

FT. LAUDERDALE RESEARCH & EDUCATION CENTER**UTILITIES ELEMENT****STEAM AND CHILLED WATER SUB-ELEMENT**

Steam is not available at the Fort Lauderdale Center and no future need for steam is anticipated for this site. Chilled water is provided for Building 5001, the Hamilton M. Forman Building. The system is integral to the building. The chiller and distribution pumps are located in a mechanical room located on the roof of the building. The chiller is an approximately 50-ton, water cooled reciprocation chiller manufactured by Carrier Corporation. There are two chilled water pumps, one pump serves as a standby. There is no campus-wide chilled water distribution system. No other buildings on campus are served by this chilled water system.

The current chilled water system is at full capacity. The chilled water system for Building 5001 is in need of upgrade. Due to the small size of the chilled water plant (50 tons), it is not economical to replace the chiller, chilled water pumps, or cooling towers. It would be more economical to provide chilled water capacity in expansion plans. Since the new facility could be in close proximity to Building 5001, the extent of the underground chilled water piping could be minimized. The system would eliminate the need for a chiller, condenser water pumps, piping, and cooling towers. The existing reciprocating equipment should be replaced. By serving the existing building's chilled water with the new building's chilled water system, more efficient refrigeration equipment can be utilized.

Chilled water should be provided on an as needed basis for new construction. Underground chilled water lines to connect Building 5001 to the new building should be provided. Replacement of chiller, chilled water, condenser water pumps and the cooling tower in the next ten years should be anticipated. It would be advantageous to replace the chiller with an air cooled chiller. This would eliminate the need for the condenser water pumps and cooling towers. Additional chilled water capacity will need to be made available with new construction. Current projections will require a chilled water plant of approximately 950 tons.

GOALS, OBJECTIVES AND POLICIES – CHILLED WATER AND STEAM SUB-ELEMENT

Unless otherwise stated below, all goals, objectives and policies contained in the Chilled Water and Steam Sub-Element of the University of Florida Master Plan are applicable to the Center.

The following goals, objectives and policies contained in the Chilled Water and Steam Sub-Element of the University of Florida Master Plan are not applicable to the Center:

Goal 2.0 – Policies 1.3, 2.3, and 2.4

The following goals, objectives and policies have been revised or developed to address the Center's specific needs:

Goal 2.0 – Policy 2.4: The Center shall develop a plan to replace the existing chiller, cooling tower and condenser water pumps at Building 5001. The new system should either be combined with a new building's chilled water system or replaced with an air cooled chiller. The adopted campus master plan shall be amended as needed to establish the timing and phasing requirements and priorities for chilled water facility improvements identified in this plan.

ELECTRICAL POWER AND OTHER FUELS SUB-ELEMENT

The electrical power for the Center is served from Florida Power & Light (FPL) Corporation. There are no other fuel distribution or storage facilities on the site. FPL distributes power from its distribution circuit along Campus Drive from three locations. Two service radials are 13.2 KV, three-phase underground to pad-mounted transformers serving the building. The second feeder is a 13.8 KV, single-phase overhead circuit that service several small buildings throughout the campus. The design capacity of the overhead circuit is 1980 KVA at 13.8 KV. The underground service radial capacity is 450 KVA. The total capacity is 2430 KVA. Based on existing peak demand readings and estimates, the current demand is 432 KVA.

FPL provides all secondary service transformers and is responsible for all maintenance on the primary service. FPL also provides pole-mounted area lighting in areas of the Center. The existing capacity of the overhead circuit is 1980 KVA. The existing capacity of the underground feeder is 450 KVA. Based on projected construction of 70,805 gsf at 10 VA/SF, the estimated future load will be 710 KVA.

All overhead and underground primary feeders are owned and maintained by FPL. FPL owns and maintains all service transformers. Although the lifetime and condition of the transformers have not been determined, FPL would have replacement equipment in stock if a failure were to occur.

As illustrated on Figure 2.11-4-2F entitled Potential Site Electrical Distribution, an underground duct bank is proposed along the main Center drive. This duct bank will consist of 2-4" concrete encased PVC conduit. Each manhole will have 4-4" conduit stub-outs for extension to future facilities.

GOALS, OBJECTIVES AND POLICIES – ELECTRIC POWER AND OTHER FUELS SUB-ELEMENT

Unless otherwise stated below, all goals, objectives and policies contained in the Electric Power and Other Fuels Sub-Element of the University of Florida Master Plan are applicable to the Center.

The following goals, objectives and policies contained in the Electric Power and Other Fuels Sub-Element of the University of Florida Master Plan are not applicable to the Center:

Goal 1.0 – Policies 1.6, 2.5, Objective 3.0, and Policies 3.1 and 3.2

The following goals, objectives and policies have been revised or developed to address the Center's specific needs:

Goal 1.0 – Policy 1.6: The University shall implement electric power improvements as identified ~~on Figure 2.11-4-2F~~ by the Physical Plant Division. The timing and phasing requirements and priorities for identified improvements are established in the Capital Improvements Element.

Goal 2.0 – Policy 2.5: The University shall establish a procedure and assign responsibility for regularly scheduled meetings with FPL to ensure that adequate service will be available to meet the future needs of the University. The University shall pursue any interlocal agreements or memoranda of understanding necessary to ensure that electric power will be supplied to the site to meet the future needs of the Center.

TELECOMMUNICATIONS SUB-ELEMENT

Telephone

The telephone service is provided to the site from Southern Bell Telephone Company (SBTC). SBTC serves the Academic Building with an underground service cable. This cable terminates at this building. Telephone extensions are fed to remote research buildings from the Hamilton M. Foreman Building (Building 5001). All cables are underground from the main building to other buildings on campus. The Hamilton Foreman Building serves the campus through an AT&T Dimension PBX, which is antiquated and at maximum capacity. There is a dedicated telephone line for a VAX modem to the Hamilton Foreman Building. The existing telephone system is at capacity and requires replacement. Underground duct banks should be added to facilitate expansion to new construction.

Data and Video

No current data and video distribution system exists. Spare capacity underground in a communications duct bank should be made to bring the Center up to current technical standards.

Satellite

There is a satellite down link on the site with service to the Hamilton Foreman Building. Currently, there is a satellite down link only. Provisions should be made for an uplink so that remote classes can be held and establish communication without use of telephone lines.

~~As illustrated on Figure 2.11-4-3F entitled Potential Site Telecommunications Distribution, an~~ An underground duct bank is proposed along the main Center drive. This duct bank will consist of 4-4" concrete encased PVC conduit. Each manhole will have 4-4" conduit stub-outs for extension to the Foreman Building and future facilities.

GOALS, OBJECTIVES AND POLICIES – TELECOMMUNICATIONS SUB-ELEMENT

Unless otherwise stated below, all goals, objectives and policies contained in the Telecommunications Sub-Element of the University of Florida Master Plan are applicable to the Center.

The following goals, objectives and policies contained in the Telecommunications Sub-Element of the University of Florida Master Plan are not applicable to the Center:

Goal 1.0 – Policy 2.4

The following goals, objectives and policies have been revised or developed to address the Center's specific needs:

Goal 1.0 – Policy 2.4: The University shall implement telecommunications improvements as identified ~~on Figure 2.11-4-2F,~~ by the Physical Plant Division. The timing and phasing requirements and priorities for identified improvements are established in the Capital Improvements Element.