Rolling Hills Park

Master Site Development Plan






Letter Report

February 2, 2018

Submitted to:

Prepared by:

Mackin

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Letter Report for Rolling Hills Park Master Site Development Plan

Peters Township, Washington County, PA

Approved by Peters Township Council, _____ (date)

Acknowledgments:

- **Peters Township Rolling Hills Park Master Plan Steering Committee**

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  Monica Merrell, *Township Council*
  Jeff Crummie, *Parks & Recreation Board*
  Gerry Coscia, *Environmental Quality Board*
  Charlene Salus, *Community Member*
  Michael Takacs, *Community Member*
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Prepared by Mackin Engineering Company, Wallover Architects & Wallover Aquatics International, and James Watenpool, CPRP

Project Manager: Robert W. Genter, RLA, ASLA | Mackin Project No. 5229 | February 02, 2018

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Project Background

The site was formerly the Rolling Hills Country Club and Golf Course. The private club was situated on a steeply-sloped, 200-acre parcel along East McMurray Road. The property includes hills, ridge tops and valleys, hence its name Rolling Hills. The former facility included a golf clubhouse, a golf starter house with maintenance garages below, tennis courts, a swimming pool and pool house, and miscellaneous weather shelters for the golfers. The original building was a two-story, wood-framed farm house constructed in the 1800's. The house was expanded several times and is currently a three-story structure built along a hillside.

The property is bisected by an overhead West Penn electric transmission line. Two large steel towers are located on the property. The former golf club was served by utilities accessing the club house from E. McMurray Road.

As part of the master planning project, the school district and the township decided to split the property for a new high school and for a new community park. The park master plan developed a conceptual site layout to help determine the property limits and acreage required for the new park facilities. The 200-acre property was divided and the park was situated on 90-acres on the east side; extending from E. McMurray Road north to a parcel owned by the township that links to the Arrowhead Trail.

During the master planning process, it was decided to demolish the pool and the pool house for safety reasons. These structures are now gone.

Ridge Lines & Terraces

- View looking to South East
- 90-Acre parcel line
- Tributary draining to pond
- Tributary along E. McMurray
- Overhead electric transmission
- Large Vistas
- Rolling Slopes and Hills
- Wooded Edge

Existing Conditions

Rolling Hills Country Club House Evaluation

The golf club house structure was evaluated by professionals prior to the master planning process. Their recommendations were reviewed as part of the site analysis. After touring the structure, the Mackin design team provided a letter report to the township listing costs and considerations for building reuse. The letter report can be found in the appendix.

Zoning & Land Use

The property is currently zoned Conservation Residential (CR) and is surrounded by single family, residential homes. The site is accessed along the southern property line at East McMurray Road. To the east are backyards of the existing residential properties and to the west will be a new high school. The property abuts the Arrowhead Trail along the northern border. The Arrowhead Trail extends through the township connecting to other parks, homes, and shops. The trail is part of the 46-mile Montour Trail System in Washington County.

Site Analysis Maps

The project site, the former 18-hole golf course, includes expansive lawn areas with large hardwood trees bordering the fairways and putting greens. The site is encompassed by a naturalized woodland along the eastern and northern property lines. The property includes two significant ridge lines and two valley tributaries draining to Brush Run. The Brush Run watershed flows along the Arrowhead Trail system to Chartiers Creek and to the Monongahela River.

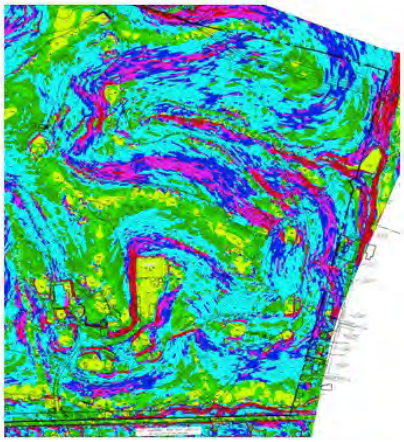
The large oak, maple, and cherry trees within the site are to be protected and preserved. These trees can provide immediate shade for the new park.

Soils Analysis

- Green- Not Hydric
- Lt. Green- Hydric 1%-32%
- Orange- Hydric 66%-99%Wetlands found are minimal, adjacent to stream bed, and marked in field

PNDI

- No Known Impact- Game Comm., Fish & Boat, DCNR
- USFWS - Avoidance Measure (only Oct to March Disturbance)



Slopes Analysis

Steep Slopes, Ridge Tops, Deep Valleys Over 100' elev. change

- Greens- 1%-12% slopes (can be ADA compliant)
- Lt. Blue- 12%-20% slopes
- Drk Blue- 20%-25% slopes
- Purple- 25%-33% slopes (max to mow grass)
- Red- 33%-over

The entire site is undermined with deep mining according to US Geological Service

The former golf course site includes open lawn areas with large mature native hardwoods. The perimeter is wooded and includes a naturalized edge.

The 2- water courses (along E. McMurray Rd and in Back Valley) are partially piped and include eroded banks, debris, and mowed edges to top of stream bank.

Very narrow wetland areas are flagged adjacent to each stream bed.

The tributaries through the site are proposed to be restored as naturalized streams by removing pipe, opening the channel, laying back the side slopes, and planting the slopes with native and naturalized vegetation. These tributaries can become important riparian watercourses that help to control stormwater runoff, reduce erosion and improve water quality. Tributary #1 is along East McMurray Road, and tributary #2 is in the north valley of the park.

Existing Images at Great Lawn and North Valley

The slopes and topography of the site are significant, with elevation changes of over 100 vertical feet from valley stream to ridge top. Many of the hillsides are very steep, leaving few large flat spaces along the ridge or in the valley.

The ridge top views are proposed to be enhanced and celebrated by providing viewing decks, structures built just off the ridge top, and hiding any surrounding parking and roadway alignments from the view.

Utility easements traverse the far northern ridge and include three underground gas transmission lines.

Electrical Transmission Line

The parcel is bisected by an overhead West Penn Power electric transmission line. The tower is located near the top of the site at the former golf starter building, and a second tower is located on the adjacent school district parcel. This transmission right-of-way easement impacts the site and applies conditions for construction and plantings in and near the easement; this includes earthwork operations and driveway crossings.

Design Process

The design process involved review of background documents, including the 2016 Park and Recreation Comprehensive Plan and its recommendations for the Township. Document and mapping reviews also included an investigation of the properties geology, soils, vegetation, slopes, utilities, zoning and land use, watercourse, wetlands, and a PNDI report.

Several site field reviews were conducted by the design team, including a kick off meeting and country club house tour attended by the project steering committee and township staff.

Peters Township provided 'Guiding Principles' for the plan and a project steering committee to lead the design process.

Early in the project, it was established that the Guiding Principles, continued coordination with the School District, and an understanding the West Penn Power easement requirements were important to the project's success.

The master plan process utilized the below public engagement sessions to develop a scope for the parks design, recreation and leisure facilities and programs, and priority projects and budgets.

Public Engagement

- 4 Steering Committee Meetings
- 4 Staff Meetings
- 14 Key Person Interviews
- 2 Public Meetings
- 4 Organization Meetings, including a Benchmark Tour
- Web Support and Progress Reports

2016 Park and Recreation Comprehensive Plan Findings:

Pg 38: Community Recreation Questionnaire

"Residents are most often attracted to local parks by their trails, sports fields, water features, programs, and playgrounds."

"The top five facilities respondents indicate are needed:

1. Outdoor swimming pool
2. Indoor swimming pool
3. Sledding/tubing hills
4. Outdoor basketball courts
5. Protected natural areas

"Respondents suggested that the least needed facilities are softball, baseball, and football fields; skateboard facilities, pickle-ball, tennis, and volleyball courts; equestrian trails, disc gold course, and horseshoe pits."

"Existing facilities that need the most improvements were shown as picnic shelters and playgrounds."

Pg 40: Common Themes among Public Input Venues

"The Study Committee and the Consultant worked together to identify common themes that occurred in multiple venues of public participation."

"The Following Items were Identified:

- Demand for a community swimming pool
- Need to upgrade the Community Center – facilities, programming, operations
- Need for additional park land and preserved open space
- High level of care for all parks – preserve, sustain, upgrade
- Promote bicycle and pedestrian connectivity and trails
- Preservation of Peters Lake Park
- Top quality parks and recreation system
- Need for certain new recreational facilities

Public & Stakeholder Outreach

At the May Kick-Off Meeting the design team presented a Visioning PowerPoint of 'What the Park Could Be'. The vision used recommendations from the Comprehensive Plan and the Guiding Principles. The vision presentation was followed by a Priority Park Facility Exercise where participants voted, with a limited number of stickers, for what they want in the park. The priority project exercise yielded the following:

1. Leisure Pool /Municipal Outdoor Pool; 12 votes
2. Tennis Center; 12 votes
3. Bike Trails and Connection to Arrowhead Trail; 11 votes
4. Cross Country Ski and Sledding Areas with Warming Hut; 10 votes
5. Community Conference Center; 8 votes
6. Competitive Swimming (Indoor) Pool; 8 votes
7. Nature Play Area; 8 votes
8. Water Playgrounds / Outdoor Spray Park; 8 votes
9. Bocce Courts; 7 votes
10. Dek Hockey; 7 votes
11. Dog Park; 7 votes
12. Open Fields and Meadows / Naturalized Wooded Areas; 7 votes
13. Picnic Areas; 7 votes
14. Walking Trails; 7 votes
15. Tot-lot and playground; 6 votes

The park master plan was presented to the public twice during the planning process; the final meeting was a public hearing attended by over 100 residents. The plan was received positively and several attendees asked when construction would be started.

Top -12 Facilities the public would like to see offered in Rolling Hills Park

Park Design

The park design is influence by the school district's plan to build a new high school and the township's desire to construct a local road through the site to serve the school, the park, and to modify traffic flow accessing East McMurray Road from Center Church Road.

The guiding principles for the park project are shown below. This park is to provide complimentary recreation, leisure, and nature programs; and facilities to minimize duplication and enhance what the township already has. The sites topography, the project guiding principles, and direction from the project committee helped to develop the plan.

Guiding Principles

1. The park will incorporate recreational facilities not found in the other park facilities
2. The park shall include picnic facilities
3. If feasible, the Clubhouse shall retained as a community/conference center
4. The park will incorporate a community aquatics facility
5. Consideration will be given to moving other Municipal facilities to this site including the Peters Township Tennis Center
6. Access to Arrowhead Trail as well as a walking trail contained within the site will be incorporated into the design
7. Shared access for the future school site and the park along East McMurray Road and Center Church Road will be incorporated into the design
8. The Township will cooperatively work with the School District, so as to make best use of the property

School District's High School Project

Mackin's Landscape Architects met with the school district four times during the design process to coordinate projects and the layout of the municipal Connector Road, property lines, and driveway locations along the Connector Road.

The park design coordinates with the new high school by providing tennis and racquet courts near the school property and connecting the sites with an overhead pedestrian bridge. Students and faculty will not have to cross the road to access the park.

Additionally, the park proposes to provide a stormwater management facility in the northern valley to accommodate half of the new connector road, and anticipates using some of the excess earth from the school project for embankment to build the Park Loop Road, and/or the Nature Center driveway.

Entrance Road Design

Mackin met with the township and their traffic engineer several times during the process to review and discuss the new driveway entrance along East McMurray Road. According to the traffic engineer, the park design will not create a need for a new driveway design or a traffic signal. The school project, however, will increase traffic volumes during peak times along the state route and along Center Church Road. The new entrance road, or connector road, will require new tree plantings along the park buffer yard since the design creates large cuts and exposes the hillside slope.

Utilities

New underground utilities are proposed for the park, including a water service line for fire protection and potable water, and electric, gas, and Wi-Fi for the Park Lodge, Tennis Center, Aquatic Center, Nature Center and Picnic Pavilions. A new sanitary sewer is proposed to be extended from East McMurray Road, along the new Connector Road, to the top of the ridge to serve the Lodge, Tennis Center, Maintenance building, and Aquatic Center. The Nature Center, in the North Valley, proposes to use drop pits, or a compost system toilet since the valley development would be costly to either pump or build a gravity flow system to Brush Run.

Roadway & Driveways

The park design follows the townships ordinance for municipal roadway design criteria. The Park Loop Road, at 3,334 LF, follows the Connector Road criteria. The Nature Center Driveway follows Local Road criteria and the Tennis Center and Lodge are considered driveways.

Earthwork for the Park Loop Road and the Nature Center Driveway construction is estimated at 45,000 CY; of which 6,000 CY is proposed to be borrowed from the school district project for placement at the Nature Center Driveway and intersection with the Park Loop Road.

Park Facilities & Programs

The plan was created to best fit the program, park facilities, appropriate sized building pads, and park infrastructure onto the land all while conserving earthwork, and preserving trees, wetlands and watercourses. The design began by studying the landscape and creating PLACES for people to enjoy the park.

Places for Walking, Hiking, & Biking





Places for Learning & Playing



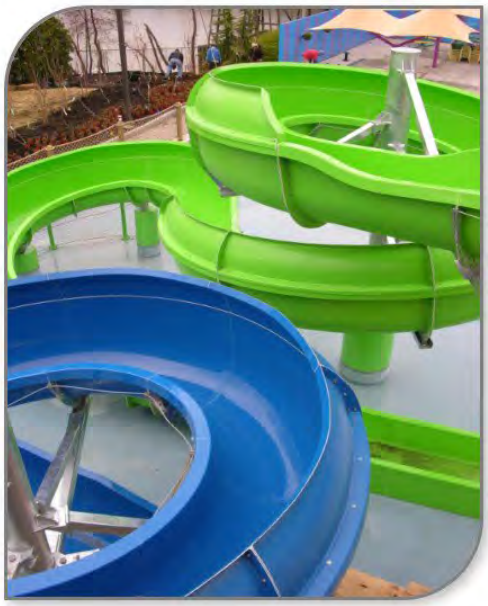


Places for Year-round Activities & Events





Places for Water Play, Instruction, & Exercise


Places to Relax, Rest, & Enjoy

The townships park and recreation department, local tennis professional, the township maintenance staff were interviewed. Their recommendations were included in the design.

Maintenance and Operations Staff

- Housing equipment at this park will be very beneficial
  Facilities to include:
  - Larger garage doors, at least one 12x14
  - Fenced and paved surfaces with material bins
- Equipment upgrades and staff expansion to facilitate additional parks and maintenance needs

- Staff is pleased with park layout and the variety of facilities
  Would like to see quality signage in park, disc golf, self-guided nature trails, and "QR" fitness course

Steve Happe-Tennis Pro Coordination

Indoor Facility
- Permanent building similar to Glen Creek Tennis facility in South Park (No Bubble Structure)
- Design layout- visitors enter at registration desk
- Pro Shop, Lobby, Kitchen, and Locker Rooms
- 6 hard surface courts with a centralized viewing area
- 4 tennis pro offices

Outdoor Facility
- 5 hard surface tennis courts for high school use
- 2 clay tennis courts for seniors and people with lower body issues/rehabilitation
- 4 pickleball courts
- 4 platform tennis courts with warming hut would allow for league play

Maintenance and Operation Staff & Tennis Pro Coordination

Park and Recreation Department

- Offer new programming to residents- including all age groups and abilities- age deficient, family focused and special needs
- Move some existing programs to Rolling Hills Park- summer camps, racquet sports, and the Community Day and Touch-a-Truck events.
- Offer educational programs, environmental programs and specialty programs
  facilities to support programming include:
    - Paved roadway for festivals with available electrical access
    - Pavilions with water & grill
    - Playgrounds
    - Nature Center with indoor space (or indoor facility elsewhere in park)
    - Fire pit or fire place at nature area/winter fest area
- Relocation of Tennis Center and, if the Recreation Center is to expand, relocate the skate park
- The aquatic center- offer new programming for entire community and new summer programming opportunities
  If the aquatic center is to be built later, the department would request a stand-alone spray park to be incorporated in the early phases of design
- Coordinate with School District for future programming
- Staff expansion to facilitate additional programming and meet residents need, including summer help, volunteers, and interns & recreation coordinator (program dependent).

Park and Recreation Department Coordination

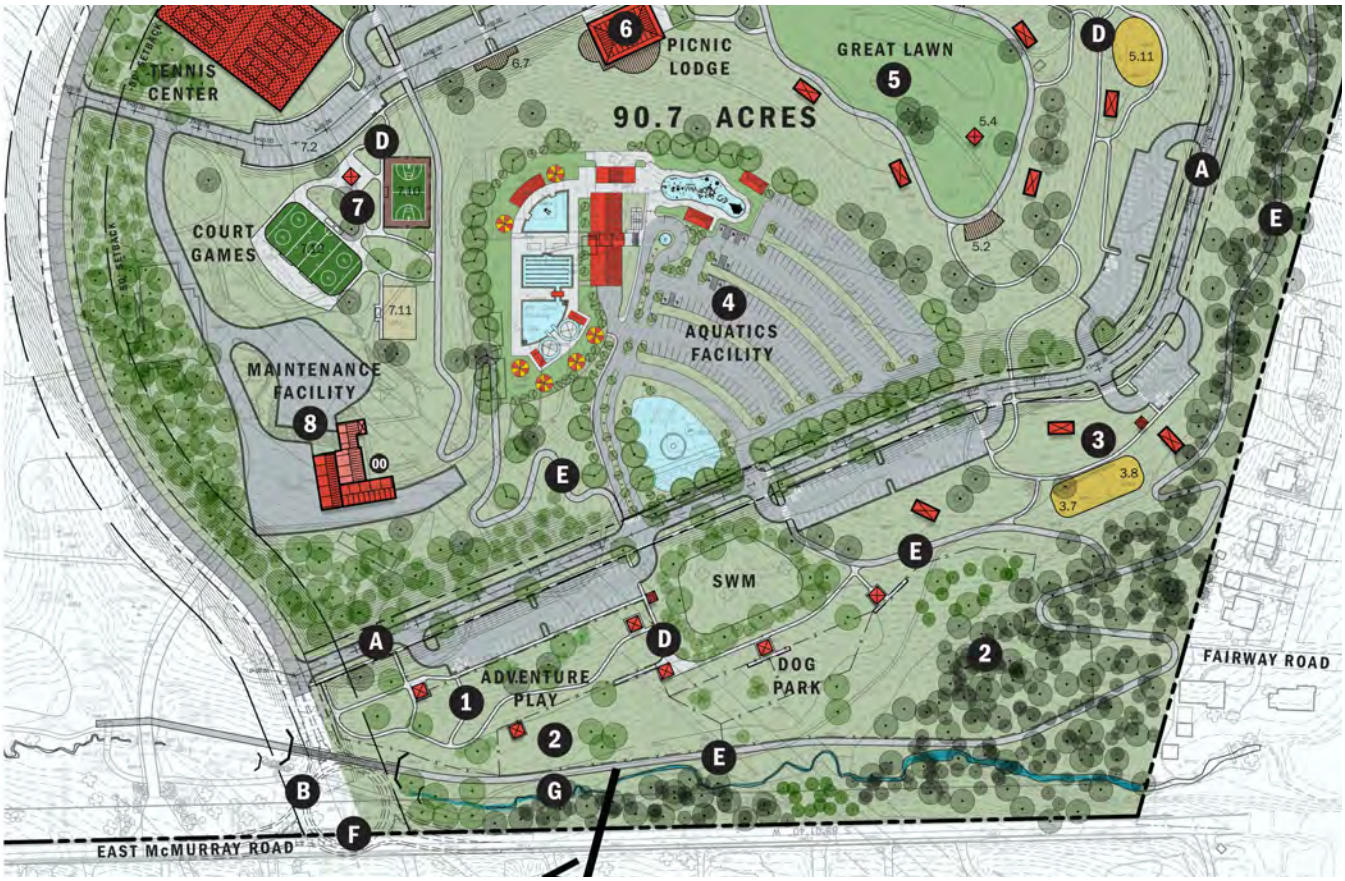
The park and recreation director was interviewed by our CPRP to develop programming for the park and for the aquatic center.

Programming for over 50 activities, including staff requirements, and expense and net revenue projections are listed in the appendix.

Below is an excerpt from the Rolling Hills Park Programming Opportunities List.

ROLLING HILLS PARK PROGRAM OPPORTUNITIES

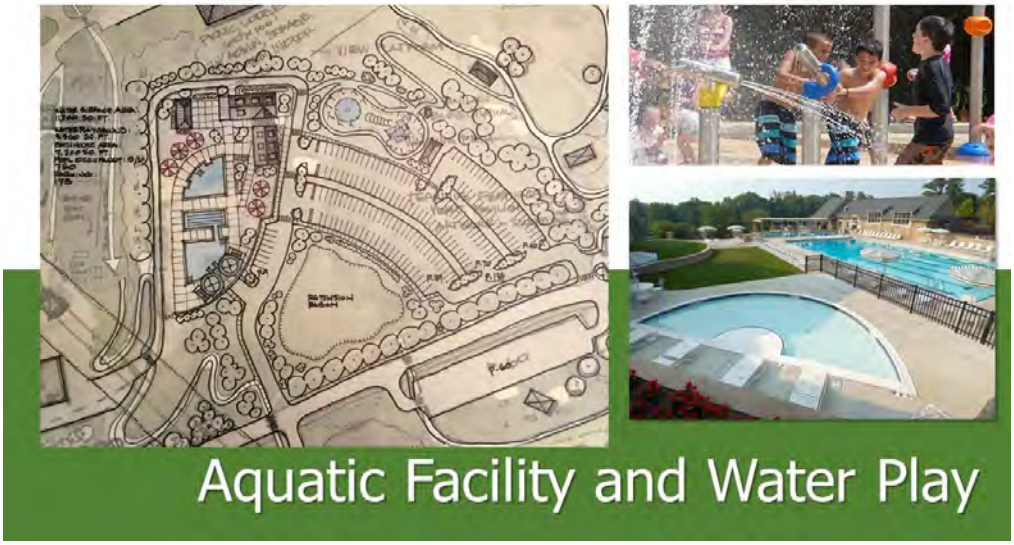
Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
Adventure Playground	1.5 acres, agility apparatus, climbers, slides, ropes, swings, nets, tunnels, etc	Safety training	Staff	6	One day session $15	$90	Staff time	$90
		Basic Team Building	Instructor	6	8 week session $60	$360	$252	$108
		Timed challenge events	Staff	10	$5	$50	Staff time	$50
Dog Park	2 acres.- small dog area, 2- large dog areas (rotate use), shelter for shade and seating, shade trees, apparatuses for animals, sloped lawns and woods	Dog agility training	Instructor	6	6 week session $130	$780	$546	$234
		Dog shows	Staff	20	$5	$100	Staff time	$100



The ninety-acre parcel includes a south slope where the former pool and club house is situated. The access driveway climbs to the hilltop were the electric transmission tower stands. Below the tower are tennis courts and a large green lawn bowl; this is part of the golf course fairway and out of bounds area.

This south facing lawn bowl is planned to house the Aquatic Center since the 10-acre parcel is the warmest side of the ridge and gets the most sun. The aquatic center, building and pool, is planned to be located at the existing tennis court pad; the associated parking, driveways and stormwater basin are planned for the lawn bowl.

The aquatic center provides for two pools, recreation and 4-lane competition/lap pool, concessions, bathhouse, shade pavilions, open lawn space, picnic space and an adjacent spray pad for park use. A detailed aquatic center report can be found in the appendix.



The dog park and adventure play areas are planned as linear, 2-acre sites situated along the valley tributary. Each can be accessed from the Park Loop Road. The dog park can take advantage of the woodland shade or the open lawn space with little need for landscaping.

The picnic space is positioned along the slope at the existing golf tee pads. This layout limits earthwork, preserves large trees and stream impacts, and incorporates the trail system to connect each facility.

The passive activities are placed near the residential borders and facilities that generate more noise are central to the park. The maintenance facility is located the base of the electric transmission tower, which is not a nice location for any other recreation venue. The maintenance garage proposes to renovate the existing golf starter building and below garages. Additions to the maintenance building would include larger garages and garage doors and using the existing asphalt parking for outdoor storage.

Court Games

Indoor Courts
- 6 Hard Surface Courts
- Building with Reception, Restrooms, Concessions, Courts, and Storage

Court Plaza
- 3 Shade Shelters
- 2 Warming Huts
- 1 Restroom
- Ped.-Bike Bridge to School

Outdoor Courts
- 5 Tennis Courts
- 4 Pickleball Courts
- 6 Platform Tennis
- 3 Bocce
- Dek Hockey Area- spectator and team bench
- Basketball
- Picnic Space
- Sand Volleyball
- Overlook Patio

The tennis center is located along the ridge near the school property. This 7-acre site has the most space for larger building pads, and is easily accessed between school and park. The court layout and large indoor tennis center are positioned to preserve many of the large trees and take advantage of the expansive views from the ridge.

The Park Lodge is also located along this ridge top. The Lodge is planned to be a two-story building overlooking the south valley and aquatic center. Parking is planned to be shared between the Tennis Center, Lodge, and the park open space, called the Great Lawn. The park incorporates 550 spaces into the site, plus 200 additional parking spaces at the Aquatic Center.

The Great Lawn is a 6-acre space for multi-use recreation activities and leisure activities. This lawn can be used for picnics, small and large group gatherings, and just open green space.

The north valley is planned for nature programming and activities, winter play, and hiking and biking trails, with a trail-head and trail connection to the Arrowhead Trail system.

The north valley includes restoration of the stream corridor and the forest edge. Each project will provide benefits to the environment, water quality, habitat, and overall character of the park. The north valley also includes places to play, picnic, ride a bike, walk, and enjoy the outdoors.

Trails are a big part of the park plan. The park includes 1.5 miles of sidewalks that interconnect park facilities, 3.5 miles of shared use trails, and 1.7 miles of mountain bike trails. Every facility is linked together by the trail system. A Peters resident can walk or bike to this park along the Arrowhead Trail, travel miles through the park, go to the school, and return to the trail without crossing a street. The plan incorporates a pedestrian bridge at the ridge top and a tunnel culvert near East McMurray Road to grade separate pedestrians from the new connector road.

