117 North Charter Street and 115 North Mills Street

PUD/GDP/SIP Application Materials Rezoning Request

Charter Street Heating Plant Re-Build Project University of Wisconsin – Madison



March 10, 2010

Mr. Bradley J. Murphy Department of Planning & Development Madison Municipal Building 215 Martin Luther King Jr. Blvd. Madison, WI 53701-2985

Re: 117 N. Charter Street and 115 N. Mills Street PUD/GDP/SIP Application Materials – Rezoning Request Charter Street Heating Plant Re-Build Project University of Wisconsin – Madison

Dear Mr. Murphy,

Enclosed please find a completed application and enclosures pertaining to the University of Wisconsin-Madison's proposal to construct the Charter Street Heating Plant Re-Build project to be located at 117 N. Charter Street and 115 N. Mills Street. A Planned Unit Development (PUD/GDP/SIP) approval for this project is being requested from the Plan Commission at their meeting on April 26, 2010. This is the first in a series of SIP documents associated with this large and complex project. We will be working closely with City of Madison Planning & Development and other city staff as we move forward with the project.

The scope of the Charter Street Heating Plant (CSHP) Project is to rebuild the existing facility by constructing a new 350,000 lbs/hour biomass boiler facility. The new boiler will be housed separately from the existing boilers requiring the construction of a building to house the boiler and the necessary distribution systems. The existing coal fired boilers will either be removed or retired, and their capacity replaced by new natural gas boilers. New steam turbine driven electrical generation will be installed in a new turbine building. The Project will also upgrade the rail delivery system at the site and provide a fuel handling system for biomass fuels with an on-site storage capacity for three to four days of use. The proposed rail delivery system includes modifications to the WSOR rail line extending from North Charter St. to West Washington Ave., including widening of the North Park St. bridge for a new main rail line, two sidings for rail car handling between North Park St. and West Washington Ave., and an adjustment in the location of the Southwest Bike Path located in the railroad right-of-way, east of East Campus Mall.

The project has been noticed to the local alderpersons through both the Joint Southeast and Joint West Campus Area Committee meetings on a regular basis. We will continue to meet with both committees to share our developing plans. We also hope to gain initial approval on the GDP from the Urban Design Commission at their April 7, 2010 meeting.

Thank you for your assistance in processing this request to the Plan Commission. Please do not hesitate to contact me at 263-3023 with any questions you may have regarding this request.

Sincere!

Gary A. Brown, FASLA Director, Campus Planning & Landscape Architecture

XC: Jay Erfurth, Alan Fish, John Harrod, Robert Mangas



Letter of Intent

REZONING REQUEST

R5, C3 and various zoning districts of the WDOT Rail Corridor within the defined Project Site Limit

to

Planned Unit Development (PUD-GDP)

for the

Charter Street Heating Plant Re-Build

Application Submittal Date: March 10, 2010 for April 26, 2010 Plan Commission Meeting

This application provides for a demolition request for the existing building at 115 N. Mills Street, a General Development Plan for the entire project (117 N. Charter Street and 115 N. Mills Street) and the first in a series of SIP level documents to allow construction to begin in the fall of 2010.

Application Materials bound herein:

Cover Letter Letter of Intent Table of Contents Tab 1 – Pre-submittal Information Tab 2 - Legal Description Tab 3 - Zoning General Information Tab 4 – Zoning Text Tab 5 – Plant Operations Tab 6 – Other Project Information

Bound Under separate cover:

GDP Architectural Drawing set dated March 10, 2010 (18 sheets) GDP Civil Engineering Drawing set for Project dated March 10, 2010 (40 sheets) GDP Landscape Drawing set for Project dated March 10, 2010 (10 sheets)

Related Materials providing additional Project Information:

DRAFT Noise Impact Assessment dated February 24, 2010, prepared by ATCO Noise Management, Inc. DRAFT Risk Assessment Plan dated March 2010, prepared by P3M DRAFT EIS Document anticipated in April, 2010, prepared by Ayres Associates, Inc. DRAFT Air Permit anticipated in March 2010, prepared by RTP Environmental Associates, Inc. DRAFT Traffic Study dated March 2, 2010, prepared by Ayres Associates, Inc.

Facilities Planning & Management

9 th Floor WARF Building	610 Walnut Street	Madison, Wisconsin 53726-2397
(608) 263-3000	FAX (608) 265-3139	TTY (608) 265-5147

Division of State Facilities (DSF) Project Information:

Project Number:	09A2L	
Project Title:	Charter Street Heating Plant Re-Build	
For the:	University of Wisconsin-Madison Madison, Wisconsin	
Type of Project:	Major Project / New Construction	
Project Participants:		
Project Executive Committee:	Alan Fish Assoc. Vice Chancellor Facilities Plannin 608-262-3488 afish@fpm.wisc.edu	ng and Management
DSF Project Manager:	Jay Ehrfurth Co-Project Manager for State of Wiscons 608-263-5886 Jay.ehrfurth@wisconsin.gov	sin
University of Wisconsin Project Manager:	John Harrod Co-Project Manager for State of Wiscons 608-263-3077 jharrod@fpm.wisc.edu	sin
Architect/Engineer:	P3M (Owner's Engineer and Architect) (includes the following Architectural and En	gineering Firms)
	Lead Engineering Firm Bryan Eskra, P.E. Managing Principal Power Engineers Collaborative, L.L.C. 150 Sunny Slope Road, Suite 110 Brookfield, Wisconsin 53005 262 786 1700 bjeskra@pecllc.com	Boilers and Fuel Handling Carl J. Micke Vice President Poyry (Appleton) LLC 2323 East Capitol Drive Appleton, Wisconsin 54912 920 954 2441 carl.micke@poyry.com
	Architectural Design Eric Lawson, AIA, NCARB Potter Lawson, Inc. 15 Ellis Potter Court Madison, Wisconsin 53711 608-274-2741 ericl@potterlawson.com	Civil Engineering Rick Daspit, AIA Middough, Inc. Oak Brook Pointe 700 Commercial Drive, Suite 200 Oak Brook, Illinois 60523 630 756 7086 daspitrw@middough.com
Landscape Design:	Ken Saiki Design, Inc. 303 So. Patterson Suite One Madison, Wisconsin 53703 608-274-2741 ksaiki@ksd-la.com	
9 th Floor WARF (608) 263	Facilities Planning & ManagementBuilding610 Walnut StreetM3-3000FAX (608) 265-3139	adison, Wisconsin 53726-2397 TTY (608) 265-5147

Surveyor: EIS Traffic Study Traffic Study Ayres Associates Benjamin Peotter 1802 Pankratz St Madison, WI 53704 (608) 442-1200 peotterb@AyresAssociates.com

