Agencies:
USCGA
Ithaca Power Squadron
Tompkins Count Sheriff's Department
NYS Parks Police
Ithaca Fire Department

Common Missions:
Our study began with the agencies listed above that serve the marine community in Tompkins County. The principal mission these agencies have in common is public education in marine safety. Additional functions of the agencies are broadly defined as law enforcement and rescue services, with each agency specializing in a particular aspect of one of these operations. Due to their complementary goals, these agencies are able to share workspaces, including office, classroom, a public base of operation, and docking facilities.

Agency Functions:
A combination of professional emergency personnel and trained volunteers provide marine emergency services. Each resource relies on the other to provide a total combined effort. Various group organizations alley with these emergency service personnel as interest, expertise and equipment have been specialized. A rower, a personal watercraft sports enthusiast, a sailor, a motor boater, etc. all enjoy recreational activities on the lake. In turn each expect a reasonable level of seamless services to be delivered.

Benefits of consolidation:
1) Classroom space: All five agencies have an educational mission. By sharing the proposed classrooms and meeting spaces, the agencies are able to save on costs related to the physical plant. Accordingly, a flexible space has been designed to accommodate an assembly room by means of a folding wall.
2) Coordinate emergency response effort through shared offices, personnel, and communication lines.
3) Proximity to water: Lessons and demonstrations with vessels and marine equipment can occur.
4) Sharing of operational costs and responsibilities.
5) Volunteers close at hand to assist paid personnel.
6) Easy public access and visibility.
7) Passive educational offerings, such as posters and procedures for passersby.

8.) Agencies involved in providing law enforcement, education, or emergency response, cannot do it all by themselves. Each agency has a limited number of personnel resources, but by working together in all facets of enforcement, education, and emergency response they can provide a more immediate, effective and efficient response to the public need.

Site Selection:

The location of the current facility, which is limited primarily to Coast Guard Auxiliary use, is on land slated for more intensive development under the Inlet Island Redevelopment Plan. The interim phase, while the building is demolished and a new one is constructed, is to rent slips from the Johnson Boat yard.

Existing USCGA

Proposed Site

The investigation progressed by identifying the program as described by the following goal: create a marine safety training facility with a base for deployment of public safety vessels. The temporary use of a concrete block building on Inlet Island, which was formerly used as a fuel station, is an impediment to vital land development that could increase taxable revenues. A task force was organized to define the current program. Task force members include various marine emergency and related volunteer personnel.

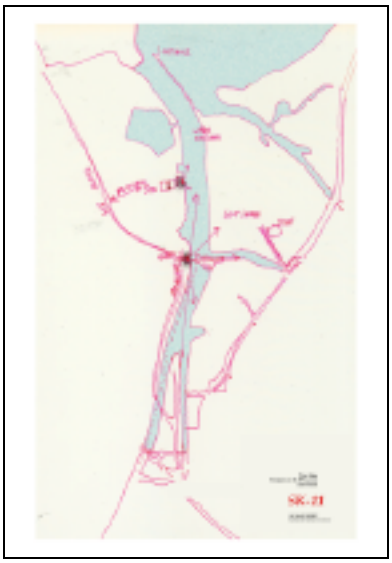
Inlet, park and trails

Along the Inlet, there are several destinations for boaters including Allan H. Treeman State Marine Park, The Boatyard Grille and other bank side restaurants, Johnson Boat Yard, Cornell University and Ithaca College Boathouses, and the Farmers Market. The park has active sports fields with pedestrian trails and vehicular paths running along side them. The Inlet has the appropriate water depth and current to accommodate boats used in the proposed Nautical Emergency Response Facility. Some dredging into the shoreline will be required so the proposed docks serving the facility will not extend into the active water-way or adversely impact flows at times of high water. Boats in the area are limited to a five-mile an hour speed. This allows for the inlet width to dissipate wakes thus mitigating bank erosion as well as allow a diverse range of use from scull racing to motored sailboats to the occasional larger vessel such as a ferry.

