

City of Litchfield – Heritage Preservation Commission

AGENDA PACKET

Monday, October 22, 2018 – 6:30 P.M.

AGENDA

Monday, October 22, 2018 - 6:30 P.M.

I. CALL TO ORDER

- A. ROLL CALL/DETERMINATION OF QUORUM
- B. ANNOUNCEMENT OF ADDITIONAL ITEMS

II. MINUTES

- A. Historic Preservation Meeting - September 24, 2018

III. PUBLIC HEARING: None.

IV. OLD BUSINESS

- A. MN HS ANNUAL REPORT

V. NEW BUSINESS

- A. MN DOT 90% PLAN - Attached

VI. REPORTS

- A. MEEKER COUNTY HISTORICAL SOCIETY
- B. MN HISTORICAL SOCIETY

VII. ANNOUNCEMENTS

- A. Next meeting will be Monday, November 26, 2018 at 6:30 in City Hall

VIII. AJOURNMENT

MINUTES

I. CALL TO ORDER –

A regular meeting of the Historic Preservation Commission was held in the City Council Chambers at the City Hall on Monday, September 24, 2018, commencing at 6:30 p.m. Chair Kotelnicki called the meeting to order.

A. ROLL CALL:

Commissioner (Chair)	Darlene Kotelnicki	Present
Commissioner	Sid Willson	Absent
Commissioner	Frank Koch	Absent
Commissioner (Plan. Comm. Rep)	Mike Flaata	Present
Commissioner	Kevin Hovey	Present
Commissioner (MCHS Rep.)	Dave Welker	Present
Commissioner	Kateri Kormann	Present

B. ANNOUNCEMENTS OF ADDITIONAL ITEMS: None.

II. MINUTES TO APPROVE –

A. Historic Preservation Meeting - August 27, 2018

MOTION: To approve as submitted (Mike/Frank/Passed unanimously).

III. PUBLIC HEARING – 132 North Sibley Ave., 27-0809-000

A. Open public hearing at 6:32 p.m.

B. Declaration of Conflict of Interest: None Ex-parte: Darlene reported she helped fill out the application

C. Review of Proper Notification - Published in the Independent Review

D. Introduction of Completed Application by Commission

E. Presentation by Designee: Carl St. Pierre

Carl reported he has no plans to build anything on this property at this time [Ord. 735 6. b. (3)] He plans to remove non-historic structures that are in poor condition without damaging the adjacent structures [Ord. 735 6. b) (1 & 2)]. Carl feels the value of the property would not decrease with the removal of these structures [Ord. 735 6. b. (4)]. The applicant had a question about removing the non-functioning HVAC unit and if he would need a COA to use grant funds. The commissioners said yes if he wanted to apply for grant funds. The applicant requested including removal of the HVAC unit and an invasive tree.

F. Comments from Other Interested Parties: None

G. Closure of Public Hearing, with option to question applicant or parties 6:36 p.m.

H. Action on due process MOTION: To approve (Frank/Kevin/Passed unanimously)

I. Checklist: 3 Yes 0 No 7 NA

J. Findings of Fact: Completed

- K. Action on the application by the Commission: MOTION: Approved as amended to include removal of the non-functional HVAC unit and invasive tree (Frank/Mike/Passed unanimously).

IV. OLD BUSINESS –

- A. MN HS CONFERENCE –
Kevin reported that our talk went very well. He also explained the QR code for This Place Matters.
- B. SIGN ISSUES –
Tabled until next February.
- C. GOALS FOR FY2019 -
A goal was added under protection "By the end of the first quarter, the HPC will develop a tracking system for COAs.

V. NEW BUSINESS –

- A. ALLEY WAYS -
The commission expressed concern about surfaces with some concrete being irregular. Safety concerns were expressed. There was also a concern about lighting with the west side being darker than the east. The post office lights help the 200 block. The commissioners requested the city look at the traffic direction in the alleys. Concerns expressed about the preschool cars and delivery trucks.
- B. CLG GRANT -
Dan Hoisington was present and explained the project. He states we need to make it simple to keep the public's attention. This will be available on you-tube and with a QR code. We do not want the whole building history but to "tell a story." Several buildings were discussed for a good example of preservation. Dan will be back again in October to take photos; he will include drone shots. Dan will come to our November meeting with a sample. The QR codes can be on cardboard in the windows, stickers, or attached to the building. The information will be in the brochure and could be printed off the city's website. Dan requested the HPC decrease the number of properties to 28. It was decided to include the three properties on the National Register (Litchfield Opera House, GAR Hall, Trinity Episcopal Church) and Central Park. To decrease the number of properties, Kateri suggested the properties that were built as double or triple buildings be considered as one. We may also need to leave out some of the non-contributing properties.
- C. 2018 ANNUAL REPORT -
Deferred to next month.

VI. REPORTS –

September 24, 2018

- A. MEEKER COUNTY HISTORICAL SOCIETY –
MN HISTORICAL SOCIETY -

VII. ANNOUNCEMENTS –

- A. Next meeting will be Monday, October 22, 2018 at 6:30 p.m .in City Hall

VIII. ADJOURNMENT –

The Heritage Preservation Commission meeting adjourned at 7:55 p.m.

DARLENE KOTELNICKI
CHAIRPERSON

OLD BUSINESS

NEW BUSINESS

October 1, 2018

Darlene Kotelnicki
Chair, Litchfield Heritage Preservation Commission
City of Litchfield
126 Marshall Avenue N.
Litchfield, MN 55355

Dave Cziok, City Administrator
City of Litchfield
126 Marshall Avenue N.
Litchfield, MN 55355

Re: Reconstruction of US 12, TH 22, and W 4th Street in Litchfield, Meeker County (State Project 4704-89, 4705-47, 4709-32)

***Submittal of Architecture-History Identification Report and Inventory Forms
Submittal of 90-Percent Plans with Assessment of Effects to Historic Properties***

Dear Ms. Kotelnicki and Mr. Cziok:

As you know, MnDOT District 8 is proposing reconstruction of portions of US Highway 12, Trunk Highway 22, and West 4th Street within and near downtown Litchfield. The MnDOT Cultural Resources Unit (CRU) has been conferring with the Litchfield Heritage Preservation Commission (HPC) during the Section 106 review process. You have received copies of the Section 106 Programmatic Agreement for the project that was executed in July 2018 by the Federal Highway Administration (FHWA), Minnesota State Historic Preservation Office (MnSHPO), MnDOT, City of Litchfield, and Litchfield HPC. The Programmatic Agreement allows the environmental review (NEPA) process to conclude while affording continued consultation on the Section 106 process.

