SHEET 2	OF 2	SHEETS	STA.	TO STA.
---------------	---------	------	--------	------	---------

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1644	18-00171-00-CH	WILL	2	2
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

EXHIBIT 17-1

Public Meeting 1



Naperville

95th Street at Book Road Intersection Improvements PHASE I STUDY

PUBLIC MEETING #1

Tuesday, May 22, 2018

5:00 to 7:00 P.M.

Naperville Public Library
95th Street Library
3015 Cedar Glade Rd
Naperville, IL 60564

The City of Naperville invites you to attend a public meeting (open house format) regarding the planning for potential improvements to the intersection of 95th Street at Book Road. At the meeting you will have the opportunity to:

- Learn about the planning process, schedule, and public participation opportunities
- Give your input on transportation issues and concerns within the study area
- Talk with the project team and ask questions

FOR ADDITIONAL INFORMATION, or if you cannot attend the meeting and would like to provide comments, please contact Project Engineer Kelly Dunne at DunneK@naperville.il.us or 630.420.6094.

If a reasonable accommodation is needed under the Americans with Disabilities Act, please contact Kevin Nelson, 630.820.1022. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TDD number (800) 526-0844 or 711; TTY users (Spanish) (800) 501-0864 or 711; and for Telebraille dial (877) 526-6670 at least five (5) days prior to the meeting.

<http://www.naperville.il.us/projects-in-naperville/95th-street-and-book-road-intersection-improvements/>



Naperville

City of Naperville

Attn: Kelly Dunne

400 S. Eagle Street

Naperville, IL 60540



Public Meeting Notice For Proposed Improvements to the Intersection of 95th Street and Book Road

A public meeting (open house format) regarding the planning for potential improvements to the intersection of 95th Street and Book Road will be held on Tuesday, May 22, 2018 from 5:00 PM to 7:00 PM at the Naperville 95th Street Library located at 3015 Cedar Glade Road, Naperville, Illinois. The purpose of the meeting will be to present the planning process, schedule, and participation opportunities to the public, and to gather community input on transportation issues and concerns within the study area. City staff and the project team will be available to answer questions.

Written comments may be submitted to the attention of Kelly Dunne, Project Engineer, City of Naperville, TED Business Group, 400 S. Eagle Street, Naperville, IL 60540 or submitted via email to dunnek@naperville.il.us. Comments on the project should be received by 5:00 P.M. on June 5, 2018. For additional information regarding the public meeting, please contact Kelly Dunne or visit <http://www.naperville.il.us/projects-in-naperville/95th-street-and-book-road-intersection-improvements/>.

Any individual with a disability requesting a reasonable accommodation in order to participate in a city meeting should contact 630.820.1022 for coordination for ADA services. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TDD number (800) 526-0844 or 711; TTY users (Spanish) (800) 501-0864 or 711; and for Telebraille dial (877) 526-6670 at least five (5) days prior to the meeting.



Naperville

95th Street at Book Road Intersection Improvements PHASE I STUDY

PUBLIC MEETING #1

Tuesday, May 22, 2018
5:00 to 7:00 P.M.

Naperville Public Library
95th Street Library
3015 Cedar Glade Rd
Naperville, IL 60564

<http://www.naperville.il.us/95thbook>

**FOR ADDITIONAL
INFORMATION,** or to provide
comments, please contact
Project Engineer Kelly Dunne
at DunneK@naperville.il.us or
630.420.6094.

Welcome!

The City of Naperville welcomes you to the first Public Information Meeting concerning the 95th Street at Book Road Intersection Improvement Study. At this meeting you can:

- Learn the project study process and schedule
- Become familiar with the project study area
- Provide input on transportation issues and concerns

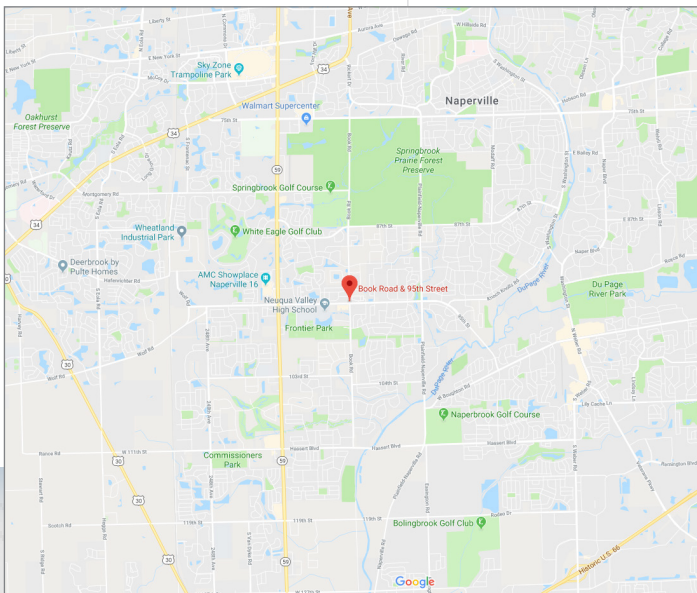
Study Location

The intersection is located on the south side of Naperville, in Wheatland Township, Will County. The intersection is located approximately 1 mile east of Illinois Route 59 and three miles south of US 34 (Ogden Avenue). The adjacent land is fully developed with a mix of uses including: commercial, residential and institutional. The Naperville 95th Street Public Library, Neuqua Valley High School and the YMCA are located west of the intersection. The Wheatland Salem Church and a Pace Park-n-Ride are located east of the intersection.

Background

The City is home to over 140,000 residents and attracts hundreds of thousands of visitors each year. As a result, the City is experiencing congestion on area roadways. For 2017, the Citizen Survey echoed previous results with a large percentage of residents concerned about traffic flow and congestion on area roadways. A goal of the City's Strategic Plan is to improve traffic flow and congestion throughout the community.

The intersection of 95th Street and Book Road has been identified as a location having traffic congestion. Both 95th Street and Book Road are under the jurisdiction of Naperville. 95th Street is designated as a Strategic Regional Arterial (SRA). SRAs are intended to carry large volumes of traffic over long distances. As an arterial, 95th Street has high mobility and restricted access. Book Road is classified as a major collector. Collector routes generally have an even distribution of mobility and access functions.



Project Process/Schedule

Within Phase I, there are five major steps. The study is currently in the Data Collection step. The project team collects data to better understand issues and concerns within the study area, including:

- Existing roadway and land use plans
- Traffic, crash, bicycle and pedestrian data
- Population and employment forecasts
- Local and regional comprehensive plans
- Other pertinent data

2018

Phase I

Preliminary Engineering and Environmental Studies

2019/2020

Phase II

Contract Plan Preparation and Land Acquisition

2021

Phase III

Construction

DATA COLLECTION

PURPOSE AND NEED

DEFINE ALTERNATIVES AND EVALUATION CRITERIA

EVALUATE ALTERNATIVES

SELECT PREFERRED ALTERNATIVE

Public Involvement Opportunities



Questions to Consider

Questions you may have while looking at tonight's meeting exhibits:

- What are the safety concerns at the intersection?
- Where and when is the existing congestion?
- Are the bicycle and pedestrian accommodations sufficient?
- Are there any existing drainage or flooding concerns?
- Do cultural, aesthetic, or community characteristics exist that should influence the design?
- How will land use and environmental features influence improvements?

Sold To:

City of Naperville, T.E.D. Business Group - CU00410943
400 S Eagle St Attn: Danielle Fischer
NAPERVILLE, IL 60540

Bill To:

City of Naperville, T.E.D. Business Group - CU00410943
400 S Eagle St Attn: Danielle Fischer
NAPERVILLE, IL 60540

Certificate of Publication:

Order Number: 5601366
Purchase Order: N/A

State of Illinois - DuPage

Chicago Tribune Media Group does hereby certify that it is the publisher of the Naperville Sun. The Naperville Sun is a secular newspaper, has been continuously published Daily for more than fifty (50) weeks prior to the first publication of the attached notice, is published in the City of Naperville, Township of Naperville, State of Illinois, is of general circulation throughout that county and surrounding area, and is a newspaper as defined by 715 IL CS 5/5.

This is to certify that a notice, a true copy of which is attached, was published 2 time(s) in the Naperville Sun, namely one time per week or on 2 successive weeks. The first publication of the notice was made in the newspaper, dated and published on 5/6/2018, and the last publication of the notice was made in the newspaper dated and published on 5/16/2018.

This notice was also placed on a statewide public notice website as required by 715 ILCS 5/2. 1.

PUBLICATION DATES: **May 06, 2018, May 16, 2018.**

Naperville Sun

In witness, an authorized agent of The Chicago Tribune Media Group has signed this certificate executed in Chicago, Illinois on this

16th Day of May, 2018, by

Chicago Tribune Media Group

Stefanie Seble

**Public Meeting Notice For
Proposed Improvements
to the Intersection of 95th
Street and Book Road**

A public meeting (open house format) regarding the planning for potential improvements to the intersection of 95th Street and Book Road will be held on Tuesday, May 22, 2018 from 5:00 PM to 7:00 PM at the Naperville 95th Street Library located at 3015 Cedar Glade Road, Naperville, Illinois. The purpose of the meeting will be to present the planning process, schedule, and participation opportunities to the public, and to gather community input on transportation issues and concerns within the study area. City staff and the project team will be available to answer questions.

Written comments may be submitted to the attention of Kelly Dunne, Project Engineer, City of Naperville, TED Business Group, 400 S. Eagle Street, Naperville, IL 60540 or submitted via email to dunnek@naperville.il.us. Comments on the project should be received by 5:00 P.M. on June 5, 2018. For additional information regarding the public meeting, please contact Kelly Dunne or visit <http://www.naperville.il.us/projects-in-naperville/95th-street-and-book-road-intersection-improvements/>.

Any individual with a disability requesting a reasonable accommodation in order to participate in a city meeting should contact 630.820.1022 for coordination for ADA services. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TDD number (800) 526-0844 or 711; TTY users (Spanish) (800) 501-0864 or 711; and for Telebraille dial (877) 526-6670 at least five (5) days prior to the meeting.
05/06, 05/16/18 5601366

Welcome

Public Information Meeting

5:00 —7:00 PM

95th Street at Book Road
Intersection Improvements

Phase I Study



Crash Data

Crashes By Collision Type							
Collision Type	2013	2014	2015	2016	2017	Total	%
Angle	5	6	2	4	3	20	18%
Fixed Object	0	0	0	1	0	1	1%
Pedestrian	0	0	0	0	1	1	1%
Rear End	6	15	7	13	15	56	49%
Sideswipe Same Direction	2	3	3	2	2	12	11%
Turning	4	5	2	7	6	24	21%
Total	17	29	14	27	27	114	100%

Crash Severity							
Worst Occurrence	2013	2014	2015	2016	2017	Total	%
Fatality	0	0	0	0	0	0	0%
Injury	7	8	2	1	10	28	25%
Property Damage Only	10	21	12	26	17	86	75%
No Reported Injury/ Damage	0	0	0	0	0	0	0%
Total	17	29	14	27	27	114	100%

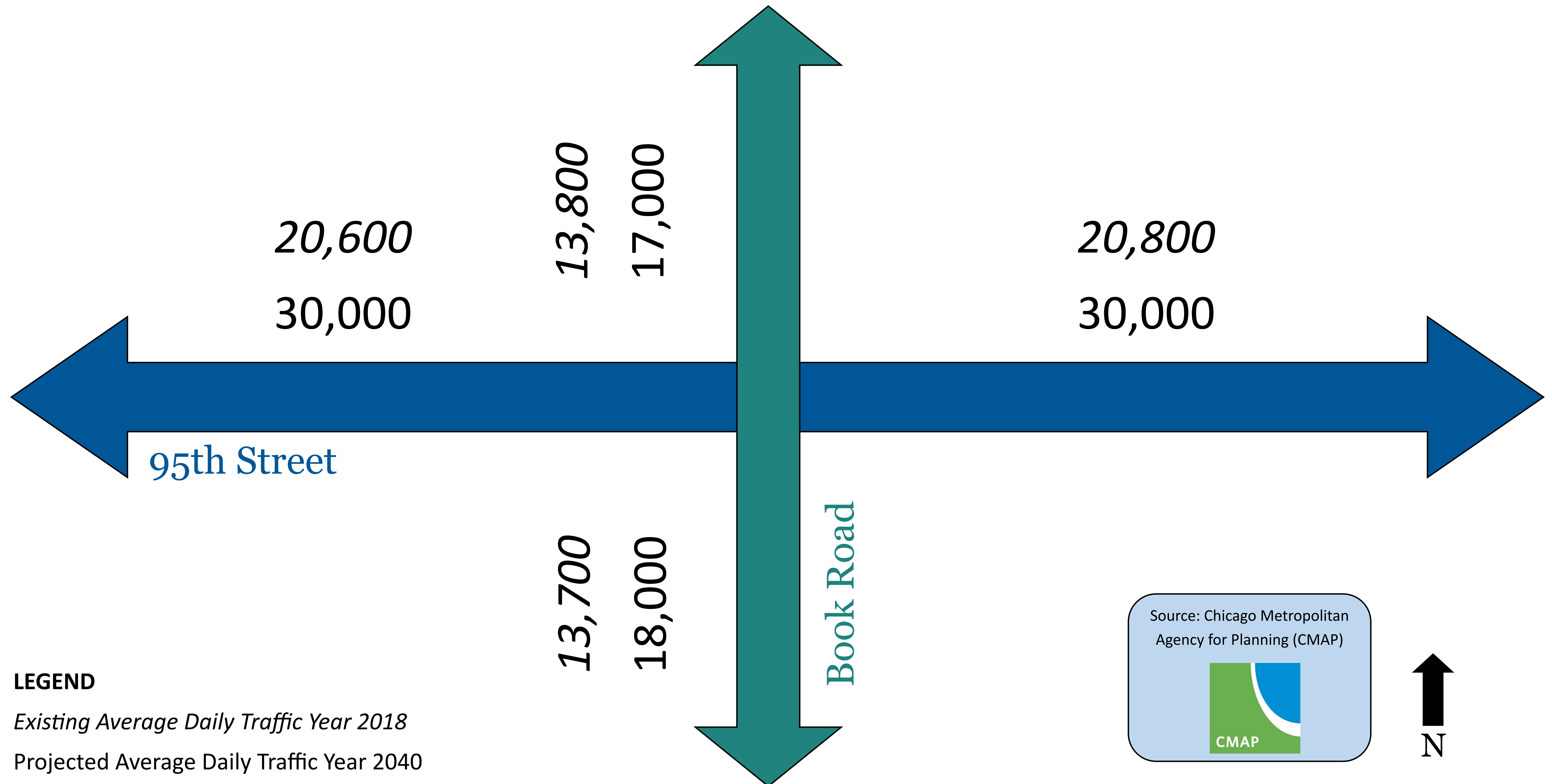
Crashes by Weather Conditions							
Weather Conditions	2013	2014	2015	2016	2017	Total	%
Clear	15	25	12	20	21	93	82%
Rain	2	3	1	6	4	16	14%
Snow	0	0	0	0	0	0	0%
Fog/Smoke/Haze	0	0	1	0	0	1	1%
Sleet/Hail	0	0	0	1	0	1	1%
Cloudy/Overcast	0	0	0	0	2	2	2%
Unknown	0	1	0	0	0	1	1%
Total	17	29	14	27	27	114	100%