Trail Legend

Sidewalk- 1.5 miles of 5' concrete walk
Shared Use Trail- 2.3 miles of 8' Asphalt
Shared Use Trail- 1.2 miles of 8' Crushed Stone
Mountain Bike Trail- 1.75 miles of Single Track Earth

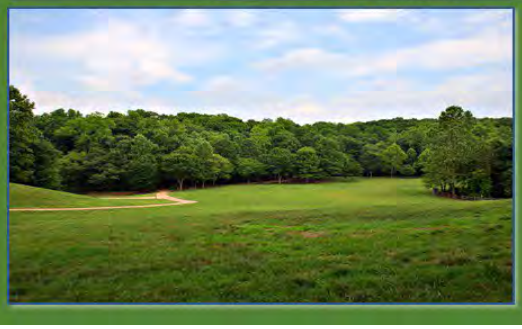
Trails, Sidewalks & Bike Routes

The Great Lawn

- 2.2 Acres
- Pedestrian walking loop (1/4 Mile)
- Pavilions with Picnic Areas
- Play Areas
- Viewing Platforms
- Terminus features at each end of the lawn (vertical spire pavilion or art sculptures
- Unprogrammed play activities
- Preserve existing large trees
- Disc Golf at perimeter

Parking

- Parking Spaces with adjacent parking at Lodge



The Great Lawn

Nature Play Features

Nature Center

- Nature Center building for educational classes
- 3 Pavilions with Picnic Areas
- Garden space
- Nature Play (separated toddler play space)
- Stream Rehabilitation
- Storm Water Pond
- Forest Restoration

Biking

- Mountain Biking, Bike Agility Course
- Trailhead for Arrowhead Trail

Winterfest

- Winter pavilion with fireplace
- Sledding slopes
- Ice Skating

Parking

- 112 Parking Spaces

Nature Play Biking Winterfest

Bicycle Agility Course

The completed park master site development plan includes park facilities and infrastructure totaling over $21,000,000. This includes roads, utilities and stormwater controls, an indoor tennis center, an outdoor aquatic center, a two-story picnic lodge, miles of trail, play areas, environmental restoration projects, picnic pavilions, open space, and more. The budget also includes soft costs for design & engineering, permitting, and construction inspection services bringing the build-out total to over $28,000,000.

The priority park improvements include the following projects:

Recommended Priority Projects:

• Park Loop Road	$1,140,000
• Utility Infrastructure and SWM	$250,000- $650,000
• Walking Trails	$170,000-$400,000
• Connection to Arrowhead Trail	$90,000 plus Trailhead at $15,000
• Picnic Spaces and Pavilions	$100,000- $335,600 @South Valley- $600,000
• The Great Lawn	$500,000- 1,135,000
• Outdoor Courts	$1,600,000 (full build for indoor facility- $4,103,200)
• Picnic Lodge	$1,576,200
• Dog Park	$300,000- $492,400
• Nature Play	$150,000- $331,800

Based on the feedback at the public meetings and response from residents, the township is encouraged to begin final design and permitting for priority projects. Since the school project is beginning soon, the next steps for the township to pursue are below in the Action List:

Action List for Committee:

1. Protect the Park's Topsoil and the Root Zones from Compaction During Construction (and During School Construction)
2. Complete the Connector Road Project
3. Finalize the YMCA Coordination
4. Begin Fund Raising for Priority Projects
5. Begin Design and Engineering for the Park 'Loop' Access Road
6. Begin Design for Park Priority Projects #1, #2, #3...

Project Committee Action List

Appendix

Master Site Development Plan

Road Profiles & Section Through Park

Budget

Conceptual Plan

Park Programming Opportunities

Park Maintenance & Operations Report

Aquatic Center Report

Club House Recommendations

PNDI Report

Meeting Minutes

PARK INFRASTRUCTURE

A PARK LOOP ROAD

B UNDERPASS
(CONCRETE CULVERT, PED/BIKE USE)

C PEDESTRIAN BRIDGE
(PREFAB, H-10 UNIT FOR PED/BIKE USE)

D SIDEWALK SYSTEM- TYPICAL
(5'-6' WIDE CONCRETE; 1.5 MILES)

E TRAIL SYSTEM- TYPICAL
(SHARED USE TRAIL- 8'-10' ASPHALT, 2.5 MILES)

F UTILITIES
(EXTENSION OF UNDERGROUND- SANITARY, WATER, GAS, ELECTRIC, TELEPHONE, AND WI-FI)

G STREAM RESTORATION AND STORM WATER MANAGEMENT BASIN AT SOUTH VALLEY
REMOVE PIPES, RECREATE STREAM BED/BANK, CREATION OF RIFFLES, RUNS AND POOLS; ADD NATIVE ROCK, STREAM BANK VEGETATION, AND PEDESTRIAN VIEWPOINTS AND ACCESS POINTS. BUILD DRY BOTTOM SWM BASIN.

H STREAM RESTORATION AND STORM WATER MANAGEMENT AT NORTH VALLEY
REMOVE PIPE, RECREATE STREAM BED/BANK, CREATION OF RIFFLES, RUNS AND POOLS; ADD NATIVE ROCK, STREAM BANK VEGETATION, AND PEDESTRIAN VIEWPOINTS AND ACCESS POINTS. BUILD POND FOR WET BASIN SWM STORAGE.

SOUTH VALLEY

1 ADVENTURE PLAY
1.1. PARKING LOT (59 SPACES, ASPHALT CARTWAY W/PERVIOUS PARKING SPACES)
1.2. SIDEWALK WITH FENCE AND GATES (4' HT. CHAIN-LINKED, PVC COATED)
1.3. SHADE TREES
1.4. RESTROOM (MALE & FEMALE, PREFAB. UNIT W/STEEL ROOF TO MATCH PAVILIONS)
1.5. SHADE PAVILIONS (20'x 20' STEEL ROOF AND CONCRETE BASE)
1.6. SEATS/BENCHES, WATER FOUNTAIN
1.7. PLAY APPARATUSES
- TIRE VOLCANO, CLIMBING AND SLIDING MOUNDS
- CLIMBING NETS, SWINGING BRIDGE
- ZIP LINE
- FORT BUILDING
- AGILITY ROPE COURSE AND SLACK LINE
- SWINGS
- CLIMBING WALL, BALANCE BEAM

2 DOG PARK
2.1. PARKING LOT (59 SPACES, ASPHALT CARTWAY W/PERVIOUS PARKING SPACES)
2.2. SEPARATED AREAS; 2- SMALL DOG AND 2- LARGE DOG AREAS
2.3. SIDEWALK WITH FENCE AND GATES (CHAIN-LINKED, PVC COATED)
2.4. SHADE TREES
2.5. SHADE PAVILIONS (20'x 20' STEEL ROOF AND CONC. BASE)
2.6. SEATS/BENCHES, WATER FOUNTAIN
2.7. PLAY APPARATUSES
- RAMPS, BALANCE BEAM
- CLIMB, SIT, STRUCTURE
- JUMPING HOOPS
- TIRE TUNNEL
- HANGING BALL
- PIPE TUNNEL
- PATH THROUGH EXISTING WOODS

3 PICNIC AND PLAY GROUND
3.1. PARKING LOT (15 SPACES, ASPHALT CARTWAY W/PERVIOUS PARKING SPACES)
3.2. SIDEWALK
3.3. SHADE TREES
3.4. RESTROOM (MALE & FEMALE, PREFAB. UNIT W/STEEL ROOF TO MATCH PAVILIONS)
3.5. PICNIC PAVILIONS AND TABLES (20'x 40' STEEL ROOF, STONE COLUMNS, CONCRETE BASE; AND WATER AND GRILL)
3.6. WATER FOUNTAIN
3.7. TOT-LOT PLAY GROUND AND SAFE SURFACE
3.8. CHILD PLAY GROUND AND SAFE SURFACE

4 AQUATIC FACILITY (10 ACRE SITE)
4.1. POOLS, BUILDINGS, 200+/- SPACE PARKING LOT, UTILITIES:
4.2. OUTDOOR POOL, LAP LANES, ZERO (BEACH) ENTRY POOL, SLIDES AND SLIDE POOL, RENTAL PAVILIONS, BATH HOUSE, ADMIN, RENTAL SPACE, CONCESSION, PARKING, OUTDOOR PLAY AREA. AND, A SEPARATE OUTDOOR SPRAY PARK, PAVILION, SIDEWALKS TO CONNECT TO THE AQUATIC FACILITY AND TO THE PARK.

LEGEND

- EXISTING TREE
- PROPOSED TREE
- PICNIC PAVILION
- SHADE PAVILION
- RESTROOM
- WARMING HUT

RIDGE TOP

5 THE GREAT LAWN
5.1. PARKING LOT (100 SPACES)
5.2. VIEWING DECKS
5.3. VIEWING LOUNGES
5.4. TERMINUS FEATURES
5.5. SIDEWALKS AND STEPS
5.6. SHADE TREES
5.7. RESTROOM
5.8. PICNIC PAVILIONS AND TABLES
5.9. WATER FOUNTAIN
5.10. TOT-LOT PLAY GROUND
5.11. CHILD PLAY GROUND

6 PICNIC LODGE
6.1. TWO-STORY PICNIC LODGE
6.2. PARKING LOT (84 SPACES)
6.3. SIDEWALKS
6.4. SHADE TREES
6.5. PICNIC TABLES AND WATER FOUNTAIN
6.6. SEATS/BENCHES
6.7. OVERLOOK PATIO AND SEAT WALL

7 COURT GAMES
7.1. IN-DOOR TENNIS BUILDING
7.2. PARKING LOT (132 SPACES)
7.3. SIDEWALKS AND PLAZAS
7.4. SHADE TREES
7.5. RESTROOM
7.6. SHADE PAVILIONS
7.7. WARMING HUT
7.8. PICNIC TABLES AND SEATS/BENCHES
7.9. WATER FOUNTAINS
7.10. BASKETBALL COURT
7.11. VOLLEYBALL SAND COURT
7.12. DEK HOCKEY
7.13. OUTDOOR TENNIS COURTS
7.14. RETAINING WALL AT COURTS
7.15. PICKLEBALL COURTS
7.16. PLATFORM TENNIS COURTS
7.17. BOCCE COURTS

8 PARK MAINTENANCE GARAGE AND OFFICE
8.1. RENOVATION OF 'GOLF STARTER' OFFICE
8.2. ADDITIONS TO GARAGE BUILDING
8.3. PARKING LOT AND DRIVE RENOVATIONS
8.4. STORAGE BINDS
8.5. SCREENING FENCE, AND BUFFER YARDS
8.6. UTILITY RENOVATIONS, SIDEWALK AND STEPS

NORTH VALLEY

9 NATURE CENTER
9.1. NATURE CENTER BUILDING
9.2. PARKING LOT (112 SPACES)
9.3. SIDEWALKS
9.4. SHADE TREES
9.5. LAWN SPACE WITH TODDLER NATURE PLAY AREA

10 PICNIC AREA
10.1. SHADE TREES
10.2. RESTROOM
10.3. PICNIC PAVILIONS AND TABLES
10.4. SIDEWALKS, SEATS/BENCHES AND WATER FOUNTAIN
10.5. MEADOW MAZE

11 WINTER PAVILION
11.1. WINTER PICNIC PAVILION

12 BIKE AGILITY COURSE

13 TRAILHEAD (ARROWHEAD TRAIL)
13.1. KIOSK SIGN, ACCESS CONTROL, SHADE AND SEATING

14 MOUNTAIN BIKE TRAILS
(EARTH SURFACE, SINGLE TRACK, 1.7 MILES)

15 NATURE PLAY
15.1. ADA SIDEWALKS AND TRAILS IN PLAY AREA
15.2. SHADE TREES
15.3. SEATS/BENCHES, WATER FOUNTAIN
15.4. PLAY APPARATUSES
- BOULDER MOUND AND ROCK GARDEN
- STEPPING STONES AT CREEK
- SLIDES BUILT INTO HILLSIDE
- ARCH BRIDGE OR SWINGING BRIDGE
- FALLEN TREE CLIMBER/MAZE
- MOUNDS, CARGO NETS AND TUNNELS
- LOG BALANCING BEAM
- ROPES COURSE IN EXISTING TREES
- FORT BUILDING AREA AND EQUIPMENT
- TREE HOUSE IN EXISTING TREES
- ADA FISHING PLATFORM
- SEATING AT PONDS
- OUTDOOR CLASSROOM AND LOG SEATING

NORTH

GRAPHIC SCALE
0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

REVISION RECORD
No. | Date

Mackin
Consulting Engineers Since 1960
RIDC Park West
117 Industry Drive Pittsburgh, PA 15275
• Pittsburgh, PA (412) 788-0474 • Hamilton, PA (717) 774-8900
http://www.mackinengineering.com/

ROLLING HILLS PARK
EAST McMURRAY ROAD
McMURRAY, PA 15317

OWNER
PETERS TOWNSHIP
610 EAST McMURRAY ROAD
McMURRAY, PA 15317

MASTER PLAN

Project Number: 5229
Drawing Scale: 1" = 100'
Date : 2017-11-28
Drawn By: MJL

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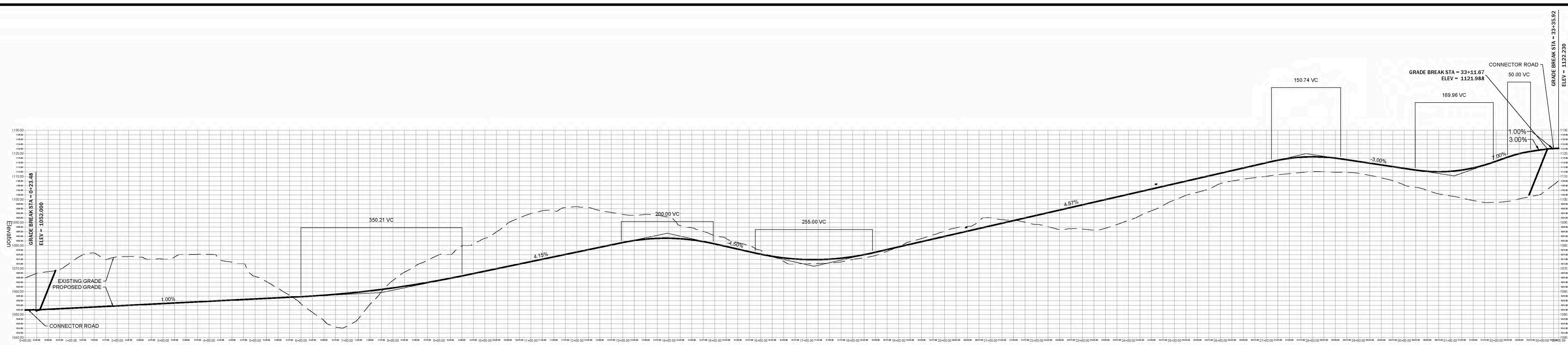
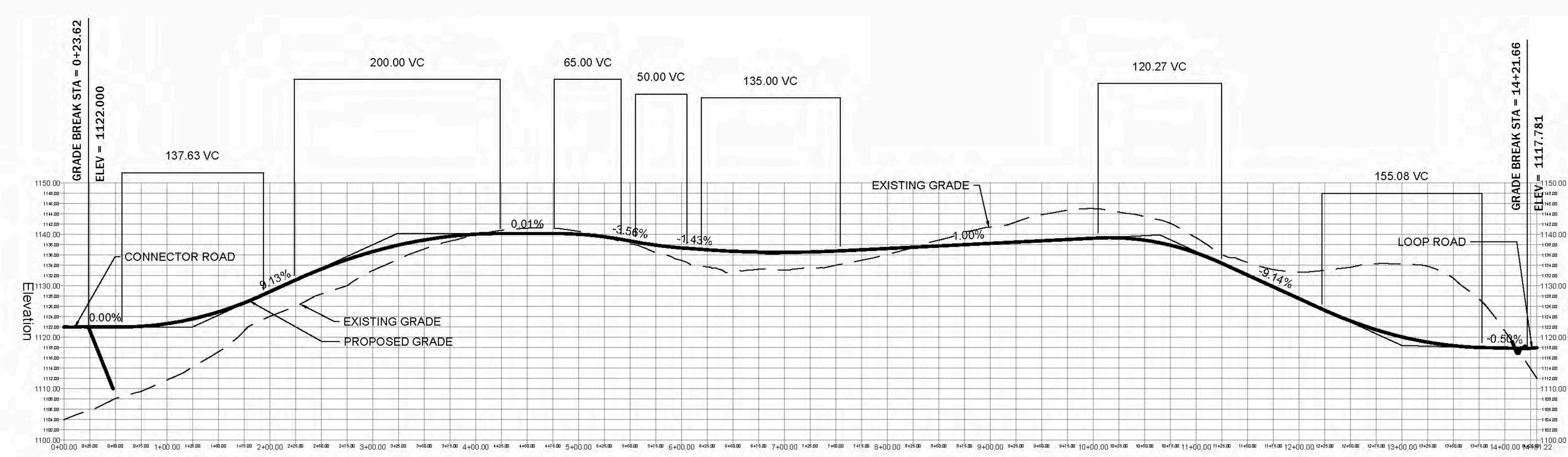
Plot Date=11/28/2017 10:48 AM Matt Lasky

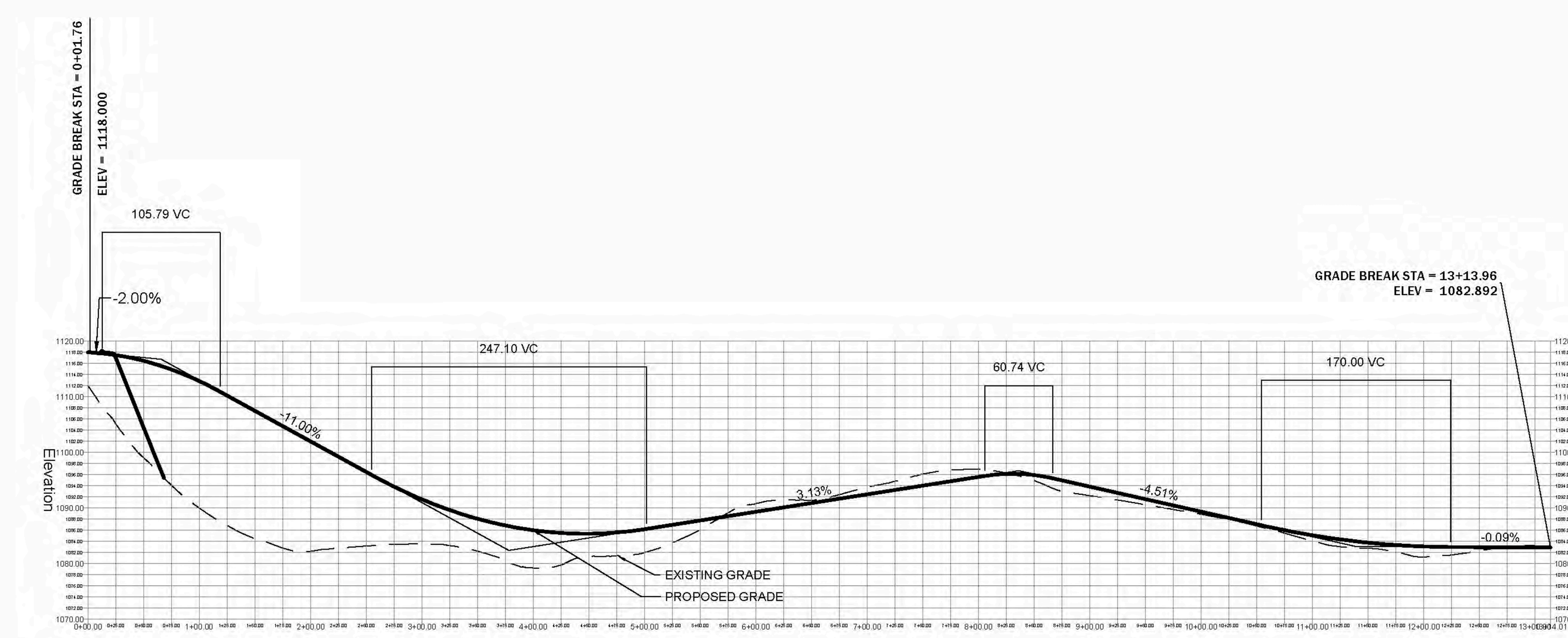


PARK LOOP ROAD
STATION 0+00.00 TO 33+35.99
HORIZONTAL SCALE 1"=100'
VERTICAL SCALE 1"=20'

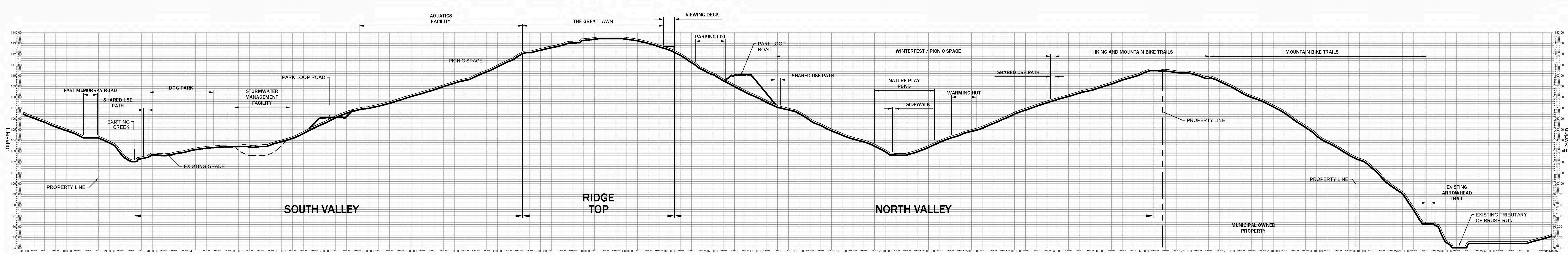
PARK LOOP ROAD						
No.	PVI Station	PVI Elevation	Grade In	Grade Out	A (Grade Change)	Profile Curve Type
1	0+23.48'	1052.000'		1.00%		
2	7+75.00'	1059.515'	1.00%	4.15%	3.15%	Sag
3	13+96.96'	1085.317'	4.15%	-4.50%	8.65%	Crest
4	17+16.02'	1070.959'	-4.50%	4.57%	9.07%	Sag
5	27+86.56'	1119.919'	4.57%	-3.00%	7.57%	Crest
6	31+08.85'	1110.257'	-3.00%	7.00%	10.00%	Sag
7	32+50.00'	1120.137'	7.00%	3.00%	4.00%	Crest
8	33+11.67'	1121.988'	3.00%	1.00%	2.00%	
9	33+35.92'	1122.230'	1.00%			



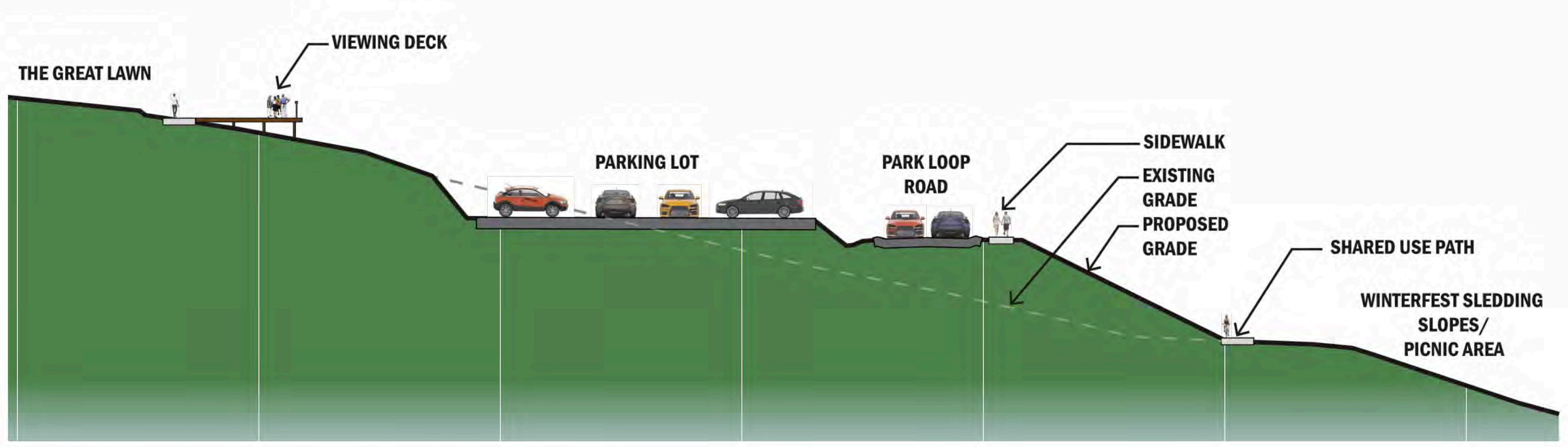
COURT DRIVE AND PARKING LOTS
STATION 0+00.00 TO 14+31.22
HORIZONTAL SCALE 1"=100'
VERTICAL SCALE 1"=20'



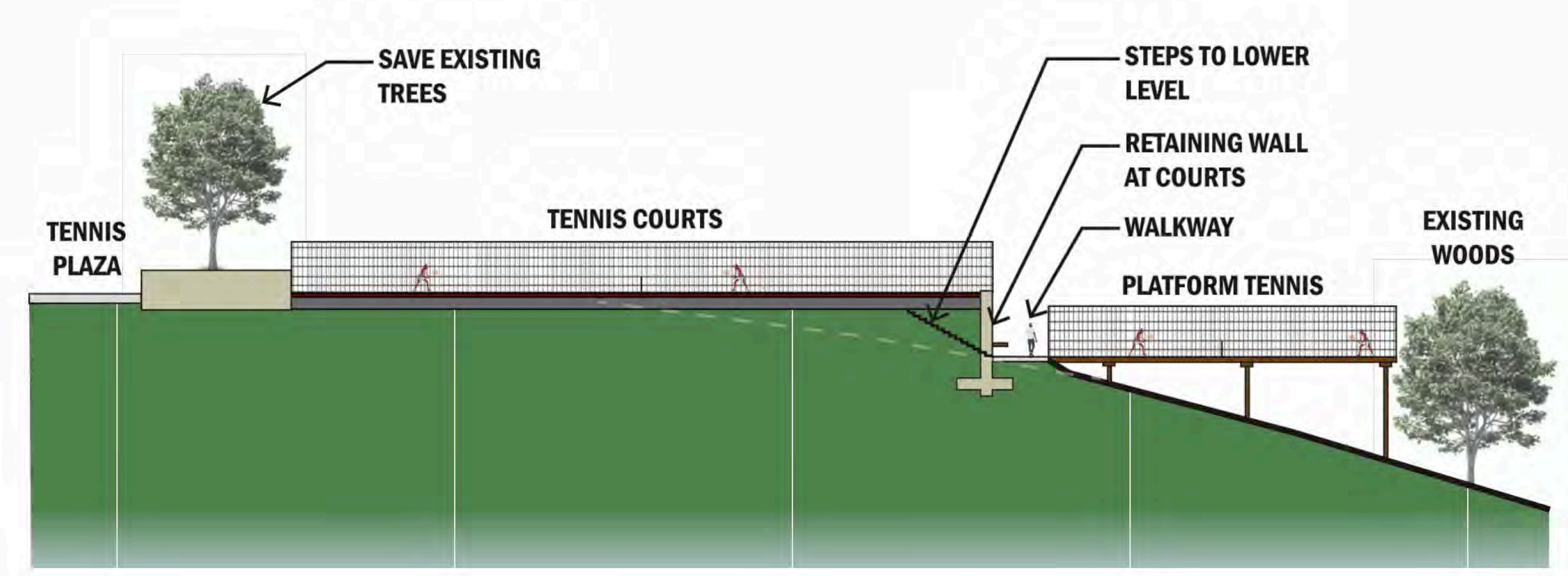
NATURE CENTER DRIVE
STATION 0+00.00 TO 13+14.01
HORIZONTAL SCALE 1"=100'
VERTICAL SCALE 1"=20'



SECTION A-A
STATION 0+00.00 TO 35+45.56
HORIZONTAL SCALE 1"=100'
VERTICAL SCALE 1"=40'



