

Scoping Meeting Agenda

5090-05-01

**City of Baraboo, Eighth St.
(W City Limit to Lincoln Ave)**

STH 33

Sauk County

Wednesday, July 25, 2018

9 AM, Room B-19/20

Attendees: Jaime Boado, Dennis Parsley, Noah Belling – Scoping; Vicki Romenesko – Programming; Steve Vetsch – TSS Env.; Corey Schlegel – Real Estate; Steve Flottmeyer – Planning; Francis Schelfhout – Planning; Joe Schneider – Traffic; Tim McCarthy – TSS Pvt.; Brenda Schoenfeld – PDS (Madison).

On Phone: Greg Brecka – PDS; Mike Hoelker-PDS; Michelle Ellias – Planning; Suzan Nast-Traffic.

Purpose & Need

The purpose of this project is to replace the existing pavement on STH 33 from the West City Limits to Lincoln Ave. in the City of Baraboo. This section of STH 33 that runs thru the City of Baraboo is a Principal Arterial roadway that serves as the main thoroughfare/access to downtown Baraboo. It's also the roadway that leads to the interstate and connecting to other cities. This proposed project will provide a safer and more efficient roadway for the City of Baraboo and the roadway users by 2024.

This section of STH 33 that runs thru the City of Baraboo was last reconstructed/reconditioned in 1988. The latter half of the project roadway was resurfaced with Asphaltic pavement in 1994. This section of roadway has been resurfaced numerous times. Then the outside lanes on this same location was milled and overlaid in 2016. The existing concrete pavement has extensive cracking with crumbling pavement in the outer lanes. The sidewalks are in good condition. The proposed work is to reconstruct the roadway and replaced the curb and gutter. No sidewalk included in the project except at curb ramps as needed to meet ADA requirements.

Basic Project Information

5090-05-01

| | |
|-------------------------|---|
| Limits: | Eighth St W City Limit to Lincoln Ave |
| Program Level Estimate: | \$8,022,00.00 |
| PS&E Date: | 5/1/2024 5/1/2023 Advanced 5/1/2023 |
| Let Date: | 11/12/2024 8/8/2023 Advanced 11/12/2023 |
| Roadway | STH 33 |
| Current ADT (year): | 14020 (2017) |
| Design ADT (year): | 16000 (2045) |
| Truck Percentage: | 16.8% (5.5% west of Broadway St.) |
| Posted Speed Limit(s): | 25 MPH |

| | |
|--------------------|---|
| Classification: | Principal Arterial |
| Design Class: | 3RA2 |
| Project Length: | 1.9 miles |
| Structure Work: | NA |
| Project Directory: | \\lax31fp2\p3projects\State\s33\50900501\Planning\Scope\50900501 City of Baraboo |

Existing Conditions (Facility)

Project Location, Typical Existing Roadway Cross-Sections, Alignment, Profile, and Controlling Criteria Review: See appendix

DESIGN

- W. Corp. Limits- Ash Street
 - Four lane urban highway
 - Four- 11' Lanes
 - 2' Type "A" concrete curb and gutter
- Ash Street- Lincoln Avenue
 - Four lane urban highway
 - Four- 11' Lanes
 - 2.5' concrete curb and gutter
 - 44' curb face to curb face

PAVEMENT AND SOILS

- W. Corp. Limits- Ash Street
 - Existing 8" P.C. Pavement
 - 10" Doweled Concrete Pavement
 - 6" Crushed Aggregate Base Course
- Ash Street- Lincoln Avenue
 - 1 1/2" Asphaltic Concrete Pavement Type HV
 - Existing 9" Concrete Pavement
 - Existing 6" Base Course

SAFETY SCREENING

- This project section of roadway has flagged sections (Draper St., Ash St., East St., Elizabeth St., Jefferson St.).
- All flagged sections are waived. Controlling Criteria's not a contributing factor for crashes.
- Majority of crashes are rear-end, due to the inside lane being dual thru and left-turn lane.

MAINTENANCE

- This section of roadway is designated as connecting highway. The City of Baraboo is responsible for maintaining the facility.

TRAFFIC

- Posted Speed Limit 25 MPH
- Four-lane highway
- Crosswalks at Draper St, Park St, Summit St, Wood St, West St, Birch St, Broadway St, Oak St, Ash St, East St, Warren St, Barker St (South), Elizabeth St, Camp St, Jefferson St (North), Washington Ave, Lincoln Ave

- Stop Lights at Draper St, Broadway St, and East St
- “Pork Chop” Island located at Broadway St
- School Crossings:
 - School Speed Limit (15 mph) located at East side of curve (by Draper St.)
 - School Speed Limit (15 mph) located between Summit St and Wood St
 - School Speed Limit (15 mph) located between Washington Ave and Jefferson St
 - School Speed Limit (15 mph) located between Jefferson St and Wheeler St
 - School Speed Limit (15 mph) located at Birch St
 - **Note from Review: Flashing beacons installed by City**