Injury Crashes by Collision Type							
Collision Type	2013	2014	2015	2016	2017	Total	%
Angle	1	2	1	0	0	4	14%
Fixed Object	0	0	0	0	0	0	0%
Pedestrian	0	0	0	0	1	1	4%
Rear End	4	4	1	1	5	15	54%
Sideswipe Same Direction	0	0	0	0	1	1	4%
Turning	2	2	0	0	3	7	25%
Total	7	8	2	1	10	28	100%

95th Street at Book Road Intersection Improvements

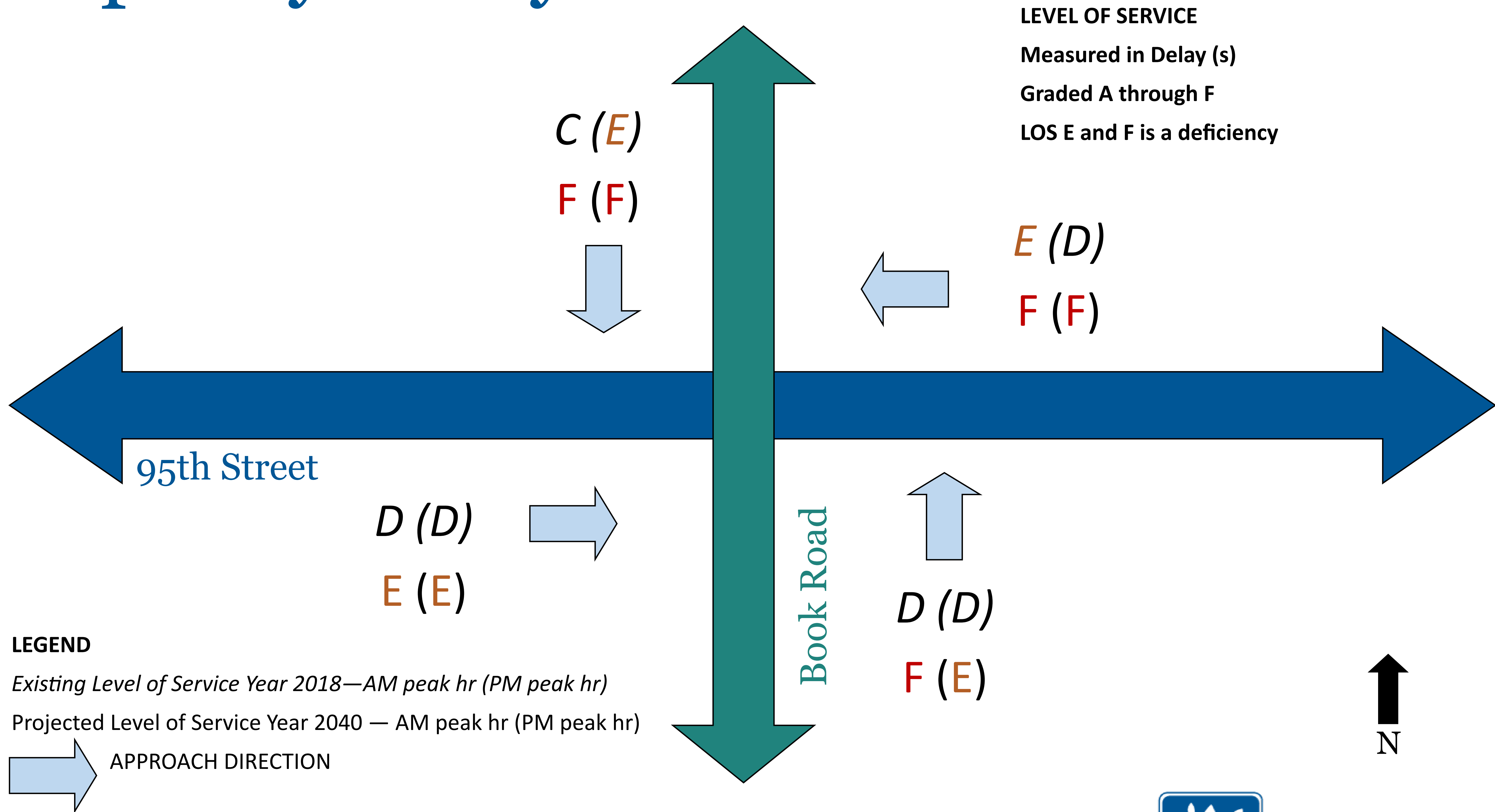


Traffic Projections



95th Street at Book Road Intersection Improvements

Capacity Analysis



95th Street at Book Road Intersection Improvements



Naperville

Public Meeting #1

SIGN-IN SHEET

95th Street at Book Road Intersection Improvements Phase I Study

City of Naperville
Naperville, Illinois

MEETING DATE: Tuesday, May 22, 2018
MEETING TIME: 5:00 P.M. to 7:00 P.M.
MEETING LOCATION: Naperville Public Library
95th Street Library
3015 Cedar Glade Road
Naperville, IL 60564

NAME	REPRESENTING	MAILING ADDRESS			E-MAIL ADDRESS
		ADDRESS STREET	ADDRESS CITY	ADDRESS ZIP	
Tom Harle	wheatland Salem Church	1852 W. 95 th St	Naperville	60564	tom-harle@wheatlandsalem.org
Kimberley Wunsch	Brook Crossing	1128 Gateshead Dr	Naperville	60564	
PATRICK PAMISON	95TH STREET SHOP OF NAPERVILLE	3075 Book Road	Naperville		CMC51@YAHOO.COM
Craig + Linda Rodemaker		3815 Mallard Lane	Naperville	60564	linda.rodemaker@hotmail.com
Terry Bodnar	95TH ST Shops of Naperville	3075 Book Rd	Naperville		
PETE BISTOLFO	SELF	2627 Snowbird	NAPERVILLE	60564	LOISNPETE@HOTMAIL.COM
Shirley Grudzien	self	2135 Springdale Cir.	Naperville	60564	bobgru420@gmail.com
Tuliz Berkowicz	self	405 Gateshead Dr	Naperville	60565	julie@berkowicz.net
Russ Fletcher	self	2740 Bluewater Circle	Naperville	60564	rfletcher@ameritech.net
Linda Wronski	SELF	23221 REBECCA CT	NAPERVILLE	60564	leniwo@yahoo.com
Bruce Wronski	SELF	"	"	"	"
Jen Wilson	wheatland Salem Church	1852 95 th St	Naperville	60564	Jen-wilson@wheatlandsalem.org
Andrew Robinson		13023 Prossman St	"	60564	andyrbiz@gmail.com

PLEASE USE ADDITIONAL SIGN-IN SHEETS IF THIS PAGE IS FULL

PAGE ____ OF ____

SIGN-IN SHEET

NAME	REPRESENTING	MAILING ADDRESS			E-MAIL ADDRESS
		ADDRESS STREET	ADDRESS CITY	ADDRESS ZIP	
Mike Kennedy		11576 Robert Dr	Naperville	60564	
Jill Wright		4411 Esquire Circle	Naperville	60564	jwright883@aol.com
Carl Duson		2940 Beth Lane	Naperville	60564	duson@att.net
Barb Kopka		2742 ROLLING MEADOWS	NAPERVILLE	60564	Kopka1950@GMAIL.COM
Chris Gray		2808 Rolling Meadows Dr	Naperville	60564	chrisgray8038@gmail.com
Diane O'Connor		2800 Rolling Meadows Dr.	Naperville	60564	dianemoconnor@aol.com
Mattha Palmer		23340 Rebecca Ct	Naperville	60564	mpalmer@aol.com
Angie Rawley		10556 Book Rd			angie.rawley@gmail.com
Kevin + Marlene M. Gray		2710 Gateshead Dr	"	60564	
Betty Poulidakis		29W127 Wagner Rd.	"	"	BADP449@gmail.com
Doreen Swindall		2796 Rolling Meadow Dr	naperville	60564	Dee.Swindall@GMail.com
JANET SCANLON		23329 REBECCA CT	NAPERVILLE	60564	mscanlon2@aol.com
Vanessa Duson		2940 Beth Ln	Naperville	60564	duson@att.net
Tom Dabareiner		2319 Kentucky Ct	Naperville	60564	dabareiner@yahoo.com
John Jones		2836 Alandale	Nprvl	"	John.T.Jones@gmail.com
Kim Schiller		29W116 Spring Lake Dr	Naperville	60564	Schiller116@gmail.com
Street		3303 Cool Springs Ct	NAPERVILLE	60564	
Rachel Anderson		1312 Conan Doyle	Naperville	60564	rachelganderson@sbcglobal.net



SIGN-IN SHEET

[illegible]



SIGN-IN SHEET

[illegible]



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name:

Jill Wright

Organization/Group:

Street Address:

441 Esquire Circle

City, State & Zip:

Naperville, IL 60564

Email:

jwright883@aol.com

Phone:

630.251.5520

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **June 8, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

I do not have any issues with the current intersection. I have experienced back up on curriculum rights at Nauqua Valley.

My biggest concern is the disruption that the construction will cause. The city has really done a poor job of handling the construction @ 95th + Plainfield Naperville. The project has gone on far too long. Crews should work two shifts and/or stay away from rush hour to minimize the impact on residents/drivers.

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: Diane O'Connor

Organization/Group:

Street Address: 2800 Rolling Meadows Dr

City, State & Zip: Naperville, IL 60564

Email: dianemcconnor@aol.com

Phone: 630-253-4173

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **June 8, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

I am against anymore improvements + use of funds (federal, state and/or city) for 95th St + or Book Rd. Any improvements will help the commuters at the expense of the neighborhoods. As a commuter of more than an hour for many years, it's just part of commuting. Not a good use of funds!!

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: KORAY KUSCU

Organization/Group:

Street Address: 1723 FROST LN.

City, State & Zip: NAPERVILLE IL 60564

Email: koray.kuscu@yahoo.com

Phone: 773 615 4805

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **June 8, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

The road E-W & W-E bound on 95th Street never gets jammed. Book Rd. ~~the~~ South Bound at the evenings get jammed but this can easily be taken care of with smart-signaling systems. Changing major lane setup would be a waste of money. What is needed is improvement on Book road north of 95th Street. We have incorporated sections which do not have side walks and this ~~creates~~ creates danger to bike riders. We would like to see new side walks built here rather than changing the intersection.

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name:

Organization/Group:

Street Address:

City, State & Zip:

Email:

Phone:

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Website: <http://www.naperville.il.us/95thbook>

- 1- I don't believe the traffic projections
- 2- We should look at ways to discourage that level of traffic through here
- 3- We must consider complete streets policies

OVER →

Contact information**Name:** JAIMON NANTHIRATTU**Organization/Group:****Street Address:** 2614 MODAFF RD**City, State & Zip:** NAPERVILLE**Email:** NAPERVILLEBPINE@GMAIL.COM**Phone:** 630 696 0001**Help shape the future of transportation at the intersection of 95th Street and Book Road**

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **June 8, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us**Website:** <http://www.naperville.il.us/95thbook>

- ① NEED SAME ACCESS FOR GAS TRUCK ENTRY FOR GAS DELIVERY
 - ② DIGITAL PRICE SIGN AND POTENTIAL RELOCATION
 - ③ LOSSAGE OF POTENTIAL LAND AND IT'S COMPENSATION
 - ④ AFRAID OF BOOK ROAD DIVIDER MAY CAUSE BUSINESS LOSS.
 - ⑤ LOSS OF BUSINESS DUE TO CONSTRUCTION AND TIMING
 - ⑥ I AM A RESIDENT OF NAPERVILLE AND THIS IS MY LIVING.
 - ⑦ FINALLY PLEASE DON'T LET MY CUSTOMER GO AWAY FROM ME
- THANKS FOR THE KIND CONSIDERATION

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: Doreen Swindall

Organization/Group:

Street Address: 2796 Rolling Meadows Dr

City, State & Zip: Naperville, IL 60564

Email: Dee.Swindall

Phone: 630-983-0519

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **June 8, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

Sound test
Traffic Count
Reduce Speed Limit to 35
And not a ~~FOR~~ TRUCK

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: B. POULAKIDAS

Organization/Group:

Street Address: 29 W 127 WAGNER RD.

