Concept Design Report

# The Township of Upper St. Clair
# Boyce Mayview Park Community Recreation Center

August 25, 2006

LARSEN Sports Group ARCHITECTS

WATER TECHNOLOGY, INC.
AQUATIC PLANNERS, DESIGNERS & ENGINEERS

ARCHITECTURE
PLANNING
INTERIOR DESIGN

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## Executive Summary

August 25, 2006

Township of Upper St. Clair
1820 McLaughlin Run Road
Upper St. Clair, PA 15241

Re: The Township of Upper St Clair
Boyce Mayview Park Community Recreation Center
Modified Schematic Design

Dear Commissioners,

On behalf of the Design Team we are pleased to submit our final report on the proposed Upper St Clair Community Recreation Center.

This represents a culmination of many hours of meeting time from members of the Ad Hoc Committee, the Township Administration, and the Commissioners who joined together as the Core Group, meeting with us and discussing the possibility of creating a new center of community focus for the Township residents.

The building that is being presented represents a consideration for creating spaces that would best serve the community at large. The Core Group considered many different programming options for the facility and selected those that would best serve the overall population of USC.

The question of need was fundamental in each discussion. The decision to include elements and program spaces was determined collectively to respond to the communities wishes for recreational and social concerns. The Core Group debated how important each component was to the success of the proposed center and created a space program accordingly. The final location in the Boyce Mayview Park was the result of considering access, parking, and future expansion considerations. Outdoor recreational opportunities, such as the future outdoor aquatic center and splash pad, were also a consideration. The building's proposed exterior envelope responded to the Core Group's concerns for an inviting, open, park-like structure that would welcome residents and members.

It is always difficult to look into the future and predict interests and trends. We attempted to create open, flexible spaces that might adjust to that unknown future.

We believe we have collectively created a USC Community Recreation Center that will act as a focus for community events and activities for years to come. By creating opportunities to teach swimming all year round or just splash in shallow water, walking and jogging on an indoor track offering great views to the adjoining park, a large fitness area filled with equipment to push and pull , rooms for fitness classes, divisible classrooms to teach in, play or hold a wedding shower in, teen and senior spaces to socialize, a focal "front room" gathering place to share a conversation over a cup of coffee with neighbors.....we believe that the families of USC will fully embrace this community asset.

USC has many age groups and all were considered in the design of this facility. Young families need safe secure places for their children to play and grow. The middle aged residents need health and fitness as a core component of their busy lives, and seniors look forward to maintaining their youthful outlook by actively participating in the social and recreational opportunities available at the center.

The proposed building represents a true vision of community life in USC. It is intergenerational, accessible, fun, inviting and will create a space encouraging interaction, socially and recreationally.

This has been an exciting process of envisioning a future center of community life in Upper St Clair.

We acknowledge your interest in giving the now and future residents another great reason to call USC home.

Jim

James K. Larsen, AIA
Lead Community Center Consultant
**Larsen Architects**

Doug

Douglas L. Shuck, AIA, NCARB
Principal
**WTW Architects**

## Program

## Program Description

### Community Center Lobby/Lounge
Inviting to all, and energized with activity, will describe the ambiance of the entrance lobby of the USC Community Center. After passing the control desk, you will scan the two story lobby and be able to experience, views of the indoor aquatics center, walkers and joggers on the elevated track, a volley ball game in the gym, mothers in an aerobics class, neighbors with friends visiting over a cup of coffee. This will be the Community Family Room, for all generations.

### Control Desk
This feature is very important for observation and control of who enters the center, assuring a secure facility. Its central location will enable a limited staff to monitor the operation of the center and observe the pulse of activity at any time of the day's schedule.

### Administrative Offices
The USC Recreation and Leisure Services will be headquartered in the Recreation Center, with office manager, program coordinators, marketing coordinator, staff offices, work rooms and conference room.

### Tot Room
Parents visiting the center for recreation, classes, meetings, and other activities, will have the opportunity to leave their young children with the knowledge they will be safely cared for by qualified staff. The Tot Room will have a youth bath room for changing and controlled access to a restroom.