UTILITIES

- Utility type and company name are as follows: (as seen in PMP)
 - PMP indicates 12 different utility companies present along the highway
- Overhead power lines adjacent to highway and crossing
- Buried utilities are present along highway

| Project ID ▲ | Utility Type | Utility Company Name | Utility Company Legal Name | 1077 Start | 1077 End | 1078 Start | 1078 End |
|--------------|--------------------------|-------------------------------------|---|------------|----------|------------|----------|
| 5090-05-71 | COMMUNICATION LINE | CenturyLink | CenturyTel of the Midwest-Kendall, LLC | | | | |
| 5090-05-71 | COMMUNICATION LINE | Charter Com | Charter Communications | | | | |
| 5090-05-71 | COMMUNICATION LINE | Reedsburg Util Comm | Reedsburg Utility Commission | | | | |
| 5090-05-71 | COMMUNICATION LINE | Sauk Cnty Bldg Serv | Sauk County Building Services | | | | |
| 5090-05-71 | COMMUNICATION LINE | Sprint Com Co LP | Sprint Communications Company LP | | | | |
| 5090-05-71 | COMMUNICATION TOWER | Sauk Cnty Bldg Serv | Sauk County Building Services | | | | |
| 5090-05-71 | ELECTRICITY | Alliant Energy | Wisconsin Power and Light Company, a Wisconsin corporation | | | | |
| 5090-05-71 | ELECTRICITY-TRANSMISSION | ATC Mgmt Inc | American Transmission Company, LLC, a Wisconsin Limited Liability Company | | | | |
| 5090-05-71 | GAS/PETROLEUM | Alliant Energy | Wisconsin Power and Light Company, a Wisconsin corporation | | | | |
| 5090-05-71 | SEWER | Baraboo SD 1 | Baraboo Sanitary District #1 | | | | |
| 5090-05-71 | WATER | City of Baraboo | City of Baraboo | | | | |
| 5090-05-71 | WATER | Vlg of West Baraboo | Village of West Baraboo | | | | |

RIGHT OF WAY

- The distances for the R/W varies throughout this section of roadway.
 - Most common distances are 33' to far side of the sidewalk and 43' at areas near the intersections.

RAILROAD/AERONAUTICAL

- There's not a railroad line that crosses this project segment of STH 33.
- The project falls within the 5-mile radius of the Baraboo-Wisconsin Dells Airport. The airport is located approximately 3.5 miles north of the project site.

ENVIRONMENTAL

- Houses and stores adjacent to the roadway
- Baraboo River adjacent to small portion of roadway
- Historical Building:
 - Ringling House (Bed & Breakfast)
 - Listed in the National Register of Historic Places.
 - Charles Ringling House. Neo-Classical styled home built in 1900 of Charles Ringling, was the owner/operating manager of the Ringling Brothers Circus.
- Ochsner Park & Zoo
- Sauk County Fairgrounds

PLANNING

- Connecting highway – Yes
- Designated NHS Route(s) – Yes
- State OSOW Route(s) – No
- State OSOW High Clearance Route – Yes
- Long Truck Route:
 - Wisconsin Long Truck Route – Yes
 - US Long Truck Route - No
- Bicycle Route – ~~Not designated as a bicycle route. (Undesirable Major Urban Street)~~

- Note from Review: State Designated Bike Route/Linkage Condition is listed as Major Urban Street.
- Notes from review:
 - Consider partnership to implement access control recommendations in Corridor Preservation Study Report.
 - TRANSIT: Greyhound Stop @ 420 Linn St.- Jefferson Stop @ Shell Sta. – The Bus (Public Transportation) – Blue Line through Baraboo/West Baraboo connections to Madison.

Projects IN THE AREA:

- ID 5090-05-01/71 scheduled for the ~~2025 construction year with~~ advance construction year of 2024.

| 2019 Construction | |
|--|----------------------|
| 5573-05-60 Reedsburg – Baraboo (STH 23 to STH 154) STH 136 Sauk County | Resurfacing |
| 2020 Construction | |
| 5630-06-61 Sauk City – IH 39 (CTH DL to Arco Dr.) STH 78 Columbia County | Resurfacing |
| 2021 Construction | |
| 5050-02-72 Reedsburg – Baraboo (N Jct. STH 23 to USH 12) STH 33 Sauk County | Resurfacing |
| 5050-02-71 Reedsburg – Wisconsin Dells (Copper Springs Rd. to N. Jct. STH 33) STH 23 Sauk County | Rerurfacing |
| 2023 Construction | |
| 5030-01-73 Hillsboro – Reedsburg (La Valle Street to Preston Ave.) STH 33 Sauk County | Resurfacing |
| 5630-06-72 Sauk City – IH 39 (Eagle View Ct. to Weynand Rd.) | Pavement Replacement |

Proposed Improvements (Work):

DESIGN:

- Type of Work Proposed:
 - Revised Work Concept: PVRPLA – Pavement Replacement.
 - Includes all curb & gutter
 - Proposed roadway width:
 - Keep existing roadway width of 48' face to face.
 - Sidewalk not included.
 - Curb ramps updated to meet ADA compliance.
 - Storm Sewer to be replaced.
 - From Draper St. to the W. City Limit, Storm Water drains into a Box Culvert located in the Village of West Baraboo. From the box culvert the storm water eventually drains into the Baraboo River.
 - East of Draper St., Storm water eventually drains into the Baraboo River.
 - The City of Baraboo, as part of this project, will replace sanitary line and water line.
 - Proposed Roadway is a 3-lane roadway with a TWLTL in the middle.
 - 2- 12' travel lanes
 - 14' TWLTL in the middle
 - 5' Bike lanes on the outside of the travel lanes.
- Retaining Walls behind curb & gutter:
 - Located lt. side of roadway between West St. and Broadway St.
- Jefferson St. realignment?
 - City of Baraboo Responsibility?