Identification of Historic Properties

MnDOT CRU has completed the identification of historic properties in the architecture-history Area of Potential Effect (APE). Sue Granger of Gemini Research prepared a report titled *Phase I and II Architecture-History Investigation, Reconstruction of US 12 and TH 22 in Downtown Litchfield, Meeker County, Minnesota (S.P. 4704-89, 4705-47, and 4709-32)*, September 2018. Per Stipulation IIB of the Programmatic Agreement, we are submitting a disk copy of an architecture-history survey report for Litchfield HPC review and comment. The disk also contains a set of 34 Minnesota Historic Property Inventory Forms, as is required by the SHPO. The inventory forms cover only a subset of the properties discussed in the survey report because many properties already had an inventory form on file at the MnSHPO that was completed within the last ten years and therefore a new forms were not prepared.

MnDOT CRU has reviewed the report and inventory forms and agrees with Gemini Research's recommendation that there are four properties within the APE that are listed in, or eligible for, the National Register of Historic Places, including:

Litchfield Commercial Historic District (ME-LTC-001)

Northwestern National Bank (ME-LTC-130)
Trinity Episcopal Church (ME-LTC-136)
St. Paul and Pacific Railroad Corridor Historic District, Litchfield Segment (ME-LTC-291)

Forty-one (41) buildings in the Litchfield Commercial Historic District are located within the APE. (See maps 1 and 2 in the report.) The Commercial Historic District and Trinity Episcopal Church have also been designated Heritage Preservation Sites by the City of Litchfield.

90-Percent Plans and Assessment of Effects to Historic Properties

MnDOT has prepared 90-percent complete plans and special provisions for the project. Enclosed are excerpts from the 90-percent plans and special provisions for the Litchfield HPC and City of Litchfield review and comment, per Stipulation IIIB of the Programmatic Agreement. We have also enclosed MnDOT CRU's recent letter to MnSHPO which summarizes the review of the 90-percent plans and our office's finding that the project, as currently proposed, is consistent with the Secretary of the Interior's Standards for Rehabilitation and that the project will have No Adverse Effects to historic properties. Because there have been very few substantive changes between the 60-percent and 90-percent plans that pertain to historic properties, only an excerpt of the 90-percent plans and special provisions is enclosed. If you would like the full set of 90-percent complete plans on disk, please let me know.

As you know, Sue Granger of Gemini Research and Lowell Flaten, project manager for MnDOT District 8, attended HPC meetings on April 23, June 25, and August 27 to discuss the 60-percent and 90-percent plans and MnDOT's ongoing efforts to avoid adverse effects to historic properties.

Next Steps

We would appreciate receiving your comments on the identification and evaluation of architecture-history properties and on the 90-percent complete plans within 30 days of your receipt of this submittal. If you have any questions or concerns, please contact me at 651-366-3603 or by email at Katherine.Haun-Schuring@state.mn.us. You may also direct questions to Sue Granger of Gemini Research, our historian consultant.

Sincerely,



Katherine Haun Schuring, Historian
MnDOT Cultural Resources Unit
Office of Environmental Services (OES)

Enclosures:

Disk copy of *Phase I and II Architecture-History Investigation, Reconstruction of US 12 and TH 22 in Downtown Litchfield, Meeker County, Minnesota* (S.P. 4704-89, 4705-47, and 4709-32) (Sept. 2018)
Disk copy of Minnesota Historic Properties Inventory Forms (34 forms)
MnDOT CRU letter to MnSHPO (Haun Schuring to Beimers) dated October 1, 2018

cc: Sarah Beimers, MnSHPO
Phil Forst, FHWA
Sue Granger, Gemini Research

October 1, 2018

Ms. Sarah Beimers
Environmental Review Manager
Minnesota Historic Preservation Office
Administration Building #203
50 Sherburne Avenue
St. Paul, MN 55155

Re: S.P. 4704-89, 4705-47, 4709-32: US 12 (Sibley Avenue N and Depot Street), TH 22 (Sibley Avenue S), and 4th Street reconstruction in Litchfield, Meeker County
SHPO No.: 2016-0398

***Submittal of Architecture-History Identification Report and Inventory Forms
Submittal of 90% Complete Plans and Special Provisions***

Dear Ms. Beimers:

I am writing to continue consultation with your office regarding the above-referenced undertaking, pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the 2014 Section 106 Programmatic Agreement between FHWA and the Minnesota State Historic Preservation Office (MnSHPO). A project-specific programmatic agreement (PA) for this project was executed in July 2018 by FHWA, MnSHPO, MnDOT, the City of Litchfield, and the Litchfield Heritage Preservation Commission (HPC). The PA allows the NEPA process to conclude but affords continued consultation on the Section 106 process.

On April 17, 2018 we submitted the 60-percent plan set and an assessment of potential effects to those historic properties known to date, along with our determination that the project as represented in the 60-percent plans was consistent with the Secretary of the Interior's (SOI) Standards for Rehabilitation and will have No Adverse Effect to the identified historic properties. That submission included an Assessment of Potential Effects report (Gemini Research April 2018). We explained in the letter that architecture-history survey work to identify historic properties within the expanded APE was underway. In a letter dated June 11, 2018 you agreed with our findings that the project as represented in the 60-percent plans was consistent with the SOI Standards and will have No Adverse Effect to the historic properties identified.

