Draft Environmental Impact Assessment Addendum

Lathrop Drive/Bascom Hill
Utility Improvements – Phase 2
University of Wisconsin-Madison
550 North Park Street
Madison, WI 53706

Prepared for:

University of Wisconsin – Madison
Facilities Planning & Management
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Madison, WI 53715-1211

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Draft Environmental Impact Assessment Addendum

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University of Wisconsin – Madison
550 North Park Street
Madison, WI 53706

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<tr>
<td>ACM</td>
<td>Asbestos Containing Materials</td>
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<tr>
<td>AHI</td>
<td>Architecture and History Inventory</td>
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<td>ARI</td>
<td>Archaeological Report Inventory</td>
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<td>ASI</td>
<td>Archaeological Sites Inventory</td>
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<td>AST</td>
<td>Aboveground storage tank</td>
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<td>AWT</td>
<td>Average Weekday Traffic</td>
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<td>BbA</td>
<td>Bativa silt loam</td>
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<td>BRRTS</td>
<td>Bureau of Remediation and Redevelopment Tracking System</td>
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<td>CERCLIS</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Information System</td>
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<td>CLEAN</td>
<td>Contaminated Lands Environmental Action Network</td>
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<td>CSHP</td>
<td>Charter Street Heating Plant</td>
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<td>DATCP</td>
<td>Department of Agriculture, Trade and Consumer Protection</td>
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<td>DnB</td>
<td>Dodge silt loam</td>
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<td>DOA</td>
<td>Wisconsin Department of Administration</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>ERP</td>
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<td>FTE</td>
<td>Full-Time Equivalent</td>
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<td>LF</td>
<td>Linear Feet</td>
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<td>LUST</td>
<td>Leaking Underground Storage Tank</td>
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<td>MSL</td>
<td>Mean Sea Level</td>
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<td>NAAQS</td>
<td>National Ambient Air Quality Standards</td>
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<td>NR</td>
<td>National Registry</td>
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<td>OSHA</td>
<td>Occupational Health and Safety Administration</td>
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<td>PAH</td>
<td>Polycyclic Aromatic Hydrocarbons</td>
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<td>RCL</td>
<td>Residual Contaminant Level</td>
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<td>RR</td>
<td>Remediation and Redevelopment</td>
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<td>SHWIMS</td>
<td>Solid and Hazardous Waste Information System</td>
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<tr>
<td>UST</td>
<td>Underground storage tank</td>
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<td>UW</td>
<td>University of Wisconsin</td>
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<td>UWSA</td>
<td>University of Wisconsin System Administration</td>
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<td>WCCF</td>
<td>West Campus Cogeneration Facility</td>
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<td>Wisconsin Environmental Policy Act</td>
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<td>WHPD</td>
<td>Wisconsin Historical Preservation Database</td>
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<td>WPDES</td>
<td>Wisconsin Pollutant Discharge Elimination System</td>
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<tr>
<td>WSHP</td>
<td>Walnut Street Heating Plant</td>
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Introduction

General

The University of Wisconsin – Madison (UW-Madison) Facilities Planning and Management has retained Ayres Associates on behalf of the University of Wisconsin System Administration (UWSA) to prepare an Environmental Impact Assessment (EIA) addendum for Phase 2 of the proposed improvement of the utility system at UW-Madison along Lathrop Drive in Madison, WI. This EIA addendum outlines the Phase 2 scope items and their impacts and is prepared in accordance with the Wisconsin Environmental Policy Act (WEPA), Wisconsin Statutes 1.11, and UWSA guidelines (Board of Regents’ Resolution 2508, November 6, 1981). The purpose of the EIA addendum is to assess potential impacts of project elements on the physical, biological, social, and economic environments along Lathrop Drive and surrounding buildings.

Project Description

The Phase 2 scope of work described in this addendum proposes to replace in-kind and construct new steam, chilled water, and electrical utilities located along Lathrop Drive, south of the Bascom Hill Area of the UW-Madison campus. Attachment 1 provides associated figures describing this project scope and limits of construction.

Upon completion of the utility system, all areas disturbed by the project will be fully restored, including roadways, gutters, sidewalks, landscaping features, and site structures.

Phase 2 was enumerated separately from the original EIA (DFDM 17J2L). The total project cost for Phase 2 is $20,076,600 with a total construction budget of $17,700,000.

EIA Process

Scoping Letter

A Scoping Letter to solicit input on potential environmental impacts of the project was not needed for the addendum work. A scoping letter for the Phase I EIA was sent to selected parties and agencies on November 7, 2018. Please refer to Appendix A in the original EIA document to view the Scoping letter, responses, and distribution list of recipients. Because this second phase (Phase 2) was a continuation of the general scope of work and was identified both as name, geographic area, and utility improvements in the initial scoping letter, a subsequent scoping letter for this phase was not required.

Draft EIA Addendum

The Draft EIA addendum is being made available on September 18, 2020, for a 15-day public review period. A public legal notice is being posted in the Wisconsin State Journal on September 16, 2020, and on the Badger Herald website on September 16, 2020, to present the draft findings of the EIA addendum and to request public input prior to finalizing the EIA addendum. Copies of this Draft EIA addendum will be available at UW-Madison’s Helen C. White Library and Madison Public (Central Branch) Library, and online at:

http://www.ayresprojectinfo.com/Lathrop-Bascom-Utility
Comments on the Draft EIA addendum report are to be made no later than 6:00 p.m., October 2, 2020, for consideration and incorporation into the Final EIA addendum document. Comments can be submitted in writing at the public meeting, verbalized during the public meeting, or sent to the address below:

Ben Peotter, PE
Ayres Associates
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Madison, WI 53718
PeotterB@AyresAssociates.com

Draft EIA Addendum Public Meeting

Following the review and comment period, the project team, led by Gary Brown (UW-Madison Facilities Planning and Management and UW-Madison WEPA Coordinator), will determine based on comments or controversy if a public meeting would be conducted. Though not mandatory, if implemented into the WEPA process for this project, a date, time, and location will be announced.
I. Description of Proposed Action

A. Title of Proposed Project

Lathrop Drive/Bascom Hill Utility Improvements – Phase 2 Addendum

University of Wisconsin – Madison

B. Project Location

Lathrop Drive located south of Bascom Hill: Bound by North Park Street to the east, University Avenue to the south, and North Charter Street to the west.

County: Dane

Site Location: City of Madison, Wisconsin, 43°04'26.86"N 89°24'08.10"W

C. Project

General Project Description

The proposed project scope associated with Phase 2 will replace in-kind and construct new steam, chilled water, and electric utilities primary within the road and vicinity of the road along Lathrop Drive with connections to existing buildings. Lathrop Drive is located south of Bascom Hill and is bound by North Park Street to the east, University Avenue to the south, and North Charter Street to the west. Figures 1 to 6 in Attachment 1 show the project limits. Attachment 3 shows specific project components.

The Lathrop Drive/Bascom Hill Utility Improvement Project was divided into two phases. This first phase (previous EIA and addendum) was divided into three bid packages and included upgrading the utility systems around the Bascom Hill area. Phase 2 of the project includes one bid package for the entire proposed project and consists of upgrading the utility systems around the Lathrop Drive area.

A new signal duct bank is proposed to be constructed along the west and south sides of the Sewell Social Science Building, and a new utility corridor will be constructed starting in between Birge Hall and Van Vleck Hall. This corridor will run south towards Lathrop Drive and will terminate east at North Park Street. New construction will include an 8-inch chilled water supply, steam box conduits, primary duct banks, signal duct banks, signal manholes, and a steam tunnel. Thermal utilities include a new steam system with high-pressure steam, low-pressure steam, pumped condensate, and compressed air. Electric utilities include primary electric and signal communications duct banks, manholes, and cabling. Demolition will occur in portions of the utility corridor along Lathrop Drive. Existing brick steam tunnel/steam box conduit will be abandoned and filled with flowable fill. All existing pipes, supports, conduits, insulation wiring, etc. will remain in abandoned tunnels. The proposed underground utilities will be installed to maximum depths of approximately 30 feet below existing grade and would be installed using a mix of boring or open cutting techniques depending on the specific utility, tie-in locations, depths, and other factors.

During the construction of the utility upgrades, Lathrop Drive will likely be closed, but traffic control plans will be developed as the design proceeds. The timeframe of construction in these key traffic areas will be minimized to limit the need for pedestrian detours and road closures. All public street closures, full or partial, will require a street use permit from the City of Madison that the general contractor will need to submit and gain approval for well in advance of the need to close the street. Pedestrian and bike traffic will also likely require detours and rerouting at various times throughout the project. Entrances with ADA
accessibility, emergency accesses including fire access, active delivery docks, garbage removal, and parking stalls will be accessible throughout project construction.

Upon completion of the utility system, all areas disturbed by the project will be fully restored, including roadways, gutters, sidewalks, landscaping features, and site structures. Restoration of elements with the City of Madison right-of-way will require review and approval by City Engineering staff, under authority of the City’s Board of Public Works and the Common Council, although most work takes place within the UW-Madison campus limits and will not require review and approval by the City.

