



Report to the Plan Commission

July 26, 2010

Legistar I.D. #18864
117 N. Charter Street
Charter Street Heating Plant Project
Amended PUD-SIP #1

Report Prepared By:
Timothy M. Parks, Planner
Planning Division

Requested Action: Approval of a request to rezone 117 N. Charter Street from Planned Unit Development- Specific Implementation Plan (PUD-SIP) to Amended PUD-SIP to allow construction of a natural gas-fired boiler addition at the University of Wisconsin's Charter Street heating Plant.

Applicable Regulations & Standards: Section 28.12(9) provides the process for zoning map amendments; Section 28.07(6) of the Zoning Ordinance provides the requirements and framework for Planned Unit Developments.

Summary Recommendation: The Planning Division recommends that the Plan Commission recommend **approval** of Zoning Map Amendment 3490, amending the PUD-SIP for the Charter Street Heating Plant, subject to input at the public hearing and the conditions from reviewing agencies beginning on page 4 of this report.

Background Information

Applicant & Property Owner: University of Wisconsin–Madison, c/o Gary Brown, University Facility Planning & Management; 614 Walnut Street; Madison.

Proposal: The University is requesting final plan approval to begin construction of a 46,500 gross square-foot addition to the Charter Street Heating Plant, which will house two new natural gas-fired boilers and a steam turbine. The project represents the first phase of new construction at the plant, which will be undergoing a multi-year conversion from a coal-fired power plant to a plant that burns biomass and natural gas. The University wishes to commence construction of the natural gas boiler in September 2010, with completion of the new boiler anticipated in October 2011. Completion of the overall project is anticipated by June 2013.

Parcel Location: The subject site is an approximately 3.6-acre parcel bounded on the north by W. Dayton Street, on the west by N. Charter Street, on the east by N. Mills Street and on the south by the Southwest Bike Path; Aldermanic District 8 (Eagon); Madison Metropolitan School District. The proposed boiler will be constructed in the northeastern corner of the site near the N. Mills-W. Dayton intersection.

Existing Conditions: The subject site is developed with the existing Charter Street Heating Plant facility, zoned PUD-SIP.

Surrounding Land Use and Zoning:

North: Multi-family residences generally north of W. Dayton Street and UW Educational Sciences, zoned R5 (General Residence District);

South: Multi-family residences generally north of and along Spring Street, zoned R5 and PUD-SIP; Porchlight residential facility, zoned R5; Badger Campus Credit Union, zoned O-1 (Limited Office-Residence District); UW Bulk Mail Center, zoned C2 (General Commercial District);

West: UW Weeks Hall for Geological Sciences and multi-family residences, zoned R5;

East: Former UW Physical Plant Shops building (to be demolished to accommodate a biomass handling and storage facility to be constructed to serve the Charter Street project); zoned PUD-SIP.

Adopted Land Use Plan: The Comprehensive Plan generally identifies the subject site and surrounding properties as part of the University of Wisconsin Campus except the medium-density residential properties located generally southeast of the proposed PUD along Spring Street. The Campus designation is primarily intended to apply to the University of Wisconsin–Madison and Madison College campuses. The designation recognizes the “wide diversity of uses associated with the primary education mission” of those campuses, which could include campus-supporting facilities such as the Charter Street Heating Plant.

The Regent Street–South Campus Neighborhood Plan identifies the future land use of the subject site in the “university support services” category, which includes physical support facilities for the UW campus, including the physical plant and heating and cooling plant. The plan also makes urban design recommendations, which will be addressed in the body of the report.

Environmental Corridor Status: This property is not located within a mapped environmental corridor.

Public Utilities and Services: This property is served by a full range of urban services.

Zoning Summary: The site is PUD-SIP. The amendment to the PUD-SIP to accommodate the gas-fired boiler will be reviewed in the following sections.