The Inlet (The Rhine) in 1895

Cass Park has a rich history. Prior to the park being established, portions of the land had been used as a railroad change station and an airfield. As these functions ceased it became sports fields, a marina, an ice rink, a pool area and a

The Inlet circa 1900



Site Strategy

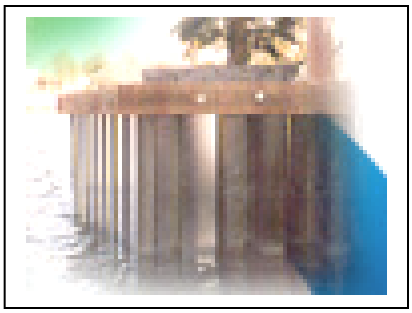
boat launch. From the beginning, we wanted to incorporate all uses and enhance the various functions of the park, the inlet, municipal golf course, on the opposing bank along with future changes or developments anticipated in ever changing urban infrastructures. Early diagrams in the design process indicated points of interests if not local definitions in functions. It is significant to consider remnants of these histories but not artificially recreate events as so often done in other cities. Our design reflects the unusual topographical elements that make the Cayuga Inlet (catch basin) unique among the Finger Lakes. Constant recognition of these elements is our guiding design principal.

The Waterfront Trail circulates through the park and through the proposed building. The dock is to be within view of most park users and near to the curve of route 89. A natural progression for water safety facility follows. We believe that location of the building will help increase the public's awareness of the potential serious hazards associated with water sports. Educational posters will be displayed on the side of the facility in clear view for the pedestrians. Additionally boat inspections will take place in the slips on the side of this arcade.

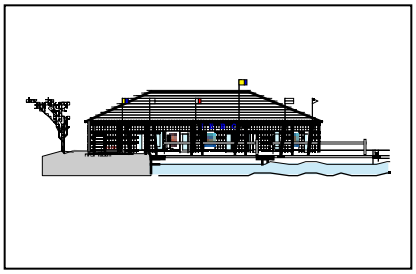
The next phase of this investigation was to identify a location with easy boat access to Cayuga Lake, but which would not disrupt existing recreational infrastructures, such as the Waterfront Trail and the Cass Park Sports Fields with associated parking. Additionally, there was and is a need to have rescue responders from the city able to reach the marine facility via Route 89. In this way our intent is to enhance existing park features with an overlook on its roof.

Along the Inlet there exists little unplanned land. At the mouth of the Inlet, on the western stretch of land, is a preserve, popularly used as a dog park. This area has no vehicular access and is owned by the NY State Department of Parks. Additionally, Inlet water and wave conditions are calmer away from the larger lake body of water, allowing the Inlet to serve as a protected harbor. The depth remains navigable for rescue efforts and pleasure crafts.

Near the eastern mouth of the Inlet is Newman Municipal Golf Course. Beyond this peninsula are Fuertes Bird



Composite sheet piling



Pole Barn

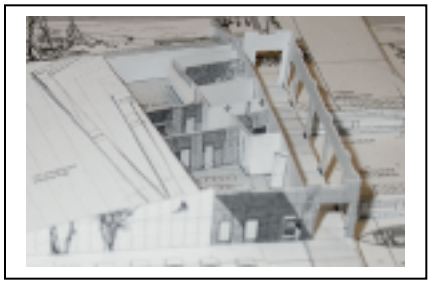
Sanctuary and Stewart Park. The area is shallow with marshy and unstable coastlines. Fall Creek and Pleasant Grove Brook converge to drain to a slower current, causing a greater silt deposit. Sites on this side of the Inlet would be inappropriate for vessel navigation during certain parts of the year and in some cases during whole years.

