



Watertown City Council  
Monday, March 14, 2016  
7:00 p.m.

## WORK SESSION AGENDA

### Discussion Items:

1. Rental Registration
  - Council Member Stephen A. Jennings
  
2. Thompson Park Pool / Splash Park
  - Justin L. Wood, City Engineer
  - Kenneth A. Mix, Planning and Community Development Coordinator

March 11, 2016

To: The Honorable Mayor and City Council

From: Stephen A. Jennings, Councilman

Subject: Rental Registration

Attached for City Council information is a report on proactive rental registration and inspection. I will present on the matter at the March 14, 2016 Work Session.

# UNDERSTANDING PROACTIVE RENTAL REGISTRATION & INSPECTION

- *Information regarding proactive rental registration and inspection.*
- *A comparison of other municipalities in New York State that have successful rental registration and/or inspection programs, and aspects about how these programs are operated.*
- *Draft rental registration and inspection language for Council consideration.*

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Presented to Watertown City Council – Work Session - March 14, 2016

Councilman Stephen A. Jennings

## **INTRODUCTION**

Most localities, be they cities, villages, towns, or counties, maintain code enforcement programs to ensure the safety and welfare of their citizens. Traditionally, these programs have been complaint-based; that is, in response to a resident complaint about a substandard housing condition, a municipal code enforcement officer will conduct a housing inspection, and if the complaint is substantiated, the officer will begin enforcement proceedings.

Proactive rental registration and inspections (PRRI) programs are different. Under a PRRI program, most covered rental units are inspected on a periodic basis to ensure that they are safe and habitable, and that property values are maintained. Typically, inspections take place at designated intervals, though they may also be triggered by an event, such as a change in tenancy. While the hallmark of PRRI is that inspections are not complaint-based, localities with PRRI generally conduct complaint-based inspections too.

This report will compare the City of Watertown demographics to other municipalities in New York State that have active rental registration and/or inspection programs, as well as an analysis of how these municipalities operate their programs. The report will also describe the advantages of PRRI, the general components of PRRI programs, and an option for a City of Watertown program.

**A DEMOGRAPHIC COMPARISON**

Many cities and villages in New York State have rental registration and/or inspection programs. Survey outreach to cities known to have rental registration and/or inspection programs yielded 9 responses, and include the cities of Cohoes, Cortland, Elmira, Fulton, Ithaca, Ogdensburg, Oneonta, Schenectady, and the village of Potsdam. A demographic comparison using U.S. census data shows population, numbers of housing units, home ownership rates, housing units in multi-unit structures, median household income, and percent of persons below poverty.

Some of the cities surveyed are considered “college towns,” and thus have a significant renter-occupied rates vs. owner-occupied (home ownership). Of the municipalities surveyed, Ithaca and Potsdam have the highest renter-occupied rates vs. owner-occupied. Following these two entities, the City of Watertown is highest by comparison to the remaining survey respondents. Watertown is considered a “military town” and is thus comparable to the college towns in that a significant rental market accommodates a regularly transient population, though Watertown’s movement of individuals in and out of the community would be much slower than that typical of a college community.

Given Watertown’s relative status as a military town, a somewhat transient population is to be expected. The housing market in the City of Watertown accommodates a significant amount of renters, far exceeding the national average for a typical city. 41.6% of housing units in the City are owner-occupied while 58.4% are renter-occupied. Nationwide, 64.9% of housing units are owner-occupied and 35.1% are renter-occupied. The City of Watertown’s experience is almost a full inversion of the national average.

**DEMOGRAPHIC COMPARISON OF SURVEY RESPONDENTS TO THE CITY OF WATERTOWN:**

<b>Municipality</b>	<b>Population</b>	<b>Housing Units</b>	<b>Home-Ownership Rate</b>	<b>Housing Units in Multi-Unit Structures</b>	<b>Median Household Income</b>	<b>Persons below Poverty</b>
City of Cohoes	16,212	8,394	45.2%	65.8%	\$43,342	14.3%
City of Cortland	19,164	7,433	45.0%	54.5%	\$38,841	23.0%
City of Elmira	28,647	12,313	48.1%	46.8%	\$30,804	29.2%
City of Fulton	11,648	5,300	52.7%	42.5%	\$35,708	31.2%
City of Ithaca	30,720	10,950	26.9%	69.9%	\$28,760	46.4%
City of Ogdensburg	10,895	4,356	62.9%	27.8%	\$35,906	23.4%
City of Oneonta	13,838	4,774	43.2%	54.3%	\$37,516	28.9%
Village of Potsdam	9,617	2,586	29.2%	60.7%	\$26,630	37.0%
City of Schenectady	65,936	30,095	48.8%	59.4%	\$38,381	23.9%
<b>City of Watertown</b>	<b>27,590</b>	<b>12,562</b>	<b>41.6%</b>	<b>54.8%</b>	<b>\$38,004</b>	<b>20.3%</b>

Source: U.S. Census.

**A COMPARISON OF PRRI PROGRAM FEATURES FROM OTHER NEW YORK STATE MUNICIPALITIES**

While there are many similarities, no two municipalities operate their PRRI programs the same way. Such is demonstrated by the New York municipalities who responded to a survey regarding their rental registration and inspection programs.

**PRRI PROGRAM CIRCUMSTANCES AND REQUIREMENTS FROM SURVEY RESPONDENTS:**

<b>Municipality</b>	<b>What year did your community enact its PRRI program?</b>	<b>What were the circumstances that caused you to establish your program?</b>	<b>Do you require that all residential rental units be registered?</b>	<b>Do you require that all vacant residential units be tracked separately?</b>	<b>Do your PRRI program requirements include passing an interior inspection? Who performs?</b>
City of Cohoes	1980	Older housing stock was unsightly and high number of fires/ structural failures.	Yes	Yes Building and Planning Director tracks these separately, collecting registration forms and fees. Generates over \$60,000 in annual revenues. Exterior inspections are done weekly.	Yes. Code Officer checks for compliance with NYS Property Maintenance Code.
City of Cortland	2009	Student sprawl, rundown homes, property maintenance and consistency in enforcement.	No; Owner-occupied 2 family exempt.	No. Vacant law separate.	Yes. Performed by Code Enforcement/Fire Department; Private Contractors certified by CEO; and Property Owners.
City of Elmira	2009	Numerous out of town/state/ country/ landlords.	Yes.	Yes.	Yes. Performed by Code Enforcement.
City of Fulton	1994	Deteriorating housing stock, lack of owner compliance with Code requirements, life and safety.	Yes.	Yes.	Yes. Performed by Code Enforcement.
City of Ithaca	We do not have a rental registration program.	N/A	N/A	N/A	Yes, we have a residential rental inspection program that does require interior inspection. Performed by Code Enforcement.
City of Ogdensburg	1990	NYS Law requires inspections for all multi-family rental units, and the rental registration program was established first to identify all rentals.	Yes.	No. They are part of the same rental registration program.	Yes. Performed by Code Enforcement.

Municipality (con't.)	What year did your community enact its PRRI program?	What were the circumstances that caused you to establish your program?	Do you require that all residential rental units be registered?	Do you require that all vacant residential units be tracked separately?	Do your PRRI program requirements include passing an interior inspection? Who performs?
City of Oneonta	1980	The registration and inspection program was implemented following the deaths of 2 students in separate incidences.	Yes.	No.	Yes. Performed by Code Enforcement.
Village of Potsdam	1992	Local initiative.	Yes. All dwelling units are registered.	No.	Yes. Performed by Code Enforcement and Code Compliance Technician.
City of Schenectady	1985 by sections. 1997 city-wide.	To monitor the living conditions and evaluate life safety issues within our community.	No. Exceptions: 1 family dwellings and 2 unit owner occupied properties.	No.	Yes. Code Enforcement and Housing Inspectors.

**PRRI LIABILITY ISSUES FROM SURVEY RESPONDENTS:**

Municipality	Have any liability issues arisen due to damages associated with inspection error?	Comments:
City of Cohoes	No.	Only gross negligence would be an issue.
City of Cortland	No.	
City of Elmira	No.	
City of Fulton	No.	If done "by the book" there will not be any.
City of Ithaca	No.	
City of Ogdensburg	No.	
City of Oneonta	No.	
Village of Potsdam	No.	
City of Schenectady	No.	None aware of.

**PRRI STAFFING FROM SURVEY RESPONDENTS:**

Municipality	How many staff in your Code Enforcement program?	How many staff serve exclusively in your Rental Registration/ Inspection Program?	Did you add any additional staff for implementation of the Rental Registration/ Inspection Program?	If yes, how many additional staff were added?
City of Cohoes	9	3	Yes.	3
City of Cortland	4.5	1	No.	
City of Elmira	2	*2	No.	
City of Fulton	3	*2	No.	
City of Ithaca	13	4	No.	
City of Ogdensburg	3	*1.5	No.	
City of Oneonta	5	*5	Yes.	2
Village of Potsdam	2	1	Yes.	1 (Part-time)
City of Schenectady	17	*17	Yes.	2 Housing Inspectors 1 Clerical

\* = Staff complete RR/I as well as other Code Enforcement duties.

## **ADVANTAGES OF PRRI PROGRAMS**

In many instances, PRRI programs may be more effective than complaint-based programs in ensuring safe and healthy housing, preserving housing stock, protecting vulnerable tenants, and maintaining neighborhood property values.

PRRI programs preserve safe and healthy rental housing. By relieving tenants of the burden of having to force reticent landlords to make needed repairs, systematic inspections can help ensure that locality's rental housing stock is maintained and that residents live in healthy conditions.

PRRI programs help protect the most vulnerable tenants. Often, the most vulnerable tenants don't complain. Some tenants are unaware that they have a right to safe and habitable housing. They may not know about existing tenant protections or code enforcement programs. Or they may have language barriers or disabilities that make it difficult to navigate the code enforcement system. Many tenants may be afraid to complain about their housing for fear of increased rent or landlord retaliation, such as eviction. Residents may have limited income that hampers their ability to move. As a result of these barriers, the housing inhabited by the most vulnerable populations, which is frequently the worst housing, is often the most likely to fall through the cracks of a complaint-based code enforcement system.

PRRI programs may preserve neighborhood property values and a locality's property tax base. One of the lessons localities have drawn from the foreclosure crisis is that it is crucial to prevent concentration of blighted properties, in part because poorly maintained substandard housing can have a negative effect on neighboring property values. By addressing housing conditions proactively, and by quickly identifying exterior substandard conditions alongside interior code violations, PRRI programs can ensure that properties don't become blighted, thereby preserving property values. From a financial standpoint, this benefits landlords and homeowners. Maintaining neighborhood property values also benefits the entire locality because it preserves the local tax base.

## **UNDERSTANDING PRRI PROGRAMS**

There is no standard PRRI program. Programs vary according to the types of rental housing in a locality, the needs of the particular locality, the availability of resources, and (to an extent) state law. Though details vary, PRRI programs typically share a basic program structure:

- **Registration:** The locality requires property owners to register their rental properties or to obtain a certificate or license in order to rent housing units.
- **Periodic Inspections:** The locality requires periodic inspections of all covered rental properties. Inspections occur on a periodic basis, usually every few years, to ensure that the housing is adequately maintained.
- **Enforcement:** If a property fails inspection, the locality initiates enforcement measures.

## **TYPES OF RENTAL HOUSING INCLUDED WITHIN THE PROGRAM**

A locality must decide on the types of rental housing to include in its program. The types of housing included are usually determined by the most pressing needs in the community and by the availability of resources for inspection and enforcement.

**Selecting Particular Neighborhoods:** Some localities, particularly when first initiating a rental housing inspection program, select particular neighborhoods or areas. This can enable a locality to focus limited resources where they are most needed. Phasing in the initial inspections over time or selecting particular neighborhoods can help to ease the transition from a complaint-based program to a systematic one.

When selecting neighborhoods, a locality should use criteria that pertain to the quality of housing and/or the need for inspection.

**Selecting Properties Based on Number of Units:** Some localities limit a program's scope to properties that contain a specified minimum number of units.

**Multi-Unit Properties:** Most programs cover multi-unit rental properties, but some programs restrict that coverage to properties with a certain number of units. For example, a program could apply to residential properties with two or more units, so long as at least one of those units is rented or offered for rent. Another locality's program could apply to all multi-family rental properties with more than three units. Still another might conduct periodic inspections of the exterior and common areas of residential buildings with three or more dwelling units. In contrast, another locality's registration and inspection provisions could apply to rental housing properties irrespective of size or number of units.

**Single-Family Homes:** Some PRRI programs cover single family homes. This would typically occur where there are known high volume of single family home rentals. Including single family homes in a PRRI program ensure that substandard housing does not disproportionately impact families with children; increases market equity for all investment property owners by promoting consistent code compliance across all types of rental housing; and ensure a standard of quality and affordability for all rental units, particularly in central city areas, to promote urban neighborhoods. College towns, where single-family homes are often rented to groups of students, typically include single-family rental homes within their programs.

**Other Commonly Exempted Units:** Localities have also adopted a variety of ways to focus their rental inspection resources.

**Owner-occupied:** Several localities exempt buildings if the property owner lives in one of the units. The rationale for this exemptions is that buildings where the landowner resides are likely to be adequately maintained.

**Government regulated or subsidized:** Many localities exempt federal, state, or locality-owned or managed buildings, as well as Section Eight and other subsidized housing, because these housing categories are subject to other programmatic inspection requirements. Should the frequency of these mandated inspections be reduced, municipal PRRI programs could cover these properties.

**New construction:** Some localities exempt newly-built housing, as it is presumed to be in good condition. The exemption could be put in place for a determined number of years, for example three, five, or seven years, determined by the municipality.

**Hotels and motels:** Non-residential hotels, motels, and other transient housing are also commonly exempted from PRRI ordinances. However, given that vulnerable tenants may live in these types of properties on a long-term basis, it may be important to include them in municipal periodic PRRI programs if no other standards are applied to ensure that they remain in habitable condition.

#### **ABSENTEE LANDLORDS**

An absentee landlord is someone or some entity who owns rental properties in a municipality but does not live within the community. This causes a problem for enforcement officials who need to serve process on the landlord or contact a landlord for some other reason. Many municipalities have addressed this

issue by adopting legislation requiring the annual registration of landlords and designation of a registered agent authorized to accept a summons on behalf of the absentee landlord. Some absentee landlords have hired property management companies, and these companies must be registered. The municipalities surveyed demonstrate that absentee landlord issues are a common problem.

**ABSENTEE LANDLORD EXPERIENCE FROM SURVEY RESPONDENTS:**

<b>Municipality</b>	<b>What percentage of your residential property owners are absentee landlords?</b>	<b>Do you require landlords that do not live in your city or county to assign an agent to be responsible for and/or manage the rental property?</b>
City of Cohoes	Unknown.	Yes, but it doesn't have to be a certified property manager or real estate agent.
City of Cortland	Approximately 40%.	Yes, property owners are required to have someone as an agent over age 18 that lives within Cortland County.
City of Elmira	50%	Yes, must live within the County.
City of Fulton	20%	Yes.
City of Ithaca	Unknown.	Yes.
City of Ogdensburg	20%	Yes. Also require Canadian property owners to appoint a local agent.
City of Oneonta	50%	Yes. They must live within a 20-mile radius of the city, or come to the city on a regular basis for business and so demonstrate.
Village of Potsdam	Unknown.	Landlords residing outside of St. Lawrence County must have a property manager for the property rented.
City of Schenectady	Approximately 50%.	Yes. Owners who do not reside in Schenectady County are required to designate an agent who does reside in Schenectady County. The owner and agent are required to sign a notarized non-county resident form.

**REGISTRATION AND LICENSING OF RENTAL PROPERTY**

**Rental Registration:** In order to implement a PRRI program, a locality needs to know what rental properties exist and who owns them. To determine this, many localities require owner to register their rental properties or units.