City, State & Zip: NAPERVILLE, IL 60504

Email: BADP44g@gmail.com

Phone: 630-904-0723

Help shape the future of transportation at the intersection of 95th Street and Book Road

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Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

DO NOT WANT ANY CHANGE TO BOOK ROAD PLEASE!
PLEASE DO NOT MAKE THIS A 200. WAGNER IS
TRYING TO STOP NEW SUBDIVISION COMING IN
FROM WAGNER FARM ~~TO~~ FROM RT. 59.
YOU CHANGE THE WHOLE MAKEUP OF OUR LITTLE
COMMUNITY.

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: Angie Rawley

Organization/Group:

Street Address: 105556 Book Rd

City, State & Zip:

Email: angie.rawley@gmail.com

Phone:

Help shape the future of transportation at the intersection of 95th Street and Book Road

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Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

I would like to know if there is anyway Book Rd would ever be widened to 4 lanes. I am very ~~concerned~~ concerned about this because I live right on Book Rd. I'm also requesting ~~concerned~~ if making 95th/Book intersection bigger ~~and~~ ^{then} lowering the speed limit north of Book Rd. There are no sidewalks in front of my house so I have to cross the street with cars going too fast to get to the sidewalk across the street.

OVER →

Dunne, Kelly

From: David Wentz <DWentz@NapervilleLaw.com>
Sent: Friday, June 1, 2018 3:39 PM
To: Dunne, Kelly
Cc: Novack, William; Krieger, Doug
Subject: Roadway intersection improvements for 95th and Book Road

Thank you for looking for public input for this long overdue project. Can't tell you the countless times I have driven through that intersection coming from the north trying to take a quick right turn to head west on 95th street only to be stifled in traffic delays.

Sorry I missed the meeting but while you are still taking public input, my suggestion would be to make sure that while you are carving out a right turn only lane for southbound traffic approaching 95th Street on Book seeking to turn right and head west on 95th street that you also create an identical right turn only for northbound traffic south of 95th street seeking to turn right to head east onto eastbound 95th street.

I will look for the next upcoming meeting and applaud the City's decision to move forward with this much needed improvement.

David G. Wentz Esq.
Brooks, Tarulis & Tibble, LLC
1733 Park Street, Suite 100
Naperville, IL 60563
ph (630) 355-2101
fax (630) 355-7843
e-mail: dwentz@napervillelaw.com
website: www.napervillelaw.com
High Quality Legal Service
Cost-Effective Legal Solutions



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Dunne, Kelly

From: Mike Kennedy <MK7716@att.net>
Sent: Saturday, May 26, 2018 5:47 PM
To: Dunne, Kelly
Subject: 95th Street at Book Road Intersection Improvements

Ms. Dunne:

I live a block off Book Road, near 103rd Street. I drive through the 95th Street at Book Road intersection multiple times each day.

Items of note:

- Northbound Book Road traffic backs up on the weekday mornings.
- Southbound Book Road traffic backs up on the weekday afternoons.
- Both directions of Book Road are busy every day.
- Traffic flows from Book Road to NVHS (and vice a versa) in a corridor between Charles Rutenberg Realty and the US Post office.
- East bound 95th Street traffic to Southbound Book Road will cut through the Burger King/Walgreens/YMCA parking lots to avoid getting stopped in traffic at the 95th Street/Book Road traffic signal.
- Vehicles attempt to turn left out of the right-in/right-out entrance to Walgreens
- The NVHS/Skylane/95th Street traffic signal turns red inappropriately, stopping traffic on 95th street for no reason.

Sincerely,

Mike

Dunne, Kelly

From: Hartman, William <WHartman@CECCO.com>
Sent: Monday, May 21, 2018 6:13 AM
To: Dunne, Kelly
Cc: Bill Alstrom
Subject: 95th St Book Rd Improvements

Good morning Kelly,

I see you are the PE for the upcoming project at 95th St. and book Rd. I cannot attend the public meeting at the library and do not know who to send my concerns to. I am also copying Bill Alstrom our Wheatland township Road Commisioner as to he also see our concerns.

I live on the first street South of 95th off of Book Rd. Rebecca Ct. an unincorporated area. I fully understand traffic flow needs to be improved but our concern is basically getting out of our small subdivision. We rely on a quick break in traffic because people have to stop on 95th going Eastbound to make a Southbound turn onto Book Rd. Now that there will be a turn lane it's going to be horrible trying to get out to make a Northbound turn onto Book Road.. This past Saturday for instance, there was the high school fine arts fair going on, lots of soccer in Frontier Park and people just avoiding Naper-Plainfield Road and 95th because of the construction and it took literally 5 minutes to get out off of Rebecca Ct. There is the stop light at Book and Conan Doyle going into Ashbury and Frontier Park and the fact of the matter is, most Ashbury residents don't come to a complete right turn stop and we kind of rely on those small breaks in the traffic to get out.

I don't have an answer for us to get out off of our street and I just wanted to express my concern and if this could be passed to those who are hosting the public meeting I would appreciate it. When high school is starting in the Am and when it gets out in the afternoon are almost impossible.

Thanks for reading this,

Bill

William J. Hartman
Continental Electric Construction Company
815 Commerce Drive; Suite 100
Oak Brook, IL 60523
o. 630.288.0227
c. 630.774.8265
www.cecco.com
whartman@cecco.com
100 Years of Innovation & Quality | 1912 - 2012

Dunne, Kelly

From: K Baker <ktbakes925@gmail.com>
Sent: Sunday, May 20, 2018 11:16 AM
To: Dunne, Kelly
Subject: 95th & Book Feedback

Hello,

I do not believe enhancements to the intersection are required. Traffic has increased with the construction mess at 95th and Naperville Plainfield road. When that completes Naperville Plainfield will return to be one of 2 main thrufares (with Rt 59) as designed and Book will return to secondary status.

Thanks

Dunne, Kelly

From: Paul Crabbe <phcrabbe@gmail.com>
Sent: Friday, May 18, 2018 4:20 PM
To: Dunne, Kelly
Subject: Re: Book and 95th

Good to hear. I would like to see an improvement at the intersection.

Plainfield / Naperville road has been long and frustrating. I live nearby and drive through very often.

Thanks for responding

On Fri, May 18, 2018 at 4:11 PM Dunne, Kelly <DunneK@naperville.il.us> wrote:

Hi Paul,

Although the improvements have not yet been determined, it is anticipated that the work will be able to be completed in one construction season.

From: Paul Crabbe [mailto:phcrabbe@gmail.com]
Sent: Friday, May 18, 2018 4:09 PM
To: Dunne, Kelly <DunneK@naperville.il.us>
Subject: Book and 95th

Will this project take as long as the 95th and Plainfield/naperville road construction?

--

Sent from Gmail Mobile

--

Sent from Gmail Mobile

I agree that it
can be extremely
difficult to turn
out of Rebecca Ct.

Can constantly
turning down
Rebecca Ct to turn
around.

Turning onto Book
Rd - SOUTH is
very difficult - traffic
way backed up
(from Rebecca Ct)

REBECCA COURT



BOOK ROAD

TY

USPS

Will improvements
drive more traffic
making it more difficult
to exit USPS driveway?



STOP
TWO WAY



Need additional
lane in Book
going North from
6:30-9:30
South needs an
additional lane
in the pm 4:30-6

BOOK ROAD

ALGREENS

TAMAHAWK LANE

2011 TAMAHAWK



Difficult to exit
Tamahausk after
improvement on 83rd
+ Boate Rd with removal
of stop sign. Boate Rd
traffic increased significantly



1951 TAMAHAWK

2944 BETH LANE

2940 BETH LANE


Based on projections
for 2040, 50%
noise increase on
95th St.
Maintain or lower
speed limit.

Repairing 95th
Street resulted in
numerous accidents
due to a slippery
pavement. Almost all
light poles were replaced
due to accidents. Improved
with wear on pavement.

95TH STREET



1"=20'

An aerial photograph of a street intersection. A yellow tanker truck is positioned in the center of the intersection, facing away from the camera. Several cars are visible: a white sedan to the left of the truck, a dark sedan to the right, and a white sedan further to the right. A crosswalk with white stripes is visible in the upper left. The surrounding area includes green grass and a sidewalk.

- Rt Turn -
Truck Turning
(Over Curb)



Possible for our
Office Project on
Walcottlands property

Concern
-
Peak traffic
is in warm months
9/11/19

Concern -
Monday - Friday
Wheatland Preschool
- Wheatland Classical
Covenant School
PKE buses
3pm - 7pm busy times

Will traffic increase
on 95th St due to
improvements on 95th
& Naperville Plainfield?

95TH STREET

BP

PAGE PARK-N-RIDE

95TH STREET

Bikes
route down to
bike path?
to library?

BOOK ROAD

ADD
right
turn lanes





lots of turn
issues through
the day



signal?

No safe
way to
enter Book
heading North.
Can't make left
turn safely

EXHIBIT 17-2

Public Meeting 2



Naperville

95th Street at Book Road Intersection Improvements PHASE I STUDY

PUBLIC MEETING #2

Thursday, September 20, 2018

5:00 to 7:00 P.M.

Naperville Public Library
95th Street Library
3015 Cedar Glade Rd
Naperville, IL 60564

The City of Naperville invites you to attend a public meeting (open house format) regarding the planning for potential improvements to the intersection of 95th Street at Book Road. At the meeting you will have the opportunity to:

- Review the project purpose and need.
- Review and provide input on improvements under consideration.
- Talk with the project team and ask questions.

FOR ADDITIONAL INFORMATION, or if you cannot attend the meeting and would like to provide comments, please contact Project Engineer Kelly Dunne at DunneK@naperville.il.us or 630.420.6094.

If a reasonable accommodation is needed under the Americans with Disabilities Act, please contact Kevin Nelson, 630.820.1022. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TDD number (800) 526-0844 or 711; TTY users (Spanish) (800) 501-0864 or 711; and for Telebraille dial (877) 526-6670 at least five (5) days prior to the meeting.

<http://www.naperville.il.us/95thbook>



Naperville

City of Naperville

Attn: Kelly Dunne

400 S. Eagle Street

Naperville, IL 60540

Sold To:

City of Naperville, T.E.D. Business Group - CU00410943
400 S Eagle St Attn: Danielle Fischer
NAPERVILLE, IL 60540

Bill To:

City of Naperville, T.E.D. Business Group - CU00410943
400 S Eagle St Attn: Danielle Fischer
NAPERVILLE, IL 60540

Certificate of Publication:

Order Number: 5848609
Purchase Order: N/A

State of Illinois - DuPage

Chicago Tribune Media Group does hereby certify that it is the publisher of the Naperville Sun. The Naperville Sun is a secular newspaper, has been continuously published Daily for more than fifty (50) weeks prior to the first publication of the attached notice, is published in the City of Naperville, Township of Naperville, State of Illinois, is of general circulation throughout that county and surrounding area, and is a newspaper as defined by 715 IL CS 5/5.

This is to certify that a notice, a true copy of which is attached, was published 2 time(s) in the Naperville Sun, namely one time per week or on 2 successive weeks. The first publication of the notice was made in the newspaper, dated and published on 9/2/2018, and the last publication of the notice was made in the newspaper dated and published on 9/16/2018.

This notice was also placed on a statewide public notice website as required by 715 ILCS 5/2. 1.

PUBLICATION DATES: **Sep 02, 2018, Sep 16, 2018.**

Naperville Sun

In witness, an authorized agent of The Chicago Tribune Media Group has signed this certificate executed in Chicago, Illinois on this

16th Day of September, 2018, by

Chicago Tribune Media Group

Stefanie Sobie

**Public Meeting Notice For
Proposed Improvements
to the Intersection of 95th
Street and Book Road**

The second public meeting (open house format) regarding the planning for potential improvements to the intersection of 95th Street and Book Road will be held on Thursday, September 20, 2018 from 5:00 PM to 7:00 PM at the Naperville 95th Street Library located at 3015 Cedar Glade Road, Naperville, Illinois. The purpose of the meeting will be to present conceptual alternatives for improvements along with their performance, preliminary impacts and costs and to seek input from the public on the project. City staff and the project team will be available to answer questions.

Written comments may be submitted to the attention of Kelly Dunne, Project Engineer, City of Naperville TED Business Group, 400 S. Eagle Street, Naperville, IL 60540 or submitted via email to dunnek@naperville.il.us. Comments on the project should be received by 5:00 PM on October 4th, 2018. For additional information regarding the public meeting, please contact Kelly Dunne or visit <http://www.naperville.il.us/95thbook>.

Any individual with a disability requesting a reasonable accommodation to participate in a city meeting should contact 630.820.1022 for coordination for ADA services. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TDD number (800) 526-0844 or 711; TTY users (Spanish) (800) 501-0864 or 711; and for Telebraille dial (877) 526-6670 at least five (5) days prior to the meeting.

9/2, 9/16/2018 5848609

Purpose and Need

The purpose of the project is to improve safety and capacity of 95th Street at Book Road and to minimize operational impacts at adjacent full access points.



