

PROJECT EXPERIENCE

CSAH 42 FINAL DESIGN, DAKOTA COUNTY

County State Aid Highway (CSAH) 42 is a Principal Arterial Highway carrying over 40,000 vehicles per day, while serving as the main east-west arterial roadway through the center of Dakota County and northern Scott County. Dakota County selected Bolton & Menk to develop the final plans for a \$17 million expansion within the cities of Burnsville and Savage. The project included capacity expansion from four lanes to six lanes, access consolidation and local route improvements, bridge replacement, and trail enhancements. The project utilizes Federal, County State Aid, Municipal State Aid, and local funds for the project. Bolton & Menk's role included the final design of improvements as well as coordination of jurisdictional and permitting agencies.

Any project of this magnitude encompasses many challenges and competing interests that have the potential to jeopardize the delivery of the needed transportation improvements.

Bolton & Menk led a successful design and coordination effort for the CSAH 42 project, which included the following key components and strategies:

PROJECT MANAGEMENT AND AGENCY COORDINATION

Bolton & Menk led the coordination effort between Dakota County, Scott County, City of Burnsville, and the City of Savage. Monthly Project Management Team (PMT) meetings served as the catalyst for coordinating the multitude of technical and political issues on the project. Bolton & Menk has been committed to frequent and effective communication and coordination with the PMT. Communication and coordination began early and has been consistently strong throughout the project development.

PRELIMINARY DESIGN AND RIGHT-OF-WAY NEEDS

Finalizing roadway alignments, profiles, and construction limits marked the beginning of final design for the CSAH 42 project. Bolton & Menk worked with multiple adjacent properties to resolve project impacts on site access and parking through private access agreements and parking impact mitigation. Bolton & Menk prepared the necessary right-of-way plats and individual parcel sketches to aid in the right-of-way acquisition process. Early identification of right-of-way needs was critical in order for construction to begin in 2007. Providing clear, honest, and timely information to affected property owners has been Bolton & Menk's key to maintaining professionalism and minimizing surprises during right-of-way acquisition and construction.

Client Name

Dakota County

Project Cost

\$17,000,000



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INTERSECTION CHANNELIZATION AND TRAFFIC CONTROL

Bolton & Menk applied geometric design and traffic engineering expertise to design five signalized intersections and three (3) three-quarter access intersections. Signalized intersections contained as many as six approach lanes, three departing lanes, shoulders, and channelized right turns, resulting in challenging signal component placement and pedestrian environment. With special attention to design details, these intersections were designed with adequate capacity and ability to efficiently serve all roadway users.



CONSTRUCTION STAGING AND STAKEHOLDER INVOLVEMENT

The impact during the construction was a serious concern for adjacent businesses and highway users along the 1.6-mile segment of CSAH 42. Bolton & Menk's approach included a series of Construction Staging Workshops that engage stakeholders into the construction staging process. With input from adjacent business owners, transit providers, emergency services, and elected officials, the Project Management team developed an approach to reconstruct CSAH 42 under traffic while maintaining accessibility at critical locations and time periods. The outcome was a well-planned construction staging plan that was supported by the two counties and two cities involved, as well as businesses along the project corridor.



BRIDGE AND RETAINING WALL IMPROVEMENTS

Bridge construction sequencing was critical in this project for determining the most effective approach to the overall construction staging plan. The existing bridge over the Canadian Pacific railroad needed to carry traffic while a new bridge was under construction. The limited width of the existing bridge and the location of the new bridge (centered on the existing bridge) presented challenges in design. The Bolton & Menk/LHB design team evaluated and proposed the use of cast-in-place and wet cast big block walls to offset substantial right-of-way impacts and associated costs.



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PEDESTRIAN AND TRAIL ACCOMMODATIONS

Bolton & Menk placed special attention on the accommodation of pedestrians and other trail users within the corridor. The installation of bituminous trail on both sides of the corridor presented opportunities to better integrate non-motorized transportation users with adjacent land uses, transit services, and crossings of CSAH 42 at signalized intersections.

TRANSIT FACILITY INTEGRATION

As part of the design effort, Bolton & Menk worked with the Minnesota Valley Transit Authority (MVTA) to accommodate bus service within the project area. The Savage Park-n-Ride is located at CSAH 42 and Huntington. While the Park-n-Ride would not be physically impacted by the project, delays to bus routes were anticipated. Bolton & Menk worked with Dakota County and MVTA staff to plan for alternative routes during certain phases of CSAH 42 construction to minimize delays of these routes. In addition, Bolton & Menk completed and incorporated the design for 10 bus stops within the CSAH 42 project area.

STORM WATER MANAGEMENT

The project included significant storm water management issues associated with the various watershed districts and MPCA permitting in an area that offered very little room for traditional BMP's. Bolton & Menk worked with the agencies involved and proposed various alternative treatment methods in its Storm Water Pollution Plans (SWPPP) that were ultimately accepted by all parties involved in the plan review and permitting authorities.