Purpose and Need (Objective, History, and Background)

Campus utilities are essential in supporting the instructional and research missions of the university. The UW-Madison campus is currently served by three heating and cooling plants: Charter Street Heating Plant (CSHP), Walnut Street Heating Plant (WSHP), and West Campus Cogeneration Facility (WCCF). The three plants supply steam, chilled water, and compressed air throughout campus. Electrical power is provided to campus by Madison Gas & Electric at five (5) primary locations and campus distributes the power to buildings from nine (9) substations.

The 2005 and 2015 Utility Master Plans recommended a comprehensive north campus utility improvements project. Recommendations indicate utility systems should be replaced and/or relocated due to age, condition, location, and increased in size where necessary, all to support current facilities, future facilities, and provide additional system redundancy.

Bascom Hill is one of the oldest and most historic areas on campus with many of the utilities approaching the end of their expected service life. Recently, the reliability of these site utilities has come into question. As a result, this utility improvement project was developed to increase utility reliability, decrease operational costs, and rebuild the site utilities to be viable for the next 50 years.

The chilled water lines in this area were manufactured of cast iron, are brittle, and are of the age that removal and replacement are necessary. Existing chilled water lines have failed at least five times in the last decade including two failures near Lathrop Hall that have damaged the Botany Gardens. Failures can result in the loss of tens of thousands of gallons of chilled water and require shutdown of air conditioning in several buildings. The Bascom Hill steam tunnels are the oldest and narrowest on campus, difficult and dangerous to access, and present a high risk for failure. A high-pressure steam line of the same vintage as those tunnels recently failed within Radio Hall causing extensive damage to the facility and contents.

Primary electric distribution is limited in the Lathrop Drive area. The primary electric power serving the buildings in this area are entirely loop fed, but most of the looped feeders share the same duct banks, which reduced the overall reliability of the utility. Additional primary electric duct banks and feeders will improve the reliability and redundancy of the electrical distribution system. Signal communication duct banks are required to provide separation of communication cables from high-pressure steam, condensate, and compressed air piping in the existing steam tunnels. This reduces the risk of interrupted communications caused by a major steam leak and extends the life expectancy of the cabling.

The majority of the water, storm sewer, and sanitary sewer piping in this area are at least 50 years old (the typical life for these systems) with many piping segments more than 110 years old. The proposed project is the second of the two planned phases of work that will improve the reliability and lifespan of the utilities throughout the northern portion of campus surrounding Lathrop Drive. The proposed project was titled Lathrop Drive/Bascom Hill Utility Repairs (DFD Project 17J2L), identified in the 2005 Utility Master Plan, and enumerated in the 2018-2019 biennial budget bill.
D. Estimated Cost and Funding Source

Phase 2 of the project is estimated at a total cost of $20,076,000 with a total construction budget of $17,700,000 and will be supported by General Fund Supported Borrowing and Program Revenue Supported Borrowing.

E. Project Schedule

The proposed project schedule milestones as of the release of this document are as follows:

- Phase 2 Bid Date: December 2020/January 2021
- Construction Start Date: May 2021 – June 2022

Note: Individual project components and detailed milestones concerning the addendum project will be scheduled to avoid interfering with the regular school year and football season.
II. Existing Environment

A. Physical

Soils and Topography

Soils in the proposed Phase 2 project area are depicted on the United States Department of Agriculture (USDA) map included in Attachment 1 (Figure 3). The site consists of a mix of three different kinds of soils: McHenry silt loam, Dodge silt loam, and Kidder loam. McHenry silt loam (MdC2, 6 to 12 percent slopes) form in loess or other silty material and in the underlying loamy till on moraines and till plains. Dodge silt loam (DnB, 2 to 6 percent slopes) form in drumlins and in the underlying loess over calcareous loamy till. Kidder loam (KdD2, 12 to 20 percent slopes, eroded) form in thin loess or loamy till on moraines and drumlins. All three soil types are well-drained.

According to a nearby underground heating oil storage tank closure assessment conducted by Environmental Construction and Remediation Services, Inc. (ECRS), UW School of Business, general soil types are expected to consist of approximately one foot of fill material underlain by native sandy silt (1 to 5 feet below grade), clay (5 to 6 feet below grade), and sand (6 to 15 feet below grade) (ECRS, 1992).

Topography generally slopes radially in every direction from Bascom Hill, a local high-point at 924 feet above mean sea level (msl). For existing site conditions, refer to Figure 5 in Attachment 1.

Utilities

Please refer to the original EIA document for a description of the existing steam, chilled water, electrical power, signal, domestic water, sanitary sewer, and storm sewer systems. See Attachment 3 for the overall utility configuration in the project area.

Surface Water and Groundwater

Lake Mendota, the largest and northern-most of the chain of lakes in Madison, Wisconsin, has a surface area of 9,781 acres with a maximum depth of 83 feet (Wisconsin Department of Natural Resources, July 1981). Lake Mendota is located approximately 400 feet north of the project site and Lake Monona is approximately 0.9 miles southeast.

CGC, Inc. conducted a subsurface study of the Memorial Union, located immediately adjacent to the project site, in July 2011 to clarify the subsurface conditions in that area. Groundwater elevations from geotechnical borings were found to be approximately 21.8 feet below ground surface (bgs) on July 15, 2011, or an elevation of 850.6 feet above mean sea level. The water level in Lake Mendota at this time was close to the same elevation. Groundwater levels are expected to fluctuate seasonally as variances in precipitation, infiltration, evapotranspiration rates affect the level of Lake Mendota. Groundwater in the project and surrounding areas is expected to flow north toward Lake Mendota, although flow direction variation is expected due to the relatively flat-water table gradient.

Wetlands and Flood Plains

Wetlands do not exist within the project boundary, although wetland indicator soils (Virgil silt loam, gravelly substratum, 0 to 3 percent slopes) exist approximately 0.1 mile east and southwest of the project boundary. See Figure 4 for a full account of wetland indicator soil locations near the project boundary.

The project site is located approximately 400 feet south of a 1% annual chance flood (100-year flood) and a Zone X flood area according to Federal Emergency Management Agency (FEMA) Flood Maps. Zone X areas are those which have a 0.2% annual chance of flood; areas of 1% annual chance of flooding with average depths of less than 1-foot or drainage areas less than 1-square-mile and areas protected by
levees from 1% annual chance flooding. Refer to Attachment 1, Figures 4 and 6 for the Wetland Indicator and FEMA floodplain maps associated with the project site.

**Air**

Chapter NR 400 of the Wisconsin Administrative Code regulates air pollution. Contaminants regulated by this chapter include the "criteria pollutants": particulate matter, sulfur dioxide, organic compounds, nitrous oxides, carbon monoxide, and lead. There is regulation of hazardous air contaminants and visible emissions. As of June 1, 2014, all counties in Wisconsin are attaining the National Ambient Air Quality Standards (NAAQS) for particle pollution. Due to this change, all counties now have more stringent air pollution regulations placed on businesses and industries of the Madison area and throughout Wisconsin.

The air quality index (23 out of 500 on March 5, 2019) in Madison is considered a "good" or satisfactory, and air pollution poses little or no risk. This index is 5% less than the Wisconsin average, and 70% less than the highest national average (104, Hidden Valley, Arizona).

**B. Biological**

**Existing Landscape**

The project construction will be in an area that is currently developed with asphalt, concrete, and landscaping. Surrounding the vicinity of the proposed site changes are buildings and vegetation that may support habitat for birds and small mammals. This vegetation includes mature trees, shrubbery, flower beds, and turfgrass.

The existing landscape along Lathrop Drive consists primarily of mown lawn with small formal planting areas adjacent to Lathrop Hall and the Central Kitchen. Planted species include Japanese Lilac, creeping juniper, yew, and day lily as well as other deciduous shrubs and ornamental trees. Shade trees are largely absent from the interstitial spaces, with the exception of a large deciduous tree northwest of Lathrop Hall and a small tree (less than 6" DBH) northwest of the Central Kitchen. At Music Hall, existing formal landscape consists of mown lawn, young shade trees, and foundation plantings. A small patch of deciduous shrubs is located adjacent to North Park Street. Music Hall is heavily shaded by ornamental trees and tall shrubs in its foundation plantings. Three memorial trees exist within the project area; two in between Music Hall and Chadbourne Residence Hall, and one near Chamberlin Hall. These trees will be protected at all times during construction. A small bike parking area is located in the western portion of the site.

The Botany Greenhouse at the base of Birge Hall on its south side grows hundreds of plants from all over the world for display and research throughout campus. The Botany Gardens on the south side of Birge Hall includes more than 500 species of plants from all over the world. A large Amur Corktree and the Birge Hall Dawn Redwood are two large iconic specimen trees located in the lawn spaces south of Birge Hall. The remainder of the site consists of turf groundcover, deciduous shade trees, and large coniferous trees on the south side of the site. The site has a moderate slope from Birge Hall down to Lathrop Drive.