VIEWING DECK SECTION



PLATFORM TENNIS @ SLOPE

SHARED USE PATH @ COURTS

REVISION RECORD

No.	Date

Mackin
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ROLLING HILLS PARK
EAST McMURRAY ROAD
McMURRAY, PA 15317
OWNER
PETERS TOWNSHIP
610 EAST McMURRAY ROAD
McMURRAY, PA 15317

SECTIONS AND PROFILE

Project Number: 5229
Drawing Scale: AS SHOWN
Date: 11/28/2017
Drawn By: MJL

Rolling Hills Park, Peters Township, PA											
Construction Budget for Park Master Site Plan											
Mackin Engineering Project No# 5229											
27-Nov-17									Total Parking in Park= 554 + 200 at Aquatic Facility		
Park Infrastructure											$2,640,000
	Ped/Bike Underpass at Twp. Connector Road (Concrete Culvert)					1	LS	$250,000	$250,000		
	Ped/Bike Bridge Over Road (Prefab, H-10, Unit on Stub Abutments)					1	LS	$120,000	$120,000		
	Park Loop Road					1	LS	$1,140,000	$1,140,000		
	Miscellaneous Park Earthwork					1	LS	$50,000	$50,000		
	Miscellaneous Landscaping at Road					1	LS	$30,000	$30,000		
	Trail System (Shared Use- 8'-10' wide asphalt, 1 mile)					1	LS	$250,000	$250,000		
	Trail System (Shared Use- 8'-10' wide crushed limestone, 1.5 miles)					1	LS	$150,000	$150,000		
	Stream Restoration Project and SWM at South Valley					1	LS	$180,000	$180,000		
	Stream Restoration Project and SWM at North Valley					1	LS	$220,000	$220,000		
	Restoration of streams- remove pipes, recreate stream bed/bank, creation of riffles, runs and pools- native rock, stream bank vegetation, and ped viewpoints and access points. N.Valley pond creation for SWM- wet basin design										
	Utilities (Extension of Underground- Sanitary, Water, Gas, Electric, Telephone, and Wi-Fi)					1	LS	$250,000	$250,000		
South Valley											$ 9,628,950
	Adventure Play									$585,600	
		Parking Lot (59-Asphalt Cartway w/Gravel Parking Spaces)				1	LS	$130,000	$130,000		
		Sidewalk				1	LS	$50,000	$50,000		
		Fence and Gates (4' Ht Chain-Linked, PVC coated)				1	LS	$80,000	$80,000		
		Grading and Drainage				1	LS	$60,000	$60,000		
		Shade Trees				20	EA	$600	$12,000		
		Shade Pavilions (20'x20' Steel Roof and Conc Base)				2	EA	$25,000	$50,000		
		Restroom (Male-Female, Prefab Unit w/Steel Roof to Match Pavilions)				1	EA	$45,000	$45,000		
		Seats/Benches				6	EA	$600	$3,600		
		Water Fountain				1	LS	$5,000	$5,000		
		Play Apparatuses				1	LS	$150,000	$150,000		
			Tire Volcano								
			Climbing Mound								
			Climbing Nets								
			Swinging Bridge								
			Zip Line								
			Fort Building Area								

			Agility Ropes Course/Slack Line								
			Swings								
			Climbing Wall, Balance Beam								
	Dog Park									$492,400	
		Parking Lot (59-Asphalt Cartway w/Gravel Parking Spaces)				1	LS	$130,000	$130,000		
		Sidewalk				1	LS	$20,000	$20,000		
		Fence and Gates (4' Ht Chain-Linked, PVC coated)				1	LS	$130,000	$130,000		
		Grading and Drainage				1	LS	$20,000	$20,000		
		Shade Trees				25	EA	$600	$15,000		
		Shade Pavilions (20'x20' Steel Roof...)				4	EA	$25,000	$100,000		
		Seats/Benches				4	EA	$600	$2,400		
		Water Fountain				1	LS	$5,000	$5,000		
		Play Apparatuses				1	LS	$70,000	$70,000		
			Ramps								
			Balance Beams								
			Climb and Sit Structure								
			Jumping Hoops								
			Tire Tunnel								
			Hanging Ball								
			Pipe Tunnel								
			Path Through Existing Woods								
	Picnic Area and Play Ground									$335,600	
		Parking Lot (15-Asphalt Cartway w/Gravel Parking Spaces)				1	LS	$50,000	$50,000		
		Sidewalk, Ramps, Landings, Steps				1	LS	$30,000	$30,000		
		Grading and Drainage				1	LS	$20,000	$20,000		
		Shade Trees				5	EA	$600	$3,000		
		Restroom (Male-Female, Prefab Unit...)				1	EA	$45,000	$45,000		
		Picnic Pavilions (20'x40' Steel Roof, Stone Columns, Conc. Base, and				3	EA	$40,000	$120,000		
		Water and Grill)									
		Picnic Tables				12	EA	$800	$9,600		
		Water Fountain				3	EA	$5,000	$15,000		
		Tot-Lot Play Equipment				1	LS	$8,000	$8,000		
		Safe Surface, Resilient Rubber				1	LS	$10,000	$10,000		
		Play Ground Equipment				1	LS	$15,000	$15,000		
		Safe Surface, Resilient Rubber				1	LS	$10,000	$10,000		
	Aquatic Facility (10 ac site)									$8,215,350	
		Site grading, Utilities				1	LS	$750,000	$750,000		
		200 car parking lot and cartways, all asphalt				1	LS	$450,000	$450,000		
	Outdoor pool, lap lanes, zero (beach) entry pool, slides and slide pool, rental pavilions, bath house, admin, rental space, concession, parking, outdoor play area. And, a separate outdoor spray park, pavilion, sidewalks to connect to the aquatic facility and to the park.										
		Main Tot Pool			3,120 SF WSA	1	LS	$ 780,000	$ 780,000		
		Lap Pool			1,900 SF WSA	1	LS	$ 475,000	$ 475,000		

		Leisure /Waterslide Pool	3,300 SF WSA	1	LS	$ 858,000	$ 858,000		
		Total Water Surface Area	8,250 SF						
		Waterslides	Large Dual Flume	2	EA	$ 382,000	$ 764,000		
		Climbing walls		2	EA	$ 25,000	$ 50,000		
		Tumble-Bucket Water Feature	Vortex	1	EA	$ 150,000	$ 150,000		
		Pool Decks		1	LS				
		Umbrella sun screens		5	EA	$ 15,000	$ 75,000		
		Picnic Pavilions (20x40 Steel Roof, Stone...)		1	EA	$40,000	$ 40,000		
		Picnic Tables		12	EA	$800	$ 9,600		
		Seats/Benches		20	EA	$600	$ 12,000		
		Water Fountains		3	EA	$5,000	$ 15,000		
		Shade Trees		10	EA	$600	$ 6,000		
		6 Lane Competition Pool	1,475 SF WSA	1	LS	$ 368,750		Optional	$ 368,750
		8 Lane Competition Pool	2,600 SF WSA	1	LS	$ 650,000		Optional	$ 650,000
		Water Playground					$ 1,272,000		
		Water Playground Prep.	1	LS	$ 50,000	$ 50,000			
		Water Playground	1	LS	$ 1,017,000	$ 1,017,000			
		Picnic Pavilions (20x40 Steel Roof,	1	EA	$ 40,000	$ 40,000			
		Restroom (Male and Female, Pre-	1	EA	$ 45,000	$ 45,000			
		Equipment Room (Under Slab)	1	EA	$ 120,000	$ 120,000			
		Bathhouse Pavilion					$ 2,271,250		
		General Construction	5,750 SF	SF	$ 220	$ 1,265,000			
		HVAC Construction	5,750 SF	SF	$ 25	$ 143,750			
		Plumbing Construction	5,750 SF	SF	$ 100	$ 575,000			
		Electrical Construction	5,750 SF	SF	$ 50	$ 287,500			
		Concession Pavilion					$ 132,500		
		General Construction	250	SF	$ 220	$ 55,000			
		HVAC Construction	250	SF	$ 125	$ 31,250			
		Plumbing Construction	250	SF	$ 100	$ 25,000			
		Electrical Construction	250	SF	$ 85	$ 21,250			
		Multi-purpose/party Room					$ 105,000		
		General Construction	250	SF	$ 220	$ 55,000			
		HVAC Construction	250	SF	$ 75	$ 18,750			
		Plumbing Construction	250	SF	$ 75	$ 18,750			
		Electrical Construction	250	SF	$ 50	$ 12,500			
Ridge Top									$7,257,600
	The Great Lawn							$1,135,200	
		Parking Lot (100-Asphalt Cartway w/Gravel Parking Spaces)		1	LS	$230,000	$230,000		

		Viewing Decks (Recycled PVC material simulated wood)				2	EA	$50,000	$100,000	
		Viewing Lounges (Cedar and Steel)				16	EA	$5,000	$80,000	
		Terminus Features (Tall Pavilions, Towers, or Artwork)				2	EA	$45,000	$90,000	
		Utilities				1	LS	$25,000	$25,000	
		Sidewalks and Steps				1	LS	$100,000	$100,000	
		Walking Trail at Lawn				1	LS	$90,000	$90,000	
		Grading and Drainage				1	LS	$30,000	$30,000	
		Shade Trees				12	EA	$600	$7,200	
		Restroom (Male-Female, Prefab Unit...)				1	EA	$45,000	$45,000	
		Picnic Pavilions (20x40 Steel Roof, Stone...)				5	EA	$40,000	$200,000	
		Picnic Tables				20	EA	$800	$16,000	
		Seats/Benches				15	EA	$600	$9,000	
		Water Fountains				3	EA	$5,000	$15,000	
		Tot-Lot Play Equipment				1	EA	$8,000	$8,000	
		Safe Surface, Resilient Rubber				1	EA	$10,000	$10,000	
		Play Ground Equipment, Medium Size Unit				2	EA	$25,000	$50,000	
		Safe Surface, Resilient Rubber				2	EA	$15,000	$30,000	
	Picnic Lodge									$1,576,200
		Parking Lot (84-All Asphalt Surfacing)				1	LS	$180,000	$180,000	
		2- Story Picnic Lodge				12,000	GSF	$100	$1,200,000	
		Indoor meeting rooms, enclosed picnic spaces, kitchen, restrooms, admin office, storage, outdoor decks and patios with big views								
		Utilities				1	LS	$40,000	$40,000	
		Sidewalk				1	LS	$75,000	$75,000	
		Grading and Drainage				1	LS	$50,000	$50,000	
		Shade Trees				12	EA	$600	$7,200	
		Picnic Tables				10	EA	$800	$8,000	
		Seats/Benches				5	EA	$600	$3,000	
		Water Fountain				1	EA	$5,000	$5,000	
		Overlook Patio and Seatwall				1	LS	$8,000	$8,000	
	Court Games									$4,103,200
		Indoor Tennis Building (6-Courts)				1	LS	$2,420,000	$2,420,000	
		Reception, Restrooms, Concession, Storage 6-Indoor Courts								
		Parking Lot (124-All Asphalt Surfacing) and Driveway				1	LS	$250,000	$250,000	
		Utilities				1	LS	$80,000	$80,000	
		Sidewalks and Plazas				1	LS	$190,000	$190,000	
		Grading and Drainage				1	LS	$80,000	$80,000	
		Shade Trees				12	EA	$600	$7,200	
		Restroom (Male-Female, Prefab Unit...)				1	EA	$45,000	$45,000	
		Shade Pavilions (20'x20' Steel Roof...)				3	EA	$25,000	$75,000	
		Warming Hut- match Shade Pavilion with temporary walls & heater unit				2	EA	$35,000	$70,000	
		Picnic Tables				6	EA	$800	$4,800	

		Seats/Benches			12	EA	$600	$7,200		
		Water Fountains			3	EA	$5,000	$15,000		
		Basketball Court			1	EA	$45,000	$45,000		
		Volleyball, Sand Court			1	EA	$5,000	$5,000		
		Dek Hockey Court			1	EA	$50,000	$50,000		
		Outdoor Tennis Courts			5	EA	$35,000	$175,000		
		Retaining Wall at Courts			1	LS	$264,000	$264,000		
		Pickleball Courts			4	EA	$30,000	$120,000		
		Platform Tennis Courts (timber structure)			6	EA	$15,000	$90,000		
		Deck Access to Platform Tennis Courts (timber structure)			1	LS	$80,000	$80,000		
		Bocce Courts			3	EA	$10,000	$30,000		
	Park Maintenance Garage and Office								$443,000	
		Renovation of 'Golf Starter Office'- for Park use			1	LS	$40,000	$40,000		
		Addition to Garage (Large Doors 1-12x14)			6,000	GSF	$40	$240,000		
		Parking Lot and Drive Renovations			1	LS	$50,000	$50,000		
		Material Storage Bins			6	EA	$5,000	$30,000		
		Screen Fencing			1	LS	$18,000	$18,000		
		Utility Renovations			1	LS	$20,000	$20,000		
		Sidewalk and Steps			1	LS	$25,000	$25,000		
		Grading and Drainage			1	LS	$20,000	$20,000		
North Valley										$1,726,300
	Driveway to Nature Center								$295,000	
		Driveway to Nature Center			1	LS	$200,000	$200,000		
		Miscellaneous Earthwork			1	LS	$50,000	$50,000		
		Miscellaneous Landscaping			1	LS	$25,000	$25,000		
		Forest Restoration at Valley			1	LS	$20,000	$20,000		
	Nature Center								$620,000	
		Nature Center Building			2,500	GSF	$100	$250,000		
		Meeting Room, Reception and Office, Storage, Restroom, Utilities								
		Parking Lot (112-Asphalt Cartway w/Gravel Parking Spaces)			1	LS	$230,000	$230,000		
		Sidewalks			1	LS	$75,000	$75,000		
		Utilities			1	LS	$30,000	$30,000		
		Grading and Drainage			1	LS	$25,000	$25,000		
		Lawn Space/Toddler Nature Play Area			1	LS	$10,000	$10,000		
	Picnic Area								$274,500	
		Shade Trees			30	EA	$600	$18,000		
		Restroom (Male-Female, Prefab Unit...)			1	EA	$45,000	$45,000		
		Picnic Pavilions (20'x40' Steel Roof, Stone...)			4	EA	$40,000	$160,000		
		Picnic Tables			20	EA	$800	$16,000		
		Seats/Benches			8	EA	$600	$4,800		

		Water Fountains				1	EA	$5,000	$5,000		
		Sidewalks				1	LS	$20,700	$20,700		
		Meadow Maze				1	LS	$5,000	$5,000		
	Winter Pavilion					1	EA	$120,000		$120,000	
		Winter Picnic Pavilion (40'x40' Steel Roof, Stone Column, Conc. Base, Water and Grill. And, with Fire Place, Restroom and Patio)									
	Bike Agility Course					1	LS	$50,000		$50,000	
	Trailhead (for Arrowhead Trail)					1	LS	$15,000		$15,000	
	Mountain Bike Trails (1.75 miles)					1	LS	$20,000		$20,000	
	Nature Play									$331,800	
		ADA Sidewalks and Trails in Play Area				1	LS	$90,000	$90,000		
		Grading and Drainage				1	LS	$15,000	$15,000		
		Shade Trees				20	EA	$600	$12,000		
		Seats/Benches				8	EA	$600	$4,800		
		Water Fountain				2	LS	$5,000	$10,000		
		Play Apparatuses				1	LS	$200,000	$200,000		
			Boulder Mound								
			Rock Garden								
			Stepping Stones at Creek								
			Slides built into hillside								
			Arch Bridge or Swinging Bridge								
			Fallen Tree Climber/Maze								
			Mounds, Cargo Nets, and Tunnels								
			Log Balancing Beam								
			Ropes Course in Existing Trees								
			Fort Building Area and Equipment								
			Tree House in Existing Trees								
			ADA Fishing Platform								
			Seating at Pond								
			Outdoor Classroom with Log Seating								
	Subtotal										$21,252,850
15%	Contingency										$3,187,928
8%	Final Design and Engineering										$1,700,228
2%	Permitting										$425,057
8%	Construction Management and Inspection										$1,700,228
											$28,266,291

HIKING & MOUNTAIN BIKE TRAIL SYSTEM 22.5-ACRES

SHARED USE TRAIL

NATURE CENTER 1-ACRES

BIKE PUMP TRACK 0.5-ACRES

P-30

PICNIC AREA

WINTER HUT

NATURE PLAY 4.5-ACRES

POND
- FISHING
- WINTER ICE SKATING

PICNIC / WINTER FEST

PEDESTRIAN BRIDGE

WINTER FEST/ SLEDDING SLOPES

OPEN SPACE
- PICNIC AREAS
- DISC GOLF

OPEN MEADOWS

STREAM RESTORATION

REFORESTATION OF VALLEY

COURT GAMES
- TENNIS
- DEK HOCKEY
- BASKETBALL
- PICKLEBALL
- VOLLEYBALL
- BOCCE

5.5 ACRES

P-15

OPEN SPACE
- PICNIC AREAS
- COMMUNITY DAYS EVENTS
- PLAYGROUNDS -TOT LOTS
- EXERCISE STATIONS
- DISC GOLF
- GAGA BALL

6-ACRES

COMMUNITY CENTER 40,000 GSF @ 2 STORIES

AQUATIC CENTER 25,000 GSF

COURT GAMES 1.5-ACRE

AQUATIC FACILITY
- LEISURE / MUNICIPAL OUTDOOR POOL
- WATER PLAYGROUNDS / OUTDOOR SPRAY PARKS
- SAND VOLLEYBALL
- BOCCE
- BADMINTON
- CLIMBING WALL AT POOL

10-ACRES
10 SF PER EVERY NON SWIMMER (LESS 5' DEEP)
27 SF FOR EVERY SWIMMER (GREATER 5' DEEP)
PARKING-250 SPACES

MAINTAIN WOODED BUFFER

MAINTENANCE 2-ACRES

GARAGE 15,000 SF

PICNIC AREA 2-ACRES

P-60

STORMWATER FACILITY 0.75-ACRE

DOG PARK 2-ACRES
10 PARKING SPOTS PER ACRE
20 USERS

ADVENTURE PLAY/ SKATE PARK 2-ACRES
10 USERS PER 1,500 SF
550 USERS

STREAM RESTORATION

REFORESTATION OF BUFFER

TRAIL UNDERPASS AT ROAD

Center Church Road

High School

Practice Field

Practice Field

Enhanced Meadow

Focal Pond (Retention)

McMurray Road

LINE	BEARING	DISTANCE
L1	N 23°00'00" W	35.27'
L2	N 00°54'00" E	37.02'
L3	N 89°23'05" E	20.00'
L4	S 89°23'05" W	20.00'
L5	S 69°58'20" W	43.73'
L6	S 14°59'20" W	15.00'
L7	S 30°00'40" E	43.33'

CURVE	RADIUS	DELTA	ARC
C1	297.82'	23°14'00"	122.42'
Chrd	N 71°13'00" W	121.55'

SCHOOL DISTRICT PROPOSAL
SCHOOL PROPERTY ACREAGE = 96.3 ACRES
PARK PROPERTY ACREAGE = 92.8 ACRES

TOWNSHIP PROPOSAL
SCHOOL PROPERTY ACREAGE = 95.0 ACRES
PARK PROPERTY ACREAGE = 94.1 ACRES

NORTH

GRAPHIC SCALE
0 75 150 300 600
(IN FEET)
1 inch = 150 ft.

REVISION RECORD

No	Date

Mackin
Consulting Engineers Since 1960
RIDC Park West
117 Industry Drive Pittsburgh, PA 15275
• Pittsburgh, PA (412) 788-0474 • Harrisburg, PA (717) 774-8900
http://www.mackinengineering.com/

PETERS HILLS PARK
EAST McMURRAY ROAD
McMURRAY, PA 15317

OWNER
PETERS TOWNSHIP
610 EAST McMURRAY ROAD
McMURRAY, PA 15317

CONCEPT PLAN

Project Number: 5229
Drawing Scale: 1" = 150'
Date : MAY 2017
Drawn By: MJL

C100

ROLLING HILLS PARK PROGRAM OPPORTUNITIES

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
Adventure Playground	1.5 acres, agility apparatus, climbers, slides, ropes, swings, nets, tunnels, etc	Safety training	Staff	6	One day session $15	$90	Staff time	$90
		Basic Team Building	Instructor	6	8 week session $60	$360	$252	$108
		Timed challenge events	Staff	10	$5	$50	Staff time	$50
Dog Park	2 acres.- small dog area, 2-large dog areas (rotate use), shelter for shade and seating, shade trees, apparatuses for animals, sloped lawns and woods	Dog agility training	Instructor	6	6 week session $130	$780	$546	$234
		Dog shows	Staff	20	$5	$100	Staff time	$100

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
Stream Restoration	Recreate stream bed/bank, creation of riffles, runs and pools- stream bank vegetation, viewpoints	Interpretative & educational programs	Staff	6	$5	$30	Staff Time	$30
Picnic Shelters[1] & Picnic Areas	Close to play spaces, playgrounds, trails and walk	Shelter Rental	Admin. Staff	N/A	Small $40 Large $80	Small $2,000 Large $4,000	Admin. Staff time	$2,000 $4,000
	Gaga Ball Pit	Gaga Ball Instruction	Staff	Part of summer camp program	N/A	N/A	N/A	N/A
		Gaga Ball Tournaments	Staff	20	$5	$100	Staff time	$100
	Corn Hole Toss	Corn hole tournaments	Staff	20	$5	$100	Staff time	$100
Playgrounds	2 – 5 years & 5 – 12 years play structures,	Playground program	Instructor	6	$50	$300	$210	$90
		Playground Pals	Staff	10/week	3 weeks @ $35/week	$1,050	$450	$600
	2-Story structure	Rental facility,	Admin.					

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
Picnic Lodge[2]	with meeting rooms, enclosed picnic spaces, kitchen, toilets, admin office, storage, outdoor decks	Indoor programming area, staging area for various outdoor programs	Staff	N/A	$60/hr.	?	?	?
Great Lawn	2.2 acres Open space with picnicking, 2-viewing decks, and play area	Community Day[3]	Staff & Community Day Committee	3,500	Participants Free Vendors $75 - $150	$4,500	Township $4,500 Fireworks	N/A
		Touch-A-Truck	Staff	1,500	Free	N/A	Staff time	N/A
		Kite Flying Contest	Staff	10	$5	$50	Staff time	$50
		Summer Camps	Staff	10/week	3 weeks @ $55/week	$1,650	$450	$1,200
		Outdoor Fitness activities[4]	Instructor	6	8 week session $50	$300	$210	$90
Passive Areas	Quiet areas – overlooks, decks	Table games	Staff	Depends on type of game	Free	N/A	N/A	N/A
		Story-telling	Library staff	N/A	Free	N/A	N/A	N/A

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
		Themed Crafts	Staff	6	$10	$60	$50	$10
		Photography	Instructor	6	$10	$60	$42	$18
		Painting	Instructor	6	$10	$60	$42	$18
Indoor Tennis[5] Courts	6 courts	Tennis Lessons						
		Pee-Wee	Tennis Pro	4	Varies			
		Beginner	Tennis Pro	4	Varies			
		Intermediate	Tennis Pro	4	Varies			
		Advanced	Tennis Pro	4	Varies			
		Adult Drill Court	Tennis Pro	3	$21 M $32 NM			
		Adult Open Clinics	Tennis Pro	4	$28 M $24 NM			
		USTA Doubles & Singles	Tennis Pro	3	$21 M $32 NM			
		Cardio Tennis	Tennis Pro	3	$17 M $26 NM			
		Other Specialty Programs						
Outdoor Tennis[5] Courts	5 courts	Similar to Indoor programs	Tennis Pro		Some variations			
Pickleball Courts[5]	4 courts	Pickleball lessons	Tennis Pro					
		Pickleball tournaments	Tennis Pro					
Platform Tennis[5] Courts	4 courts	Paddle tennis lessons	Tennis Pro					
		Paddle tennis tournaments	Tennis Pro					
Basketball Court	1 court	Adult Basketball tournaments	Staff	4 teams	$180/team	$720	Staff time	$720

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
Sand Volleyball Court	1 court	Volleyball instruction	Instructor	8	8 week session $60	$480	$336	$144
		Adult Volleyball tournaments	Staff	4 teams	$180/team	$720	Staff time	$720
Bocce Courts	3 bocce	Bocce tournaments	Staff	4 teams	$20/team	$80	Staff time	$80
Dek Hockey	1 rink	Dek hockey instruction	Instructor	6	8 week session $60	$360	$252	$108
		Dek hockey tournaments	Staff	4 teams	$80/team	$320	$120	$200
Spray Park	Multiple water features	Use as part of summer programs	Staff	Part of summer camp	Free	N/A	N/A	N/A
Swimming Pool	10 acres Outdoor pool, lap lanes, zero entry pool, slides, slide pool, rental pavilions, bath house, admin, rental space, concession, outdoor play area.							
		Parent & Tot	Certified Instructor(s)	8	$30	$288	$185.80	$102.20
		Swim Lessons Level 1	Certified Instructor(s)	6	$30	$390	$261.80	$128.20.
		Swim Lessons Level 2	Certified Instructor(s)	6	$30	$390	$261.80	$128.20.
		Swim Lessons Level 3	Certified Instructor(s)	6	$30	$390	$261.80	$128.20.
		Swim Lessons Level 4	Certified Instructor(s)	8	$30	$520	$303.80	$216.20
		Swim Lessons Level 5	Certified Instructor(s)	8	$30	$520	$303.80	$216.20

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
		Swim Lessons Level 6	Certified Instructor(s)	8	$30	$520	$303.80	$216.20
		Water aerobics	Certified Instructor(s)	15	$60	$900	$844	$56.90
		Water basketball (pick-up game)	Staff	12	$3	$36	$1500	($658)
		Water volleyball (pick-up game)	Staff	14	$3	$42	$700	($1,464)
		Dive-in movies	Staff	N/A	Membership or drop in fee			
		Evening events	Staff					
		Doggie swim	Staff	?	Free	N/A	N/A	N/A
Sledding Slope	Winter activity area	Winter Fest	Staff	-	Fundraiser	-	Staff time	-
		Snow sculpturing contest	Staff	5	$5	$25	Staff time	$25
		Snow shoe demonstrations		Part of Winter Fest				
		Sleigh/carriage rides		Part of Winter Fest				
Warming Hut	Shelter with fireplace	Rentals Winter picnics						
		Bonfires with entertainment & food		Part of Winter fest				
Nature Center	Building, lawn area,	Nature Education[6] Trees, shrubs, vines, invasive species, mammals, insects, birds, soils,	Staff or Instructor	3 programs per year @ 6 Participants		$90	Staff Time or	$90 or

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
	garden space	rocks, aquatic life, astronomy, etc.		Per program	$5/ each program attended		$63	$27
		Hikes[7] – Starlight, Sensory Bio-diversity, Macroinvertebrate, Fungi, Fall foliage, Mast crop, Water ecology & sustainability, Winter hikes	Staff or Instructor	3 programs per year @ 6 Participants per program	$5/ each program attended	$90	Staff time or $63	$90 or $27
		Nature crafts	Staff	6	$5	$30	Staff time	$30
		Orienteering	Instructor	6	$5	$30	$21	$9
		Geocaching			Free			
		Archery instruction	Instructor	6	8 week session $50	$300	$210	$90
Nature Play Area	2 A natural play	Playground program	Instructor	6	$50	$300	$210	$90
Bike Agility Course	Multiple challenging features	Bike agility instruction	Instructor	6	6 Week session $130	$780	$546	$234
		Times races	Staff	20	$5	$100	Staff time	$100
Mt. Bike Trails	1.7 miles single bike track	Timed races	Staff & timer	15	$25	$375	Staff time & $150	$225
Shared Use Trails	2.4 miles, 8 – 10’ wide, Asphalt or	Volkssports			Free			

Facility	Description	Programs	Administered By	Minimum Number Participants	Participant Fee	Gross Revenue	Expenses	Net Revenue
	crushed limestone							
		5K Race Cross-country	School Cross Country Team	-	Free	-	-	-
Sidewalk/Walking Path	1.5 miles, 5 – 6' wide concrete	Walking programs	Staff	6	$5	$30	Staff time	$30
Bike Lane	Along park loop	Bike inspection & instruction	Staff, police, or instructor		Free		Staff time	
Stream Restoration	Creation of pond, riffles, runs, pools, stream bank vegetation, view	Interpretative & educational programs	Staff	6	$5	$30	Staff time	$30
Reforested Valley & Woodland	Meadow and woodland	Interpretative & educational programs	Staff	6	$5	$30	Staff time	$30
TOTAL						**$24,526**	**$13,523.60 or $13,649.60**	**$11,003.30 or $10,877.30**

SUPERSCRIPT NOTES:

1. Based on 50 rentals per year for one small shelter and one large shelter.
2. Various indoor programs could be offered inside this building creating additional revenue.
3. This program is offered through the Community Day Committee with proceeds from sponsorships, vendor fees, etc. going into a separate fund.
4. Information shown is based on one program, however, numerous outdoor fitness programs could be offered, such as, boot camp,

Tai chi, pilates, yoga, etc.

