

Fernald Developmental Center
Campus Closure Study Scope of Work
DRAFT 4/21/09

Project Overview

The Department of Mental Retardation's Walter E. Fernald Developmental Center, located on 200 Trapelo Road in Waltham, Massachusetts totals 163 acres and has 71 major buildings, plus 14 other structures, totaling over 1.2 million GSF. As part of the Commonwealth's Community First initiative and the Executive Office of Health and Human Services' commitment to offer community based living opportunities for people with intellectual disabilities, the Department of Mental Retardation (DMR) is in the process of closing four of its six institutions within four years, transitioning residents to community settings or to one of the two remaining facilities. The Fernald Developmental Center (Fernald) is the first of DMR's campuses expected to close by June, 2010.

In addition to the DMR programs currently located on campus, there are a variety of other public and private users who also occupy buildings on the Fernald campus. The majority of those tenants will be relocated off campus, however there are several buildings that are expected to remain in use for the foreseeable future and therefore, modifications will be required in order to allow those buildings to be independent from the existing campus infrastructure. The buildings to remain operational are as follows:

- **Marquadt Skilled Nursing Care Facility** - a 29 bed long-term care Title 18 care facility for DMR residents.
- **Malone Park** - 4 ICF group homes each with 8 DMR beds for clients who live independently.
- **Eunice Shriver Center/Community Evaluation Research Center for Mental Retardation (Shriver/CERC)** - a UMass Medical facility that operates several programs related to mental retardation and developmental disabilities.

The purpose of this study is to develop a comprehensive plan for the closure of Fernald campus while determining the work necessary, costs, and schedule for the above referenced buildings to remain in operation.

In order to respond to DMR's priority to shut down the campus's central steam system as soon as possible after buildings are vacated, the study will immediately focus on two items: providing independent heating source and hot water for Marquadt; and, because the power plant also houses critical electrical switchgear and water pumps serving the buildings to remain in use, before the central steam system can be shut down, temporary heat will need to be in place to ensure the equipment remains in service until utilities can be relocated.

Existing Conditions Overview

Central Power Plant: Almost all of the buildings on the Fernald campus (including Marquadt and Shriver) are currently served by a central steam system located in the

Central Power Plant at the southern edge of the campus, adjacent to Waverly Oaks Road. The Power Plant is in overall poor condition. It is an unreinforced 19,440 SF masonry building, constructed in 1925, with one floor plus basement. Buildings are heated by a centralized high-pressure steam pipe system fueled by the oil-fired Power Plant. The steam pipe system consists of asbestos-insulated iron piping in reinforced concrete utility maintenance tunnels from which direct burial piping leads to individual buildings. The Central Power Plant not only provides heat for the majority of the campus buildings, but also contains critical electrical and water distribution equipment.

Marquadt: The Marquadt Building (Building #013, also known as the Thom Building) is an unreinforced masonry building built in 1952 totaling 32,116 GSF 1952, with 4 floors including basement. This building is in good condition. This building is currently heated by steam provided from the Central Power Plant and will need its own independent heating system and hot water heater.

Malone Park: (Buildings #21 – 24) The four cottages that comprise Malone Park are of wood frame construction, built in 1986 totaling 4,123 GSF each, single-story cottages. All cottages are in relatively good condition. These buildings are currently served by individual oil-fueled heat systems.

Eunice Shriver Center/Community Evaluation Research Center for Mental Retardation (Shriver/CERC: (Building #125) The Shriver is in good condition with four floors and basement, 48,757 SF, and contains wet and dry labs. A separate study is currently underway for major renovations to this building including providing an independent heating plant.

Utilities: A vast network of utility lines run across the campus, many tied into the Central Power Plant. Water, sewer, electric, telecom, fire alarm, and gas are all currently tethered to Fernald's infrastructure and will require study to make them independent for Malone Park, Marquadt and Shriver buildings. Electrical switch gear and the main pumps for the water system are currently located in the power plant. Provisions to relocate these systems will have to be made before the power plant can permanently shut down. Water is pumped from the power plant across campus then across Trapelo Rd to an aging water tower on the grounds of the former Metropolitan State Hospital. The water tower and distribution system to Fernald (and potentially adjacent properties) shall be investigated and alternatives developed for alternative water service from main lines in major streets. Previous studies are available for detailed information.

Vehicular/Pedestrian Circulation and Parking

Vehicular access to the campus is via the main entrance (Cherry Lane) off Trapelo Road and by a second entrance (Chapel Street) off Waverly Oaks Road. Alternatives shall be developed to provide vehicular access to the remaining buildings. Investigation will be necessary to determine if multiple routes are required for continued occupancy use. The existing pedestrian pathway system is currently deficient and hazardous. Many existing campus streets lack sidewalks and proper accessible routes for persons with disabilities. Recommendations shall be made to improve pedestrian circulation.