### Multipurpose Room
This 3,600 SF room, divisible into three equal rooms of 1,200 SF, will be available for community meetings, private functions, i.e. birthday and anniversary parties, and catered dinners and luncheons serving between 200-250 people at round tables of 8. Private access is available for caterers, and an outside patio can be accessed from the multipurpose room.

### Gymnasium
The 16,000 SF wood floor gym will accommodate two full court basketball games, or four cross court games, volley ball and other court games and dividable with an electric overhead screen to separate the court for programming flexibility. A large projection screen and custom sound system, will serve the community for family movie nights, and the space can be programmed for teen dances, craft fairs, holiday events, and other special large event functions.

### Group Fitness Studios
Two 1,000 SF cushioned floor, fitness studios, with sound systems and dimmable lighting, mirrors, and ballet bars, will accommodate a variety of instructed fitness class opportunities, aerobics, pilates, yoga, spinning, etc. Programming in these rooms for other community activities, classes, meetings, continuing education, would be available per schedule.

## Locker Rooms
Full locker facilities for men, women, boys and girls will be available with clean comfortable and safe accommodations. Locker areas will be directly available to the Aquatics area.
Two Family locker rooms will be available for those with young children, and individuals with special needs. Locker areas will be ADA accessible.

## Vending Area
Vending will be discretely available to the lobby/lounge area serving, beverages, healthy snacks and limited food items.

## Food Service
Adjacent to the lobby/lounge is an area set aside for a modest food service operation with a concept of serving, wrapped sandwiches, salads, fruits, bakery items, special coffee drinks, and cold beverages. The operation of this feature is in the conceptual planning stages and following consultation with a national food service consultant, and possible vendors, the design will be finalized. Seating for this operation will be limited bistro tables in the lobby.

## Party Rooms
Adjacent to the pool and accessed from the lobby, will be two 350 SF party rooms, with views to the pool for youth birthday parties, community meetings, and other small venue opportunities. As they are adjacent to the lobby, access to these spaces can be controlled and monitored for safety.

## Indoor Aquatics Center
The Indoor Aquatic Facilities are housed in a natural light bathed 2-story ht. facility of approximately 10,000 square feet. The translucent south and east facing window wall will allow controlled amounts of natural light into the pool, and views of adjacent ball fields, and direct access to the exterior splash pad, sunning deck, and sand volley ball courts. Locker rooms and other support functions are housed in adjacent spaces within the community center.

The indoor aquatic pool has a footprint of approximately 5,000 square feet and includes the following functions.

For the active participants, Lap Lanes, (three seven foot wide lanes that are twenty five yards in length) constitute approximately 1,650 square feet or one third of the aquatic footprint. The water depth in these lanes varies from three feet six inches to four foot six inches. There are no starting platforms but each lane will have a removable lane line to define the lane and quell the surface disturbance from other adjacent activities. These lane lines will be removable to accommodate water basketball and/or water volleyball as alternative uses for this area of the pool. Sleeves for removable posts and goals will be installed to support these activities.

The Leisure Pool function will constitute approximately one half of the water surface area or 2,400 square feet of the pool. Water depths in this area would range from zero along the fifty five foot zero depth edge to three feet six inches at the deepest points. The slope of the pool floor would not exceed one foot in fifteen feet. Within the leisure pool area will be an interactive Water Play Activity. This feature will be located in water between six inches in depth and two feet six inches in depth and include small slides, interactive sprays and jets and platforms at three, four and five feet above the pool floor. This feature will have an entertainment capacity of approximately 100 bathers at any given time.

A Current Channel feature of 450 square feet is proposed adjacent to the leisure pool element with a restricted entry point at the three foot depth. The channel itself will be approximately seventy feet in length and six feet wide. The current would rotate counter-clockwise at a velocity of approximately three feet per second. This area will serve as both a play feature during open swim periods as well as a fitness/therapeutic feature during programmed use times. Walking either with or against the current, depending on the program, will provide the assistance or resistance for the fitness/therapy needs.

