

**STATION URBAN DESIGN ISSUES:
RED ROCK COMMUTER RAIL**

Lance M. Neckar

DEPARTMENT OF LANDSCAPE ARCHITECTURE
College of Architecture and Landscape Architecture
University of Minnesota

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Hastings, Minnesota

Prepared By
DEPARTMENT OF LANDSCAPE ARCHITECTURE
UNIVERSITY OF MINNESOTA

Principal Investigator
Lance M. Neckar



Aaron Mikonowicz
Rich Harrison

Jason P. Aune
James Pettinari

Shawn Kummer
Kate Terrell

ACKNOWLEDGMENTS



Principal Investigator

Lance M. Neckar, Professor, Department of Landscape Architecture
College of Architecture and Landscape Architecture
University of Minnesota

Research and Design Team, Department of Landscape Architecture

Aaron Mikonowicz, Research Fellow
Jason Aune, Research Fellow
Rich Harrison, Research Specialist
James Pettinari, Research Fellow
Shawn Kummer, Research Assistant
Kate Terrell, Research Assistant

Technical Advisory Panel

Jim Barton, Metropolitan Council
Bruce Chamberlain, Hoisington Koegler Group Inc.
John Grossman, City of Hastings
John Hinzman, City of Hastings
Sam Khan, MnDOT
Mike Rogers, Washington County
Karl Weissenborn, MnDOT Technical Liaison

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INTRODUCTION

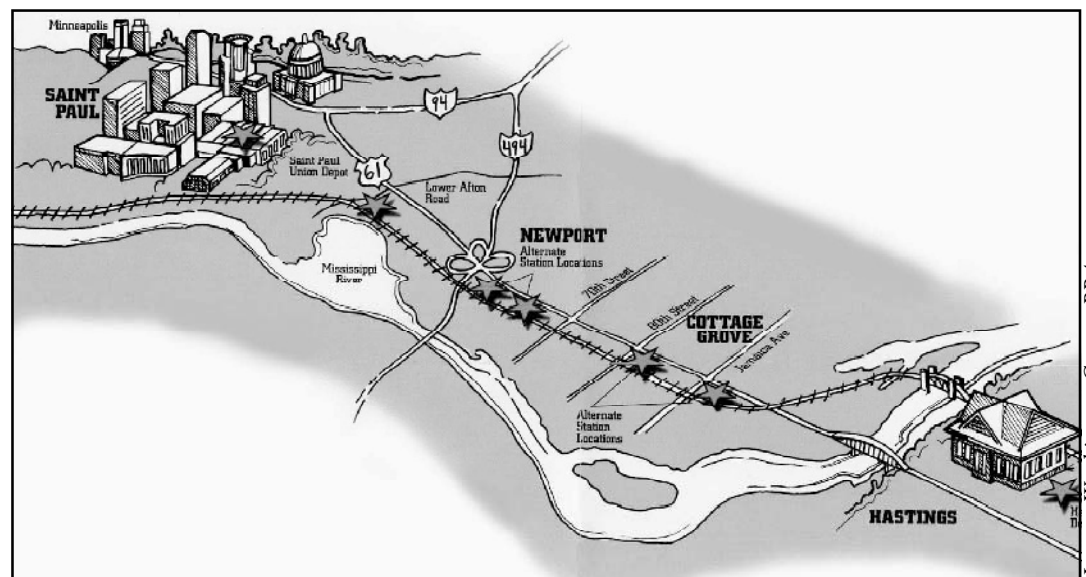
Background

Hastings, Minnesota is a historic town. Its roots run deeply intertwined with the history of the state. It lies along the Mississippi River at the junction of State Highways 61 and 55 at the edge of a still productive agricultural hinterland. The Vermillion River runs through the southern part of the town where its falls have provided power to flour mills since 1954. On the levee of the Mississippi, grain trading, elevators, freight warehouses and a small lumber yard provided the town with its first economic identity and sustenance. A shingle mill and a foundry were also located along the river. Until recently, Hastings was a relatively free-standing community with its own employment base and cultural institutions.

Today Hastings is also part of the Twin Cities metropolitan area. It is the southern terminus of the proposed Red Rock Commuter Rail service to St. Paul, Minneapolis, and, via the proposed Northstar service, to Rice/St. Cloud. The Red Rock Commuter Corridor is the second priority corridor for development identified by the State of Minnesota. This corridor has received initial design and planning attention in the form of a ridership and preliminary planning studies: Phase I Commuter Rail Feasibility Study, (July 2001) commissioned to Parsons Transportation by the Washington County Rail Authority and guided by the Red Rock Commission; and Transportation and Regional Growth Study on the Red Rock/Highway 61 Corridor¹ completed by the University of Minnesota Department Landscape Architecture research team.