Registration requirements are common in systematic rental housing inspection programs, but can also be implemented independently, or in conjunction with other city administrative functions such as business licensing.

In addition to informing a locality of the location of rental housing, information gathered during registration may help a locality to inventory its rental housing stock, which can be valuable for planning purposes. For example, registration and licensing can allow municipal housing, commerce, and planning agencies to monitor fluctuations in the number of rental units over time, which may help plan for growth or contraction, or manage situations such as the recent foreclosure crisis.

**Vacant Property Registration:** Some localities require owner to register all rental property – including vacant and abandoned properties. Requiring the registration of vacant and abandoned property can help prevent blight in neighborhoods, especially in localities with high foreclosure or vacancy rates.

**Frequency of renewal:** Localities vary in how frequently they require registration renewal. Some require annual registration. Others require registration to be updated when there is a change in ownership in addition to or in place of renewal on a fixed term basis.

**Registration fees:** Many localities charge fees for property registration. Still others may not charge a fee, but a failure to register may result in significant enforcement fees. Municipalities surveyed demonstrate great variation in fee types and arrangements.

**PRRI FEES FROM SURVEY RESPONDENTS:**

Municipality	How much do you charge for the registration and/or inspection? Is it an annual fee on a 3, 5 or other # year cycle?	Approximate revenue the program generates on an annual basis?	Do you charge re-inspection fees in case of failed inspections?	If yes, how much do you charge for re-inspections?
City of Cohoes	\$40/unit every 3 years or with every change in tenancy.	\$45,000	No. Only charge \$25 if failure to show for re-inspection, or failure several times.	N/A
City of Cortland	\$80/unit every 3 years.	\$70,000 - \$100,000	Yes.	\$25/unit.
City of Elmira	\$0	\$18,000 (fines)	No.	N/A
City of Fulton	\$30/unit every 5 years.	\$10,000	Yes.	Not provided.
City of Ithaca	\$7/room/unit + \$5/room/unit/violation.	\$180,000	Yes	\$40 base fee for each re-inspection and an additional \$5 for each violation not corrected.
City of Ogdensburg	\$90/unit every 3 years.	\$36,000	Yes	\$20 for every inspection after the first initial 4 inspections.
City of Oneonta	\$25/1 and 2 family homes. Multi-unit charge is \$25 + \$10/unit over 2; no more than \$100/building.	\$15,000	Yes	First re-inspection is free. Scaled fee after, dependent on number of times required to return. Also charge "No-Show" fees to landlords or agents who fail to show up when scheduled.
Village of Potsdam	\$25/unit every 3 years and with every change in tenancy.	Varies.	No.	N/A
City of Schenectady	\$0 for the registration. Inspections are \$50/unit, or an annual \$500 flat fee - \$20 per unit for 10 or more units. Inspection required for every new tenancy. If the unit is rented to a new tenant more than twice in a year, the third inspection is at no cost.	\$200,000	Yes.	\$25/unit.

**FREQUENCY OF PERIODIC INSPECTIONS**

Whether in conjunction with a registration system or a licensing requirement, the defining characteristic of PRRI programs is routine inspection of rental housing. As described above, some localities require an inspection as a prerequisite to initial registration, licensing, or occupancy. Many PRRI programs also require additional periodic inspections. The frequency with which localities elect to conduct these inspections is often heavily dependent on the extent of a locality's resources. In addition to periodic inspections, certain events may trigger, accelerate, or decelerate inspections.

### **Periodic Inspections on a Fixed Basis**

Many PRRI programs require inspection on a cyclical basis, usually every two years. Some municipalities require inspections every three years. While a systematic rental housing inspection program may require inspections on a fixed cycle, the actual timeline on which municipal inspectors are able to work their way through inspections of covered housing may, in some cases, be longer.

### **Inspection Frequency Based on Prior Compliance**

A number of localities set a baseline standard for the frequency of inspections and then allow for deviation from that standard based on a property's record of compliance. Some localities require less frequent inspections once a property owner establishes a record of compliance. Several localities require less frequent inspections once a property owner establishes a record of compliance.

### **Self-Certification**

A number of localities allow property owners to "graduate" into self-certification programs if they have established a record of passing inspections with no violations. Self-certification programs can give localities a way to allocate their limited resources to properties most in need of inspections. It can also serve as an incentive for property owners to ensure that their property complies with all applicable codes.

### **Vacancy Inspections**

Some localities require inspections only when a unit is vacated due to a change in tenancy. Inspections and repairs may be easier to conduct and less disruptive when a tenant is not present. In addition, by conducting repairs before a tenancy begins, a rental housing inspection program can help protect future tenants from being exposed to dangerous conditions, such as deteriorating lead-based paint or fire hazards.

### **NOTICE OF INSPECTION AND ENTRY OF OCCUPIED UNITS**

Unlike most complaint-based inspections, proactive rental inspections are undertaken without a request from the occupant. As a result, notice of a pending inspection serves an array of critical functions. By informing tenants about the purpose and process of inspections, notice can allay fears, prepare tenants for a stranger to arrive at the door, and encourage tenants to permit entry. Giving tenants notice of the scheduled date and time of an inspection can also increase the likelihood that a tenant will be home and available to permit the inspector to enter. Notice also provides localities with an opportunity to educate tenants and landlords about their rights and duties under the law. Finally, notice can alleviate privacy concerns that residents may have by giving them the opportunity to, in advance of inspections, store personal items that are unrelated to code enforcement.

Some programs notify property owners and rely on them to give notice to tenants. However, the critical goals of notice are better served by providing notice directly to tenants as well; in the cases where housing inspection is most needed to address egregious code violations, landlords may be least likely to communicate notice to tenants. Programs provide notice to tenants by mail, posting notice at the property, or both.

### **ENFORCEMENT TO ADDRESS CODE VIOLATIONS**

One of the most important elements of any rental inspection program, complaint-based or proactive, is enforcement when violations are discovered. Implementing appropriate remedies for identified code violations and when a property owner fails to make repairs, helps ensure that program goals are met and tenants are protected from substandard housing conditions.

Localities use a range of tools to enforce property maintenance, housing, sanitary, and health laws. The methods a locality may use are often dependent on state law and on what powers the state delegates to localities. In New York State, Uniform Fire Prevention and Building Code (Uniform Code) and the Energy Conservation Construction Code (Energy Code), as provided for in Article 18 of the Executive Law (§370 et. seq.) and Article 11 of the Energy Law (§11-101 et. seq.) guide code enforcement. In most cases, the Uniform Code and Energy Code are enforced by the local government (i.e., city, town or village) in which a building is located.

The minimum standards for code enforcement and administration are found in [Part 1203](#) and [Part 1208](#) of Department of State regulations, Title 19 of the New York Codes, Rules and Regulations (19 NYCRR). In brief, [Part 1203](#) requires each local government that enforces the Uniform Code to:

- use its code enforcement powers to protect the public from the hazards of fire and inadequate construction by enforcing the Uniform Code;
- require and issue building permits for most, but not all construction, and to obtain sufficient information to allow it to determine that the proposed construction conforms with the Uniform Code;
- conduct construction inspections;
- conduct fire safety and property maintenance inspections of certain existing buildings;
- establish and implement procedures for identifying and addressing unsafe structures and equipment; and
- establish and implement procedures for addressing bona fide complaints about conditions or activities which assert noncompliance with the Uniform Code. New York State Department of State, Division of Code Enforcement & Administration.

Generally, the move from a complaint-based system to proactive rental inspection doesn't require major changes in the types of actions taken in response to violations. Municipalities surveyed demonstrated great variation in how their programs are enforced.

**ENFORCEMENT STRUCTURE FOR PRRI SURVEY RESPONDENTS:**

<b>Municipality</b>	<b>How is the program enforced, and do you have a specific fine schedule for violations?</b>	<b>If requirements are not complied with, do you revoke the rental certificate and require rental activity to Cease and Desist?</b>
City of Cohoes	After a failed inspection, we give a reasonable time to remedy. If it isn't remedied, we issue a violation notice. If the owner doesn't respond to a violation notice, we issue a court appearance ticket. At court, the judge requires property owners to negotiate with Deputy Corporation Counsel. We require compliance, adjourning until the work is done or going to trial with anyone who won't comply. After compliance, the ticketed party can plead guilty and pay a small fine up to \$250 depending on level of cooperation and past history.	Yes. But we have to ticket to enforce.
City of Cortland	\$250/day/violation. Levies against property taxes. This is a tough law to enforce right now. In 10 years, it will probably be different. The work is time consuming and we are understaffed. However, the landlords are not standing in line to register.	No, we have not. But we have the ability to.

Municipality (con't.)	How is the program enforced, and do you have a specific fine schedule for violations?	If requirements are not complied with, do you revoke the rental certificate and require rental activity to Cease and Desist?
City of Elmira	Not answered.	Yes.
City of Fulton	Enforcement is per local and State law via a 3 part process: inspection, order to remedy, and court for non-compliance. Fine can be \$500 and/or 15 days per day from Order date.	Yes. As per local law, if permit is revoked the fee is increased to \$500.
City of Ithaca	We charge a fee per violation and prosecute if necessary. We encourage voluntary compliance.	No. Only in the case of imminent danger to the tenant. In other cases there are legal problems with doing so.
City of Ogdensburg	Court procedures are initiated. Fines of \$50 up to \$500 and/or 14 days in jail. \$250 fine for every day violation exists.	Yes. This is a rare occurrence.
City of Oneonta	Not answered.	No. We can charge Administrative fees from the Code Office for failing to comply.
Village of Potsdam	Through our local court system using appearance tickets.	Yes.
City of Schenectady	We cannot use the term "fine" (only to be used for law enforcement). If an owner doesn't register, it is a \$50 fee plus a \$50 administration fee. If there is no rental certificate, it is a \$50 fee per unit plus a \$50 administration fee in addition to the \$50 per unit inspection fee. Each notice (could be multiple) violation(s) from a Housing Inspector or Code Enforcement Officer - \$50 fee plus \$50 administration fee.	No. The owner will receive the notice and fees described. If the fees are not paid, tickets will be issued along with a court date. If the owner continues to ignore the violation, a warrant for their arrest will be issued. Most owners will comply at the notice/fee step of the process.

**PRRI IMPACT**

The purpose of PRRI is to address the issue of substandard rental properties, promote greater compliance with health and safety standards, and preserve the quality of neighborhoods and available housing. The program achieves compliance of health, safety and code regulations in/on residential rental properties that are a threat to the occupant's safety, structural integrity of the building, and a negative impact on the surrounding neighborhoods. Surveyed municipalities describe the impact of PRRI in their experience.

PRRI IMPACT ON SURVEYED MUNICIPALITIES:

Municipality	What have been the positive and/or negative outcomes to residential rental registration/inspections in your community?	Are there any shortcomings to these types of programs?	Additional Comments:
City of Cohoes	We improve the aging housing stock and prevent some emergencies by checking these properties – both structural problems and fire hazards. We know what the spaces look like and can inform emergency personnel who should be in the space with some accuracy.	Tough to keep on top of who is renting without a permit.	We work with the School District to capture renting without a permit. We require large apartment complexes to submit updated tenant lists which we compare to our records. The Treasurer’s Office schedules appointments and lets the Code Office know if they don’t see many from a certain apartment complex. The Code Officer provides a separate, free inspection called a multi-family residential inspection (MRI) to check for outdated ROPs.
City of Cortland	Lawsuits.	To do an effective job of enforcement, the units should be looked at more frequently, say each semester. Some think that the law should have been written around the NYS Property Maintenance Code (PMC), which evaluates the ability to use a space based on size. Current code restricts the number of students a landlord can rent to per dwelling. Money is the bottom line for some.	Since 2009, the City has been sued a couple of times directly related to the law. The first resulted in a TRO over the intent of the nuisance portion of law. The second was indirect but concerned the 3 unrelated and family definition, nonconforming property and Certificates of Zoning.
City of Elmira	Not answered.	Not answered.	Not answered.
City of Fulton	Improved housing stock, fewer non-compliant structures, less “bad landlords,” lower incidence of injury or death associated with lack of maintenance.	None.	We have a computer program to track our rental permit applications/certificates, order to remedy, building permits, etc.
City of Ithaca	Inspection program has improved the quality of rental units, and improved the City.	The inspection program is time consuming and it is sometimes difficult to get some landlords to schedule inspections.	None.

Municipality (con't.)	What have been the positive and/or negative outcomes to residential rental registration/inspections in your community?	Are there any shortcomings to these types of programs?	Additional Comments:
City of Ogdensburg	The positive outcomes are: continued maintenance of properties, education of both tenants and landlords in safety issues (smoke, carbon detectors, wood stoves), obvious that rentals have continued to be repaired, upgraded and maintained after each inspection cycle. There have been no negative issues.	The local court has to be on board with the program and not treat these violations as minor issues.	None.
City of Oneonta	Not answered.	Not answered.	Not answered.
Village of Potsdam	We have a much better relationship with our property owners, and we are much more knowledgeable of the individual properties.	None.	None.
City of Schenectady	Most of our property owners give positive feedback and are always in compliance. What negative feedback we may hear quickly changes after learning that our rental program not only benefits them from a legal standpoint (tenant complaints, etc.), but also promotes a safe environment.	Not really, just communication with some absentee landlords can be difficult.	None.

**CONCLUSION**

There are many different ways to design municipal PRRI programs. The most effective programs are tailored to the characteristics of the local rental housing stock, factor in on-the-ground political and resource limitations, anticipate potential challenges in adoption and implementation, and incorporate broad-based strategies to ensure that local rental housing remains not only stable and affordable for tenants, but also safe and healthy.

The following draft is an example of what may work for the City of Watertown. It requires registration of all rental units; appointment of an agent for properties where the landlord is not a resident of Jefferson County, or conducts regular business in the City of Watertown; and suggests a laddered approach for implementation. It is but one example of many possible ways a proactive rental registration and inspection program could be accomplished for the City of Watertown.

**DRAFT - CITY OF WATERTOWN, NY - DRAFT**

**RENTAL PROPERTIES**

**CHAPTER 177**

**ARTICLE I**

**CERTIFICATE OF SAFETY AND MAINTENANCE COMPLIANCE**

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## ARTICLE I

### CERTIFICATE OF SAFETY AND MAINTENANCE COMPLIANCE

#### § 177-1. Legislative intent.

- A. Residential properties are significant assets and a critical investment in the City of Watertown because of their impact on community character, property values and overall quality of life. To maintain our neighborhoods and facilitate effective code enforcement, the City must be able to efficiently communicate with property owners regarding maintenance and property conditions.
- B. In instances when residential properties are rented, the City Council has determined that accurate and current contact information is needed to facilitate timely communication with property owners regarding potential issues related to property conditions and/or violations of the City Code and/or the laws of the State of New York. The City Council has also determined that the inability to make timely contact with the owners of such residential rental properties may result in extended physical deterioration of housing stock and/or substandard living conditions for City residents. The City Council finds that establishing registration requirements for rental properties is in the best interest of public health, safety, and welfare and the good order and governance of the City will be promoted and enhanced by the enactment of registration requirements for such rental properties and their owners through the enactment of the provisions set forth in this chapter.

#### § 177-2. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

#### **CODE ENFORCEMENT OFFICIAL**

The person(s) designated by the City Engineer to inspect and issue Certificates of Safety and Maintenance Compliance pursuant to this Article.

#### **DEPARTMENT**

The Engineering Department.

#### **DWELLING UNIT**

A structure or building, or any part thereof, or any area, room or rooms therein, occupied or to be occupied by one or more persons as a home or residence.

#### **OWNER**

The person, persons, or entity shown to be the owner or owners on the current assessment records of a dwelling unit or of a property including one or more dwelling units.