A Splashdown Pool area of approximately 450 square feet in size is proposed as the landing zone for a Water Flume Slide of approximately 120 feet in length, and starting from a platform height of approximately sixteen feet above the water surface level. One side of the thirty foot long area will be contiguous with the leisure pool and separated by a float line. This barrier can be removed when the water flume slide is not in use and the area could be programmed for other activities such as lessons or expanded play areas. Water depths in the Splashdown Pool will range from three feet six inches to three feet near the stairway exit.

The final aquatic feature will be a Whirlpool/Spa that will be independent of the other aquatic features. The actual Spa will be approximately 50 square feet in area and will accommodate six to eight adults at a time. The mechanical support systems for the spa will be independent of the other aquatic features in the natatorium.

## Fitness Center

The exercise regimen will be enhanced with the 9,500 SF second floor fitness center, accessed from the first floor by stair and elevator from the lobby. With a full compliment of cardio, selectorized and plate loaded equipment, youth and adults will be entertained during their workouts with views of the indoor pool, adjacent activity fields in the Boyce Mayview Park, activities on the track, and views into the gym. The second level fitness center and track will have adjacent restrooms for the convenience of participants.

## Run/Walk Track

The second level, 1/8 mile cushioned track, will not only have dramatic views of the Boyce Mayview Park, but participants, with an elevated view, will travel through the major activity areas of the center, pool, gym, lobby/lounge and fitness center. The track will become a major feature of the center to be enjoyed by all ages.

## Outdoor Splash Pad Area

A splashpad feature is proposed as an outdoor compliment to the indoor Natatorium and an adjunct to the future outdoor aquatic facilities. This feature would be located along the glass wall of the natatorium and accessed via a doorway in the glass wall. The usage of this feature will be seasonal.

The splashpad is proposed to be approximately 2,200 square feet in area and would have multiple sprays, jets and features integrated into a defined area. The proposed features will not be climbable but will have interactive components. The surface will be a colored concrete with a non-slip finish. All water will drain to an underground tank that will be filtered and treated and returned to the features. There will be no standing water at any time in this area.

Surrounding the splashpad will be concrete decks for circulation, viewing and sunbathing.
The proposed area will be approximately 2,800 square feet in size, bringing the entire feature to approximately 5,000 square feet. This area will be fenced to control ingress and egress.

## Outdoor Sand Volleyball Courts

Sand volleyball courts will be included as part of the outdoor fenced in area. The courts will be located away from the splash pad area yet will be close enough for observation by parents, who may have family participating in both activities.

## Support Spaces

The facility will have code required, men's and women's restrooms, and appropriate plumbing fixtures to support the operations of the center. The center will also have storage rooms, janitor closets, and mechanical and electrical rooms to support the operations of the facility.

## ADA Accessible

The community center will be fully handicap accessible with most functions on the main level, and access to the second floor by an elevator.

## Sustainable Design

The Design Team will explore many opportunities to include sustainable design features in this project. Many of these features will be included as part of the building placement on the site, window sun screening, connection to the Boyce Mayview Park trails for walkers and bikers, and efficient utilization of the site. We will include locally mfg exterior and interior materials, recycled products, energy efficient glass, and wall construction and thermally efficient roofing that exceeds the minimum code recommendations. Our engineers will explore energy efficient mechanical plumbing and electrical systems, and highlight their payback vs. initial costs to assist the owners to make informed decisions. A LEED certification will be explored with the township and would be a wonderful achievement for the community and set a precedent for future development in USC.