**Endangered Resources Review**

An Endangered Resources Review (ERR) request (Form 1700-079, R 6/17) was submitted to the Wisconsin Department of Natural Resources (WDNR) on November 13, 2018, for information on threatened, endangered, and special concern species that may potentially be in the general area of the project, including the Phase 2 area, or may be impacted by the project. A response was received on November 13, 2018, stating that the project is covered by "Activities 2-A1", which is for "any activity not otherwise listed performed in urban/residential areas, manicured lawn or other artificial/paved surface" (in Table 2 of the Broad Incidental Take Permit/Authorization for No/Low Impact Activities [No/Low BITP/A]). This BITP/A covers projects that the DNR has determined will have no impact or minimal impact to endangered and threatened species in the state.
The ERR request correspondence and an ER Review Verification Form regarding the project are located in Appendix F of the original EIA.

C. Social

UW-Madison

Please refer to the original EIA document for a full discussion on the social conditions surrounding UW-Madison.

The project area is in one of the oldest and most historic areas on the UW-Madison campus. Important social features along Lathrop Drive include:

- Music Hall: Houses the Department of Urban and Regional Planning and the Mills Music Library. This building is an integral part of the campus for planning students and teachers.

- Chadbourne Residence Hall: This residence hall is a popular option for first year and non-freshman residents and is home to the Chadbourne Residence College (CRC), a learning community sponsored by the College of Letters & Science and University Housing. Chadbourne houses 580 residents and offers a great blend of academic and residential life. Rheta’s Market, an eight-station dining marketplace, is also located in this residence hall.

- Law Building: Houses the East Asian Legal Studies Center, Frank J. Remington Center, Global Legal Studies Center, Great Lakes Indian Law Center, Institute for Legal Studies, and the UW Law Library. This building is an integral part of the campus, offering two major programs and one doctorate program to the almost 800 students that make up the Law School’s student body.

- Barnard Residence Hall: Built in 1913, Barnard Residence Hall is the oldest existing residence hall on campus. The Hall houses 139 residents, with mixed coed floors, and single or double rooms with shared closets. A part of the Chadbourne Residential College (CRC), residents of Barnard also get to participate in all events and programs put on by the learning community. Barnard is a popular option for many students wishing to have their own space, while still being able to reap the benefits of being a part of a learning community.

- Lathrop Hall: This building is an integral part of the campus and is on the National Register of Historic Places. When it originally opened, the building served as a social and recreational center for women at the university. Currently, it houses the university’s dance program.

- Birge Hall: Houses the Department of Botany, botany greenhouse/gardens, Department of Integrative Biology, Center of Rapid Evolution (CORE), and the Wisconsin State Herbarium. This building is an integral part of the campus for botany students/teachers. Additionally, the Herbarium is of national and international importance and is used extensively for taxonomic and ecological research, teaching, and public service.

- Van Vleck Hall: Houses the department of mathematics and the Kleene mathematics library and is an integral part of the UW-Madison campus for students and teachers who are involved with this division.

- Sterling Hall: Houses the department of astronomy, the Woodman astronomy library, the Center for Research on Gender and Women, Gender and Women’s studies, and the UW Survey Center. The building is not only important to students and teachers interested in astronomy but serves as a memorial to the 1970 Sterling Hall bombing, committed as a
protest against the University’s research connections with the United States military during the Vietnam War.

- Chamberlin Hall: Houses the department of physics, the physics library, and the space astronomy lab. The building is not only important to students and teachers interested in physics and astronomy, but the physics library and space astronomy lab is used by nearby schools and programs to teach physics and astronomy others outside of UW-Madison.

- Botany Gardens

Due to the important nature of the project location, multiple transportation options provide access to these features. These transportation systems, pedestrian route, and bicycle route details can be found in the original EIA document.

D. Economic

The University of Wisconsin-Madison has a huge impact on the local and state economy, and facilities along Lathrop Drive are included in this impact. Work included in the Phase 2 scope project reflects that of the original EIA. Details about economics can be found in the original EIA.

E. Other (Hazardous Materials, Archaeological, Historical, etc.)

Environmental Risk Information Services (ERIS), a commercial database service, provided a federal, state, and local environmental records search for the project site and surrounding area. The ERIS database search was completed on November 19, 2018, and a copy of the database report is provided in Appendix G of the original EIA document. Ayres Associates identified sites within the project boundaries and on adjoining parcels. Findings of the records review are discussed in the original EIA.

DATCP Registered Tanks

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) maintains a list of underground storage tank (UST) and aboveground storage tank (AST) locations regulated under the Wisconsin Administrative Code, Chapter ATCP 93- Flammable and Combustible Liquids. A search for ASTs and USTs on the project site and adjoining parcels was conducted. The results are included in the original EIA, which indicated none of the storage tanks listed were anticipated to be impacted by the proposed project nor will impact the proposed project.

EPA Database Search

Standard United States Environmental Protection Agency (EPA) database results were reviewed for sites listed as Superfund Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites and generators or handlers of hazardous waste. Superfund sites were not identified within an approximate 0.5-mile radius of the project area. Two waste generating facilities were listed south and east of the project boundary with no listed violations. Three waste handling (non-generator) facilities are listed south and east of the project boundary with no listed violations.

Refer to Appendix G in the original EIA for sites identified within the EPA’s multi-system database that are within proximity to the project location and adjoining properties and corresponding activity details.
**BRRTS**

The WDNR Bureau of Remediation and Redevelopment (RR) Tracking System (BRRTS) database and corresponding RR Sites Map was searched on November 19, 2018, and July 13, 2020. The RR Sites Map is the WDNR's web-based mapping system that provides information about contaminated properties and other activities related to the investigation and cleanup of contaminated soil or groundwater in Wisconsin. None of the sites identified on BRRTS appeared to be likely to impact the proposed project. Details on the sites identified can be found in the original EIA. Refer to Appendix G in the original EIA for a map depicting the sites identified in the BRRTS database that are within proximity to the project location as well as the corresponding activity details.

**SHWIMS**

The Solid and Hazardous Waste Information System (SHWIMS) provides access to information on sites, and facilities operating at sites that are regulated by the WDNR Waste Management program. Activities that occurred at facilities include landfill operation, waste transportation, hazardous waste generation, wood burning, waste processing, sharps collection, and many others. SHWIMS was searched for applicable sites on November 19, 2018. The search area included a search radius of adjoining properties surrounding the project site. One adjoining property was identified in the SHWIMS database, 816 State Street (State Historical Society of Wisconsin). Violations are not associated with this property, which appears unlikely to impact the project site.

**Archaeological and Historical**

A search of the Wisconsin Historic Preservation Database (WHPD) was conducted on November 6, 2018, for any registered sites nearby and/or adjoining the Area of Potential Effect (APE), in Madison, Dane County, Wisconsin. The project area associated with the EIA Phase 2 Addendum is located along Lathrop Drive, just south of Bascom Hill, which is one of the oldest and most historic areas on campus and includes historical elements. The Phase 2 scope of work does not include archaeological resources.

Two resources adjoining or nearby the project area are listed in the Archaeological Sites Inventory (ASI): Bascom Hill Mounds (DA-0573) and Bascom Hall Burial Grounds (DA-1278). Please refer to the original EIA for details on this site. Since addendum work is not within the burial site limits, it does not pose a potential issue.

Bascom Hill Historic District is listed on both the National and State Registers of Historic Places. The project area along Lathrop Drive includes eleven (11) resources (Architecture and History Inventory listings), some of which are contributing to, listed on, or eligible for the National Register. These sites include Birge Hall, Barnard Residence Hall, Chadbourne Residence Hall, Chamberlin Hall, South Hall, Law Building (Law School), Lathrop Hall, Sterling Hall, Sewell Social Science Building, Van Vleck Hall, and Music Hall. No above-grade portions of these buildings will be disturbed during construction, but old service connections will be replaced at Sterling Hall, Van Vleck Hall, Birge Hall, Law Building, and Central Kitchen.

The design consultant will coordinate with UW-Madison’s Campus Planning and Landscape Architecture staff on the final design and construction work within the Historic District, in the area of Lathrop Drive. Upon completion of the project, all areas within the Historic District disturbed by the project will be fully restored, including roadways, gutters, terrace areas, streets, trees, sidewalks, landscaping features, and site structures. Care will be taken to maintain the historic character of the project area. See the original EIA document for listing details.

Additional details regarding project activities along Lathrop Drive are included below:
1. All work will be done in open cut trench with soil retention to minimize the width. On average, trenches will be roughly 10’ deep x 12’ wide. Any open trench or pit area will be dug with a backhoe.

2. New connections will not be made to the buildings. The existing foundation opening will be utilized for new services. Existing connections will be upgraded for Sterling Hall, Van Vleck Hall, Birge Hall, Law Hall, and Central Kitchen.

3. A crack and damage survey will document building conditions, including a visual inspection, digital images, and a written report describing the existing defects pre-construction, and any changes in the building’s condition post-construction. The intent of the written report and digital images is to procure a record of the general physical condition of the building’s interior and exterior walls, glazing, and foundation and to identify any areas of concern that should be monitored during construction activities to reduce the potential for additional damage.