Other Critical Zoning Items	
Yes:	Urban Design, Wellhead Protection (Zone B, WP-27), Utility Easements, Barrier Free
No:	Landmarks, Floodplain, Waterfront Development
<i>Prepared by: Pat Anderson, Asst. Zoning Administrator</i>	

Previous Approval

On May 18, 2010, the Common Council approved a request to rezone 115 N. Mills Street and 117 N. Charter Street from R5 (General Residence District) and C3 (Highway Commercial District) to Planned Unit Development-General Development Plan-Specific Implementation Plan (PUD-GDP-SIP) to allow the demolition of an existing one-story physical plant shop building at 115 N. Mills Street and allow the future construction of a biomass fuel handling and storage facility on east side of N. Mills street and the expansion and renovation of the Charter Street heating Plant to burn biomass and natural gas. The heating plant project will occur in phases commencing in August 2010, with completion of the overall project anticipated in 2013.

Project Review, Analysis & Conclusion

The University of Wisconsin is requesting approval of an amendment to the specific implementation plan for the Charter Street Heating Plant (CSHP) to allow construction of the first phase of the \$251

million dollar overhaul of the plant, which calls for the conversion of the plant from a coal-burning facility to one that burns biomass and natural gas. The first phase calls for the construction of a natural gas-fired boiler addition at the northeastern corner of the plant in an area currently occupied by 27 surface parking stalls.

The existing Charter Street Heating Plant occupies a 3.3-acre site bounded by W. Dayton Street on the north, N. Charter Street on the west, N. Mills Street on the east and the Southwest Bike Path on the south. The plant was first constructed in 1957 and provides chilled and heated water, steam heat, compressed air, and electricity for large portions of the University campus. The existing plant includes approximately 45,000 square feet of structures located primarily along the northerly and westerly edges of the site, including the bag house, boilers and cooling towers and supporting office facilities. The existing buildings stand approximately seven stories in height, with a prominent 250-foot tall exhaust stack located in the center of the complex. Surface parking for 49 vehicles is located in two lots between the northern walls of the existing plant and W. Dayton Street and west of the plant adjacent to N. Charter Street, with an 8-foot chain link fence located along most of the length of those property lines. The southerly and easterly portions of the existing 3.3-acre CSHP site are occupied by coal storage piles for existing plant operations, which are screened by 12-foot tall concrete walls that extend along most of the southern and eastern property lines.

The proposed first phase building addition will house two new natural gas-fired boilers, a shared exhaust flue and a steam turbine generator. Space for a second generator is shown on the proposed floorplans but is not proposed for construction at this time. The new building will span approximately 174.25 feet along the W. Dayton Street frontage and 83 feet along N. Mills Street and will contain two floors above a basement, with 46,500 square feet of gross floor area. The north wall of the proposed heating plant addition will be clad in a combination of precast concrete panels with brick veneer finish and metal wall panels, while the eastern wall of the addition will be clad with a combination of metal panels and composite wall panels, with window openings shown along both of those elevations, including along most of the ground floor of the northern facade. The first phase plans include modest landscaping on the CSHP site, but call for the addition of street trees and decorative concrete paving in the W. Dayton Street and N. Mills Street right of way pending approval by the City Engineering Division and City Forester.

Certain improvements that will be implemented in future phases of the CSHP overhaul project are shown on the current SIP plans for contextual purposes only. Those future improvements will include: the installation of the new biomass boiler; the construction of a biomass unloading and storage facility to be located on the 115 N. Mills Street site; the upgrading of the adjacent rail corridor between CSHP and W. Washington Avenue to facilitate delivery of the biomass fuel, and; the modifications to the Southwest Bike Path corridor to accommodate the proposed rail facilities needed for the new CSHP. Approval of those improvements to the plant will follow in a subsequent phase or phases of the project and will be reviewed as part of subsequent applications for City approval. The project also calls for the future installation of a new electric substation north of the existing Charter Street Plant on an approximately 0.4 acre-parcel located on the north side of W. Dayton Street. However, plans for the proposed substation have not been submitted for City approval, nor is this property included in the limits of the CSHP Planned Unit Development. Separate land use entitlements will be required in order for the substation project to proceed.