Engineering and Procurement Contractor (EPC): To be selected

1.	Pre-Submittal Information	ages thru 1-3
2.	Legal Description a. Project Site General Description b. Ownership agreements	2-2
3.	 Zoning General Information a. Zoning PCD (SIP) City Owned Parcel b. Aldermanic Districts Map c. 2008 Zoning Map d. Regent Street South Campus Neighborhood Propose Zoning i. UW Madison Proposed Master Plan 	3-1 3-3 3-4 3-5 sed 3-6
	 ii. UW Madison Owned Property iii. Existing Zoning iv. Existing Housing v. Future Land Use vi. Maximum Building Heights vii. Special Design Guideline Districts viii. Zoning Setbacks ix. Circulation - Bikes x. Circulation - Buses xi. Circulation - Paths xii. Circulation - Future xiii. Nodes xiv. Landmarks xv. Brownfield Sites e. Aerial Photographs of Project Site	3-7 3-8 3-9 3-10 3-12 3-13 3-15 3-16 3-16 3-17 3-18 3-19 3-20 3-21 3-22 3-23 3-33 3-34
4.	Zoning Text	4-1
5.	Plant Operations	5-10
6.	Other Project Information	6-7

Pre-submittal Information

Development Assistance Team (DAT) Meetings

This Project was first presented to the City of Madison Development Assistance Team in September 2009 to begin the dialog between the Owner, the Project Design Team, and the City of Madison Department of Planning and Development. The scope and complexity of the Project was presented, as well as the anticipated method of project delivery.

Project delivery will be via Engineering and Procurement Contractor (EPC Contractor). This entity will be selected by the Owner and will be responsible for the final detail design and engineering of the project, as well as the construction of the Project.

It was explained in the DAT meeting by P3M that major equipment will be bid and selected by the EPC Contractor to provide the Owner with a competitive purchasing process for the procurement of major project components from pre-qualified equipment vendors. Various vendor's equipment range in size and physical configuration, thereby limiting the ability of the P3M design team to define precisely the architectural appearance and sizes of buildings, as they will vary based upon the vendor's specific equipment.

At the September meeting, it was determined that the two step approval process allowed by the General Development Plan / Specific Implementation Plan (GDP/SIP) approach to Land Use Approval would be appropriate for this Project.

At a second DAT meeting in November 2009, the City Planning and Development staff and Madison Fire Department saw an updated presentation of the Project. The State of Wisconsin Department of Commerce has delegated the role of Authority Having Jurisdiction (AHJ) to the City of Madison Fire Department for design considerations related to fire safety design, since the local Fire Department will be first responders in an emergency event.

Specific requirements to the P3M design team that came out of this second meeting were that the Project must include the following information with the GDP application:

- Comprehensive Description of the Proposed Plant's Operations
- A noise study to indicate current and proposed noise levels in the near vicinity of the Project
- Complete Agreements for the Land Ownership issues tied to the Project's use of WISDOT Owned Property and Property Owned by the City of Madison and a private land owner.
- A Comprehensive Risk Management Plan document defining the details of interest to the Madison Fire Department, where the Madison Fire Department supports the content of the Risk Management Plan.
- Draft information about the Air Permit for the Project.

Pre-submittal Information

separate cover. **University of Wisconsin Design Review Board (DRB)** The Project was presented to the University of Wisconsin Design Review Board (DRB) in July 2009 as an Informational Presentation, and later in October 2009 as a Concept Design Presentation. The Board is made up of design professionals who advise the chancellor and the Campus Planning Committee. It was explained to the DRB that the Project is heavily engineering driven, and with the EPC Contractor delivery method, precise architectural building elevations and sizes of buildings will vary based upon selected vendor's specific equipment. In July, the Board recognized the Project's design challenges, and considered the Project an interesting design opportunity. In October, the Board complimented the P3M design team for the advancement of the aesthetic design from the time of the Informational Presentation. Updates to the DRB were made in December and February, 2010. The DRB will review the Project again twice at the Specific Implementation Plan (SIP) level for each of the SIP's required to complete the Project. The reviews will be for Schematic Design Approval and Final Design Approval. The Owner will retain the professional services of the P3M Team to act as Owner's Architect and Engineer, to review the design development work of the EPC Contractor, as well as to make future design presentations to the DRB on behalf of the Owner and EPC Contractor. **Joint Southeast Campus Advisory** Committee The University of Wisconsin acts to fill the role of liaison between the University and the Joint Southeast Campus Advisory Committee (JSCAC). The University will continue to fill this role and provide opportunities to inform the RSSC of the progress of this Project at key intervals of the Project's development. **Urban Design** Commission The Project was presented to the Urban Design Commission in October 2009 for an Informational Presentation.

The information listed above has been developed and is available under

Pre-submittal Information

Again, it was explained to the UDC that the Project is heavily engineering driven, and with the EPC Contractor delivery method, precise architectural building elevations and sizes of buildings will vary based upon selected vendor's specific equipment.

Feedback to P3M by the UDC at this presentation was similar to that of the DRB. They recognized the challenges of the Project, and also recognized the design opportunity the Project presents to the design professional. University representatives explained that the appearance of the Project will, by necessity, be markedly different than typical State owned University buildings; specifically that the Project will not be all masonry and architectural precast construction materials; and also that the overall aesthetic of the complex may have more of an industrial visual aesthetic due to the functional requirements of the facility, and this is to be embraced and celebrated.

Tab 2 Legal Description

Project Site General Description

The existing Charter Street Heating Plant consists of structures build during the time period from 1957 to present on the land bounded by Charter Street on the west, Dayton Street on the north, Mills Street on the east, and the WISDOT rail corridor on the south. This parcel is currently zoned R5 and the plant operates as a conditional use as a coal fired power plant. For the Charter Street Heating Plant Re-Build, this parcel will be referred to as the Heating Plant Site. Its postal address is 117 N Charter Street.

The Project will add to the lands of the Charter Street Heating Plant the triangular parcel due east of the existing Charter Street Heating Plant. This parcel is bounded by Mills Street on the west, and the WISDOT owned lands on the north and south, currently leased to railroad operator WSOR. This parcel is currently zoned C3 and is owned by the University and used as Parking Lot 45 and the UW Physical Plant Building. This parcel will be referred to as the Fuel Handling Site. Its postal address will remain 115 N Mills Street.

Due to the rail delivery requirements for the Re-Built Plant to receive biofuels, the Plant will conduct fuel delivery operations on the lands owned by WISDOT and City of Madison as described herein. Some of the proposed structures on the Fuel Handling Site extend onto the WISDOT property, but in a manner that is acceptable to the railroad operators and WISDOT, and with agreements in place for these encroachments to be built on the WISDOT owned land.

