

Appendix I

Phase I Archaeological Resource Investigation for Minnesota Power Project, Itasca County, Minnesota SHPO Number:



Boswell Solar Project

Phase I Archaeological Reconnaissance Survey in Itasca County, MN



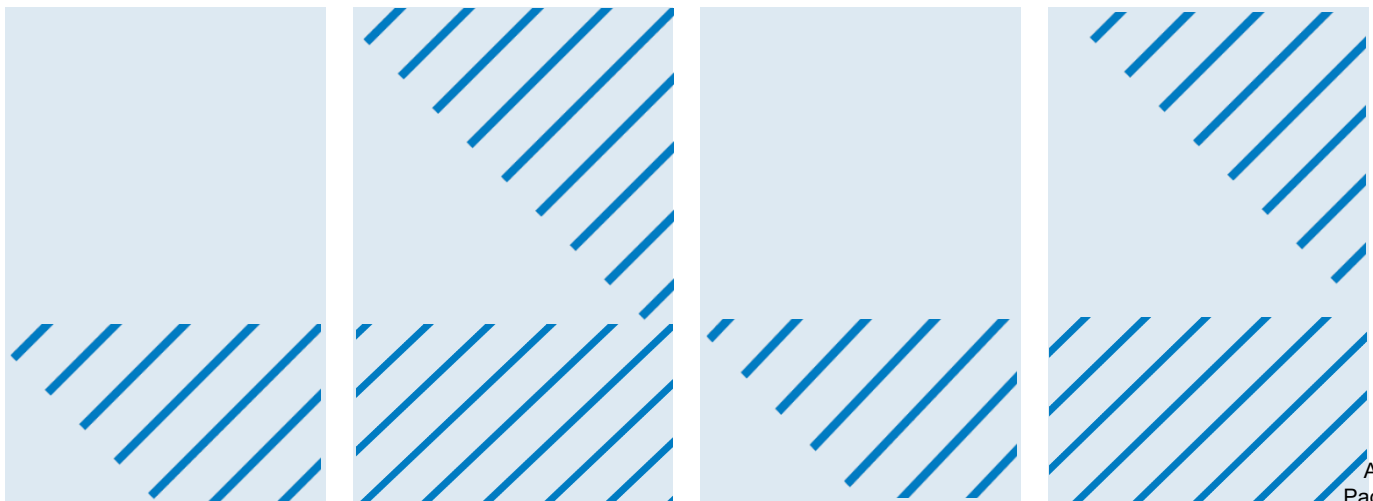
Prepared for
Minnesota Power

Prepared by
Barr Engineering Co.

November 2024

4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
952.832.2600

barr.com



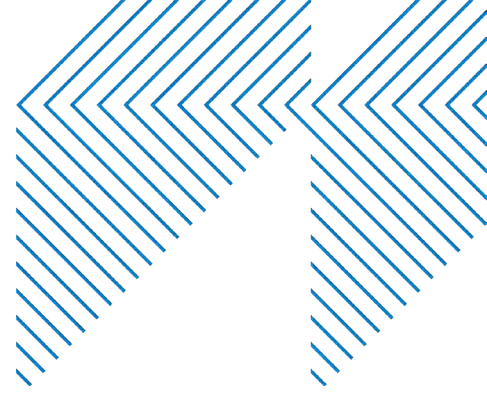
Certification

Principal Investigator

A handwritten signature in blue ink that reads "Veronica Parsell".

Veronica Parsell
RPA #: 3532690

October 31, 2024
Date



Phase I Archaeological Reconnaissance Survey Report

November 2024

|||||

Contents

Executive Summary	1
1 Introduction	3
2 Background Research.....	5
2.1 Literature Review	5
2.1.1 National Historic Landmarks List	10
2.1.2 National Register of Historic Places (NRHP)	10
2.1.3 Archaeological Site Files.....	10
2.1.4 Historic Architectural Inventory Files.....	10
2.1.5 Historic Cemeteries.....	10
2.1.6 Previous Cultural Resource Investigations	10
2.1.7 Historic Maps and Aerials	11
2.2 Environmental Context.....	11
2.2.1 Precontact Site Suitability	12
2.2.2 Soils	12
2.3 Cultural Contexts.....	15
2.3.1 Precontact Cultural Setting	15
2.3.2 Native American Cultural Setting	15
2.3.3 Historic Cultural Setting	16
3 Applicable Regulations and Guidelines	19
3.1.1 Federal Regulations.....	19
3.1.2 State Regulations.....	19
4 Methods and Results	20
4.1 Research Design.....	20
4.2 Field Methods.....	20
4.3 Laboratory Methods	23
4.3.1 Precontact Artifacts.....	23
4.3.2 Historic Artifacts	23