The Township of Upper St. Clair

**Boyce Mayview Park Community Recreation Center**

## Program

| Component | Total |
|---|---|
| **Indoor Aquatics Center** | |
| Leisure/Lap Pool | 5,000 |
| Deck Area | 5,000 |
| Indoor Aquatics Center Support | |
| Pool Directors Office | 120 |
| Guard Office | 200 |
| First Aid | 120 |
| Pool Filtration | 600 |
| Pool Storage | 300 |
| Locker Rooms (2) at 1,500 | 3,000 |
| Family Locker Rooms (2) at 150 | 300 |
| Party Rooms (2) | 700 |
| Party Room Storage | 75 |
| Sub Total | 15,415 |
| **Gym** | |
| Gymnasium | 16,000 |
| Running/Jog Track | 7,500 |
| Gym Storage | 500 |
| Sub Total | 24,000 |
| **Fitness** | |
| Cardiovascular, Selectorized & Plate Loaded | 9,500 |
| Fitness Storage | 300 |
| Group Fitness Rooms (2) | 2,000 |
| Group Exer. Storage | 250 |
| Sub Total | 12,050 |
| **Program & Activity Spaces** | |
| Divisible Community Rooms (3) | 3,600 |
| Community Room Storage | 400 |
| Kitchen (2) | 500 |
| Senior/Teen Lounge | 400 |
| Sub Total | 4,900 |
| **Page 1 Total** | **56,365** |

The Township of Upper St. Clair

**Boyce Mayview Park Community Recreation Center**

## Program

| Component | Total |
|---|---|
| **Building Support Spaces** | |
| Vestibule | 160 |
| Lobby/Control Desk | 1,360 |
| Public Restrooms (2) | 800 |
| Vending | 100 |
| Custodial Closets (2) | 192 |
| Maintenance Office | 200 |
| Food Service | 200 |
| Sub Total | 3,012 |
| **Office Space** | |
| Entry | 100 |
| Office Manager | 100 |
| Director Office | 150 |
| Manager Office | 150 |
| Program Coordinators (3) | 360 |
| Marketing Coor. | 120 |
| Work Stations | 240 |
| Work Room | 300 |
| Break Room | 200 |
| Storage | 200 |
| Sub Total | 1,920 |
| **Tot Watch** | |
| Childcare Area | 930 |
| Childcare Toilet | 50 |
| Childcare Storage | 100 |
| Sub Total | 1,080 |
| **Page 2 Total** | **6,012** |
| **Page 1 Total** | **56,365** |
| **Net Building Area** | **62,377** |
| **Gross Building Area (25%)** | **15,623** |
| **Total Building Area** | **78,000** |

## Budget Model

The Township of Upper St. Clair

**Boyce Mayview Park Community Recreation Center**

## Opinion of Probable Construction Cost

1-Aug-06
Revised August 3, 2006

**Community Center Building** **78,000 SF**

| SF | $/SF Range | $/SF Range | Cost Range |
|---|---|---|---|
| Community Center: 73,000 | 165 | 172 | $12,045,000 - $12,556,000 |
| Aquatics Center (Pool): 5,000 | 230 | 260 | $1,150,000 - $1,300,000 |
| **Total Building Construction** | | | **$13,195,000 - $13,856,000** |
| **Site Development**<br>Exterior Splashpad, concrete apron and fencing, lighting splashpad, concrete deck, turf: 10,000 SF | | | $375,000 - $450,000 |
| Walks, Drives, Parking A, B, landscaping, site lighting | | | $900,000 - $1,500,000 |
| Utility extensions, water, gas, electric, sewer, st sewer, phone, data | | | $220,000 - $330,000 |
| **Total Site Development** | | | **$1,495,000 - $2,280,000** |
| **Contingency** | 10% | | **$1,469,000 - $1,613,600** |
| **Total Building and Site Development & Contingency** | | | **$16,159,000 - $17,749,600** |
| **Fixtures, Furniture, Equipment**<br>All items which are not permanently attached to the building, phones, electronics, office equip, furniture, loose sports equipment | | | $550,000 - $700,000 |
| **Soft Costs**<br>Design Consultant fees, financing, testing, insurance, Twp. Management, etc. | 19% | | $3,070,210 - $3,372,424 |
| **Inflation**<br>Projected to the Fall of 2007 | 4% | | $646,360 - $709,984 |
| **Total Project Cost 2007** | | | **$20,425,570 - $22,532,008** |
| **Options** | | | |
| Option, Parking Area C, with extension of walks, lighting, and landscaping | | | $50,000 - $70,000 |
| Option, Parking Area D, with extension of walks, lighting, and landscaping | | | $175,000 - $262,500 |

This is an Opinion of Probable Construction Cost for the proposed Upper St. Clair Community Center and is for the purpose of establishing a preliminary project budget. Further investigation of existing site conditions, utilities, architectural, mechanical and electrical systems is required to determine a construction cost.