Project Site Legal Description

117 N. Charter St.

All of Lots One (1), Two (2), Three (3), Four (4), Five (5), Six (6), Seven (7), Eight (8), Nine (9), Ten (10), Eighteen (18), Nineteen (19) and Twenty (20), and that part of Lots Eleven (11), Twelve (12), Thirteen (13), Fourteen (14), Fifteen (15), Sixteen (16) and Seventeen (17) lying Northerly of the railroad right-of-way, all in Block Ten (10), Brooks Addition in the City of Madison, Dane County, Wisconsin

115 N. Mills St

Part of Outlot 1, University Addition to Madison (recorded in Vol. A of Plats, page 9, as Doc. No. 109), and part of the Wisconsin & Southern Railroad right of way (formerly the Chicago, Milwaukee & St. Paul Railroad right of way), all located in the southwest 1/4 of the Northwest 1/4, section 23, township 07 north, range 09 east of the 4th principal meridian, city of Madison, Dane county, Wisconsin, more particularly described as follows:

Tab 2 Legal Description

Commencing at the West 1/4 corner of said section 23, being a brass cap monument, as depicted on U.S. Public Land Survey Monument Record by Carl M. Sandsnes, dated February 16, 2004; thence North 00 degrees 15 minutes 43 seconds West, along the West line of the northwest 1/4, said section 23, 1096.34 feet; thence North 89 degrees 44 minutes 17 seconds East, 34.26 feet to the Northerly most corner of that parcel of land described in Warranty deed (recorded in Vol. 793 of deeds, page 126, as Doc. No. 112523), also being the easterly right of way of North Mills Street, and the point of beginning; thence North 00 degrees 11 minutes 00 seconds West, along said easterly right of way, 33.77 feet to a point that is 66 feet southwesterly of, as measured at right angles to the centerline of Wisconsin & Southern Railroad (formerly the Chicago, Milwaukee & St. Paul Railroad right of way); thence South 65 degrees 04 minutes 30 seconds east, along a line that is 66 feet southwesterly of and parallel with said railroad centerline 377.13 feet; thence South 24 degrees 53 minutes 45 seconds West 30.82 feet to the easterly most corner of said parcel of land described in warranty deed (recorded in Vol. 793 of deeds, page 126, as Doc. No. 112523), also being on the northerly right of way of former Illinois Central railroad; thence along the southerly line of said parcel of land and along said northerly right of way, 337.38 feet along the arc of a curve to the left, through a central angle of 09 degrees 59 minutes 50 seconds, having a radius of 1933.58 feet; and a chord bearing South 76 degrees 54 minutes 37 seconds West, 336.95 feet, to the southwesterly corner of said parcel of land, also being the easterly right of way of said North Mills street: thence North 00 degrees 11 minutes 00 seconds West, along said easterly right of, 229. 43 feet to the point of beginning.

Tab 3 Zoning General Information

Project Site Overview Description

	The existing Charter Street Heating Plant consists of structures build during the time period from 1957 to present on the land bounded by Charter Street on the west, Dayton Street on the north, Mills Street on the east, and the WISDOT rail corridor on the south. This parcel is currently zoned R5 and the plant operates as a conditional use as a coal fired power plant. For the Charter Street Heating Plant Re-Build, this parcel will be referred to as the Heating Plant Site. Its postal address is 117 N Charter Street. It will be re-zoned via a GDP/SIP approval.
	The Project will add to the lands of the Charter Street Heating Plant the triangular parcel due east of the existing Charter Street Heating Plant. This parcel is bounded by Mills Street on the west, and the WISDOT owned lands on the north and south, currently leased to railroad operators. This parcel is currently zoned C3 and is owned by the University and used as Parking Lot 45 and the FP&M Building. This parcel will be referred to as the Fuel Handling Site for the Charter Street Heating Plant. Its postal address will remain 115 N Mills Street. It will be re-zoned PUD/GDP/SIP.
	Due to the rail delivery requirements for the re-built plant to receive bio- fuels, the Plant will conduct fuel delivery operations on the lands owned by WISDOT and City of Madison. Operations conducted on the WISDOT owned property are not under the jurisdiction of the City of Madison Planning Department and do no require a zoning classification or land use approval. The parcel owned by the City of Madison is currently zoned PCD (SIP) with public transportation listed as a permitted use, so no modification to this PCD (SIP) is required. A copy of the PCD document follows this text.
New Madison Zoning Code	The Project is being designed at a period in time where the City of Madison is in the process of re-writing its zoning code for future development. The adoption of the new Madison Zoning Code will occur after the land use approval for this Project, however, there is an adopted future development plan for the Regent Street/South Campus (RSSC) Neighborhood where this project is located, which provides insight as to what the new zoning code features may be for a new project in this location of the City.
Project Location Within Regent Street/South Campus Neighborhood	P3M reviewed the Regent Street South Campus (RSSC) Neighborhood Plan (City of Madison, Adopted July 1, 2008, Legislative File No: 09234) for planning and zoning considerations for the general arrangement plan and the design of this Project. Refer to exhibits following this narrative for visual diagrams that highlight the extent of this Project within the boundary and scope of the RSSC Neighborhood Plan.

Charter Street Heating Plant Re-Build University of Wisconsin –Madison

ZONING TEXT: CITY OF MADISON TRANSPORTATION CORRIDOR/CITY STATION ACCESSORY PARKING 650 WEST WASHINGTON AVENUE, MADISON, WISCONSIN

Legal Description: The lands subject to this Planned Unit Development District shall include those described on Exhibit A and Exhibit B, attached hereto.

- A. Statement of Purpose: This zoning district is established to allow for the preservation of a future transportation corridor and the interim use as accessory parking for the City Station Development.
- B. **Permitted Uses**:
 - 1. Public transportation uses.
 - 2. Interim accessory parking for the City Station Development.
- C. Lot Area: As stated on Exhibit A, attached hereto.
- D. Floor Area Ratio:
 - 1. Maximum floor area ratio permitted is 1.0, for pavement only.
 - 2. No building shall be constructed on this property.
- E. Yard Requirements: Yard areas will be provided as shown on approved plans.
- F. Landscaping: Site landscaping will be provided as shown on the approved plans.
- G. *Accessory Off-Street Parking and Loading*: Accessory off-stret parking and loading will be provided as shown on approved plans.
- H. *Lighting*: Site lighting will be provided as shown on approved plans.
- I. *Signage*: No signage, other than parking lot directional signs, or other traffic signage shall be permitted on this property.
- J. Alterations and Revisions: No alternation or revision of this Planned Unit Development shall be permitted unless approved by the City Plan Commission, however, the Zoning Administrator may issue permits for minor alterations or additions which are approved by the Director of Planning and Development and the Alderperson of the District and are compatible with the concept approved by the City Plan Commission.

"Lands "dedicated to the public" (for future street, highway and parkway purposes) lying adjacent to and northeasterly of Lots 1 through 4 in the Plat of West Madison Depot, City of Madison, Dane County, Wisconsin."





c BR

HEAR

Potter Lawson Access by Des S PÖYRY middo 580 8

Plant Rebuild Project Extends

CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010

ALDERMANIC DISTRICTS

Potter Lawson Section by Den S PÖYRY JEC Ŵ

CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010

ZONING MAP





3 - 5

City of Madison Zoning Districts

21 - Number Standy Number of Stands ingly family findiana (her in-family Notional D to Dance NO - Number Canady No science D of the local day IL & Look N 200 i ġ É

of Designation MA-Limbed Cowed Res i

and Two Londs II.