Adjoining or nearby the project boundaries, one (1) Architecture and History Inventory (AHI) resource contributing to, eligible for, or listed on the National Register, two (2) ARI reports, and one (1) ASI resource are listed.

A HIST-A document to supplement the original submittal was submitted to the UW-Madison DFDM Historic and Cultural Resources Manager on August 27th, 2020. A response has not yet been received by the end of this Draft EIA but will be included in the Final EIA document. The submittal and HIST-A form are included in Attachment 4.

Other nearby historical sites are not anticipated to be impacted as a result of this project.

F. Parking and Transportation

Due to the important nature of the project location, multiple transportation, and parking features are located within and surrounding the project site. Further, parking and transportation details can be found in the original EIA document.

Parking

The project area associated with this EIA addendum includes Lot 5, located between Music Hall and Chadbourne Residence Hall and to the south of Birge Hall. A lot-specific permit is required for Lot 5 during weekdays between 7 a.m. and 4:30 p.m. After 4:30 p.m. and all-day Saturday and Sunday, any valid UW permit is acceptable.

Transportation

In the revised project area, the City owns and maintains North Park Street and the UW owns and maintains Lathrop Drive and all the sidewalks and pedestrian paths.

On a more broad scale near the project boundaries, multiple pedestrian paths exist through the Bascom Hill area. In general, main pedestrian access begins at Bascom Hall and extends east on both the north and south sides of Bascom Hill to North Park Street. Sidewalks also exist throughout the project site, with the most prevalent pedestrian traffic occurring in between buildings. City-owned sidewalks exist on each side of North Park Street. Campus sidewalks exist on the north side of Observatory Drive. These pedestrian paths are heavily used by students between classes. During classes, there is little to no pedestrian traffic in the area. Most pedestrian traffic in the area during classes appeared to be University service staff and/or delivery vehicles.
The project site for the extended scope of work is bound by North Charter Street, University Avenue, and North Park Street. Designated bicycle lanes exist along these streets, although bicycles can be seen throughout the project area even though they may not be within high-traffic bicycle zones. As of 2013, North Park Street had a 2,550-average weekday traffic (AWT) count. (City of Madison 2013). Lathrop Drive consists of a two-way road mainly accessible for authorized vehicles only. Traffic includes staff, faculty, and employees associated with loading docks and garbage areas. A sidewalk can be found on the north side of the road and in between buildings and the Botany Gardens, but pedestrians can also be found walking on Lathrop Drive.

The Madison Metro bus system travels through the UW-Madison campus along most of the major streets, including University Avenue, North Charter Street, and North Park Street. Bus stops are located along North Park Street in front of Lot 5 (stop #70, bus route 82), University Avenue (stops #100 and 234, both west-bound), and along North Charter Street (stops # 757 and 706). Van Gelder and other tour buses pick up and drop off in front of the Memorial Union almost hourly throughout the day.

III. Proposed Environmental Change

The utilities along Bascom Hill serving the buildings on the north and east end of campus are at or near the end of their useful life. Due to age, operational costs, future facility support, and other utility failures in this area that have exacerbated deterioration, the north campus utility system is at risk for further failure and disruption of its distribution systems.

Work completed under the proposed Lathrop Drive/Bascom Hill Utility Improvement Project - Phase 2 will improve the reliability of the utility systems in this area by upgrading the necessary infrastructure.

The original scope of Phase 1 of the utility upgrade project is described in the original EIA document. Phase 2 of this scope, which includes construction along Lathrop Drive, is located in Attachment 3.

A. Manipulation of Terrestrial Resources

Terrestrial resources deal with changes that will occur to land surfaces as opposed to water or air resources.

Surface and Subsurface Manipulation

Subsurface Manipulation

Trench width carries throughout the project but an average is expected to be approximately 12 feet wide with depths up to 30 feet below grade. Soil excavation and removal will occur as a result of this project. Soil retention will be left to the contractor for means and methods on construction but will need to minimize the footprint of the excavation and be structurally sound.

During construction activities, the hard surfaces in areas of construction will need to be demolished and removed. The project site will be restored after utility demolition and installation. Following restoration, the general surface grades would be relatively unchanged, with slight modifications to allow for slopes and grading in accordance with the final landscaping plan. Final restoration will be completed at the end of the construction period. Details of subsurface manipulation plans are described below.

Steam System

The steam system new work includes existing tunnel repair to address water seepage and concrete spalling issues. The new work also includes new walkable tunnels, box conduit, and access/service vaults all of cast in place concrete construction. New steam/condensate/compressed air piping will route through the new walkable tunnels, box conduits, and vaults to various building located within the project limits.
Construction will include cast in place concrete construction for all new walkable tunnels, vaults, and box conduits consistent with DFDM standard construction details. Steam/condensate/compressed air piping, insulation, valving, and pipe specialties types and models are based on DFDM specified requirements.

**Chilled Water System**

New chilled water main isolation valves will be provided at the new connections to the existing chilled water mains located along University Drive just east of T.C. Chamberlin Hall, and also at the connection to the existing chilled water mains located between Lathrop Hall and Barnard Hall. Chilled water system construction includes a direct buried, ductile iron, fully restrained mechanical joint chilled water piping system. Chilled water valving and piping specialty types and models were based on DFDM specified requirements.

**Compressed Air System**

The compressed air system new work correlates directly with the steam system new work. The new work includes a new walkable tunnel with condensate and compressed air piping to various buildings within project limits.

**Electrical Power System**

There are two main 4160V feeders that serve the buildings on site. One of the feeders leaves and returns to Radio Hall Substation in the same duct banking routing south to Law Vault 8P51. From there it serves Music Hall, Law, Chadbourne Hall (central Kitchen and Barnard Hall included), Birge Hall, Van Vleck Hall, Sterling Hall (east), and Lathrop Hall. South Hall and North Hall are fed from 480V service from Lathrop Hall. This looped feeder will be rearranged to enter the site from two directions, the current south location from Radio Hall Substation and another from the west between Sterling Hall and Chamberlin Hall. This will allow portions of the duct banks to be removed during construction and keep buildings energized. Chamberlin Hall is fed from a 13.8 feeder that routes between Charter Street Substation and LaBahn Switching Station. This feeder will not be affected by this project.

All steam tunnel and steam pits, new and existing to remain, will have new luminaries, receptacles, and sump pumps installed along with BAS monitoring for the sump pump loss of power and high-level alarm. These circuits will be fed from the nearest available source in nearby buildings.

Electrical system construction includes cast in place concrete duct bank construction with PVC conduits and cast in place concrete manholes/vaults per DFDM standard construction details.

**Signal System**

Signal system construction includes cast in place concrete duct bank construction with PVC conduits and cast in place concrete manholes/vaults per DFDM standard construction details.

**Domestic Water System**

Domestic water service for the Lathrop Drive/Bascom Hill area is owned and operated by the UW but water is supplied by the City of Madison through three-meter pits. As other utilities in this area are replaced, water mains will be replaced via traditional trenching and backfilling methods, but to preserve natural landscapes and/or avoid expensive excavations, trenchless installation methods are also an option. Pipelining and/or pipe bursting of water mains is more challenging than gravity pipes because to complete the work the water system in the area must be shut down rather than temporarily bypassed. If campus buildings have redundant water supplies, shutting off the water may not be a problem. However, many redundant systems in this area come from the same mainline meaning some buildings may either be without water or need a temporary water supply during construction. Plus, pipe bursting does not generally work well on water mains because of valves and other fittings.
A ductile iron domestic water piping system will be constructed. Domestic water valving and piping specialties types and models were based on DFDM specified requirements.

**Surface Manipulation**

Within the project, area limits exists several trees and landscaped areas, as described in the Existing Environment section above. Tree and vegetation landscaping restoration plans have not been fully developed yet, but vegetation such as trees, shrubs, and grass may need to be removed for construction. Care will be taken to not damage any memorial trees in the area. Open cut trenches with possible soil retention construction methods will mitigate the disturbance to vegetation throughout the project area.

Following construction, vegetation lost as a result of the project will be replaced or restored with those of similar character and species to maintain the visual aesthetic of this area of campus. Materials will additionally act as a storm water mitigation in the area to address known storm water issues. All plantings will be restored in-place, with historically appropriate materials. Following project construction, disturbed turf areas will be restored to match the existing mowed turf grass unless otherwise noted.

The project will avoid disturbing shade trees. Please refer to the original EIA document for more information on tree disturbance and protection.

**B. Manipulation of Aquatic Resources**

For information about erosion and stormwater control measures, dewatering practices, and a Wisconsin Pollutant Discharge Elimination System (WPDES) permit, refer to the original EIA.

**C. Structures**

No buildings or other, above grade structures will be demolished as part of the additional scope of work associated with this addendum. All project work will take place below grade. There will be no new service connections, but old connections will be replaced at Sterling Hall, Van Vleck Hall, Birge Hall, Law Building, and Central Kitchen.