The area surrounding the heating plant includes a variety of land uses either directly or indirectly related to the University, including a number of University instructional, research and support facilities, and privately owned student-oriented medium-density residential uses. Staff believes that the first phase of the Charter Street project, which will begin the plant's conversion to cleaner burning fuels to

meet existing and future demands for energy on campus, will not have an adverse impact on these surrounding uses. The project is consistent with both the campus land use designation for the UW campus contained in the Comprehensive Plan and the “university support services” category recommended for the site in the Regent Street–South Campus Neighborhood Plan. Staff also believes that the standards for approval for planned unit developments and zoning map amendments can be met for the amended PUD-SIP for the first phase of CSHP improvements. Planning staff will note, however, that future elements of the project will require careful consideration of the potential impacts the proposed improvements may have on the nearby institutional and residential properties in the dense, urban neighborhood surrounding the heating plant.

The Urban Design Commission reviewed the proposed natural gas-fired boiler addition on June 16, 2010 and recommended final approval of the project (see attached report).

The final plans for Phase I were also presented to the Joint West Campus Area Committee on June 9, 2010, where that committee recommended approval without conditions (see attached report). The final plans were presented to the Joint Southeast Campus Area Committee on July 19, 2010; that committee also recommended approval of the first phase of the project without conditions of approval.

Staff Recommendations, Conditions of Approval & General Ordinance Requirements

Major/Non-Standard Conditions are shaded

Planning Division Recommendation (Contact Timothy M. Parks, 261-9632)

The Planning Division recommends that the Plan Commission forward [Substitute] Zoning Map Amendment ID 3490, amending the PUD-SIP 117 N. Charter Street for the Charter Street Heating Plant to allow construction of a natural gas-fired boiler, with a recommendation of **approval** subject to input at the public hearing, the following Planning Division conditions and the conditions from reviewing agencies:

1. That the University of Wisconsin–Madison enter into a formal agreement with the City in a form approved by the City Attorney’s Office, which addresses the off-site improvements to the City’s property and infrastructure required for implementation of the Charter Street Heating Plant project, of which the proposed Planned Unit Development zoning of 115 N. Mills Street and 117 N. Charter Street is an integral part. The University shall enter into this agreement prior to Planning Division approval of the planned unit development for recording and the commencement of any site work construction related to the expansion of the Charter Street plant.
2. Note: This Amended PUD-SIP approval does not include the new biomass boiler or bag house on the 117 N. Charter Street property, improvements on the 115 N. Mills Street property, or the electric substation north of the CSHP on the north side of W. Dayton Street. The University is required to submit an amended specific implementation plan for each phase of the project for approval by the Common Council following a recommendation by the Urban Design Commission and Plan Commission. Each amended SIP shall be reviewed against the standards for Planned Unit Developments in Section 28.07 of the Zoning Ordinance.

The following conditions have been submitted by reviewing agencies:

City Engineering Division (Contact Janet Dailey, 261-9688)