5. All court programs would continue as currently offered with expansion in areas needed.

6 & 7. At least three of each of these programs could be offered each year.

COMMENTS:

1. All programs are based on a minimum number of participants required to conduct the program. If the minimum number of participants doesn't register, the program is dropped. A greater number of participants will increase revenues.
2. Generally anywhere from 70% to 95% of the programs have enough participants registered.
3. When instructors are used for a program they get 70% of the program fee collected and the Township gets 30%.
4. Total expenses and revenues vary based on staff time or use of instructor for nature education and hiking programs.
5. The Township receives court fees for court rental and private lessons by the Pros. For all other tennis programming the Township gets 40% and the Pros get 60%. Therefore, additional unknown revenues will be generated through the racket sports.

COMMENTS for AQUATICS:

1. Class size for swim lessons are based on an instructor-to-participant ratio. Average is 1:6 for levels 1-3 and 1:8 for Levels 4-6.
2. Certified swim instructors are paid by the hour/class. Average swim instructor rate in Pittsburgh, PA is $13.58/hr.
3. Does not include having one or more lifeguards on duty.
4. Generally classes are 45 minutes. A session typically includes 10 lessons (1 X per week for 10 weeks or could be every day for 2 weeks)
5. Only one (1) class/session is indicated. More than one (1) class for any level may be held based on the interest in the class and the space/time available. Profit increases when more than one class is offered for the same age group and/or when classes are strategically scheduled so that it limits the number of pieces of equipment that may be used by individual participants.
6. Estimated a profit margin and included in fee 9aried depending on program. Desired percent of profit should be determined by Municipality.
7. Average pay for Water Fitness Instructor is $19.31/hr.
8. Water basketball and water volleyball are shown as pick-up games. Fees are for 1 1hour time slot.
9. Lifeguard not included in expenses for water volleyball or water basketball
10. All fees for supplies includes purchase of necessary equipment to conduct program and is included in the activity fee. If classes are not all offered at the same time equipment may be shared. (This will increase the profits.
11. Due to the initial cost of equipment for water volleyball and water basketball it will take several sessions of each (water volleyball – 17 and water basketball 42) before the breakeven point is reached. (These are great items that can be "gifted" by a donor.) This is

based on the initial purchase of good quality equipment. Based on level of care and maintenance, basic equipment (nets & poles) should only need to purchase once every several years. The balls will need to be purchased more often (once again, based on the level care).

Rolling Hills Park Master Development and Site Plan

MAINTENANCE & OPERATION

Maintenance of the park is essential to provide safe, usable, and aesthetically pleasing facilities for the residents and visitors to enjoy. Providing an efficient and effective maintenance program enables the community to enhance recreation amenities, reduce liability, improve life expectancy of facilities, save money, create an attractive park atmosphere, and foster environmental stewardship.

Peters Township has a park maintenance staff, which is the division of the public works department that is charged with the responsibility of maintaining all aspects of the parks in Peters Township. This division consists of six full time staff and five summer employees. At this point the current staff is stretched to their limit in trying to maintain the parks at the high standards demanded by the community. With the purchase of Rolling Hills Park additional maintenance responsibilities have been added to their work schedule. They are currently able to mow the new park site, but not to the standards they would like to achieve. As the park is developed and more facilities are added, consideration needs to be given to hiring more maintenance staff to adequately maintain Rolling Hills Park and the other township parks at the caliber desired by the Township.

It is recommended that two additional full-time staff and three additional summer staff be hired as the park develops. A requirement for new full-time staff is that they must have their commercial driver's license.

Peters Township provides safety training for all park maintenance staff which would include new hires. Additionally, for any new equipment purchases, the sales representative will provide training on the operation of each piece of equipment when it is delivered. Anyone who could potentially operate the new equipment should attend this training. Training new hires is an important risk management tool in maintaining a safe working environment. As part of risk management, it is recommended that two staff work together in case of an accident and to avoid lifting injuries.

The park staff currently has some responsibilities in maintaining Rolling Hills Park. However, as the Township begins developing the park, many other operation and maintenance tasks will be added to their responsibilities.

Following is a list of maintenance responsibilities:

- Mowing
- Leaf blowing/removal
- Trash pickup
- Cleaning of facilities
- Equipment repairs

- Building & facility repairs
- Trail maintenance
- Tree maintenance
- Landscaping
- Stream maintenance
- Park road maintenance
- Drainage issues
- Playground maintenance & inspections
- Park facility & open area safety inspections
- Snow removal
- Safety check & clearing of ice for ice skating on pond
- Program preparation

Although these tasks will not all come immediately, it is imperative that Rolling Hills Park be maintained at the same standards as the other parks in Peters Township. This will ensure that these standards are maintained throughout the development of the park.

It will be essential for the Township to purchase new equipment to enhance the staff's ability to maintain the parks. Housing the equipment indoors at Rolling Hills Park in the maintenance building will be a great advantage for saving time and cost in transporting equipment, and having needed tools and supplies on site. Additionally, the exterior of the maintenance area can be buffered, fenced, and paved for security and ease of operations. The facility is recommended to include material stockpile bins to hold a composting system, stone, wood mulch, and other maintenance and building products.

Following is a list of potential equipment needs for maintaining Rolling Hills Park.

Column1	Column2	Column4	Column5	Column6
Type of Equipment	**Quantity**	**Cost - 1 to 5 years**	**Cost - 5 to 10 years**	**Cost - 10+ years**
Pickup Truck	1	$43,000		
One-ton dump truck	1		$49,000	
Toro Grounds Master 360	1		$32,760	
Accessories for 360 attachments	1		$5,520	
MTC Mechanical Broom for 360	1			$6,035
Dozer Blade for 360	1			$2,920
Toro Pro Force Tow behind leaf blower	1	$7,330		
Progressive five deck finishing mower - 12'	1			$17,150
Lyle fertilizer spreader	1			$4,000
Toro Z - Master Z Mower 72" - Diesel	3	$12,720	$12,720	$12,720
21" Toro Commercial Walk Behind Mower	2		$775	$775
Chain Saw	1		$580	

Trimmers	3	$440	$880	
Backpack blower	1		$460	
Hedge trimmer	1		$300	
Pole chain saw - telescoping	1	$600		
Toro HDX Workman Utility Vehicle - 4WD	1		$25,785	
Miscellaneous shop tools		$600	$400	$400
Miscellaneous yard tools		$880		
Cleaning & maintenance supplies - yearly		$300	$800	$1,500
TOTAL		**$65,870**	**$129,980**	**$45,500**

The time frame for purchasing the various pieces of equipment can be modified based on the development of the park, existing equipment, and replacement schedule for existing equipment. Example pricing for items used Toro equipment since this is a manufacturer currently used for existing equipment. The cost for the equipment is current priced as of January 2018. These prices could increase by 2% to 3% each year. Shop tools would include any type of maintenance tools such as wrenches, screwdrivers, hammers, etc. that would be needed to maintain equipment and facilities. Yard tools would include shovels, rakes, wheel barrows, etc. needed to maintain the grounds. The cost for cleaning supplies increases yearly as facilities are constructed and programmed.

1. Executive Summary – Overview

The development of the Rolling Hills Park provides Peters Township a unique opportunity to create a state of the art aquatic center for its residents. The overall park plan has successfully combined passive, leisure and limited competitive sports activities in an integrated and complete recreational design. Peters Township residents have long expressed a desire for a swimming pool and this proposed facility meets these demands.

The concept for the Aquatic Center and water-based features is focused on family, exercise and leisure activities with the potential for an expanded role as a summer lap or competitive pool to satisfy a very active segment of the community's population. The main pools provide a beach access / family leisure pool with a strong focus on parent-child interaction that is separated from the main exercise and activity functions. The recommended design features a 4-lane exercise pool of NCAA/NFHS length (75'-1") to allow for lap swimming along with an activity pool that features water slides, climbing walls and general swimming areas geared to older children, teens and adults alike. A 6-lane option has also been explored in the event the Township elects to expand the potential for revenue generation from club rentals and more competitive activities.

Ample sun shading and lawn areas have been proposed along with a bathhouse facility featuring private showers and dressing areas to enhance patron comfort. The bathhouse structure should incorporate ample natural lighting and ventilation to assist in efficient energy use. A picnic pavilion within the pool area has been incorporated in the design along with a concession building featuring a party room for rental and programmed activities. The concern for parent oversight of their children is of paramount importance as is evidenced by the clear sight lines between the pools, pavilions, bathhouse, and water playground.

Another feature of the design is a fully accessible water playground that can be operated as an independent three season attraction. The use of non-standing water, wet activity zones has gained in popularity for many municipal facilities. Lower operating costs and more flexible hours of operation provide the park with an attraction that can be utilized during pre- and post-summer seasons, when staffing issues traditionally have been problematic for operators of aquatic facilities, as no lifeguard are required for this type of development. Interactive play, and features that offer kids of all ages the opportunity to "get wet" and have fun is the focus of this area. An average of 150 operational days per year is anticipated for the water playground.

Ample parking and easy access from the park entrance and make the outdoor Aquatic Center a strong component of the overall park design. The Aquatic Center has the

potential to become the heart of the Rolling Hills Park for the summer season. The parking field also has the potential of becoming a programming hub for any number of community based activities beyond the summer swimming season. Spring and fall use of the paved areas may enhance the community day fair and other similar activities sponsored by the Township. The Aquatic Center is intended to become a very important part of the overall recreation program for Peters Township.

2. History and Public Demand

Peters Township operates a considerable number of parks and community based facilities throughout the municipality. The recently completed Comprehensive Recreation, Park, and Open Space Plan conducted in 2016 and the Comprehensive Township Plan, Peters 2022, adopted in 2013 have identified a municipal swimming pool as a needed and desired amenity. While two private swim clubs exist in the Township, residents must travel outside the Township to utilize swimming facilities offered by surrounding townships or other private operators.

The Township's Community Recreation Center does not offer aquatic programming and the public input component of the 2016 Comprehensive Recreation, Park, and Open Space Plan indicated that the community views this as a shortfall of the current programming by the Township. A swimming facility was the most requested recreational facility identified in the 2016 Study through public meetings and a community survey. Specifically, an outdoor pool was the most requested feature, with a year-round indoor swimming facility being the second most requested facility. Key person interviews and internet responses further reinforced the need for a community based Aquatics program.

3. Demographics

With a 2015 population of 22,349 and a projected 2025 population of 25,289 residents, a municipal pool is clearly needed and warranted. The 2016 Study defines the statistical requirements for a community of the size and makeup of Peters Township. The proposed Rolling Hills Park design will satisfy this concern and provides adequate water surface area and other water related features.

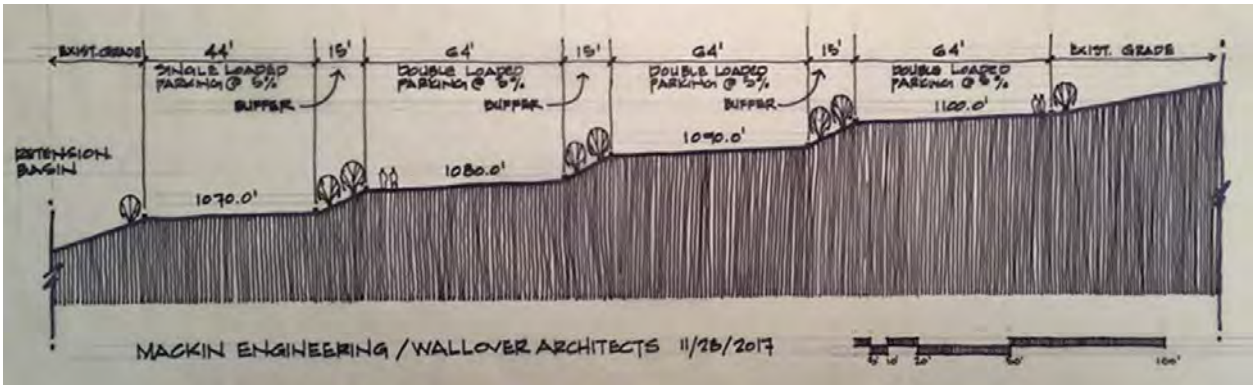
The National Recreation and Park Association (NRPA) and the American Planning Association (APA) provide guidelines for sizing swimming pools for community usage. The pool as presented in the Rolling Hills Park design, is sized at an occupancy of approximately 800 patrons (816 actual count based on conceptual design). When following the NRPA guideline (3% of a given population using a community pool at any given time), the recommended occupancy for the community with be approximately 760 patrons based on 3% of the projected 2025 population. The presented design only slightly exceeds this recommendation and is well within industry standards for a "right-sized" community pool.

4. Site location

The topography of the site was well suited to its original use; a golf course. The series of ridges and slopes produced a course of varying topography and challenges for the golf enthusiast but is not necessarily appropriate for the design of a large-scale aquatic facility. By carefully reviewing the site and the original Rolling Hills Country Club functions, the site of the original tennis facility to the east of the main power line, (which bisects the property), was chosen for the aquatic facility. The south facing slope (more sun and a warmer micro-climate), the proximity to the park entrance and East McMurray Road, and the gently sloping 'land bowl' combined to make this location an ideal site for the new Aquatic Center.

Locating the pool at the former tennis court pad provides for a north/south orientation, adequate space for support structures and a bathhouse, and incorporates a functional daylight basement to accommodate the required filtration and mechanical equipment. By choosing this area, extensive regrading for the pools and bathhouse was avoided making this location a more economical solution for the Township. In addition, this area will not compete with any of the park's main views and vistas while being centrally located near the other major Park developments; the new tennis complex and indoor tennis center.

The natural bowl to the east of the proposed pool location produces a gently curved parking lot configuration that follows the slope to create a terraced parking lot directly adjacent to the Aquatic Center. By stepping the standard 64-foot wide parking bays down the site, ample landscaping and screening can be achieved to minimize the visual impact of the parking. The landscape area between terraces can aid in controlling storm water runoff and add shade to the parking lot in the summer season. The green space



PROPOSED SITE CROSS SECTION OF PARKING LOT

between terraces and at the driveway boulevard can provide infiltration to the soils and water table. Infiltration basins, bio-swales and rain gardens can be developed to minimize runoff with an environmental aesthetic. A large storm water management basin is recommended as a wet-pond to manage and control rains; it can incorporate a water spray feature at the aquatic center entrance. The parking lot configuration and

boulevard style driveway entrance provides for two independent exits from the complex to allow for exiting both east and west from the Aquatic Center. Ample stacking on site for peak use days, and the adjacent parking lots on the opposite side of the Park Loop Road will insure that the site can be efficiently ingressed and egressed to and from East McMurray and Center Church Roads.

If the assumption of 4 patrons per vehicle is utilized to size the parking lot the 816 patrons of the pool creates the demand for approximately 200 spaces. The design for the 4-lane lap pool provides 189 parking spaces, including 9 ADA complaint spaces and the solution for the enhanced 6-lane pool increases to 209 spaces with the appropriate number of ADA spaces. It should be noted that 5 short-term parking spaces in the drop-off entry circle are in addition to the stated lot totals increasing the total number of spaces to 194 and 214 respectively.

5. Swimming Pool Sizing and Occupancy

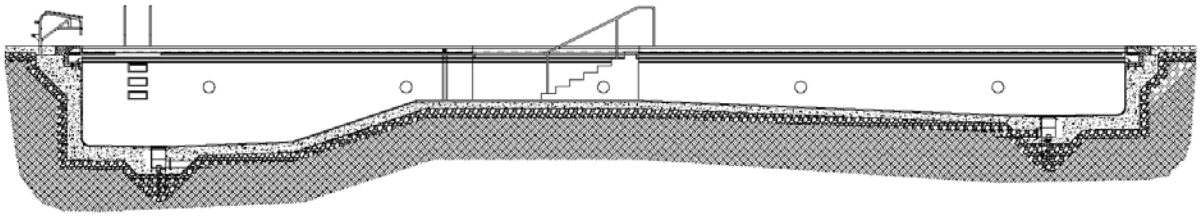
Determining the overall size of pools and water features is not an exact science. The NRPA guidelines are normally the initial starting point in the process of evaluating the size requirements for a municipal aquatic facility. In today's economy, the cost of construction also plays a critical role in sizing pools and support facilities. As the cost per square foot for pool construction has significantly increased, the ability for municipalities to develop large scale aquatic projects has been affected. Finding the middle ground between cost and public wants and needs is the goal for any new development.

The design presented for the Peters Township pools include two bodies of water. The first is a shallow water/beach access, leisure pool filtered and sanitized independently. The second pool features two distinct areas, a lap fitness area and a similarly sized leisure activity pool both treated by a single filtration and sanitation system. The lap/exercise and activity pool will be used by older children, teens, and adults. Incidents requiring pool closure are far less likely in this pool due to the ages of the users. Therefore, the use of a singular filter system is acceptable and warranted to control costs.

The beach assess/leisure pool encompasses 3,120 square feet of water surface area. As the pool is classified as a Class B Pool under the *ANSI-NSPI -1 2003 American National Standard for Public Swimming Pools*, referenced in the IBC Codes governing pool design and construction, the occupancy is based upon 12 SF per patron for all water surface area under 5 feet in depth. The paved deck area is at least equal to the later surfaced area and has been utilized to maintain a reasonable occupancy to avoid unnecessary and costly support facility construction. This pool's occupancy is established at 260 patrons.

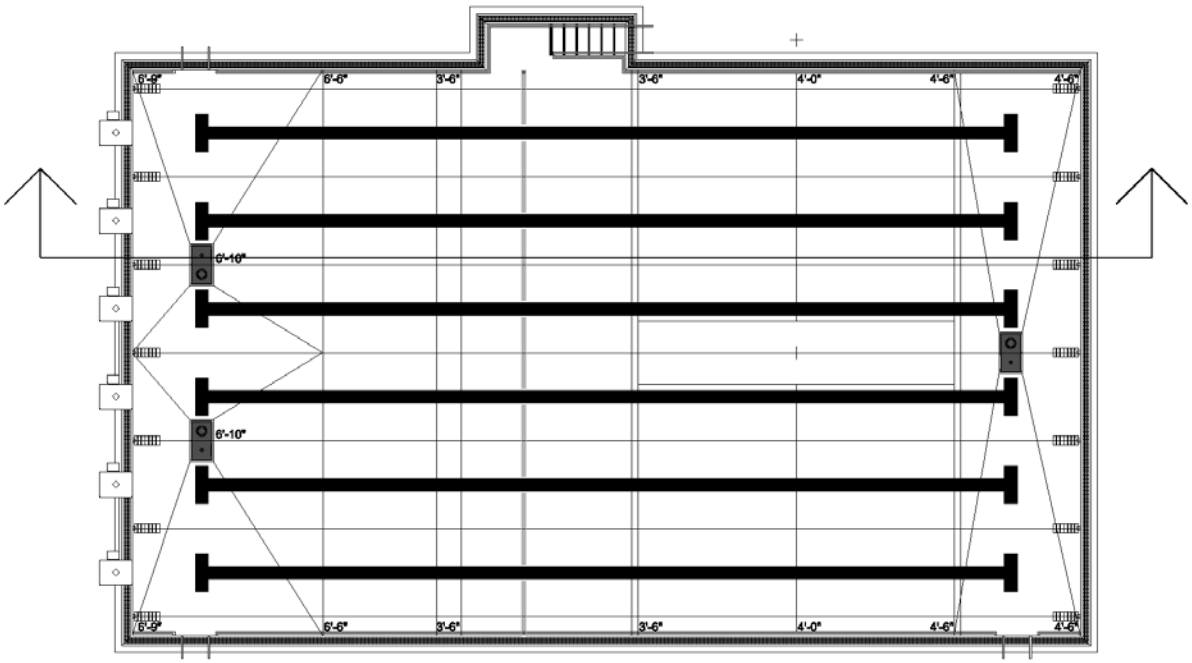
The competition length lap pool area is based upon a 4-lane swimming pool with an overall dimension of 28' x 75'-1" or a water surface area of 2,130 SF, including a walk-in stair. This pool under the design guide lines identified above would have an occupancy of 180 patrons because this pool features a 2-meter deep section to safely

accommodate starting blocks and deep-water exercise programming. This area is calculated at 15 SF per patron of water surface area greater than 5 feet in depth.



CROSS SECTION THRU LAP/COMPETITION POOL

When considering the optional 6 lane pool (3,406 SF WSA), this occupancy increases to 270 patrons. We strongly suggest that this occupancy figure be utilized to size any bathhouse facilities to allow for peak day usage. If this pool is ultimately expanded to the 6-lane competitive pool, this limited area would be classified as a Class A Pool and would be governed by the appropriate National governing bodies for competitive swimming. However, this would not have any impact upon the overall occupancy of the pool.



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LANE POOL OPTION (4 lane similar)

The lap/exercise pool is interconnected to the activity pool by a channel of 136 square feet or 11 additional patrons. The main activity pool, also a Class B pool has a water surface area of approximately 3,300 square feet. The occupancy for this pool is established at 275 patrons.

For the purposes of sizing the bathhouse support facilities, the water surface area is used to calculate the swimming pool occupancy. This method produces an occupancy number that is *not* artificially elevated and thus, does not create a demand for excess showers and other related plumbing fixtures. The occupancy figure established for the Peter Township Aquatic Center is established at the figure of 816 patrons. This translates into 408 female and 408 male patrons for sizing the water closet, lavatory and shower requirements for the bathhouse structure.

When the facility is ultimately designed, this figure will undoubtedly be refined, but for planning purposes this number represents a viable occupancy for the facility. On peak usage periods, this number will fluctuate, but as swimming pool occupancy varies throughout the day, it is highly unlikely that 800 patrons will converge on the building or the exits simultaneously.

6. Swimming Pool Construction Methodologies

Swimming Pool Containment Structures
PNEUMATICALLY PLACED CONCRETE "GUNITE"

One of the most widely utilized construction techniques for swimming pool containment structures is pneumatically placed concrete or "Gunite" construction. This process involves applying concrete under pressure in a highly reinforced excavated form. The concrete can be placed wet ("Shotcrete") or dry mixed with water at the nozzle of the pump ("Gunite"). This method of placement has one major benefit over cast-in-place concrete in that the need for "control joints" is eliminated or minimized (in the case of large surface area pools). The finished concrete shell can be finished with ceramic mosaic tile, a plaster finished or lined with a vinyl membrane. Painting is not a suitable option for this construction technique due to significant changes in the composition of pool paints.

In comparison, the cast-in-place concrete swimming pool has been the forerunner of the Gunite pool. Cast-in-place construction requires the development of extensive formwork, water stops and control joints between each successive concrete "pour". This technique remains a viable option for new pool construction; however, we believe a properly reinforced pneumatically placed concrete pool provides the best value in today's market. Long-term maintenance costs (caulking of control joints, etc.) can be greatly reduced by utilizing pneumatically placed concrete.

PRE-ENGINEERED SWIMMING POOL SYSTEMS

Another option that is gaining momentum in the United States is the "Myrtha" pool technology. While not a new company, (the parent firm has over 50 years of worldwide operation), the Myrtha Pool concept has been offered in the United States for over twenty-five years. In 2004 the Borough of Quakertown, Pennsylvania, completed a $2.8 million-dollar renovation of its municipal pool complex utilizing this technology. More

recently, the Milton Hershey School embarked on a $5 million-dollar aquatic center project to develop a new community pool complex for their institution. And today, the West Jefferson Hills School District is constructing its new High School pool utilizing the Myrtha technology as is the Upper St. Clair School District at the proposed High School pool addition which will bid in early January 2018.

The Myrtha system involves the lamination of a 60 Mil virgin vinyl membrane to high-grade stainless steel sheets. The sheets are then fabricated into wall panels, bolted together, and backed by a stainless steel buttress system that forms the pool walls. A simple concrete ribbon footing is placed prior to panel erection. Upon completion of the wall construction, a reinforced concrete floor slab is placed to form the pool floor. A vinyl lining is placed on the floor and welded to the wall panels to form an impervious one-piece pool liner.

The Myrtha Pool system can incorporate zero depth beach access, interactive water features, competitive venues (a feature for which the Myrtha Pool has a world renowned reputation), and a limitless potential for creativity. Water distribution is provided via overflow rim-flow gutters, standard main drains and wall inlet fittings. High performance recirculation systems are available for competitive venues.

QUAKERTOWN MUNICIPAL POOL: concept rendering and construction image

As the vinyl lining is an inert material, it does not add or seek to obtain any minerals from the pool water or containment structure. This minimizes the complexity of water chemistry balancing, making a pool operator's work far easier. From all indications, this technology is a viable alternative to traditional concrete construction. The product offers a 25-year warranty on the pool containment structure and a 10-year warranty for watertight integrity for the liner with a renewable option for ten additional years provided the liner has not been improperly maintained; compared to a 1-year warranty from the date of Substantial Completion for a concrete containment vessel. For these reasons, the Myrtha Pool technology is system worthy of serious consideration. Based on the results of the survey process, all features desired by the community could easily be accommodated by either type of pool construction. As such, this innovative technology coupled with the

potential time saving during the installation process warrants consideration for the proposed Project.