Buildings can be accessed via Lathrop Drive. However, loading docks, certain building entries, and garbage areas may need temporary locations established throughout the project. Building access for Law Hall, Lathrop Hall, and Birge Hall will most likely be affected by the construction. The loading docks for Birge Hall, Law Hall, and the Central Kitchen will be affected by construction as well as garbage at Central Kitchen and Birge Hall. Plans will include alternate locations.

Other temporary structures provided for this project could include pedestrian or bicycle flow devices, such as covered walkways or wooden bridges with railings, to limit potential hazards to pedestrians from work taking place adjacent to the pedestrian flow. Traffic and pedestrian routing plans will be developed in the future prior to construction as part of the on-going design effort.

**D. Other**

**Asbestos and Hazardous Materials**

Asbestos-containing materials (ACM) potentially exist in some of the pipe insulation in steam pits or as part of the construction of the direct buried steam and condensate piping between pits throughout campus. If and when this occurs, the materials will be disposed of with the demolition debris in accordance with state and federal regulations and the demolition specifications.

A closed ERP site is located on the adjoining eastern parcel at a lower relative elevation, side-gradient with respect to groundwater flow. There were also two historic spills at Birge Hall and a spill at North Park
Street and Observatory Drive. Each of these sites have been dealt with to satisfaction of the WDNR and are unlikely to impact the proposed project area. Additional petroleum and hazardous material releases were not reported within the boundaries of the project site based on a review of standard databases.

Details about ACM removal and environmental listings can be found in the original EIA document.

Utilities

Development of this project is both impacted by and will also impact the existing utilities in the areas. The tunnels and other project components must either adjust grades, elevations, and locations to miss existing utilities or modify existing utilities to miss the tunnels. A number of known and unknown abandoned utilities and utility laterals exist in this area and may be encountered during project development. Sanitary and water lateral locations are marked in approximate locations on City of Madison drawings that were in some cases developed in the early 1900s.

Specifications for utility construction and upgrade require that the existing services be substantially-to-completely uninterrupted. The construction work will require the installation of some temporary utility features that will provide the same services and capacities as what is currently provided at the existing building until permanent utilities can be completed. Upgrades of these features will be undetectable within operating services in the buildings serviced by this area during this construction period.

Noise

Permanent ambient noise levels are not expected to be altered by the project, except during construction activities. Construction of the new utility replacements for the Phase 2 scope of work would not significantly increase the noise levels that were already defined in the original scope of work. For more information about construction noise, refer to the original EIA document.

Traffic and Parking

Construction activities will necessitate temporary traffic control during various sequences. Upon completion of construction, traffic patterns for pedestrians, bicycles, and vehicles will return to their normal operating conditions.

During the Phase 2 scope of work, Lathrop Drive will likely need to be closed, although traffic control plans are being developed as the design proceeds. Traffic control design to be implemented by the contractor will leave open delivery access, fire and emergency access, waste removal, and provide details on traffic and pedestrian routing, including signage and any other structural features to provide safe passage through this corridor. This design will be coordinated with UW-Madison transportation staff. All public street closures, full or partial, will require a street use permit from the City of Madison that the general contractor will need to submit and gain approval for well in advance of the need to close the street. Some updates to access points and parking stalls will be necessary in various locations throughout project construction.

Additional parking will not be provided by the project nor will there be any long-term removal of parking spots as a direct result of this project. Construction staging for a portion of the utility project will likely occur in an open vacated area near the project site.

Erosion Control

Surface water runoff from the proposed site work will be controlled during the construction phase. Silt fences, inlet protection, and other runoff/siltation devices will be utilized during construction activities in accordance with construction best management practices (Wisconsin Administration Code Chapter NR 151 Runoff Management and NR 216 Stormwater Discharge Permits) to minimize environmental impacts of the project. The erosion control plan will comply with university, city, and state standards.
An erosion control plan has not yet been developed for this project but will be properly permitted prior to construction. The project may require a construction tracking pad to reduce tracking of soil material on to adjoining driveways.

**Visual**

Visual aesthetics in the vicinity of the proposed project will be affected. The asphalt, concrete, utilities, and landscaped surfaces in the location of the project will be removed and replaced with new utilities, landscaping, and pavement. Physical site topography will not be significantly changed, nor will the landscape restoration plan vary significantly from existing conditions.
IV. Probable Adverse and Beneficial Impacts

Probable adverse and beneficial impacts mirror those of the original EIA. Therefore, please refer to that document for a complete synopsis.

A. Physical Impacts

The physical aspects of this project have minimal adverse impacts, anticipated to be limited to construction activities. Short-term noise and minor air impacts from construction activities are expected to impact the campus for the duration of the project. Though unanticipated, localized utility outages could occur while portions of this project are being implemented. No other groundwater or soil impacts are expected to arise as a result of this project beyond water management for the installation of deeper construction. Beneficial impacts will be realized long-term by the incorporation of the utility features into shaping the future of the campus plan direction and providing more reliable utility services to buildings that need these features.

B. Biological Impacts

Long-term adverse biological impacts are not anticipated as the project site is located in a developed area, including where utilities already exist. Green space of the project site is expected to remain consistent with the current configuration and maintain its historic character. The project area is on developed land and it is not considered to be wildlife habitat of any significance beyond songbirds or small mammals, such as squirrels. The project site does overlap a Rusty Patched Bumble Bee High Potential Zone. Although areas of manicured lawn and paved areas are not considered suitable habitat for the bee, conservation measures were recommended to be added into the project plans in an effort to create additional habitat for the bee. These recommendations are included in Appendix F of the original EIA document.

C. Socioeconomic Impacts

As campus planners lay the foundations for the future, infrastructure upgrades are required to provide the modern amenities to the campus structure and to provide the basic building blocks to support the campus growth. The Phase 2 scope of work as part of the larger Lathrop Drive and Bascom Hill utility improvement project is the impetus behind this environmental impact assessment.

The Phase 2 scope of work will replace in-kind and construct new steam, chilled water, and electric utilities along Lathrop Drive, which is bound by North Park Street, University Avenue, and North Charter Street. Each of these streets and corridors are heavily used by nearby students, faculty, and visitors as they traverse the campus in between housing, classes, and campus activities along Bascom Hill. Consequently, the proposed utility improvement project will necessarily impact traffic and pedestrian movements along the construction routes. Utility construction will create some inconveniences for pedestrians, vehicular traffic, mopeds, and bicyclists along construction routes. From time to time, access to public and private buildings will be rerouted to accommodate the construction activity and to provide safe travel for the public during the construction of the utility corridor.

As in any major construction project, some traffic rerouting will likely occur. As this portion of the utility construction creates site disruption, temporary and single lane closures will likely occur, as well as possible realignment of pedestrian crosswalks. Details of planned rerouting are described in Section III, D.

The project area includes Lot 5 located along Lathrop Drive. Some parking areas will be temporarily impacted from the construction activities. Provisions will be made, where possible, to help reduce the loss of those spaces.
In summary, the socioeconomic impacts associated with the Lathrop Drive/Bascom Hill Utility Improvement Phase 2 construction would not cause any major changes to employment, student housing, or public finance in the region of influence on the north portion of the UW-Madison campus. Waste generated during construction would be adequately managed by the construction management team and properly disposed of in accordance with waste and recycling management requirements in the construction specifications. Moreover, the improvements in utility design, service area and speed, and advanced technology along the Lathrop Drive/Bascom Hill utility corridors would have a positive effect of reducing overall accident risks, power supply outages (brown-outs), supply sufficient infrastructure upgrades to allow expansion of new construction and existing services for buildings in the project and surrounding area, when compared to the existing infrastructure in this area. Adverse effects related to construction noise are anticipated to be localized, temporary, and transient. For more detail about the socioeconomic impacts, refer to the original EIA document.

D. Other (Archaeological, Historical, etc.)

Energy and Utilities

There will be a continued commitment of energy resources to construct the project, including fossil fuel consumption used by construction vehicles and equipment. Energy that will irreversibly be consumed includes fuel and electricity used to run construction equipment and to operate construction material manufacturing plants and quarries. Other electrical needs may include lighting, compressors, and tools.

In the long term, the proposed action will likely slightly decrease resource consumption through improved utilities. Utility systems from the existing area currently adequately handle the south campus area’s loads, but the utility’s functional future is unknown given its detrimental aging.

Archeological and Historical

Historical resources are located within the project area. The project area associated with the Phase 2 EIA does not include archaeological elements. Details about resources located nearby or adjoin the project site can be found in the original EIA document.

A HIST-A document to supplement the original submittal was submitted to the UW-Madison DFDM Historic and Cultural Resources Manager on August 27th, 2020. A response has not yet been received by the date of publication of this Draft EIA but will be included in the Final EIA document. The submittal and HIST-A form are included in Attachment 4.