3. The applicant shall work closely with the City Engineering and Traffic Engineering divisions to determine the timing of the public infrastructure improvements that are necessary as part of this SIP and future SIPs or approvals. A Development Agreement or Permit shall be required to complete this work, as determined by the City Engineer and City Traffic Engineer. The applicant shall supply detailed right of way construction plans for review and approval. Deposits for City time and expenses shall be required as part of the Development Agreement or Permit.
4. The State and University shall enter into an Intergovernmental Agreement with the City prior to the approval of the SIP and prior to commencement of any work in the right of way.
5. The Applicant shall provide a detailed traffic control plan for the street work. Construction site fencing shall not be located such that it requires closure of a bike lane on Dayton Street. Bike lane closures may be necessary as part of specific street work, in coordination with the construction traffic control for that work. Bike lane closures for the duration of construction of the building shall not be permitted.
6. In general, it is necessary to develop a plan for the phasing of street construction work, including underground utility work, track removal and final paving of the streets to minimize the number of times any street is closed to traffic or traffic is otherwise disrupted. The street work should be done in logical segments of limited time duration. This may not correspond to the phasing of individual SIPs or on-site building work.
7. All work in the right of way shall comply with the City of Madison Standard Specifications for Public Works Construction.
8. Provide a typical section for the street work on W. Dayton Street and N. Mills Street. Ultimately the full width of Dayton Street and Mills Street should be resurfaced adjacent to this work, but the resurfacing may be deferred until all street openings are completed.
9. With removal of the railroad crossing, it may be necessary to set new curb grades to assure a continuous minimum grade of 0.5% on the new flow lines on both sides of W. Dayton Street. This may require additional curb removal and some modification of the street profile through the crossing area. Provide detailed plans for the proposed street centerline and curb grades.
10. Sheet C001 refers to Sheet C330 for the ramp detail, but the detail is actually on Sheet C350. The Type-1 ramp shown is not desirable, and possible replacement with Type-2 ramps should be investigated. The applicant shall work with the City Engineering and Traffic Engineering divisions to determine the ramp layout.
11. The University and the City have both expressed interest in modifying N. Mills Street to become a "bike boulevard" or preferential bike street. The concept for this cross section should be discussed by UW, and the City Engineering and Traffic Engineering divisions.
12. A maintenance agreement shall be required for the installation of pavers and special terrace treatment adjacent to this project.

13. If the applicant is proposing to use an earth retention system in the City's right of way, a copy of the plan, stamped by a licensed professional engineer shall be provided for review and approval by the City Engineering Division. Installation of the system shall be completed by a contractor that is prequalified by the City.
14. The applicant shall close all abandoned driveways by replacing the curb in front of the driveways and restoring the terrace with grass.
15. The approval of this planned unit development does not include the approval of the changes to roadways, sidewalks or utilities. The applicant shall obtain separate approval by the Board of Public Works and the Common Council for the restoration of the public right of way including any changes requested by developer. The City Engineer shall complete the final plans for the restoration with input from the developer. The curb location, grades, tree locations, tree species, lighting modifications and other items required to facilitate the development or restore the right of way shall be reviewed by the City Engineer, City Traffic Engineer, and City Forester.
16. The applicant shall replace all sidewalk and curb and gutter that abuts the property, which is damaged by the construction or any sidewalk and curb and gutter that the City Engineer determines needs to be replaced because it is not at a desirable grade regardless of whether the condition existed prior to beginning construction.
17. All work in the public right of way shall be performed by a City-licensed contractor.
18. All street tree locations and tree species within the right of way shall be reviewed and approved by City Forestry. Please submit a tree planting plan (in PDF format) to Dean Kahl, of the City Parks Department – dkahl@cityofmadison.com or 266-4816.
19. The plan set shall be revised to show a proposed private internal drainage system on the site. This information shall include the depths and locations of structures and the type of pipe to be used.
20. The applicant shall demonstrate compliance with Section 37.07 and 37.08 of the Madison General Ordinances regarding permissible soil loss rates. The erosion control plan shall include Universal Soil Loss Equation (USLE) computations for the construction period. Measures shall be implemented in order to maintain a soil loss rate below 7.5-tons per acre per year.
21. Effective January 1, 2010, the Department of Commerce's authority to permit commercial sites, with over one acre of disturbance for stormwater management and erosion control has been transferred to the Wisconsin Department of Natural Resources (WDNR). The WDNR does not have an authorized local program transferring this authority to the City of Madison. The City of Madison has been required by the WDNR to continue to review projects for compliance with NR-216 and NR-151, but a separate permit submittal is now required from the WDNR for this work as well.
- As this site is greater than one acre, the applicant is required by State Statute to obtain a Water Resources Application for Project Permits (WRAPP) from the DNR, prior to beginning construction. This permit was previously known as a Notice of Intent Permit (NOI). Please contact Eric Rortvedt of the WDNR at 273-5612 to discuss this requirement.
22. Prior to approval, this project shall comply with Chapter 37 of the Madison General Ordinances regarding stormwater management. Specifically, this development is required to control 40% TSS (20 micron particle) off of new paved surfaces, and; complete an erosion control plan and complete