ģ

i Int. 1 included

1 County Routes ń

Course Residence the ż

All Property lies

CKI-OTEs Number

1 NINE A

ā

li Í

5

2008 City of Medison Zoning Map







MARPHICKI REGERT STREET - SOUTH CAMPUS NECHBORHOOD PLAN 2008

> CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010

Existing Zoning



3 - 8



MMP FIROM REGENT STREET - SOUTH CAMPUS NEXT-BOOMCOO PLAN 2008

> CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010

EXISTING HOUSING



University Studiet Housing Private and Public Hydro Rise Mucht Family Hyd Stories Much Family Public Housing Much Family Public Housing Much Family Public Housing Forder Street Housing

Key



MARP PROM REGENT STREET - SOUTH CAMPUS NEIGHBORHOOD PLAN 2008



FUTURE LAND USE





Medium Dentity (16-40 unit High Dentity (41-60 units/a

Residential Districts

Key

unity Mixed-Use

0 U

Mixed Use Districts

Commercial/ Employment

Districts

Open Space-Ag Districts

General Employm





CITY OF MADISON GDP APPLICATION MARCH 10, 2010

and the law











9: College Court

Maximum Stories:	North side: 6
	South side: 10 (upon meeting LEED
	requirement for 2 bonus stories)
Maximum Building Height:	North side: 88 feet
	South side: 144 feet (upon meeting
	LEED requirements for 2 bonus stories)
Minimum Stories:	North sider 2: South side: 3
Building Stepback:	15 feet, above the 3rd floor
Building Setback:	10 feet



10: Fahrenbrook Court

taximum Stories:	
taximum Building Height:	88 foet
Ilnimum Storlest	**
uilding Stepback:	15 feet, above
uilding Setback:	10 feet

the 3rd floor



ŝ	
Stor	
i ii	
din 1	
Ma	

Maximum Building Height:

Building Stepback: Minimum Storiest **Building Setback:**

North side: 3; South side: 2 15 feet, above the 3rd floor North side: 116 feet. South side: 88 feet North side: 8 South side: 6 10 fort

ZONING SET BACKS

CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010

SET BACK DAURGARS FROM REGENT STREET SOUTH CAMPLE NEIGHBORHOOD PLAN 2008

S PÖYRY middollah Potter Lawson 084 B

S PÖYRY middourh Patter Lanson factors by Denge

084

6

ZONING SET BACKS

10 feet from the property line 10 feet from the property line 10 feet, above the 8th floor along the path along the path Building Sethacks* **Parking Setback:*** (upon meeting LEED requirements West of Randall Avenue: 144 feet requirements for 2 bonus stories) East of Randall Avenue: 116 feet for 2 borus stories)

West of Randall Avrone: 10 East of Randall Avvenue, 8 (upon meeting LEED Rent of West Value hars MCADO to Pe Maximum Building Height: Southwest Path

Maximum Stories:

2 brown (horize with LARS) (They Confliction (hyplic) within the strength summaries to shown three, the start having not three a fired

Ш U Ш

Urban Design

U

미험

nal

LL SE

슻

h

18

3 - 15

U

U ų

10

ä

þ

z

ŝ

넑

z

S

3

100

26

2

ħ,

Flight of Way

8

10

z

13: Randall Court

눰

Ш П

FU fort, above the 3rd floor, plus

Building Stephack:" Minimum Stories*

n

above the 2nd floor

10 feet.

15 feet.

Building Sepback Minimum Stories:

-

Maximum Building Height: 116 feet

*

Maximum Stories:

SET BACK DWIJYOMS FROM REGENT STREET SOUTH CAMPLE NEIGHBORYOOD PLAN 2008

Building Setback: 10 feet

North side: 172 fee South side: 116 fee None required North side: 12 South side: 8 ĥ Maximum Building Height: **Building Stepback:** Minimum Stories: **Building Setback:**

12: Dayton Street

Maximum Storless



MARPHICKI REGENT STREET - SOUTH CAMPUS NECHBORHOOD PLAN 2008

> CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010

CIRCULATION - BIKES



CIRCULATION - BUSES

MARPHICK RECENT STREET - SOUTH CAMPUS RECERCIPHODE OCO PLAN 2008

Potter Lawson

S PÖYRY

PEC

Summary Program











Potter Linson Secondaria

PEC



3 - 21



MARY FROM REGENT STREET - SOUTH CAMPUS RESPRORISON DOB

CHARTER STREET HEATING PLANT REBUILD CITY OF MADISON GDP APPLICATION MARCH 10, 2010 I

BROWNFIELD SITES



- Open KRP (Dee
- Quest LUTT (Loding U)
 - Open Little (Lan

- CANNEL IN

 - Fortuald Project Extends



CONTEXT - SURROUNDING BUILDINGS

Potter Lawson

PEC 5 PÖYRY



WSOR at West Washington Street Crossing



WSOR @ Kohl Center



WSOR @ MGE Substation



WSOR @ Fuel Handling Site



WSOR @ CSHP

AL CLARE LEI



WSOR @ New Student Union (to Charter St.)



WSOR and NW Bike Path @ Engineering Mall



WSOR & SW Bike Path @ CSHP



SW Bike Path W of CSHP



SW Bike Path @ N Randall Ave.



formers for Der

Tab 4 Zoning Text

Statement of Purpose	This document rezoning land parcel from B5 and C3, to a new
	PUD/GDP/SIP is established to encompass the new operations proposed for the Charter Street Heating Plant Rebuild Project.
Permitted Uses	 The permitted use of this PUD/GDP/SIP shall include the following: a) Public utility and services uses, including but not limited to the generation of steam heat, chilled water and electricity b) Electric substations c) Storage, handling and warehousing of solid fuel d) Railroad operations facilities e) Accessory uses related thereto, including temporary building for storage of building materials and equipment for construction purposes
Lot Area, Bulk and Yard Requirements	Lot area, building heights, floor area ratio; front, side, and rear yards; and open space shall be as shown on the approved specific implementation plans.
Off-Street Parking and Loading	Off-street parking for plant personnel and off-street loading to maintain required plant operations will be provided as shown on the approved specific implementation plans.
Landscaping	Landscaping will be designed in accordance with City of Madison ordinance for public ROW lands, and as shown on the approved specific implementation plans.
Exterior Lighting	Exterior lighting will be designed in accordance with City of Madison ordinance for public ROW lands, as shown on the approved specific implementation plans.
Exterior Signage	Exterior signage will be designed in accordance with City of Madison ordinance for public ROW lands, as shown on the approved specific implementation plans.
Alterations and Revisions	No alteration or revision of this GDP and subsequent SIP shall be permitted unless approved by the City Plan Commission. However, the Zoning Administrator may approve minor alterations which are approved by the Director of Planning and Development and the district Alderperson and are compatible with the concept stated in the underlying GDP/SIP approved by the Plan Commission.

