

ENERGY STUDIES AND OTHER STUDY EXPERIENCE

Ingham County Facilities – Evaluation and Energy Study

Matrix Consulting Engineers provided a facilities survey, study and evaluation to determine energy savings. Matrix performed energy modeling for each building to calculate the total energy savings of all recommended solutions and determined payback periods. The following 8 buildings were included in an energy study:

- Hilliard Building
- County Courthouse
- County Jail
- Animal Control
- 55th District Court
- Human Services Building
- Youth Services
- Grady Porter Building
- Veteran's Memorial Courthouse

The total square footage for all buildings is approximately 770,000 square feet. Systems surveyed and analyzed included HVAC, plumbing, lighting, building envelope, controls, power distribution, and life safety systems. Survey data was put into an electronic database to permit annual updates by the Owner.

City of East Lansing - Facilities Survey

Matrix Consulting Engineers provided a facilities survey to determine the operating condition, expected useful life, replacement recommendations, and replacement costs for the following buildings:

Valley Court Community Center	6,400 square feet
Library	25,800 square feet
Bailey Community Center.....	29,000 square feet
City Hall.....	58,111 square feet
Hannah Community Center.....	111,410 square feet
Firehouse #1	17,000 square feet
Family Aquatic Center	

Systems surveyed included HVAC, plumbing, lighting, power distribution, and life safety systems. Survey data was put into an electronic database to permit annual updates by the Owner and is still being used today.

Parnall Prison – Energy Study and Implementation

Project consisted of renovating HVAC systems in 12 buildings totaling 524,000 square feet to save energy. Matrix performed energy calculations to size equipment for the new systems and show energy saving from the project. Each building had a building automation system installed for the mechanical systems. Some mechanical systems consisted of air handling units with energy recovery units, while other systems consisted of radiant heat with boiler reset temperature's on condensing boilers.

Lansing Community College - Facility Infrastructure Evaluation Study

Matrix Consulting Engineers provided a facilities Infrastructure survey and study to determine the operating condition, expected useful life, replacement recommendations over the next 10 years, and replacement costs for the following buildings:

- Old Central Building
- Old Central Office, Unit B
- Old Central Office, Unit C
- Old Central Office, Unit F
- Photographic Center
- Administration Building
- Rogers Carrier House
- Herrmann Conference Center
- Arts & Sciences Building
- North House
- Gannon Vocational Technical

Gannon Vocational Technical Auto Center
Gannon Physical Education
Parking Facility
Dart Auditorium
Turner House
Continental Building
Academic & Office Facility
Seymour Plaza
Aviation Center
Aviation Center-Avionics
T-Hanger
Dazy Flight Center
New Hanger South

Systems surveyed included HVAC, plumbing, lighting, power distribution, and life safety systems. Survey data was put into an electronic database to permit annual updates by the Owner.

Jackson County Steam Trap Replacement Study and Implementation

Project consisted of a complete steam trap facility assessment including field work to locate steam traps, steam trap incentive rebates, construction documents, oversight through construction.

State of Michigan Austin Building Study

Matrix Consulting Engineers conducted an HVAC and Electrical Assessment Study of the existing State of Michigan Austin Building. This study included reviewing existing prints, conducting field survey of existing site conditions, and interviewing maintenance employees. The purpose of the study is to give suggestions on how to improve the existing building's HVAC and Electrical systems and also reduce future costs.