weekly self-inspection of the erosion control practices and post these inspections to the City of Madison website as required by Chapter 37 of the Madison General Ordinances.

23. The applicant shall submit, prior to plan signoff, a digital CAD file (single file) to the Engineering Program Specialist in the Engineering Division (Lori Zenchenko). The digital CAD file shall be to scale and represent final construction. The single CAD file submittal can be either AutoCAD (dwg) Version 2001 or older, MicroStation (dgn) Version J or older, or Universal (dxf) format and contain only the following data, each on a separate layer name/level number: building footprints; internal walkway areas; internal site parking areas; other miscellaneous impervious areas lot lines; lot/ plat lines, dimensions and labels; right-of-way lines; street names, stormwater management facilities and; detail drawings associated with stormwater management facilities (including if applicable planting plans).
24. The applicant shall submit, prior to plan sign-off, digital PDF files to the City Engineering Division. The digital copies shall be to scale, shall have a scale bar on the plan set, and shall contain the following items: building footprints; internal walkway areas; internal site parking areas; lot lines and right-of-way lines; street names, stormwater management facilities and; detail drawings associated with stormwater management facilities (including if applicable planting plans).
25. The applicant shall submit prior to plan sign-off, electronic copies of any Stormwater Management File including: SLAMM DAT files; RECARGA files; TR-55/HYDROCAD/etc., and; sediment loading calculations. If calculations are done by hand or are not available electronically the hand copies or printed output shall be scanned to a PDF file and provided.
26. The applicant's utility contractor shall obtain a connection permit and excavation permit prior to commencing the storm sewer construction.
27. Prior to approval of the issuance of a demolition permit, the owner shall obtain a permit to plug each existing sanitary sewer lateral that serves a building that is proposed for demolition. For each lateral to be plugged, the owner shall deposit \$1,000 with the City Engineer in two separate checks in the following amounts: (1) \$100 non-refundable deposit for the cost of inspection of the plugging by City staff; and (2) \$900 for the cost of City crews to perform the plugging. If the owner elects to complete the plugging of a lateral by private contractor and the plugging is inspected and approved by the City Engineer, the \$900 fee shall be refunded to the owner.
28. The site plan shall be revised to show all existing public sanitary sewer facilities in the project area as well as the size, invert elevation, and alignment of the proposed service.

Traffic Engineering Division (Contact Bryan Walker, 267-8754)

29. If necessary, the applicant may be required to shall reconstruct and widen both W. Dayton Street and N. Mills Street, including the intersection of Dayton and Mills, to address the new traffic impacts to these streets by the proposed new facilities. This includes may include new railroad signals, potential new traffic signals, wider bike lanes and space for parking if so required on N. Mills Street. The plans and financing by UW will need to be reviewed and approved by the City Traffic Engineer.
30. If necessary, the applicant may be required to shall reconstruct and widen both N. Charter Street and Spring Street, including the intersection of Charter and Spring, to address the new traffic impacts to these streets by the proposed new facilities. This includes may include new railroad

signals, potential new traffic signals, wider bike lanes and space for parking if so required on these two streets. The plans and financing by UW will need to be reviewed and approved by the City Traffic Engineer.