The potential impact of slightly higher *"first costs"* can be mitigated with creative bidding procedures. Direct purchase of materials (Myrtha pool components and filter equipment) during the bidding period can have a positive effect on the overall bidding picture. By bidding the equipment as a separate and independent element of the bid, labor and installation costs are actively sought from the bidding contractors, while the equipment is "Owner Furnished". This process has resulted in highly positive results as experienced at the Quakertown Borough Pool renovation. This municipality thought "outside of the box" and saved a considerable amount of capital that enabled the community to add more desirable features within the allocated overall budget.

Peters Township Rolling Hills Park - Aquatic Center/Pool Vessel Life-cycle Comparison

Type	Warranty	Useful Lifespan	Required maintenance	Cost of maintenance	Remarks
Reinforced pneumatically-placed concrete pool vessel	1 year from date of substantial completion	Plus 30 years Plus 30 years for tile, grout replacement	Shell minimal, finishes vary*	minimal	Provided adequate reinforcing and proper coverage of the reinforcing steel is provided, the structural shell's life span could reach 50 years.
*Ceramic tile pool finish w/ epoxy grout	10 years from date of substantial completion against tile separation	20 years w/o regrouting	Periodic acid washing, 5-7 years. Scheduled pool cleaning with a creeper vacuum. Sealant replacement at gutter a 7 to 10 year task.	Demo: $5-$7/SF Regrouting: $20-22/SF wall and floor surface. Normally in the 20th year of operation unless water quality decays grout. Sealant replacement: $20/LF ***2017 costs, $175,000 anticipated maintenance costs.***	Balanced water chemistry required to extend useful life. Normal routine observation of grout to confirm that the grout is not degrading. When tile edges are exposed, delamination of the tile from the setting bed can occur. Sealant replacement at gutter typical for all stainless steel gutter systems.
Myrtha Classic Pool	25 years on pool structural components, 10 year for watertight integrity of the vinyl liner	Plus 30 years *(I have personally witnessed a 40 year old Myrtha pool with the original membrane.)* The longevity of the pool has not been established by the Manufacturer as *there are pools with over 50 years of useful service still in use in the European market.*	Scheduled pool cleaning with a creeper vacuum. Manufacture recommended seam and lining inspections provided by manufacturer at scheduled times.	No anticipated replacement costs in the first 25 years of operation.* Normal wear and tear might require minimal gutter grating repair. ***First cost differential between the Myrtha Pool and a ceramic tile finished pool is approximately $80,000.***	Myrtha system recommends an inspection at the 10 year, 15 year, and 20 year milestones. There is no anticipated costs for the Myrtha pool, provided the pool is operated within the standards established at the time of the Project substantial completion. Broken grating and normal wear and tear many times can be repaired with salvage to stock left over from the original construction. *If a floor liner replacement would be needed, the anticipated cost for the liner replacement would be approximately $16 to $18/ SF in 2017 dollars or $72,000 to $81,000. This number, as well as all maintenance number would need to be adjusted to future costs.

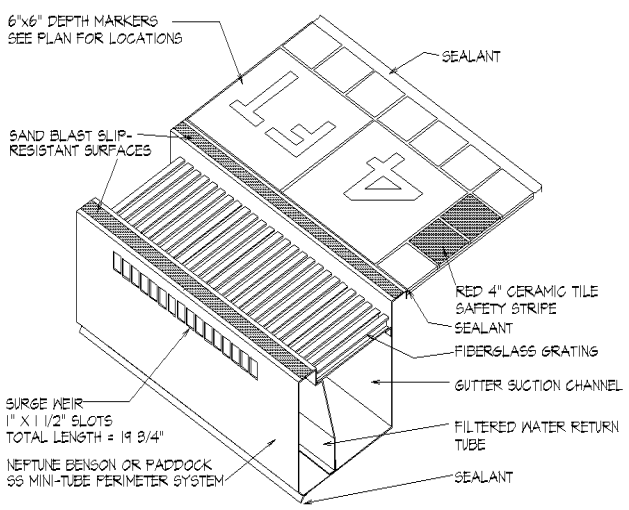
GUTTER AND RECIRCULATION PIPING
Stainless steel Gutter System

One of the most effective technologies to consider for pool construction is a continuous stainless steel perimeter overflow gutter system. A stainless-steel gutter system will provide a *minimum of 25 years* of service. A stainless-steel gutter system will limit regular maintenance in comparison to tile-finished gutter construction. The stainless-steel recirculating gutter system provides for an even distribution of filtered water into the pool and an even skimming of return water back to the filtration/sanitation system.

Skimmer pool designs are not capable of providing uniform skimming during quiescent periods nor are they capable of sustaining any significant surge loads. Skimmer pools greatly increase daily cleaning and long-term maintenance costs as has been witnessed at the current facilities. The new the Model Aquatic Health Code (MAHC) regulations do not recommend skimmers in pools over 30' in width.

STAINLESS STEEL GUTTER Installation and Operational Features

The installation of a single channel, stainless steel recirculating gutter system would have the following benefits for the Rolling Hills Park Aquatic Center's Swimming Pool vessels.



a. Ease of cleaning and general maintenance is greatly enhanced with type of recirculation system. The water line of the pool is in contact with stainless steel, which will minimize a scum ring. Cleaning is easily performed with a 3M Scotch-Brite pad. Continuous grating is required for the gutter. This assembly can reduce the chance of tripping when exiting the pool and assist in keeping debris out of the gutter channel. No loose parts are exposed, which minimizes the potential for vandalism.

b. Constant skimming during quiescent and full load periods is maintained. Integral surge weirs allow the gutter to operate with 80% of the required flow rate in the channel (20% through the main drain) to maintain higher water quality during quiescent periods. In-pool surge capacity is achieved by allowing the main channel within the gutter to handle any sudden surge within the main pool tank, which reduces the potential for flooding the gutter or the filter system. The gutter is sized to accommodate a volume of 1 gallon per square foot of water surface area. In addition, filtered water is returned to the pool at 3' intervals around the perimeter of the pool providing an even distribution of filtered water, thus increasing sanitation.

c. A minimum of two main recirculation lines from the gutter (one main gutter suction line, and one gutter filtered water return line) and one main drain line are required to operate the stainless steel recirculating gutter system. In comparison to a non-recirculating gutter pool, the potential for extensive future deck removal is minimized because of the significant reduction of in-ground piping.

Stainless steel gutter systems can provide highly successful results when coupled with a well-placed "Gunite" containment structure. The only significant limitations relate to the initial length of warranty and long-term finish restoration. These costs must be factored into the determination of system selection. More contractors are experienced with this specific method of construction, but new technologies should not be overlooked as more vendors are becoming aware and certified to install manufacturer specific solutions.

FILTRATION SYSTEMS

High Rate Sand Filtration

New horizontal National Sanitation Foundation (NSF) approved high-rate pressure sand filter plants can produce excellent results without the need for excessive maintenance time. For ease of maintenance and long life, the use of a high-rate pressure sand filter system provides excellent service. Most exposed elements of the filter are PVC construction and require minimal work to maintain. The filter operates at a rate of 12 to 15 GPM/SF (with a maximum of 20 GPM/SF) of filter surface area and produces excellent water quality. This filter type is capable of providing water quality close to that of diatomaceous earth filtration without the problems associated with the disposal of diatomaceous earth.

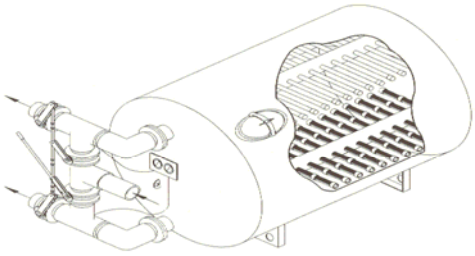
A new trend in high rate sand filtration systems is the use of permanent recycled glass media. This media when properly treated can develop an internal ORP that eliminates the formation of bio-film within the filter vessel. The AFM glass media, while higher in cost than traditional sand media when comparing initial installation expenses, the glass media produces longer filter runs, shorter backwash periods and never required changing. This media operates best in the 10 to 12 GPM/SF flow rate through the media which requires slightly larger filters, but these costs are minor in comparison to the benefits derived by using the glass media.

The beach access activity pool should be sized for no more than a 2-hour turnover, preferably less as the pool will also be utilized by tots and smaller children. It is highly recommended that the filter system selected for the lap/leisure and activity pool should be sized for a maximum filtration rate of two (2) hours as the activity pool dictates the flow rate (at 12 GPM/SF with glass media or 15 GPM/SF for sand media) to insure highest water quality (MAHC recommendations). The filtration rates should be sized according to the programmed function, i.e.; heavy use pools should have the most rapid turnover rate. By cleaning the water at elevated rates, it has been found that chemical consumption can be minimized because aggressive filtration reduces the need to heavily disinfect when bather loads increase.

Water playground filtration rates should be sized for a minimum 30-minute turnover, but a 15-minute turnover rate is not uncommon. Again, the higher the turnover rate the less the sanitation systems are tasked. This is highly recommended as maintaining the water playground's water quality is a demanding task for a large scale facility. Patron safety is the overarching concern for any aquatic facility and maintaining a healthy environment

is enhanced by aggressive filtration rates and the use of primary and secondary sanitation systems in all bodies of water that are subject to bather loads (No# of swimmers).

New commercial *horizontal fiberglass filters* offer an inexpensive alternative to carbon or stainless-steel filter vessels. Positive performance in the market recommends their use as the new horizontal design provides for a far more efficient distribution of filter bed and media within the filter tank. The filters can be easily installed in series, have larger influent and discharge fittings (allowing for slower water velocities within the system), and provide for efficient and simple operation. The cost for these systems is less than the carbon steel or stainless steel high rate sand systems.



1-CELL HORIZONTAL FILTER ISOMETRIC

Pressure Regenerative Filtration

Pressure Diatomaceous Earth (DE) filters have long been a staple of commercial pools. Without question, "DE" filters have a reputation of offering the highest water quality as DE "polishes water" producing crystal clear water with a definable sheen and shimmer. This comes at a cost; labor intensive cleaning, separation (settlement, subsequent transport and land-filling) of the waste DE as sanitary sewer systems will not accept DE as a by-product of the filtration process. Some recent studies, most notably from the University of Michigan, have suggested that DE in its friable form may be carcinogenetic. As such vacuum and pressure DE filters have lost some of the luster that the methodology one maintained.

The pressure filtration process has taken on a new life with the advent of Perlite as the replacement media for this type of filter plant. As a soil lightener, municipal sanitation systems no longer object to media introduction into sanitary systems. The maintenance time saving and improved water quality make this system highly suitable for consideration. Reduced water requirements for backwash significantly limits the amount and frequency of the backwashing process. The following features and functions are key components of this system. Although proprietary, the "Defender" filter, manufactured by Neptune Benson of Coventry, Rhode Island is a product that offers high quality water with minimal waste and consumption of raw water to clean the plant. The Paddock "Regererator" is another comparable and highly successful pressure regenerative filter.

Features:

- Filters down to 4-5 Microns
- Automatic / Programmable filter cleaning cycles

- Flexsol 3000 lined (chlorinated water does not come into contact with the carbon steel vessel construction) The Paddock filter is a stainless steel vessel.
- NSF Listed

Functions:
- Incorporates bump mechanism to extend filter cycles
- Includes vacuum transfer system to ease media handling
- Saves significant volumes of water annually along with chemicals, energy and waste
- Better turbidity removal than sand filters

The major difference between high rate sand and a pressure regenerative filter is the rate of filtration. The high rate sand filter operates at approximately 12-15 GPM/SF of filter area (backwash occurs at a 15 GPM rate of flow) and the pressure regenerative filter operates at around 1.4 GPM/SF. Cleaning is simply "dumping" the contents of the filter tank to the sanitary sewer and rinsing with a single filling and rinsing with a second volume of the tank.

The design of the filter contributes to the space saving feature, which results in requiring one-quarter of the space required for a similar capacity sand filter. In many cases, the filter will replace 2, 3 or even 4 sand filters, which saves installation and rigging time. It is important to identify that the filter is designed to operate with all types of regenerative media. However, it is recommended to use Perlite as opposed to diatomaceous earth. This natural, non-crystalline product offers all the benefits of DE without any of the harmful risks.

Operation and performance

The operation of the systems differs primarily in the manner that backwashing takes place. Instead of reverse flushing a sand filter, the filter actually discharges the used media and requires new media from time to time. The filter cycle of a sand system may range from 10 - 14 days or longer depending on the application, bather load and other design criteria. For a similarly engineered pressure regenerative filter with all criteria being equal, the filter cycle could be 30-60 days or longer.

Filter performance is based on one issue; water quality. The pressure regenerative filter will remove particles down to 4-6 microns as compared to 20-22 microns with a sand filter. This actual sieving process depends on the size of the sand, filter bed depth and filter rate, however, the above guideline is generally accurate. AFM recycled glass media will filter slightly finer than sand with extended filter run times, also producing outstanding quality.

SANITATION SYSTEMS

As more information becomes available regarding chlorination of commercial swimming facilities, alternative sanitizing systems are gaining attention. While the widely utilized Sodium Hypochlorite, NaOCl, (liquid chlorine) is relatively inexpensive at the present time, new regulations regarding the transport and delivery of liquid chlorine may increase its overall cost. With an available free chlorine content of 10% to 16% (12%-13% is the most common form) and a relatively short shelf life, Sodium Hypochlorite remains the most viable option for many municipal and institutional swimming pools based upon cost and ease of delivery. Safety issues when handling liquid chlorine must not be overlooked as improper handling and mixing can cause serious injury under the right circumstances.

Calcium Hypochlorite {Ca (OCl)}, elemental Bromine ($C_4H_4O_2N_2BrCl$) and Bromine/Ozone in combination have become more cost effective for use in municipal and commercial pools. Bromine used independently is far more costly than liquid chlorine or the table form of chlorine. Bromine is half as reactive as chlorine as a sanitizing agent, therefore more product is required to achieve the same level of disinfection potential. However, when combined with ozone, bromine is chemically regenerated, greatly reducing the need for additional bromine. It should be noted that Bromine and Ozone/Bromine systems have not gained a significant following in the commercial pool market place and are not recommended except in unique and specific situations.

Calcium Hypochlorite provides ample chlorine (65% available free chlorine) to act as a sanitizing (oxidizing) agent, however, the carrier element, Calcium, does have the potential to increase the total alkalinity of the pool water over time. This problem can be addressed and should not be viewed as a sufficient reason to disregard erosion feed chlorine systems. The use of Calcium Hypochlorite has the added benefit that it will protect a standard Marcite plaster or enhanced pool finish or ceramic tile grout as the carrier element does not etch or degrade the plaster finish. As noted, balancing the water chemistry does require careful attention to insure that the calcium does not begin to scale or accumulate on pipes or other surfaces in contact with pool water. One major disadvantage of the erosion feed systems is that regular cleaning with an acid solution is required to insure proper operation of the distribution equipment. However, if properly maintained, the system produces an economical and safe sanitation system.

The equipment for this type of system is automatically controlled to simplify general maintenance. Liquid chlorine does produce high quality pool water at the lowest first cost, and when combined with new secondary sanitation technologies available to the Township, the operation of the new Aquatic Center can prove far simpler and cost effective in its daily operation. In some instances, sanitation equipment can be purchased via lease options, which eliminates up-front expenses. This option might enable the Township to take advantage of the more expensive new technologies, if so desired.

If liquid chlorine or other liquid sanitizing or buffering agents are utilized, positive displacement chemical feed pumps must be utilized to inject chemical directly into the

filtered water recirculation line. An automated delivery system should be incorporated to accurately add chemicals to the pool water as needed. Microprocessor controlled units are now highly reliable and a positive addition to the mechanical equipment package. This equipment decreases the use of sanitizing agents due to the controller's ability to introduce an accurate level of the appropriate chemical immediately into the pool water upon sensing a demand from the controller.

Tablet feed sanitation systems normally utilize a venturi feed or positive flow assisted by low volume booster pump systems. The venturi flow system can be readily operated by automatic water chemistry control systems with equal reliability to liquid feed systems. Tablet chlorination is highly subject to the source water chemistry as domestic water with a high alkalinity can minimize the absorption of the calcium carrier element for the chlorine and "clog-up" the chlorine feeder. Maintenance headaches are not uncommon, but if the water chemistry is suitable, the higher available chlorine (65%) of Calcium Hypochlorite can make tablet chlorination a cost-effective sanitizing methodology.

Chlorine Generators are slowly making inroads to the commercial market. Chlorine generators use an electrolytic cell to produce Hypochlorous acid from sodium chloride (salt) present in the water. Chlorine generators are safe to operate, can minimize maintenance, but equipment cost have yet to become affordable in most instances. The chlorine generation systems do not introduce salt water into the swimming pool. Salt water pools are not a viable option for large scale commercial swimming facilities as corrosion of metal and electronic components are common issues and supplemental chlorine systems must be provided as salt systems routinely cannot keep up with the large chlorine demand of a heavily used swimming facility in sunny or windy conditions.

Supplemental Sanitation, Ultra Violet and Hydroxyl-radical Technologies

The accumulation of combined chlorines in pool water is a reoccurring problem with the operation of indoor (and outdoor) swimming facilities. Operators often blame HVAC systems or inadequate ventilation for poor air quality when the real issue is the actual state of the pool water chemistry. Chemical suppliers and pool equipment companies have been attempting to deal with this situation with the use of non-halogen shocking, elevated free chlorine levels and other chemically based treatments. In many cases, adding a different compound into the pool water generally results in more problems associated with maintaining balanced pool water. The adage, "less is more" has never been more accurate. Maintaining the basics of pool chemistry invariably results in better overall conditions for the patrons.

Recent improvements in UV (ultra violet light) technology, both in medium pressure and low-pressure systems, have created a means to significantly reduce combined chlorine compounds and destroy water borne pathogens by subjecting pool water to specific wave lengths of UV light. This exposure breaks down and eliminates chloramines without adding any additional compounds in the water and results in odor free pool environments. If humid, chloramine-laden air condenses on metallic surfaces (ferrous

metals in particular), corrosion always results. Due to this condition, long-term maintenance of a natatorium or pool structures and their associated systems can be significantly reduced if chloramines can be effectively eliminated from the indoor pool environment.

To eliminate any buildup of chloramines and *to remove any non-filterable pathogens*, the addition of a UV contact chamber in the filtered water return line is warranted. The installation is sized, based on flow volume, and detailed as an integral component of the filtration system. There are numerous manufacturers of this type of equipment and the use of this component is being mandated ion many new swimming pool codes including the Model Aquatic Health Code (MAHC) which has yet to be adopted in Pennsylvania.

The added health benefit of removing chloramines is the single most important reason for utilizing the UV system in indoor swimming facilities. Pools with semi-recessed gutters and depressed water surface can trap the "heavier than air" chloramine compounds at the water surface. There is growing evidence that this layer of contaminated air is responsible for the increase in breathing-related complaints in many swimming establishments. While not proven beyond a reasonable doubt, the public impression is that "chlorine" is the problem. As previously noted, it is the combined chlorine compounds that are causing the greatest concern not the base chlorine sanitizing agent. This system should be incorporated within all the pool recirculation systems and water playground recirculation systems. Tot pools and water playgrounds have the greatest opportunity for contamination. It is strongly recommended that UV systems or other approved secondary sanitation systems be included in the proposed Project as a preventative measure that will extend the life of the pool equipment and improve the overall aquatic environment.

The introduction of Hydroxyl-radicals, a highly effective oxidizer can provide compete destruction of water borne pathogens and eliminate chloramine production in commercial swimming pools. The Clear Comfort system is an example of this type of technology. Reduced chlorine usage and improve water clarity are also byproduct of this type of secondary sanitation. While relative new, the MAHC has identified the Clear Comfort system technology as an acceptable system for secondary sanitation and should not be overlooked.

Water Chemistry Testing

The process of testing pool water should follow local DOH testing recommendations. Many states require all testing utilize the Palin or DPD method. This test provides an accurate reading of available free chlorine. It is strongly recommended that OTO (Orthotolidine) test kits not be utilized as this product contains carcinogens and its use is no longer recommended. OTO also reads all chlorine compounds in the pool water and as such, it does not produce a true picture of the water chemistry at any given time.

Testing should be performed at a single location for establishing the daily baseline for the pool chemistry levels, preferably at a flow cell in the swimming pool filter room and at the poolside. As this process may be somewhat difficult for the staff on heavy attendance

days, it is recommended that testing at the filter room be performed on a two-hour cycle while maintaining hourly testing at the poolside. It is further recommended that the pool testing conform to the standards identified in the *Langelier Saturation Index*.

The *Langelier Saturation Index* accounts for five major pool water variables:

1. temperature
2. pH
3. calcium hardness
4. total alkalinity
5. total dissolved solids

A proper kit will enable the pool staff to easily monitor the pool chemistry using this system. This process is important, as a pool in proper balance will eliminate all corrosive or perceptive conditions. Chemical consumption is reduced and filtration runs are greatly improved. This process should be performed on a weekly basis.

Pool Heating and Recommended Temperature Ranges:

Water Temperature

The recommended water temperatures for the pool components are as follows:

1. Lap Pool: (Competitive use backwashing prior to a meet can lower temperatures)
   Water Temp: 79 deg. F to 82 deg. F.
2. Multi-purpose Activity Pools: (teaching, recreation and therapeutic use)
   Water Temp: 84 deg. F to 86 deg. F
3. Teaching Pool: (Tot and therapeutic rehab)
   Water Temp: 86 deg. F to 88 deg. F desirable to enhance children's experience.

To maximize the swimming season, the use of a natural gas fire pool heating system is recommended. Some municipal facilities have opted to use heat pumps for pool heating, but with the relatively inexpensive gas prices, gas water heating is the most cost-effective means to elevate pool water temperatures to allow for earlier use of the pool in the spring and to potentially extend the useful season beyond the traditional Labor Day closing.

POOL DECK EQUIPMENT

All access ladders and fixtures should be of substantial construction, suitable for use in a chlorinated environment and user friendly. New "state of the art" equipment, including an ADA lift unit suitable for all three pools should be considered. As the perimeter of the beach access pool is less than 300 linear feet, one means of ADA accessibility is required. The beach access pool will have a walk-in (ramp) section with the required handrail configuration. As the space in to the lap pool is limited, an ADA ramp assembly is not a practical solution for that pool. A hydraulically operated lift is the most appropriate means to offer ADA access to that pool. It must be placed on deck at all times and a second separate and distinct means of regress must be furnished. The walk-in stairs with properly spaced handrails will serve as a secondary means of ADA compliance since the Lap area and the activity pool are interconnected via the channel link.

Movable reclaimed plastic life guard chairs are becoming an acceptable alternative to fixed life guard chairs. The ability to move chairs to locations of higher activity and to respond to changing solar glare, provides the staff of outdoor facilities far greater flexibility for oversight of the pools. Since the base material is not a conductive metal, bonding of the chairs is not required. New Bluetooth PA system technology further allow staff to respond to patron use patterns without being locked into fixed locations around the perimeter of the pool(s).

The water slide features do require additional staffing, however the added draw that the slides normally create, can offset expenses by the added revenues that the attraction generates. There is now available software and hardware components to time individual slide riders and to create competition between slides and users. Creating fun activities and added interests for the patrons can help to maintain attendance at desirable levels. As the design unfolds, other opportunities for new features and attractions can be explored. Naming rights and other corporate sponsorships should be fully vetted by the Recreation Department. Tax incentives and marketing opportunities should not be overlooked during the planning stages of the Project.

In addition, PA systems are recommended for normal communication, music, and for oversight at the pool site. Monitoring or directing of therapeutic activities may also be enhanced with the use of a PA system. Some facilities now are utilizing radio frequency operated PA systems, which eliminate the need for excessive underground conduit.

7. Swimming Pool Options

In order for the Township to respond to the demands of its residents, a series pool options were developed for comment and review. Initially three distinct solutions of varying scale were presented to provide a variety of activities ranging from teaching, leisure swimming, and active lap/exercise swimming to general water activities including water slides, climbing walls, lazy rivers and adult oriented leisure bubbler benches and other new tends in aquatic facilities design. The initial direction from the Township Administration requested a facility without a competitive component to be consistent with the overall goal of the park to be focused on leisure activities. At the public open house, a strong undercurrent from families requesting a competitive pool was noted. This sentiment was addressed in the final design option.

Option No. 1: A small scale facility that featured teaching and exercise in a small indoor pool along with a single outdoor leisure pool was the first option presented. This option included a state of the art water playground.

Option No. 2: A medium sized complex featuring two distinct pools and a similarly scaled water playground was presented as the second option. This ultimately became the basis for the final design presentation.

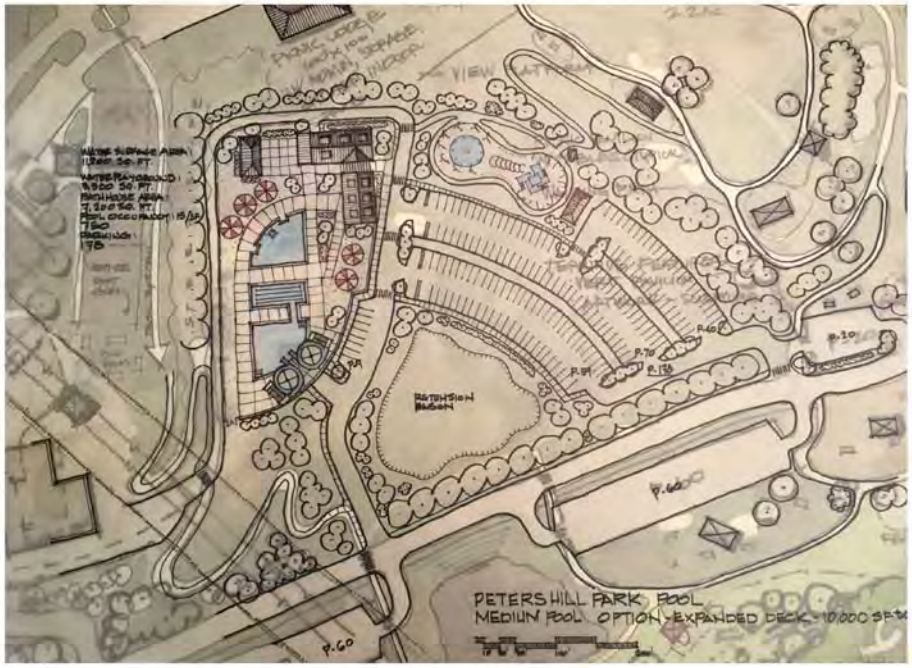
Option No. 3: A third, and much larger, option that would be classified as a regional draw was also presented. This option would provide the Township the ability to market for

patrons beyond the Township's borders but the added size carried a far more aggressive budget that ultimately proved to be beyond the ability of the Township to fund when considering other critical elements of the Rolling Hills Park. The model for this concept was based upon the large scale aquatic facility developed by Cranberry Township, just north of Pittsburgh.