Identification of Historic Properties

MnDOT CRU has completed the identification of historic properties in the architecture-history APE, per Stipulation IIB of the PA. Enclosed is the architecture-history survey report prepared by Gemini Research entitled *Phase I and II Architecture-History Investigation, Reconstruction of US 12 and TH 22 in Downtown Litchfield, Meeker County, Minnesota (S.P. 4704-89, 4705-47, and 4709-32)*, dated September 2018, for your review and comment. Also enclosed is a set of 34 Minnesota Historic Property Inventory Forms for your files. Please note, inventory forms were not prepared for properties that have an inventory form on file at MnSHPO prepared during the last ten years.

MnDOT CRU has reviewed the architecture-history survey report and forms and has determined that they meet the Secretary of the Interior's Standards for Evaluation. A summary of inventory efforts to date, including the total number of properties inventoried and findings, is included on pages 3.6-3.12 of the enclosed consultant's report. MnDOT CRU agrees with the consultant's recommendation that there are four historic properties within the APE:

Litchfield Commercial Historic District (ME-LTC-001), comprised of 41 buildings*
Trinity Episcopal Church (ME-LTC-136)*
Litchfield Segment of the St. Paul & Pacific Railroad Corridor (ME-LTC-291)¹
Northwestern National Bank (ME-LTC-130)

The Northwestern National Bank (ME-LTC-130), now Wells Fargo Bank, was identified within the expanded APE and is the only newly identified property recommended eligible for the National Register of Historic Places. Assessment of effects to this property are presented below.

*The Commercial Historic District and Trinity Episcopal Church have been designated Heritage Preservation Sites by the City of Litchfield.

90-Percent Complete Plans and Special Provisions

There have been very few substantive changes between the 60-percent plans and the 90-percent plans that pertain to historic properties. Those changes are represented on the enclosed eight sheets from the 90-percent complete plans (the title sheet and sheets 86, 90, 93, 113, 190, 194, and 198). We have also enclosed relevant pages from the special provisions (8 pages). The entire 298-page 90-percent plan set is on a disk enclosed with this submittal. (Please note that, unlike the 60-percent submittal, the 90-percent submittal does not have separate "Property Figures" to provide details on ADA-compliant sidewalk changes. Instead, this information is reflected on sheets 113-116 of the 90-percent plans.)

The text below highlights information in the 90-percent plans and special provisions that was not included in the 60-percent plans or has changed since then. For an overview of the undertaking's major work items, please refer to our April 17, 2018 letter and to the Assessment of Potential Effects report (April 1, 2018) submitted with that letter.

Traffic Signal and Intersection Curblines Changes at Sibley Avenue and 3rd Street. In a change from the 60-percent plans, the 90-percent plans reflect the decision to retain the traffic signal at the intersection of Sibley Avenue and 3rd Street in the Commercial Historic District. As described in our April 17th letter, curblines changes at each of the four intersection corners are necessary to accommodate the upgraded traffic signal equipment, and to allow for ADA-compliant passage around the equipment and around an enclosed stairway attached to 231-241 N. Sibley. (See plan sheets 90 and 113.) These curblines changes have been minimized as much as possible and do not substantively change the character of this part of the historic district. Retaining the traffic signal will also facilitate continued pedestrian crossings within the historic district and slower vehicular traffic through the district.

Parking Spaces. The 90-percent plans confirm the fact that there will be no loss of downtown parking spaces as a result of the project.

¹ The St. Paul & Pacific Railroad Corridor Historic District (XX-RRD-032) was previously identified as eligible; however an individual inventory form for the segment within the APE was prepared as part of this project.

Street Trees. The 90-percent plans reflect the fact that all sidewalk tree pits along Sibley Avenue within the project limits will be removed, and that no trees will be installed as part of the project.

Ornamental Lighting Details. The lighting sheets in the 90-percent plans now indicate that the color temperature of the ornamental lights will be 3,000K. (See plan sheet 190.) This is a slightly warmer (less “blue”) light than typical and will be more appropriate for the Commercial Historic District. For consistency, this color temperature will be used on all street lights throughout the entire project. On sheet 190, the 90-percent plans also show the final choice for the ornamental street lights’ base, pole, and luminaire. These lights will closely match the ornamental lights that stood in downtown Litchfield during the Commercial Historic District’s period of significance. (See the historic photo on page 62 of the April 2018 Assessment of Potential Effects report.) The 90-percent plans do not show that both the ornamental lights and the MnDOT standard lights will have small brackets for flying the American flag on appropriate civic holidays. This will be reflected in the 100-percent plans.

Concrete Curing Compound. A white concrete curing compound is typically applied to new concrete surfaces to enable proper curing. We have worked with project engineers to utilize a clear curing compound or a fugitive dye that disappears soon after application rather than the traditional white compounds on new concrete surfaces. This will ensure that the concrete surfaces are not coated with a bright white residue that can last for multiple years, particularly on less-traveled portions of the downtown sidewalks.

Northwestern National Bank Corner. Potential effects to the Northwestern National Bank, now Wells Fargo Bank, were not discussed in our April 17, 2018, letter because it is a newly-identified historic property. In the 60-percent plans MnDOT proposed sidewalk and catch basin work on the bank corner. The work would have included replacing part of the bank’s 1968 exposed aggregate main entrance sidewalk, as well as working immediately adjacent to the bank’s stone and concrete retaining wall. In order to limit any potential impacts to this historic property, we have worked with project engineers to shift construction away from the bank corner. The construction limit near the Northwestern National Bank is now in the middle of the intersection to the southwest of the bank. As sheets 86 and 93 in the 90-percent plans indicate, there will be no change to existing curblines on the bank corner. The south tip of the concrete median in the intersection southwest of the bank will be reconstructed in-kind, as will the small triangular island just west of the median. Depot Street south of the bank will be reconstructed in concrete, as it is today, and portions of Marshall Avenue and First Street will be repaved with bituminous. The MnDOT Standard LED lights along Depot Street would be replaced by new dark gray-brown MnDOT Standard LED lights in the same location (see plan sheets 194 and 198).