Comments:

- Keep consistent roadway width of 44' face-to-face. There are some roadway sections that may be wider. Place the 44' face-to-face width and have wider boulevard.
 - Proposed cross-section of 14' TWLTL, with 2-11' driving lane and 4' "URBAN SHOULDER" on the outside.
 - Urban Shoulder for drainage storage.
 - [\\ax31fp2\p3projects\State\s33\50900501\Planning\Scope\Scoping Material 072518\Typical Sections.xlsx](#)
- Will not do Jefferson St. realignment or any other realignments. Not part of the scope and will be the City of Baraboo responsibility.
- Storm Sewer needs to be coordinated with the City of Baraboo to identify and address specific drainage issues.

PAVEMENT AND SOILS:

- Soils:
 - Need soil borings to confirm existing pavement structure.
 - Latter half of the project with the asphaltic pavement, not sure of the existing thickness because of various time of maintenance overlay.

- Proposed Pavement Structure:
 - HMA Pavement:
 - 7" HMA Pavement, over
 - 12" Base Aggregate Dense 1 ¼-inch, over
 - 16" of Select Crushed Material or 12" Select Crushed Material on Geogrid (subgrade improvement)
 - Concrete Pavement:
 - 9" Concrete Pavement, over
 - 6" Base Aggregate Dense 1 ¼-inch, over
 - 16" of Select Crushed Material or 12" Select Crushed Material on Geogrid (subgrade improvement)
- **Recommendation is Concrete Pavement alternative which typically has the lower total Life Cycle Cost based on past experiences.**

Comments:

- Tim McCarthy (Pavt. Engineer) questioned the truck counts of the Traffic Forecast. East end had 16% truck count and drops to 5% after Broadway street. Felt the the 5% was standard truck percentage and that a recount to assess the truck count would be necessary before giving final recommendation.
- Francis Schelfhout showed a traffic Forecast from the Wis33 Corridor Study (study can be found in the project folder), which shows an average of 10% truck traffic. Which seems more accurate.
- Tim M. will re-run the ~~life-cycle analysis~~ Pavement Calculations for both options with the new truck percentage count and will make his recommendations when done.

From Tim McCarthy's email (7/26/18):

- I reran the pavement calculations using the 10.8% trucks from the 5/5/2016 Traffic Forecast Report (STH 33 Corridor Report, 5090-04-09) versus the 16.8% shown in the 5/10/2018 report. The 10.8% trucks was determined from a special count that was taken in 2016 between Mulberry and Connie Streets. The preliminary pavement alternatives have be revised based on the change in truck percentages.
 - HMA Pavement
 - 7" 6.25" HMA Pavement, over
 - 12" Base Aggregate Dense 1 ¼-Inch, over
 - 16" of Select Crushed Material or 12" SCM on Geogrid (subgrade improvement)
 - Concrete Pavement
 - 9" 8" Concrete Pavement, over
 - 6" Base Aggregate Dense 1 ¼-Inch, over
 - 16" of Select Crushed Material or 12" SCM on Geogrid (subgrade improvement)
- These revised pavement alternatives will likely make the total Life Cycle Cost similar. The concrete alternatives typically have a higher initial cost so you may want to use that to base your estimates on.
- Will do the scoping estimate base on using concrete pavement alternative.
- The State will only pay for the removal of pavement and placing of new pavement, also the additional and removal of existing base to meet design profile.

- We are not rebuilding a new pavement structure. Just replacing the existing pavement.

SAFETY SCREENING:

- With the amount of rear end crashes in this section of roadway, propose to have a 3-lane roadway with the TWLTL middle lane.
 - By taking the left-turn traffic off the main travel lane, will reduce the number of rear-end crashes at this section of roadway.
- The City of Baraboo requested placing rapid flashing beacon lighting at school crossings.

Comments:

- Installation of Rapid Flashing Beacon lighting, will be the City of Baraboo's responsibility.

MAINTENANCE:

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Comments:

- Since the concept of the project has changed. Request bridge maintenance to look at the condition of the Box Culvert?
- See note(s) above regarding contacting Steve Katzner with inspecting the box culvert.
- See note(s) above regarding contacting roadway maintenance to take a look at the slope behind the beamguard and the condition of the beamguard.

TRAFFIC:

- Traffic control plan is anticipated for construction.
- Keep traffic flows in both directions, perform maintenance repairs one half at a time.
 - May be ok at times, but because of narrower lanes, trucks would have a hard time making turns.
 - Dependent of how deep the sanitary and water lines are, which would dictate the width of the trench. (Trench box may be used for shallower locations?)
 - May be ok when sanitary and water line work are done. But, truck traffic may have to be detoured.
- Options:
 - Close roadway during construction and detour traffic.?
 - Close half of roadway during construction and maintain counter directional traffic, but detour trucks. (feasible??)
 - Use Local Street for parallel detour route?
- All signal lights are owned by the City of Baraboo.