#### **RENT**

A return, in money, property or other valuable consideration (including payment in kind or services or other thing of value), for use and occupancy or the right to the use and

occupancy of a dwelling unit, whether or not a legal relationship of landlord and tenant exists between the owner and the occupant or occupants thereof.

**RENTAL DWELLING UNIT**

A dwelling unit established, occupied, used or maintained for rental occupancy in a one or multi-family home.

**RENTAL OCCUPANCY**

The occupancy or use of a dwelling unit by one or more persons other than the owner as a home or residence under an arrangement whereby the occupant or occupants thereof pay rent for such occupancy and use. There is a rebuttable presumption that any occupancy or use of a dwelling unit is a rental occupancy if the owner of the structure or building containing the dwelling unit does not reside in the same structure or building.

**RENTAL PROPERTY**

A property upon which is located a building or buildings or structure or structures which include one or more rental dwelling units.

**SECURED BY NORMAL MEANS**

A building secured by means used in the design and approved plans for the building.

**§ 177-3. Exceptions.**

This Chapter shall not apply to owner-occupied one-family dwellings, one-family dwellings sold pursuant to a land contract which is filed with the Jefferson County Clerk, hotels, motels, multi-family dwellings owned by a duly established public housing authority or leased directly to the U.S. Government, nor to nursing homes, hospitals, adult homes, assisted living facilities, hospice residences, nor to other licensed residential health care facilities.

**§ 177-4. Applicability; more restrictive provisions to prevail.**

- A. Scope. This chapter shall apply to all rental dwelling units located within the City, with the exception of those delineated in § 177-3.
- B. Applicability. The provisions of this chapter shall be deemed to supplement applicable state and local laws, ordinances, codes, rules and regulations, and nothing in this chapter shall be deemed to abolish, modify, limit, impair, supersede or replace any existing requirements of, or remedies under, any other applicable federal, state or local statute, laws, ordinances, codes, rules or regulations. In case of conflict between any provision of this chapter and any applicable federal, state or local statute, law, ordinance, code, rule or regulation, the more restrictive or stringent provision or requirement shall prevail. The acceptance of any registration, the filing of any application under this chapter or other compliance with the requirements of this chapter shall not cause, or be deemed to cause, any circumstance, condition, status, action, or statement of facts that is otherwise illegal, unlawful or noncompliant under any federal, state or local statute, law, ordinance, code,

rule or regulation, including, but not limited to, the City Code, to become or be deemed to be lawful, legal or in compliance.

§ 177-5. Rental occupancy registration required.

It shall be unlawful and a violation of this chapter for any owner of any rental property or rental dwelling unit in the City to establish, maintain, use, let, lease, rent or suffer or permit the occupancy and use thereof as a rental occupancy without first obtaining and thereafter maintaining in full force and effect a Certificate of Safety and Maintenance Compliance from the City, as herein provided.

§ 177-6. Application for rental occupancy registration.

A. Application for a Certificate of Safety and Maintenance Compliance of a rental occupancy and/or for a rental dwelling unit shall be made in writing on a required form provided by and to be filed with the Department for that purpose. A separate application shall be made for each rental dwelling unit or, where more than one rental dwelling unit exists on a rental property, for each such rental property. In the event that any rental dwelling unit or rental property is owned by more than one person or entity, the application shall be executed by each such owner, except in those instances in which it is owned by an entity in which there are more than 10 owners, in which event the application shall be executed by the chief executive officer of such entity (e.g., president, general partner, managing member). Such application shall contain the following information:

- (1) The name, address (both street address and any post office address), telephone and facsimile numbers, and e-mail address, if any, of each owner. If any owner is an entity which has fewer than 10 owners (e.g., shareholders, partners and/or members), the application shall also include the name, address (both street address and any post office address), telephone and facsimile numbers and e-mail addresses of each owner (e.g., shareholder, partner, member) and of each officer (e.g., president, vice president, treasurer, secretary, general partner, managing member). If any owner is an entity which has more than 10 owners (e.g., shareholders, partners and/or members), the application shall also include the name, address (both street address and any post office address), telephone and facsimile numbers and e-mail addresses of each officer (e.g., president, vice president, treasurer, secretary, general partner, managing member).
- (2) The street address of the rental property, including the apartment or unit number of the rental dwelling unit(s), if any.
- (3) If the rental dwelling unit is occupied as of the date the application is filed with the Department.
- (4) A description of the building or structure, including the number of rental dwelling units in the building or structure.

B. Designation of a Managing Agent. If any owner does not live within and/or maintain an office or a place of business within the City, the name, address (street address and any post office address), telephone and facsimile numbers and e-mail address of the local managing

agent or agents or operator of each such intended rental property shall be provided. The agent shall be a person eighteen (18) years of age or older, who resides within the County of Jefferson, New York, or conducts a business, the main office or branch of which is located in the County of Jefferson. The agent shall be designated by such owner as in control of and responsible for the maintenance and operation of such dwelling and who shall be designated as the person upon whom process and other notice may be served on behalf of the owner.

C. Conditions to be met; affidavit.

- (1) Such application shall include an affidavit by the owner affirming that rental dwelling unit(s) meet the following conditions:
  - (a) Rental properties and all rental dwelling units thereon shall comply with all applicable federal, state or local statutes, laws, ordinances, codes, rules or regulations, especially the New York State Uniform Fire Prevention and Building Code.
  - (b) Operational smoke and carbon monoxide detectors as required by the New York State Uniform Fire Prevention and Building Code.
  - (c) Exterior walls, including foundations, shall be maintained. All exterior walls and foundations must be free of holes and crevices.
  - (d) Exterior doors, windows, skylights and similar openings shall be maintained secured and weathertight.
  - (e) Exterior stairs, porches, entrance platforms, fire escapes and the railings thereon shall be maintained in a safe and sound condition.
  - (f) Roofs shall be maintained in a weathertight condition, secured by normal means.
  - (g) Roof drains, gutters and downspouts shall be maintained in good repair and free from obstructions.
  - (h) Exterior surfaces shall be maintained in good condition.
  - (i) Interior living spaces, including kitchen(s), bathroom(s) and bedroom(s), are in compliance with the New York State Uniform Fire Prevention and Building Code.
- (2) The affidavit will also affirm that owner has received and read the following portions of the City Code and understands the obligation and responsibility to comply with all applicable state and local laws, including but not limited to:
  - (a) Chapter **98**, Brush, Grass and Weeds.
  - (b) Chapter **161**, Garbage, Rubbish and Refuse.

- D. Such application shall be signed by the owner, or by each owner, of the premises, and each such signature shall be notarized.
- E. Scope of Inspection. After June 30, 2018, no person, firm, partnership, association, corporation, limited liability company, limited liability partnership, or other person or entity shall rent, lease or suffer or allow any person or persons to live in or occupy, as a tenant, any dwelling in the City not otherwise excepted by the provisions of § 177-3, unless a Certificate of Safety and Maintenance Compliance is first obtained from the Code Enforcement Official indicating that said dwelling is fit for human habitation and is in compliance with the New York State Uniform Fire Prevention and Building Code, the Codes of the City of Watertown as they pertain to building and fire safety, zoning, and property maintenance, and such other laws and regulations which may, from time to time, be adopted and amended.
- F. Inspection Procedures. A Certificate of Safety and Maintenance Compliance may only be obtained after an inspection of the dwelling, including all dwelling units, by the Code Enforcement Official or his or her deputies. Either a Certificate of Safety and Maintenance Compliance or a Notice of Violation shall be issued within fifteen (15) days after the date of such inspection.

If violations are found during the inspection, such violations shall be corrected, or the dwelling unit vacated, within a period of time ranging from ten (10) days to six (6) months, depending on the severity of the violation and the physical requirements necessary to remedy such violations, as determined by the Code Enforcement Official.

Inspections shall be made in the order that applications for Certificates of Safety and Maintenance Compliance are received, with the results issued within fifteen (15) days of such inspection.

A reinspection may be conducted at any time during the period of the Certificate of Safety and Maintenance Compliance, with a minimum of ten (10) days notice to the owner or his agent, if a signed complaint of non-compliance is received from a person or persons renting a dwelling unit, or upon less notice if deemed necessary by the Code Enforcement Official in case of emergency. Such reinspection shall have the same force as the original inspection.

A refusal to permit inspection or reinspection shall be deemed a surrender of any previously issued Certificates, and shall preclude the issuance of an original Certificate.

- G. Posting of Certificate of Safety and Maintenance Compliance. The Certificate of Safety and Maintenance Compliance issued pursuant to this Chapter shall be posted in a conspicuous place in the dwelling upon its issuance. The Certificate shall be valid for a period of three (3) years from the date of issuance unless a reinspection discloses violations. Upon correction of the violations, the Certificate shall then be valid for the remainder of the original period of issuance.

- H. Courtesy Inspections. Residents living in a rental dwelling unit subject to the regulations of this chapter may apply to the Department for a courtesy inspection if they believe the minimum standards set forth in § 177-5C are not present or being maintained. A non-refundable fee for courtesy inspection shall be paid to the City for the courtesy inspection, in an amount to be set from time to time by the City Council by resolution.

## ARTICLE II

### § 177-7. Registration application fees.

- A. Registration application fee. A nonrefundable registration application fee shall be paid to the City upon filing each application for a certificate of registration of a rental occupancy and/or for a rental dwelling, in an amount to be set from time to time by the City Council by resolution. The City Council resolution may, in its discretion, but subject to applicable law, establish a schedule or schedules setting different application fees for different categories of applicants or properties.
- B. The fees required by this section shall be waived for any applicant that demonstrates to the satisfaction of the Code Enforcement Official that it is a not-for-profit housing development corporation organized under the laws of the State of New York and that it is providing housing for senior citizens or other designated special populations subject to income guidelines established by either federal or state regulation.

### § 177-8. Review of application.

The Code Enforcement Official shall review each application for completeness and accuracy. The Code Enforcement Official shall also review all available information to confirm that the rental property and all rental dwelling units thereon are in compliance with the City Code or the New York State Uniform Fire Prevention and Building Code at the time the application is made. The application shall be accepted and a certificate of registration shall be issued if, based on all such available information, such application is found to be complete and accurate and if, based on all such available information, the rental property and all rental dwelling units thereon are in compliance with the City Code or the New York State Uniform Fire Prevention and Building Code. Applications shall be rejected if they are deemed to be incomplete or inaccurate in any way or if the rental property and all rental dwelling units thereon are determined to not be in compliance with the City Code or the New York State Uniform Fire Prevention and Building Code. Notice to the owner of acceptance or rejection of the application shall be made in writing.

### § 177-9. Term of certificate of registration.

A certificate of registration pursuant to this chapter shall be valid for as long as the information in the application remains complete and accurate, but in no case for more than a period of three (3) years from the date on which the certificate is issued. The owner shall file with the Department a new application in accordance with the requirements of this chapter a) no less than 60 days prior to 1) the expiration of the then current certificate or 2) if sooner, the date set forth in any contract

of sale for the closing of transfer of title to the rental dwelling unit or rental property; or b) except for any change in the information provided in the application pursuant to § 177-6A(3), in the event that the prior application is no longer complete or accurate, within 30 days following the occurrence of the event or change in circumstances requiring the updating of such information. In the event a new application is not filed if and when required pursuant to Item a)2) or b) of this § 177-9, the existing certificate of registration shall be null and void.

§ 177-10. Record of registrations.

It shall be the duty of the Code Enforcement Official to maintain a record of registrations pursuant to this chapter. Such register shall be kept by owner name and by street address, showing the name and address of the owner, the number of rental dwelling units at such street address, and the date of expiration of registration for such property. Each application shall be maintained in accordance with all record retention requirements applicable to the City and shall be subject to public disclosure, inspection and copying in accordance with the requirements of the applicable law of the State of New York.

§ 177-11. Presumptions applicable to rental registration enforcement and prosecutions.

- A. Within the context of this chapter, the presence or existence of any one of the following shall create a rebuttable presumption that a premises is being used as a rental property or a rental dwelling unit:
- (1) There exists a written or oral lease or rental arrangement, payment or agreement for all or any portion of any building or structure located on the property by and between the owner and any tenants, occupants and/or other persons or entities in possession thereof.
  - (2) The property is occupied by someone other than the owner, and the owner represents in writing or otherwise, to any person or establishment, business, institution or government agency, that the owner resides at an address other than the rental property.
  - (3) Utilities, cable, phone or other services are in place or requested to be installed or used at the premises or any portion thereof in the name of someone other than the owner.
  - (4) There are separate entrances for segregated parts of any building or structure located on the property.
  - (5) There are partitions or internal doors which may serve to bar access between segregated portions of any building or structure located on the property, including but not limited to bedrooms.
  - (6) Any occupant or person in possession thereof does not have unimpeded and/or lawful access to all dwelling units in a building or structure.
  - (7) Two or more complete dwelling units, as defined herein or in the Residential Code of New York State, exist in any building or structure located on the property.

- (8) A premises has been advertised in any newspaper, magazine, local advertising publication, or posted or billed as being available for rent.
- B. The presumptions set forth above, subject to the limitations contained therein, shall also be applicable to enforcement and prosecution of illegal residential use and occupancy violations under other articles of the City Code.
- C. Nothing herein shall be construed to prevent persons living together with any owner as a two-family unit as defined by the City Code.

§ 177-12. Penalties for offenses.

- A. Any person or entity which fails to obtain and maintain the Certificate of Safety and Maintenance Compliance required by this chapter shall be deemed a public nuisance, which nuisance shall be abated by the revocation of the dwelling's Certificate of Occupancy and the maintenance of such legal action by the City as shall either compel compliance with this chapter or enjoin the occupancy of the dwelling until compliance with this chapter shall be achieved.
- B. Any owner whose failure to comply with the provisions of this chapter results in legal action by the City to either compel compliance or to enjoin occupancy shall be liable to the City, as part of any judgment obtained by the City, for the City's costs, including reasonable attorney's fees, in obtaining such judgment.

§ 177-13. Severability.

If any clause, sentence, paragraph, section or part of this chapter shall be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair or invalidate the remainder thereof but shall be confined in its operation to the clause, sentence, paragraph, section or part thereof directly involved in said judgment.

§ 177-14. Effective date.

- A. This section shall be effective beginning August 1, 2016 for Census Tract 062100 in the City of Watertown, Jefferson County, New York. Owners in the 062100 Census Tract must register their rental property/rental dwelling unit(s) as required by this section on or before July 31, 2017.
- B. This section shall be effective beginning August 1, 2017 for Census Tracts 061300 and 061400 in the City of Watertown, Jefferson County, New York. Owners in the 061300 and 061400 Census Tracts must register their rental property/rental dwelling unit(s) as required by this section on or before July 31, 2018.
- C. This section shall be effective beginning August 1, 2018 for all other Census Tracts in the City of Watertown. Each owner must register rental property/rental dwelling unit(s) as

required by this section on or before such deadlines as the Code Enforcement Officer may provide by dividing notices to register by Census Tracts, or such other mechanism to provide for an orderly initial registration process through July 30, 2019.

- D. Subsequent to the initial registration process as required in paragraphs (A), (B) and (C) above, the Certificate of Safety and Maintenance Compliance will be valid for three (3) years from the last day of the month it is issued and must be renewed by § 177-9 above.

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CITY OF WATERTOWN  
ENGINEERING DEPARTMENT  
MEMORANDUM

DATE: March 9, 2016

TO: Sharon Addison, City Manager

FROM: Justin Wood, City Engineer

SUBJECT: Thompson Park Pool and Bathhouse

The Thompson Park Pool and Bathhouse, which were last open in 2013, are the subject of this memorandum to get direction from Council on the future of these facilities.