Project Summary	
	The scope of the Charter Street Heating Plant Rebuild (CSHP) Project is to replace the steam capacity of existing coal fired boilers by constructing a new biomass boiler which will produce 350,000 lbs/hour of steam and two package boilers which will have a steam capacity of 225,000 lbs/hour for each boiler. The total steam production capacity of CSHP will be increased to 1,150,000 lbs/hour of steam by the end of the year 2013.
	The steam will be used to generate electricity heat UW Madison campus buildings and produce chilled water for cooling. The new boiler will be housed separately from the existing boilers in a new Boiler #8 Building. The package boilers will also be housed in a new building called Dayton St. Building.
	An existing 300,000 lbs/hr rated Boiler 5 which burns natural gas and has the capability to burn ultra low sulfur distillate oil as backup fuel will remain in operation.
	The existing coal fired boilers will either be removed or retired.
	A new steam turbine driven electrical generator will be installed in the Dayton St. Building with the package boilers. This generator will provide additional electrical capacity for UW Campus consumption.
	The Project will also upgrade the rail delivery system at the site and provide a fuel handling system for biomass fuels with an on-site storage capacity for three to four days of use. The proposed rail delivery system includes modifications to the WSOR rail line extending from North Charter Street to West Washington Ave., including widening of the North Park Street bridge for a new main rail line, two sidings for rail car handling between North Park Street and West Washington Ave., and an adjustment in the location of the Southwest Bike Path located in the railroad right-of-way, east of the Campus Mall.
Project Background	The State of Wisconsin conducted a planning study for the main heating plants servicing the UW–Madison campus and other state office buildings. The study was a result of an agreement between Departments of Administration, the Department of Natural Resources, the University of Wisconsin and the Sierra Club to analyze the feasibility of alternatives to bring the CSHP into compliance with the Clean Air Act and for making necessary upgrades to other state owned heating plants in Madison, Wisconsin.
	Independent of the study, the state decided to phase out the use of coal at the CSHP and to increase fuel diversity, primarily by the inclusion of significant renewable biomass resources in the plant's fuel mix.

Plant Description Overview	The existing Charter St. Heating Plant (CSHP) project site is located in the City of Madison, Wisconsin. The site is surrounded by a mixture of University of Wisconsin campus buildings, and privately owned student housing apartment buildings. A main railroad track with railcar storage spur tracks are located adjacent to the site to the north, south and east. The CSHP is believed to have been constructed in the year 1957 with the installation of three coal burning boilers. An additional coal burning boiler was installed in the year 1965. A natural gas and fuel oil burning boiler was installed in 1970. At the southwest side of the site, chilled water equipment and large elevated industrial cooling towers were installed in the years 1966 and 1973.
	The chilled water is distributed through the campus underground distribution system to cool UW Madison campus buildings.
New Boiler Unit(s) of Capacity at 350,000 #/hr	The Project will include the installation of a new water-cooled vibrating grate Boiler Unit #8 at 350,000 lbs/hr, fueled by biomass fuel and/or natural gas with ultra low sulfur distillate oil back-up. Air pollution control equipment for SOx, NOx, and particulates including a single new double flue stack. Current design plans consider the addition of a future Boiler Unit #9 of similar capacity.
New Boiler Units of Capacity at 225,000 #/hr	The Project will include the installation of two New Package Boilers – Units # 6 & # 7. Each boiler will have a steam production capacity of 225,000 #/hr, fueled by natural gas with ultra low sulfur distillate oil as a back-up. Air pollution limits for NOx will be met by using the flue gas recirculation type of air pollution control equipment. Limits for SOx, CO, VOC and Particulates will be met without using any air pollution control equipment.
New Steam Turbine Generator(s)	
	The Project includes the addition of a New Steam Turbine Generator Unit #2. The steam turbine is a controlled extraction back pressure type. The electrical generator will have a nominal capacity of 22 MW. The Project will provide space and connections for the future installation of Steam Turbine Generator Unit #3 of similar capacity.
Fuel System Conversion	The Project includes the conversion of the coal fuel handling system to a biomass fuel system. This work will include the:
	 Demolition of the existing coal handling and storage system Demolition of the FPM Building at 115 Mills Street for a new biomass fuel receiving and handling system

	 Construction of new biomass fuel receiving, unloading, storage, handling and conveying systems and equipment including a rotary car unloader.
	The Project also includes adjacent off-site rail and bike path construction and related Project work. It is anticipated that mainline rail expansion and industrial track storage spurs work will be on rail road right-away and will be under the direction of the local railroad.
Biomass Fuel Utilization	The Project includes the effective and efficient utilization of biomass fuels. This includes finalizing the determination of biomass fuel specifications and fuel quality analyses ranges and maximums. These parameters will be defined and refined as the project proceeds.
Coordination and Interface	
with Existing Operations	This Project needs to be completed and coordinated with the existing plant operations and capacity for steam and cooling supplies being maintained and in service. The new plant Project tie-ins and conversions will be required to tie into the existing plant systems and U W Systems are part of this Project.
Electric Distribution	
System Enhancements	The Project also includes plant electric distribution systems enhancements and modifications, including a new substation to be installed in a location to be determined in the future. An evaluation is underway which considers a location across the street from the existing boiler building on the north side of Dayton St.; and other locations including in the areas of the existing boiler building, and the new Package Boilers / Steam Turbine Generator building.
Water Treatment	
System Enhancements	The Project will include the installation of a New Water Treatment System, to replace the existing one.
Cooling Tower System Enhancements	The Project will include the installation of a New Cooling Tower Unit #6, to replace existing Cooling Towers Units 1, 2 & 3. The New Cooling Tower #6 will have increased cooling capacity.
Standby Electricity System Enhancements	The Project will include the installation of a new diesel engine driven electrical generator with a projected capacity of 1 MW of electricity. There is an existing diesel engine driven electrical generator with a 1 MW electrical capacity.

Plant Operations

Plant Operations Overview	
	round, providing steam, chilled water and electricity for the University of Wisconsin Madison campus buildings. Staff is on site 24 hours, 7 days a week.
Secure Regulated site	The CSHP is operated by University of Wisconsin personnel on a secure site, with full site enclosure, and no public access. The plant operates under an Air Permit regulated by the State of Wisconsin Department of Natural Resources Bureau of Energy.
On-site Buildings and Equipment Enclosures	The rebuilt CSHP will include the construction of several new buildings, equipment enclosures, and structures to store and convey bio-fuel, and to secure the site. With the exception of the wood chip fuel delivery operations described below, all operations of the plant occur on site within the site enclosure, including staff parking. No un-supervised public access will be allowed.
Operating Personnel	Generally, the staff that operates the existing plant will be retained and trained to operate the new plant. In the current plant, there are typically a maximum of about 14 personnel on site during the day and about 4 over the night shifts. Personnel monitor the plant equipment from a central location within the plant. The rebuilt plant will operate in much the same way, with a similar staff size.
Safety Protocols	The rebuilt CSHP will be built in accordance with all current building codes and standards, and operate under an air permit regulated by the DNR, and in compliance with all other regulations in effect. Design for this plant occurred with the input of all Authorities Having Jurisdiction. New buildings and conveyor galleries will be designed to be equipped throughout with fire protection systems and other safety features requested by the Madison Fire Department and the Wisconsin Department of Commerce.
	A new private underground fire hydrant system with diesel engine driven and electric jockey fire water pumps will be installed. The design of the entire facility is "above code minimum" for systems and features related to safety.
	Maintenance and inspection of equipment and systems occur on a periodic basis. Emergency operations plans will be updated. The City of Madison Fire Department conducts routine inspections of the facility on a regular basis.