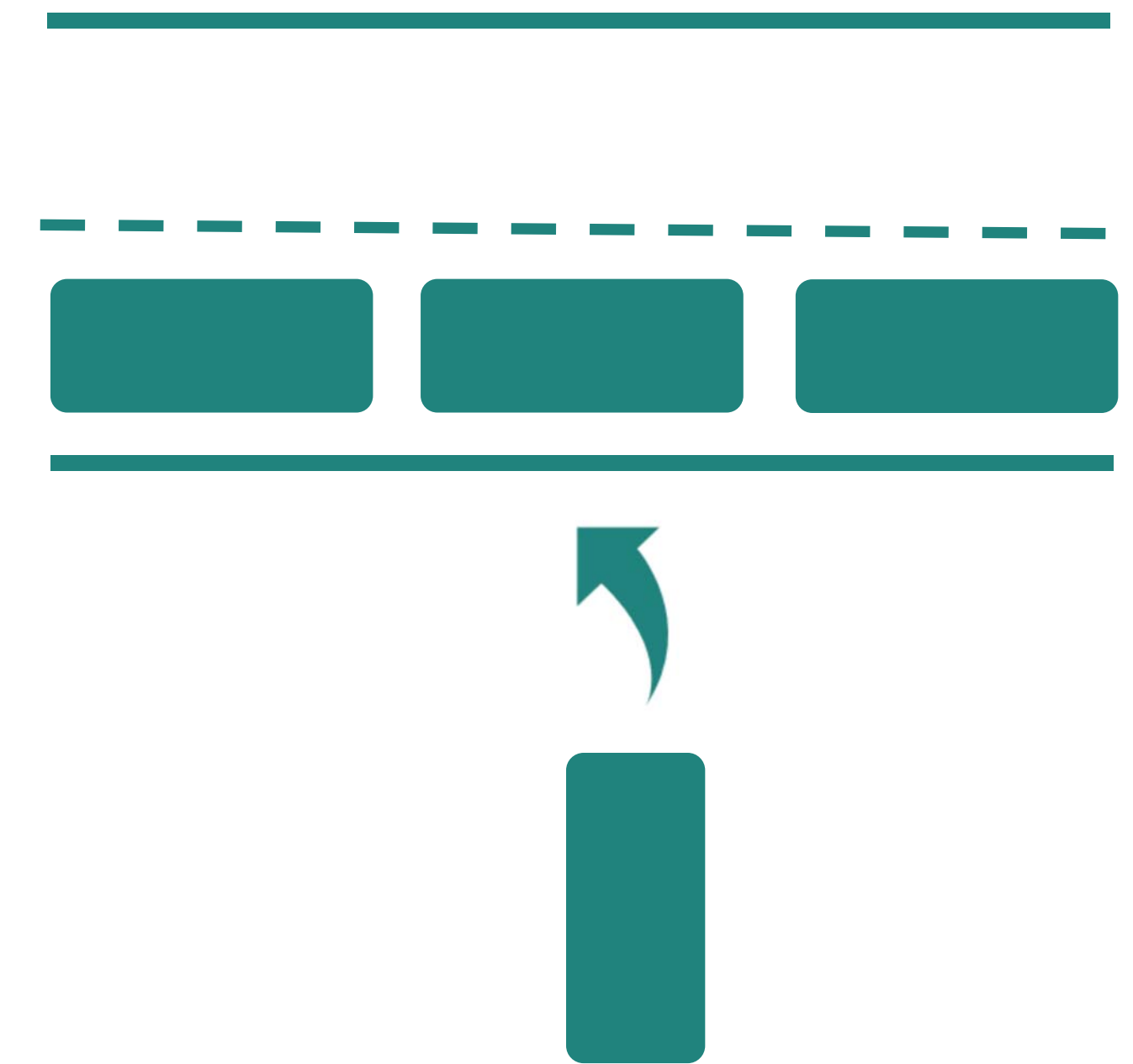
SAFETY

The intersection is currently experiencing approximately 20 crashes per year, which is nearly three times the expected crash frequency of a similar intersection in Illinois.