**Thompson Park Pool:**

The Thompson Park Pool and Bathhouse were originally constructed in the 1920's. The pool underwent a major rehabilitation project in 1974 to install a gunnite surface within the original concrete pool shell. The gunnite surface has been patched over the years by Parks and Recreation staff, but continues to deteriorate and is in need of extensive repair if not complete replacement. The pool is not accessible for disabled persons. In addition, the filtration system is located in a below ground chamber, which is considered a confined space according to OSHA, is dangerous to work in, requires special safety precautions, and should be relocated above ground in a new building with the chemical storage tanks. **Total replacement of the pool, and construction of a small building to house the new filtration system is projected at a Rough Order of Magnitude (ROM) cost of \$1.25 Million, based on escalated estimates from C&S Engineers in 2013.**

An option to resurface the pool would have to be reevaluated, to determine the extent of deterioration the pool has incurred over the past three years. At a minimum, drainage should be installed between the original pool shell, and new surface, to remove the flow of water between the two surfaces, which is likely contributing to failure. A quartz surface, which adds color and better durability than the traditional gunnite surface, would last approximately 15 years if the pool is maintained and balanced properly. An alternative would be a fiberglass epoxy surface, which resists chemicals and staining better, provides strength to the pool, and has a life expectancy of 15 to 20 years. The fiberglass surface is more expensive than the quartz surface, but could be bid as an alternate. This option does not address the outdated design of the existing pool, trip hazards, main drain leakage, nor handicap accessibility provisions. **Resurfacing of the pool, construction of a small building to house the new filtration system, plus unknown spot repairs is projected at a ROM cost of \$0.75 M, based on escalated estimates from C&S Engineers in 2013.**

In addition to upgrade costs, the operational costs should be considered as part of decision to reopen the Thompson Park Pool. **Based on previous year records, it costs approximately \$90,000 per year to run the pool, when accounting for wages, materials, etc.** The City already spends approximately \$258,000 per year, to run the Flynn and Alteri Pools. Reopening the Thompson Park Pool would increase the total cost of the City's Pool program to approximately \$350,000 per year.

### **Thompson Park Bathhouse:**

The Thompson Park Bathhouse was originally constructed in the 1920's. Shower and toilet additions were later constructed on each end of the structure making it approximately 2,100 SF. There are changing areas, three toilet stalls, urinals and several showers in the men's room. There are changing areas, three toilet stalls and several showers in the women's room. The facility is not ADA compliant, there are no life safety systems, and the facility is overall in poor condition. A new asphalt shingle roof was installed on the Bathhouse in 2004, and remains in good condition. Much of the plumbing in the building, however, burst during a power outage in the winter of 2014, when it was being heated and used for winter recreation. New plumbing lines and likely several fixtures and drains will need to be replaced to make the facility functional again.

If council desires to make only minimal improvements to reopen the Bathhouse in its current layout and function, the cost will depend on the extent of damage from the pipe freeze event and three years of vacancy. The investment would be significantly cheaper than a major rehabilitation, but would not address major deficiencies including the lack of handicap accessibility, and life safety systems.

Numerous deficiencies have been identified in previous studies performed by Bernier Carr and Associates (BCA) in 1998 and by W-M Engineers, P.C in 2011. **In 1998, it was recommended by BCA to renovate the original bathhouse, demolish the existing additions, and reconstruct new additions to be in compliance with NYS Uniform Fire Preventions and Building Code, as well as ADA regulations at a 1998 estimated cost of \$380,000 to \$420,000. That estimate is undoubtedly higher in today's dollars for this level of rehabilitation, and could be upwards of \$750,000 or more.**

It should be noted for historical perspective that a previous City Council hired a consultant in 1989-90, to evaluate and design upgrades of both the Thompson Park Pool and Bathhouse. The final design called for total replacement of the Pool and demolition & reconstruction of the "wings" of the Bathhouse. The project was then shelved due to major budgetary constraints the City faced at the time. Since that time, minimal funding has been allocated for renovation of this facility, and the focus has instead been on maintenance.

### **Splash Pad:**

City Council is considering the addition of a splash pad water feature at Thompson Park, and an ideal location for it would be adjacent to the Bathhouse. This location offers close proximity to utilities, and as the Planning Dept. will elaborate on, is in harmony with the original Thompson Park Design which depicted a fountain at this location. Should the Thompson Park Pool be closed, and demolished, the Bathhouse could not only serve as an amenity for the splash pad, but as the focal point of the entire park. \$375,000 is currently budgeted for the splash pad. KOMPAN, a supplier of this equipment, anticipates the City could construct a splash pad feature about 4,000 sf in size for that amount. About \$140,000 for the splash pad, and about \$240,000 for site work, utilities, and the concrete pad.

Cc. Sharon Addison, City Manager  
Jim Mills, City Comptroller  
Ken Mix, Planning and Community Development Coordinator  
Erin Gardner, Superintendent of Parks and Recreation

Approximate Costs for Thompson Park Pool for 2016 Summer Season

Wages	\$48,040
Overtime	\$2,226
Utilities	\$10,306
Insurance	\$434
Contracted Services	\$530
Fees, Non-employee	\$375
Miscellaneous	\$262
Materials & Supplies	\$18,111
Equipment <5000	\$549
Social Security	\$3,832
Health Insurance	<u>\$3,530</u>
<b>Total</b>	<b>\$88,195</b>

**Table 3**

**From 2011 Study by W-M Engineers**

**Attendance Trends at Watertown Pools**

<i>Pool</i>	<i>Year</i>								<b>Forecast</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Average Annual</b>	<b>2011</b>
<b>Thompson Park</b>	4998	2585	5353	4062	4199	2682	2932	5175	3998	3736
<b>Alteri</b>	5634	4520	6872	5581	5451	4433	4690	4926	5263	4644
<b>Flynn</b>	6577	5209	7933	6642	4578	2940	2836	2783	5245	1831
<b>Total</b>	17209	12314	20158	16285	14228	10055	10458	12884	14507	10346

Note: 2010 data for Flynn pool were not included in the average or trend figures as data is missing for August.

# OUTDOOR POOL FACILITIES STUDY

## CITY OF WATERTOWN JEFFERSON COUNTY



**AUGUST, 2011**



**W-M ENGINEERS, P.C.**

111 Boxwood Lane, Syracuse, New York 13206  
(315) 437-2981

# ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES

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# ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES

## STEVEN D. ALTERI MUNICIPAL POOL

### 1.0A Background Summary

#### 1.1 History

The Steven D. Alteri Municipal is located at 600 William T Field Drive in the Jefferson County Fairgrounds in Watertown, New York. The pool and bathhouse were designed in 1973. The completed building and pool were opened in the summer of 1974.

#### 1.2 Previous Upgrades

There have been no major upgrades of the swimming pool or bathhouse.

### 2.0A Existing Structure Condition

#### 2.1 Outdoor Pool Structure

The pool holds approximately 250,000 gallons of water. The existing pool is a gunite, hand molded concrete pool. The concrete structure was designed at approximately 10" thick with steel reinforcement. When constructed the surface was a marcite finish between 1/4" and 1/2" thick. The lanes and targets are marked with ceramic tile. The gutter is a stainless steel gutter system which distributes and collects water at the pool surface. The entrance stairs are marcite coated gunite.

While the actual concrete is good shape the marcite surface is almost completely gone. Some of the ceramic tile lane markers are broken or missing. With the marcite gone the concrete will be destroyed by the pool chemicals much more quickly. We are recommending that the pool be resurfaced as soon as possible. The New York State Swimming Pool Standards require a smooth and easily cleanable surface, and the Health Department will require a new surface if nothing is done to replace it soon.

There are two (2) surfaces which can be placed on the pool which are economical, Marcite or Fiberglass Epoxy surface.

The marcite surface would consist of removing the old surface, sand blasting the surface and adding 1/2" of quartz marcite surface. The quartz adds color and wear resistance to the pool. This is the most economical and will last approximately 15 years if the pool is maintained and balanced properly.

The fiberglass epoxy surface would consist of a layer of fiberglass and epoxy gel placed over a clean surface. The fiberglass has good wear resistance and resists exposure to chemicals better than marcite. The fiberglass also adds to the strength of the pool. Its life expectancy is around 15 to 20 years.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0A Existing Structures (continued)**

#### **2.1 Outdoor Pool Structure (continued)**

When replacing the surface the City should bid both options. If the costs are anywhere close the fiberglass system is a better choice because of the low calcium in the City Water.

Until the marcite is replaced the lane markers can be painted on the concrete. We are suggesting painting of the lane markers to avoid abrasions to the bathers. When the pool is resurfaced we recommend that the depth markings and a secchi disk be placed in tile at the bottom of the pool.

The stainless steel gutter system is in good shape but it is suggested that a bead of waterproof caulk be placed between the gutter and the marcite surface to prevent leaking.

#### **2.2 Bathhouse and Storage**

The bathhouse and storage areas for the pool are attached to the skating arena. The construction is brick(4")/block(6") constructed walls with a flat built up roof and poured concrete block foundation. The roof was replaced with a torch applied bituminous roofing system in 2004. The roof is considered in fair condition. The walls are in good condition with minor door repairs periodically required. Floors are concrete and in good condition.

At this time some of the storage area is used for skate equipment storage. The bath facilities also double as changing rooms and a skate rental office during the ice skating season.

#### **2.3 Filter and Chemical Room**

The filter room is located on the northeast side of the bathhouse. The filter room holds the filter system, chemicals and chemical distribution system, the building heating system and the building water heating system. Much of the deck equipment is also stored in the filter room. The filter room is in good condition and does not need repairs. The filter room could be brightened with a light color paint to improve its looks.

#### **2.4 Pool Deck**

The pool deck is concrete sloping away from the pool. The concrete deck has been maintained properly and is in good condition. The deck signage is brightly colored and is painted on the concrete deck. Depth markers are also painted on the gutters (see photo A-1).

Lifeguard chairs are constructed of painted steel. They were not inspected for condition but should be checked each year prior to start-up. Railings and ladders are constructed of stainless steel tubing and should be inspected yearly.

Back stroke markers, and starting platforms have been removed and no longer exist at this facility.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0A Existing Structures (continued)**

#### **2.5 Fencing, Gates and Locks**

The fencing is in good shape with the proper locking devices. The fencing could use a coat of paint to brighten up the facility (see photo A-2)

#### **2.6 Water Spray Area, Wading Pool**

The wading pool has been converted into a water spray area. The area consists of a 17' square wading area with an artificial Palm Tree Fountain in the middle. The water spray area is on the pool deck but separated from the swimming area. The palm tree leaves need to be replaced every few years. The water comes from the City of Watertown water main and is not re-circulated. Waste goes to the sanitary system. The spray should be disconnected from the sanitary sewer system when not in use to prevent rain water from entering the sewer system.

#### **2.7 Existing Deck Drainage**

The existing deck sheds away from the pool at approximately 3/16" per foot to the grounds around the pool facility. The drainage is intercepted by deck drains before it gets to the bath house. The deck drains are shown on the construction drawing as going into the sanitary sewer. Depending on the sanitary code this may be illegal. The deck drains should be relocated so they do not go into the sanitary sewer. The best time to separate them is after the pool closes for the season.

#### **2.8 Safety Equipment**

All safety equipment should be checked prior to start up each year. All safety equipment is in working condition and was checked for the 2011 swimming season.

#### **2.9 Diving Boards & Deck Slides**

The original drawings show two (2), one meter diving boards at the deep end of the pool. The diving boards were removed and no longer exist.

There are 2 sections New York State Health Department, State Sanitary Code, Subpart 6-1, in which diving boards fall under. After calling the Jefferson County Health Department, and because the pool originally had diving boards, the Health Department feels that the pools can fall under either category.

Based on the New York State Health Department, State Sanitary Code, Subpart 6-1, (Section 6.1.10 (l) Diving Depths Requirements, the Alteri Pool can accommodate two 2/3 meter diving boards in the deep end providing that they are placed in the same diving board locations as the original diving boards were. Requirements for a 2/3 meter diving board in Section 6.1.10 are as follows:

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**2.0A Existing Structures (continued)**

2.9 Diving Boards (continued)

Criteria	Requirements	Alteri Measurements
Minimum Depth of Water	8-1/2'	9'-6"
Minimum Diving Width Forward of the Board Tip	8'	10'
Minimum Diving Length Forward of the Board Tip	10'	16'-6"
Maximum Slope to 5' Water Depth	1:3	1:4

Based on the New York State Health Department, State Sanitary Code, Subpart 6-1, (Section 6.6-1-29, 5.6 Diving Areas) the City can place one 3/4 meter diving board in the deep end of the Alteri Pool. Requirements for a 3/4 meter diving board in Section 6.6-1-29. 5.6 are as follows:

Criteria	Requirements	Alteri Measurements
Minimum Depth of Water	9'	9'-6"
Minimum Diving Width Forward of the Board Tip	*10'	*14'
Minimum Diving Length Forward of the Board Tip	10'	16'-6"
Maximum Slope to 5' Water Depth	1:3	1:4

\* - measured from edge of the board to pool wall.

Any addition of a board must be submitted to the Jefferson County Health Department for review. We recommend that the City check with their insurance provider prior to adding a diving board. Any diving boards will also need to be written into the pool safety plan.

The original pool design did not include a deck slide. A deck slide can be added to the pool providing that the deck slide is reviewed and approved by the Jefferson County Health Departments. All slides must be labeled to show compliance with the requirements of the U.S. Consumer Products Safety Commission or generally accepted standards that will provide adequate protection for public health and safety. The slide must have proper signage. The water where the deck slide enters the pool must be at least 4' deep. There must be 5' clearance behind the deck slide. Sliding shall take place in the feet forward position only. The plunge area cannot conflict with the diving board plunge area. Like diving boards there is no requirement for additional life guards with an addition of a slide.

2.10 Signage and Security

Proper signage has been placed on the building and fencing, including posting pool hours. The entrances to the pump room are kept locked. Signage on the pump room doors say KEEP OUT and Danger. The entrances to the pool area are padlocked when not in use.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0A Existing Structures (continued)**

#### **2.11 ADA Compliance**

The exterior gate will allow handicapped access to the pool deck. The changing room and shower are handicapped accessible.

The pool itself is not handicapped accessible at this time. Handicapped accessibility is required when a major modification occurs at the pool. There are two options to making the pool handicapped accessible. One would be installing a ADA compliant ramp at the shallow end of the pool, the other would be purchasing a chair lift to lower and remove people from the pool. The chair would require training of the employees.

### **3.0A Mechanical System**

#### **3.1 Filtration System**

The filter system consists of a single high rate sand filter with a pump strainer and chemical feed system (see photo A-3).

##### **3.1.1 Filtration Tank**

The filter tank is the original steel sand filter from 1973. The filter was built by Sylacauba Tank Corporation for Swimquip Inc. The original model plate was not found on the tank. When the filter is opened for media maintenance the tank interior and the seal on the porthole should be checked for wear. The condition of this filter is not known. Based on the age of the tank it will probably need to be replaced shortly.

The filter has a manual air relief valve that is opened daily to vent the air from the system. The manual air relief valve should be replaced with a plastic automatic air relief valve. This would help prevent errors in maintenance. There is no pressure relief valve located at the top of the filter at this time. It is recommended that a new pressure relief valve be placed at the top of the filter.

##### **3.1.2 Filtration Media**

The filtration media for this filter is sand. The original filter sand was changed about 10 years ago. Filter sand generally lasts 5 years when used constantly. Filter sand being used for 2 to 3 months a year should last approximately 20 years.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0A Mechanical System** (continued)

#### **3.1.3 Pump System**

The filter system has one pump to circulate the water in the pool. This pump is 208 V, 25 hp with a rated capacity of 754 gpm. This pump should circulate the pool 24 hours a day to maintain proper circulation. A single back up pump is on hand as a replacement for both the Alteri and Flynn pools in case of a pump failure. The existing pumps have been maintained properly and are in fairly good condition. The City should consider replacing the pumps in the future (see photo A-4).