Fuel Delivery Operations – Overview	
	The rebuilt plant will burn blended wood chips, agricultural and paper pellets, and Tire Derived Fuel chips (in the future).
	The rebuilt plant will include a fuel handling yard on the east side of Mills Street, which has direct access to the WDOT land on which the WSOR railroad operates.
	The conversion to bio-fuel will result in change that will be the most obvious to the public. The current coal fired plant burns on average the equivalent of 3 rail cars of coal a day to meet the demand for power. There is a large stockpile of coal on the existing site which provides several days worth of inventory fuel on site, so rail delivery of the coal fuel occurs roughly weekly. The rail line runs through the site, and the coal is off-loaded on site.
	The quantity of bio-fuel required to produce the equivalent energy from coal fuel is significantly greater by volume. It is anticipated that at peak operation, the plant will require 28-34 rail cars of fuel each day.
	A remote fuel depot will receive process, store and load the biomass fuel for delivery to the CHSP in Madison.
Delivery Operations – Rail	
	The majority of wood chips will be supplied by open top railcar and emptied utilizing a side rail car dumper. The fuel will be received into the Railcar Dumper Hopper. The hopper can hold a complete railcar contents and will discharge onto an Unload Conveyor. From the Unload Conveyor, the biomass fuel will travel to the Incline Conveyor. The Incline Conveyor discharges to the Upper Distribution Gate which directs it to the Wood Fuel Silo Feed Conveyor. The Wood Fuel Silo Feed Conveyor then directs the biomass to Wood Fuel Silo No.1 or No.2 based on silo inventories. An alternate process flow is to flop the Upper Distribution Gate, biomass travels to the Lower Distribution Gate where it goes into the Pellet Silo.
	The anticipated delivery operation at peak design capacity is to receive and unload two to three trains per day, with up to 16 railcars of fuel in each train. Two rail sidings within the existing WDOT rail corridor will be used for the delivery and unloading operations, one for full cars, the other for empty cars. When a train arrives to deliver 16 full cars, it will pull 16 empty cars away and return them back to the fuel yard outside of Madison. Full rail cars will be pulled from the rail siding to the unloader building located on the fuel handling site via track-mobile in strings of 4 cars at a time

Delivery Operations – Truck

THUCK	Normally, wood pellets, paper pellets, agriculture waste pellets and TDF chips (future) will be shipped from the manufacturer's source by truck, although railcar deliveries of pellets and TDF chips (future) are feasible. Fuel pellets and TDF chips (future) will be weighed then discharged directly into a truck dumper reclaim hopper. Fuel from the hopper will be metered onto the Truck Dump Conveyor. A chute will transfer the pellets to the Unload Conveyor. From the Unload Conveyor, the pellets will travel to the Incline Conveyor. The Incline Conveyor discharges to the Upper Distribution Gate which directs it to the Lower Distribution Gate and to the Pellet Silo.
	Trucks will be processed by entering the CSHP site where they will be weighed on a scale located near the south side of the site. They will then enter the Fuel Handling yard by crossing North Mills Street. They will maneuver within the yard so as to back into the fuel handling building where they will off-load the fuel via live bottom off-loader into the fuel hopper, where it is then conveyed to the appropriate storage silo. Once emptied, the truck will re-weigh on a scale located in the Fuel Handling yard, and then leave the yard and facility. It is anticipated that under normal planned operations, the number of trucks that will unload fuel as described above will be in the range of 4 to 15 per day. It is possible to receive and unload wood chip fuel via truck in the event of an emergency, such as an event were rail delivery is not possible, but this would occur only in this circumstance.
Delivery Operations – Other Fuels	The new Boiler #8 is designed with the capability to burn a mix of fuels, which include fuel categories of ADF/PDF (agriculturally derived fuels/pelletized derived fuels), wood pellets, natural gas and ultra low sulfur distillate (ULSD) oil, in addition to the wood chips. New Package Boilers 6 and 7 will burn natural gas and have the capability to burn ULSD as a back-up/emergency fuel. ULSD oil will be stored on the CSHP site as a back-up emergency fuel. This fuel will be delivered via tanker truck in a manner similar to other fuels, where truck arrives, weighs in, unloads, re-weighs, then leaves the site. Since this fuel is designed for use as an emergency fuel, daily delivery of this fuel is not required or anticipated. ULSD oil has a shelf life and it will be necessary to burn the fuel at intervals so as to maintain a
	usable supply of this fuel at all times. Natural gas is available at the site and does not require special means for delivery.

Delivery Operations - Plant related	
	The new Boiler 8 will have Fly ash and bottom ash as bi-products of combustion. Limestone or sodium bicarbonate will be used to treat the gaseous mixture exiting the boiler to reduce pollutants. Aqueous ammonia is used on site as well as water treatment chemicals.
	Silos located in an open area between the existing Charter St. Heating Plant building and the new Boiler 8 will hold the limestone or sodium bicarbonate, aqueous ammonia, fly ash, and bottom ash. These materials will arrive or leave the site via truck of the appropriate type for the product being moved. The daily trucking activities for all of these materials will be in the range of 4 to 5 trucks per day at peak plant operation.
	Chemicals used for water treatment will arrive by smaller size delivery truck on interval as needed. Chemicals are brought into the building by hand truck and stored in appropriate containers.
	There are no other regular trucking activities required in the operation of the Plant beyond that described above.
Emissions Controls	 The #8 Boiler will implement the following emissions control equipment: Fabric Filter Baghouse for particulate control Selective Catalytic Reactor for NOx control Oxidation Catalyst for CO Control Sorbent Injection for Acid Gas Control (if required)
	The systems above are proven technology and represent the equipment prescribed in the air permit application submitted to the Wisconsin Department of Natural Resources.
	The new 225,000 lbs/hr each Package Boilers will primarily burn natural gas. Air pollution limits for NOx will be met by using the flue gas recirculation type of air pollution control equipment. Limits for SOx, CO, VOC and Particulates will be met without using any air pollution control equipment.
Noise Control	The City of Madison Noise Control Regulation (Chapter 24, Section 24.08 in the Code of Ordinances) provides the regulatory framework governing noise emissions within the city. The maximum allowable daytime and nighttime sound levels of a continuous sound located across the street from the site within residential developments are listed in the Table below

(*******	nesidential Developine	11.3)
Receiving Zone Classified	Source Level Zoned	Maximum Permitted Sound Level (dBA)
Residential, Conservancy, Wetlands, PCD, PUD, Planned Community Mobile Home Park District	All Zoning Districts	65 (Day or Night)

Maximum Allowable Sound Level – City of Madison (Within Residential Developments)

In addition, a reduction of 5 dB(A) will apply to the above for impulse noises. An impulse noise is defined as a sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples include explosions, drop forge impacts and the discharge of firearms.

The ordinance contains an exemption from the 65 or 60 dB(A) noise limit for construction purposes between the hours of 7:00 am and 7:00 pm of any day of the year.

Sound levels at the existing CSHP are similar to those at other industrial plants. Sound level measurements in the community surrounding the plant were taken continuously for twenty-four hours between 6:00 pm on January 26, 2010 and 6:00 pm on January 27, 2010. The sound level measured included both noise from the CSHP, as well as street traffic noise from trucks, cars, busses and Vespa motorized scooters. Due to the cold January weather, the CSHP chillers and cooling towers were not operating during the ambient noise survey.