Assessment of Potential Effects to Northwestern National Bank: The project as detailed in the 90-percent plans would have no adverse effects to the Northwestern National Bank. The median, curb and gutter, sidewalks, pedestrian ramps, and street lights located across the street to the south and southwest of the bank property would be replaced essentially in-kind. Views to and from the historic property would not change as a result of the undertaking. There are expected to be no permanent changes in the volume, type, or pattern of vehicular or pedestrian traffic due to the undertaking, and no changes to parking. There would be temporary disruptions to vehicular and pedestrian traffic patterns during construction, but MnDOT would ensure that access to the bank for both vehicles and pedestrians is maintained. There may be increased noise from

construction activity but these auditory effects would be temporary. Per Stipulation IV of the PA, MnDOT will develop a vibration monitoring plan (see below) to control and monitor construction-related vibration near historic properties.

Vibration Monitoring and Control. We have been working with the District to develop a Vibration Monitoring Plan (VMP), as required by Stipulation IV of the Section 106 PA. Division S-2 "Vibration Monitoring and Control" of the enclosed special provisions provides the framework for developing a historic properties vibration monitoring and control process. The steps summarized from the special provisions, below, will be refined VMP which will be prepared after selection of a General Contractor.

1. The General Contractor will hire a qualified vibration specialist. MnDOT will establish a Vibration Monitoring Team (VMT) that will include MnDOT engineers, a CRU representative, and a historic architect.
2. The Contractor's vibration specialist, in coordination with the VMT, will prepare a Historic Properties Vibration Monitoring Plan (VMP) to cover all historic properties in the vibration Area of Potential Effect. The plan will discuss expected vibration-producing activities and establish the details of the vibration monitoring and mitigation process. The draft VMP will be reviewed by the VMT, FHWA, MnSHPO, and Litchfield HPC.
3. The Contractor's vibration specialist will conduct a pre-construction condition survey of each historic building to document existing condition and identify specific condition issues. MnDOT CRU's consulting historic architect will participate. For each building, safe vibration levels and a plan for the placement of monitors (seismographs) will be established. Recommendations for other protective measures will be made as needed. The pre-construction condition survey reports will be reviewed by the VMT.
4. Vibration will be monitored during construction. Email notification of monitor readings will follow a protocol established in the VMP. If vibration exceeds a warning level, engineers will reduce vibration by, for example, changing construction methods. If vibration exceeds a threshold level, construction will halt until the situation is mitigated. Construction will resume with vibration at lower levels.
5. The Contractor's vibration specialist will conduct a post-construction condition survey of each historic building with CRU's historic architect present. The vibration specialist will produce a summary report. The draft report will be reviewed by the VMT, FHWA, MnSHPO, and Litchfield HPC.
6. Consultation with owners of the historic properties will occur throughout the process.

Related Protection During Construction. Noting the current condition of buildings within the downtown historic district, District 8 has developed additional provisions to protect historic properties from construction-related conditions. Division S-3 "Structure Evaluation and Protection" of the enclosed special provisions provide for this added protection and is summarized from the special provisions below.

1. The Contractor will hire a qualified building protection specialist.
2. The building protection specialist will prepare a Structure Protection Plan. The plan will be reviewed by MnDOT Engineers and MnDOT CRU (including its consulting historic architect). The plan will identify locations where construction activities may produce loads with the potential to damage structures. It will include the results of a structural susceptibility evaluation of each structure, and the results of the vibration pre-

construction condition surveys (see above). The plan will include recommendations for protective measures at susceptible buildings.

3. The Contractor will implement the protective measures as needed. Measures requiring physical intervention at historic buildings such as temporary support systems would require approval by the Engineer and MnDOT CRU (conferring with its consulting historic architect) prior to installation, and would involve coordination with property owners.
4. During construction, the building protection specialist will monitor construction activities and the effectiveness of the preventative measures.
5. The building protection specialist will conduct a post-construction condition survey, combined with the vibration post-construction survey described above, and produce a summary report that will be reviewed by the VMT, FHWA, MnSHPO, and Litchfield HPC.

In a further effort to reduce potential impacts during construction, Section 2011 of the special provisions mandates that the sidewalk and curb and gutter adjacent to downtown historic properties be removed by sawcutting, rather than in-place demolition, to minimize vibrations and lateral load. In addition, the final special provisions will specify that utility connections to each downtown historic building be made by use of directional boring, rather than excavating a trench to each building foundation, to reduce the potential for uneven loading and other factors that may affect the stability and condition of the buildings.

As per Stipulation IV of the PA, MnDOT CRU will make a final finding of effects to historic properties within nine months of completion of the post-construction condition surveys.

Continued Consultation with the Litchfield HPC

In letters to your office dated November 17, 2017 and April 17, 2018, we provided a list of public and HPC meetings attended by our consulting historian where project details and their potential effects to historic properties were discussed. Since our 60-percent findings letter Sue Granger of Gemini Research and Lowell Flaten, project manager for MnDOT District 8, also attended HPC meetings on April 23, June 25, and August 27 to discuss the 60-percent and 90-percent plans. The HPC invited the Commercial Historic District property owners to the June 25th meeting, which was well attended.

Per Stipulation IIB of the PA, MnDOT CRU has submitted the architecture-history survey report and inventory forms to the Litchfield HPC for review and comment. Per Stipulation IIIB of the PA, CRU also submitted excerpts from the 90-percent complete plans and special provisions and this letter which summarizes CRU's finding of effects to historic properties as represented by the 90-percent plans to the Litchfield HPC and the City of Litchfield for review and comment.

Findings and Next steps

Based on a review of the 90-percent plans and special provisions, our office continues to find that the project, as currently proposed, is in accordance with the SOI Standards for Rehabilitation and will have **no adverse effect** on historic properties within the project area. Proposed changes at previously and newly identified historic properties will not diminish historic integrity and retain the character of the properties. Indirect effects are temporary and will be limited to the period of construction. We have worked with the District and project engineers to establish plans to monitor properties during construction.

At this time we request your review of the *Phase I and II Architecture-History* survey report and your concurrence with our determination that there are four historic properties in the

architecture-history APE. We also request your review of the 90-percent plans and special provisions and your comments on our finding that the project remains consistent with the Secretary of the Interior's Standards for Rehabilitation and will have No Adverse Effects to historic properties.