Because the motors are 25 hp the City should consider placing them on a variable speed drives (VFD). Although we do not want to control the speed after start up, the VFD provides a slower start up that would prevent the inrush of electricity that a 25 hp motor creates. The slow start and stop also prevents unwanted water hammer in the system. Any new motor should be a premium efficiency motor. NYSERDA has a program where they have a rebate for using a premium efficiency motor. Both the variable speed drive and the premium efficiency motor will pay for themselves over time in electric fees.

#### **3.1.4 Strainer**

The strainer is in poor working condition. The gaskets are failing and are in need of replacement. The strainer is required to be easy opening. The strainer is opened and cleaned approximately 3 times a week. It is our opinion that this strainer does not meet sanitary code, however the Health Department has not commented on it to our knowledge. This should be replaced in the next round of major repairs (see photo A-5).

#### **3.1.5 Backwash System**

The backwash system is a manual single lever action. The pressures are checked daily to determine when the system is to be backwashed. Generally this pool is backwashed twice a week.

### **3.2 Recirculation System**

#### **3.2.1 Gutters**

The swimming pool gutters are constructed of stainless steel with a combination of intake skimmer and filtered water outlets along the entire perimeter of the pool. The stainless steel gutter is in good working condition. The gutters have a plastic grating to prevent debris for entering the intake lines and to prevent protect the swimmers from slipping on the stainless steel.

The perimeter overflow is controlled by the gutter elevation. A balance tank (concrete vault) is located in the filter room under the chemical storage units. The balance tank holds the surge water. The balance tank is designed to hold approximately 10,000 gallons of water. Elevation of the balance tank can be checked by opening the hatch to the tank. There is a throttling valve located below the hatch in the balance tank. The throttling valve controls the level of the balance tank.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0A Mechanical System** (continued)

#### **3.2.2 Main Drains**

There are two (2) main drains in the bottom of the pool equally spaced along the deepest point in the pool. Both main drains have been inspected and certified to meet the Virginia Graham Backer Act. The certification is kept in the pool office. Hydrostatic relief valves are installed in the main drains (see photo A-6).

#### **3.2.3 Control Valve**

A flow control valve is located above the outlet of the pump controlling the filtration rate. This flow control valve is not on good shape. This valve has been a concern of the maintenance crew. They adjust the valve when backwashing. The valve is in need of replacement.

#### **3.2.4 Piping**

The majority of the filter piping is 8" steel. There is some pvc piping but not in the main circulation system. All piping for the Circulation System is color coded as required by the NYS Health Department. As long as the system is color coded flow arrows are not required on the circulation piping.

#### **3.2.5 Air Gaps**

The backwash water goes to the sanitary sewer using an air gap as required by the New York State Department of Health. The air gap chamber consists of a steel box below the waste line from the filter. The chamber is rusty and could be painted (see photo A-7).

#### **3.2.6 Automatic Makeup Water**

This filter system has an automatic water makeup system. The water makeup system uses 2 probes at the pool water level. When the water lowers the probes sense the level and open the valve to the water supply.

### **3.3 Heating System**

Natural gas is used to heat the building and to provide hot water for showers. Any new gas heating systems should be energy efficient. The pool is not heated at this time.

### **3.4 Swimming Pool Vacuum Cleaner**

The current swimming pool vacuum cleaner is a small manual portable filter and pump system which has to be cleaned by maintenance personal. Manual brushes and nets are also used. Because the pool is L shaped and varies in depth an automatic cleaner may prove to be more trouble than a manual cleaner.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0A Mechanical System** (continued)

#### 3.5 Ventilation System

There is a ventilation system for the building which circulates air in the changing rooms and rest rooms. The changing room and rest room ventilation system is said to be working properly.

The original drawings show a ventilation system for the mechanical room as well. We were unable to determine if the ventilation system in the mechanical room is working properly. We recommend that the City have an HVAC specialist check out the ventilation in the filter room. There should be minimum 2 air changes per hour of the floor of the filter room.

### **4.0A Electrical System and Communications**

#### 4.1 Electrical Service.

The electricity is 3 phase 208 V, 400 amp. service for the pool building.

#### 4.2 Lighting Exterior/Interior

The exterior lighting is adequate for a swimming pool that is closed at dark. The exterior lighting uses hps or quartz wallpacks. Although the lumens were not checked the lighting in the filter could use fluorescent lights over the chemtrol unit and the circulation pump. The interior lighting is basically a combination of fluorescent and incandescent lighting. All of the lighting is old and outdated. High efficiency fluorescent lighting can cut down on the energy use. Any new lighting should be energy efficient fluorescent or LED lighting.

There are underwater lights in the pool which are not used at this time. These lights have not been used in years. When the pool is refinished we recommend that the underwater lights be inspected and replaced if desired.

#### 4.3 Wiring

There are a number of deficiencies in the wiring. In Table II, Electrical Observation, we have provided general comments to improve the electrical system. This is not a complete list of repairs needed to the electrical system. The City of Watertown should have an electrical inspector review the building for code violations and damaged wiring.

#### 4.4 Pool Electrical UL Grounding

According to the NYS Department of Health and N.E.C. the stainless steel gutter and all metal railings, and guard chairs are to be grounded. The grounding is buried in concrete and is not visible to the eye. Based on the Construction Drawings and the Watertown City Electric Department the grounding is correct.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **4.0A Electrical System and Communications** (continued)

#### 4.5 Telephone

A telephone is provided in the arena. Although a public telephone is not required the supervising lifeguard carries a cell phone which is often used by the bathers.

#### 4.6 Remote Monitoring

The internet is available at the Parks Department office. The internet can be used to link the computers to all the chemtrol units in the Watertown Pool System. The certified pool operator can check the pool for chemical feed, and pressure problems at the Alteri Pool if a REM module is installed in the Chemtrol 6000. In order to access the other pools a REM module would need to be installed in the Chemtrol Units and the other pools would need an internet connection or analog telephone line. The chemtrol units could also then automatically call the operator if an alarm occurs.

#### 4.7 Fire Safety

Emergency lighting and a fire alarm system are required by the NYS Building Code. Currently there is no fire alarm system at the Alteri pool bathhouse. This item should be addressed to meet NYS Building Code.

### **5.0A Chemical Treatment**

#### 5.1 Water Supply

The water supply for the pool is Watertown City Water. Calcium is being added to harden the water.

#### 5.2 Control Unit

Chemical feed is controlled by a model 6000 Chemtrol Unit. The unit is capable of controlling the filters, chlorine injection system, pH balancing, automatic backwash if available, heating system if available and has a chemical saver mode for night. The Chemtrol Unit is currently used for chlorine feed, pH balancing and flow monitoring. This unit was sent back to the factory for re-calibration in 2010 and is believed to be in excellent condition (see photo A-8).

The chemical saver mode should be turned on to save chemicals at night. Monitoring of TDS, temperature and filter pressure can be added at a minimal cost. Filter pressure is currently monitored manually. Automatic backwash and filter pump control are not practical until the filters are replaced.

A copy of the Chemtrol Operators Manual should be placed in the filter room near the Chemtrol Unit.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **5.0A Chemical Treatment** (continued)

#### **5.3 Flow Measurement**

Flow is monitored with a signet paddle wheel flow meter. The Signet unit is connected to the Chemtrol Unit. Flow is measured through the Chemtrol Unit and is used in conjunction with the chemical feed system.

#### **5.4 Probes**

A spare Oxygen Reduction Potential (ORP) probe and a spare pH probe should be kept on hand in case of failure (one set can serve for all three pools). Spare probes are kept in a saline solution and should not be opened until needed. Proper procedures for cleaning and changing of the probes are located in the chemtrol manual.

#### **5.5 Chlorine**

Currently this pool uses 15% Sodium Hypochlorite for chlorine residual. There are 3-165 Gallon polyethylene tanks which are stored in the pool filter room. All tanks should be properly labeled. There should be gallon markings which are visible to the eye. The 2 chlorine pumps are LMI Series C1213251. The parks department should keep a spare rebuild kit, foot valve and injector on hand in case of an emergency. Pumps should be flushed out every 2 weeks to keep the liquid chlorine flowing properly. The cleaning procedure should be posted near the pumps.

#### **5.6 Acid**

Currently this pool uses Muriatic Acid for pH balancing. There is one -110 Gallon polyethylene tank which is stored in the pool filter room. The tank should be properly labeled. There should be gallon markings which are visible to the eye. The 2 acid pumps are LMI Series B13175S. The parks department should keep a spare rebuild kit, foot valve and injector on hand in case of an emergency. Pump ejectors should be flushed out as necessary. The cleaning procedure should be posted near the pumps.

**SODIUM HYPOCHLORITE AND ACID SHOULD NOT BE MIXED**, as this will release chlorine gas which is toxic. Because these products are not compatible and are in the same room we are recommending that the muriatic acid system be removed and replaced with a CO<sub>2</sub> System. Carbon Dioxide lowers the pH when added to the filtered water. This system is safer than an acid system. The expense is slightly higher. The CO<sub>2</sub> system consist of a stainless steel tank usually around 600 gallons or 2- 400 gallon tanks for this size pool. The tanks can be filled from outside the building and can usually be rented. A regulator and injector will be required. This system will operated off the Chemtrol Unit the same way that the acid does. Instead of operating a wall plug the Chemtrol Unit will operate the solenoid valve for the CO<sub>2</sub> storage tanks.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **5.0A Chemical Treatment** (continued)

#### 5.6 Acid (continued)

We have enclosed an estimate for purchase of equipment, tank rental and CO<sub>2</sub> (see Table 9, Carbon Dioxide Costs) .

Each pool should used approximately 500 to 600 lbs. of carbon dioxide per week.

#### 5.7 Calcium

Because the Watertown water supply is very low in calcium, the water tends to leach calcium out of the marcite coating, leading to the rough surface observed at all three pools. Calcium is currently added to the pools as calcium chloride to help prevent this. The Chemtrol unit is capable of monitoring total dissolved solids in the pool water with the addition of a sensor, and could be set up to control automatic feed of the calcium chloride, although this would require dissolving the calcium chloride in water so it could be fed as a liquid. A less costly alternative is simply to set up the Chemtrol unit to monitor dissolved solids and let the operator know when to add calcium.

Fiberglass is being proposed as an alternative coating to marcite. A significant advantage of the fiberglass is that it would not be affected by the low calcium in the water.

#### 5.8 Pool Chemical Test Kit

According to the NYS Department of Health all chlorine test kits are to use DPD tables. Although tolerated in some cities orothotolidine test kits are prohibited because of the toxicity of orthotolidine.

The Parks Department now has the DPD test kits. All reagents and tablets are to be less than a year old. If anyone testing the pool chemicals is color blind, a colorimeter is required.

### **6.0A Staffing and Maintenance**

#### 6.1 Aquatic Supervision

The NYS Health Department requires 2 Aquatics Supervising Staff at each pool during pool operations. When more than 50 percent of the bathers are in the pool an additional lifeguard is required.

Watertown currently hires seven lifeguards per pool per season, with an additional Aquatic Supervisor for the learn to swim program. Typically four lifeguards are at each pool during the day, with two on duty and two off duty at any one time. NYS Health Department regulations require 2 Aquatics Supervising Staff at each pool during pool operations. When more than 50 percent of the bathers are in the pool an additional lifeguard is required.

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**6.0A Staffing and Maintenance** (continued)

**6.1 Aquatic Supervision** (continued)

All lifeguards shall be properly trained to meet all NYS Health Department Regulations. All lifeguards are to know the pool rules, procedures, and proper rotations of the pool staff.

The Aquatic Certification for NYS Bathing Facilities, Fact Sheet is enclosed and shows Aquatic Staff requirements (see Table 10). Life guard staff duties and protocols are listed in the pool safety plan and the New York State Sanitary Code Subpart 6-1.

**6.2 Certified Pool Operator**

The City of Watertown must have at least one (1) certified pool operator available at all times. The Certified Pool Operator needs to renew his license every 5 years. This is usually done through the National Swimming Pool Foundation. If not in the city, the operator should be able to be contacted at any time during pool operation. W-M Engineers has a certified pool operator on staff if needed in case of an emergency.

**6.3 Pool Operations Manual**

In the near future the Health Department will require the City to write a Pool Operations Manual. This manual will be used by the Certified Pool Operators and staff to operate the pool properly. The manual will include procedures for running the filter system, disinfection unit, water make-up, pool balancing, pool cleaning, maintenance, opening and closing procedures.

**7.0A Capacity and Usage**

**7.1 Bather Capacity**

A 200 persons bather capacity is posted in the bathhouse. Our calculations show bather capacity to be 380 persons, including deck capacity. Based on the attendance records the pool usually does not exceed the 200 bathers. Any changes in bather capacity would have to be approved by the Health Department and would need to be incorporated within the safety plan (See Table 8 A).

**7.2 Hours of Operation**

Hours of operations are posted at the pool and listed on the written statement or brochure to all patrons.

The pool hours for the 2011 season are as follows.

Sunday through Saturday	11:00 am to 8:00 pm
Holidays	11:00 am to 5:00 pm

The pool is open daily from the last week in June until Labor Day. Generally this swimming facility is open longer than the other 2 pools.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **7.0A Capacity and Usage (continued)**

#### **7.3 Attendance**

Daily attendance for the 2010 season varied from 10 to 250 persons. Attendance trends are discussed below.

#### **7.4 Concessions**

Concessions are not sold at the pool at this time. Candy and drink machines could be placed in the lobby.

#### **7.5 Spray Park**

At present the spray park consists of one (1) palm tree sprinkler. Outside of the fenced pool facility there is room for a larger area. The possibility of a larger spray area is discussed in Section 9.

# ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES

## WILLIAM J. FLYNN MUNICIPAL POOL

### 1.0F Background Summary

#### 1.1 History

The William J. Flynn pool is located off Division Street behind the North Elementary School between Division and Hoard Streets in Watertown, New York. The William J. Flynn Municipal Pool replaced the old North Side Swimming Pool. The pool and bathhouse were designed in 1977. The completed building and pool were opened in the summer of 1978.

#### 1.2 Previous Upgrades

There have been no major upgrades of the swimming pool or bathhouse.

### 2.0F Existing Structures

#### 2.1 Outdoor Pool Structure

The pool holds approximately 250,000 gallons of water. The existing pool is a gunite, hand molded concrete pool. The concrete structure was designed at approximately 10" thick with steel reinforcement. When constructed the surface was a marcite finish between 1/4" and 1/2" thick. The lanes and targets are marked with ceramic tile. The gutter is a stainless steel gutter system which distributes and collects water at the pool surface. The entrance stairs are marcite coated gunite.

While the actual concrete is in good shape the marcite surface is almost completely gone. Some of the ceramic tile lane markers are broken or missing. With the marcite gone the concrete will be destroyed by the pool chemicals much more quickly. We are recommending that the pool be resurfaced as soon as possible. The New York State Swimming Pool Standards require a smooth and easily cleanable surface, and the Health Department will require a new surface if nothing is done to replace it soon.

There are two (2) surfaces which can be placed on the pool which are economical, Marcite or Fiberglass Epoxy surface.

The marcite surface would consist of removing the old surface, sand blasting the surface and adding 1/2" of quartz marcite surface. The quartz adds color and wear resistance to the pool. This is the most economical and will last approximately 15 years if the pool is maintained and balanced properly.

The fiberglass epoxy surface would consist of a layer of fiberglass and epoxy gel placed over a clean surface. The fiberglass has good wear resistance and resists exposure to chemicals better than marcite. The fiberglass also adds to the strength of the pool. Its life expectancy is around 15 to 20 years.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0F Existing Structures (continued)**

#### **2.1 Outdoor Pool Structure (continued)**

When replacing the surface the City should bid both options. If the costs are anywhere close the fiberglass system is a better choice because of the low calcium in the City Water.