Comments:

- Traffic Control during construction options:
 - Close roadway and detour traffic via USH 12 and IH90/94.
 - Split construction in two halves, Broadway St. being the half-point.
 - Close the west-half roadway to traffic.

- Use STH 113/South Blvd. to access downtown Baraboo and the east half of the project.
- Do the West half first, due to possible Box Culvert replacement and the High School access is in this section.
- Then close the east-half roadway, would still use STH 113/South Blvd, to access downtown.
- Traffic when the east-half is closed may be detoured.
- Doing work “half-at-a-time” Traffic may be open for WB direction only. EB traffic will get detoured.
- Need for Bike/Ped accommodations during construction.
- One of the biggest hurdle is giving access to property owners when the roadway is removed in front of their propeprty.

UTILITIES:

- Utility coordination and Plan will be needed.
 - There are 12 different utility companies present on the project location.
- Possible utility relocation?
- Coordinate with City of Baraboo and/or its consultant with Sanitary Line and Water Line work.

Comments:

- Coordinate with the City of Baraboo consultant regarding Sanitary Line and Water Line work.
- Cost for placing new Sanitary and Water lines are the responsibility of the City of Baraboo.

RIGHT OF WAY:

- No “major” R/W conflicts anticipated.
- Will need R/W (TLE & Fee) for curb ramps to meet current ADA standards.
- May need R/W (TLE/Fee) for retaining wall area.
- Is City responsible for R/W purchase if Jefferson St. is realigned?

Comments:

- Real Estate project ID created.
- Approximately 70 parcels identified to be affected for TLE’s for an estimated total of \$35,000.
- Contact Gregg Messling for R/E questions.
- Retaining Wall area (between West St. and Broadway St.) may need new R/W. To be determined during the design process.

RAILROAD\AERONAUTICAL:

- No railroad coordination is required.
- Aeronautical Coordination is Required:
 - Reedsburg-Baraboo Airport is 3.5 miles from project area and is within the 5-Mile limit as indicated in FDM 5-10-25 for coordination with the Bureau of Aeronautics.

Comments:

- Aeronautical coordination is required.

ENVIRONMENTAL:

- Anticipated Environmental Document is 2a- State documented Categorical Exclusion Checklist (CEC).
 - Historical House, Wringling House Bed & Breakfast
 - Ochsner Park & Zoo
 - Sauk County Fairgrounds
 - Will require R/W for curb ramps to meet ADA standards (possibly TLE & FEE); Retaining wall area (possibly TLE & FEE).

Comments:

- Use PCE type report at this moment. Depending on what is “found” during the investigation, report type may change.
- Project 5090-05-01 & 5090-05-30 should be placed into one report since the project are tied together.
- Both projects will not be screened.

PLANNING:

- SMFA for design cost participation has been signed.
- Revised SMFA to show construction participation and non-participation costs.

Comments:

- **Schedule:**

| | Scheduled Dates |
|------------------------|------------------------|
| Begin Design | March 1, 2019 |
| | |
| Environmental Document | October 1, 2020 |
| DSR | October 1, 2020 |
| R/W Plat | October 1, 2020 |
| | |
| R/E Acquisition Start | October 1, 2020 |
| R/E Acquisition End | December 1, 2022 |
| | |
| 1078 Start | October 1, 2020 |
| 1078 End | December 1, 2022 |
| | |
| PSE Date | May 1, 2023 |

Planned Schedule:

- Begin design – 6 months after scoping
- Design Timeframe of 51 months
- Preliminary Design of 20 months (DSR complete at end of preliminary design)
- Utility & Real Estate Coordination of 26 months (completed 5 months prior to PS&E)
- Final Design time of 31 months.

SURVEY AND MAPPING:

- Project is planned to be consulted out. Consultant will take care of survey and mapping needs.

Comments:

- Project to be consulted out. Consultant will take care of survey and mapping needs of the project.

Federal Oversight: No

Other:

- With TWLTL concept, there was a question of capacity since the projected design ADT was at 16,000.
 - As stated in the corridor study report, FHWA advises that roadways with ADT's less than 20,000 vehicles per day (VPD) or less may be good candidates for a Road Diet. (Page 92 in the report)