## Systems Narrative

Systems Narrative

# Architectural Narrative

## General

The exterior appearance of the Community Recreation Center revolves around a concerted effort to complement its surroundings in the Boyce Mayview Park and the community's desire to be environmentally conscious. The use of park-like materials where appropriate, the inclusion of products made from or with high concentrations of recycled content, as well as an eye toward energy conservation are the overarching principles that guide the design of both the exterior and interior materials and finishes for the Center.

## Exterior

Realizing its prominent position in the park's development, the exterior of the building will highlight the community's desire for a focal point for its community-wide recreation programs. The soaring entry, the large community gathering space, as well as the nearly transparent façade facing the park and ball fields will showcase the Center's activities inviting the community to enter and use the facilities.

Complementing its natural setting and minimizing its impact on the environment, the exterior of the Center includes the following features:

- Local stone materials
- Board and batten siding
- Brick masonry
- Low-e glazing
- Standing seam metal roof
- Color palette consistent with its park-like setting
- Exterior paving of natural concrete with color additive at splash pad area

## Interior

The interior of the Center continues the park-like setting established by the materials and colors of the exterior of the building. The natural stone introduced on the façade is carried indoors to mirror the structural elements of the exterior and accent special areas of the common space. A wood ceiling is used throughout the major public areas to continue the impression and soft natural paint colors are used to extend the theme.

All interior spaces will be designed for maximum longevity and ease of maintenance. Common Areas (offices, corridors, multipurpose room, lobby, meeting rooms, tot room) will be carpeted while public spaces and high-volume corridors will have ceramic tile floors. The gymnasium and group fitness rooms will have cushioned wood floors to enhance safety during their use. Locker rooms will be outfitted with a desire for long-term maintenance, therefore, floors will be ceramic tile and walls surfaces will be painted or ground-face concrete masonry units.

Most interior wall surfaces will be painted gypsum drywall with high traffic areas to receive impact-resistant drywall or painted concrete masonry. The gymnasium will be painted concrete masonry to enhance its long-term use.

The Aquatics Area will have highly-maintainable surfaces throughout with the pool apron and pool deck finished with ceramic tile. Walls will be painted concrete masonry and the ceiling an acoustic metal deck. Lighting will be positioned for ease of maintenance and to provide even illumination for nighttime usage by the community.

# Structural Narrative

## Foundations

Based on preliminary information about the proposed construction site, it is assumed that the new building foundations will consist of conventional spread footings bearing at shallow depths, ranging from 2' below floor on the building interior to 4' below grade on the building exterior for frost protection. It is also assumed that all main level floors will be concrete slab-on-grade construction. A subsurface investigation will have to be completed by a geotechnical engineer to confirm the foundation type and quantify the soil design parameters before the foundations can be designed.

## Indoor Aquatics Center

The Indoor Aquatics area will be a large, open, high-bay space framed with steel columns on the perimeter, and steel beams and girders at the roof level. Long-span steel roof girders will be arranged in a flat, radial pattern to articulate a large curved glass wall along the southeast side of this space. Steel beams will be used for the secondary framing members between the roof girders, and will support a metal, wood, or acoustical roof deck.

## Gymnasium

The Gymnasium area will also be a large high-bay structure with steel columns on the perimeter, and steel trusses and joists at the roof level. Long-span steel trusses with sloped top chords will be placed at the main column lines, approximately 25' to 30' on center. Steel joists will be used to provide support for the sloped acoustical metal roof deck between the main trusses. A steel and concrete running track will be suspended from the roof structure around the perimeter of the space.

## Locker Rooms/Fitness Area

The Locker Rooms/Fitness area will be a 2-story space constructed with steel beams, joists, and columns. The upper floor structure will consist of a 4" concrete slab on form deck, supported on steel joists and beams. The roof will be framed with steel joists and trusses matching those in the Gymnasium to eliminate interior columns.

## Lobby/Lounge/Office Space

The space will be framed with steel columns, beams, joists, and roof deck.
The space will include both low- and high-bay construction, sloped roofs, glass & aluminum storefront and stone & brick wall construction.