Until the marcite is replaced the lane markers can be painted on the concrete. We are suggesting painting of the lane markers to avoid abrasions to the bathers. When the pool is resurfaced we recommend that the depth markings and a secchi disk be placed in tile at the bottom of the pool.

The stainless steel gutter system is in good shape but it is suggested that a bead of waterproof caulk be placed between the gutter and the marcite surface to prevent leaking.

#### **2.2 Bathhouse and Storage**

The bathhouse and storage areas for the pool are in a stand alone building at the pool. The construction is brick(4")/block(6") constructed walls with a flat built up roof and poured concrete block foundation. The roof was replaced with a torch applied bituminous roofing system in 2004. The roof is presently considered in fair condition but should be checked for leaks. The north wall has a crack where the brick is delaminating moving away from the block wall (see photo F-10). This is usually caused by a leaking roof allowing freezing water to get between the block and brick wall. This problem should be inspected by a structural engineer. The remainder of the walls are in good condition with minor door repairs periodically required. Floors are concrete and in good condition.

#### **2.3 Filter and Chemical Room**

The filter room is located on the east side of the bathhouse. The filter room holds the filter system, chemicals and chemical distribution system, the building heating system and the building water heating system. Much of the deck equipment is also stored in the filter room. The filter room is in good condition and does not need repairs. The filter room could be brightened with a light color paint to improve its looks.

#### **2.4 Pool Deck**

The pool deck is concrete sloping away from the pool. The concrete deck has been maintained properly and is in good condition. The deck signage is brightly colored and is painted on the concrete deck. Depth markers are also painted on the gutters.

Lifeguard chairs are constructed of painted steel. They were not inspected for condition but should be checked each year prior to start-up. Railings and ladders are constructed of stainless steel tubing and should be inspected yearly.

Back stroke markers, and starting platforms have been removed and no longer exist at this facility.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0F Existing Structures (continued)**

#### **2.5 Fencing, Gates and Locks**

The fence post on the side opposite the bathhouse is leaning and has cracked the concrete. It is apparent that the fence posts were not set deep enough into the ground during the original construction (see photo F-9). The posts should be replaced. The locking devices are in working order. The vinyl coating on the fencing is worn and could use a coat of paint to brighten up the facility (see photo F-1). Because the fencing is vinyl coated the paint should be checked for compatibility.

#### **2.6 Water Spray Area, Wading Pool**

The wading pool consists of a 17' square wading area. The wading area is on the pool deck but separated from the swimming area. The water is circulated through the filter for the swimming pool. The wading area drain has a appears to be partially plugged. Filter water is being dumped into the ground and should be recycled through the filter. Because the drain is plugged water stays in the wading pool too long and chlorine is dissipated. We checked into an additional chlorinator and found the system would cost around \$2,500. We recommend that the drainage problem be repaired. A licensed plumber may be required to repair the problem.

#### **2.7 Existing Deck Drainage**

The existing deck sheds away from the pool at approximately 3/16" per foot to the grounds around the pool facility. The drainage is intercepted by deck drains before it gets to the bath house. The deck drains are shown on the construction drawings as going into the sanitary sewer. Depending on the sanitary code this may be illegal. The deck drains should be relocated so they do not go into the sanitary sewer. The best time to separate them is after the pool closes for the season.

#### **2.8 Safety Equipment**

All safety equipment should be checked prior to start up each year. All safety equipment is in working condition and was checked for the 2011 swimming season.

#### **2.9 Diving Boards & Deck Slides**

The original drawings show two (2), one meter diving boards at the deep end of the pool. The diving boards were removed and no longer exist.

There are 2 sections New York State Health Department, State Sanitary Code, Subpart 6-1, in which diving boards fall under. After calling the Jefferson County Health Department, and because the pool originally had diving boards, the Health Department feels that the pools can fall under either category.

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**2.0F Existing Structures (continued)**

2.9 Diving Boards (continued)

Based on the New York State Health Department, State Sanitary Code, Subpart 6-1, (Section 6.1.10 (l) Diving Depths Requirements, the Flynn Pool can accommodate two 2/3 meter diving boards in the deep end providing that they are placed in the same diving board locations as the original diving boards were. Requirements for a 2/3 meter diving board in Section 6.1.10 are as follows:

Criteria	Requirements	Flynn Measurements
Minimum Depth of Water	8-1/2'	9'-6"
Minimum Diving Width Forward of the Board Tip	8'	10'
Minimum Diving Length Forward of the Board Tip	10'	16'-6"
Maximum Slope to 5' Water Depth	1:3	1:4

Based on the New York State Health Department, State Sanitary Code, Subpart 6-1, (Section 6.6-1-29, 5.6 Diving Areas) the City can place one 3/4 meter diving board in the deep end of the Flynn Pool. Requirements for a 3/4 meter diving board in Section 6.6-1-29. 5.6 are as follows:

Criteria	Requirements	Flynn Measurements
Minimum Depth of Water	9'	9'-6"
Minimum Diving Width Forward of the Board Tip	*10'	*14'
Minimum Diving Length Forward of the Board Tip	10'	16'-6"
Maximum Slope to 5' Water Depth	1:3	1:4

\* - measured from edge of the board to pool wall.

Any addition of a board must be submitted to the Jefferson County Health Department for review. We recommend that the City check with their insurance provider prior to adding a diving board. Any diving boards will also need to be written into the pool safety plan.

The original pool design did not include a deck slide. A deck slide can be added to the pool providing that the deck slide is reviewed and approved by the Jefferson County Health Departments. All slides must be labeled to show compliance with the requirements of the U.S. Consumer Products Safety Commission or generally accepted standards that will provide adequate protection for public health and safety. The slide must have proper signage. The water where the deck slide enters the pool must be at least 4' deep. There must be 5' clearance behind the deck slide. Sliding shall take place in the feet forward position only. The plunge area cannot conflict with the diving board plunge area. Like diving boards there is no requirement for additional life guards with an addition of a slide.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0F Existing Structures (continued)**

#### 2.10 Signage and Security

Proper signage has been placed on the building and fencing, including posting pool hours. The entrances to the pump room are kept locked. Signage on the pump room doors say KEEP OUT and Danger. The entrances to the pool area are padlocked when not in use.

#### 2.11 ADA Compliance

The exterior gate will allow handicapped access to the pool deck. The changing room and shower are handicapped accessible.

The pool itself is not handicapped accessible at this time. Handicapped accessibility is required when a major modification occurs at the pool. There are two options to making the pool handicapped accessible. One would be installing a ADA compliant ramp at the shallow end of the pool, the other would be purchasing a chair lift to lower and remove people from the pool. The chair would require training of the employees.

### **3.0F Mechanical System**

#### 3.1 Filtration System

The filter system consists of a single high rate sand filter with a pump strainer and chemical feed system.

##### 3.1.1 Filtration Tank

The filter tank is the original steel sand filter from 1978. The filter was built by Sylacauba Tank Corporation for Swimquip Inc. When the filter is opened for media maintenance the tank interior and the seal on the porthole should be checked for wear. The condition of this filter is not known. Based on the age of the tank it will probably need to be replaced shortly (see photo F-2).

The filter has a manual air relief valve that is opened daily to vent the air from the system. The manual air relief valve should be replaced with a plastic automatic air relief valve. This would help prevent errors in maintenance. There is no pressure relief valve located at the at the top of the filter at this time. It is recommended that a new pressure relief valve be placed at the top of the filter.

##### 3.1.2 Filtration Media

The filtration media for this filter is sand. The original filter sand has not been replaced to the best of our knowledge. Filter sand generally lasts 5 years when used constantly. Filter sand being used for 2 to 3 months a year should last approximately 20 years. The filter sand is due to be replaced. We recommend removing the sand by use of a vacuum instead of cutting a hole in the filter tank.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0F Mechanical System (continued)**

#### **3.1.3 Pump System**

The filter system has one pump to circulate the water in the pool. This pump is 208 V, 25 hp with a rated capacity of 754 gpm. This pump should circulate the pool 24 hours a day to maintain proper circulation. A single back up pump is on hand as a replacement for both the Alteri and Flynn pools in case of a pump failure. The existing pumps have been maintained properly and are in fairly good condition. The City should consider replacing the pumps in the future (see photo F-3).

Because the motors are 25 hp the City should consider placing them on a variable speed drives (VFD). Although we do not want to control the speed after start up, the VFD provides a slower start up that would prevent the inrush of electricity that the a 25 hp motor creates. Any new motor should be a premium efficiency motor. NYSERDA has a program where they have a rebate for using a premium efficiency motor. Both the variable speed drive and the premium efficiency motor will pay for themselves over time in electric fees.

#### **3.1.4 Strainer**

The strainer is in poor working condition. The gaskets are failing and are in need of replacement. The strainer is required to be easy opening. The strainer is opened and cleaned approximately 3 times a week. It is our opinion that this strainer does not meet sanitary code, however the Health Department has not commented on it to our knowledge. This should be replaced in the next round of major repairs (see photo F-4).

#### **3.1.5 Backwash System**

The backwash system is a manual single lever action. The pressures are checked daily to determine when the system is to be backwashed. Generally this pool is backwashed twice a week.

### **3.2 Recirculation System**

#### **3.2.1 Gutters**

The gutter system is constructed 12" above the concrete deck on this pool. The swimming pool gutters are constructed of stainless steel with a combination of intake skimmer and filtered water outlets along the entire perimeter of the pool. The stainless steel gutter is in good working condition. The gutters have a plastic grating to prevent debris for entering the intake lines and to prevent protect the swimmers from slipping on the stainless steel.

The perimeter overflow is controlled by the gutter elevation. A balance tank (concrete vault) is located in the filter room under the chemical storage units. The balance tank holds the surge water. The balance tank is designed to hold approximately 10,000 gallons of water. Elevation of the balance tank can be checked by opening the hatch to the tank. There is a throttling valve located below the hatch in the balance tank. The throttling valve controls the level of the balance tank.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0F Mechanical System (continued)**

#### **3.2 Recirculation System (continued)**

##### **3.2.2 Main Drains**

There are two (2) main drains in the bottom of the pool equally spaced along the deepest point in the pool. Both main drains have been inspected and certified to meet the Virginia Graham Backer Act. The certification is kept in the pool office. Hydrostatic relief valves are installed in the main drains.

##### **3.2.3 Control Valve**

A flow control valve is located above the outlet of the pump controlling the filtration rate. This flow control valve is not in good shape. This valve has been a concern of the maintenance crew. They adjust the valve when backwashing. The valve is in need of replacement (see photo F-5).

##### **3.2.4 Piping**

The majority of the filter piping is 8" steel. There is some pvc piping but not in the main circulation system. All piping for the Circulation System is color coded as required by the NYS Health Department. As long as the system is color coded flow arrows are not required on the circulation piping.

##### **3.2.5 Air Gaps**

The backwash water goes to the sanitary sewer using an air gap as required by the New York State Department of Health. The air gap chamber consists of a steel box below the waste line from the filter. The chamber is rusty and could be painted (see photo F-6).

##### **3.2.6 Automatic Makeup Water**

This filter system has an automatic water makeup system. The water makeup system uses 2 probes at the pool water level. When the water lowers the probes sense the level and open the valve to the water supply.

#### **3.3 Heating System**

Home heating oil is used to heat the building and to provide hot water for showers. Any new heating systems should be energy efficient. The pool is not heated at this time.

#### **3.4 Swimming Pool Vacuum Cleaner**

The current swimming pool vacuum cleaner is a small manual portable filter and pump system which has to be cleaned by maintenance personal. Manual brushes and nets are also used. Because the pool is L shaped and varies in depth an automatic cleaner may prove to be more trouble than an manual cleaner.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0F Mechanical System (continued)**

#### **3.5 Ventilation System**

There is a ventilation system for the building which circulates air in the changing rooms and rest rooms. The changing room and rest room ventilation system is said to be working properly.

The original drawings show a ventilation system for the mechanical room as well. We were unable to determine if the ventilation system is working properly. We recommend that the City have an HVAC specialist check out the ventilation in the filter room. There should be minimum 2 air changes per hour of the floor of the filter room.

### **4.0F Electrical System and Communications**

#### **4.1 Electrical Service.**

The electricity is 3 phase 208 V 400 amp service for the pool building.

#### **4.2 Lighting Exterior/Interior**

The exterior lighting is adequate for a swimming pool that is closed at dark. The exterior lighting uses hps or quartz wall packs. Although the lumens were not checked the lighting in the filter could use fluorescent lights over the chemtrol unit and the circulation pump. The interior lighting is basically a combination of fluorescent and incandescent lighting. All of the lighting is old and outdated. High efficiency fluorescent lighting can cut down on the energy use. Any new lighting should be energy efficient fluorescent or LED lighting.

#### **4.3 Wiring**

There are a number of deficiencies in the wiring. In Table II, Electrical Observation, we have provided general comments to improve the electrical system. This is not a complete list of repairs needed to the electrical system. The City of Watertown should have an electrical inspector review the building for code violations and damaged wiring.

#### **4.4 Pool Electrical UL Grounding**

According to the NYS Department of Health and N.E.C. the stainless steel gutter and all metal railings, and guard chairs are to be grounded. The grounding is buried in concrete and is not visible to the eye. Based on the Construction Drawings and the Watertown City Electric Department the grounding is correct.

#### **4.5 Telephone**

Although a public telephone is not required the supervising lifeguard carries a cell phone which is often used by the bathers.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **4.0F Electrical System and Communications (continued)**

#### **4.6 Remote Monitoring**

The internet is available at the Parks Department office. The internet can be used to link the computers to all the chemtrol units in the Watertown Pool System. The certified pool operator can check the pool for chemical feed, and pressure problems at all the pools if a REM module is installed in the Chemtrol Units. Both Flynn and Thompson pool would need an internet connection or analog telephone line. The chemtrol units could also then automatically call the operator if an alarm occurs.

#### **4.7 Fire Safety**

Emergency lighting and a fire alarm system are required by the NYS Building Code. Currently there is no emergency lighting or a fire alarm system at the Flynn pool bathhouse. These items should be addressed to meet NYS Building Code.

### **5.0F Chemical Treatment**

#### **5.1 Water Supply**

The water supply for the pool is Watertown City Water. Calcium is being added to harden the water.

#### **5.2 Control Unit**

Chemical feed is controlled by a model 6000 Chemtrol Unit. The unit is capable of controlling filters, chlorine injection system, pH balancing, automatic backwash if available, heating system if available and has a chemical saver mode for night. The Chemtrol Unit is currently used for chlorine feed, pH balancing and flow monitoring. This unit was sent back to the factory for re-calibration in 2010 and is believed to be in excellent condition.

The chemical saver mode should be turned on to save chemicals at night. Monitoring of TDS, temperature and filter pressure can be added at a minimal cost. Filter pressure is currently monitored manually. Automatic backwash and filter pump control are not practical until the filters are replaced.

A copy of the Chemtrol Operators Manual should be placed in the filter room near the Chemtrol Unit.

#### **5.3 Flow Measurement**

Flow is monitored with a signet paddle wheel flow meter. The Signet unit is connected to the Chemtrol Unit. Flow is measured through the Chemtrol Unit and is used in conjunction with the chemical feed system.

## ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES

### 5.0F Chemical Treatment (continued)

#### 5.4 Probes

A spare Oxygen Reduction Potential (ORP) probe and a spare pH probe should be kept on hand in case of failure (one set can serve for all three pools). Spare probes are kept in a saline solution and should not be opened until needed. Proper procedures for cleaning and changing of the probes are located in the chemtrol manual.

#### 5.5 Chlorine

Currently this pool uses 15% Sodium Hypochlorite for chlorine residual. There are 3-165 Gallon polyethylene tanks which are stored in the pool filter room (see photo F-7). All tanks should be properly labeled. There should be gallon markings which are visible to the eye. The 2 chlorine pumps are LMI Series C1213251. The parks department should keep a spare rebuild kit, foot valve and injector on hand in case of an emergency. Pumps should be flushed out every 2 weeks to keep the liquid chlorine flowing properly. The cleaning procedure should be posted near the pumps.