Appendix

1) Project Location Map

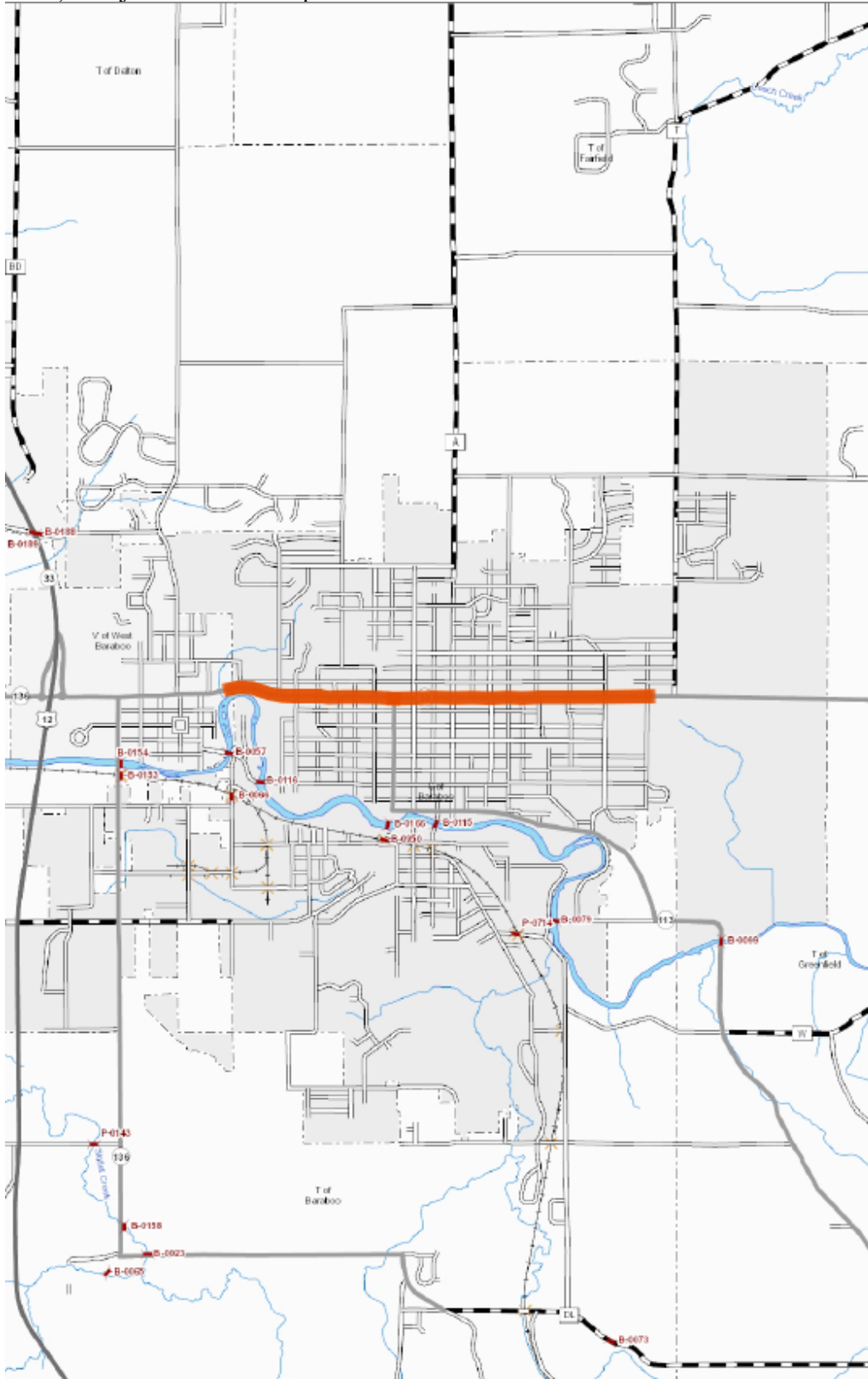
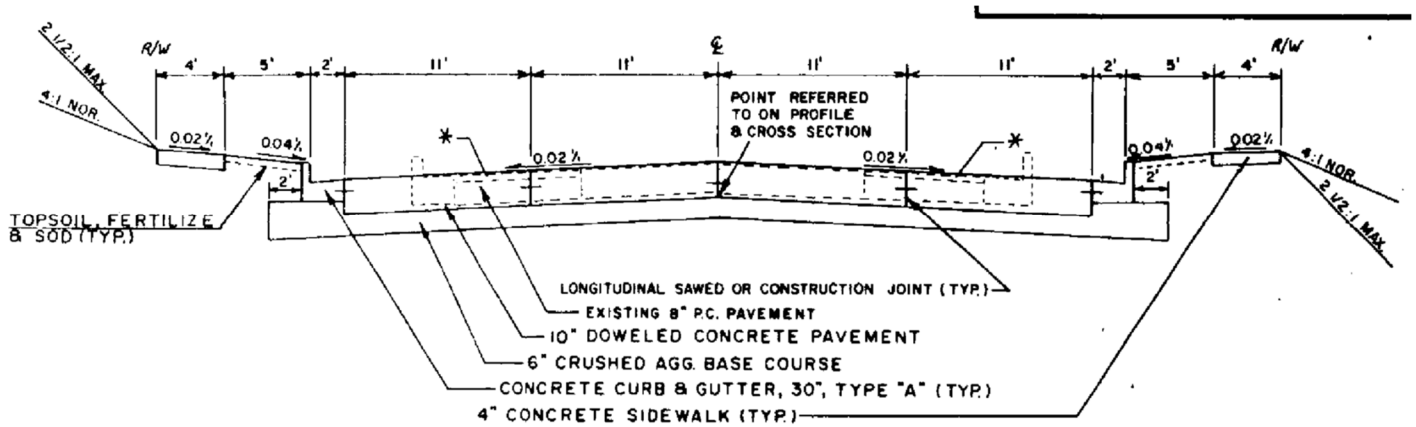