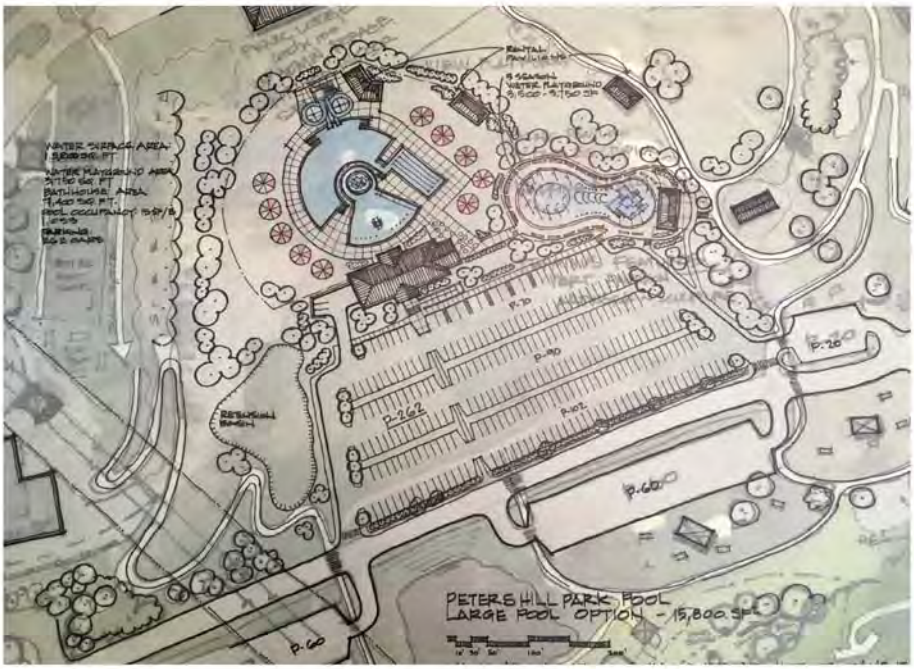
As can be seen in the order of magnitude estimates of probable construction costs, large water surface area pools come at great cost to a municipality. The impact of Prevailing Wages combined with upward inflationary trends play a profound role in establishing the overall scope of a new project. 28% to 32% increases in project costs due to State defined wage rates over private sector work are not uncommon, and as is the case in Peters Township, this Project will be bound to the prevailing wages in effect at the time the Project is ultimately bid. The study's estimating takes this factor into account and was also a major concern when suggesting the overall size and complexity of the final design.

OPTION NO. 1
Small Pool Option

OPTION NO. 2
Medium Pool Option



OPTION NO. 3
Large Pool Option



The three distinct options present very different programming opportunities with the small scale complex offering the least comprehensive outdoor programming potential. However, the small teaching and exercise pool did create the potential for a year-round programming for children, exercise for all segments of the population with a focus on the elderly. Outdoor lap swimming was not an offered program for this concept.

RECOMMENDED DESIGN SOLUTION

The final design option was based upon the comments received during the Open House presentation from Township residents, and from the Township Administration, the Department of Parks and Recreation and their related staff members. The medium sized option provides for two separate and distinct bodies of water which based upon the user profiles minimizes the impact of accidental contamination and the need to impact the entire facility in the event of an untimely event. Sun screening and in-pool seating features will encourage parent-child interaction in the shallow water activity pool and the focused use of a signature water feature, a themed tumble bucket, will create a timed activity that will constantly provide a draw for kids of all ages to enjoy.

A second body of water incorporating a 4 lane lap/exercise pool (or a 6 lane competition pool if the Township elects to expand the program) and an attached activity pool featuring a dual racing water slide, climbing walls and other related water activities completes the water components of the pool complex. The focus of the design is to provide sufficient water surface to encourage swimming by patrons of all ages and to incorporate activities that will maintain a fresh and enjoyable experience for many year to come. Diving was not an activity that received a high priority and as such was not included in the design. It should be noted if the 4 lane lap pool is omitted for the 6 lane competition pool, it could easily be converted to a NFHS or NCAA profiled diving pool as the deep end would be oriented facing east or north which is an acceptable orientation

for diving boards. The pools can be developed utilizing any of the construction options discussed earlier in this analysis.

The bathhouse building should feature unimpeded circulation to encourage active use of the building by all patrons. Ample individual showers and dressing areas should provide proper privacy for the patrons using the showers and dressing areas. Full showering prior to swimming is now being revisited by municipalities and swimming pool operators as the reduction in use of sanitizing agents have been clearly demonstrated; resulting in better water quality and lower operating costs. Family changing rooms will also be a feature of the bathhouse design.

The location of the bathhouse acts as a gatehouse to the aquatic center, and provides facility control, security, and convenience of use. If a mother with children can easily access the complex, and amenities are provided that make the experience positive, the Township will be the beneficiary of a well-used and active aquatic facility.

A dedicated concession/party room along with a rental pavilion structure adjacent the shallow water activity pool is proposed to provide the Township with the opportunity to program activities and to develop an active rental program for birthday and family gatherings. A well-run food service component is critical to the success of any aquatic facility. Again, making the patron experience enjoyable and simple is the ultimate goal. And if properly designed, managed, staffed and an appropriate food selection is offered, food service can be a profitable component of a successful aquatic facility.

4 LANE EXERCISE POOL OPTION

FEATURE LEGEND:

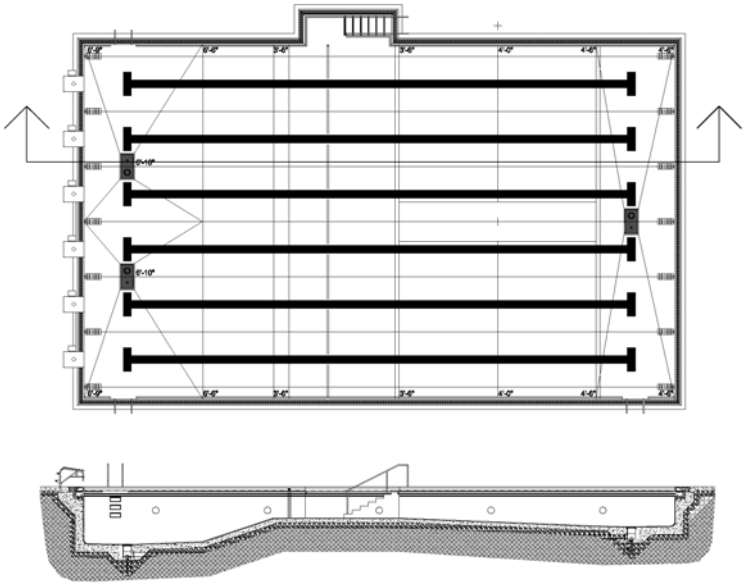
A: MAIN BUILDING
B: CONCESSIONS
C: RECREATION POOL OPEN SHADE STRUCTURE
D: RECREATION POOL WITH WATER BUCKET
E: COMPETITION POOL - 4 LANES
F: WATER SLIDE AND CLIMBING WALL POOL
G: SPRAY PAD
H: SPRAY PAD BATH HOUSE
I: FILTER ROOM

6 LANE EXERCISE POOL OPTION

FEATURE LEGEND:

A:	MAIN BUILDING	F:	WATER SLIDE AND CLIMBING WALL POOL
B:	CONCESSIONS	G:	SPRAY PAD
C:	RECREATION POOL OPEN SHADE STRUCTURE	H:	SPRAY PAD BATH HOUSE
D:	RECREATION POOL WITH WATER BUCKET	I:	FILTER ROOM
E:	COMPETITION POOL - 6 LANES		

CONCEPTUAL 6 LANE COMPETITION POOL w/ MULTIPLE PROGRAMMING DEPTHS (NTS)
"Maximize shallow water teaching and programming area"



CONCEPTUAL POOL CROSS SECTIONS (NTS)
W/ 6' depth at starting block and 4'-6" depth at turning end

8. Bathhouse/Concession Features and Construction

The bathhouse structure is an integral part of any Aquatic Center. Most complaints for municipal aquatic centers focus on poor bathhouse amenities. Lack of privacy, insufficient shower, water closet, and lavatory facilities, insufficient lighting, and damp, humid environments are commonly noted distractions for most end users. Unheated buildings need to be conditioned effectively using natural lighting and ventilation whenever possible. Using sound design practices can produce a bathhouse that is both functional and inviting. A well designed and crafted building will only serve to enhance the overall patron experience.

The buildings must provide clear circulation paths from the entry point to the pool deck and encourage use of the showers prior to swimming. The structure will need to house an administrative office with direct oversight of the pools and decks, a dedicated first aid room, sufficient storage, a staff changing room for each sex, and a staff break room to provide a place for the life guards to break between shifts without interaction with patrons. In addition, janitor's closets for each set of dressing rooms and a mechanical room for the building electrical service and domestic water heating should be included. In the case of the recommended option, the mechanical support space for bathhouse functions can be located with the pool filtration equipment in the daylight basement of the building.

Based upon the established occupancy load, the proposed bathhouse and support facilities would be in the range of 7,025 SF plus a mechanical room totaling 2,875 SF in a basement level. The supporting concessions space and party/multipurpose room area are sized at a combined area of 1,200 SF.

Concessions, if managed and developed carefully can be a significant source of revenue for a municipal aquatic center. When combined with other park functions, the pool's concessions can provide food service for far more than just the swimming patrons. The pathway system that has been developed between the tennis and court sports section of the Park and the aquatic center can serve as a direct link between these two areas of the Park and enhance the income potential of the pool's concessions and ultimately the bottom line of the Township's Recreation based income stream.

In addition to basic concessions, birthday parties and other rental functions such as family reunions, smaller office function, etc., can be actively marketed if a multi-purpose room is provided. This multipurpose room along with the open-air pavilion are potential income generating sources for the Aquatic Center.

Serving hot and cold food items, plus a healthy menu including salads and non-fried foods along with many high profit items; popcorn, snow cones/slushies, corn dogs, fries, fountain soda (pop), and pizza, for example, can be the basis of a highly successful concessions operation. Having service widows that serve both the Pool and Park increase the profitability of the concessions venue. Contracting with a specialty food

truck vendor for special events is also another way to expand the offerings with little or no impact to the construction budget.

The construction of the building should be of sound materials that are not impacted by moisture and cold. Masonry construction with wood or light gauge metal roof framing is a common construction methodology seen in numerous municipal facilities. The Rolling Hills Aquatic Center with its integration with the site could easily be accomplished with conventional masonry construction, precast concrete plank system for the main floor above the filter room and concrete slab on grade for the balance of the building's floor system.

A critical issue for unheated structures not to be overlooked is that foundation depths must be sufficient to avoid frost heave as unheated buildings have no snow insulation effect to reduce the depth of the frost penetration. In some cases, mechanical rooms or basements are heated to 40 degrees (+/-) to minimize the impact of harsh winter temperatures. The final design must not overlook the effects of winter weather on the unheated building.

The Architectural design of any bathhouse building should be carefully considered to reflect the architecture of the region and be scaled appropriately to the overall site. Architecture can have a profound effect upon how an individual relates to and ultimately uses a facility.

9. Water Playground Overview and Location

The water playground has become a positive component of many municipal aquatic facilities. Lower staffing requirements, flexible and additional hours of operation, and a safe and low impact environment for patrons have combined to make water playgrounds highly successful venues. Being able to take advantage of the pre- and post-summer seasons when many days are sufficiently warm to encourage water play but staffing is not readily available, has increased the use of these water-based features.

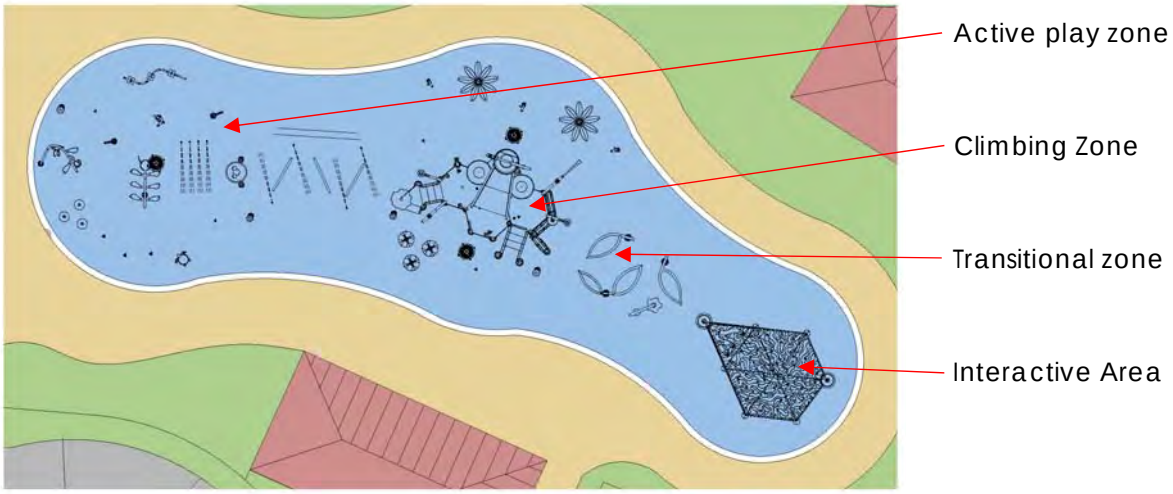
The Rolling Hills Park water playground has been locate to the east of the main entry of the swimming pool complex. The suggested playground is broken down into three zones of activity, a toddler area, a climbing activity zone for older children and an interactive play area where kids can alter the flow of water to learn of its properties and to simply have fun. The water playground design is based upon products from Vortex Aquatic Structures International, Inc., a leader in the field of "Splashpad" designs. Vortex coined this phrase and has a strong working relationship with municipalities throughout the United States, Europe, Asia and the Middle East. The overall quality of the product offered by Vortex and their concern for the efficient and proper operation of the water elements makes them a great potential partner for Peters Township.

The location of the water playground will provide access to all park visitors without having to directly access the swimming pool complex. An open air pavilion with an age appropriate boys and girls ADA compliant restroom is provided adjacent to the wet area.

In addition, a dedicated filter/mechanical room is provided to enable the water playground to stand alone as an independent water element. While the area is fenced, a strong visual corridor is provided from the shallow water activity pool to the playground. The use of arm bands or other devices can identify swimming patrons from park patrons to enable swimmers to access the wet zone of the water playground.

Access to the Splashpad is planned to be unrestricted. Any one visiting the Park can access the attraction and will have access to restroom facilities but dressing areas are planned or scheduled to be provided. Patrons of the swimming pool will be able to access the Splashpad, but not vice versa.

WATER PLAYGROUND CONCEPT LAYOUT



10. Water Playground Components and Operation

Water playgrounds must be filtered and sanitized continually during the operational season. The MAHC recommends that both primary and secondary sanitation be provided. A chlorine based primary sanitizer and either UV or a Hydroxyl radical treatment system should be employed together. The total volume of the water feature flow is used to determine the size of the holding vessel for the source water. A holding tank volume equal to 5 to 6 time the total GPM flow of all combined water features is required to provide a sufficient volume to properly treat and maintain the roper water quality for the attraction. This volume will be filtered at the turnover rate of 30 minutes, which means the entire volume of the holding tank passed through the filter in a 30 minute time period.

Either a high rate sand or a pressure regenerative filtration system can be employed, but for continuity of operation, a similar system, correctly sized for the required turnover would be the most practical solution for the water playground. Similar equipment for water chemistry control, including chlorine levels, pH, total alkalinity, etc. should also be

employed for this system to aid in simplifying the overall maintenance program for the aquatic center.

The actual water play features should be grouped according to the age group to be served and the type of activity planned for the attraction. There are three distinct zones to be developed. A toddler's area, an older active child area, and potentially an area that can be themed and integrated into the overall natural themes of specific areas of the Rolling Hills Park.

The subsequent design can be developed with features that can be changed or altered on an annual basis to keep the attraction fresh for the groups attending the Park. Simple changes in alignment or sequencing of features or alternating features in off years can allow users to experience the feature anew for many years to come. It is important to design the feature to enable the Township to continue to attract new users throughout the operational life of the water playground.

Features can either be themed or un-themed and selected based upon the type of spray, function, and activity desired. Climbing structures are popular as well as water cannons and directional spray jets and other user manipulated features. The selection of attractions should be age based and grouped according to the age of the intended users. It is not recommended to intersperse features that mix older, stronger kids with toddlers for example. The interactive nature of water play can be both educational and fun. The subsequent design process should establish the Township ideals and goals for this attraction and select features that represent the intent of the Township, be it simply fun or educational too.

Component selection should be based on materials that will withstand the potentially harsh climate Western Pennsylvania can produce. Stainless steel with a powder coated finish is a common material for many of the permanent and removable features used in Splashpad/water playground construction. Properly backfilled and sloped schedule 80 PVC pipe for all supply and gravity return piping if strongly recommended. All lines must be installed with a positive fall to enable proper draining and winterizing. The lighter weight schedule 40 PVC material commonly used to reduce costs simply does not have the strength and resistance to withstand long term use and the impact of freezing temperatures commonly experienced in the local winter climate. In most instanced the features are maintained in place and winterized by draining and protected with antifreeze where appropriate.

The vast amount of historical data and practical use regarding outdoor water playgrounds that Vortex Aquatic Structures International, Inc. has amassed since its inception in 1995, makes the recommendation of this product line a sound decision for Peters Township. These products have been fully vetted and can be used with the confidence that many years of successful use offers.

11. Order of Magnitude Estimates of Probable Construction Costs

The following spread sheet identifies the initial cost breakdowns developed for the initial designs presented to the Township and refined for the Recommended Design Solution. It should be noted that these numbers are conceptual in nature, not based upon a fully vetted architectural design, and are suitable for planning purposes. The estimated costs are based on bid pricing for other projects of comparable complexity and scope. Again, the stated estimates are conservative in nature and when the facility is designed under a specific program confirmed and defined by the Township, the cost of construction should be well within the estimated numbers presented in this analysis.

The spread sheet includes the basic 4 lane recommendation along with the option for a 6 lane competition pool. The site will support a 4, 6, or 8 lane competition pool, but the largest option would severely impact the overall occupancy of the pool complex and require a far large bathhouse, support facilities and more parking. We are confident that the 4 or 6 lane pool will properly serve the population of Peters Township for many years to come.

The question of the 6 lane option is solely related to whether or not the pool will serve the competitive needs of the Township's families who participate in competitive swimming activities. The competitive pool will definitely generate more income for the Township through rental fees, lane rentals and swim meet income, but the ultimate decision to expand the Project scope will rest with the Townships. Certain building areas have been updated to reflect the proposed occupancy and function for a sufficiently sized multi-purpose/party room.

Refer to Project Budget on next page.

Aquatic Facility with 4 lane lap pool option													**$9,790,625**
Aquatic Facility with 6 lane competition pool option													**$10,109,625**
Aquatic Facility (10 ac site)												$1,200,000	
		Site grading, , Utilities						1	LS	$750,000	$750,000		
		200 car parking lot and cartways, all asphalt						1	LS	$450,000	$450,000		
		Outdoor pool, lap lanes, zero (beach) entry pool, slides and slide pool, rental pavilions, bath house, admin, rental space, concession, outdoor play area. And, a separate outdoor spray park, pavilion, sidewalks to connect to the aquatic facility and to the park.											
	Swimming Pool(s) Components:					SF/WSA							
		Main Tot Pool				3,120		1	LS	$ 780,000	$ 780,000		
		Lap Pool				2,130		1	LS	$ 532,500	$ 532,500		
		Leisure /Waterslide Pool				3,436		1	LS	$ 944,900	$ 944,900		
		Total Water Surface Area				8,686						$ 2,257,400	
		Competition Option(s):				additional WSA							
		6 Lane Competition Pool				1,276		1	LS	$ 319,000	$ 319,000	recommended	
		8 Lane Competition Pool				2,400		1	LS	$ 600,000	$ 600,000	optional	
		Waterslides				Large Dual Flume		2	EA	$ 382,000	$ 764,000		
		Climbing walls						2	EA	$ 25,000	$ 50,000		
		Tumble-Bucket Water Feature				Vortex		1	EA	$ 150,000	$ 150,000		
		Pool Decks						1	LS	$ 180,000	$ 180,000		
		Umbrella sun screens						5	EA	$ 15,000	$ 75,000		
		Picnic Pavilions (20x40 Steel Roof, Stone…)						1	EA	$40,000	$40,000		
		Picnic Tables						12	EA	$800	$9,600		
		Seats/Benches						20	EA	$600	$12,000		
		Water Fountains						3	EA	$5,000	$15,000		
		Shade Trees						10	EA	$600	$6,000		
						Subtotal						$3,559,000	
	Optional competition lap pool(s):												
		6 Lane Competition Pool									difference	$ 319,000	$3,878,000
		8 Lane Competition Pool									difference	$ 600,000	$4,159,000
	Water Playground:												
		Water Playground Prep.						1	LS	$ 50,000	$ 50,000		
		Water Playground				Vortex Equipment		1	LS	$ 1,017,000	$ 1,017,000		
		Picnic Pavilions (20x40 Steel Roof, Stone…)						1	EA	$ 40,000	$ 40,000		
		Restroom (Male-Female, Prefab Unit…)						1	EA	$45,000	$45,000		
		Filter Equipment Room						1	LS	$ 120,000	$ 120,000		
						Subtotal						$ 1,272,000	
	Bathhouse Pavilion:							1	EA	$ 3,206,125	$ 3,206,125		
		General Construction	7,025	SF	$ 220	$ 1,545,500							
		HVAC Construction	7,025	SF	$ 25	$ 175,625							
		Plumbing Construction	7,025	SF	$ 100	$ 702,500							
		Electrical Construction	7,025	SF	$ 50	$ 351,250							
		Filter Equipment Room	2,875	SF	$ 150	$ 431,250							
	Concession Pavilion:							1	EA	$ 238,500	$ 238,500		
		General Construction	450	SF	$ 220	$ 99,000							
		HVAC Construction	450	SF	$ 125	$ 56,250							
		Plumbing Construction	450	SF	$ 100	$ 45,000							
		Electrical Construction	450	SF	$ 85	$ 38,250							
	Multi-Purpose/Party Room:							1	EA	$ 315,000	$ 315,000		
		General Construction	750	SF	$ 220	$ 165,000							
		HVAC Construction	750	SF	$ 75	$ 56,250							
		Plumbing Construction	750	SF	$ 75	$ 56,250							
		Electrical Construction	750	SF	$ 50	$ 37,500							
						Subtotal						$3,759,625	

12. Potential for Project Phasing

Project Phasing is a means by which project costs can be extended or defrayed over an extended time frame. At the sum $9,790,625 plus contingencies and design costs, the total aquatic center budget will be a substantial investment for Peters Township. There are certain elements that must be incorporated in any initial construction to avoid greater costs in the future. In the case of the Rolling Hills Park Aquatic Center, all parking, utilities, infrastructure and overall site development should be incorporated into any initial work if the Project is divided into multiple phases. This budgeted site work totals approximately $1,200,000 and should be a foundational component of any overall project. The pool site including grading and retaining walls, the two main feature pools and related amenities, the bathhouse, and the concessions/multipurpose building should be grouped into a single phase of work. This totals $7,318,625 and represents the largest component cost of the Project.

Waterslides and similar elements can be added later if the infrastructure for these elements is installed in the initial phase. The cost of these amenities total $964,000. By assigning 25% these related line items to the foundations and necessary infrastructure, roughly $241,000 would be assigned to the initial phase of the work. An amount of $771,200 would be deferred to a later phase of the work.

The initial budget could also be reduced by $1,272,000 if the water playground were developed in a subsequent phase. Assuming the Splashpad and the pool amenities are deferred to a later time, the initial construction budget could be reduced by $2,043,200 making the estimated initial expenditure $7,747,425. However, with effects of overall inflation, construction material cost increases and labor rate escalation, the cost to build this facility will never be less expensive than to develop the Project in a single phase of work.

13. Programming and Income Generation Potential

Income generation opportunities are available from a variety of areas within the aquatic complex. Success in generating income will be a direct result of identifying and meeting the needs and desires of the potential users. This will include, but may not be limited to, excellent customer service; program offerings that respond to the users' needs and desires; food service that is tasty, profitable, and efficient; facility rentals that are well-equipped, priced right, well-maintained; and large enough to accommodate the identified general use.

Depending on the Township's financial goals for this aquatic facility, swimming lessons and birthday parties can be very profitable. One of the goals and strategies that needs to be determined is the percent of profit the Township should include in the pricing equation for programs and rentals. To make a profit when renting facilities, pricing should be based on all costs involved with the facility. This would include, but may not be limited to, administration, marketing, staffing, soft costs, equipment being used, and wear and tear of the building and equipment.

Once again, depending on the financial goals that the Township would like to achieve, not all programs need to make a profit. Some may be offered as a service to the community or as a bonus to the membership.

The following highlights some typical and basic programming opportunities at many aquatic facilities. This is only a small sampling.

Swimming Pool						
10 acres Outdoor pool, lap lanes, zero entry pool, slides, slide pool, rental pavilions, bath house, admin, rental space, concession, outdoor play area.						
Class/Program	Staffing	Class Size	Fee	Income	Expenses	Profit/Loss
Parent & Tot	Certified Instructor(s)	8	$30	$288	$185.80	$102.20
Swim Lessons Level 1	Certified Instructor(s)	6	$30	$390	$261.80	$128.20.
Swim Lessons Level 2	Certified Instructor(s)	6	$30	$390	$261.80	$128.20.
Swim Lessons Level 3	Certified Instructor(s)	6	$30	$390	$261.80	$128.20.
Swim Lessons Level 4	Certified Instructor(s)	8	$30	$520	$303.80	$216.20
Swim Lessons Level 5	Certified Instructor(s)	8	$30	$520	$303.80	$216.20
Swim Lessons Level 6	Certified Instructor(s)	8	$30	$520	$303.80	$216.20

Swimming Pool						
10 acres Outdoor pool, lap lanes, zero entry pool, slides, slide pool, rental pavilions, bath house, admin, rental space, concession, outdoor play area.						
Water Aerobics	Certified Instructor(s)	15	$60	$900	$844	$56.90
Water Basketball (pick-up game)	Staff	12	$3	$36	$1,500	($658)
Water Volleyball (pick-up game)	Staff	14	$3	$42	$700	($1,464)
Dive-in Movies	Staff	N/A	Membership or drop in fee			
Evening Events	Staff					
Doggie swim	Staff	?	Free	N/A	N/A	N/A

COMMENTS for AQUATICS

1. Class size for swim lessons are based on an instructor-to-participant ratio. Average is 1:6 for levels 1-3 and 1:8 for Levels 4-6.
2. Certified swim instructors are paid by the hour/class. Average swim instructor rate in Pittsburgh, PA is $13.58/hr.
3. Does not include having one or more lifeguards on duty.
4. Generally classes are 45 minutes. A session typically includes 10 lessons (1 X per week for 10 weeks or could be every day for 2 weeks)
5. Only one (1) class/session is indicated. More than one (1) class for any level may be held based on the interest in the class and the space/time available. Profit increases when more than one class is offered for the same age group and/or when classes are strategically scheduled so that it limits the number of pieces of equipment that may be used by individual participants.