Please provide your comments within 30 calendar days of your receipt of this submittal, as per the terms of 36 CFR 800 and the project PA. If you have any questions or concerns, please contact me at 651-366-3603 or by email at Katherine.Haun-Schuring@state.mn.us.

Sincerely,



Katherine Haun Schuring, Historian
MnDOT Cultural Resources Unit
Office of Environmental Services (OES)

Enclosures:

Phase I and II Architecture-History Investigation, Reconstruction of US 12 and TH 22 in Downtown Litchfield, Meeker County, Minnesota (S.P. 4704-89, 4705-47, and 4709-32) (Gemini Research, Sept. 2018)
Minnesota Historic Properties Inventory Forms (34 forms)

cc: Darlene Kotelnicki, Chair, Litchfield HPC
Dave Cziok, Litchfield City Administrator
Lowell Flaten, MnDOT District 8
Sue Granger, Gemini Research
MnDOT CRU project file

S-1 **(1707) ROADWAY AND SIDEWALK CLOSURES**

The provisions of MnDOT 1707 are supplemented and/or modified with the following:

S-1.1 When the Contractor's vibration specialist identifies exterior or foundation building components are subject to potential distress, damage, failure or collapse due to construction activities, the adjacent sidewalk, parking lane and/or the closest traffic lane shall be closed to pedestrians and vehicular traffic when construction activities are located within 150 feet of the structure. Notify and coordinate all closures with the Engineer and provide a minimum 72-hour notice prior to placement of closure.

S-1.2 **METHOD OF MEASUREMENT AND PAYMENT**

No measurement will be made of the various Items that constitute Traffic Control but all such work will be construed to be included in the single Lump Sum payment under Item 2563.601 (Traffic Control).

The provisions of **S-XX** (2563) ALTERNATE PEDESTRIAN ROUTE shall be followed for any sidewalk closure. No measurement will be made of the various items that constitute Alternate Pedestrian Route, but all such work shall be construed to be included in the lump sum payment under Item 2563.601 (Alternate Pedestrian Route). The lump sum payment shall be compensation in full for all costs of furnishing, installing, maintaining and removing the individual devices.

S-2 **(2011) VIBRATION MONITORING AND CONTROL**

S-2.1 **DESCRIPTION**

The work includes pre- and post-construction condition surveys, development and implementation of a vibration control plan; furnishing, installing and maintaining vibration monitoring instrumentation and collecting and reporting the results.

Vibration producing activities (such as vibratory compaction, pavement breaking, installation of temporary shoring or operation of heavy construction equipment) are required for construction of this project. The Contractor is advised that structures are located close to the proposed work and that construction activities shall be conducted so as to preclude damage to same. The Contractor shall be responsible for any damage caused by their activities.

A Definitions

A.1 Moderate Construction Activities: construction activities that include operations such as vibratory compaction installation of temporary shoring or excavation support and heavy equipment operation.

A.2 Heavy Construction Activities: construction activities that include operations such as blasting, pile-driving, dynamic compaction and percussive demolition. Blasting is not allowed for this project.

S-2.2 **REFERENCES**

The following documents were prepared as part of the Project and are included in the Special Provisions for reference.

- Litchfield TH Sibley Avenue Reconstruction Building Condition Assessment Inspections Summary Report, prepared for the Minnesota Department of Transportation by Bolton & Menk Inc, June 2017
- Vibration Susceptibility Study and Vibration Control Plan, Trunk Highway 12 Reconstruction, Litchfield, MN, prepared for Bolton & Menk, Inc. and the Minnesota Department of Transportation, August 2018
- Programmatic Agreement Between the Federal Highway Administration and the Minnesota State Historic Preservation Office Regarding the US Highway 12/MN State Highway 22 Reconstruction Project (state Project 4704-89), Litchfield, Meeker County, Minnesota, May 2018

S-2.3 **SUBMITTALS**

At least 60 days prior to start of the respective Stages for construction activities, the Contractor shall provide a plan for the respective Construction Stage for approval by the Engineer, which shall include, but not be limited to the following: proposed construction method(s), vibration monitoring plans (including the format for reporting the vibration readings), recommended instrument types, instrument locations, installation requirements, zones of influence, critical readings, frequency of readings, anticipated vibration levels at the closest building(s), structure(s), retaining wall(s), tank(s), and railroad(s), conditions survey format, and public relations activities. A copy of all reports shall be provided to the Engineer.

At least 60 days prior to the start of vibration producing activities for the respective Construction Stage, the Contractor shall provide a Vibration Mitigation and Monitoring Plan for each Construction Stage, a separate Vibration Mitigation and Monitoring Plan will be generated considering the differing building types and conditions along each Stage.

The Vibration Mitigation and Monitoring Plan along Stage 1 will be to help protect the residential structures. The Contractor shall employ a structural Vibration Specialist to oversee development and implementation of the plans. The plans shall be developed in consultation with a MnDOT Vibration Monitoring Team (VMT) consisting of, but not limited to, a MnDOT civil/structural engineer. The MnDOT VMT shall review and approve a draft of the plan. After the review, the Contractor shall provide a revised final version of the plan to the Engineer for distribution.

The Vibration Mitigation and Monitoring Plan for Stage 2 (Historic Plan) will help protect the Historic Structures along with Historic Commercial District. The Contractor shall employ a structural Vibration Specialist to oversee development and implementation of the plans. The plans shall be developed in consultation with a MnDOT Vibration Monitoring Team (VMT) consisting of, but not limited to, a MnDOT civil/structural engineer, a MnDOT Cultural Resources Unit (CRU) Representative, an architectural historian, and a historic architect. The Historic Plan shall include consultation with the owners of the historic properties to inform them of the plan and its contents, procedures for performing condition surveys and vibration monitoring, and the process for reporting damages and seeking remediation for substantiated claims. The MnDOT VMT shall review and approve a draft of the plan. A draft will be submitted by the MnDOT CRU to the Minnesota State Historic Preservation Office, Federal Highway Administration, and the City of Litchfield Heritage Preservation Commission for review and comment. Reviewers shall have 30 calendar days to provide comments. After the review, the Contractor shall provide a revised final version of the plan to MnDOT CRU for distribution. A copy of all reports shall be provided to the Engineer.