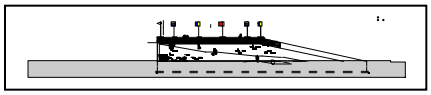
A northwest site near the boat launch was evaluated for shared marina activities. It is relatively inaccessible due to its distance from Route 89. Additionally, other non-marina activities made it a less than ideal site. By contrast a southwest triangular site between the highway, a creek, and the Inlet made it ideal location from many vantage points. The Johnson Marina and the Farmers lie across and on axis to the Cascadilla Creek outlet. In this way a water intersection with greater depth for navigation is possible while having no adverse affects on wakes for scull racing. Across this area happens to be the finish line for Cornell University and Ithaca College crew teams.

Construction Methods:
The high water table and poor bearing soils require friction woodpiles if the edifice is to remain stable over time. Similarly, it will be necessary to stabilize the shore near the excavated docks. The proposal suggests that this be accomplished by placing rubble and planting red twig cottonwood shrubs. This has been done at the Farmer's Market and at the Johnson Marina. The dock walls themselves are to be made of composite fiberglass sheet piles backed with log piles. The materials proposed for the docks, arcade, overlook, and related Waterfront Trail are designed to work together in an interplay that enhances the facility's multiple functions .

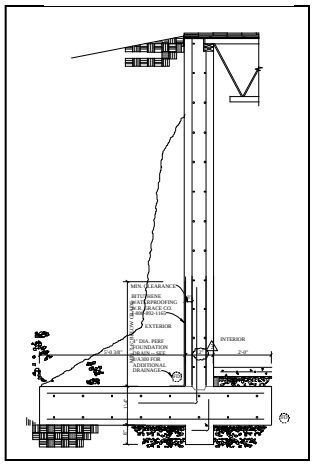
Utility buildings on the water's edge are often of pole barn construction. Buildings of this sort tend to have a shorter life span, roughly 20-30 years. Such buildings have no concrete footers and foundations, but have treated lumber placed into the ground, with wood trusses spanning the wood frame construct. The cost of such an edifice (a temporary solution) is estimated to be one about a third ($250,000) of the one proposed ($750,000). Arguably, as utility buildings are concerned, the norm tends to low cost building types.

We first explored a low cost building form, such as the pole barn method. This was deemed inadequate for two specific reasons: 1) it cannot be multi-functional. It would not allow for an overlook, an arcade, or close proximity to the water's

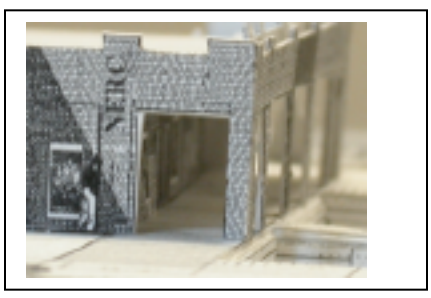




Park Overlook



Retaining Wall



Arcade and Slope

edge. 2) It's a temporary solution because the building would soon fall apart due to support deterioration. In addition, the temporary version would not accommodate an elevated view of the inlet or pedestrian participation with the building or of scull racing finishes. This building would also be replaced later, at a greater cost to a different generation of taxpayers. The construction method and structure we are proposing, however, has a greater initial cost but is expected to last longer. In fact, the total cost of the pole barn scenario, with associated maintenance and repair and replacement fees, will exceed the cost of the proposed project.

The Proposed Construction

We are proposing a structure with a concrete retaining wall, which supports a pedestrian-accessible roof slope, made from the soil dredged to make the docks. This would accomplish two goals: 1) it invites pedestrian participation with the facility at the roof and at the arcade; and, 2) it is environmentally responsible in that it makes use of material that might otherwise be discarded. Also, the resulting earthen structure provides good insulation for the adjacent facility spaces. The roof slope is placed so that from the road (Route 89) the facility becomes one with the landscape.

Mechanical Services

We propose a hydronic system, with passive green building design utilizing the earth's internal 55º temperature to temper the facility. Hydronic systems are projected for heating. Ventilation and accomodations for air conditioning are envisioned by considering the necessity of operating during the hot summer months. The envisioned uses and the nature of emergency rescue, requires the facility to be a fully sprinklered structure.