#### 5.6 Acid

Currently this pool uses Muriatic Acid for pH balancing. There is one -110 Gallon polyethylene tank which is stored in the pool filter room. The tank should be properly labeled. There should be gallon markings which are visible to the eye. The 2 acid pumps are LMI Series B13175S. The parks department should keep a spare rebuild kit, foot valve and injector on hand in case of an emergency. Pump ejectors should be flushed out as necessary. The cleaning procedure should be posted near the pumps (see photo F-8).

SODIUM HYPOCHLORITE AND ACID SHOULD NOT BE MIXED, as this will release chlorine gas which is toxic. Because these products are not compatible and are in the same room we are recommending that the muriatic acid system be removed and replaced with a CO<sub>2</sub> System. Carbon Dioxide lowers the pH when added to the filtered water. This system is safer than an acid system. The expense is slightly higher. The CO<sub>2</sub> system consist of a stainless steel tank usually around 600 gallons or 2- 400 gallon tanks for this size pool. The tanks can be filled from outside the building and can usually be rented. A regulator and injector will be required. This system will operated off the Chemtrol Unit the same way that the acid does. Instead of operating a wall plug the Chemtrol Unit will operate the solenoid valve for the CO<sub>2</sub> storage tanks.

We have enclosed an estimate for purchase of equipment, tank rental and CO<sub>2</sub> (see Table 9, Carbon Dioxide Costs) .

Each pool should used approximately 500 to 600 lbs. of carbon dioxide per week.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **5.0F Chemical Treatment (continued)**

#### **5.7 Calcium**

Because the Watertown water supply is very low in calcium, the water tends to leach calcium out of the marcite coating, leading to the rough surface observed at all three pools. Calcium is currently added to the pools as calcium chloride to help prevent this. The Chemtrol unit is capable of monitoring total dissolved solids in the pool water with the addition of a sensor, and could be set up to control automatic feed of the calcium chloride, although this would require dissolving the calcium chloride in water so it could be fed as a liquid. A less costly alternative is simply to set up the Chemtrol unit to monitor dissolved solids and let the operator know when to add calcium.

Fiberglass is being proposed as an alternative coating to marcite. A significant advantage of the fiberglass is that it would not be affected by the low calcium in the water.

#### **5.8 Pool Chemical Test Kit**

According to the NYS Department of Health all chlorine test kits are to use DPD tables. Although tolerated in some cities orthotolidine test kits are prohibited because of the toxicity of orthotolidine.

The Parks Department now has the DPD test kits. All reagents and tablets are to be less than a year old. If anyone testing the pool chemicals is color blind, a colorimeter is required.

### **6.0F Staffing and Maintenance**

#### **6.1 Aquatic Supervision**

The NYS Health Department requires 2 Aquatics Supervising Staff at each pool during pool operations. When more than 50 percent of the bathers are in the pool an additional lifeguard is required.

Watertown currently hires seven lifeguards per pool per season, with an additional Aquatic Supervisor for the learn to swim program. Typically four lifeguards are at each pool during the day, with two on duty and two off duty at any one time. NYS Health Department regulations require 2 Aquatics Supervising Staff at each pool during pool operations. When more than 50 percent of the bathers are in the pool an additional lifeguard is required.

All lifeguards shall be properly trained to meet all NYS Health Department Regulations. All lifeguards are to know the pool rules, procedures, and proper rotations of the pool staff.

The Aquatic Certification for NYS Bathing Facilities, Fact Sheet is enclosed and shows Aquatic Staff requirements (see Table 10). Life guard staff duties and protocol are listed in the pool safety plan and the New York State Sanitary Code Subpart 6-1.

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**6.0F Staffing and Maintenance** (continued)

6.2 Certified Pool Operator

The City of Watertown must have at least one (1) certified pool operator available at all times. The Certified Pool Operator needs to renew his license every 5 years. This is usually done through the National Swimming Pool Foundation. If not in the city, the operator should be able to be contacted at any time during pool operation. W-M Engineers has a certified pool operator on staff if needed in case of an emergency.

6.3 Pool Operations Manual

In the near future the Health Department will require the City to write a Pool Operations Manual. This manual will be used by the Certified Pool Operators and staff to operate the pool properly. The manual will include procedures for running the filter system, disinfection unit, water make-up, pool balancing, pool cleaning, maintenance, opening and closing procedures.

**7.0F Attendance and Usage**

7.1 Bather Capacity

A 200 persons bather capacity is posted in the bathhouse. Our calculations show bather capacity to be 342 persons, including deck capacity. Based on the attendance records the pool usually does not exceed the 200 bathers. Any changes in bather capacity would have to be approved by the Health Department and would need to be incorporated within the safety plan (See Table 8 F).

7.2 Hours of Operation

Hours of operations are posted at the pool and listed on the written statement or brochure to all patrons.

The pool hours for the 2011 season are as follows.

Sunday through Saturday	11:00 am to 8:00 pm
Holidays	11:00 am to 5:00 pm

The pool is open daily from the last week in June until the end of the second week in August.

7.3 Attendance

Daily attendance for the 2010 season varied from 16 to 127 persons. Attendance trends are discussed below in Section 9. No attendance records were found for August of 2010.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **7.0F Attendance and Usage (continued)**

#### **7.4 Concessions**

Concessions are not sold at the pool at this time.

#### **7.5 Spray Park**

The William J. Flynn Municipal Swimming Pool does not have a spray park at this time. A wading area is available (see Section 2.6). According to recreation personnel, residents have requested that the wading pool be converted to a spray park as has been done at the Alteri pool. Another option would be to close the pool and convert it to a large spray park facility. This is discussed in Section 9. There is room for a larger spray park outside of the fenced pool facility. This area belongs to the Watertown School District.

# ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES

## THOMPSON PARK POOL

### 1.0T Background Summary

#### 1.1 History

The Thompson Park Pool is located in the John C. Thompson Park. A comprehensive analysis of the facility was carried out in 1998 by Bernier, Carr, & Associates (City of Watertown, Thompson Park Swimming Pool Facility, Project No. 98-086, October 1998). According to that report, the facility was built in the 1920's. There are drawings showing just the pool itself dated 1924 kept by the City of Watertown. Based on the BCA report, the original single story bathhouse building was a single story masonry structure with a painted stucco exterior. It was Colonial Revival Architecture and measured 2,100 square feet, with a gambrel roof and a full attic. The original swimming pool was 45 foot by 105 foot, 10" thick reinforced concrete. The original pool capacity was 168,131 gallons based on the 1924 drawings.

#### 1.2 Previous Upgrades

##### 1.2.1 Bath House Upgrades

Additions were added on either side of the original Bath House. The date of the additions would have been sometime after 1940 judging from the concrete block wall construction. The constructed additions are glazed block walls, suspended ceilings, tile floors and low pitched sloped asphalt shingled roofs. The bathroom and shower facilities were moved into the additions, one for the men and one for the women. The original Bath House rooms were converted to mens and womens changing rooms. The changing rooms have plaster ceilings, plaster walls, and painted concrete floors.

##### 1.2.2 Swimming Pool Upgrades

Contract Documents for the pool structure upgrade were prepared in 1973. The BCA report states that a new gunite pool was installed inside the existing reinforced concrete pool. Design data for that upgrade was reported by BCA as follows:

Area	4576 square feet
Perimeter	296 feet
Capacity	170,000 gallons
Design flow rate	472 gpm
Gutter wash fittings	23 gpm
Filter area	300 square feet
Filter rate	1.65 gpm per square foot

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **1.0T Background Summary (continued)**

#### **1.2 Previous Upgrades (continued)**

##### **1.2.2 Swimming Pool Upgrades (continued)**

Additional repairs to the swimming pool shell were performed by the Parks and Recreation staff in 1996. After 1996 the concrete gunite pool shell has been repaired due to cracking and delamination on an ongoing basis by the Parks and Recreation staff.

### **2.0T Existing Structure Condition**

#### **2.1 Outdoor Pool Structure**

The pool holds approximately 170,000 gallons of water. The marcite finish is approximately 1/2" thick. The pool shell has ongoing delamination problems with all four walls. Continued maintenance will be necessary until the shell is replaced. The New York State Swimming Pool Standards require a smooth and easily cleanable surface, and the Health Department will require a new surface if nothing is done to replace it soon.

It is likely that the delamination is being caused in part by the pool chemicals and pool drainage running between the old and new pool walls. We are recommending that the walls be cut out and drainage placed between the 2 concrete surfaces. The gunite walls can be repaired after the drainage is installed, and a new surface can then be installed. The costs for the above repairs are approximately \$168,000. The cost for completely replacing the pool would be \$650,000 including the filter system. Complete replacement would guarantee that delamination problems would not occur, and would allow for the provision of handicapped access by a zero depth entry instead of providing a lift.

There are two (2) surfaces which can be placed on the pool which are economical, Marcite or Fiberglass Epoxy surface.

The marcite surface would consist of removing the old surface, sand blasting the surface and adding 1/2" of quartz, marcite surface. The quartz adds color and wear resistance to the pool. This is the least costly and will last approximately 15 years if the pool is maintained and balanced properly.

The fiberglass epoxy surface would consist of a layer of fiberglass and epoxy gel placed over a clean surface. The fiberglass has good wear resistance and resists exposure to chemicals better than marcite. The fiberglass also adds to the strength of the pool. Its life expectancy is around 15 to 20 years.

When replacing the surface the City should bid both options. If the costs are anywhere close the fiberglass system is a better choice because of the low calcium in the City Water.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0T Existing Structure Condition (continued)**

#### **2.1 Outdoor Pool Structure (continued)**

Until the marcite is replaced the lane markers can be painted on the concrete. We are suggesting painting of the lane markers to avoid abrasions of the bathers. When the pool is resurfaced we recommend that the depth markings and a secchi disk be placed in tile at the bottom of the pool.

The stainless steel gutter system is in good shape but it is suggested that a bead of waterproof caulk be placed between the gutter and the marcite surface to prevent leaking.

#### **2.2 Bathhouse and Storage**

The Bath House and side additions roofs were replaced in 2004 with an asphalt shingle roof. The roofs are considered in good condition.

The plaster ceilings are still deteriorated and in need of repair. Also the glazed block in the additions is spalling and should be replaced or repaired.

The mens and women bathrooms do not exit to the pool area. The bathrooms should exit to the pool and not the Bath House. This reinforces the showering requirement before each bather enters the pool, reducing chemical demand and additional backwashing and providing better hygiene.

#### **2.3 Filter and Chemical Room**

Because the filter uses a flooded chamber, the filter and valving room are below ground. The filtration system and valve chamber are difficult to access and are in need of repair. The below ground filter area is a confined space according to O.S.H.A., which means that it should not be entered without special safety precautions, such as a respirator, a second person should be present while the worker is in the confined space. The filter should be relocated above ground. (See photo T-1).

The chemical storage is above ground. The filtration system and chemical room should be in the same above ground structure. The chemical storage room is not large enough to house the filter and will need to be replaced.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0T Existing Structures (continued)**

#### **2.4 Pool Deck**

The pool deck is concrete sloping away from the pool. The concrete deck has been maintained properly and is in good condition. The deck signage is brightly colored and is painted on the concrete deck. Depth markers are also painted on the gutters.

Lifeguard chairs are constructed of stainless steel and need little maintenance. They were not inspected for condition but should be checked each year prior to start-up. Railings and ladders are constructed of stainless steel tubing and should be inspected yearly (see photo T-2).

There are no back stroke markers or starting platforms at this pool.

#### **2.5 Fencing, Gates and Locks**

The six foot high chain link pool fence is in good condition. The gate to the outside is un-openable due to a tree root growing around the gate. The root should be removed or the gate relocated. All gates, latches and locks should be routinely checked throughout the pool season (see photo T-3 & T-4).

#### **2.6 Water Spray Area, Wading Pool**

Thompson Park Pool does not have a spray park area or a wading pool. There is room in the park that could hold a spray park facility.

#### **2.7 Existing Deck Drainage**

The deck at Thompson Park does not have a below grade drainage system. Additional drainage to the deck is not necessary

#### **2.8 Safety Equipment**

All safety equipment should be checked prior to start up each year. All safety equipment is in working condition and was checked for the 2011 swimming season.

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**2.0T Existing Structures** (continued)

**2.9 Diving Boards and Deck Slides**

A single diving board exists at the pool. The diving board is 2 years old. The ½ meter diving board is in the proper location at the deep end of the pool. The concrete structure is cracking and the board mounting steel is rusting. Generally diving boards last between 5 and 10 years depending on their use and exposure. The board mounts should be checked for damage (see photo T-13).

Based on the New York State Health Department, State Sanitary Code, Subpart 6-1, (Section 6.1.10 (l) Diving Depths Requirements, the Thompson park Pool meet the sanitary code. Requirements for a 2/3 meter diving board in Section 6.1.10 are as follows:

Criteria	Requirements	Flynn Measurements
Minimum Depth of Water	8'	8'
Minimum Diving Width Forward of the Board Tip	13'-6"	22'
Minimum Diving Length Forward of the Board Tip	10'	20'+
Maximum Slope to 5' Water Depth	1:3	1:8

The original pool design did not include a deck slide. A deck slide can be added to the pool providing that the deck slide is reviewed and approved by the Jefferson County Health Departments. All slides must be labeled to show compliance with the requirements of the U.S. Consumer Products Safety Commission or generally accepted standards that will provide adequate protection for public health and safety. The slide must have proper signage. The water where the deck slide enters the pool must be at least 4' deep. There must be 5' clearance behind the deck slide. Sliding shall take place in the feet forward position only. The plunge area cannot conflict with the diving board plunge area. Like diving boards there is no requirement for additional life guards with an addition of a slide.

**2.10 Signage and Security**

Proper signage has been placed on the building and fencing, including posting pool hours. The entrances to the chemical and pump room are kept locked (see photos T-5, T-6 and T-7).

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **2.0T Existing Structures (continued)**

#### **2.11 ADA Compliance**

The Bathhouse is currently not ADA compliant. All access to the pool and bathhouse should be brought into compliance with ADA requirements. The bathrooms and changing rooms need wheelchair access. Steps to the bathroom must be replaced with concrete ramps. Doors to the bath house must be have a 32 inch width for wheelchair access. Handicap parking must be provided with the proper curb cuts. Toilets, sinks, and showers in both the mens and womens room must be accessible. ADA access to the pool deck can be provided through the chainlink fence if a new gate is installed.

Although not required until a major modification is required such as re-marcing of the pool a mobile ADA compliant handicapped chair to set the handicapped person into and out of the water would be useful to help in ADA compliance. The chair would require training of the employees.

### **3.0T Mechanical System**

#### **3.1 Filtration System**

The filtration system was upgraded in 1974 to a Paddock VEC300 diatomaceous earth filter. The 1998 BCA report stated that the filter would need to be replaced in 2001-2002, and it is now ten years older and definitely in need of replacement. The filters are in a confined space and are difficult and dangerous to fill. Per the BCA report the filtration rate exceeds the maximum rate allowed by the Health Department. We recommend that replacement filter system be a pressure sand filter instead of the diatomaceous earth due to the hazard of breathing diatomaceous earth (see photo T-8).

##### **3.1.1 Filtration Tank**

The steel tank, installed in 1974, shows signs of major rust and may be structurally unsound. The filter socks are old but are replaced as necessary.