Noise levels were measured in 7 different locations around the perimeter of the proposed site. The highest existing noise level measured was 58 dB(A), measured at two locations. One was at the intersection of Dayton St and Mills St, on the northwest corner in the general area of a University of Wisconsin Noland Zoology campus building. The other was on the west side of Charter St. and east side of the Weeks Hall for Geological Sciences campus building.

Other measured values ranged from 50 to 54 dB(A). For comparison, 55 dB(A) is the approximate level of a quiet subdivision during daylight hours.

To comply with the City of Madison Noise Ordinance, various techniques for attenuating noise will be performed as part of the project. Some equipment will be installed in the buildings' concrete wall basements. Other sound sources will have noise attenuating mufflers and silencers. Special noise attenuating gas ducts and building wall louvers will be installed where required.

In summary, after the project has been completed, the continuous noise
that residences located across the street from the project will not exceed
65 dB(A) during the day or night; and will not exceed 60 dB(A) day or
night for impulse noises.

Dust Control and Deflagaration System

Many of the fuels characterized as biomass derived fuels are considered dust generating fuels. For this reason consideration in the air permit, fire protection design, and safety of personnel and equipment dust control and deflagaration equipment has been included with the scope of the project.

To contain and remove dust generated during the unloading, and transfer of the biomass fuels used on the site a vacuum collection system will be installed. The primary components for this system are induced draft fans and filter baghouses. The site will have three separate systems due to the proximity requirements of the systems. The systems will be located as follows:

- Baghouse 1 Near the fuel unloading area east of Mill Street
- Baghouse 2 Near the fuel silos east of Mill Street
- Baghouse 3 Near the #8 Boiler on the roof of the proposed Dayton Street Building

Baghouse 1 will primarily be used to remove dust created during the unloading of trucks and rail cars in the Unload Building. Vacuum generated by the ID Fan will carry the dust to the baghouse filter via round ductwork and separate it from the air prior to the air being discharged. In addition to the vacuum system used on the rail unload area, a fogging system is being proposed to augment the dust control system. This is still under investigation.

Baghouse 2 will primarily be used to remove dust from the conveyor transfer points located above and below the fuel silos. The dust will be drawn to the baghouse from pickup points above and below each conveyor transfer point by the ID fan. Once the dust is filtered from the air it can be discharged back to the atmosphere.

Baghouse 3 will primarily be used to remove dust from the conveyor transfer points located above and below on the west side of Mills Street. The dust will be drawn to the baghouse from pickup points above and below each conveyor transfer point by the ID fan. Once the dust is filtered from the air it can be discharged back to the atmosphere.

	Dust from combustible materials creates a safety risk due to its ability to rapidly combust and expand the air volume in confined areas (explode). The conveying, storage, and dust collection systems being provided for the Charter Street Heating Plant will contain measures to minimize the risk to the employees, the public, and the equipment for this to occur. These items will include explosion relief panels, explosion suppression canisters, as well as the dust collection system which will limit the fuel for such events. The design will be within the recommended guidelines stated by NFPA, and the industry standards for this type of installation.
Required Lighting and Light Pollution	By safe practice, interior lighting of buildings and structures that require daily routine inspection at all work shifts will remain on constantly at a safe ambient light level. It is anticipated that Fuel Handling operations will occur during the day, so the Fuel Handling Yard not be in operation at night, and will only be illuminated to a safe ambient light level within the yard. Light from interior light sources will be visible through glazed areas of building enclosures. No exterior architectural lighting is included in the design. The rebuilt CSHP will comply with City of Madison Lighting Ordinances.

Tab 5 Required Approvals

Project Approvals	
	The nature of this Project necessitates that it receive many approvals from many authorities and governing bodies in addition to the City of Madison Department of Planning and Development, to insure the Project is constructed and operates in a manner that meets all of the requirements of these various agencies and approvals.
	The details of this GDP/SIP land use application and subsequent approval is considered in context with these other Project approvals. Any condition of another required approval will be considered a condition of the GDP/SIP approval.
Other Approvals	
Air Permit	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the approved Air Permit.
Environmental	
impact Statement	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the approved Environmental Impact Statement, and pursuant to all national, state, and UW System WEPA/NEPA guidelines.
Risk Management Plan	
	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the recorded Risk Management Plan. This document was prepared by P3M with the input of the Owner, Plant Operators, University's Insurance Carrier, and most importantly, the Madison Fire Department, who is the Authority Having Jurisdiction for issues related to Fire Prevention and protection of the public from hazards related to the operation of this facility.
Developer's	
Agreement	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the approved Developer's Agreement between the City of Madison and the State of Wisconsin.

Required Approvals

Other Required Permits and Reviews

The Project will be designed, permitted, built, and operated in accordance with all of the provisions, conditions, and restrictions of these City Departments and other governing authorities:

- City of Madison Water Utility Review for well head protection zone
- City of Madison Board of Public works for pedestrian path and bike path committee reviews
- City of Madison Engineering Departments under Planning and Development
- State of Wisconsin DNR Bureau of Energy
- Other list

Tab 6 Other Information

Project Approvals General Requirement	
	The nature of this Project necessitates that it receive many approvals from many authorities and governing bodies in addition to the City of Madison Department of Planning and Development, to insure the Project is constructed and operates in a manner that meets all of the requirements of these various agencies and approvals.
	The details of this GDP/SIP land use application and subsequent approval is considered in context with these other Project approvals. Any condition of another required approval will be considered a condition of the GDP/SIP approval.
Other Approvals	
Air Permit	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the approved Air Permit.
Environmental	
impact Statement	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the approved Environmental Impact Statement, and pursuant to all national, state, and UW System WEPA/NEPA guidelines.
Risk Management Plan	
	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the recorded Risk Management Plan. This document was prepared by P3M with the input of the Owner, Plant Operators, University's Insurance Carrier, and most importantly, the Madison Fire Department, who is the Authority Having Jurisdiction for issues related to Fire Prevention and protection of the public from hazards related to the operation of this facility.
Developer's	
Agreement	The Project will be designed, built, and operated in accordance with all of the provisions, conditions, and restrictions mandated by the approved Developer's Agreement between the City of Madison and the State of Wisconsin.