## Lateral Stability

Due to the extensive use of glass and open construction, it is not practical to use shear wall construction to provide lateral stability for the building. To minimize the lateral bracing costs and articulate the exposed structural design of the facility, exposed x-bracing and k-bracing will be provided at selected wall locations to provide lateral stability.

# HVAC Narrative

## General

The building's HVAC system will consist of packaged (self-contained electric cooling and gas heating) rooftop units or interior air handlers with exterior condensing units, individual electric resistance heaters and a building-wide direct digital control (DDC) system. All rooms will be provided with cooling capability.

Unless stated otherwise, all units will have the following features:

- Engineered Air or equal
- Heat recovery wheel
- Air-cooled refrigeration
- Integral gas-fired heat exchanger (modulating)
- Hot gas bypass
- Vibration isolating devices
- Hot gas reheat coil to allow for active dehumidification
- Double-wall construction
- Full enthalpy economizer

## Common Areas

The Common Areas (offices, corridors, group fitness, party rooms, lobby, meeting rooms, tot room) will be provided with HVAC via a dedicated variable air volume (VAV) unit that will be installed in a mechanical room or on the low roof near the Meeting Room. The unit will provide cool air to multiple fan-powered VAV boxes for each individual room. In addition to the features listed above, this unit will have a variable speed drive, multiple stages of refrigeration and airflow monitoring stations. Exposed supply air distribution will consist of exposed double-wall spiral ductwork.

## Gymnasium

Each half of the Gymnasium is to be provided with HVAC via a dedicated constant volume packaged rooftop unit that will be pad mounted on the exterior of the Gymnasium or interior air handling units with exterior condensers. Supply air distribution will consist of exposed double-wall spiral ductwork with drum diffusers.

## Aquatics

The Aquatics portion of the building will be conditioned by a single constant volume rooftop unit that will sit on the North side of the roof (near the pool filtration and storage room) or inside in the mechanical room. The unit will be piped to the pool water heating system to allow for the use of waste heat. Supply air distribution will consist of exposed double-wall spiral ductwork with drum diffusers that will extend around the perimeter of the room and provide for continuous "washing" of the exterior wall with dehumidified air.

The unit will have an integral pool water heat exchanger. Controls to be provided by the manufacturer.

## Locker Rooms

The Locker Rooms will be provided with HVAC via a dedicated constant volume air handling unit with exterior condenser. Supply/return ductwork will drop down within the Aquatics room and will extend in to each locker room.

## Fitness Center

The Fitness Center will be provided with HVAC via a dedicated constant volume packaged rooftop unit that will be installed on the Aquatics roof (near the Fitness Center) or interior air handler with exterior condensing unit. Supply/return ductwork will extend from the rooftop unit through the Fitness Center wall. Supply air distribution will consist of exposed double-wall spiral ductwork.

## Multipurpose Rooms

Each Multipurpose Room will be provided with HVAC by a dedicated constant volume air handling unit or packaged rooftop unit that will be installed on the low roof to the West of the Community Rooms.

## Miscellaneous

- All terminal boxes will be fan-powered (parallel configuration) with integral electric resistance heating coils. All fan-powered boxes to have manufacturer supplied return-air sound attenuators. All fan-powered boxes to be hung with spring isolation hangers.
- All concealed supply ductwork upstream of the terminal boxes to be double-wall (2" insulation with perforated inner liner for sound attenuation) spiral. All supply ductwork downstream of the terminal boxes to be lined rectangular (1-1/2" fiberglass liner). Exposed supply ductwork upstream of terminal boxes is to be double-wall spiral (insulated with perforated inner liner for noise attenuation).
- All concealed supply ductwork will be lined rectangular (1-1/2" fiberglass liner).
- All exposed supply ductwork is to be double wall spiral with insulation and perforated inner liner.
- All return air ductwork to be rectangular. Install 1" liner on return air ductwork from rooftop unit through 2 elbows or 30' (whichever is greater).
- Install one electric cabinet unit heaters in entry vestibule
- Install general exhaust systems for toilet groups.
- Install dedicated exhaust systems for kitchens
- Controls will be DDC with a central computer for all monitoring and adjustment. The system will have a web-based interface. CO2 sensors will be specified for rooms having large occupancies that are intermittent in use.