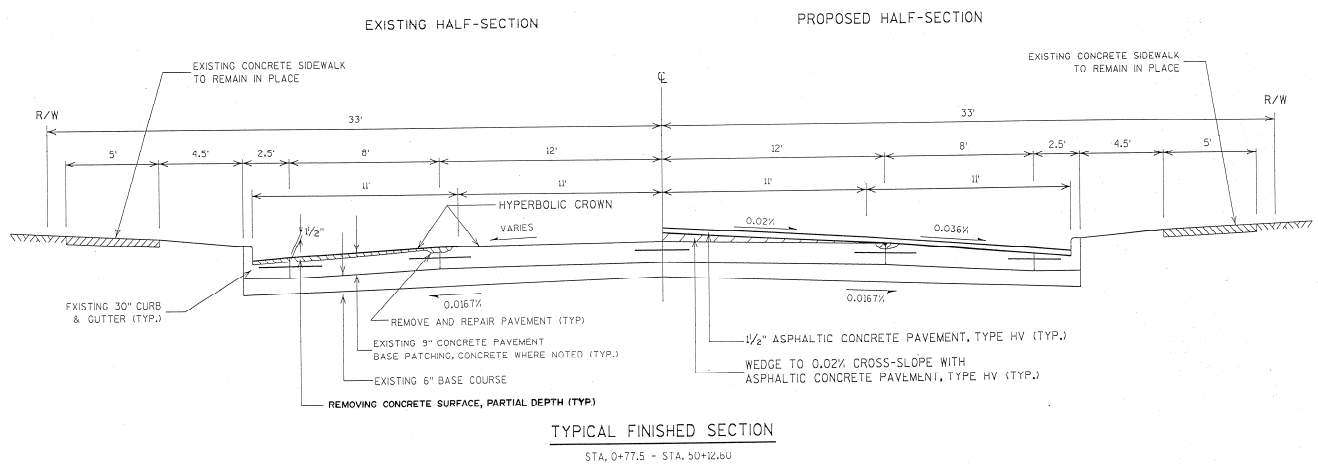
Figure 1: Project Location Map

2) Existing Typical Section:

5090-00-72 (1988)



5092-00-73 (1994):



3) Alignment & Profile (As-Built Summary)

Table 1: STH 33 Alignment

| | STH 23/33 | Comment | RP |
|-------|---|------------------------------------|----|
| POT | 24+06.44 | As-Built: 5092-00-72 (1988) | |
| | | Proj. ID 5090-05-01 | |
| PI | 4+66.6 | $\Delta = 0^{\circ}04' \text{ RT}$ | |
| | | | |
| PC(1) | 20+22.00 | | |
| PI | 22+16.87 | | |
| | $\Delta = 23^{\circ}04'00'' \text{ RT}$ | | |
| | $D = 6^{\circ}00'00''$ | | |
| | $R = 954.93'$ | | |
| | $T = 194.87'$ | | |

| | | | |
|-------|--|--|--|
| | L = 384.44' SE = NC | | |
| PT | 156+33.91 | | |
| | | | |
| PC(2) | 26+70.57 | | |
| PI | 29+66.44 $\Delta = 54^\circ 37' 21''$ RT D = 10° 00' 00" R = 572.96' SE = NC | | |
| PT | 32+16.8 | | |
| | | | |
| PC(3) | 33+93.42 | | |
| PI | 35+01.86 $\Delta = 31^\circ 41' 50''$ RT D = 15° 00' 00" R = 381.97' SE = NC | | |
| PT | 36+04.74 | | |

4) Stopping Sight Distance (SSD) Analysis

As-Built Data

Table 2: STH 33 Profile West City Limit to Lincoln Ave

| | STH 33 | | Comment | RP |
|--------|----------|--------------|-------------------------|-------------|
| VPC | 27+00.00 | +2.900% | As-Built: 50920072 1988 | |
| VPI(1) | 28+00.00 | VC= 200' | CREST | |
| VPT | 29+00.00 | +1.670% | | |
| | | | | |
| VPC | 29+00.00 | +1.670% | | |
| VPI(2) | 30+00.00 | VC = 200' | SAG | |
| VPT | 31+00.00 | +4.000% | | |
| | | | | |
| VPC | 31+50.00 | +4.000% | | |
| VPI(3) | 32+50.00 | VC = 200' | CREST | |
| VPT | 33+50.00 | +2.530% | | |
| | | | | |
| VPC | 35+50.00 | +2.530% | | |
| VPI(4) | 36+00.00 | VC = 104' | SAG | |
| VPT | 36+54.00 | +3.000% | | |
| | | | | |
| VPC | 38+50.00 | +3.000% | | |
| VPI(5) | 39+50.00 | VC = 200' | CREST, Daper St | 033E145G074 |
| VPT | 40+50.00 | +0.404% | | |
| | | | | |
| VPI | 43+00.00 | 0.404%→0.60% | Park St | 033E145G081 |
| VPC | 45+40.00 | +0.600% | | |
| VPI(6) | 46+80.00 | VC = 280' | CREST | |
| VPT | 48+20.00 | -6.600% | Summit St | 033E145G091 |