Resources pertaining to the project and surrounding area include:

<table>
<thead>
<tr>
<th>Database</th>
<th>Resource (Reference Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin Archaeological Site Inventory (ASI)</td>
<td>• State Site #: DA-0573, ASI #: 9945</td>
</tr>
<tr>
<td></td>
<td>o Bascom Hill Mounds (North Hall Mounds)</td>
</tr>
<tr>
<td></td>
<td>o Nearby project boundary</td>
</tr>
<tr>
<td></td>
<td>o Not in National Registry</td>
</tr>
<tr>
<td>NOTE:</td>
<td>o Burial Number: BDA-0417</td>
</tr>
<tr>
<td>ARCHAEOLOGICAL SITES IN THE AREA ARE OUTSIDE THE LIMITS OF THE PHASE 2 PROJECT BOUNDARIES AND IS SHOWN FOR</td>
<td>o “This mound group consisted of two linear and one conical mound and one panther (or turtle) effigy mound. It was formerly broken into two separate groups in the ASI (Bascom Hill and North Hall). The mounds were located in close proximity and formed a single group. Accounts concerning the form of the effigy on the hill vary. o The Bascom Hill sub-group originally contained one conical and one panther (or turtle) effigy mound. They</td>
</tr>
</tbody>
</table>
were destroyed in 1859 by the construction of Bascom Hall on the University of Wisconsin-Madison campus. The North Hall sub-group contained two linear mounds. They were destroyed by grading in 1851 and were said to have been located between North Hall and the lake bank. They were described as quite prominent.”

- State Site#: DA-1278, ASI#: 13709
  - Bascom Hall Burial Ground
  - Nearby project boundary
  - Not in National Registry
- Burial Number: BDA-0125
  - “This site consists of two burials (Samuel Warren, died 1837 and William Nelson, died 1838), said to be the first two Euro- Americans to die in Madison. The burials were first disturbed in 1918 during construction of the Lincoln Exedra. At that time, the legs of both individuals were exhumed and removed from the site. In 1922, the remainder of both burials, as well as Warren's tombstone were uncovered by Albert Gallistel during reconstruction of Lincoln Drive. The remains were reburied adjacent to the Lincoln statue. Lines were scored into the concrete to mark the graves. The graves are now marked by small brass blocks, bearing the initials and death dates of the deceased. It is unknown whether additional graves are present on the hill. One account of uncertain veracity states that Tabitha Burgoyne Bird (died 1839) and her son Zenas Henry Bird (died 1841) were buried on the hill as well but were moved to a cemetery in Sun Prairie.
    - Update 2008: Reconstruction of the stairway was monitored. The crushed aggregate base under the stairs was not disturbed during the project. A probe of the aggregate encountered an obstruction at a depth of 10 inches.
    - Update 2011-2017: The Williams marker was donated to the WHS but was discarded in the 1960s. It re-appeared in 2011 in the hands of a private citizen in Madison and was donated to the UW Archives.”
- Bascom Hill Historic District
  - NR Reference Number 74000065; This NR site includes 37 structures and properties which surround what was once known as “College Hill.” The district was updated in 2012. The district contains the five oldest buildings built for UW-Madison including Bascom Hall, North and South Halls, the Assembly and Library Hall, and the Mining Engineering and Heating Station. The campus continued to expand and with it the Bascom Hill Historic District, which now includes those sites most associated with campus life. The district represents the most historic cluster of institutional buildings in Wisconsin. More importantly, its sensitive mix of urban and natural spaces forms a memorable and coherent district.
- AHI: 100646 – South Hall (Building #112), 1055 Bascom Mall
<table>
<thead>
<tr>
<th>History Inventory (AHI)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>o Built in 1855</td>
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<tr>
<td></td>
<td>o Greek Revival</td>
</tr>
<tr>
<td>• AHI: 102545 – Law Building (Law School), 975 Bascom Mall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Contemporary</td>
</tr>
<tr>
<td>• AHI: 16896 – Lathrop Hall (building #70), 1050 University Avenue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Built in 1908</td>
</tr>
<tr>
<td></td>
<td>o Neoclassical</td>
</tr>
<tr>
<td>• William H. Sewell Social Science Building</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Built in 1961</td>
</tr>
<tr>
<td>• AHI: 100644 – Assembly Hall and Library (Music Hall)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Built in 1879</td>
</tr>
<tr>
<td></td>
<td>o High Victorian Gothic</td>
</tr>
<tr>
<td>• AHI: 100093 – Birge Hall (Building# 22, UW# 0054), 430 Lincoln Drive</td>
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</tr>
<tr>
<td></td>
<td>o Built in 1910</td>
</tr>
<tr>
<td></td>
<td>o Neoclassical</td>
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<tr>
<td>• AHI: 139579 – Physics-Political Economy Building, Sterling Hall (UW# 0057), 475 N. Charter Street</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Built in 1914</td>
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<tr>
<td></td>
<td>o Neoclassical</td>
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<tr>
<td>• AHI: 113937 – Barnard Hall (UW# 0562, Central Kitchen – Chadbourne), 970 University Avenue</td>
<td></td>
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<tr>
<td></td>
<td>o Built in 1912</td>
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<tr>
<td></td>
<td>o Neoclassical</td>
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<tr>
<td>• AHI: 109677 – Chadbourne Hall (UW# 0557), 420 N. Park Street</td>
<td></td>
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<tr>
<td></td>
<td>o Built in 1959</td>
</tr>
<tr>
<td></td>
<td>o Contemporary</td>
</tr>
<tr>
<td>• AHI: 114115 – Pharmacy-Physics Building; Chemistry Building (Chamberlin, Thomas Hall, UW# 0055), 425 N. Charter Street/1150 University Ave.</td>
<td></td>
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<tr>
<td></td>
<td>o Built in 1905</td>
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<tr>
<td></td>
<td>o Neoclassical</td>
</tr>
<tr>
<td>• AHI: 160663 – Van Vleck Hall (UW #0048), 480 Lincoln Drive</td>
<td></td>
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<tr>
<td></td>
<td>o Built in 1963</td>
</tr>
<tr>
<td></td>
<td>o Contemporary</td>
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</tbody>
</table>

**Hazardous Materials**

Impacts associated with hazardous materials or environmental conditions on-site are not anticipated. Abatement of asbestos-containing materials and lead will be conducted in a safe manner consistent with regulatory standards to protect the health and welfare of the workers and residents of the facilities.
V. Probable Adverse Impacts That Cannot Be Avoided

An unavoidable adverse impact of the proposed project is the commitment of energy, materials, and financial resources. These impacts are identical to those laid out in the original EIA, therefore, refer to that document for more information.
VI. Relationship Between Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

During the short-term, the properties, building occupants, staff, students, faculty, patrons, and the local environment in the vicinity of the proposed project will be affected by construction and construction-related activities. Related short-term impacts will include increased noise levels and consumption of fuels and other construction materials. These impacts will not exist in the long-term when demolition, renovation, construction, and restoration are complete.

During the short-term, the local project environment will be affected by construction and construction-related activities. This relatively short-term project provides a long-term service and response to an increased need for reliable utility access and a backup in case other utilities fail throughout the campus. These new utilities may also provide greater utility yields compared to the current utility configuration, although specific yields have not been calculated at this time.

UW-Madison is not only protecting themselves against inevitable failure of out of date utilities, but they are allowing the expansion of surrounding buildings by potentially improving the efficiency and capacity of these utilities. Site improvements save and provide assets such as safety, materials, energy, cost, and time compared to waiting to repair utilities after they have already failed.
VII. Irreversible or Irretrievable Commitments of Resources if Action is Implemented

A. Energy

There will be a commitment of energy resources to construct the project, including fossil fuel consumption used by construction vehicles and equipment. Energy that will irreversibly be consumed includes fuel and electricity used to run construction equipment and to operate construction material manufacturing plants and quarries. Electrical needs may include lighting, compressors, and tools.

Long-term consumption of resources to allow project completion, and continued operation of the facility, will not negatively impact or overload supplies. The intent of this project is to maintain UW-Madison's initiative to continue providing optimal facilities for current and prospective students. To enable UW-Madison's growth, up-to-date utilities must be installed.

B. Archaeological and Historic Features or Sites

A HIST-A document to supplement the original submittal was submitted to the UW-Madison DFDM Historic and Cultural Resources Manager on August 27th, 2020. A response has not yet been received by the date of publication of this Draft EIA but will be included in the Final EIA document. The submittal and HIST-A form are included in Attachment 4.

C. Financial

An unavoidable impact of the proposed action is the commitment of energy, materials, and financial resources to design and complete the project. The entire project (Phases 1 and 2) will require an initial financial commitment of $32,656,000, as well as on-going annual utility and operation and maintenance expenses. Phase 2 of the project is estimated at a total cost of $20,076,000. The utility expansion may result in a slight decrease in expenditure of energy due to improved efficiency and, therefore, possibly a decreased utility cost. This project will not create an increase in tuition for students directly.
VIII. Alternatives

Alternatives to the proposed project are described below.