## HVAC Options

- Consider the installation of a central gas-fired hot water plant that would be piped throughout the building in lieu of self-contained gas heat exchangers and perimeter resistance heaters. The central gas-fired plant would be more efficient and would provide for superior equipment longevity.
- Consider the installation of a geothermal HVAC system that would significantly reduce energy use, and be a sustainable design feature.
- We recommend that a schematic phase life cycle analysis be considered that would provide for an energy and first cost comparison of various HVAC alternatives.

# Plumbing & Fire Protection Narrative

## Plumbing

The water and gas services will enter the HVAC/Service/Utility Room on the North end of the building. Water will be provided throughout the building. Gas will only be provided to the water heaters, pool heaters, and the HVAC equipment. A variance will be needed to see if gas can be provided to the emergency generator. The sanitary and storm exits will occur based on the best locations determined by the civil engineer. Sanitary will be provided for all the plumbing fixtures throughout the building as well as individual floor drains in the pool area. Roof drains, as well as overflow drains with downspout nozzles, will be provided for the flat roof areas above the indoor aquatics center and lobby. The rest of the building will have sloped roofs with gutters and downspouts.

Vitreous china, wall hung, flush valve water closets and urinals and vitreous china, wall hung lavatories will be provided in the locker rooms. Private stall showers along with a handicapped accessible shower stall will also be provided in this area. Electric water coolers will be provided throughout the building along with a drinking fountain in both the indoor aquatics center and the future outdoor aquatics center. Stainless steel sinks will be provided in the kitchen. Wall hydrants will be provided at strategic locations around the perimeter of the building. Water saving fixtures will be considered for Leed certification. A centralized water heating system with storage tanks and mixing valves will be used for the community center along with pool heaters for the indoor aquatics.

## Fire Protection

The building will be fully sprinkled. The fire protection service will enter the HVAC/Service/Utility Room on the North end of the building. Standard quick-response concealed and upright sprinkler heads will be used throughout the majority of the community center. Special CPVC or galvanized sprinkler piping along with corrosion resistant upright sprinkler heads will be used in the indoor aquatics center.

# Electrical Narrative

## Power

The project will require a 2000 amp, 480Y/277 volt, three phase, four wire electric service fed from a Duquesne Light Company pad-mounted transformer. This service feed will be landed on a 2000 amp switchboard that will in turn provide power to all branch panelboards in the building, pool equipment, HVAC equipment, etc.

A general layout of receptacles shall be provided around the building as required to meet the Owner's needs. These locations will be coordinated in later design meetings in addition to code required placement of receptacles.

## Lighting

The lighting system in the building shall consist of the following. In the building service areas, a two lamp strip fluorescent light fixture with wire guard shall be surface mounted or chain hung from the ceiling.

The kitchen spaces, locker rooms, toilet rooms, and storage rooms shall utilize recessed fluorescent 2' x 4' prismatic lensed troffers mounted in an acoustical tile ceiling. The individual toilet rooms will have a wall mounted fluorescent light fixture above the mirror.

The pool filtration room shall utilize fiberglass housing fluorescent fixtures with sealed lens. The first aid room and party rooms adjacent to the pool shall have recessed fluorescent light fixtures with aluminum or stainless housings to prevent corrosion.

The office spaces, multi-purpose rooms, and group fitness rooms shall have a recessed 2' x 4' troffer type fixture with soft lens and high efficiency optics.

The multi-purpose room will require some dimming capabilities for the lighting, so either the fluorescent lighting can be dimmed or a separate set of incandescent downlights will be installed and dimmed.

The gymnasium lighting system shall utilize a fluorescent source type light fixture, which has (8) 42 watt triple tube compact fluorescent lamps that can be switched four ways (two lamps at a time). This would provide a multi-functional use of the space and not require purchasing a dimming system. These light fixtures have instant on capabilities and will be tied to an occupancy sensor to meet the requirements of the IBC 2003 code.