CAPACITY

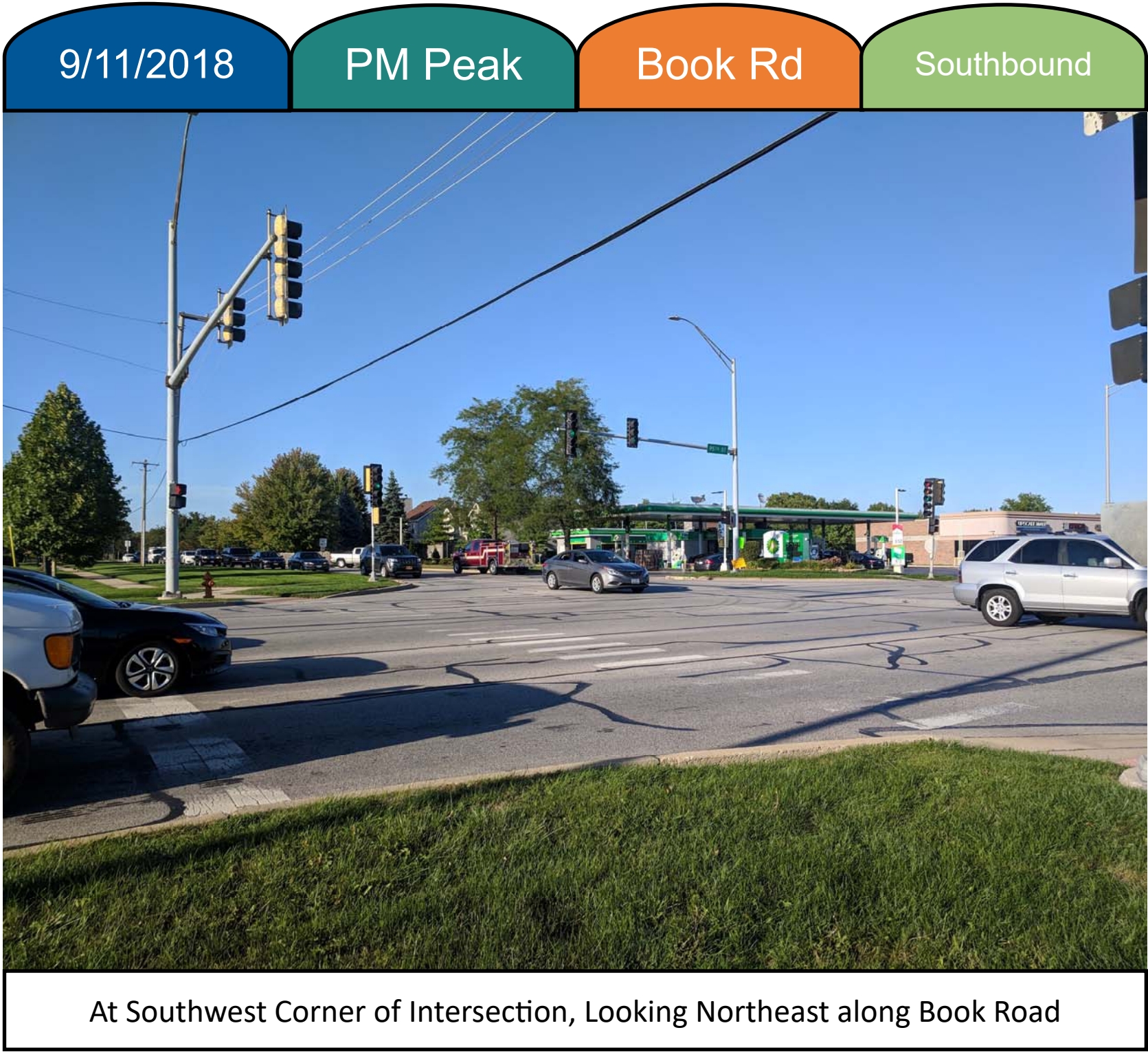
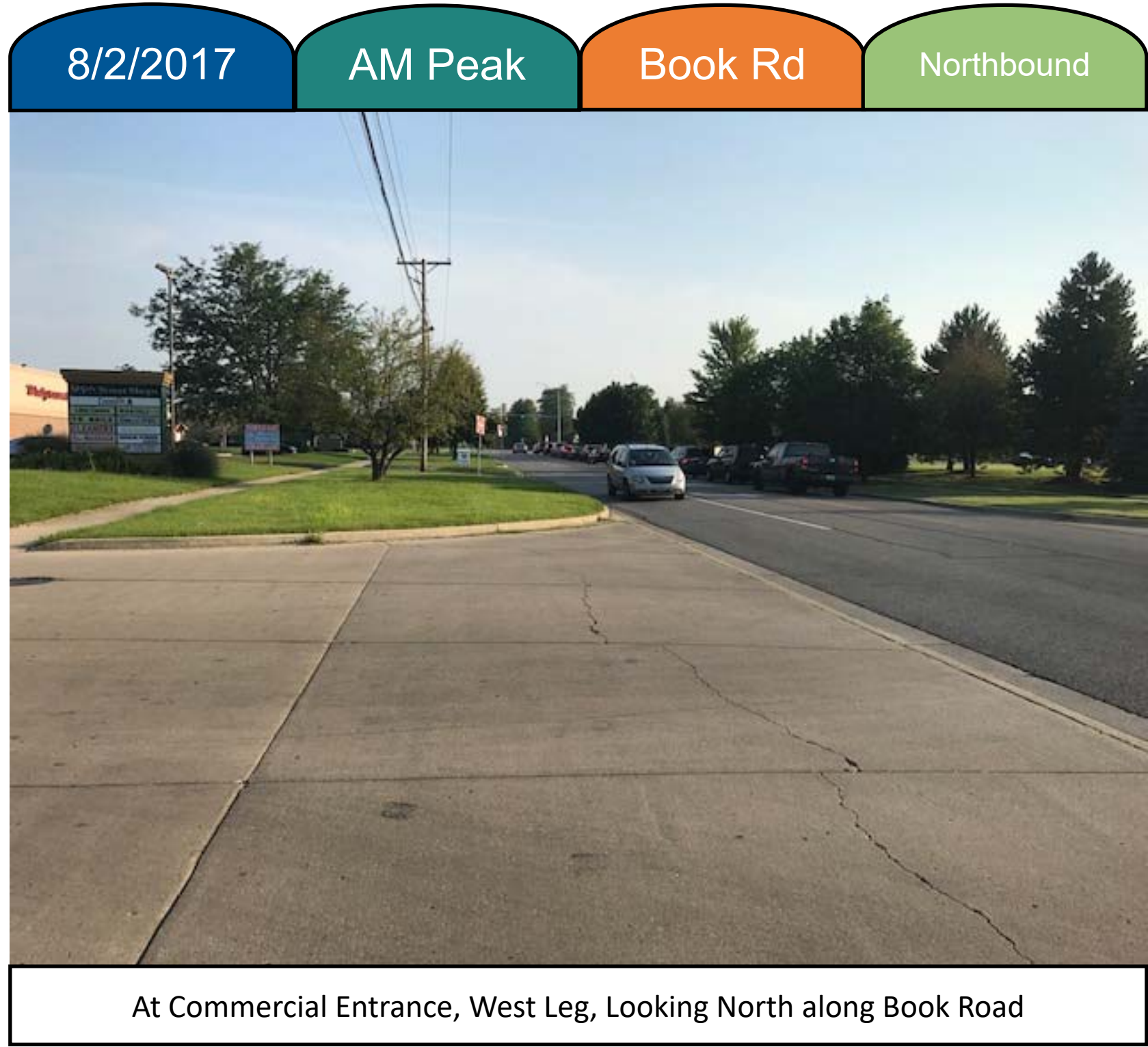
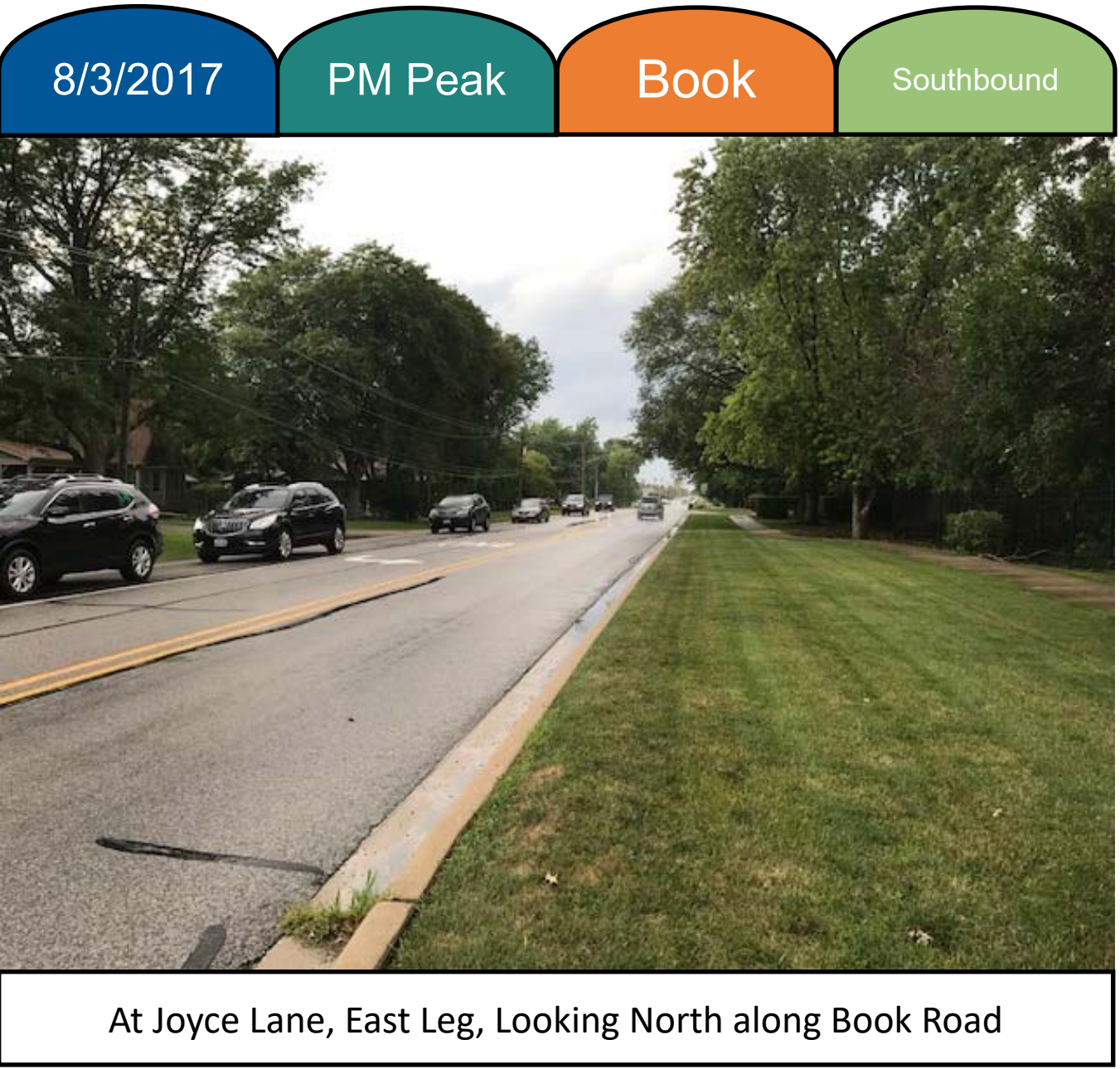
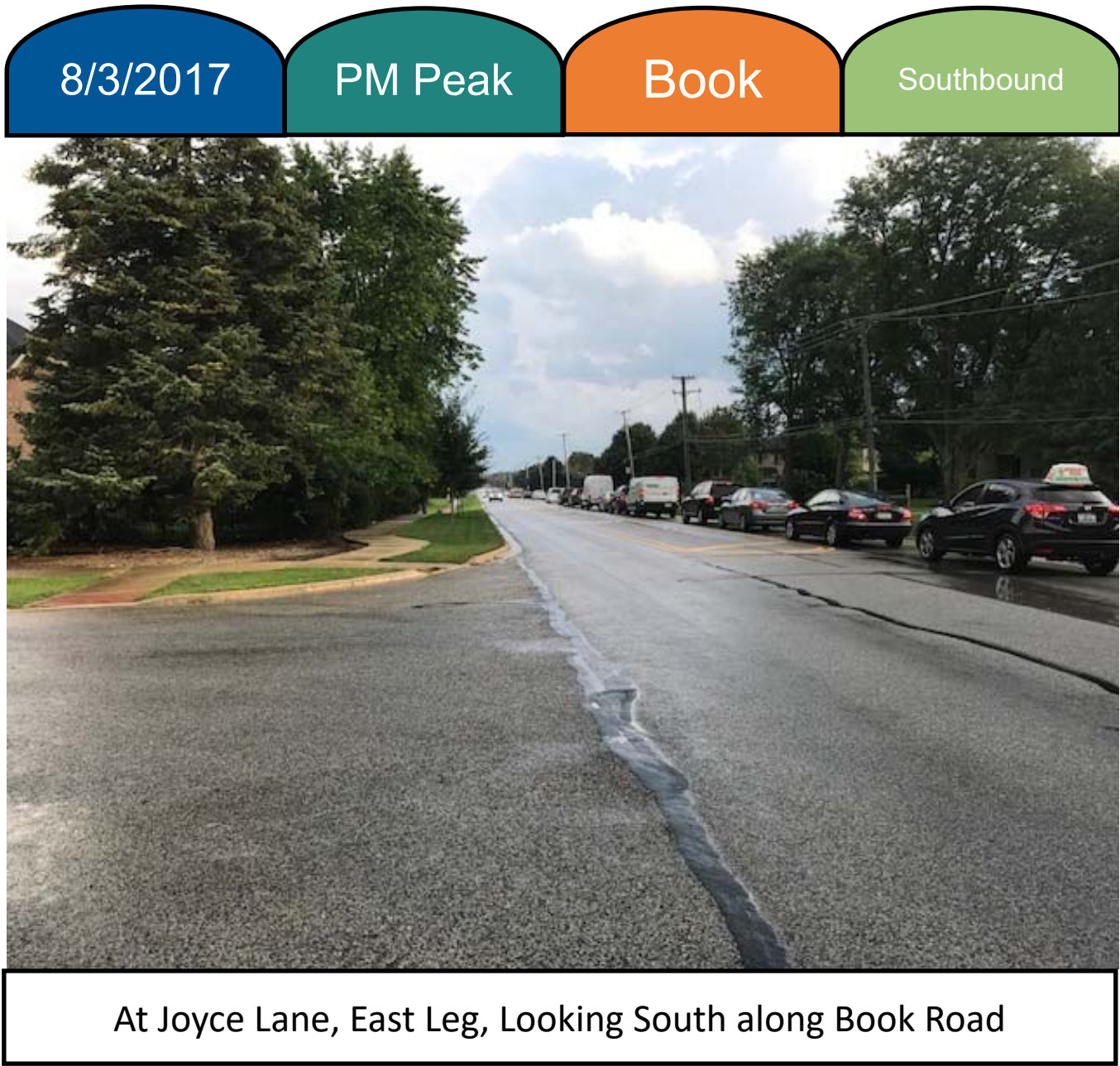
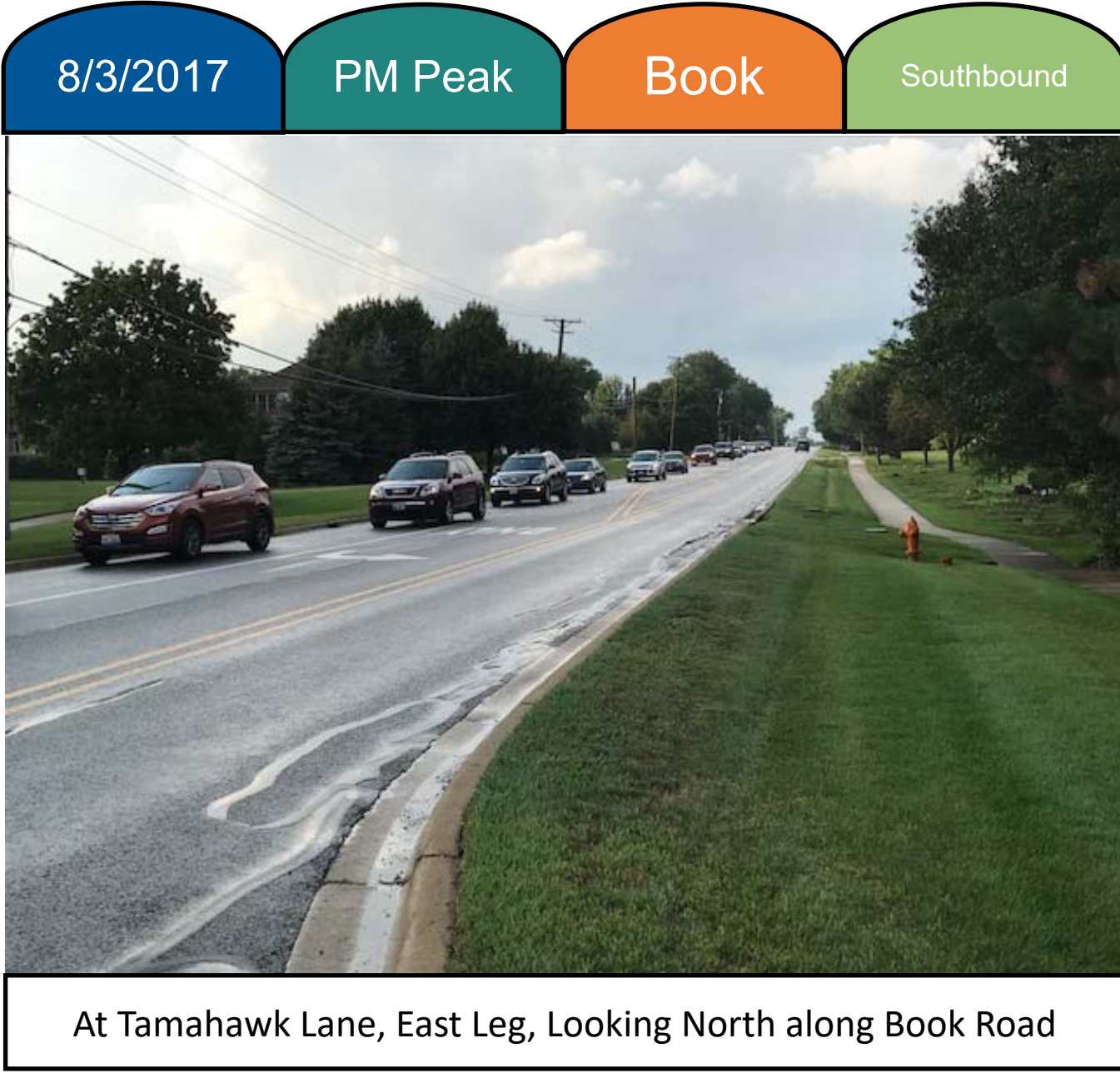
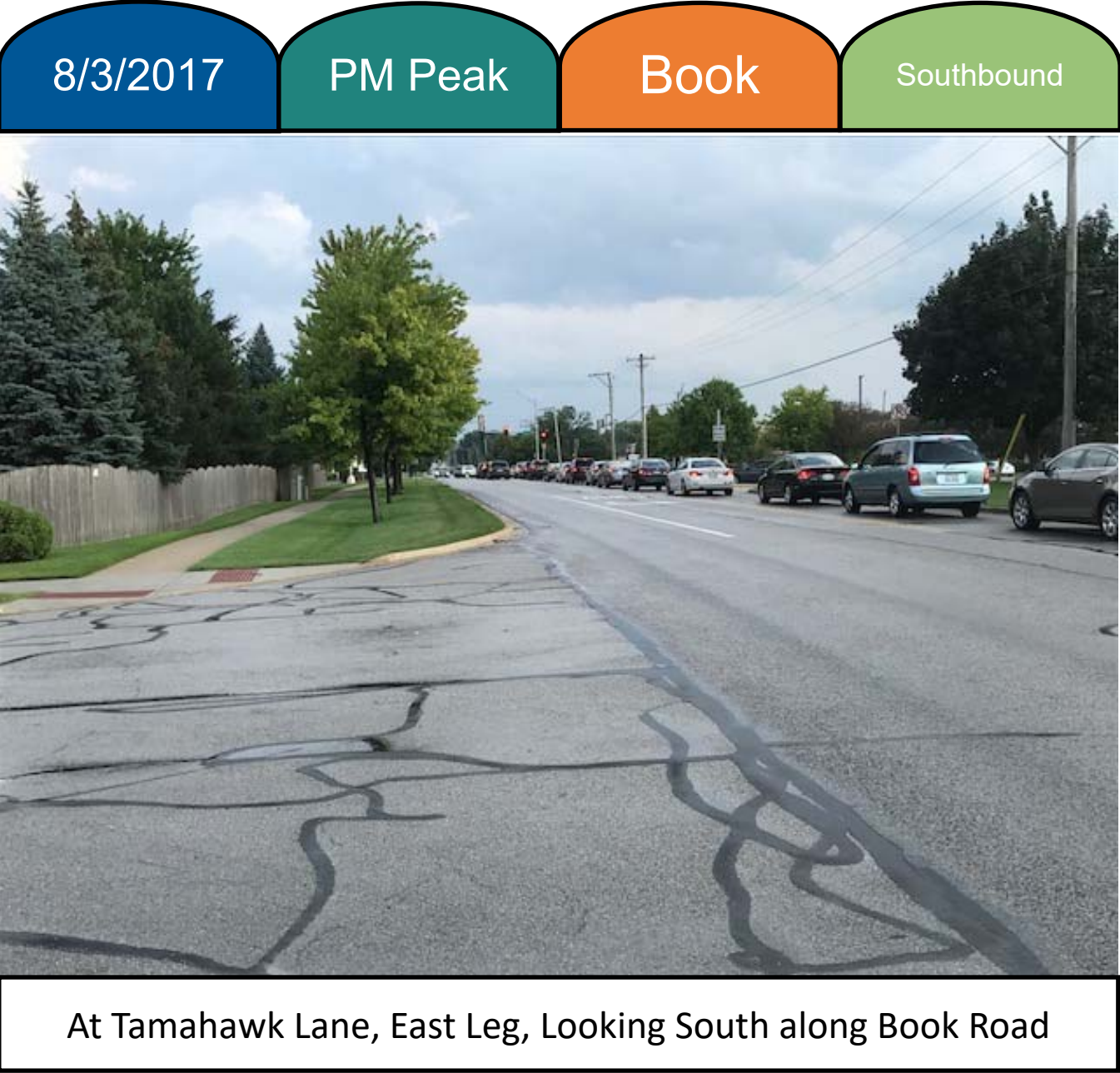
The intersection has movements with high delay. Delay is graded in levels of service (LOS) A thru F, with A being low delay and F being high delay. The typical minimum desired LOS is D. In the current AM peak hour, the eastbound left and westbound thru movements operate at LOS E. In the PM peak hour, the northbound left and the southbound thru movements operate at LOS E. Projecting traffic out to the year 2040, the overall intersection will operate at LOS F in the AM and PM peak hours.