31. In future phases of this project, the applicant shall show and demonstrate the rail operations and rail car storage, including a schedule of planned operations, intended to minimize traffic impacts and peak hour traffic in the area (a.m. and p.m.). There is a major concern that this proposal will block and congest Dayton Street.
32. When the applicant submits final plans for approval, the applicant shall show the following: items in the terrace as existing (e.g., signs and street light poles), type of surfaces, existing property lines, addresses, one contiguous plan (showing all easements, all pavement markings, building placement, and stalls), adjacent driveway approaches to lots on either side and across the street, signage, percent of slope, vehicle routes, dimensions of radii, aisles, driveways, stalls including the 2-foot overhang, and a scaled drawing at 1" = 20'.
33. "Stop" signs shall be installed at a height of 7 feet at all driveway approaches behind the property line and noted on the plan. All directional/regulatory signage and pavement markings on the site shall be shown and noted on the plan.
34. The intersection shall be so designed so as not to violate the City's sight triangle preservation requirement which states that on a corner lot no structure, screening, or embankment of any kind shall be erected, placed, maintained or grown between the heights of 30 inches and 10 feet above the curb level or its equivalent within the triangle space formed by the two intersecting street lines or their projections and a line joining points on such street lines located a minimum of 25 feet from the street intersection in order to provide adequate vehicular vision clearance.
35. This is a State of Wisconsin project. As such, the applicant could note on the plan sheet or submit a letter to the Traffic Engineering Division that states: "The parking stall design is according to State of Wisconsin parking design standards and approved by the State of Wisconsin."
36. The University shall post a deposit and reimburse the City for all costs associated with any modifications to traffic signals, street lighting, signing and pavement marking, and conduit and handholes, including labor, engineering and materials for both temporary and permanent installations.
37. The developer shall enter into a developer's agreement with the City of Madison for the relocation and reconstruction of the bike path in future phases of the project.
38. The developer shall note on the plans that all changes in the City of Madison right of way will need to be approved by the Board of Public Works.
39. Public signing and marking related to the development may be required by the City Traffic Engineer for which the developer shall be financially responsible.

Zoning Administrator (Contact Pat Anderson, 266-5978)

40. Provide bicycle parking a ratio of 1 stall per 2 employees. Bike parking shall comply with MGO Section 28.11. Provide 3 bike parking stalls in a safe and convenient location on an impervious

surface to be shown on the final plan. Note: A bike-parking stall is 2 feet by 6 feet with a 5-foot access area. Structures that require a user-supplied locking device shall be designed to accommodate U-shaped locking devices.

- 41. Off-street parking requirement shall comply with MGO Sections 28.04 (12) and 28.11: Parking lot plans with greater than twenty (20) stalls, landscape plans must be stamped by a registered landscape architect. Provide a landscape worksheet with the final plans that shows that the landscaping provided meets the point and required tree ordinances. In order to count toward required points, the landscaping shall be within 15' and 20' of the parking lot depending on the type of landscape element. All plant materials in islands shall be protected from vehicles by concrete curbs.
- 42. If outdoor lighting is provided, it must comply with MGO Section 10.085 outdoor lighting standards.
- 43. Parking requirements for persons with disabilities must comply with MGO Section 28.11 (3)6.(m) which includes all applicable State accessible requirements. The applicant shall provide the required number of accessible stalls and accessible stall signage per the final approval of the Zoning Administrator.

Parks Division (Contact Kay Rutledge, 266-4714)
This agency did not submit comments for this request.

Fire Department (Contact Bill Sullivan, 261-9658)

- 44. The Madison Fire Department (MFD) does not object to this building addition to the UW Charter Street Heating Plant provided the building complies with Madison General Ordinance Chapter 34 and the Charter Street Heating Plant Risk Management Plan, as agreed upon by the UW and MFD.

City Assessor's Office (Contact Maureen Richards, 266-4845)
This agency did not submit comments for this request.

Water Utility (Contact Dennis Cawley, 261-9243)

45. A portion of this property is in a Wellhead Protection District. The applicant shall verify that no prohibited uses occur in that portion of the property.

Metro Transit (Contact Tim Sobota, 261-4289)
This agency did not submit comments for this request.