The Indoor Aquatics Center can be lit using several types of lighting systems. One option would utilize the Light Pipe type fixture that has a lamp source at one end of the pipe that pushes the light across a translucent material to make the pipe illuminate. This system can be costly, but it keeps the lamp source over the pool deck for ease of lamp changes and provides direct lighting over the pool surface. The second option would consist of multiple light fixtures that would uplight the ceiling of the pool area and provide an indirect light into the space. These light fixtures would be located above the pool deck for ease of lamp changing. The indirect fixture system would have a lower first cost installation, but would require a very clean ceiling surface to maximize the reflected light into the space.

The lobby area and gathering space will need to be a blend of decorative lighting with energy-efficient technology to meet the requirements of the energy code. This lighting could consist of decorative sconces around the perimeter and a larger pendant light fixtures suspended from the ceiling.

All exterior perimeter light fixtures shall be photocell controlled and utilize compact fluorescent lamps. All spaces will have occupancy sensors for automatic shut-off of the light fixtures and shall also be controlled locally at the space served by the lighting load with on/off toggle switches.

## Emergency Generator

The building can be equipped with an emergency generator that can either be mounted inside or outside the building. Under the base design, this generator will power only the emergency egress illumination. As a second option, the generator can be upsized to handle not only the emergency lighting, but also select HVAC equipment, receptacles, etc. to be able to use this building as a natural disaster shelter. A third option would be to delete the emergency generator and provide battery pack type lighting to illuminate the egress paths. Battery pack lighting has a lower first cost, but can become a maintenance issue through the life of the building.

## Security

The security system shall consist of magnetic contacts at each exterior door that are wired back to a central security panel. Keypads shall be installed at entry points for arming/disarming of the system.

## Fire Alarm

An addressable fire alarm system shall be provided throughout the building. The system shall consist of horn/strobe devices in corridors, gymnasium, kitchens, gathering space, pool area, track, and multi-purpose rooms. Strobe only devices shall be provided in toilet rooms. Pull stations are required at the entrance to each stairwell and at each exterior door. A shunt trip device shall be installed to control the heat detectors in the elevator equipment room and the elevator shaft. Duct detectors with remote test/reset are required on all air-handling units operating at a certain CFM level. Tamper and flow switches shall be provided as necessary for sprinkler system. The fire alarm main control panel will be provided at the front entrance. All wiring shall be fire alarm system MC cable.

## Tele/Data System

The building will be equipped with a system of tele/data jacks and cabling back to a common network closet. The Owner will contract with a tele/data vendor to configure the system for a local area network in the building and telephone system. Common areas of the facility will have wireless capability.

## Future Outdoor Aquatic Facilities Narrative

The Outdoor Family Aquatic Center Facilities, are scheduled to be elements developed in the future. The following features are proposed to be a part of that future development.

A Leisure Pool with a zero depth entry will be the major element in the outdoor complex. This element will include an ample amount of zero depth edge and then slope, at a rate not to exceed one foot in twenty feet, down to a depth of three and one half feet to four feet.

A Water Play Feature is proposed in the one foot to two foot deep area of the leisure pool. This element will be an interactive play feature with multiple platforms, slides, sprays, jets and other interactive features.

Attached to the Leisure Pool will be Lap Lanes and a Deep Water Hopper for Diving and Drop Slides. All of these elements, combined, will create a pool area of 10 to 12,000 square feet in size.

Water Flume Slides, with a common tower and platform will exit into a Splashdown Pool that may be attached to the leisure pool or may be an independent feature. Concrete Decks and Walks will provide for circulation and lounge areas around the pool. Shade structures will provide an opportunity for the pool users to retreat from the heat and radiation of the sun.

Turf areas and landscape buffers will provide a park like atmosphere within the outdoor complex and compliment the active and passive aquatic uses. The Splashpad, to be developed in the initial construction, will also become a feature of the outdoor complex in the future. These elements will compliment the indoor facilities and accommodate the seasonal increases in demand for additional capacity during the summer months.

# Appendix