1. Estimated a profit margin and included in fee 9aried depending on program. Desired percent of profit should be determined by Municipality.
2. Average pay for Water Fitness Instructor is $19.31/hr.

3. Water basketball and water volleyball are shown as pick-up games. Fees are for 1 1hour time slot.
4. Lifeguard not included in expenses for water volleyball or water basketball
5. All fees for supplies includes purchase of necessary equipment to conduct program and is included in the activity fee. If classes are not all offered at the same time equipment may be shared. (This will increase the profits.
6. Due to the initial cost of equipment for water volleyball and water basketball it will take several sessions of each (water volleyball – 17 and water basketball 42) before the breakeven point is reached. (These are great items that can be "gifted" by a donor.) This is based on the initial purchase of good quality equipment. Based on level of care and maintenance, basic equipment (nets & poles) should only need to purchase once every several years. The balls will need to be purchased more often (once again, based on the level care).

14. Operation Cost Estimates

Attempting to establish annual operational costs from a conceptual design is a difficult task at best. Assumptions are not based upon a fully vetted design and accordingly, the number of variables that exists between the conceptual and finish design that make estimates suspect. It is strongly recommended that these estimated operational costs be viewed with caution and be used only as a guideline for future planning.

The development of a thorough feasibility and business model analysis should be performed to further refine the assumptions developed in the master planning process. It should be noted that the master plan is not an aquatic facility feasibility study.

As a point of reference, Scott Township in Allegheny County recently constructed a new 16,000 square foot outdoor swimming pool. The Township published the Adopted Swimming Pool Budget in the Pool/Recreation Department Proposed Budget 2017 section of the Scott Township, Allegheny County 2017 Adopted Budget.

The 2017 adopted budget for the Scott Township swimming pool indicates an expense total of approximately $250,010. This includes pool wages, lifeguards & overtime, materials & supplies, concession expenses, utilities, maintenance, etc. Based upon the area of the pool, this equates to cost of approximately $15.63/SF. At 8,886/SF using this estimated cost would equate to approximately $135,750 for the proposed Rolling Hills Park Aquatic Center. This number is only an estimate and may not be indicative of the level of service that Peters Township intends to offer for its residents; accordingly, a more thorough analysis is warranted.

Another facility which should be used as a guidepost for Peters Township is the North Boundary Park Pool in Cranberry Township. This pool is a model for a well-run municipal aquatic center. In our opinion, this operation provides the degree service that Peters Township desires to provide for its residents and patrons. Attempts to review recent

operational budgets for this pool were respectfully declined by Cranberry Township as the Township indicated that some of this information was not readily available. However, the following information was taken from the 2016 Financial Report on the municipal website.

Please note that Cranberry Township classifies the North Boundary Park Pool as a "Business-Type" activity. The water surface area is 15,000+/SF. (The square footage of the water playground is not included in the water surface area.)

North Boundary Park Pool, Cranberry Township						
	2016		2015		2014	
Net	$703,334		$630,799		$607,228	
Operational costs not identified						
Program Revenues	$701,710		$630,799		$559,216	
Program Expenses		$571,149		$560,013		$506,835

Private discussions between Peters Township and Cranberry Township may uncover more specific budget details and operational costs that may be applied to the proposed project.

An economic operational analysis of the proposed facility is the next step in the process of developing a community based Aquatic Facility. Establishing the level of desired services and programs should be tasked to the Recreation Department and their consulting team as they have the best insight to the desires and needs of their residents. A program of desired activities that corresponds to the Master Plan design should be developed. This should include:

- daily operation schedules
- staffing requirements and job descriptions
- an expense and income analysis of the proposed programs and operation of facility

This analysis can be developed when the Township decides to move forward with the project. Close interaction between the Township's staff and the selected design team is encouraged. The aquatics program to be offered must be ready for implementation the moment the doors open.

The program must be flexible and able to be adjusted to respond to how the public uses their new facility. The first few summers will undoubtedly change as new ideas evolve and program demands change. Finding the best mix of income producing activities will be the responsibility of the Aquatics Director and marketing staff. The Township is embarking on a new business activity. Treating the Aquatic facilities as a potential profit center should be welcomed into the Peters Township Parks and Recreation Department mission.

June 15, 2017 resubmitted June 28, 2017

Robert W. Genter, RLA, ASLA
Director – Land Development Services
Mackin Engineering Company
RIDC Park West
117 Industry Drive
Pittsburgh, PA 15275
p: 412.200.5899
rgenter@mackinengineering.com

Re: Peters Hill Park – Existing Clubhouse Evaluation
Peters Township, McMurray, Pennsylvania 15317

Dear Bob:

When evaluating the continued viability of any existing structure, understanding the intended use of any planned restoration is a critical component of the analysis process. The Rolling Hills Country Club Existing Facility Assessment performed by Tower Engineering (dated January 20, 2017) and RSSC Architecture (dated February 24, 2017) provides a detailed insight to the existing physical conditions of the aging Club House structure. This analysis does not address how this structure could serve the future needs of the Township. This will ultimately be defined in the Master Planning analysis if the Township elects to repurpose the building. This draft analysis will not be a recap the findings of the Existing Facility Analysis, instead we intend to offer the Township an unvarnished assessment of the realities of the extent of the required work to bring this aging building back into a serviceable condition. In addition, we will offer a professional opinion as to the functionality of the existing structure as it may relate to a municipal based function.

BUILDING OVERVIEW:

The RSSC Assessment presents a picture of a structure that has serious code deficiencies from an architectural, accessibility and mechanical and electrical perspectives. The original "farm house" has long since been altered to the point where any resemblance of the original structure has been consumed by the functions associated with a "Country Club" operation. As such, no significant historical value remains from the original 1800's building. Over the years of use, the building has undergone numerous alterations that by today's standards do not meet current building code requirements. With the extent of the issues outline the RSSC and Tower reports, this building would have to be totally reconstructed to meet all applicable provisions of the current IBC standards. The Type VB construction places sever limitations on the allowable building area and occupancy. The report well defines these issues. This fact alone calls into question the overall extent of demolition required to make all of the necessary repairs to the support systems including fire protection, the mechanical systems, and electrical wiring, circuiting, and lighting.

The overall building function revolves around a private restaurant and bar(s), banquet facilities, dining and locker rooms all closely associated with a functioning Country Club. The fact that the usable kitchen equipment has been removed and sold along with all of the men's lockers, little or no value remains in these areas of the building. To further compound the reuse of the building, accessibility throughout the structure is virtually non-existent. The main floor level does not have a grade access to any of the main function spaces and the vertical circulation within the building is not code compliant. Elevators, or wheel chair lifts would be necessary to provide a legally functioning building according to ADA regulations. This is not a code issue, rather this is a function of civil rights legislation which supersedes all local interpretations of code requirements and must be addressed in any renovation of the building.

Understanding what function(s) this building may serve the community has yet to be determined, but understanding the limitations of the structure can be defined. One area that the study did not address is the

overall condition of the EIFS exterior cladding on the building. RSSM was not commissioned to perform any destructive testing or evaluation of concealed spaces and accordingly the overall condition of the EIFS was not fully addressed. One major concern that was noted during our observation of May 20, 2107 was the overall appearance of the EIFS. There appears to be some evidence of the potential of moisture accumulation within the exterior wall assembly. As noted in the RSSM/Tower report, there are a number of areas where less than "standard construction practices" are evident; i.e., the installation of the roofing membrane, improperly installed and insulated exposed ductwork, substandard masonry construction have all been noted. The EIFS system has come under criticism within the construction industry if the assembly is installed without a proper drainage plain behind the insulation to allow condensation or other sources of moisture to drain to the exterior. We believe this may be the case with this building as the EIFS does not appear to be taut and precise in many areas.

The EIFS system is extended below grade in some area and the base transition where visible does not appear to have the necessary weeps or terminus to allow any water that may accumulate or migrate behind the exterior surface to properly drain away from the building. The evidence of active mold in the basement is also an area of concern for the exterior walls. Mold and mildew can accumulate behind an EIFS system which should be confirmed and potentially remediated if found to be in existence. This remediation process is costly and would definitely impact the renovation budget as the entire exterior skin of the building would need to be removed to the framing and properly reinstalled. In effect, the entire building exterior is in need of significant work as the roof waterproofing components have also been identified in the report as substandard and in some cases beyond the useful service life of the installed materials.

SITE CONSIDERATIONS:

From a functional perspective, the building may not be located in the best position for the future development of the Peters Township School District High School and Township's Peters Hill Park property. The design of the vehicular circulation patterns currently under consideration call into question the current location as roadways are being adjusted to accommodate the existing building. This "tail wagging the dog" approach to site design is not in the best interest of the overall site development. The fact that the overhead West Penn Power line segments the site and the existing club house building is located near that axis, circulation and other nonessential programmed function may wish to be located in and around that area of the site.

The topography of the site creates parking areas for the building that are not directly adjacent to the building to comply with ADA requirements. That fact only one non-compliant ADA parking space is provided near the building is an obvious area of concern. The siting of the existing structure and the severe grades directly adjacent to the building has produced a situation that is not suitable for parking large numbers of cars for programmed events near the structure. The main parking fields are accessible by either stairs or by walking up a relatively steep slope from the lower parking lot to the building entry. Extensive regrading and reconfiguration of the surrounding contours would be a necessary to make this building function properly from an accessibility viewpoint. Here again, this adds more cost to the overall budget to retain this building for some future use.

EXTENT OF RENOVATIONS:

The RSSC and Tower reports clearly identify the numerous deficiencies but does not render an opinion as to the overall potential cost of construction for this aspect of the pending Park development. In addition, there is no overall total building area (Gross Building Area - GBA) provided in the study; only a largest floorplate area (10,950 SF) for the first floor level. The study does not reference the basement level area or the third floor office space, but these should be included in any overall assessment of the building area, as work will be necessary in these portions of the building. In addition, the Existing Facility Assessment does not address the existing interior architectural surfaces which, in any renovation, will need to be considered. The interior decoration of the main functional spaces is dated, and "Country Club" décor is not consistent with most municipal facilities.

In considering the existing main functional areas, defining what programs could be offered from this building configuration must be clearly defined. The pending Key Person interviews will initiate this process, but without a viable function, expending millions of dollars to "restore" this building, may not be in the Townships best financial interests. Without a viable business plan and a demonstrable public demand, simply recreating the existing functions of this building might present Peters Township with a "white elephant" and put the Township in the restaurant/banquet facility business. This is not a typical municipal function and it is highly likely elected officials would see the imprudence of this approach.

A complete redesign of the building would be necessary to reprogram the building to meet future Township needs. This could entail reorientation or the subdivision of major interior spaces, a redesign of the main circulation routes with the building, both horizontally and vertically to bring the building into code compliance and a new interface with the surrounding exterior grades. Frankly, the costs of completing all of this work, including the removal of any asbestos containing materials, could rapidly approach the cost of a new, properly designed, code compliant building that would be "right sized" for the Township's needs.

The following summary of tasks is the suggested minimum required to undertake the renovation of the Rolling Hills Country Club, Club House: *Please note the RSSC and Tower reports provide greater detail and should be utilized as a reference.*

- Complete architectural programming and design contract to conform to the Township's master planning recommendations with full design, bidding and contract administration services
- Hazardous material removal and mitigation
- Select building demolition, interior and exterior
- Site regrading
- Site access upgrades with stair removal and replacement with code compliant components
- New accessible parking meeting all ADA requirements
- Redesigned parking areas - right sized to building occupancy and area
- New site lighting
- New accessible building entry
- Evaluation of EIFS condition and suitability for reuse
- Window repair and replacement
- Balcony restoration
- Masonry restoration
- Carpentry restoration
- Roofing repair and replacement
- Improved building insulation to comply with Model Energy Code requirements
- Interior redesign and reconfiguration
- New ADA compliant vertical circulation and exiting upgrades
- Interior architectural surfaces upgrades
- If food service retained, a new Allegheny County DOH compliant kitchen
- Complete MEP upgrades including (see Tower reports)
    - New Mechanical systems
    - Upgrade and expanded fire protection and sprinkler systems
    - New plumbing systems incorporating all required ADA compliant fixtures and fittings
    - new electrical service upgrades and branch circuitry
    - new energy efficient lighting design
- Any and all code deficiencies to be addressed and resolved through new design

CONCLUSIONS:

The condition of the Rolling Hills Country Club, Club House to the casual observer might be viewed simply as an interior design exercise, but the reality is far different. The RSSM/Tower Assessment clearly identifies significant shortcomings that when combined creates a substantial financial commitment on the part of the Township. To understand the order of magnitude cost implications facing Peters Township, assuming the 10,950 square foot first floor area is similar to the second floor, the potential Gross Square footage subject to renovation would total 22,000 SF plus the third floor office area and some necessary basement improvements. If 25,000 SF is utilized to establish a working budget, the RSSM estimate of June 15, 2107 (average cost/SF of $100/SF) would net a potential $2,500,000 Project plus site improvements. If the

interpretation as outlined herein is utilized, the Project costs can easily escalate to $175/SF to $200/SF, or more depending upon the selected level of finish, resulting in a Project of $4,375,000 to $5,000,000, plus site costs and professional fees. In my profession opinion, these numbers are highly realistic and most probable based upon the extent of the ADA upgrades and MEP involvement required to bring this structure into a code compliant condition.

If the club house building is ultimately abandoned, demolition costs must be factored into the overall Project development costs. This structure, with its considerable limitations and less than desirable site location, presents more problems than it solves when considering the overall site and Park development. As the administration of the Peters Township School District foresees no meaningful programming potential for the Club House building, and to date, no financially feasible operation has been put forth to offset the considerable development costs, in our professional opinion this structure plays no viable part in the future Peters Hill Park. While there is a considerable amount of emotion surrounding this building and the history of the Rolling Hills Country Club, we cannot recommend the expenditures of the amounts necessary to restore this building to a code compliant status. The underlying structure would remain a building with well over 125 years of service upon which new materials and systems must integrate.

Respectfully Submitted:

Edwin M. Wallover, III AIA, President
WALLOVER ARCHITECTS *incorporated*

EMW/1wp

Cc: Paul F. Lauer, Peters Township Manager

1. PROJECT INFORMATION

Project Name: **Peters Hill Park**
Date of Review: **6/12/2017 02:25:06 PM**
Project Category: **Recreation, Amusement parks, auto-courses, community swimming pools, racetracks**
Project Area: **192.85 acres**
County(s): **Washington**
Township/Municipality(s): **PETERS**
ZIP Code: **15317**
Quadrangle Name(s): **BRIDGEVILLE**
Watersheds HUC 8: **Upper Ohio**
Watersheds HUC 12: **Middle Chartiers Creek**
Decimal Degrees: **40.278061, -80.101190**
Degrees Minutes Seconds: **40° 16' 41.211" N, 80° 6' 4.2835" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	**Avoidance Measure**	**See Agency Response**

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Peters Hill Park

Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user

Peters Hill Park

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RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).
Your answer is: The project will affect 40 to 200 acres of forests, woodlots and trees AND a seasonal restriction on tree clearing will be implemented.

Q2: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?
Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service
RESPONSE:
Avoidance Measure: Conduct any tree cutting, disturbance, inundation (flooding) and prescribed burning from October 1 to March 31.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:
_____(Signature)

SPECIAL NOTE: **If you agree to implement the above Avoidance Measure, no further coordination with this agency regarding threatened and endangered species and/or special concern species and resources is required.** If you are not able to comply with the Avoidance Measures, you are required to coordinate with this agency - please send project information to this agency for review (see "What to Send" section).

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).
***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
____**SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name:_____
Company/Business Name:_____
Address:_____
City, State, Zip:_____
Phone:(_____)_____Fax:(_____)_____
Email:_____

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

_____ _____
applicant/project proponent signature date

Peters Hills Park Master Development and Site Plan
Kick Off Meeting
5/20/2017 Summary

1. After a tour of the park property and the club house, the meeting attendees met at the Township Building to discuss the master plan process and begin to identify opportunities. The following items were discussed:

    a. Guiding Principles
        i. Paul Lauer, Peters Township, introduced the project and presented and reviewed the project's Guiding Principles

    b. Master Plan Process

        i. Bob Genter, Mackin, presented the other items that are very important to the project schedule-

            1. School District Coordination

            2. West Penn Power Transmission Coordination

        ii. The project schedule and the planning process were described including the various types of public input that will be collected during the project.

            1. 4-Steering Committee Meetings (including the Kick Off)

            2. 4-Staff Meetings

            3. 14-Stakeholders Interviews

            4. 4-Organization Meetings

            5. 2-Public Meetings

        iii. Site Analysis Maps were displayed and described. They included slopes map, vegetation, soils, site survey with utilities, and school concept plan.

        iv. Vision Images for the park were presented. They included facility types that might be part of the park development.

    c. Park Priority Exercise

        i. Brandi Rosselli, Mackin, led the meeting attendees through an exercise to begin to identify options for the park. It was explained that this is just the first of many opportunities to refine future priorities for the park.

            1. Each attendee was given 12 dots, which they could use to vote on priorities for the park.

        ii. Results of the Exercise:

            1. Received 12 Votes:

                a. Leisure / Municipal Outdoor Pool

                b. Tennis Courts – Tennis Center

            2. Received 11 Votes:

                a. Bike Trails and Connection to Arrowhead Trail

            3. Received 10 Votes

a. Cross-County Ski and Sledding Areas with Warming Hut

4. Received 8 Votes:
    a. Community Conference Center
    b. Competitive Swimming (indoor)
    c. Nature Play Area
    d. Water Playgrounds / Outdoor Spray Park
5. Received 7 Votes:
    a. Bocce Courts
    b. Deck Hockey
    c. Dog Park
    d. Multipurpose Indoor Aquatic Center
    e. Open Fields and Meadows / Naturalized Wooded Areas
    f. Picnic Areas
    g. Walking Trails
6. Received 6 Votes:
    a. Tot Lot / Playground
7. Received 5 Votes:
    a. Basketball Court or Half Court
    b. Nature Center / Environmental Center
    c. Stream Restoration / Habitat Development
8. Received 4 Votes
    a. Ice Skating Pond
    b. Pickle Ball Courts
    c. Sand Volleyball
9. Received 2 Votes:
    a. Adventure Play
    b. Combination Indoor / Outdoor Swimming Facility
    c. Exercise Stations
    d. Multipurpose Court
10. Received 1 Vote:
    a. Climbing Rock Wall
    b. Horse Trails
    c. Horseshoe Pits

11. Received No Votes:
    a. Bicycle Agility Course / Pump Track
    b. Chess Tables
    c. Competitive Swimming (outdoor)
    d. Disc Golf Course
    e. Overnight Camping
    f. Place for Art, Film, Music and Dance Education
    g. Permanent Installation for Sculptures
    h. Skate Park
    i. Synthetic Turf Field
    j. Therapeutic Teaching Pool (indoor or outdoor)

d. Aquatic Facility Options
    i. Ted Wallover, Wallover Architects, presented options regarding potential aquatic facilities, which include:
        1. Leisure & Municipal Pools
        2. Competition Venues – Indoor
        3. Competition Venues – Outdoor
        4. Multi-Purpose Aquatic Centers
        5. Therapy / Teaching Pools
        6. Water Playgrounds

e. Next Steps
    i. Mackin to coordinate with Peters for Steering Committee meeting dates
    ii. School District to provide updated site design plan to Township and Mackin
    iii. Mackin to complete the Site Analysis and Facilities Review
    iv. Township to provide contact information for- 4 Organization meetings & 14 Stakeholders

All presentation boards, Park Priority Exercise, and PowerPoint displays are now posted on the project FTP site.

Regards,
Robert W. Genter, RLA, ASLA
Director- Land Development Services
Mackin Engineering Company
rwg@mackingengineering.com
412.788.0472

Peters Hill Park Master Development and Site Plan
Steering Committee Meeting #2
MINUTES
June 27, 2017 @ 7pm
Mackin Project No# 5229

Mr. Paul Lauer welcomed members and introduced the design team. The meeting began with a project name change- **Peters Hill Park**. The agenda was reviewed and we started with a discussion of the six below questions.

Answers to Questions-

Each question was introduced and then discussed. The committee's answers are listed below.

Mr. Paul Lauer is to present the project steering committee's answers to Council.

1. Should space be reserved within Peters Hill Park to accommodate future construction of a community outdoor pool along with the associated amenities including parking and a building? **Committee Answer- YES**

   This subject will be further explored in great detail with committee and staff for facility type, user numbers, design layout, operations and maintenance needs, return on investment.

2. Should space be reserved within Peters Hill Park to accommodate a future racquet sports center to include indoor and outdoor tennis facilities, as well as other racquet sports such as pickle ball, platform tennis, etc.? **Committee Answer- YES**

   The racquet sport area to provide for indoor and outdoor facility, and located for possible shared use with school.

   Must consider size, hours of operation and co-mingling of park vs. shared school use.

   Potential exists for an indoor facility to be used for rental use, banquet space, etc.

3. Should Peters Hill Park be designed to accommodate Community Day in the future?

   Committee Answer- YES

   The area to be designed to provide paved surfacing for attendees and consider spacing for up to 200-250 vendors (10x10 booth space, plus utility chase). Additional open space to be considered for events. Shared parking and shuttle from school to be considered in design. Electric service to be considered for events.

4. Should the Rolling Hills Clubhouse be retained? If it is retained what programming opportunities can be accommodated in this building? **Committee Answer- NO**

5. Does it make sense to adjust property lines in order to locate the roadway at the edge of the School District's and Township's properties? **Committee Answer- Will consider at a later date; this will be further determined with school district cooperation.**

   Mr. Robert Genter stated that the roadway, whether public or private, should be considered as the dived line to provide access, egress and regress to each adjacent parcel owner. This is also where utility's may be routed- allowing for future access for operations and maintenance procedures.

   And, as stated by Mr. Merrell, the school conceptual plan road layout should be adjusted further east to provide for additional space between the school and road for enhanced security.

6. What facilities and program opportunities should be included in Peters Hill Park?

   The committee was previously given a list of facilities for review. Ms. Brandi Rosselli reviewed the top choices selected by the committee and council at the Kick Off Meeting; No additional comments were made. The Top-13 Park Design Facilities from Kick Off Meeting 'sticker' exercise are listed below:

   1. Leisure/ Municipal Outdoor Pool; 12 votes
   2. Tennis Center; 12 votes
   3. Bike Trails and Connection to Arrowhead Trail; 11 votes
   4. Cross Country Ski and Sledding Areas with Warming Hut; 10 votes
   5. Community Conference Center; 8 votes
   6. Competitive Swimming (Indoor) Pool; 8 votes
   7. Nature Play Area; 8 votes
   8. Water Playgrounds / Outdoor Spray Park; 8 votes
   9. Bocce Courts; 7 votes
   10. Dek Hockey; 7 votes
   11. Dog Park; 7 votes
   12. Open Fields and Meadows / Naturalized Wooded Areas; 7 votes
   13. Picnic Areas; 7 votes
   14. Walking Trails; 7 votes
   15. Tot-lot and playground; 6 votes

Robert Genter stated that the top choices are consistent with the results of the Township's Park and Recreation Comprehensive Plan; an excerpt from the Comprehensive Plan results listing top park facilities was shown during a PowerPoint presentation.

Committee members will be interviewed for park programming and facilities; and surveyed about aquatic facility. The interview and survey questions were distributed to the committee members at the meeting; interviews will be conducted during the next 2-weeks.

Meeting Dates and Design Process-

1. Robert Genter reviewed meeting dates. Committee members agreed to the below future dates:
    a. Four (4) Steering Committee Meetings: 5/21, 6/27, 8/22, 10/18
    b. Four (4) Staff Meetings- 6/22, 7/21; two (2) same date 8/22, 10/18 for Aquatic Discussion
    c. Two (2) Public Meetings- 8/30, 10/26
    d. Four (4) Organization Meetings- begin in July
2. The Township met with the School District on Friday, June 2. The results of the meeting are below:
    a. School architect presented the concept plan including a three-tiered school building built into slope, internal roadway and the traffic pattern; and parking design. The school has not considered any off-site traffic improvements at this time. A traffic study is currently underway and is being co-funded by the School and Township.
    b. Security was discussed and the relationship of the trail system at Lot perimeter.
    c. Potential for shared uses were discussed- may include storm water management.
    d. The school district has No intended use for the clubhouse
    e. The school district is preparing to receive bids (as a deduct alternative) for a competitive pool.
3. Benchmark Tour- it was decided by staff that the Tour will be conducted by members on their own schedule. Mackin to provide staff and committee with map of location and GPS directions; Committee to record and submit comments and findings.

Peters Hills Park Conceptual Plan (PowerPoint)

Robert Genter presented a PowerPoint of the Conceptual 'Spatial Diagram' Plan for the Park.

1. The plan concurs with past Park-Rec 2016 Comprehensive Plan and above meeting results.
2. The plan provides for the following:
    - Designed with the Land and Environment
    - Meets the current request for facility types
    - Coordinates facility relationships- to site, surrounding land use, to each other
    - Lists facility size, function and supporting roadway, parking and storm water needs
3. Shared uses with the School District Conceptual Plan may include:
    - Adjacent Court Games (indoor/outdoor facility) for Park and School use
    - Trails System and universal accessibility- provides above-grade and below-grade road crossings; and connections to the Arrowhead Trail
    - Potential for Shared Parking during events
4. Comments were provided by Committee for-
    - Picnic areas to provide for medium and large rental units and may include shelters, enclosed shelter buildings, and open picnic spaces. Current pavilion maximum is 80 persons; a 200 person unit and 30-60 person units to be considered. The concept plan indicated several picnic locations throughout the park, including a shelter/warming hut for winter use.
    - The 36' wide paved park road may be too wide- the current design includes 2-10' vehicle lanes, and 2-8' bike lanes, with a lawn shoulder. The road was designed to accommodate Community Day vendor spaces and a paved pedestrian travel way during the event.
        i. Mackin to provide an alternative road cross-section for consideration
    - A suggestion was made to consider environmental mitigation on park parcel for impacts from school development.

Next Steps

A. Complete Key Person (Stakeholders) Interviews
B. Send out directions and maps for Bench Mark Tour
C. Continue with Staff Meetings
    a. Discussion of Top park design facilities

i. Programs Associated
ii. Aquatic Facility Programming and Design
iii. Number of Users and Sizing; Relationship to others; Relationship to the Environment
iv. Other Support Facilities or Site Development Needed
v. Maintenance and Operations

b. Public Works Interviews for Maintenance and Operations

D. Draft Plan Development- Review with Committee and Staff for facility types and programs

E. Coordination with West Penn Power

F. Continue coordination with School District

Meeting Minutes
Staff Meeting #2
Mackin Project No# 5229
Peters Hills Park Master Development and Site Plan

Meeting was held July 20, 2017 @ 9 am, at the municipal building

Attendance- Refer to attached sign-in sheet.

Part-1 of meeting was Traffic Status and School District Coordination.
Part-2 of meeting was a discussion of the Peters Hill Park design, programming and sketch plan review. Part-2 included only Peters Staff and the Mackin Design Team.