At the time of the Parsons study, it was assumed that the historic station area (with an Old Milwaukee Road Depot building and a large switching yard now used by Canadian Pacific Rail) would be the site of the station. With the development of this proposal, it has been assumed that an alternate station site on 10th Street near the Smead manufacturing plant should be analyzed. Both sites have been designed in conformance with the city's plan to implement recommended changes in the switching facilities in the yard made by its consultant, E. P Hamilton and Associates, Inc. These changes would enable the city to move most of the switching operations that now block downtown street crossings of the railroad to the south end of the yard.

This is an applied research project, using design as the principal vehicle of inquiry and related analyses as critical quantitative elements in the design. The primary research objectives are to illuminate the problems and demonstrate possible solutions in adapting a fully built-up historic Mississippi River town to commuter rail oriented development in relation to two potential station sites. Critical issues of transportation change, including greatly increased peak traffic and demand for parking near the station, will constitute a challenge to the town's



The Red Rock Commuter Rail Corridor



identity as a historic Mississippi River town. This image is critically linked to its marketing to tourists and new residents and commercial developers. Housing and mixed use redevelopment could help to create a new commuter-rail-oriented aspect of the town's future development plans. New multi-modal streets appropriate to these environments would also be proposed. Another important issue for the town is the designed introduction of impervious surface (such as surface parking and buildings) near the river and the Department of Natural Resources (DNR) protected shorelands. The proposed designs will incorporate new design approaches and technologies for stormwater management at the watershed and site scales. The final implementation of all of the proposed designs in this report will, in all probability, be subjected to DNR and the state's Environmental Quality Board (EQB) who coordinate state agencies' efforts and jurisdiction on shoreland protection planning. While the aims of the design work are ambitious, the team also intends to match the community's expectations for a new integrative design vision.

Scope/Vision

This urban design study uses commuter rail-oriented design approaches to afford evaluation of two alternative sites for station locations in Hastings, Minnesota, the last stop on the proposed Red Rock Corridor (service to St. Paul with intermediate stations planned for Cottage Grove and Newport).² The project examines issues and approaches that were developed in previous work by the team.³ The objective of this approach is to test the potential for these sites to be successful elements of the transit system as well as being adaptable to existing town street, block, built fabric and landscape patterns.⁴ The work plan was integrated with City of Hastings officials and their consultants for a downtown master plan, Hoisington Koegler Group, during the project period (summer, 2002).

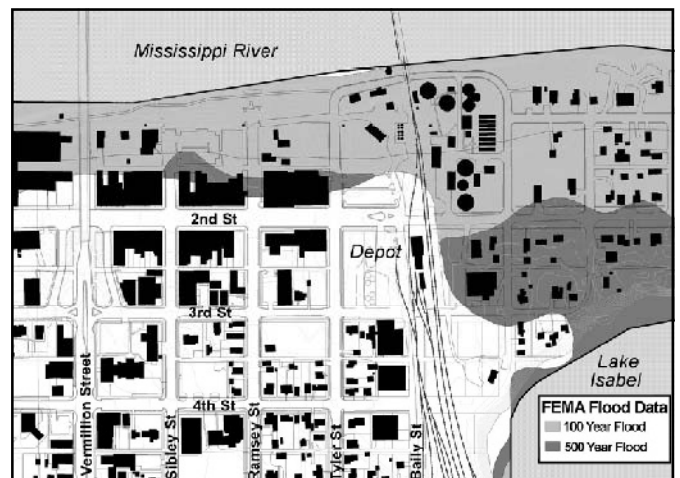
Five Objectives

1. PEAK PERIOD DESIGN

The adaptation of historic town streets to peak hour access requirements is a challenge. Several of the numbered east-west streets off Vermilion (Highway 61) have right-of-ways less than fifty feet wide. The designs accept, for example, the concept that there will be certain desirable routes to the station sites from known areas of ridership. However, the objective of the designs is to disperse this peak effect to other routes given the potentially dramatic negative impacts of street widenings to the historic fabric.