barr.com



4.3.3	Curation.....	24
5	Results	25
5.1	Area 1.....	26
5.2	Area 2.....	28
5.2.1	Historic Artifact Scatter (non-site)	30
5.2.2	Site 21IC0487	32
5.2.3	Site 21IC0488	37
5.3	Area 3.....	43
5.4	Area 4.....	45
5.5	Area 5.....	47
5.5.1	Site 21IC0490	47
5.6	Area 6.....	55
5.7	Area 7.....	57
5.7.1	Site 21IC0489	57
5.8	Area 8.....	64
5.9	Area 9.....	68
5.9.1	Site 21IC0485	68
5.10	Area 10.....	73
5.11	Area 11.....	75
5.11.1	Positive Shovel Test 16-202: Wire nail (non-site).....	75
5.11.2	Positive Shovel Test: Glass Milk Jug (non-site).....	75
5.11.3	Historic Artifact Scatter (non-site)	76
5.11.4	Site 21IC0486	78
5.12	Area 12.....	86
6	Summary and Recommendations.....	88
7	References.....	90



Tables

Table 1	Project Location	1
Table 2	Cultural Resources within 1 Mile of the Project Area.....	7
Table 3	Pedestrian Survey and Shovel Testing Acreages	25
Table 4	Site 21IC0487, Recovered Artifacts.....	32
Table 5	Site 21IC0488, Recovered Artifacts.....	37
Table 6	Site 21IC0490, Recovered Artifacts.....	48
Table 7	Site 21IC0490 Landowner Deed Transfers	49
Table 8	Site 21IC0489 Recovered Artifacts.....	58
Table 9	Site 21IC0489: Landowners.....	60
Table 10	Historic Artifact Scatter, Recovered Artifacts.....	77
Table 11	Identified Archaeological Sites.....	88

Figures

Figure 1	Project Location Figure	4
Figure 2	Previously Documented Cultural Resources	8
Figure 3	Project Area Soils.....	14
Figure 4	Phase I Investigation Area	22
Figure 5	Survey Area 1 Overview	27
Figure 6	Survey Area 2 Overview	29
Figure 7	Historic Artifact Scatter.....	31
Figure 8	21IC0487 Topographic Map	35
Figure 9	21IC0487 Aerial Map	36
Figure 10	21IC0488 Topographic Map	41
Figure 11	21IC0488 Aerial Map	42
Figure 12	Survey Area 3 Overview	44
Figure 13	Survey Area 4 Overview	46
Figure 14	Survey Area 5 Overview	52
Figure 15	21IC0490 Topographic Map	53
Figure 16	21IC0490 Aerial Map	54
Figure 17	Survey Area 6 Overview	56
Figure 18	Survey Area 7 Overview	61
Figure 19	21IC0489 Topographic Map	62
Figure 20	21IC0489 Aerial Map	63
Figure 21	Survey Area 8 Overview	65
Figure 22	Survey Area 8 Overview	66
Figure 23	Survey Area 8 Overview	67
Figure 24	Survey Area 9 Overview	70
Figure 25	21IC0485 Topographic Map	71
Figure 26	21IC0485 Aerial Map	72
Figure 27	Survey Area 10 Overview	74
Figure 28	Survey Area 11 Overview	80
Figure 29	Survey Area 11 Overview	81
Figure 30	Positive Shovel Test/Historic Artifact Find	82



Figure 31	Historic Artifact Scatter Overview	83
Figure 32	21IC0486 Topographic Map	84
Figure 33	21IC0486 Aerial Map	85
Figure 34	Survey Area 12 Overview	87

Plates

Plate 1. Typical Soil Profile, Area 2 (STP 266-59)	28
Plate 2. Site 21IC0487 Shovel Test Profile	33
Plate 3. 1951 USGS Aerial Imagery, Site 21IC0487.	34
Plate 4. 1989 Aerial Imagery, Site 21IC0487. Regents of the University of Minnesota (2015).	34
Plate 5. Site 21IC0488 Shovel Test Profile	38
Plate 6. 1947 Aerial Imagery, Site 21IC0488. Regents of the University of Minnesota (2015).	39
Plate 7. 1989 Aerial Imagery, Site 21IC0488. Regents of the University of Minnesota (2015).	40
Plate 8. Typical Soil Profile, Area 3 (STP 177-157)	43
Plate 9. Typical Soil Profile, Area 4 (STP 153-116)	45
Plate 10. Positive Shovel Test Profile, Site 21IC0490	47
Plate 11. 1947 Aerial Imagery, Site 21IC0490. Regents of the University of Minnesota (2015).	51
Plate 12. 1989 Aerial Imagery, Site 21IC0490. Regents of the University of Minnesota (2015).	51
Plate 13. Typical Soil Profile, Area 6 (STP 185-165)	55
Plate 14. Site 21IC0489 Shovel Test Profile (SPT 128-165)	57
Plate 15. Approximate Location of Site 21IC0489, 1953 USGS 7.5' Quadrangle, Cohasset West.	59
Plate 16. 1947 Aerial Imagery, Site 21IC0489. Regents of the University of Minnesota (2015).	59
Plate 17. Typical Soil Profile, Area 8 (TL24-142)	64
Plate 18. Site 21IC0485 Shovel Test Profile	68
Plate 19. Typical Soil Profile, Area 10 (STP 105-153)	73
Plate 20. Positive Shovel Test Profile (STP 2-103)	76
Plate 21. Positive Shovel Test Profile (STP 35-221)	77
Plate 22. Positive Shovel Test Profile (STP 54-148)	78
Plate 23. Typical Soil Profile, Area 12 (STP 37-154)	86