| | | | | |
|---------|----------|---------------|---------------------------|-------------|
| | | | | |
| VPC | 49+00.00 | -7.150% | | |
| VPI(7) | 50+20.00 | VC = 240' | SAG | |
| VPT | 51+40.00 | -0.658% | | |
| | 52+19.79 | | Wood St | 033E145G099 |
| | | | | |
| VPC | 53+50.00 | -0.658% | Center St | 033E145G101 |
| VPI(8) | 55+00.00 | VC = 300' | SAG | |
| VPT | 56+50.00 | +2.400% | | |
| VPI | 57+00.00 | 2.4%→2.52% | West St | 033E145G108 |
| | | | | |
| VPC | 58+50.00 | +2.520% | | |
| VPI(9) | 59+50.00 | VC = 200' | SAG | |
| VPT | 60+50.00 | +7.760% | | |
| | | | | |
| VPC | 60+50.00 | +7.760% | | |
| | 61+60.19 | | Birch St | 033E145G117 |
| VPI(10) | 62+00.00 | VC = 300' | CREST | |
| VPT | 63+50.00 | -4.720% | | |
| | | | | |
| VPC | 65+25.00 | -4.720% | | |
| VPI(11) | 66+00.00 | VC = 150' | SAG | |
| VPT | 66+75.00 | -0.450% | Broadway St | 033E146000 |
| | | | | |
| VPI | 71+00.00 | -0.45%→-0.60% | Oak St | 033E146009 |
| VPC | 72+75.00 | -0.600% | | |
| VPI(12) | 73+75.00 | VC = 200' | SAG | |
| VPT | 74+75.00 | +4.730% | | |
| | | | | |
| VPC | 75+00.00 | +4.730% | | |
| VPI(13) | 75+75.00 | VC = 150' | CREST, Ash St | 033E146019 |
| VPT | 76+50.00 | -1.547% | | |
| | | | | |
| VPC | 0+33.20 | -0.300% | As-Built t00351(008) 1958 | |
| VPI(14) | 0+98.20 | VC = 130' | CREST | |
| VPT | 1+63.20 | -4.000% | | |
| | | | | |
| VPC | 3+41.70 | -4.000% | | |
| VPI(15) | 3+91.70 | VC = 100' | SAG | |
| VPT | 4+41.70 | -0.400% | East St | 033E146027 |
| | | | | |
| | 9+25.30 | | Warren St | 033E146036 |
| VPC | 11+78.50 | -0.300% | | |
| VPI(16) | 12+43.50 | VC = 130' | SAG | |
| VPT | 13+08.50 | +2.000% | | |
| | 13+52.90 | | Baker St (North) | 033E146044 |
| | 13+82.30 | | Baker St (South) | 033E146045 |
| | | | | |
| VPC | 14+30.00 | +2.000% | | |

| | | | | |
|---------|----------|-----------|---------------------|---------------|
| VPI(17) | 15+10.00 | VC = 160' | CREST | |
| VPT | 15+90.00 | -1.410% | | |
| | | | | |
| VPC | 17+30.50 | -1.410% | | |
| VPI(18) | 17+80.50 | VC = 100' | SAG, Elizabeth St | 033E146051 |
| VPT | 18+30.50 | +0.500% | | |
| | | | | |
| VPC | 19+85.00 | +0.500% | | |
| VPI(19) | 20+60.00 | VC = 150' | SAG | |
| VPT | 21+35.00 | +2.670% | Camp St | 033E146058 |
| | | | | |
| VPC | 24+60.00 | +2.670% | Tuttle St | 033E146065 |
| | 25+21.00 | | Wheeler St | 033E146066 |
| VPI(20) | 25+60.00 | VC = 200' | CREST | |
| VPT | 26+60.00 | -1.070% | | |
| | | | | |
| VPC | 31+70.00 | -1.070% | | |
| VPI(21) | 32+40.00 | VC = 140' | SAG, Jefferson St | 033E146079/80 |
| VPT | 33+10.00 | +1.000% | | |
| | | | | |
| VPC | 33+96.40 | +1.000% | | |
| VPI(22) | 35+06.40 | VC = 220' | CREST | |
| VPT | 36+16.40 | -2.730% | | |
| | | | | |
| VPC | 39+74.70 | -2.730% | | |
| VPI(23) | 40+74.70 | VC = 200' | SAG, Washington Ave | 033E146096 |
| VPT | 41+74.70 | +0.350% | | |
| | | | | |
| VPC | 44+56.50 | +0.350% | | |
| VPI(24) | 46+26.50 | VC = 340' | CREST | |
| VPT | 47+96.50 | -1.200% | | |
| | | | | |
| VPC | 49+65.00 | -1.200% | | |
| VPI(25) | 50+40.00 | VC = 150' | SAG | |
| VPT | 51+15.00 | -0.140% | Lincoln Ave | 033E146116 |
| | | | | |

5) Existing Design Controls

- Design Speed: 30 *mph*
 - Posted at 25 mph; Apply criteria in FDM 11-10-1.5
 - Additional criteria in FDM 11-40-6.1
- Lane Width: 4 Lanes: *2-11-Foot (inside), 2-11-Foot (outside)*
 - Meets criteria in FDM 11-15, Attachment 1.1, Page 1 (Level Terrain)
 - Additional guidance in FDM 11-40-6.3
- Shoulder Width: N/A
 - Minimum criteria in FDM 11-15, Attachment 1.1, Page 1 (Level Terrain)