2. IMPERVIOUS SURFACE AND STORMWATER RUNOFF

Much of downtown Hastings lies in a DNR protected shoreland area that also sits within the 100-year and 500-year floodplains. Much of the proposed development shown in this study in the context of the station alternatives would enlarge the impervious surface (roofs, pavement, etc.) and increase runoff into the Mississippi River. While it is difficult to design for this increase systemically in the downtown area where existing piped storm sewers make infiltration systems difficult to justify, the schemes shown could be graded and planted to maximize infiltration on-site.⁵ A more systemic approach is shown for the alternative site on 10th Street. The open space connections described below could also be designed to infiltrate storm runoff, although bedrock conditions in the city may be a constraint in some areas.



100 and 500 Year Floodplains

3. OPEN SPACE/MULTI-MODAL CONNECTIONS

Hastings' location on the Mississippi and the Vermillion provided an economic advantage to the town in the nineteenth century. Today these river corridors offer a multi-modal transportation opportunity that can also address the need for shoreland protection and the opportunity to develop a connective recreational link along the Bailey Street/railroad corridor that Hastings has not historically had.

4. HOUSING AT COMMUTER RAIL DENSITIES/MIXED USE / VMT

With the potential of commuter rail, to enhance the attractiveness of Hastings as a commuter community, several related opportunities are addressed in this design. Hastings' recent successes in infill development of medium to high density housing (8 -12 d.u./acre to 25-35 d.u./acre /gross density) in a traditional nineteenth century free-standing, predominantly single-family housing fabric (estimated to be at about 2-4 d.u/ acre/gross density) near downtown suggest that transit-oriented projects of this type could be part of station-area redevelopment. Commuter rail riders often live miles from a station, as compared to light rail riders who are often located within a 1/3 to 1/2 mile radius. Nevertheless, the opportunity to build a series of new mixed-use projects and housing types that can enhance the pedestrian and transit-oriented character of the town could reduce vehicle miles traveled for residents, especially for those who would also be transit riders.

5. MULTI-MODAL STREETS

Multi-modal streets are needed to provide a platform for the kinds of projects that enhance ridership via density and mixed use. Pedestrian and bicycle connectivity, comfort and safety are paramount concerns that need to be addressed in the redevelopment of streets around a station. Street trees, lighting, paving differentiation and other street structures are needed to give space for each mode, especially at commuter peaks. On-street parking can also be a critical design element of multi-modal streets.

Assumptions

(Numbers relate to assumptions map)

1. CON AGRA TRACK RELOCATION

E.P. Hamilton's proposal relocates the Con Agra Rail spur to a curved line running along Progressive Drive off 10th Street (between the City's Public Works Garage and Intek). A new spur would provide service for Smead Manufacturing. The relocation plan would remove all the tracks shown as a dashed line, from 2nd Street to about 800 ft. beyond 10th Street. This plan creates an opportunity to complete a city wide trail network.