Appendices

Appendix A	Historic Maps and Aerials
Appendix B	Photographs Documenting the Phase I Survey
Appendix C	Artifact Photographs
Appendix D	Artifact Catalogue

Executive Summary

In response to a request from Minnesota Power, Barr Engineering Co. (Barr) completed a Phase I archaeological reconnaissance survey to determine the potential for the proposed Boswell Solar Project (Project) to impact cultural resources.

Minnesota Power is proposing to construct, own, and operate a solar facility in Cohasset, Minnesota. The Project will have a nameplate capacity of up to 85-megawatt alternating current (MWac) photovoltaic (PV) solar energy generating facility, a 230 kilovolt (kV) transmission line (Gen-Tie Line), and associated infrastructure in Itasca County, Minnesota.

Minnesota Power proposes to build the Project within approximately 1,345 acres of privately owned land (Site), of which 695 acres will be for the operation of the Project (Anticipated Development Area), including the Gen-Tie Line route. The Gen-Tie Line route will be approximately 2.5 miles in length and will directly interconnect the solar energy generating systems to Minnesota Power's existing Boswell Energy Center Substation.

The Project is located on the Cohasset West and Siseebakwet Lake, Minnesota 7.5' U.S. Geological Survey (USGS) topographic quadrangle maps (1953/1969), in Itasca County, Minnesota. Additional Project location information is included in Table 1 below.

Table 1 Project Location

Location	Township	Range	Section(s)
Solar Facility			
LLBO	55N	27W	2
Deer Lake Township	55N	27W	1, 11, 12
City of Cohasset	55N	26W	6, 7, 18
Gen-Tie Line			
City of Cohasset	55N	26W	7, 8, 9

The Project meets the definition of a Large Electric Power Generating Plant (LEPGP) as defined in the Minnesota Power Plant Siting Act and requires a Site Permit from the Public Utility Commission (PUC) prior to construction. As part of the Site Permit conditions, the applicants must analyze potential impacts to, and propose mitigation measures for, cultural and archaeological resources under Minnesota Administrative Rules Chapter 7854.0500 Subp. 7, Environmental Impacts. Consultation with the Minnesota State Historic Preservation Office (SHPO) and Office of the State Archaeologist (OSA) would occur in the event that a cultural or archaeological resource is encountered in the Project area. The Project is also subject to the Minnesota Historic Sites Act (Minnesota Statutes, sections 138.661 to 138.669), which requires that state agencies consult with the SHPO before undertaking or licensing projects that may affect properties listed on the State or National Registers of Historic Places. Should the Project require federal permitting or receive federal funding, it would also become an undertaking subject to Section 106 of the National Historic Preservation Act (Section 106). Although the Project is not currently subject to Section 106, the work was conducted using methodology that would satisfy Section 106 requirements, should the Project become an undertaking in the future.

A records check of previously recorded cultural resources identified one archaeological site within the Project area. Eighteen cultural resources have been documented within 1-mile of the Project, including three historic architectural resources and 15 archaeological sites.

Barr completed a Phase I Archaeological Reconnaissance Survey for the Project in July and August 2024. The survey identified six archaeological sites within Project boundaries. These include a prehistoric lithic scatter (21IC0485), a prehistoric ceramic isolated find (21IC0486), and four historic artifact scatters (21IC0487, 21IC0488, 21IC0489 and 21IC0490). Barr recommends that all six sites be considered *Not Eligible* for listing on the National Register of Historic Places.

Based on the results of the Phase I Archaeological Reconnaissance Survey, which represents a reasonable and good faith effort to identify cultural resources within the Project area, no significant cultural resources will be impacted by the proposed Project. No additional cultural resources work is recommended for the Project to proceed as planned.

**The Remainder of this Document
Contains Non-Public Data**