At least 21 days prior to the start of vibration producing activities, submit completed pre-construction condition surveys to the Engineer.

Within 30 days of completing construction, submit completed post-construction condition survey report to the Engineer.

S-2.4

BLASTING

The use of explosives or blasting on the project is prohibited.

S-2.5

VIBRATION SPECIALIST

The vibration mitigation and monitoring plans shall be prepared by a Professional Engineer licensed in Minnesota who has experience in evaluating structural vulnerabilities and vibration monitoring and mitigating efforts. The specialist shall have at least 5 years of experience and shall provide verification showing vibration monitoring work and reports for at least 3 projects of similar size and scope.

S-2.6

VIBRATION MONITORING AND CONTROL REQUIREMENTS FOR NON-HISTORIC PROPERTIES

The Contractor shall develop a plan to address the potential impacts to nearby structures due to construction or demolition activities associated with this construction Contract. Approval of the plan will be based on completeness only, and does not guarantee that damage will not be caused by construction activities, nor does it relieve the Contractor from responsibility should damage occur. The plans will address how the Contractor intends to complete the following vibration producing activities during the construction Contract:

- Develop a list of all anticipated vibration producing activities and where they are expected to occur.
- Develop a list of all potentially impacted structures (buildings, structures, sensitive operations) within 150 feet of the listed activities.
- Provide a vibration susceptibility analysis for each identified structure, and establish a vibration control limit to help preclude and limit potential damage to each of the identified structures.
- Provide a plan for notifying the public of potential vibration impacts, responsible project personnel, structures requiring precondition surveys, and vibration monitoring activities.
- Conduct a preconstruction building condition survey on all buildings and structures within 150 feet of the construction activities, and on any additional structures that have been identified in the susceptibility study as being potentially impacted by the construction activity.
- Monitor construction related vibrations at the nearest or most critical structure(s), and notify appropriate project personnel if established vibration limits are exceeded.
- Conduct post-construction structure surveys to identify damage, if necessary.

(A) Identify Vibration Activities and Potential Structures

The Contractor shall identify locations where moderate to heavy construction activities will occur that are capable of producing vibrations that may cause damage, or interference to nearby structures. The locations shall be presented on a plan sheet or map that shows in-place topography, including nearby structures and buildings. This map will also include the potential structures that are within 150 feet of the identified activities. These structures will be identified by building/structure type, address (if applicable), and owner.

(B) Susceptibility Analysis

The Contractor will assess the condition of all identified structures, including any sensitive operations that may be affected by vibrations. The Contractor will establish 'safe' vibration levels that will preclude damage to structures or undue disturbance to operations. These 'safe' vibration levels will be used as vibration limits for the construction Contract. The Contractor may set separate levels for each structure, but the limits shall not be less stringent those set forth in the OSM *Alternative Blasting Level Criteria (Modified from Figure B1, RI 8507 U.S. Bureau of Mines*. The vibration criteria will be expressed in peak particle velocity with units of inches per second (ips).

(C) Vibration and Settlement Instrumentation

If the Contractor has identified any vibration structures or activities in the Susceptibility Analysis, they shall be monitored by an appropriate number of vibration monitors (seismographs), whenever adjacent construction is occurring. The total number of instruments required depends on the specific Site. For bidding purposes, there shall be, as a minimum, two vibration monitors for the Stage 1 activities and a minimum of four vibration monitors for Stage 2. Once the Vibration Control Plan is established and it found the number of monitors need to vary from this assumption (greater or less), coordinate with MnDOT representatives will be allowed to create a change order or credit as needed.

S-2.7 VIBRATION MITIGATION AND MONITORING PLAN FOR HISTORIC PROPERTIES

The Historic Properties Vibration Plan shall include identification of a Historic Properties Vibration Impact Area developed in consultation with the MnDOT VMT. The area is expected to include the following historic properties:

- City of Litchfield Downtown District (All Properties)
- Trinity Episcopal Church
- St. Paul and Pacific (now BNSF) Railroad Corridor
- Northwestern National (now Wells Fargo) Bank

The Historic Properties Vibration Plan shall include the results of a pre-construction condition survey, a recommended vibration monitoring protocol for each historic property, and recommended measures to avoid or reduce potential damage from construction vibration. Protocols shall include vibration thresholds during construction, the process for monitoring vibration, the monitoring equipment to be used, the frequency of

monitoring, the appropriate standards for documenting monitoring, and a process and schedule for reporting monitoring results to the MnDOT VMT and historic property owners.

The Historic Properties Vibration Plan shall outline a notification process for any observed vibration effects to historic properties and specific steps to be taken to address those effects. The plan shall identify agency/contractor roles and responsibilities, outline a clear chain of communication including notification of the MnDOT VMT, and identify those individuals, in addition to the Vibration Specialist, who will have authority to stop or restrict construction activities that the monitoring identifies as potentially damaging to historic properties.

S-2.8 VIBRATION CONTROLS

The Contractor shall employ a qualified vibration specialist to establish a safe threshold vibration level for each identified structure, and establish a vibration control limit to preclude and limit damage to each of the structures, including historic buildings. This specialist shall also supervise the Contractor's vibration-monitoring program. During all vibration producing activities, the Contractor shall monitor vibration levels and shall not exceed the safe level established to preclude damage to structures. The Contractor shall be responsible for any damage caused by their activities.

The vibration monitoring equipment shall be capable of continuously recording the peak particle velocity and providing a permanent record of the entire vibration event. Copies of all vibration records and associated construction activity data shall be provided to the Engineer in a format approved by the Engineer.

S-2.9 VIBRATION MONITORING REQUIREMENTS

At a minimum, the Contractor shall monitor vibrations at the structures within 100 feet of vibration producing construction activities. The Contractor shall monitor vibrations continuously during vibration-producing events. If the vibration level of any of the three components of the peak particle velocity exceeds the established vibration limit as set by the Vibration Control Plan to be created, then the Contractor shall immediately cease the vibration-producing activity. The Contractor may not resume the vibration-producing activity until given written permission to do so by MnDOT.