2. UNITED BUILDING CENTER LUMBER YARD

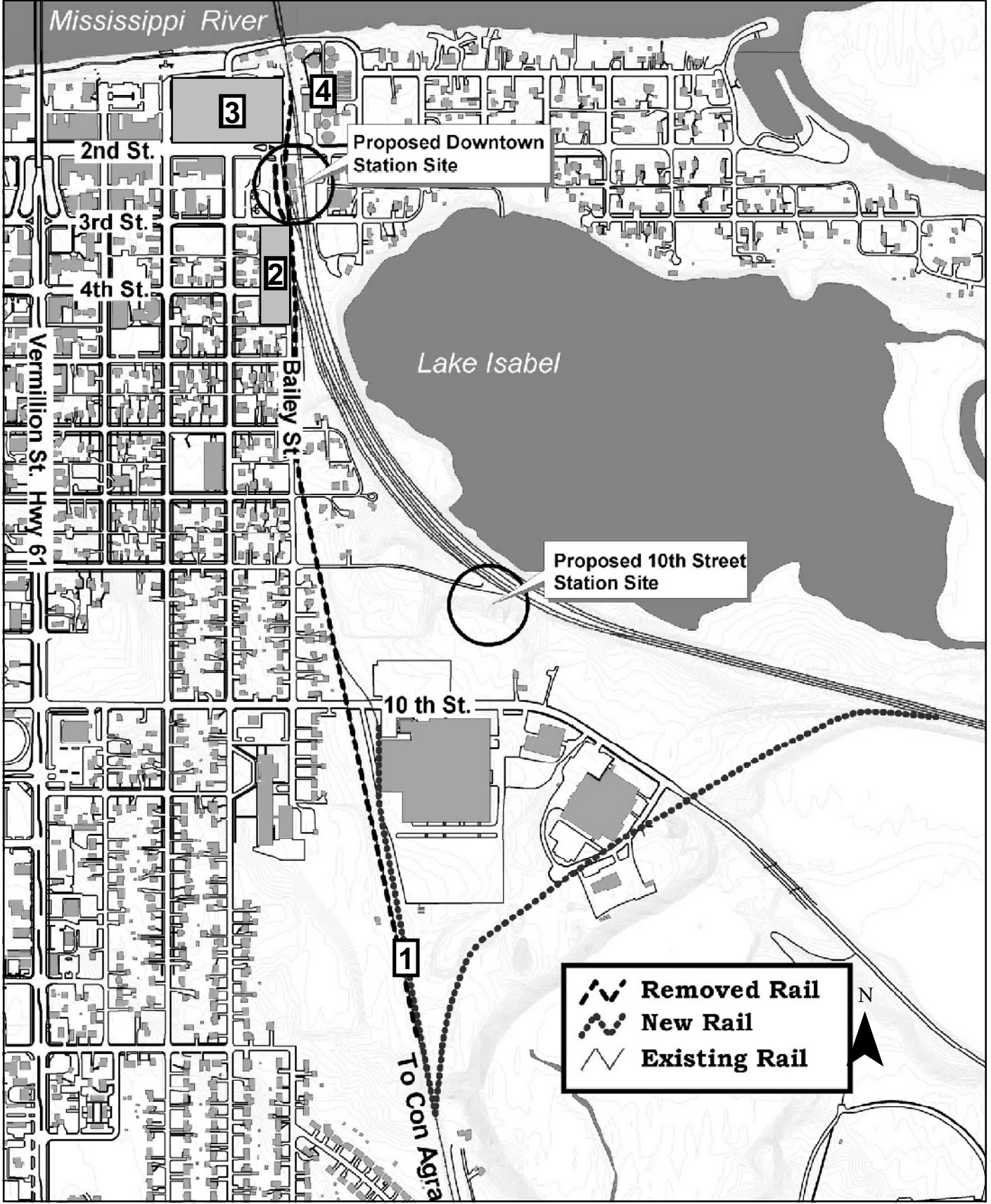
The City of Hastings has shown interest in relocating the UBC Lumber Yards. Redevelopment of this area fronting Bailey, 3rd and 4th Streets could include mid to high density housing with associated parking.

3. HOLIDAY INN DEVELOPMENT PROPOSAL

Adopt a recent redevelopment proposal of property fronting 2nd Street and the Mississippi River between Ramsey Street and CP Railroad. This proposal includes a mixed use entertainment complex containing a hotel, condominiums, a restaurant, water park, other retail and associated parking.

4. WASTE WATER TREATMENT PLANT

The Metropolitan Council plans to relocate the municipal wastewater treatment plant within 10 years creating an opportunity for a variety of new housing, offices and other mixed uses.