- Additional criteria in FDM 11-15-1.4
- Horizontal Curve Radius:
 - Proj. ID 5090-05-01
 - 1) Curve 1: R=954.93' (0.02; 280' – Exhibit 5.12, FDM 11-10-5.3, $e_{max}=4\%$)
 - 2) Curve 2: R=572.96' (0.02; 280' – Exhibit 5.12, FDM 11-10-5.3, $e_{max}=4\%$)
 - 3) Curve 3: R=381.97' (0.02; 280' – Exhibit 5.12, FDM 11-10-5.3, $e_{max}=4\%$)
- Super-elevation Rate: $e(max) = 4\%$
 - FDM 11-10-5.3 – Exhibit 5.12
- Stopping Sight Distance: Applied Category 1, FDM 11-10-5.1.1.3 (See Chart)
 - 1) Crest, VPI 28+00, L=200', A=1.23, K=163; (S>L 977.2' - Min.) (S<L 592.3' - Min.)
 - 2) Sag, VPI 30+00, L=200', A=2.330, K=86; (S>L 746.6' - Min.) (S<L 388.8' - Min.)
 - 3) Crest, VPI 32+50, L=200', A=1.470, K=136; (S>L 834.0' - Min.) (S<L 541.8' - Min.)
 - 4) Sag, VPI 36+00, L=104', A=0.470, K=221; (A below 1.75%)
 - 5) Crest, VPI 39+50, L=200', A=2.596, K=77; (S>L 515.6' - Min.) (S<L 407.7' - Min.)
 - 6) Crest, VPI 46+80, L=280', A=7.200, K=39; (S>L 289.9' - Min.) (S<L 289.7' - Min.)
 - 7) Sag, VPI 50+20, L=240', A=6.492, K=37; (S>L 206.5' - Min.) (S<L 202.4' - Min.)
 - 8) Sag, VPI 55+00, L=300', A=3.058, K=98; (S>L 503.6' - Min.) (S<L 433.8' - Min.)
 - 9) Sag, VPI 59+50, L=200', A=5.240, K=38; (S>L 207.4' - Min.) (S<L 207.3' - Min.)
 - 10) Crest, VPI 62+00, L=300', A=12.480, K=24; (S>L 236.5' - Min.) (S<L 227.7' - Min.)
 - 11) Sag, VPI 66+00, L=150', A=4.270, K=35; (S>L 206.4' - Min.) (S<L 195.0' - Min.)
 - 12) Sag, VPI 73+75, L=200', A=5.330, K=38; (S>L 204.7' - Min.) (S<L 204.7' - Min.)
 - 13) Crest, VPI 75+75, L=150', A=6.277, K=24; (S>L 246.9' - Min.) (S<L 227.1' - Min.)
 - 14) Crest, VPI 0+98.2, L=130', A=3.700, K=35; (S>L 356.6' - Min.) (S<L 275.3' - Min.)
 - 15) Sag, VPI 3+91.7, L=100', A=3.600, K=28; (S>L 205.4' - Min.) (S<L 164.7' - Min.)
 - 16) Sag, VPI 12+43.5, L=130', A=2.300, K=57; (S>L 635.5' - Min.) (S<L 278.9' - Min.)
 - 17) Crest, VPI 15+10, L=160', A=3.410, K=47; (S>L 396.4' - Min.) (S<L 318.2' - Min.)
 - 18) Sag, VPI 17+80.5, L=100', A=1.910, K=52; (S>L 1846.9' - Min.) (S<L 262.9' - Min.)
 - 19) Sag, VPI 20+60, L=150', A=2.170, K=69; (S>L 863.7' - Min.) (S<L 326.6' - Min.)
 - 20) Crest, VPI 25+60, L=200', A=3.740, K=53; (S>L 388.5' - Min.) (S<L 339.7' - Min.)
 - 21) Sag, VPI 32+40, L=140', A=2.070, K=68; (S>L 1077.8' - Min.) (S<L 321.0' - Min.)
 - 22) Crest, VPI 35+06.4, L=220', A=3.730, K=59; (S>L 399.3' - Min.) (S<L 356.7' - Min.)
 - 23) Sag, VPI 40+74.7, L=200', A=3.080, K=65; (S>L 382.0' - Min.) (S<L 310.8' - Min.)
 - 24) Crest, VPI 46+26.5, L=340', A=1.550, K=219; (S>L 866.1' - Min.) (S<L 688.0' - Min.)
 - 25) Sag, VPI 50+40, L=150', A=1.060, K=142; (A below 1.75%)
 - FDM 11-10 Attachment 5.4, SSD min=200' desirable= 200' (Crest)
 - FDM 11-10 Attachment 5.6, SSD min=200' desirable=200' (Sag)
 - Drainage issue, K>167, FDM 11-10-5.4.2
- Maximum Grade: 3%
 - FDM 11-10-5.4.1 and FDM 11-10, Attachment 5.3 (level)
- Cross Slope: 2% Typical
 - FDM 11-15-1.3
- Vertical Clearance: NA
 - FDM 11-10-5.4.3 and 11-35-1.5
- Design Loading Structural Capacity: None (Identified by Bureau of Structures)
 - WisDOT Bridge Manual
 - FDM 11-15 Attachment 1.1 (arterial)