OPERATIONS

The intersection causes operational issues at Book Road at Tamahawk Lane. Southbound queues on Book Road extend into the intersection of Book Road at Tamahawk Lane in both the afternoon school peak and the PM peak hour, causing a queue blockage issue. Projecting traffic out to the year 2040, two more locations will have queue blockage issues: the YMCA entrance on 95th Street and the Church / Commercial Entrance on Book Road.

Capacity and Operations Issues



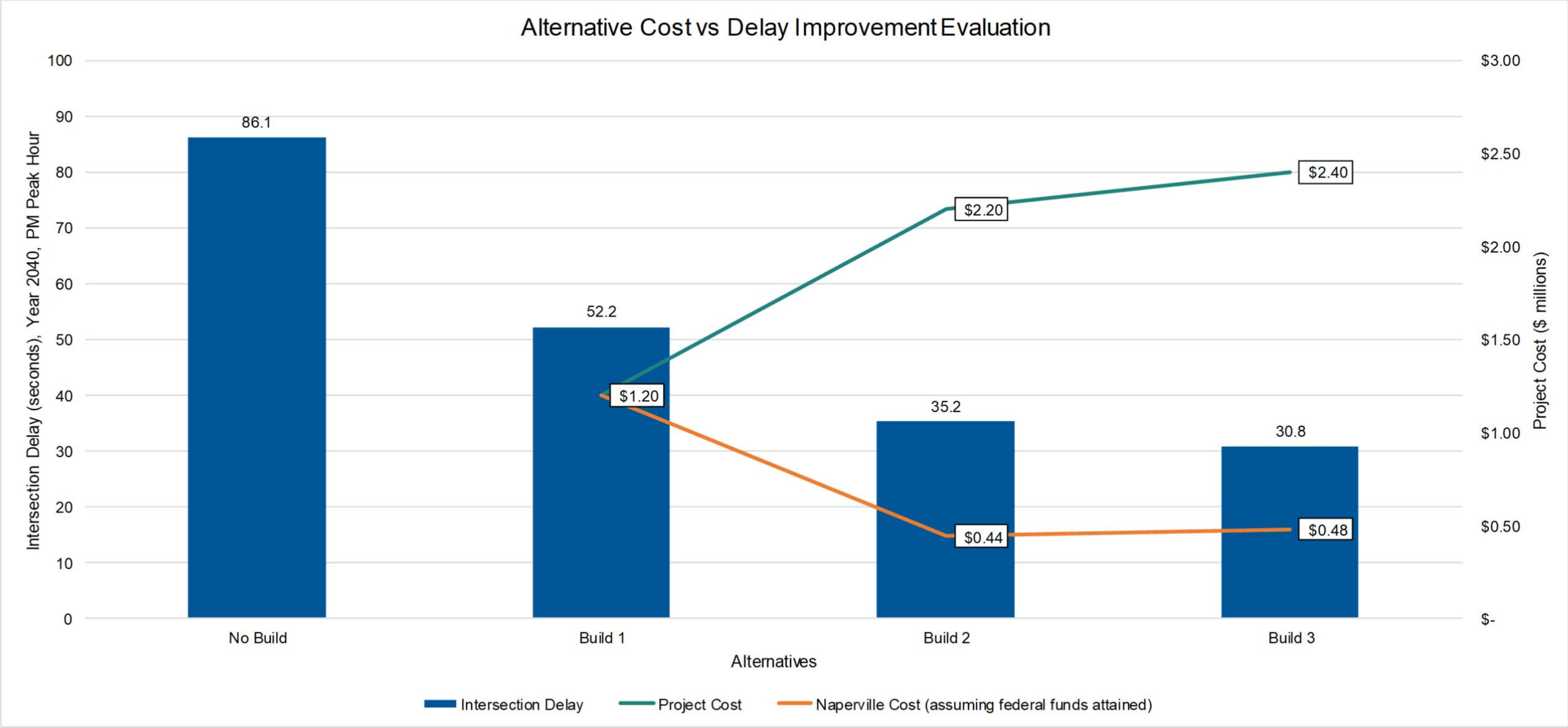
95th Street at Book Road Intersection Improvements



Alternative Evaluation

			Existing	No Build	Build 1	Build 2	Build 3
			Year 2018	Year 2040	Year 2040	Year 2040	Year 2040
#	Evaluation Item	Method Of Measurement	Existing Channelization	Existing Channelization	Right Turn Lanes EB 95th, SB Book	Thru Lanes on Book, Right Turn Lanes EB 95th, SB Book	Thru Lanes on Book, Right Turn Lanes All Approaches
1	Safety	Crash Frequency (Average Crashes per Year), Actual for Existing (2013-2017), Expected for Build (2040)	20 crashes/year	28 crashes/year	13.75 crashes/year	13.75 crashes/year	12.68 crashes/year
2	Capacity	Intersection Delay - PM Peak Hour (Year 2040)	48.2 seconds	86.1 seconds	52.2 seconds	35.2 seconds	30.8 seconds
3	Operations	Southbound Book Road Queues Blocking intersection of Tamahawk Lane	Yes, Blockage	Yes, Blockage	Yes, Blockage	No Blockage	No Blockage
4	Operations	Northbound Book Road Queues Blocking Church/ Commercial Entrance	No Blockage	Yes, Blockage	Yes, Blockage	No Blockage	No Blockage
5	Operations	Eastbound 95th Street Queues Blocking YMCA Entrance	No Blockage	Yes, Blockage	No Blockage	No Blockage	No Blockage
6	Property Impacts	Acres of Acquired Permanent ROW	N/A	0	0.07 acres	0.17 acres	0.19 acres
7	Funding	Meet Requirements for Federal Funding Assistance	N/A	N/A	No, Doesn't Qualify for Federal Funding	Yes, Qualifies for Federal Funding	Yes, Qualifies for Federal Funding
8	Cost	Total Project Cost (\$ millions)	N/A	0	\$1.1 million	\$2.1 million	\$2.4 million

Cost vs Delay Improvement





Naperville

Public Meeting #2

SIGN-IN SHEET

95th Street at Book Road Intersection Improvements Phase I Study

City of Naperville
Naperville, Illinois

MEETING DATE: Thursday, September 20, 2018
MEETING TIME: 5:00 P.M. to 7:00 P.M.
MEETING LOCATION: Naperville Public Library
95th Street Library
3015 Cedar Glade Road
Naperville, IL 60564

NAME	REPRESENTING	MAILING ADDRESS			E-MAIL ADDRESS
		ADDRESS STREET	ADDRESS CITY	ADDRESS ZIP	
Kevin & Juliette Sade		1759 Frost LN,	Naperville	60564	julssade@gmail.com
Savi Kurup		1258 Hearthside Ct	Naperville	60564	Savikurup44@yahoo.com
Joe D. BERNARDO		113436 McGRATH LN	NAPERVILLE	60564	AR4J2@COMCAST.NET
Michael Lynn		23244 Rebecca Ct.	Naperville	60564	LBARTLG415@aol.com
Happy Ragusa		2800 Springdale Circle	Naperville	60564	
Judy Lucas		29W241 Hartman Dr	"	"	jluca241@yahoo.com
Tom Zimmerman		3404 Poet Ct.	"	"	TomZ630@Hotmail.com
Cathy Verdore		23155 Joyce Lane	"	"	Cathy@riceelderlaw.com
THOMAS J VERDOVE		"	"	"	
CHRISTY NELSON		28W700 PERKINS CT	"	"	csrigg@hotmail.com
ANDREA LITIN		2754 CRIBBLE CREEK CT	NAPERVILLE	60564	ALL41-14ALL@COMCAST.NET
Christine Fedder		3903 Peridot Dr.	"	"	Fred Fedderse aol.com
Linda & Craig Rodemaker		3815 Mallard Lane	Naperville	60564	LindaRodemaker@hotmail.com

PLEASE USE ADDITIONAL SIGN-IN SHEETS IF THIS PAGE IS FULL

PAGE ____ OF ____

SIGN-IN SHEET

NAME	REPRESENTING	MAILING ADDRESS			E-MAIL ADDRESS
		ADDRESS STREET	ADDRESS CITY	ADDRESS ZIP	
PAT O'Donnell	—	29 W 027 SCHILLING		60564	PAT00829@GMAIL.COM
Julie Berkowicz		405 Gateshead Dr		60565	julie@berkowicz.net
Sandy Prohammer		Great Clips 3075 Book Rd		60564	sandy.prohammer@greatclips.net
Linda Strain		3812 Mallard Ln, Naperville		60564	Lstrain@wowway.com
BARB KOPKA	—	2772 ROLLING MEADOWS		60564	KOPKA1950@GMAIL.COM
Sam Mangani		1920 SADDLE FARM LN		60564	smangani@gmail.com
Tom Dabareiner		2319 Kentuck Ct		60564	dabareiner@yahoo.com
Sherie Wilks		105497 Curtis		60564	honestager@comcast.net
Marc Drucce-Hoffman		1309 Meskela Ct		60564	marcdh1@gmail.com
Martha Palmer		23340 Rebecca Ct		60564	mpalmer@aol.com
Leslie Stompor		2644 Snowbird Ln.		60564	lstompor@hotmail.com
Mark Juliot		2411 Durango Ln		60564	augieboy91@gmail.com
Lisa Paradise		5647 Rosinweed Lane	Naperville	60564	ljparadise@att.net
Mike Kennedy		115766 Robert Dr		60564	
Steven Wolke		1334 Levenenz Rd	Naperville	60564	wolfestevent@gmail.com

SIGN-IN SHEET

NAME	REPRESENTING	MAILING ADDRESS			E-MAIL ADDRESS
		ADDRESS STREET	ADDRESS CITY	ADDRESS ZIP	
Ricky Song			Naperville		
Jen Wilson	Wheatland Salem Church	1852 95th St.	Naperville		
Renee Abbott			Naperville		
TERRY WALKER		820 PULBLO COURT.	NA PERDUUT	60565	TERRY WALKER 40870
Paul Daniel		29 W 310 MARKDA	NAPERVILLE		5mglia .ee
MATT Smith		28W 492 55th	11	60564	
Doreen Swindell		2796 Rolling Meadows Dr.	Naper	60564	
Kathleen Miller		4524 Barr Creek Ln	Naperville	60564	
MARY FRANCES	Shore Lake Estates	105.506 Whittington Ln	Naperville	60564	pastor MARY FRANCES @ 56dglobal.net.
KAREN HROMADKA		115684 McGRATH LN	Naperville	60564	KAREN HROMADKA 76@yahoo.com
Peter Dvington					
KEVIN DORSEY		2224 SNOW CREEK	Naperville	60564	KEVIN DORSEY @ ATKEARNEY.COM



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: Tom Dabarcier

Organization/Group:

Street Address: 2319 Kentucky St

City, State & Zip: 60564

Email: dabarcier@yahoo.com

Phone: 630

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **October 4, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

Prefer Alternative #1 (one) -
the least amount of new pavement
is preferred

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name:

Strain

Organization/Group:

Street Address:

3812 Mallard Ln.

City, State & Zip:

60564

Email:

Phone:

Help shape the future of transportation at the intersection of 95th Street and Book Road

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Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

I am in favor plan 3 with left turn lanes. I would like to see protected left turn light as risky with oncoming traffic @ 45 MPH going thru yellow light.

To The Park District:

Is all of the plans for new park necessary? All it will do is bring more traffic. Naperville provides enough other venues-

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: *Matt Smith* **Organization/Group:** *self*
Street Address: *28W & 92 95th* **City, State & Zip:** *60564*
Email: **Phone:**

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **October 4, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

Option 3 do it quickly

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: MADRGA LITIN **Organization/Group:**
Street Address: 2754 CRIPPLE CREEK **City, State & Zip:** NAPERVILLE
Email: ALL41-14ALL@COMCAST.NET **Phone:** 630 904-8077

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **October 4, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

THE COMMERCIAL ENTRANCE COMING IN FROM 95th ST.
COMES TO A 3-WAY ~~AN~~ INTERSECTION WITH THE X,
COMMERCIAL BUILDING, AND ENTRANCE. THE ONLY
STOP IS ~~ON~~ ON THE COMMERCIAL ENTRANCE. IT WOULD
BE SAFER WITH STOP SIGNS AT THE TWO
INTERSECTING STREETS, TOO.

OVER →



Naperville

95th Street at Book Road Intersection
Intersection Improvements
Phase I Study

COMMENT FORM

Contact information

Name: CHRISTY NELSON Organization/Group: —
Street Address: 28W700 PERKINS CT City, State & Zip: NAPERVILLE, IL 60564
Email: csrigg@hotmail.com Phone: CELL 312-285-3556

Help shape the future of transportation at the intersection of 95th Street and Book Road

Please share your comments and ideas about the intersection improvements at 95th Street and Book Road project. Please place your comments in the comment box tonight or send them by the **October 4, 2018 deadline** via:

Mail:

City of Naperville
Attn: Kelly Dunne
400 S. Eagle Street
Naperville, IL 60504

Email: DunneK@naperville.il.us

Website: <http://www.naperville.il.us/95thbook>

OPTION #3 - NOTING MORE CONSTRUCTION AND
HOUSING DEVELOPMENT SOUTH EXPECTED. THIS OPTION
PROVIDES SAFETY AND ABILITY TO ADDRESS CURRENT AND
FUTURE SAFETY AND CONGESTION ISSUES.