Assumptions Map

EXISTING CONDITIONS

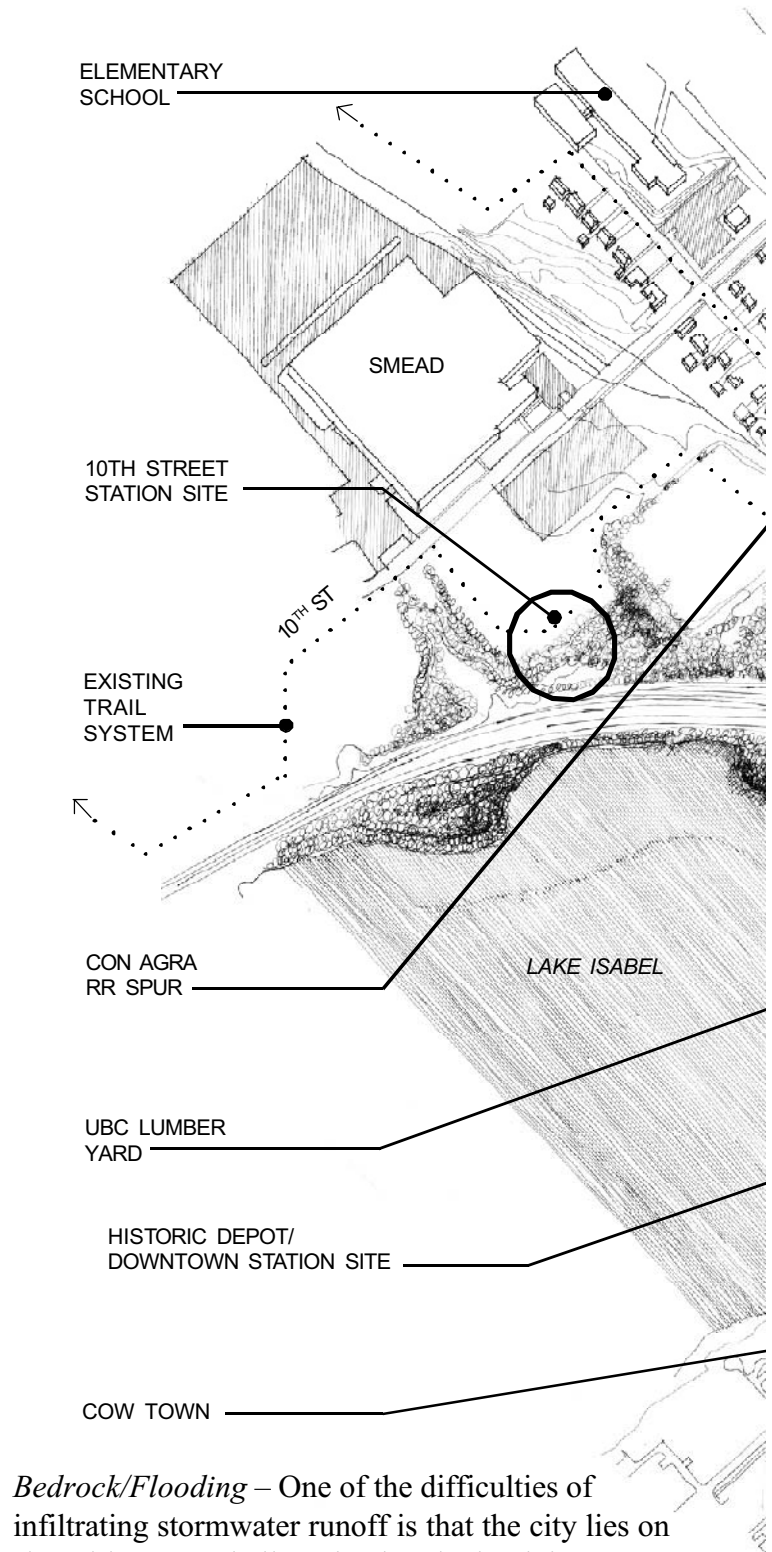
Issues, Opportunities, Constraints

Rail Operations – Currently there is no passenger service in Hastings and the historic depot area on 2nd Street and Bailey Street is dominated by the freight switching operations of CP Rail.