The Contractor shall maintain records of all vibration-producing activities for which vibration monitoring is required. The records shall include:

- Location of the vibration-producing event
- Distance from the event to the monitoring Site(s)
- Maximum peak particle velocity

The Contractor shall immediately notify MnDOT when a violation of the vibration limits occurs. The activity that produced the violation must be stopped until permission to proceed is given in writing by MnDOT.

The Contractor shall immediately submit a report to MnDOT that explains the conditions of the violation and the steps that the Contractor will take to reduce the vibrations to below the vibration limit. Based on this report, MnDOT will decide if permission to proceed with the construction activity will be granted.

S-2.10 PRE-CONSTRUCTION CONDITION SURVEY

The Contractor shall perform a preconstruction condition survey on all structures that are within 150 feet of heavy to moderate construction activity. In addition, the Contractor shall perform a preconstruction survey on any additional structures that have been identified in the susceptibility study as being potentially impacted by the construction activity. The condition survey will be conducted on each structure prior to the commencement of construction activity within 150 feet of the structure. The survey will include documentation of interior and exterior conditions of the buildings including sub-grade and above grade accessible walls, ceilings, floors, roof and visible exterior as viewed from the grade level. It will detail (by engineering sketches, video tape, photographs, and/or notes) any existing structural, cosmetic, plumbing or electrical damage but will not be necessarily limited to the areas of the building showing existing damage. The survey for the identified Historic Properties will be conducted by a Professional Engineer, registered in the State of Minnesota and other structures shall be completed under the direct supervision of the Professional Engineer. The historic architect and architectural historian will be present for both the pre- construction and post-construction surveys of the historic properties.

A report shall be issued summarizing the pre-construction condition of the buildings and structures and will identify areas of concern, including potential public and personnel hazards (falling debris) and structural elements that may require support, repair or protective barriers.

S-2.11 CRACK MONITORING

Install crack displacement monitoring gauges as appropriate across any significant existing cracks to help verify any additional building distress if it should develop. The appropriate location, number, and types of gages will be established by the Contractor and/or the Engineer upon review of the preconstruction surveys.

Read the gages prior to vibration producing activities, as well as during these activities. Data shall be recorded on a weekly basis for as long as the vibration-producing activities are being conducted. A report shall be submitted which summarizes the data. The Engineer shall be alerted if any significant movement is detected by the monitoring gages. The MnDOT VMT shall be alerted following the process established in the Historic Properties Vibration Plan.

S-2.12 POST-CONSTRUCTION CONDITION SURVEY

A post-construction building and structure condition survey shall be conducted at the end of construction including all items of the preconstruction survey, cited above. For Stage 1 work, the post-construction structure condition survey report will be provided to the Engineer for their review and acceptance. For Stage 2 work, the post-construction structure condition survey report will be provided to the Engineer and MnDOT CRU for their review and acceptance. The post-construction survey report for historic properties shall be completed within 30 days of the survey. The report will be submitted by the MnDOT CRU to the Minnesota State Historic Preservation Office Federal Highway Administration, and the City of Litchfield Heritage Preservation Commission for review and comment. Reviewers shall have 30 calendar days to provide comments. After the review, the Contractor shall provide a revised final version of the plan to MnDOT CRU for distribution.

S-2.13 PUBLIC RELATIONS

The Contractor shall contact each household, institutional operator, and business establishment potentially affected by ground vibrations. The contact shall be via a registered letter at least 2 weeks prior to the start of any vibration producing activity. The Contractor shall obtain confirmation of receipt of notification letter before beginning any Work that produces perceptible ground vibration. The letter shall, at a minimum, include the following:

- Description of the proposed construction
- Explanation of the potential for producing vibrations
- Steps the Contractor will take to avoid potential damage from those vibrations
- Name and telephone number of a contact person to respond to any questions or concerns

The Contractor shall include a list of structure, building, and the buildings' occupants, institutional owners and businesses with whom the Contractor has made contact and notified of the potential for construction-induced vibrations. The Contractor shall maintain a complaint log and make this available to the Engineer on request.

S-2.14 REPORT

The Contractor shall provide pre-condition and post-condition survey reports to the Project Engineer.

S-2.15 MEASUREMENT AND PAYMENT

No measurement will be made of the various Items that constitute Vibration Monitoring but all such work will be construed to be included in the single Lump Sum payment under Item 2011.601 (Vibration Monitoring), which shall be compensation in full for all costs relative thereto.

S-3 (2011) STRUCTURE EVALUATION AND PROTECTION

S-3.1 DESCRIPTION

Construction activities (such as operation of heavy construction equipment, haul trucks, vibratory compaction, pavement breaking, stockpiling of excavated soil and construction debris) will increase the lateral load applied to the existing structure foundations located adjacent to the T.H. 12/22 (North Sibley Avenue) corridor. The Contractor is advised that structures located close to the proposed work, are susceptible to structural damage due to construction activities and shall be inspected, protected and monitored to preclude damage to same. The Contractor shall be responsible for any damage caused by his activities.

S-3.2 REFERENCES

The following documents were prepared as part of the Project and are included in the Special Provisions for reference.