OVER →

Dunne, Kelly

From: Jenny Harling <jennylharling@gmail.com>
Sent: Friday, September 14, 2018 1:07 PM
To: Dunne, Kelly
Subject: 95th Street at Book Road Improvement Study

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Dear Kelly Dunne,

I will not be in attendance at the public meeting on September 20, 2018. However, I have suggestions.

The intersection should be improved by adding two (2) right turn lanes: one right turn lane by Walgreens for drivers turning from East 95th street onto South Book Road and one right turn lane by Edward-Elmhurst Health for drivers turning from South Book Road onto West 95th street.

Right Turn Lane for Drivers Turning From East 95th Street onto South Book Road (by Walgreens)

There must be a separate and distinct right turn lane for cars at this described area. This is a major pedestrian thoroughfare (especially during peak hours with students traveling to and from Neuqua Valley High School), and as such cars turning right must yield to pedestrians.

As a car turning right yields to pedestrians, drivers wanting to travel straight from the current outward right lane must wait until 1) the pedestrians are no longer in the intersection and 2) the car in front has turned right. These two simple items seem to agitate drivers traveling straight from the current outward right lane. Countless times I have attempted to turn right but I must yield to a pedestrian, only to be honked at from a driver behind me wanting to travel straight or worse, the driver behind me erratically switches lanes at a close proximity to the intersection (in order to then be in the middle lane to travel straight without delay).

Right Turn Lane for Drivers Turning from South Book Road onto West 95th Street (by Edward-Elmhurst Health)

There must be a separate and distinct right turn lane for cars at this described area. The congestion must be alleviated by adding a right filter lane.

Please let me know if you have any questions,

Jennifer Harling

jennylharling@gmail.com

Dunne, Kelly

From: JPT <jpt111@gmail.com>
Sent: Friday, September 14, 2018 2:19 PM
To: Dunne, Kelly
Subject: 95th & Book

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

PLEASE LOWER the speed limit to 35 mph. NVHS and inexperienced drivers plus congestion equals accidents and road rage .

Please have Will county lower the speed limit to 35 from 248th avenue to Kings Road.

Dunne, Kelly

From: Linda Sharp <sharppe29@comcast.net>
Sent: Friday, September 14, 2018 6:27 PM
To: Dunne, Kelly
Subject: 95th improvements

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

My townhome backs up to Book Road. I don't want you to add more lanes on Book. If you add the lane on the east side of Book then the cars will be even closer to my place. Then you will have to take out trees that help block the noise for all of the places that back up to Book. If you add a lane on the west side of Book it would not be as bad. You only have to go into the parking lot of the medical building. This really only affects a few hours a day. Why do you have to do it in the first place. Is it so bad that it take an extra few seconds/minutes to get through the intersection. I vote NO. Thank you.

Sent from my iPad

Dunne, Kelly

From: Steven Wolfe <wolfestevenf@gmail.com>
Sent: Thursday, September 20, 2018 2:55 PM
To: Dunne, Kelly
Subject: 95th Street and Book Road Intersection Improvements

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

After the lengthy improvement project at 95th and Naperville-Plainfield Rd. I have serious concerns about the traffic burden on Leverenz. I think I speak for my subdivision in saying our patience was taxed beyond reason and we'd demand a method of deterring through traffic from our streets. We simply don't want to endure this again. Perhaps we need to re-design the intersections with concrete center wedges to prevent traffic across Book Road and require drivers to make only left and right turns. I think that would put an instant stop to through traffic and force drivers to choose between 87th and 95th,

Dunne, Kelly

From: Jeffrey Barbeau <jeffreywbarbeau@gmail.com>
Sent: Saturday, September 22, 2018 1:08 PM
To: Dunne, Kelly
Subject: Comment about Book & 95th

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Dear Kelly Dunne:

This is a comment related to the proposed construction at 95th and Book Rd. in Naperville. Please install a stoplight at the Ashbury and 95th Street intersection.

As a resident of the Ashbury subdivision, I've witnessed several accidents at the 95th & Ashbury Dr. intersection over the past several years, as recently as today when three cars collided at high speed (Sept 22, 2018). As residents of the area gathered at the scene, we reflected (once again) on how fast cars drive down 95th Street (east and westbound). The turn from the subdivision heading left (westbound) is a serious problem due to the high speed at which cars travel heading in both directions and the limited visibility across the two lanes (for instance, the eastbound traffic may appear "open" as a slower car briefly hides a faster car heading in the same direction, or as a driver attempts to cross traffic before westbound traffic speeds by towards Book Rd.). We also noted how the opening of the bridge to connect 95th to Boughton and the subsequent construction to open the intersection at 95th & Plainfield-Naperville Dr. seems to have allowed cars to drive at high speeds on 95th, as there is no backup at the light anymore to slow vehicles down before the next major intersection. I am concerned that opening up the intersection will worsen the existing problem by making it even easier to drive at high speeds down this street. While there are no houses on this stretch that face 95th, children and pets often wander near the road and the high speed is a serious issue.

As the city weighs options on this plan, serious consideration should be given to the need for a stoplight at the Ashbury Dr. & 95th Street intersection to mitigate for high speeds and the dangerous turn out of Ashbury heading westbound (the apparent basis of almost all accidents). There is little doubt among those who live near the intersection that a stoplight should have been put there a long time ago. Please act before lives are lost.

Sincerely,
Jeffrey Barbeau
3020 Ashbury Dr.

Dunne, Kelly

From: Charles Venderley <cvenderley@gmail.com>
Sent: Sunday, September 23, 2018 12:57 PM
To: Dunne, Kelly
Subject: 95th and Book Interchange

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Kelly Dunne,

I applaud the cities proposal to add turn lanes and thru lanes at the Book and 95th street interchange. I now avoid this intersection at peak hours due to heavy traffic congestion.

The 95th / Plainfield Naperville interchange did seem to take forever to complete, but the end result was well worth the inconvenience. This interchange has been thoughtfully designed to accommodate traffic projections for years to come.

One minor nuisance is the Beebe / 75th interchange outside of Walmart. The opposite side (from Whole Foods) has it right - one left, one right, and one thru lane. The opposite side (out of Walmart) had two lefts, and the right lane that serves for both right turn and straight. That lane often backs up (due to those wanting to cross), while there seems to be few turning left, which could be accommodated with one turn lane.. I believe it should be changed to the same setup as the Whole Foods exit. This will reduce the wait time/ backup in right lane that sometimes blocks exit from Walmart. I suggest you conduct a traffic flow study for verification.

Thank you

Chuck Venderley
Naperville.

Dunne, Kelly

From: Hartman, William <WHartman@CECCO.com>
Sent: Monday, September 24, 2018 10:07 AM
To: Dunne, Kelly
Subject: Book and 95th Intersection

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Hi Kelly,

I just wanted to express my concerns for public record on the widening of 95th and Book Rd. intersections. I emailed a while ago but understand if you send now it will be on record. Myself and my Rebecca Ct. neighbors are concerned that no one is taking into account Rebecca Ct which is the first residential street South of 95th Street. Certain times of the day we have a VERY difficult time getting out of our neighborhood. In the AM when the 500 – 1000 kids are driving to the high school and in the evening at rush hour. I invite anyone in the engineering department to sit on our street at these times and see how difficult it is to get out. I understand better traffic flow is needed but please keep us in mind. We have breaks in the action at times and this helps us get out and with the turn lanes there is the potential of no breaks at all in the action.

I have been in commercial construction for almost 40 years and the Naper/Plainfield Rd. project in my eyes was a big joke on how long it took to complete and a nightmare for the residents in the area. Is this going to happen again? Naperville is almost inviting more traffic to come this way by widening the intersection and to get off of Rt. 59. Naperville and Will County Sherriff rarely take radar on book Rd. and we get people well over the speed limit all of the time.

Again, please keep Rebecca Ct. in mind while engineering this project.

Thank you,

Bill

William J. Hartman
Continental Electric Construction Company
815 Commerce Drive; Suite 100
Oak Brook, IL 60523
o. 630.288.0227
c. 630.774.8265
www.cecco.com
whartman@cecco.com
100 Years of Innovation & Quality | 1912 - 2012

Dunne, Kelly

From: Matthew Moore <matthew.moore1975@gmail.com>
Sent: Monday, September 24, 2018 5:15 PM
To: Dunne, Kelly
Subject: 95th Book Rd Project

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Hello Kelly, I was unable to attend the public meeting, but was just able to look at the proposed plans. I think we should try for option three if we can get Federal funding to cover the difference from option one. I like option three as this could help with increased traffic in the future. There are some large developments planned South of 95th and traffic is bound to get worse.

Thanks,
Matthew Moore

Dunne, Kelly

From: Elizabeth Carroll <elizabethbcarroll@gmail.com>
Sent: Friday, September 28, 2018 5:33 PM
To: Dunne, Kelly
Subject: Book / 95th intersection planning

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Hello,

I wanted to provide input on this project. From my overview of the alternatives, it seems pedestrian safety is not being considered as a factor in any proposal.

This intersection is used as a walk to school intersection for all those that live in westernmost Ashbury and other streets that are less than 1 mile from Neuqua main campus. Adding lanes will only increase the problems for pedestrians. Younger kids frequently use this intersection to buy treats at Wallgreens or go to the ymca for pick up basketball.

The number of times I see cars making right on red while pedestrians are in the intersection is countless. I've even reported a school bus for doing this.

Whether it's better crosswalk signals or a raised bridge for pedestrians, this intersection and the safety of pedestrians must be considered as part of the plan.

Thank you,

Elizabeth Carroll
3532 Lawrence Dr

--

Sent from Gmail Mobile

Dunne, Kelly

From: RICHARD MOTILL <rmotill@comcast.net>
Sent: Saturday, September 29, 2018 5:22 PM
To: Dunne, Kelly
Subject: 95th Street and Book Road Intersection Improvements

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

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95th Street and Book Road Intersection Improvements

Are you aware of the primary cause of MOST of the accidents? The stupid camera you idiot put up. The Bridge you idiots permitted to be built on 95th.

Dunne, Kelly

From: Mike Kennedy <MK7716@att.net>
Sent: Sunday, September 30, 2018 9:11 PM
To: Dunne, Kelly
Subject: 95th Street at Book Road Intersection Improvements

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Hi Kelly:

I attended the open house at the 95th Street library for the 95th and Book project proposals on Thursday, September 20, 2018.

Based on federal funding, I think option 3 is the best choice.

Thanks,

Mike

Dunne, Kelly

From: Bruce Rodman <rodmanba@msn.com>
Sent: Thursday, October 4, 2018 12:43 PM
To: Dunne, Kelly
Subject: 95th Street and Book Road Intersection Improvements

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Ms. Dunne:

I live about a fourth of a mile from the intersection, and have reviewed the various alternatives and the related evaluation. While I typically go through the area earlier than the morning rush period, I am well aware of the delays in the afternoon/evening period. I was also interested to see the safety concerns related to the number of accidents, including projections for future years. I sensed that this was a problematic intersection, but was uncertain because I have not actually witnessed any crashes. I believe that alternative #3 is probably excessive in terms of addressing delay and safety issues, although it is not that much more expensive than alternative #2. Based on the evaluation, it looks like alternative #1 would be very effective in terms of addressing the problems, and at the lowest cost. I did note that #2 could qualify for federal funding. Depending on the amount of federal funding that might be available, I would tend to support alternative #2 if it reduced the local share to a 50-75% increase over the cost estimate for #1 (i.e., less than \$2 million). However, given the relatively tight municipal budget, I would have no problem with choosing #1 if that's all the city can afford. Thank you very much for your work on this project and for considering these comments.

Bruce Rodman
1607 Frost Lane

Dunne, Kelly

From: Lisa Paradise <ljcparadise@att.net>
Sent: Thursday, October 4, 2018 4:11 PM
To: Dunne, Kelly
Subject: Book Road & 95th improvements

CAUTION: This e-mail originated outside of the City of Naperville (@naperville.il.us).

DO NOT click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Dear Kelly,

Thank you for your presentation at the Naperville library. It was informative and you and your colleagues were very good at answering questions. As I explained, I was mostly concerned about the opening of Book Road from Hassert Boulevard to 119th Street since this will impact the traffic flow issues we experience now and will most likely get worse with the development of the Polo Fields property in the near future. I realized at your presentation that the scope of your project doesn't include this part of Book Road. That being said, I think Alternative 3 is the biggest change and will most likely accommodate the traffic flow in the future. It sounds like federal funding would be available to help offset the cost of this project. I think this seems to be a good alternative. The first alternative doesn't seem to do enough change to help the situation. The second alternative was a middle ground between one and three. It was indicated that there wouldn't be a tax increase to cover this if federal funding could be secured. Obviously fiscal responsibility is important as well. Looking forward to changes in our city and hope they will be beneficial to all and provide a safe route. We continue to be concerned about the safety and traffic in our area with new development. 119th is frequently backed up with both Plainfield high schools being on that road. Getting out of South Pointe subdivision onto IL-59 has been difficult since we moved here 5 years ago. Hopefully a traffic light in the future will assist with that. Thanks for all of your hard work on this project.