Other Information

Other Required	
	 The Project will be designed, permitted, built, and operated in accordance with all of the provisions, conditions, and restrictions of these City Departments and other governing authorities: City of Madison Water Utility Review for well head protection zone City of Madison Board of Public works for pedestrian path and bike path committee reviews City of Madison Engineering Departments under Planning and Development State of Wisconsin DNR Bureau of Energy
Site Layout	
	The general site plan arrangement of the new for the CSHP is depicted on the plan following this section. The plan includes labels to identify all of the buildings, equipment enclosures, and structures which are planned to occupy the site. Exact sizes of some of the elements are subject to change based upon final equipment selections and completion of detailed design and engineering work
Building Sizes	
	The anticipated sizes of buildings and equipment enclosures are listed in the matrix following the site plan arrangement drawing. Again, exact sizes of some of the buildings and elements are subject to change based upon final equipment selections and completion of detailed design and engineering work. This facility is located within the Capitol View Preservation zone, and is in compliance with this zoning regulation.
Architectural Description	
	The Charter Street Heating Plant (CSHP) Project includes construction of several new buildings and structures. The goals of the architectural design effort are to make the facility a good neighbor to its surrounding urban context, including UW Madison Campus and near by private property. Special attention was paid to including structures in the design program to secure the site and contain noise, dust, and light pollution; with a visual appeal that included pedestrian scale considerations.
	The architectural concept for the facility is to celebrate the removal of all coal from the site per the Governor's mandate, and show off the bio-fuel material delivery, storage, and handling as it is moved across Mills Street to the new Boiler where it is burned to produce clean energy.
	Building enclosure materials are selected and utilized in a visually composed manner for their aesthetic qualities so as to tell the story of this facility, and to fit within the overall budget. Some aesthetic upgrades to the existing buildings to remain is anticipated.

Tab 6 Other Information

Energy Efficiency	The Charter Street Heating Plant (CSHP) Project will comply with the Governor's initiative on energy efficient buildings (Executive Order 145) which stipulates that new buildings will be designed to be 30% better than the code in effect at the time of the Order. The design effort to achieve this goal will be pursued through the detail design of Electrical and HVAC.
Project Construction Schedule	 The Charter Street Heating Plant (CSHP) Project is planned for construction to start in the late summer of 2010 and be complete by Fall or 2013. The detail of the construction schedule shall be developed by the EPC Contractor. There is a general concept for the phasing of the construction to allow the Plant to remain operational during the construction phase: Build the E half of the Dayton Street Building to bring Package Boilers #6 and #7 on line. Burn off all inventory of coal fuel on site and retire coal fired boilers. Remove on-site rail spurs and demolish existing buildings on site planned for removal. Build remainder of the Dayton Street Building, new Boiler #8, and other structures on the CSHP site.
	Construction of structures on the Fuel Handling Site and construction on the WDOT rail corridor may be able to precede the sequence described for the CSHP site. Construction may occur in several areas concurrently. It is anticipated that Mills Street will require temporary street closure for some duration during the project construction phase. The Southwest Bike Path will remain open, but may be detoured during periods of time during the construction phase.







DSF Project No. 09A2L

Charter Street Heating Plant Rebuild

Building Classification Data

USE & OCCUPAN	NCY							A	PPROXIMATE OOM OR							
2_		TYPE OF		Sprinklered?	ALLOW. BLDG.			<u>. 'o</u>	TORAGE	APPROXIMATE	ALLOWABLE		ALLOWABLE		ACTUAL	
	IBC REF	CONSTRUCTIO	DN IBC REF.	(see note 2)	AREA, SQ. FT.	IBC REF.	WIDTH LI	ENGTH H	EIGHT	EAVE HEIGHT	HEIGHT	IBC REF.	STORIES	IBC REF.	STORIES	COMMENTS
		existing	IEBC	Y	existing	existing	existing	existing	existing							
5	306.2	8-II	602.2, Table 601	Y			86'-0" 21	.0-,60		.009						
Ŧ	306.2	8-II	602.2, Table 601	7	Unlimited	503.1.1	66'-0" 6	6'-0"		115'-0"	Unlimited	503.1.1				
$\overline{\mathbf{T}}$	306.2	8-II	602.2, Table 601	7	Unlimited	503.1.1	112'-0" 1	48'-0"			Unlimited	503.1.1			-	
				7			46'-0" 1-	48'-0"		.006						
				7			66'-0" 1-	48'-0"		50'-0"						
<u>a</u>	H-2 307.1, 307	.4 II-B	602.2, Table 601	~	Unlimited	503.1.1	105'-0" 1:	24'-0"		53'-0"	Unlimited	503.1.1			-	
<u>a</u>	H-2 307.1, 307	.4 II-B	602.2, Table 601	7	Unlimited	503.1.1	24'-0" 2;	38'-0"		24'-0"	Unlimited	503.1.1				
-	5 H-2 307.1, 307	.4 II-B	602.2, Table 601	7	Unlimited	503.1.1	24'-0" 7.	4'-0"		24'-0"	Unlimited	503.1.1				
	-1 306.2	8-II	602.2, Table 601	Y	Unlimited	503.1.1	30'-0" 6	6'-0"		32'-0"						Area includes stair/elevator
	-1 306.2	8-II	602.2, Table 601	7	Unlimited	503.1.1	30'-0" 3	6'-0" 12	2'-0"							2nd Flr, Above Boiler MCC Room
	:-1 306.2	8-II	602.2, Table 601	Y	Unlimited	503.1.1	30'-0" 6	6'-0" 2(.0-,C							Ground Floor
	:-1 306.2	8-II	602.2, Table 601	7	Unlimited	503.1.1	30'-0" 3	0'-0" 12	2'-0"							2nd Flr, Above Boiler MCC Room
	p H-2 307.1, 307	.4 II-B	602.2, Table 601	7	Unlimited	503.1.1					Unlimited	503.1.1				
				Y			72'-0" Diam	neter 82	2'-0"	116'-0"						
				Y			72'-0" Diam	ieter 92	2'-0"	116'-0"						
				Y			30'-0" Diam	neter 79	9'-0"	111'-0"						
				Y			30'-0" 2'	4'-0" 30	.0-,C	62'-0"						
\supset	up H-2 307.1, 307	.4 II-B	602.2, Table 601	7	Unlimited	503.1.1					Unlimited	503.1.1				
				Y			20'-0" 21	00-0" 1	4'-0"	166'-0"						
				Y			16'-0" 9'	7'-0" 10	0-,C	26'-0"						
			-	Y			24'-0" 1!	50'-0" 50	0"	114'-0"		-				
	up H-2 307.1, 307	.4 II-B	602.2, Table 601	Y	Unlimited	503.1.1	20'-0" 3	1'-0" 1	16'-0"		Unlimited	503.1.1				Tower is under Penthouse
	ip H-2 307.1, 307	.4 II-B	602.2, Table 601	Y	Unlimited	503.1.1	40-0" 6	00" 50	0"	166'-0"	Unlimited	-				
	lp H-2 307.1, 307	.4 II-B	602.2, Table 601	Y	Unlimited	503.1.1	34'-0" 4	1'-0"		140-0"	Unlimited	503.1.1				
		II-B					17' Bot/15' ⁻	Top Dia.		275'-0"						
	-	-	-									-				

Noise: 1. OCCUPANCY CLASSIFICATION WITHIN THE IBC MOST CLOSELY FITTING THE INTENDED USE OF THIS ENCLOSURE OR STRUCTURE. 2. "Y" INDICATES NO SPRINKLER SYSTEM PROVIDED 2. "Y" INDICATES THAT AN APPROVED AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT THE BUILDING IN ACCORDANCE WITH SECTION 903.31.1 (2006 IBC) "TBD" INDICATES THAT AN APPROVED AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT THE BUILDING IN ACCORDANCE WITH SECTION 903.31.1 (2006 IBC) "TBD" INDICATES THAT ON DE DETERMINED OR CONFIRMED

GDP APPLICATION 3/10/10