Program:

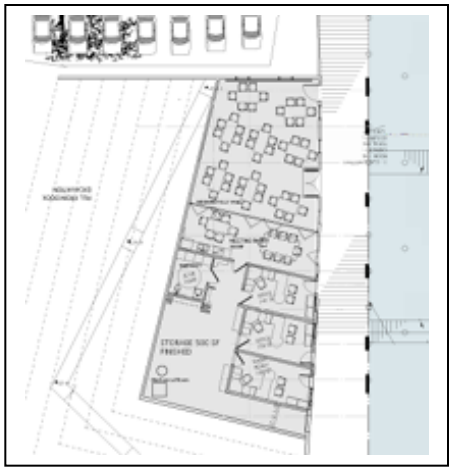
Gross area 2,335 SF:
Class meeting (26 x 32) & (20 x 13)
Office (10 x13)
Ready/Radio Room (11 x 12)
2 Offices (12 x 13) each
Restroom (8 x13)
Utility Room

The large meeting room (830SF) may seat 50-60 people. The smaller class meeting room (260 SF) may seat 17-20 people. These shared facilities may become meeting rooms for various community groups. Ideally, the circulation of people during events should remain flexible to allow for varied

functions. During an emergency , emergency personnel can use a secondary path, bypassing the one which trail walkers are using. Signs and graphics on the interior of the arcade can help with pedestrian traffic.

The building will be approached by at least three modes of transportation: on foot, in a car, and in a boat. Naturally, a nautical or busy port can be an advantage -- but not when it causes user confusion or requires constant material upkeep. Similary, the building will be used by both emergency personnel and leisurely pedestrians alike. Obviously it will be important that their paths not cross in a conflicting manner. Durable concrete and an above ground wood construction with cedar shakes clading are envisioned.

Plan



Proposed Plan

We are proposing a facility that is irregular in geometry with approximately 30' x 80' enclosed conditioned space. The assembly spaces, classroom, and meeting room with their associated support spaces are placed to the north of the plan with walkways through the arcade to the docks. These walls are purposely not parallel to opposing conditions, in order to avoid echos off the hard surfaces. Back walls will be designed to absorb sound waves. Classroom acoustical qualities are planned for large group instruction and interaction around a table setting. Instruction boards will be available at one end of the table for use by speakers. The three offices comprise a suite with access to a handicap bathroom. The suite is situated with an internal (other than arcade) path so that routine office work should not be disrupted by the activities of marine personnel or pedestrians enjoying the arcade. A prominent promenade introduces pedestrians using the trail to informational posters and the emergency services provided at the facility. The public will gain an awareness of issues related to water-based recreation such as jet ski noise and wake creation just by walking through the facility. Design features include a roof look-out, assembly spaces below, functional offices and classrooms, as well as a public (park) walkthrough.

Model Community Recommendation:

Ithacans like to think of Ithaca as a model city, one that appreciates and respects its geography. Many gorges empty into the southern tip of Cayuga Lake. The project design strives to define that which makes Ithaca memorable and inviting. Historically, democratic ideals espoused during the settling of this area resulted in a prevalence of Temple Architecture. Even today, an example of this architecture and

social milleu can be seen at the Ithaca Farmer's Market. By contrast, the western side of the Inlet is park architecture: pool, ice rink, overlooks, lighthouses, and fields.

Approaching Ithaca from the lake, a marine visitor will first encounter two pier-like lighthouses. The facility picks up on this pier theme at each structural bay, as seen from the water, further emphasizing the park-like architecture of the west bank. Similarly, the land and road side of the building should have a presence that reflects Ithaca's respect for its natural beauty, which is achieved by being as unobtrusive as possible.

The novel concept for this facility is to take several agencies, bring them together, and allow the volunteer and career personnel to act and serve the public in a collaborative manner. Clearly, this is a social good that allows the sharing of knowledge and expertise, while providing a comprehensive service to the community. The proposed building design promotes this cooperative ideal.