- **No Action/Defer the Project Request.** This alternative eliminates utility upgrades along Lathrop Drive. A no-build alternative does not meet UW-Madison’s needs. If no action is pursued, the existing utilities will continue to be serviceable in the short term, but the useful life will not be extended and increase the likelihood of failure due to deterioration over time. A failure of these utilities would incapacitate a large part of the north side of the UW-Madison campus and would be an eventuality if not addressed through this project or one in the future (deferred request).

- **Other Design Alternatives.** Various alternatives and phasing plans have been evaluated within the context of the 2005 Utility Master Plan and more recently in the Lathrop Drive/Bascom Hill Utility Study. Design alternatives for the utility improvements were discussed and rejected by the design team. This location is a key utility corridor and due to the nature of the design aspects, there is no other suitable corridor that provides the noted benefits and design parameters compared to the selected alternative. The project presented in this document is considered to be the most efficient, practical, and economically justifiable to meet present and future needs in this area of the campus.

Other alternatives such as building new utilities elsewhere were not explored since they did not meet the financial limitations of the area, were well beyond the scope of this project in siting a new area, and did not address the best use of the space by UW-Madison.
IX. Evaluation

A comprehensive evaluation of this project and anticipated impacts are included in the original EIA document. Findings associated with this Phase 2 scope of work mirror those outlined in the original EIA.
X. List of Agencies, Groups, and Individuals Contacted Regarding this Project

A list of individuals or agencies contacted during the preparation of this EIA addendum is included in the original EIA document.

A copy of the Draft Phase 2 EIA report is available at the following libraries:

Local Libraries

University of Wisconsin – Madison
Helen C. White Library
600 North Park Street
Madison, WI 53706

Madison Public Library
201 West Mifflin Street
Madison, WI 53703

Websites

The Draft Phase 2 EIA was available for viewing online at:

http://www.ayresprojectinfo.com/Lathrop-Bascom-Utility
XI. Recommendation

The UW-Madison Environmental Affairs Coordinator will review the Draft EIA addendum and comments received during the Draft Phase 2 EIA public comment period to determine if a recommendation is needed to elevate this project to a Type I level as an Environmental Impact Statement (EIS).
XII. References


Heg, J. E., ed. "Wisconsin and her institutions: University of Wisconsin: History" in The blue book of the state of Wisconsin 1883 Madison, 1883; p. 393


City of Madison Website. http://www.cityofmadison.com

United States Environmental Protection Agency Envirofacts Website. http://www.epa.gov/enviro/


Wisconsin Department of Natural Resources Remediation and Redevelopment Sites Map Website. http://dnrmaps.wi.gov/sl/?Viewer= RR%20Sites

Wisconsin Department of Natural Resources Surface Water Data Viewer Website. http://dnrmaps.wi.gov/sl/?Viewer=SWDV

Wisconsin Department of Natural Resources – Solid and Hazardous Waste Information Management System online database. http://dnr.wi.gov/sotw/Welcome.do
Attachment 1

Site Maps and Additional Site Information
Figure 1
Campus Map

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q

Source: USGS 7.5-Minute Topographic Map, Madison, WI
Figure 2
Aerial Map

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q

Source: Google Earth Pro, 2018 aerial photograph

Project Area
Figure 3
Soil Map

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q

Source: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)
Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 19, Jun 8, 2020
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 29, 2011—Aug 28, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Source: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Figure 3A

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q
Figure 4
Surface Water Data Viewer Map

Source: https://dnr.wi.gov/topic/surfacewater/swdv/

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Figure 5
Topographic Map

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q

Source: USGS 7.5-Minute Series Topographic Quadrangle, Madison West, Wisconsin, 2016
Figure 6

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q
Attachment 2

Site Photographs
Site Photographs
University of Wisconsin-Madison
Lathrop Drive/Bascom Hill Utility Improvements – Phase 2
Environmental Impact Assessment Addendum

Photo 1: Intersection at North Park Street and Lathrop Drive – east terminus of the project area, looking east.

Photo 2: View of Music Hall along Lathrop Drive, looking northwest.

Photo 3: Looking west along Lathrop Drive, with the Law Building on the right and Barnard Residence Hall on the left.

Photo 4: View of Chadbourne Residence Hall, looking east along Lathrop Drive.
Photo 5: Looking east at Lathrop Drive with the Law Building on the right.

Photo 6: Walkway in between Barnard Residence Hall and Lathrop Hall, looking south towards University Avenue.

Photo 7: View of Birge Hall along Lathrop Drive, looking northwest.

Photo 8: View of Lathrop Hall along Lathrop Drive, looking southwest.
Site Photographs
University of Wisconsin-Madison
Lathrop Drive/Bascom Hill Utility Improvements – Phase 2
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Photo 9: Looking east on Lathrop Drive with Lathrop Hall on the right.

Photo 10: View of Birge Hall and greenhouses, looking northwest.

Photo 11: View of Lincoln Drive, off Lathrop Drive, with South Hall in the distance. Looking north.

Photo 12: View of Lathrop Hall looking south.
Photo 13: Looking west along Lathrop Drive.

Photo 14: View of Botany Gardens along Lathrop Drive, looking south.

Photo 15: View of walkway in between the Botany Gardens and Lathrop Hall, looking south onto University Ave.

Photo 16: Looking west onto Lathrop Drive towards Sterling Hall and Chamberlin Hall.
Site Photographs
University of Wisconsin-Madison
Lathrop Drive/Bascom Hill Utility Improvements – Phase 2
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Photo 17: Looking north from Lathrop Drive with Sterling Hall on the right.

Photo 18: View of Van Vleck Hall, looking north.

Photo 19: Walkway in between Chamberlin Hall (left) and Sterling Hall (right) along Lathrop Drive, looking west.

Photo 20: View of North Charter Street and the Medical Sciences Center, looking west from Lathrop Drive.
Attachment 3

Future Site Plans
Attachment 4

HIST-A Narrative and Form
Executive Summary

The University of Wisconsin - Madison (UW-Madison) campus is currently served by a variety of thermal, electrical and civil utilities and requires constant improvements to keep the systems maintained. Routine upkeep is no longer sufficient, and the university has identified the Lathrop Drive/Bascom Hill utility project as a critical improvement. The proposed utility improvement project will improve the reliability of the steam, chilled water, civil and electrical distribution systems in this area by replacing and adding the necessary infrastructure to complete the utility transmission in the Bascom Hill area. This narrative outlines the Phase 2 scope of work to be included in an addendum to the Environmental Impact Assessment (EIA) published in June 2019. The Phase 2 scope of work includes improving utilities along Lathrop Drive and surrounding areas. (see Attachment 3).

A search of the Wisconsin Historic Preservation Database (WHPD) was conducted for any registered resources nearby and/or adjoining the Area of Potential Effect (APE), in Madison, Dane County, Wisconsin. Phase 2 work takes place along Lathrop Drive, within the Bascom Hill area, which is one of the oldest and most historic areas on campus and includes historical resources. Archaeological resources are not included in the Phase 2 scope of work. This document identifies potentially affected resources within and nearby the project area.

Narrative

Project Description

Project work for the Phase 2 scope of work upgrades underground utilities along Lathrop Drive, which is south of the Bascom Hill area of the UW-Madison campus. A new signal duct bank will be constructed along the west and south sides of the Sewell Social Science Building and a new utility corridor will be constructed starting in between Birge Hall and Van Vleck Hall, which will run south towards Lathrop Drive and will terminate east at North Park Street. New construction will include an 8-inch chilled water supply, steam box conduits, primary duct banks, signal duct banks, signal manholes, and a steam tunnel. Thermal utilities include a new steam system with high-pressure steam, low pressure steam, pumped condensate, and compressed air. Electric utilities include primary electric and signal communications duct banks, manholes, and cabling. Demolition will occur in portions of the utility corridor along Lathrop Drive. Existing brick steam tunnel/steam box conduit will be abandoned and filled with flowable fill. All existing pipes, supports, conduits, insulation wiring, etc. will remain in abandoned tunnels. The proposed underground utilities will be installed to maximum depths of approximately 30 feet below existing grade and are installed using boring techniques or open cutting techniques depending on the specific utility, tie-in locations, and other factors. Attachments 1 and 2 show the project limits associated with the Phase 2 scope of work. Attachment 3 shows specific project components.

Pedestrian and bike traffic will require various detours and rerouting at various times throughout the construction of the utility upgrades. Existing pathways will be utilized as much as possible throughout the project area. The project will impact automotive traffic at Lathrop Drive and service roads to adjoining buildings.

Care will be taken to preserve the historical landscape elements in the area of the project. The majority of large and mature trees will be protected and preserved. Any additional landscaping elements removed during the project will be restored or replaced with those of similar size and species to maintain the visual aesthetic of this area of campus. Materials used will additionally act as storm water mitigation in the area to address known storm water issues. All plantings will be restored in-place, with historically-appropriate materials.
Upon completion of the revised scope of work, all areas disturbed by the project will be fully restored, including roadways, gutters, terrace areas, street trees, sidewalks, landscaping features, and site structures.