MEETING PART-1

1. Traffic-
    a. Mike Mudry presented two plans for the East McMurray roadway design to accommodate the property entrance. The school/park entrance road is proposed to be move east approximately 100'.
    b. Plan-1 includes widening on both sides of the road, all within the ROW, and adds a 200' drop lane for left turns into the site.
    c. Plan-2 includes a roundabout intersection at the new entrance location. Mike explained the cost factor for either design is a 'wash'.
    d. Pros and Cons were discussed for each design and the roundabout was listed as having the least impact to neighboring driveways, lowest long-term maintenance costs since there is No traffic signal, and will provide a positive for traffic calming along E. McMurray Road corridor.
    e. The township is to provide Mike with direction to pursue the 'best option' for the township and so that Mike can prepare for a PennDOT plan review meeting.
    f. The Township is to provide Mackin with a digital plan for the chosen design so that the Park master plan can be updated.
    g. The connection with Center Church Road was discussed, with potential changes to the school drive/center church intersection to direct traffic into the school/park site.
2. School District Coordination-
    a. The school district would like to keep the campus together and not divide the school development from the future stadium development.
    b. The school district is to further plan and design the stadium site and provide the

township with an updated plan. This plan must consider the roadway system connecting Center Church Road to East McMurray Road.

c. Mackin is to send a PDF file of the park concept plan to the school district for reference. The Park plan shows the entrance roadway between the park and the school sites and the property line- school 94 acres and park 95 acres.

d. Shared Uses Include:

   i. Peters Hill Park- court facilities, open space, the trail system throughout site connecting to the Arrowhead Trail

   ii. Peters Township School District- parking lot use for the Peter's Community Day event and the trail system to interconnect the entire land parcel.

e. The township stated there will not be in an indoor pool at the park.

MEETING PART-2

Project Schedule

A. Mackin to submit future meeting agenda's 1-week prior for review. There are two (2) remaining Steering Committee Meetings: 8/22, 10/18.

B. There are two (2) remaining Staff Meetings-these are scheduled for the same above dates to coordinate the Aquatic Discussions.

C. Two (2) Public Meetings remain. They are dated for 8/30, 10/26

D. There are three (3) Organization Meetings remaining. These are on hold for additional school district or traffic coordination.

Status and Results of Tasks

A. The results of the Study Committee Meeting #2 have reinforced the current park plan and programming for the design.

B. Key Stakeholder Interview results have also supported the current plan. A summary of the interview results will be compiled by Mackin when completed and presented to the staff and then to the committee.

   (1) Thirteen of nineteen interviews are complete to date.

   (2) Michele to contact 2 persons to encourage interview responses.

C. Benchmark Park Site Visits and submission of responses will be encouraged by Michele.

Discussion for Park Programming and Park Design-

a. The township is to provide Mackin with the YMCA decision for the pool and community building project.
    i. If the YMCA deal is approved, we need to understand their scope for development, including subdivision and access requirements for the land.
    ii. This is critical to the park design and will impact the entire project since the YMCA may or may not provide similar facilities and programs; and will most likely require separate parking lots and access drives to their facility.
b. Trail programming was discussed; the Peters Hill Park plan provides separate routes for walking, bicycling and shared use trail design. The different trail types are to be supported with different surfaces, widths and corridor design to encourage separate uses. Mackin presented a sketch plan showing different mountain bike, bicycle-pedestrian, walking routes, and vehicle routes in the park.
c. Peters Hill Park sketch plans for the aquatic facility and for the racquet courts was presented
    i. The aquatic facility provides for 250+ parking, gatehouse, and changing facility; along with space for pools, sprays, slides, and rental decks. Wallover to continue the aquatic facility design.
    ii. The plan shows 10-tennis courts (including 6 inside courts), pickleball courts, platform tennis, basketball courts, and a Dek hockey rink.
    iii. Mackin was directed to continue discussions with Tennis contact for court/facility design, and reduce the basketball from 3 courts to 2 courts. Sand volleyball courts can now be added into the design.
    iv. The court area has been designed to preserve many of the large trees along the ridge top and provide for expansive views.
d. Winter fest, nature play, trails, bicycle agility and pump track spaces were described and shown on the plan.
e. Park roadway designs and profiles were reviewed.
    i. The park loop roadway has been designed to fit in with the land, gradually climbing the slope to the ridge top. The roadway is designed to be below the sight line of the picnic area space- to preserve the views.
    ii. The steepest slope is a short distance of 11% and 12% to climb to the ridge, while preserving most of the major large trees. The roadway has been designed to limit

impacts to grading and preserve many of the large trees.

f. Picnicking, Open Space, Event Space for Community Days was reviewed-
    i. The plan shows space for picnicking with a perimeter walking route. The space can be programmed for the Community Day event utilizing the (dry) roadway, and the center picnic green space for children's events and other activities.
    ii. Mackin to add booth spaces and a road section showing Community Day layout design.
    iii. A large pavilion (with restrooms) will be shown at east end of picnic green space, and a playground or a spray pad will be shown on the west end of picnic green space. Mackin to provide a variety of picnic pavilions for assorted size gatherings.
g. The township is to provide Mackin with a program for the upper park building located near the Court space. This building may have admin office, restrooms, meeting rooms, kitchen or kitchenette for public use, or picnic lodge lease opportunities, etc.
h. A guide book for the Design of Nature Play was given to Ryan for township review.

Next Steps-

1. **The School District is to complete a plan showing stadium space requirements and a roadway system circumventing the stadium.** The roadway to connect from Center Church Road to the Park roadway system as provided on Park Concept Plan. **The School is to send the plan to the Township for coordination.**
2. **Township to provide Mackin with the YMCA decision**. And, if the YMCA is approved we will need a full scope of facility development, programs offered, and subdivision requirements.
3. **Township to provide Mackin with the selected East McMurray entrance road intersection design.**
4. The YMCA decision and the entrance roadway intersection designs are essential to the Park design- the space requirements will impact the aquatic facility and layout for all of the park developments along E. McMurray Road.
5. Mackin to coordinate with West Penn Power for facilities under and adjacent to easement.
6. Mackin to follow up with interview for Tennis Court Facility Design.
7. Mackin- J. Watenpool- to follow up with interviews for park operations & maintenance of facilities and design for maintenance facility.
8. Mackin to complete Key Stakeholder Interviews, compile results and prepare presentation.

9. Mackin to compile Benchmark Park Comments and prepare presentation.
10. Mackin to ready Draft Plan for August Committee Meeting.

Peters Hill Park Master Development and Site Plan
Steering Committee Meeting #3
MINUTES
August 22, 2017 @ 7pm
Mackin Project No# 5229

The meeting began with a brief review of task completed to date and then a summary of the stakeholder interview results. Eighteen of nineteen persons were interviewed; the results reinforce the current park planning efforts and the park design.

Additional interview results with the park and recreation staff, maintenance and operations staff, and the local tennis professional were presented. Programming ideas and design facilities were incorporated into the park design.

- The court design will be modified to include 5 outdoor courts (for WPIAL play), and the bocce courts will be relocated adjacent to the picnic lodge area.

The draft development plan was presented to show how the design provides for above recommendations and previous meeting results. The nature play and nature center, winter fest area, trails and walkways, court designs, picnic spaces, great lawn, dog park, adventure play and roadway and parking systems was displayed and discussed.

- Each park design facility has been 'fitted' to the land to minimize earthwork and grading, preserve large trees and water courses, and benefit from solar orientation and big views.
- The Aquatic Facility design is on hold until the status of the YMCA negotiations is concluded. A south facing lawn bowl area of approximately 10- acres has been selected for the aquatic facility.
- The courts have been located on the ridge since they require flatter ground. The vicinity is close to the school to provide for a shared use, and the design layout preserves many of the large trees along the ridge top.
- The draft plan depicts several picnic locations throughout Peters Hill Park, including a shelter/warming hut for winter use, a large picnic lodge and several picnic shelters near other park facilities. Picnic areas have been provided in the north valley, along the ridge top in the great lawn, and at the south valley near East McMurray Road. The picnic lodge can be an enclosed facility; it can provide capacity for up to 200 persons for big events.

- The park road design has been modified to 30'wide; the park roadway includes flush lawn shoulders, 2-5' bike lanes, and 2-10' vehicle lanes. The roadway section can support Community Day events with more than 220 booth spaces and including an adjacent open space in the great lawn area.
- The roadway entering the site from East McMurray Road will be revised to be a public collector road and Not include a bike lane at the request of the committee. Traffic calming devices will be incorporated into the road design and may include intersection treatments for pavements, raised intersections/pedestrian crossings and landscaped medians.
- The roundabout at East McMurray Road may or may not be part of the final plan. This depends on how the school district locates their parking lots and distributes their internal traffic flow. As per our earlier meeting with the school district (9am on August 22), the school design has 400+ student parking spaces exiting to Center Church Road. This would preclude the high-volume need at the current roundabout location.
    a. Mike Mudry is to work with the school district and then advise the township with a solution for traffic flow, traffic impacts and design recommendations for off-site roadway improvements required by the school project.
    b. During the morning meeting, Mike confirmed that the park does Not create a need for a high-volume driveway or off-site roadway improvements.

The school conceptual designs #1 and #2 were presented and discussed.

- Design #1 follows more closely with the current park plan and divides the property most evenly in a north-south direction. Impacts are minimal to the park design.
- Design #2 impacts several park facilities and pushes the court facilities onto steep slopes and under the electric utility right-of-way. This plan also minimizes the space available for park facilities. The park designs that are impacted include: the courts, aquatic facility, dog park, and adventure play areas.
- Design #2 takes the flattest land, with the best views, for a school parking lot and gives the most undesirable land to the township.
- During the morning meeting, it was decided that the school's architect would revise their plans and resubmit to the township; plans are to be resubmitted in 1-week.

Next Steps-

1. The township will meet with council and get concurrence for the above park design including the roadway layout and property line/road right-of-way location.
2. The township will meet with council and get concurrence for a public meeting #1 date and time. This meeting was scoped as an open house to introduce the project to the community.
3. The township will provide the committee and the design team with the results of the YMCA status.
4. Mackin is to meet with the township to review the revised school district plan.
5. Mackin will conduct a park design review with the township staff to refine and detail the Peters Hill Park Draft Plan and each of the proposed park design facilities.
6. The following contracted meetings are remaining:
    a. One (1)- Steering Committee Meeting- previously scheduled for 10/18
    b. One (1)- Staff Meeting- previously scheduled for 10/18
    c. Two (2) Public Meetings- previously scheduled for 8/30, 10/26 (these dates are to be revised by council/township)
    d. Two (2) Organization Meetings-
        i. The Township and Mackin previously met with the school district and the traffic engineer:
            1. June 2- school concept plan review
            2. August 22- school design#1 and design #2 review

Peters Hill Park Master Development and Site Plan

STAFF MEETING #4/4

Minutes

Tuesday October 10, 2017

1:30 pm at Peters Township Municipal Building

Attendees- Paul Lauer, Michele Harmel, Ryan Jeroski, Mark Zemaitis, Jim Watenpool, Ted Wallover, Matt Lokay, Robert Genter.

Reviewed Public Open House Format-

1. Discussion of the Public Open House- Eight stations around room displaying presentation maps, design plans and renderings, and photographs of park recommendations. Design consultant members and township representatives to answer questions for attendees and record comments/suggestions.
2. The Township Staff to maintain reception table with a sign-in list

Review and Edit Current Park Draft Plans-

3. The design team and the staff reviewed the Park plans and the three Aquatic Center options
   - 3.1. The staff agreed with the current Park Design as shown, and with the below edits:
     - 3.1.1. Modify Park layout based on the agreed School Road layout (orange rd alignment) and E. McMurray traffic signal entrance
     - 3.1.2. Edit for 5- Outdoor Tennis Courts, move Bocce to Lodge location, revise to 1 Basketball and 1 Sand Vball
     - 3.1.3. Mackin to submit a revised parking lot layout at Sport Court/Lodge area due to School Road layout, and to increase green space and limit cut-through traffic
     - 3.1.4. Paul L. to visit Glen Creek Racquet Club to review building layout and provide comment to Mackin
   - 3.2. Staff decided to present all three Aquatic Center options to the Steering Committee and keep each as part of the final document set. But, Wallover is to further detail and budget only the Medium Size Option.
   - 3.3. The Township decided on a traffic signal entrance design at the E. McMurray Road entrance.
   - 3.4. All of the project meetings and the project tasks have been completed, less the below meetings and next steps.
     a. Steering Committee Meeting (final) #4/4- 11.28.17
     b. Public Hearing (final) #2/2- 01.15.18

Next Steps-

4. Mackin to use the agreed upon roadway layout- 'orange alignment' to complete the Master Site Plan. Adjustments to nature center, sport court and maintenance building site will be required.
   - 4.1. The Township to supply the final design and elevations for the E. McMurray entrance to Mackin to complete the Park Master Site Plan
   - 4.2. The Township to supply final Center Church Road design to Mackin to complete the Park Master Site Plan
5. Mackin to detail and complete the Park facility designs, including the Aquatic Center design, based on the Staff Meeting results and the agreed upon Public Open House comments received.

Peters Hill Park Public Open House
10.10.17, 5:30pm to 7:30pm
Comments Received at Open House

Jim Watenpool (Connections- trails, bike routes, walks; Adventure Play and Dog Park Stations)

1. Peters Township has a large group of pickleball players but no place to play. Many of these players are top caliber champion players. A pickleball magazine is published in Peters Township. Many schools are now teaching pickleball in gym classes. Overlay the tennis courts with lines for pickleball. There should be at least six pickleball courts.
2. Most disc golf courses are north of Pittsburgh. A course is needed in the area. They have $1,000 worth of disc golf equipment sitting in their school. They are in contact with the people from the Pittsburgh Flying Disc Association.
3. Possibly eliminate the mountain bike trails and leave the area in its natural state.
4. Remove the dead and dying trees adjacent to the housing plan close to the dog park area. Several have already fallen on or near one-person house.
5. Many said they were pleased with the proposed facilities and the minimal disturbance to the land.
6. Several questions concerning the timeframe for the development. They would like to see it sooner than later so they could enjoy the facilities.
7. One question on how it would be financed.

Robert Genter (Conceptual Plan, Vision, and Site Analysis Stations)

8. The Park should have a place for food vendors for the kids after school and for sport court users. Perhaps a snack shop or location for food truck vending.
9. The courts should have bleachers to watch the games.
10. Convert the indoor tennis courts to pickle ball courts, by placing temporary tape to shorten the backline and adjusting the net height.
11. The pickleball players said- the indoor courts do not need a changing room- just a bathroom and a concession would be great.
12. Fence off the park property during the school construction. Don't let construction parking, construction lay down, or stock piles compact the park soils or tree root zones.

Mark Zemaitis (Aquatic Center and E. McMurray Road Entrance Stations)

13. An indoor pool is desired
14. The re-alignment of the severe bend on Center Church Road near the Presbyterian Church is a good thing

15. People who live on East McMurray adjacent to the proposed turning lanes and traffic light are not happy; access to and from their driveways will be greatly impacted
16. People were concerned about additional traffic on East McMurray Road in the vicinity of their homes

Matt Lokay (Sport Court and North Valley Stations)

17. Attendees were against a bubble for indoor tennis. Current facility's bubble has a lot of issues (dampness)
18. There should be a warming hut for the platform tennis courts
19. Four (4) Pickleball Courts are the minimum for tournament play; One attendee said 6 courts.
20. A faction of the pickleball attendees would like indoor tennis courts to be striped for pickleball use.
21. Attendees would like dedicated indoor pickleball courts
22. Design should have four platform tennis courts for league play (plan shows 3 currently)
23. Attendee requested un- mowed meadows
24. One attendee did not think mountain biking was necessary due to proximity of better options (South Park, Mingo). Also, this person did not think pump course would get used.

Michele Harmel (At-Large)

25. We should keep the Indian theme for this park including statues.
26. We should have concessions available to park goers.
27. Indoor and outdoor pickleball courts.
28. The pickleball courts should be free.
29. Concerns about the entrance on McMurray Road and the possible entrance near the student parking lot on Center Church (not the upper near the church).
30. Excitement about the dog park.
31. The need for a pool for competitive pool either at the High School or in the park.

Ted Wallover (Aquatic Center Station)-

The results of the public Open House Meeting of October 10, 2017, the following basic comments were noted; while not a verbatim transcript, I have attempted to group the comments in a meaning full way to permit the Township to glean the nature of the comments we received last night. It should be noted that the vast majority of the comments were positive however as is normally the case, some individuals were not satisfied with the outdoor only concepts for the designs as presented.

Negative issues:

32. No indoor competition based swimming pool was viewed as a major drawback by a vocal minority of the guests. Several individuals expressed a strong desire for competition pool that

would support team swimming and competitive events. I indicated to these individuals that the PTSD High School Project was addressing that particular element and that our charge was to develop a leisure based complex with a focus on recreational aquatic based programs to support the overall concept for the park. In each case, these individuals expressed deep dissatisfaction that their *personal needs* were not being addressed. I attempted to explain the Project rational and direction to little avail. The competitive swimming community has little use for leisure pools.

33. They did however approve of the lap pool illustrated in the medium and large options, but a 4-lane pool did not satisfy their desire for a competition venue. A 6-lane lap pool was deemed to be a minimum size, but an 8-lane pool would be far better in their opinion. We shared the cost implications of this type of pool and the limited draw for the majority of the end users. This is a common issue in many, if not all communities, who operate swimming pool facilities who try to satisfy the competitive community and the leisure swimmer.

34. About a third of individuals expressed an interest for an indoor facility. Most notably, a facility similar to, but larger than the Upper St. Clair indoor aquatic center. The Upper St Clair facility was thought to be too small for winter usage but a few individuals who hold memberships there did indicate that during the summer the facility is under-utilized.

35. The potential for removable fabric structure was voiced in many comments. Again, educating the community members about first cost vs. life cycle/operational costs was a part of the conversation.

36. The concern over spending money for a 3-month operation was a common thread.

Positive issues:

37. While all three options were positively received, the large option pool was most commented upon. People liked the "beach access/zero depth" entry element along with the "lazy river".

38. The water slides components along with the large non-programmed water surface area was positively received in both the large and medium options.

39. Having more features for the kids to experience was a recurring comment.

40. Questions about the features in the bathhouse were also asked. Would a party room be provided, will concessions be offered and questions about the actual cost for memberships were voiced. I explained that the cost analysis of day to day operation could not be addressed until a focused design was settled upon. The folks were supportive and understood after our discussions that these concepts were being offered to validate that the site was in the correct location for the overall park setting.

41. No one expressed any concerns about the location of the pool and parking access was viewed to be a positive. Some folks liked the stepped parking lots as they said it would not look like a sea of cars. They liked the surrounding higher ground to look down on the pool and the aquatic activities.

42. Shade structures and pavilions were viewed as positive features and food service was requested for all the options. (I confirmed this was a planned element for each of the bathhouse locations).

43. The indoor warm water teaching and exercise pool was viewed as a positive element, but "Why can't it be bigger?" was one comment for an elderly resident. This resident was also a member at Upper St. Clair and really hoped that this could be a part of the final design.

44. The idea of the water playground with no standing water was thought to be positive but one negative comment related to having it so far from the pool. What would a Mother do if one child wanted to play in the water playground and the other swim?

45. Of the options presented, the relationship between the pool and the water playground was best solved in the large option design as the pool and water playground were contiguous and patrons could move between each element without having to pass through a parking area. This could be enhanced in the medium option but not as easily in the small pool option.

Additional Public Comments submitted by Michele Harmel-

46. Love the wonderful ideas going into the park, especially the tennis courts. Would strongly advise against another bubble, an indoor facility would be fantastic for both the school kids and the community. Would like to see a unique little place reminiscent of the old Farmhouse where all people visiting the park or school can go to have coffee or smoothies, etc.
47. Aquatic center seems like a lot of money to spend and not have an indoor facility given the climate here. The ability to swim in the winter, do water aerobics, etc. year-round should be part of the plan.
48. Don't see why we need an outdoor aquatic facility center. Will not be utilized in winter. Not a good use of $$
49. We need free public outdoor pickleball courts, a successful indoor pickleball facility and we must supply our youth summers a year-round facility.
50. The proposed entrance will create a serious impact on my property since it is directly across the street from my home. Very concerned with exiting and property value.
51. Please include a swimming pool inside the High School. Not a public pool on the Township property. The High School needs a pool dedicated to its swimmers.
52. Fabulous plan! 3 platform tennis courts – for Peters Township to be competitive with township teams – you will need 4 courts.
53. Major concern regarding traffic patterns on E McMurray Rd. Very difficult pulling out onto road presently. Traffic goes way over the speed limit. It would be a shame to have even more traffic along this stretch. Concept of the park is awesome – just the plans for the entrance is very intrusive to the local residents along E McMurray Rd.
54. Be sure to research and project 10 – 15 years. Pickleball we need 6 outdoor courts and 4 – 6 indoor (winter / not summer) in the park to plan to host tournaments.
55. Pickleball courts – ones that have lines. Ones that are affordable.

56. Our property has a driveway off of McMurray Rd. and also Spruce Dr. We currently have problems with people using it as a cut through and I am concerned that this project will make it worse. I would like to talk to whomever is handling the traffic consulting.
57. Properly lined pickleball courts with nets and balls provided at a low cost or free.
58. Effect on PT taxes. Aquatic: indoor, USP resistance pool. Ballfields: added to fields already existing.
59. Offer pickleball and other sports facility at the new park free for Township residents or at a nominal fee $1 or $2. The use of these facilities should be included in our tax dollars.
60. Provide pickleball courts.
61. Please include pickleball courts. You have planned 6 indoor tennis courts. All 6 can be converted (taped or painted for pickleball). You can make money for the township by charging a nominal fee (up to $6) and realize that neighboring community members will eat, drink and be merry in Peters Township.
62. It would be nice if traffic calming measures can be incorporated into the exiting Center Church Rd. Traffic is bad enough as it is, and to have 400 student drivers exiting the school at a high rate of speed at 2:30 p.m. is a problem waiting to happen. It would be nice if speed bumps were installed similar to Bower Hill Rd., Robinhood and Thompsonville roads. I know that you have to have 20 signatures for something to happen but now whit a new high school and park coming in the future, the increased traffic will come with it as well.
63. Indoor pickleball courts in conjunction with tennis.
64. The Township should consider a 50-m lane competition pool that would benefit more of the community. As a mother of children 3 – 10 years, only my youngest would be able to use a "recreational baby pool" for a year or two more at most.
65. Please seriously consider an 8-lane competitive pool. This pool would serve the community – all ages. From a community growth standpoint, competitive swim meet could be held in the mornings before the pool would open. These meets bring in people from all over the Pittsburgh area. This is an opportunity for them to see Peters and see what the community offers – prospective home buyers. Children don't outgrow a competitive pool. You can have rock walls and slides so it is still entertainment for the kids. Older people can swim laps for exercise. A competitive pool serves the entire community not just the young.
66. Indoor and outdoor pickleball courts. People will drive to play on good courts.
67. Advocating both outdoor and indoor pickleball court. Six courts are required to host a competitive event. Outdoor courts should be lighted.

68. I think the school district should purchase the tennis center for parking for the McMurray School building. Where are people going to park once the Middle School is torn down to make way for the Town Center. Please consider parking for school events.
69. I am concerned with the entrance off of E McMurray Rd. with the proposed intersection directly in front of my house.
70. Better planning for traffic on E McMurray Rd. before building up Rolling Hills. Let's widen the roads before adding extra traffic. Seems like a lot of positives happening, that is going to cause lots of extra traffic.
71. The Peters Township Swim Club must have consideration when deciding the future of swimming in the Township. I support a pool in the High School. We have great facilities for soccer basketball, baseball, football, lacrosse… We need it for youth swimming.
72. Swing sets for younger – 1 to 3-year old's. Frisbee golf. Bocce ball courts.
73. What will this cost – conceptually? + 25% contingency please.
74. Medium pool plan looks great and provides build out option. Scratch the mountain bike area in favor of arboretum paved for XC skiing.
75. Variety of activities and spaces for seniors.
76. I like the nature play area concept a lot. The item that I am most interested in for this park is the pool. Peters lack of a public pool has been one of the biggest downsides of living her for my family. I like the large pool option (15,000 sq. ft). The water play / spray park area looks like a nice "supplement" to the pool, but my family would primarily use the pool. (three kids plus two adults) we'd really like a pool option that includes a lazy river. I'd prefer an option that allows year-round use of the pool, since outdoor pools n PA only operate Memorial Day through Labor Day.
77. The spray park and leisure pool option would be very appealing to my family. I really like that adventure play, great lawn and north valley concepts. The winter fest concept is fantastic.

Rolling Hills Park Master Development and Site Plan
Steering Committee- Meeting #4/4
November 28, 2017 @ 7pm
Mackin Project No# 5229

Meeting Minutes:

The meeting began with a welcome from Paul Lauer and introduction to the nights agenda.

Robert Genter of Mackin Engineering Company reviewed past meeting results including the committee meeting #3 in August, the staff meeting in October, several school coordination meetings, and the public open house in October.

Paul Lauer and staff provided a status update for the School project schedule and the E. McMurray Connector Road RFP.

A PowerPoint of the final Park master development and site plan was presented. The presentation included the final design plan, sections and road profiles, images and enlargements for development; programming for planned facilities; budget costs for construction; and recommendation of priority projects. Jim Watenpool provided a review of the proposed park programming, staff needs and ROI; handouts for programming were made available.

The master plan facility design was based on the following public input results: recommendations from the municipal park-rec. comprehensive plan, interview results with the park and recreation department, the park maintenance staff, and the tennis professional; 18-key stakeholders in the community, staff review and comments, and committee input during the planning process.

The 90+ acre park design includes: infrastructure and access roads, trails and walkways, a connection to the Arrowhead Trail, a picnic lodge, court designs (both indoor and outdoor facilities), picnic spaces and pavilions, a nature play facility and nature center, winter fest area, a dog park, an adventure play facility, an aquatic center with spray park, restrooms, utility and storm water infrastructure, and parking for more than 700 vehicles.

- Each park design facility has been ‘fitted’ to the land to minimize earthwork and grading, preserve large trees and water courses, and benefit from solar orientation and big views.

- The courts have been located on the ridge since they require flatter ground. The vicinity is close to the school to provide for a shared use, and the design layout preserves many of the large trees along the ridge top.
- The draft plan depicts several picnic locations throughout Rolling Hills Park, including a shelter/warming hut for winter use, a large picnic lodge and several picnic shelters near other park facilities. Picnic areas have been provided in the north valley, along the ridge top in the great lawn, and at the south valley near East McMurray Road. The picnic lodge can be an enclosed facility; it can provide capacity for up to 200 persons for big events.
- The park loop roadway has been designed in coordination with the school district's construction documents. The layout and profile have been coordinated with the local ordinance, and to provide access to the properties and future building space for development.

A presentation for the aquatic center was conducted by Ted Wallover. The design showed alternatives for a small, medium and large sized facility. The medium size facility, with 11,200 sf of water surface area, was recommended by the committee for continued detailing and design. Wallover is to finalize the design and submit to the Township for final review and approval prior to the January 15, 2018 public hearing meeting.