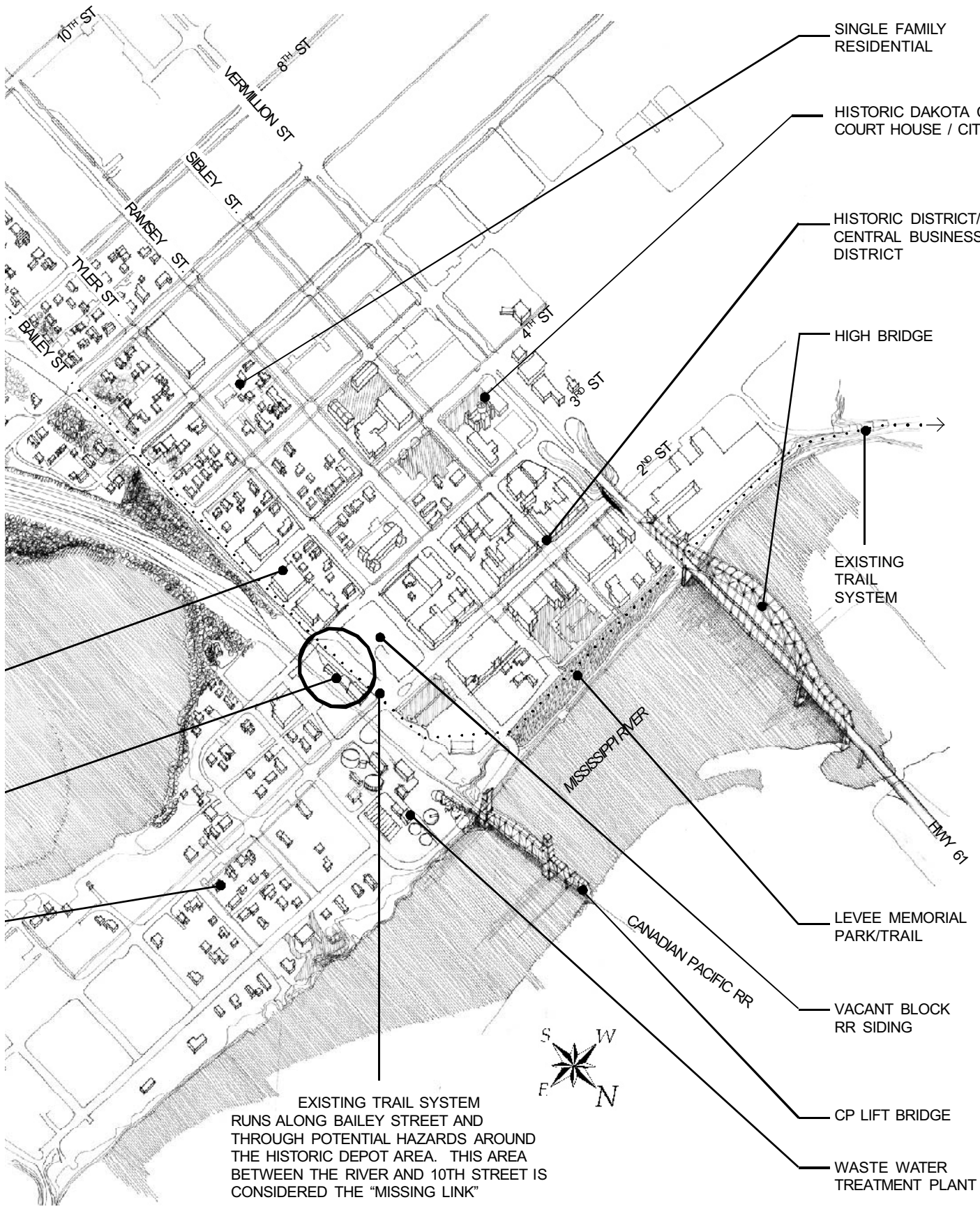
Historic Character – The City has an active heritage preservation commission and many of the town’s property owners have also invested in the historic character of its built fabric. The main street of the town, 2nd Street, has a largely intact and restored two-block destination, the commercial historic district. Within the nearby residential fabric, many historic houses have also been restored or adaptively reused. Some of the town’s landmark historic institutional buildings have also been restored, notably the old county courthouse, now used by the City of Hastings.

Street Network – The 300-foot blocks of the town’s original plat permit a porosity of space that can distribute traffic. However, the impact of the Highway 61 bridge across the Mississippi River has, over the years, eroded the multi-modal character of the town and divided one side of town from the other and forced decisions to create one-way streets on Tyler and Ramsey that also tend to reduce the porosity of the grid. Access to the station sites must, therefore, be carefully designed so as not to exacerbate this trend, especially on the principal streets that would be affected at the peak hour. This will be a challenge since the right-of-ways on these streets are relatively narrow—fifty to sixty-five feet.

Open Space, Trail System, and Shoreland Protection - The Levee Memorial Park located downtown on the Mississippi River, and the Vermillion River trail on the southwest edge of the old town have been completed as the first pieces of a potential connective trail system. There is currently a missing link between these two areas. Developing this missing link in the potential system would add value both to recreational and transportation connectivity while also enhancing opportunities for shoreland protection from runoff.



Bedrock/Flooding – One of the difficulties of infiltrating stormwater runoff is that the city lies on site with a very shallow depth to bedrock in many locations. Many infill units may have to be constructed without basements because of this condition and because of their location in the floodplain.



SINGLE FAMILY RESIDENTIAL

HISTORIC DAKOTA COUNTY COURT HOUSE / CITY HALL

HISTORIC DISTRICT/ CENTRAL BUSINESS DISTRICT

HIGH BRIDGE

EXISTING TRAIL SYSTEM

LEVEE MEMORIAL PARK/TRAIL

VACANT BLOCK RR SIDING

CP LIFT BRIDGE

WASTE WATER TREATMENT PLANT

EXISTING TRAIL SYSTEM RUNS ALONG BAILEY STREET AND THROUGH POTENTIAL HAZARDS AROUND THE HISTORIC DEPOT AREA. THIS AREA BETWEEN THE RIVER AND 10TH STREET IS CONSIDERED THE "MISSING LINK"