**Wisconsin Historic Preservation Database Search Results**

A search of the Wisconsin Historic Preservation Database (WHPD) was conducted on November 6, 2018 for any registered sites nearby and/or adjoining the APE, in Madison, Dane County, Wisconsin. The project area associated with the EIA Phase 2 scope of work does not include archaeological elements.

Bascom Hill Historic District is listed on both the National and State Registers of Historic Places. The project area along Lathrop Drive includes eleven (11) resources (Architecture and History Inventory listings) contributing to, listed on, or eligible for the National Register. These sites include Birge Hall, South Hall, Law Building (Law School), Lathrop Hall, Sterling Hall, Sewel Social Science Building, Van Vleck Hall, Barnard Residence Hall, Chadbourne Residence Hall, Chamberlin Hall, and Music Hall. No above-grade portions of these buildings will be disturbed during construction.

The design consultant will coordinate with UW-Madison’s Campus Planning and Landscape Architecture staff on the final design and construction work within the Historic District, in the area of Lathrop Drive. Upon completion of the project, all areas within the Historic District disturbed by the project will be fully restored, including roadways, gutters, terrace areas, streets, trees, sidewalks, landscaping features, and site structures. Care will be taken to maintain the historic character of the project area.

Additional details regarding project activities along Lathrop Drive are included below:

1. All work will be done in open cut trenches with soil retention to minimize the width. On average, trenches will be roughly 10’ deep x 12’ wide. Any open trench or pit area will be dug with a backhoe.
2. New connections will not be made to the buildings. The existing foundation opening will be utilized for new services. Old connections will be replaced at Sterling Hall, Van Vleck Hall, Birge Hall, Law Building, and Central Kitchen.
3. A crack and damage survey will document building conditions, including a visual inspection, digital images, and a written report describing the existing defects pre-construction, and any changes in the building’s condition post-construction. The intent of the written report and digital images is to procure a record of the general physical condition of the building’s interior and exterior walls, glazing, and foundation and to identify any areas of concern that should be monitored during construction activities to reduce the potential for additional damage.

Adjoining or nearby the project boundaries, one (1) Architecture and History Inventory (AHI) resources contributing to, eligible for, or listed on the National Register, two (2) ARI reports, and one (1) ASI resource are listed.

Resources pertaining to the project area include:

<table>
<thead>
<tr>
<th>Database</th>
<th>Resource (Reference Number)</th>
</tr>
</thead>
</table>
| Wisconsin Archaeological Site Inventory (ASI) |  • State Site #: DA-0573, ASI #: 9945  
| NOTE: ARCHAEOLOGICAL SITES IN THE AREA ARE OUTSIDE THE LIMITS OF THE PHASE 2 |  o Bascom Hill Mounds (North Hall Mounds)  
| |  o Nearby project boundary  
| |  o Not in National Registry  
| |  o Burial Number: BDA-0417  
| |  o "This mound group consisted of two linear and one conical mound and one panther (or turtle) effigy mound. It was formerly broken into two separate groups in the ASI (Bascom Hill and North Hall). The mounds were located in close proximity and formed a single group. Accounts concerning the form of the effigy on the hill vary."

The mounds were located in close proximity and formed a single group. Accounts concerning the form of the effigy on the hill vary.
| PROJECT BOUNDARIES AND IS SHOWN FOR BACKGROUND PURPOSES ONLY | • The Bascom Hill sub-group originally contained one conical and one panther (or turtle) effigy mound. They were destroyed in 1859 by the construction of Bascom Hall on the University of Wisconsin-Madison campus. The North Hall sub-group contained two linear mounds. They were destroyed by grading in 1851 and were said to have been located between North Hall and the lake bank. They were described as quite prominent.

- State Site#: DA-1278, ASI#: 13709
- Bascom Hall Burial Ground
- Nearby project boundary
- Not in National Registry
- Burial Number: BDA-0125
- "This site consists of two burials (Samuel Warren, died 1837 and William Nelson, died 1838), said to be the first two Euro-Americans to die in Madison. The burials were first disturbed in 1918 during construction of the Lincoln Exedra. At that time, the legs of both individuals were exhumed and removed from the site. In 1922, the remainder of both burials, as well as Warren's tombstone were uncovered by Albert Gallistel during reconstruction of Lincoln Drive. The remains were reburied adjacent to the Lincoln statue. Lines were scored into the concrete to mark the graves. The graves are now marked by small brass blocks, bearing the initials and death dates of the deceased. It is unknown whether additional graves are present on the hill. One account of uncertain veracity states that Tabitha Burgoyne Bird (died 1839) and her son Zenas Henry Bird (died 1841) were buried on the hill as well but were moved to a cemetery in Sun Prairie.

- Update 2008: Reconstruction of the stairway was monitored. The crushed aggregate base under the stairs was not disturbed during the project. A probe of the aggregate encountered an obstruction at a depth of 10 inches.

- Update 2011-2017: The Williams marker was donated to the WHS but was discarded in the 1960s. It re-appeared in 2011 in the hands of a private citizen in Madison and was donated to the UW Archives."

| National Registry/State Registry (NR/SR) | • Bascom Hill Historic District
- NR Reference Number 74000065; This NR site includes 37 structures and properties which surround what was once known as "College Hill." The district was updated in 2012. The district contains the five oldest buildings built for UW-Madison including Bascom Hall, North and South Halls, the Assembly and Library Hall, and the Mining Engineering and Heating Station. The campus continued to expand and with it the Bascom Hill Historic District, which now includes those sites most associated with campus life. The district represents the most historic cluster of institutional buildings in Wisconsin. More importantly, its sensitive mix of urban and natural spaces forms a memorable and coherent district. |
<table>
<thead>
<tr>
<th>Wisconsin Architecture and History Inventory (AHI)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• AHI: 100646 – South Hall (Building #112), 1055 Bascom Mall</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1855</td>
<td></td>
</tr>
<tr>
<td>○ Greek Revival</td>
<td></td>
</tr>
<tr>
<td>• AHI: 102545 – Law Building (Law School), 975 Bascom Mall</td>
<td></td>
</tr>
<tr>
<td>○ Contemporary</td>
<td></td>
</tr>
<tr>
<td>• AHI: 16896 – Lathrop Hall (building #70), 1050 University Avenue</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1908</td>
<td></td>
</tr>
<tr>
<td>○ Neoclassical</td>
<td></td>
</tr>
<tr>
<td>• William H. Sewell Social Science Building</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1961</td>
<td></td>
</tr>
<tr>
<td>• AHI: 100644 – Assembly Hall and Library (Music Hall)</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1879</td>
<td></td>
</tr>
<tr>
<td>○ High Victorian Gothic</td>
<td></td>
</tr>
<tr>
<td>• AHI: 100093 – Birge Hall (Building# 22, UW# 0054), 430 Lincoln Drive</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1910</td>
<td></td>
</tr>
<tr>
<td>○ Neoclassical</td>
<td></td>
</tr>
<tr>
<td>• AHI: 139579 – Physics-Political Economy Building, Sterling Hall (UW# 0057), 475 N. Charter Street</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1914</td>
<td></td>
</tr>
<tr>
<td>○ Neoclassical</td>
<td></td>
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<tr>
<td>• AHI: 113937 – Barnard Hall (UW# 0562, Central Kitchen – Chadbourne), 970 University Avenue</td>
<td></td>
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<tr>
<td>○ Built in 1912</td>
<td></td>
</tr>
<tr>
<td>○ Neoclassical</td>
<td></td>
</tr>
<tr>
<td>• AHI: 109677 – Chadbourne Hall (UW# 0557), 420 N. Park Street</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1959</td>
<td></td>
</tr>
<tr>
<td>○ Contemporary</td>
<td></td>
</tr>
<tr>
<td>• AHI: 114115 – Pharmacy-Physics Building; Chemistry Building (Chamberlin, Thomas Hall, UW# 0055), 425 N. Charter Street/1150 University Ave.</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1905</td>
<td></td>
</tr>
<tr>
<td>○ Neoclassical</td>
<td></td>
</tr>
<tr>
<td>• AHI: 160663 – Van Vleck Hall (UW #0048), 480 Lincoln Drive</td>
<td></td>
</tr>
<tr>
<td>○ Built in 1963</td>
<td></td>
</tr>
<tr>
<td>○ Contemporary</td>
<td></td>
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</tbody>
</table>

Properties located nearby or adjoin the project site and are not located within the project's APE are discussed in detail in the original Hist-A Narrative.
Figure 2

Aerial Map

Environmental Impact Assessment Addendum
University of Wisconsin – Madison
Lathrop Drive/Bascom Hill Utilities Improvement – Phase 2
DFDM Project # 19G2Q
NOTES:
1. EXISTING BRICK STEAM TUNNEL / STEAM BOX CONDUIT TO BE ABANDONED AND FILLED WITH FLOWABLE FILL: ALL EXISTING PIPES, SUPPORTS, CONDUITS, INSULATION WIRING, ETC. WILL BE REMAIN IN ABANDONED TUNNELS.

Attachment 3
Site Plan