Sincerely,
Lisa C. Paradise
ljcparadise@att.net
630-487-0442

EXHIBIT 17-3

Public Hearing

EXHIBIT 18-1

FHWA/IDOT Coordination Meeting Minutes

Date: May 31, 2018
Time: 9:00 am
Location: IDOT D1 BLRS Conference Room A
Purpose: Phase I IDOT BLRS Kickoff Meeting
Section: 18-00171-00-CH
Local Agency: City of Naperville
CIP#: SC196
Attendees: See Sign-In Sheet

Meeting Goals: Initiate Project with IDOT BLRS, Identify Approach to Environmental Processing, Identify Next Steps

Kevin Nelson, CMT's Project Principal, led the meeting and facilitated the items listed in the presented agenda.

1. Project Location

The project is located in northwestern Will County, in Wheatland Township, on the south side of the City of Naperville. The intersection is located approximately 1 mile east of Illinois Route 59 and three miles south of US 34 (Ogden Avenue). See attached location map.

2. Project Limits / Logical Termini

The project is an intersection improvement project. See attached ESR limits exhibit. The project could include additional channelization on 95th Street (a designated SRA) and additional thru lanes and channelization on Book Road. Generally, the limits on 95th Street are from the partial access strip mall entrance (approximately 1100 feet west of Book Road) to the intersection of Tamahawk Lane (approximately 650 feet east of Book Road). Generally, the limits on Book Road are from Rebecca Court (approximately 1300 feet south of 95th Street) to Joyce Lane (approximately 1000 feet north of 95th Street).

3. Jurisdictions / Adjacent Land Uses / Key Stakeholders

Both routes are under the jurisdiction of the City of Naperville. The adjacent land is fully developed with a mix of uses including: commercial, residential and institutional. The Naperville 95th Street Public Library, Neuqua Valley High School and the YMCA are located west of the intersection. The Wheatland Salem Church and a Pace Park-n-Ride are located east of the intersection. A BP gas station is located on the northeast quadrant of the intersection.

4. Background and History

The City is home to over 140,000 residents and attracts hundreds of thousands of visitors each year. As a result, the City is experiencing congestion on area roadways. For 2017, the Citizen Survey echoed previous results with a large percentage of residents concerned about traffic flow and congestion on area roadways. A goal of the City's Strategic Plan is to improve traffic

flow and congestion throughout the community. The intersection of 95th Street and Book Road has been identified as a location experiencing traffic congestion.

5. Purpose and Need

Traffic counts were performed in the AM, PM and afternoon school peak hours in the spring of 2018, while school was in session. The capacity analysis indicates that the intersection is currently at LOS D in the AM and PM peak. The intersection is projected to be LOS F in 2040 based upon traffic projections received from CMAP. In the existing AM peak, the eastbound left and westbound thru movements operate at LOS E. In the existing PM peak, the northbound left and southbound thru movements operate at LOS E. The results confirm the congestion issues identified by the City and their constituency. A crash analysis has been performed and the number of crashes is generally double the national average for a typical intersection of this type. Safety may be part of the purpose and need for the project. Operational issues were also identified at Book Road and Tamahawk lane (north leg) and at Book Road and the Church Entrance (south leg) due to excessive queues blocking the intersection.

6. Potential Cost / Funding

The project is in the TIP (ID 08-06-0039). The overall project total is estimated in the \$2.2-2.3 million range with a construction cost planned at \$2 million. Phase I is being funded with local funds. Potential future funding the City may pursue could include STP, HSIP, MFT and local non-MFT.

7. Public Involvement Program

The project will include two public information meetings and one public hearing. The first public information meeting (existing conditions and soliciting issues and concerns) has already been held (May 22nd, 2018). See attached public meeting 1 brochure.

8. Potential Environmental Impacts / Proposed Processing

Wetlands – No wetlands are anticipated within the project construction limits. CMT will be performing a wetland delineation. The district noted that they would require a letter indicating no wetlands were found or a wetland impact evaluation (WIE).

Special Waste – The gas station on the northeast corner will likely have impacts and land acquisition to attain a corner clip. A PESA will be performed by CMT as part of this Phase I study.

Biological/Cultural – CMT will be preparing an ESR for submittal through the district.

Noise – CMT will be performing a noise analysis. CMT asked if IDOT wanted to review the noise monitoring plan before this portion of the Noise Analysis was completed. IDOT directed to send the plan to the district and they would forward to the Central Office.

Trees – there will likely be removal of parkway type trees.

ROW – less than 0.05 acres of fee simple land acquisition, and approximately 2 acres of temporary easements are expected

CMT asked if this would be processed as a State Approved Categorical Exclusion or a Federal Approved Categorical Exclusion. The district stated that an initial coordination meeting with Central BLRS and FHWA, to be held at the June FHWA Coordination Meeting on June 12, would be needed to decide upon the approach to environmental processing. [CMT noted that no FHWA meetings were scoped as part of their agreement with the City.]

9. Schedule

The draft PDR will be completed later in 2018 with a public hearing planned for the end of 2018 or early 2019 at the latest. Design approvals are anticipated to follow in early 2019. Phase II is planned for 2019 and 2020 with construction planned for 2021. A project milestone schedule was partially completed by Marilyn Solomon at the meeting. (See attached.)

10. Reports

CMT asked which project environmental processing report format to use (BLR 22211 – State Approved CE or BLR 2220 – Federally Approved CE). The district wanted to defer this question until the meeting with FHWA on June 12.

11. Current Efforts

CMT stated that the current efforts included the topographic survey.

12. Next Steps

CMT stated that the next steps were to submit the ESR, develop concept alternatives for the next public information meeting, and then hold public meeting 2 in late summer or early fall.



Illinois Department of Transportation

Attendance Roster

Bureau: Local Roads and Streets Section: 18-00171-00-CH

Project/Topic: City of Naperville; 95th Street at Book Road; Phase 1 KO meeting

Date: Thursday, May 31, 2018

Time: 09:00 AM

Location: Local Roads Conference Room A

Attendees	Representing	Phone Number	Email Address
1. Marilyn Solomon	IDOT - D1 - BLRS	(847) 705-4407	Marilyn.Solomon@illinois.gov
2. Moe Kawash	IDOT - D1 - BLRS	(847) 705-4205	Mohammad.Kawash@illinois.gov
3. Kevin Nelson	CMT	630 820-1022	knelson@cmtegr.com
4. Kelly Dunne	Naperville	630 420 6094	dunneken@naperville.il.us
5. Kevin Peracchi	DMMC		KPERACCHI@DMMC-COG.ORG
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			



Illinois Department of Transportation

FHWA/Local Coordination Meeting Attendance Roster

Agency Name:	Naperville		
Project & Topic:	95 th Street at Book Road; Intersection Improvement/Reconstruction; Logical Termini, scope, environmental processing, public involvement, noise analysis		
Section No.:	18-00171-00-CH		
Date:	June 12, 2018	Time:	10:00 AM
Location:	Region/District One	Room:	Executive Conference Room

IDOT - DISTRICT ONE		
Chris Holt (847) 705-4201 <i>CH</i>	Alex Househ (847) 705-4410	Zubair Haider (847) 705-4206
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OTHER PARTICIPANTS		REPRESENTING	PHONE
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Date: June 12, 2018
Time: 10:00 am
Location: IDOT D1 4th Floor Executive Conference Room
Purpose: Initial FHWA Coordination Meeting
Section: 18-00171-00-CH
Local Agency: City of Naperville
CIP#: SC196
Attendees: See Sign-In Sheet

Meeting Goals: Initiate Project with IDOT Central BLRS and FHWA, Approve Logical Termini, Identify Approach to Environmental Processing

Tice Cole, CMT's Project Principal, led the meeting and facilitated the items listed in the presented agenda.

1. Project Location

The project is located in northwestern Will County, in Wheatland Township, on the south side of the City of Naperville. The intersection is located approximately 1 mile east of Illinois Route 59 and three miles south of US 34 (Ogden Avenue). See attached location map.

2. Project Limits / Logical Termini

The project is an intersection improvement project. See attached ESR limits exhibit. The project could include additional channelization on 95th Street (a designated SRA) and additional thru lanes and channelization on Book Road. Generally, the limits on 95th Street are from the partial access strip mall entrance (approximately 1100 feet west of Book Road) to the intersection of Tamahawk Lane (approximately 650 feet east of Book Road). Generally, the limits on Book Road are from Rebecca Court (approximately 1300 feet south of 95th Street) to Joyce Lane (approximately 1000 feet north of 95th Street).

3. Jurisdictions / Adjacent Land Uses / Key Stakeholders

Both routes are under the jurisdiction of the City of Naperville. The adjacent land is fully developed with a mix of uses including: commercial, residential and institutional. The Naperville 95th Street Public Library, Neuqua Valley High School and the YMCA are located west of the intersection. The Wheatland Salem Church and a Pace Park-n-Ride are located east of the intersection. A BP gas station is located on the northeast quadrant of the intersection.

4. Background and History

The City is home to over 140,000 residents and attracts hundreds of thousands of visitors each year. As a result, the City is experiencing congestion on area roadways. For 2017, the Citizen Survey echoed previous results with a large percentage of residents concerned about traffic flow and congestion on area roadways. A goal of the City's Strategic Plan is to improve traffic flow and congestion throughout the community. The intersection of 95th Street and Book Road has been identified as a location experiencing traffic congestion.

5. Purpose and Need

Traffic counts were performed in the AM, PM and afternoon school peak hours in the spring of 2018, while school was in session. The capacity analysis indicates that the intersection is currently at LOS D in the AM and PM peak. In the existing PM peak, the northbound left and southbound thru movements operate at LOS E. The results confirm the congestion issues identified by the City and the public.

A crash analysis has been performed and the number of crashes is generally double the national average for a typical intersection of this type. CBLRS noted that there are Illinois-Calibrated Highway Safety Manual calculations that would be required. Safety may be part of the purpose and need for the project. CBLRS stated that an improvement in crashes will need to be demonstrated. CBLRS asked if this location was a 5% location. CMT shall request this information from the District. If the project is a 5% location, then it would be a good candidate for HSIP funding.

Operational issues were also identified at Book Road and Tamahawk lane (north leg) and at Book Road and the Church Entrance (south leg) due to excessive queues blocking the intersection.

6. Potential Cost / Funding

The project is in the TIP (ID 08-06-0039). The overall project total is estimated in the \$2.2-2.3 million range with a construction cost planned at \$2 million. Phase I is being funded with local funds. Potential future funding the City may pursue could include STP, HSIP, MFT and local non-MFT.

7. Public Involvement Program

The project will include two public information meetings and one public hearing. The first public information meeting (existing conditions and soliciting issues and concerns) has already been held (May 22nd, 2018). See attached public meeting 1 brochure. CBLRS noted that written responses would be required for all comments received including public information meetings and public hearings. A transcript will be required for the public hearing. A certification letter from the City of Naperville to FHWA regarding the public hearing will be required. The transcript certification letter is to be submitted to the District for transmittal to the FHWA.

8. Potential Environmental Impacts / Proposed Processing

Wetlands – No wetlands are anticipated within the project construction limits. CMT will be performing a wetland delineation. The district noted that they would require a letter indicating no wetlands were found or a wetland impact evaluation (WIE). If CMT submits a wetland delineation report as part of the ESR, a WIE is required.

Special Waste – The gas station on the northeast corner will likely have impacts and land acquisition to attain a corner clip. A PESA will be performed by CMT as part of this Phase I study. The PESA should be submitted to the district to document that it was completed. The PDR will require a commitment for a PSI during Phase 2 design.

Biological/Cultural – CMT will be preparing an ESR for submittal through the district.

Noise – CMT will be performing a noise analysis. CMT asked if IDOT wanted to review the noise monitoring plan before this portion of the Noise Analysis was completed. IDOT directed to send the plan to the district and they would forward to the Central Office for review.

Trees – there will likely be removal of parkway type trees. CBLRS requested that the types of trees be removed should be clarified in the ESR.

ROW – less than 0.05 acres of fee simple land acquisition, and approximately 2 acres of temporary easements are expected

404 Permit – CBLRS stated that if the project involves improvements to the storm sewer/culvert (south leg) crossing Book Road (adjacent to the detention ponds) then a 404 permit will be needed.

Air Quality – Since turn lanes are being considered, CBLRS noted that a COSIM Prescreen Analysis would be required. A worksheet was provided along with an example.

CBLRS stated this project will plan to be processed as a Federal Approved Categorical Exclusion due to the potential access modifications and the inclusion of a noise analysis in the project study. CBLRS stated that the current environmental survey request processing times are at 6 months, minimum.

9. Schedule

The draft PDR will be completed later in 2018 with a public hearing planned for the end of 2018 or early 2019 at the latest. Design approvals are anticipated to follow in early 2019. Phase II is planned for 2019 and 2020 with construction planned for 2021.

10. Reports

CBLRS directed the team to use BLR 22210 – Federally Approved CE for the project development report.

CBLRS stated that 95th Street shall use BDE Manual SRA Chapter design criteria. In addition, Book Road from 95th Street to the end of the turn lane taper shall use the same criteria. Book Road from the end of the turn lane taper to the end of the project limits shall use BLR Chapter 32 (New Construction/Reconstruction) design criteria. CBLRS also noted that at the tie-in points where the project ties into a rural cross section, a rural cross section can continue to be used but still apply Chapter 32 criteria.

11. Current Efforts

CMT stated that the current efforts included the topographic survey.

12. Next Steps

CMT stated that the next steps were to submit the ESR, develop concept alternatives for the next public information meeting, and then hold public meeting 2 in late summer or early fall.