Parking recommendations will be required to insure adequate space is provided for continued use.

Scope of Work

The purpose of this study is to determine what improvements are necessary to allow the buildings expected to remain in operation be as independent as feasibly possible from the campus infrastructure. Existing conditions, alternatives with cost implications, recommendations (including scope of work, cost estimate, implementation schedule) shall be prepared.

Additionally, the study will develop the closure plan for the buildings to be vacated including cold securing (and/or recommended demolition) with scope, cost, and schedule (using DCAM's Recommended Procedures for Closure of State Facilities). Coordination with the buildings recommended for demolition is required.

In order to respond to DMR's priority to shut down the campus's central steam system as soon as possible after buildings are vacated (and before the 2010 heating season), the study will immediately focus on two items: providing independent heating source and hot water for Marquadt; and, because the power plant also houses critical electrical switchgear and water pumps serving the buildings to remain in use, before the central steam system can be shut down, temporary heat will need to be in place to ensure the equipment remains in service until utilities can be relocated. This scope of work will be the Phase 1 of the study and will proceed on a fast track approach through design and construction. Phase 2 will complete the work for the Fernald campus closure.

Phase 1: Provide Marquadt with Independent Boiler, Hot Water Heater and Kitchen; Provide Temporary Protection of Switchgear and Water Pumps in Central Power Plant

- Separate the Marquadt Building from the campus-wide steam service and central power plant, and convert the building to an independent boiler heating system. Also provide independent hot water heater, and any other required improvements in order for the building to be independent from the campus.

Alternatives shall consider placing boilers into existing mechanical room; converting an existing area into a new mechanical room for new boilers; construct a small exterior building to house new boilers. Evaluate the capacity and pressure for gas supply line. Boilers shall be energy efficient and self contained. As an add alternate, investigate the existing pneumatic temperature control system and the feasibility of upgrading the system to a modern digital control type system.

- Investigate renovating (and possibly expanding) Marquadt's existing ancillary kitchen in order for it to become a production kitchen once the central kitchen is closed. Consider the reuse of existing kitchen equipment from the central kitchen and/or receiving food from an outside provider.

- Determine the temporary improvements necessary at the Central Power Plant (including providing temporary heat) in order for the electrical switchgear, water pump, and any other equipment located within the power plant to remain in service until the campus utilities modifications are made and the entire power plant can be decommissioned.

Phase 2: Campus-wide Improvements to support buildings to remain and Closure Plan for Vacated Buildings

- Develop alternatives to provide independent utilities to serve Shriver, Marquadt, and Malone Park including water, sewer electric, telecom, fire alarm, and gas. The buildings to remain operational ideally shall be independent from the existing campus utility infrastructure by tying into main lines off campus, however, reasonable approaches to tie into campus utilities shall also be considered. Investigate existing water distribution system (including water tower) and propose alternatives to water delivery.
- Provide strategies for maintaining pedestrian/vehicular circulation to Marquadt, and Malone Park.
- Determine which buildings to be vacated are currently sprinklered. Coordinate with DCAM Surplus Property and local officials for acceptable closure plan.
- Document the current costs associated with running the central power plant as is (fuel consumption, operating costs, fuel costs, etc.) and compare against the cost for utility relocations.
- Document the current operating permits for all regulatory agencies that will need to be terminated once the power plant is decommissioned.
- Using DCAM's Recommended Procedures for Closure of State Facilities, develop the scope, costs, and schedule for cold securing the vacated buildings and compare against demolition costs. Coordinate with the buildings recommended for demolition.

Schedule

Phase 1 study to be completed by Summer 2009

Phase 2 study to be completed by Fall 2009

Team Members

Architect
Civil Engineer
Mechanical Engineer (M/E/P/FP)
Cost Estimator

Coordination with Other Work Underway

Several other efforts are currently underway at DCAM to support the closure of the Fernald campus and coordination will be required, including:

- Environmental Due Diligence Report
- Historical Assessment
- Re-Use Planning

Documents Available

The following documents are available to inform this study. All existing conditions information and site utility plans shall be confirmed and updates as required.

- Mass St. Project DCP9923 HD1: Conceptual Planning and Site Analysis for DMR's Fernald Developmental Center Site Study, December 2001, prepared by The Saratoga Associates.
- Mass State Project MR88-5 STU: Utilities Master Plan, May 1990, prepared by Ganteaume and McMullen.
- DCAM Recommended Procedures for Closure of State Facilities, June 2008