- Litchfield TH Sibley Avenue Reconstruction Building Condition Assessment Inspections Summary Report, prepared for the Minnesota Department of Transportation by Bolton & Menk Inc, June 2017
- Vibration Susceptibility Study, Trunk Highway 12 Reconstruction, Litchfield, MN, prepared for Bolton & Menk, Inc. and the Minnesota Department of Transportation, August 2018
- Programmatic Agreement Between the Federal Highway Administration and the Minnesota State Historic Preservation Office Regarding the US Highway 12/MN State Highway 22 Reconstruction Project (state Project 4704-89), Litchfield, Meeker County, Minnesota, May 2018

S-3.3 SUBMITTALS

At least 60 days prior to start of Stage 2 construction activities, the Contractor shall develop a structure protection plan to address the potential structural impacts to nearby structures due to construction or demolition activities associated with this construction Contract. The structure protection plan shall be submitted to the Engineer and MnDOT CRU for approval. Reviewers shall have 30 calendar days to provide comments. The conditions of the structures shall be evaluated as part of the preconstruction surveys conducted under **S-XX** (2011) VIBRATION MONITORING AND CONTROL. Approval of the plan will be based on completeness only, and does not guarantee that damage will not be caused by construction activities, nor does it relieve the Contractor from responsibility should damage occur. As part of the plan, the Contractor's building protection specialist shall provide the following information:

- Locations where construction activities will occur that are capable of producing loads that may cause damage to nearby structures. The locations shall be presented on a plan sheet or map that shows in-place nearby structures and owners.
- A structural susceptibility evaluation for each structure and proposed measures to prevent damage to each of the structures caused by construction equipment (excavators, haul trucks, vibratory compactors, etc.) and stockpiling of materials
- Methods to monitor susceptible structures and performance of measures used to support or protect structure.
- Methods to remove supplement support and protective measures and return structure to a condition equal to or better than the condition prior to start of construction.

S-3.4 BUILDING PROTECTION SPECIALIST

The building protection and monitoring plans shall be prepared by a Professional Engineer licensed in Minnesota who has experience in evaluating structural vulnerabilities and monitoring and mitigating structural distress due to construction related activities. The specialist shall have at least 5 years of experience and shall provide verification showing structural evaluation, mitigation reports and temporary support plans for at least 3 projects of similar size and scope.

S-3.5 TEMPORARY PROTECTION OF ADJACENT STRUCTURES

When the Contractor's building protection specialist identifies exterior or foundation building components are subject to potential damage, failure or collapse due to construction activities, the adjacent sidewalk, parking lane and/or the closest traffic lane shall be closed to pedestrians and vehicular traffic in accordance with **S-XX** (1707) ROADWAY AND SIDEWALK CLOSURES.

Concrete sidewalk, curb and gutter located on North Sibley Avenue shall be removed by methods that minimize vibrations and additional lateral load transmitted to the adjacent structures and structure foundations.

In place demolition of curb, sidewalk and related utility structures located below the sidewalk is prohibited. Sawcut the curb and sidewalk into lengths and sizes as required to facilitate removal. Sawing of sidewalks required for removal shall be incidental. All removals shall be disposed of by the Contractor outside the Right of Way in accordance with MnDOT 2104.3D3 to the satisfaction of the Engineer.

When working adjacent to structures located on T.H. 12/22 (North Sibley Avenue), provide temporary support to existing structures (foundations, walls, parapets, etc.) identified to be structurally deficient and subject to damage or failure. Any temporary support system shall be approved by the Engineer and MnDOT CRU prior to installation. Coordinate with property owner to develop a suitable plan to install, monitor and remove any required temporary support or protective measures.

S-3.6 PRE-CONSTRUCTION CONDITION SURVEY

The Contractor shall utilize information gathered during the preconstruction condition survey performed under **S-XX** (2011) VIBRATION MONITORING AND CONTROL to establish the required protection requirements, if any required, for each structure.

A report shall be issued summarizing the pre-construction condition of the buildings and structures and will identify areas of concern, including potential public and personnel hazards (falling debris) and structural elements that may require support, repair or protective barriers. Requirements for protection of the public in public right of way are included in Special Provisions **S-XX** (1707) ROADWAY AND SIDEWALK CLOSURES

S-3.7 POST-CONSTRUCTION CONDITION SURVEY

A post-construction building and structure condition survey shall be conducted at the end of construction. The post-construction structure condition survey report will be provided to the Engineer. The post-construction survey report for historic properties shall be completed within 30 days of the survey. The report will be submitted by the MnDOT CRU to the Minnesota State Historic Preservation Office Federal Highway Administration, and the City of Litchfield Heritage Preservation Commission for review and comment. Reviewers shall have 30 calendar days to provide comments. After the review, the Contractor shall provide a revised final version of the plan to MnDOT CRU for distribution.

S-3.8 PUBLIC RELATIONS

The Contractor shall contact each property owner potentially affected a minimum of 60 days prior to start of construction. The contact shall be via a registered letter. The Contractor shall obtain confirmation of receipt of notification letter before beginning any Work that may structurally impact a structure. The letter shall, at a minimum, include the following:

- Description of the proposed construction
- Explanation of the potential increased loading on structure
- Steps the Contractor will take to avoid potential damage
- Name and telephone number of a contact person to respond to any questions or concerns

The Contractor shall include a list of structure, building, and the buildings' occupants, institutional owners and businesses with whom the Contractor has made contact and notified of the potential for construction-induced vibrations. The Contractor shall maintain a structural complaint log and make this available to the Engineer on request.

S-3.9 REPORT

The Contractor shall provide pre-condition and post-condition survey reports to the Engineer.

S-3.10 METHOD OF MEASUREMENT

The Engineer will measure Building Design A by Structure for structures 25 feet or less in width.

The Engineer will measure Building Design B by Structure for structures exceeding 25 feet in width.

S-3.11 BASIS OF PAYMENT

Payment will be made under Item 2100.6XX (Structure Evaluation and Protection) at the appropriate Contract price which shall be compensation in full for all work, including but not limited to conducting pre- and post- construction surveys; development, implementation and monitoring of the structure protection plan; communication with property owners and required restoration and cleanup at project completion.

Payment will be made under Item 2100.614 (Building Design A) at the appropriate Contract price which shall be compensation in full for all work, including but not limited to the development, design, installation, monitoring, removal and cleanup of temporary foundation support required to protect each structure, up to 25 feet in width, as recommended in the Contractor's structure protection plan.

Payment will be made under Item 2100.614 (Building Design B) at the appropriate Contract price which shall be compensation in full for all work, including but not limited to the development, design, installation, monitoring, removal and cleanup of temporary exterior, above grade structural support required to protect each structure, greater than 25 feet in width, as recommended in the Contractor's structure protection plan.