##### **3.1.2 Filtration Media**

The existing filtration media, diatomaceous earth (D.E.) is hazardous to inhale. Until the filter is replaced a respirator should be used when working with D.E. in powder form.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0T Mechanical System (continued)**

#### **3.1 Filtration System (continued)**

##### **3.1.3 Pump System**

The pumping system is located in a covered pit. The filtration system is operated by a single pump. If the pump fails the pool must be shut down. When the filter is replaced, a dual recirculation pump system with automatic alternating of pumps is recommended to provide uninterrupted pool operation during normal hours. NYSERDA has an energy reimbursement program that will pay for a portion of the pumps if they meet the efficiency requirements. The pumping system should be relocated above ground because of the existing unsafe conditions of the pit. New recirculating pumps would have a new motor control panel that can provide for variable speed control of the pumps to reduce water hammer and improve flow control. The pump was overhauled in 1997 according to the BCA report.

##### **3.1.4 Strainer**

The D.E. filter does not use a standard inline strainer. It uses the socks to filter out the debris.

##### **3.1.5 Backwash System**

The D.E. system has no backwash system. Cleaning is accomplished by shutting down the filter pump and closing down several valves and opening the waste valve. The filter socks are washed off using a hose and the tank drained.

#### **3.2 Recirculation System**

##### **3.2.1 Gutters**

The gutter system on this pool is raised 12" off the concrete deck. The swimming pool gutters are constructed of stainless steel with a combination of intake skimmer and filtered water outlets along the entire perimeter of the pool. The stainless steel is in good working condition. The gutters have a plastic grating to prevent debris from entering the intake lines and to prevent protect the swimmers from slipping on the stainless steel.

The perimeter overflow is controlled by the gutter elevation. The filter tank is used as a balance tank. Any overflow goes to drain at the top of the tank.

##### **3.2.2 Main Drains**

The main drain was upgraded in 2010 to conform with the Federal Virginia Baker Law as it pertains to existing pools. However when a major modification such as re-marcing or structural work is performed the single main drain will have to be replaced with a safety compliant dual main drain system.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0T Mechanical System (continued)**

#### **3.2 Recirculation System (continued)**

##### **3.2.3 Control Valve**

No flow control valve exists on this filter system. Flow is controlled by the pump suction pressure. Other control valves were repaired or replaced after the BCA report.

##### **3.2.4 Piping**

The majority of the filter piping is 6" steel. The piping for the Circulation System is not color coded as required by the NYS Health Department.

##### **3.2.5 Air Gaps**

An air gap is required on all waste lines according to the NYS Dept. Of Health. The main drain and gravity waste from the wet well for the Thompson pool appear to be tied directly into the sanitary sewer with no air gap.

##### **3.2.6 Automatic Makeup Water**

There is no automatic makeup water system at Thompson Pool. Water is added manually. We recommend that an automatic makeup water system be added when replacing the filter system and re-marciting the pool.

#### **3.3 Heating Systems**

Natural gas is used to heat the buildings and to provide hot water for showers. The water heater to the sinks and showers is a 40 gallon heater which is undersized for the facility. A point of use heater is recommended.

The swimming pool water is not heated.

The Bath house is heated through out the winter by a gas forced air furnace. New windows, insulation, insulated doors, roof insulation, wall insulation, setback thermostats and additional energy saving measures should be considered if the building is to continue to be heated in the winter. NYSERDA can provide a complete energy audit of the building to make energy saving recommendation. This is discussed in Section 10.0 Funding Sources. Asbestos pipe wrap on hot water pipes should be removed or encapsulated in accordance with EPA regulations..

#### **3.4 Swimming Pool Vacuum Cleaner**

The current swimming pool vacuum cleaner is a small manual portable filter and pump system which has to be cleaned by maintenance personal. Manual brushes and nets are also used.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **3.0T Mechanical System (continued)**

#### **3.5 Ventilation System**

There is no ventilation system for the building or the chemical storage building. Ventilation is required for these buildings and should be installed at a rate of 2 air changes per hour minimum.

### **4.0T Electrical System and Communications**

#### **4.1 Electrical Service.**

The electricity is a 3 phase 208 V, 200 amp service for the pool building. Electrical panels and the electric meter are exposed in public areas and should be enclosed to prevent public access. The circuit breaker panel can be walled off into a closet (see photo T-12). There is a separate electrical service for the filter system which is a 3 phase 208 volt 100 amp. service (see photo T-15).

#### **4.2 Lighting Exterior/Interior**

The exterior lighting is adequate for a swimming pool that is closed at dark. The exterior lighting uses hps or quartz wallpacks. Although the lumens were not checked the interior lighting seemed sufficient. The interior lighting is basically a combination of fluorescent and incandescent lighting. All of the lighting is old and outdated. High efficiency fluorescent lighting can cut down on the energy use. Any new lighting should be energy efficient fluorescent or LED lighting.

#### **4.3 Wiring**

Interior wiring in the bathhouse and changing rooms is not visible, The filter wiring has been placed back in the electrical box (see photo T-9 wiring exposed). In Table II, Electrical Observation, we have provided general comments to improve the electrical system. This is not a complete list of repairs needed to the electrical system. The City of Watertown should have an electrical inspector review the building for code violations and damaged wiring.

#### **4.4 Pool Electrical UL Grounding**

According to the NYS Department of Health and N.E.C. the stainless steel gutter and all metal railings, and guard chairs are to be grounded. The grounding is buried in concrete and is not visible to the eye. The Watertown City Electric Department has checked and found that the grounding is correct.

#### **4.5 Telephone**

Although a public telephone is not required the supervising lifeguard carries a cell phone which can be used by the bathers as an emergency contact.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **4.0T Electrical System and Communications (continued)**

#### **4.6 Remote Monitoring**

The internet is available at the Parks Department office. The internet can be used to link the computers to all the chemtrol units in the Watertown Pool System. The certified pool operator can check the pool for chemical feed, and pressure problems at all the pools if a REM module is installed in the Chemtrol Units. Both Flynn and Thompson pool would need an internet connection or analog telephone line. The chemtrol units could also then automatically call the operator if an alarm occurs.

#### **4.7 Fire Safety**

As noted in the BCA Report and checked in the field, emergency lighting and a fire alarm system are required by the NYS Building Code. Currently there is no emergency lighting or a fire alarm system at the Thompson pool bathhouse. These items should be addressed to meet NYS Building Code.

### **5.0T Chemical Treatment**

#### **5.1 Water Supply**

The water supply for the pool is Watertown City Water. Calcium is being added to harden the water.

#### **5.2 Control Unit**

Chemical feed is controlled by a model 6000 Chemtrol Unit. The unit is capable of controlling the filters, chlorine injection system, pH balancing, automatic backwash if available, heating system if available and has a chemical saver mode for night. The Chemtrol Unit is currently used for chlorine feed, pH balancing and flow monitoring. This unit was sent back to the factory for re-calibration in 2010 and is believed to be in excellent condition.

The chemical saver mode should be turned on to save chemicals at night. Monitoring of TDS, temperature and filter pressure can be added at a minimal cost. Filter pressure is currently monitored manually. Automatic backwash and filter pump control are not practical until the filters are replaced.

A copy of the Chemtrol Operators Manual should be placed in the filter room near the Chemtrol Unit.

#### **5.3 Flow Measurement**

Flow is monitored with a signet paddle wheel flow meter. The flow meter is not the proper distance from the filter. We are recommending that the chemtrol unit be hooked up to the paddle wheel which now controls the chemical feed system.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **5.0T Chemical Treatment (continued)**

#### **5.4 Probes**

A spare Oxygen Reduction Potential (ORP) probe and a spare pH probe should be kept on hand in case of failure (one set can serve for all three pools) Spare probes are kept in a saline solution and should not be opened until needed. Proper procedures for cleaning and changing of the probes are located in the Chemtrol manual.

#### **5.5 Chlorine**

Currently this pool uses 15% Sodium Hypochlorite for chlorine residual. There are 3-165 Gallon polyethylene tanks which are stored in the pool filter room. All tanks should be properly labeled. There should be gallon markings which are visible to the eye (see photo T-10). The 2 chlorine pumps are LMI Series C1213251. The parks department should keep a spare rebuild kit, foot valve and injector on hand in case of an emergency. Pumps should be flushed out every 2 weeks to keep the liquid chlorine flowing properly. The cleaning procedure should be posted near the pumps.

#### **5.6 Acid**

Currently this pool uses Muriatic Acid for pH balancing. There are one -110 Gallon polyethylene tank which is stored in the pool filter room. The tank should be properly labeled. There should be gallon markings which are visible to the eye (see photo T-11). The two acid pumps are LMI Series B13175S. The parks department should keep a spare rebuild kit, foot valve and injector on hand in case of an emergency. Pump ejectors should be flushed out as necessary. The cleaning procedure should be posted near the pumps.

**SODIUM HYPOCHLORITE AND ACID SHOULD NOT BE MIXED**, as this will release chlorine gas which is toxic. Because these products are not compatible and are in the same room we are recommending that the muriatic acid system be removed and replaced with a CO<sub>2</sub> System. Carbon Dioxide lowers the pH when added to the filtered water. This system is safer than an acid system. The expense is slightly higher. The CO<sub>2</sub> system consist of a stainless steel tank usually around 600 gallons or 2- 400 gallon tanks for this size pool. The tanks can be filled from outside the building and can usually be rented. A regulator and injector will be required. This system will operated off the Chemtrol Unit the same way that the acid does. Instead of operating a wall plug the Chemtrol Unit will operate the solenoid valve for the CO<sub>2</sub> storage tanks.

We have enclosed an estimate for purchase of equipment, tank rental and CO<sub>2</sub> (see Table 9, Carbon Dioxide Costs) .

Each pool should used approximately 500 to 600 lbs. of carbon dioxide per week.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **5.0T Chemical Treatment (continued)**

#### **5.7 Calcium**

Because the Watertown water supply is very low in calcium, the water tends to leach calcium out of the marcite coating, leading to the rough surface observed at all three pools. Calcium is currently added to the pools as calcium chloride to help prevent this. The Chemtrol unit is capable of monitoring total dissolved solids in the pool water with the addition of a sensor, and could be set up to control automatic feed of the calcium chloride, although this would require dissolving the calcium chloride in water so it could be fed as a liquid. A less costly alternative is simply to set up the Chemtrol unit to monitor dissolved solids and let the operator know when to add calcium.

Fiberglass is being proposed as an alternative coating to marcite. A significant advantage of the fiberglass is that it would not be affected by the low calcium in the water.

#### **5.8 Pool Chemical Test Kit**

According to the NYS Department of Health all chlorine test kits are to use DPD tables. Although tolerated in some cities orthotolidine test kits are prohibited because of the toxicity of orthotolidine.

The Parks Department now has the DPD test kits. All reagents and tablets are to be less than a year old. If anyone testing the pool chemicals is color blind a colormeter is required.

### **6.0T Staffing and Maintenance**

#### **6.1 Aquatic Supervision**

The NYS Health Department requires 2 Aquatics Supervising Staff at each pool during pool operations. When more than 50 percent of the bathers are in the pool an additional lifeguard is required.

Watertown currently hires seven lifeguards per pool per season, with an additional Aquatic Supervisor for the learn to swim program. Typically four lifeguards are at each pool during the day, with two on duty and two off duty at any one time. NYS Health Department regulations require 2 Aquatics Supervising Staff at each pool during pool operations. When more than 50 percent of the bathers are in the pool an additional lifeguard is required.

All lifeguards shall be properly trained to meet all NYS Health Department Regulations. All lifeguards are to know the pool rules, procedures, and proper rotations of the pool staff.

The Aquatic Certification for NYS Bathing Facilities, Fact Sheet is enclosed and shows Aquatic Staff requirements (see Table 10). Life guard staff duties and protocol are listed in the pool safety plan and the New York State Sanitary Code Subpart 6-1.

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**6.0T Staffing and Maintenance** (continued)

**6.2 Certified Pool Operator**

The City of Watertown must have at least one (1) certified pool operator available at all times. The Certified Pool Operator needs to renew his license every 5 years. This is usually done through the National Swimming Pool Foundation. If not in the city, the operator should be able to be contacted at any time during pool operation. W-M Engineers has a certified pool operator on staff if needed in case of an emergency.

**6.3 Pool Operations Manual**

In the near future the Health Department will require the City to write a Pool Operations Manual. This manual will be used by the Certified Pool Operators and staff to operate the pool properly. The manual will include procedures for running the filter system, disinfection unit, water make-up, pool balancing, pool cleaning, maintenance, opening and closing procedures.

**7.0T Attendance and Usage**

**7.1 Bather Capacity**

A 183 persons bather capacity is posted in the bathhouse. Our calculations show bather capacity to be 359 persons, including deck capacity - see Table 8 T. Based on the attendance records the pool rarely exceeds the 183 bathers at a time Any changes in posted bather capacity would have to be approved by the Health Department and would need to be incorporated within the safety plan.

**7.2 Hours of Operation**

Hours of operations are posted at the pool and listed on the written statement or brochure to all patrons.

The pool hours for the 2011 season are as follows.

Sunday through Saturday	11:00 am to 8:00 pm
Holidays	11:00 am to 5:00 pm

The pool is open daily from the last week in June until mid-August.

**ENGINEERING EVALUATION OF THE CITY OF WATERTOWN  
SWIMMING POOL FACILITIES**

**7.0T Attendance and Usage** (continued)

7.3 Annual Attendance

Annual attendance for the 2010 season was 5,123 persons, varying from 10 to 392 persons per day, with the higher figure coinciding with other events at the park. Attendance trends are discussed below.

7.4 Concessions

Concessions are not sold at the pool at this time. Vending machines can be placed in the building holding drinks and candy.

7.5 Spray Park

There is currently no spray park or wading pool at this facility. The possibility of converting the pool to a spray park or adding a spray park is discussed in Section 9.

**OVERALL ANALYSIS**

**8.0 Financials**

8.1 Overall Costs

The budget figure for 2009-2010 for operation and maintenance of all three pools was \$163,569. The actual expenditures were checked based on records provided by Parks and Recreation personnel and came to \$ 132,238 as shown in Table 1.

8.2 Utility Costs

Total utility costs for the 2009 - 2010 swimming season (August 2009 - July 2010) were approximately \$12,477 including natural gas, oil, telephone, water and sewer, and electricity. Note that based on breakdowns by pool from the city manager's estimates, Flynn and Alteri pools use much more electricity than the Thompson pool. Flynn is the only pool using oil, and the heating costs for that pool are considerably higher than the others. Where actual breakdowns of utility costs per pool were not available, overall cost totals were allocated based on pool size.

8.3 Chemical Costs

Total chemical costs for the 2010 swimming season were as follows:

Chlorine	\$ 18,439
Muriatic Acid	\$ 5,471
Sodium Bicarbonate	\$ 1,032
Calcium Chloride	\$ 506
Shock	\$ 240
Diatomaceous Earth	\$ 145
Other Chemicals	\$ 130

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **8.0 Financials** (continued)

#### **8.4 Maintenance Costs**

Total maintenance costs for 2009 to 2010 including filter system and building maintenance was approximately \$ 15,264.

#### **8.5 Personnel Costs**

Temporary personnel cost were approximately \$78,534 for the 2010 season including uniforms, lifeguard equipment, and employee related testing. This cost was allocated equally between all three pools.

Full time employees are also park employees and general maintenance employees and are not included in the pool costs because they are full time, year round.

#### **8.6 Equipment Costs**

Equipment cost for the 2010 pool season were approximately \$ 7,800 for all pools. Equipment costs include chemical feeders, filtration equipment, vacuum cleaner, eye wash stations, etc.

#### **8.7 Insurance Costs**

Insurance cost on all three pools was budgeted at \$1189.00 for the 2010 swimming season. Note that the City of Watertown is self insured and the above number was taken from the 2009-2010 budget

#### **8.8 Overall Costs per Pool**

As shown in Table 1A and based on the allocation discussed above, total operating expenses for the 2010 swimming season was approximately \$ 54,640 for Alteri, \$57,712 for Flynn, and \$46,556 for Thompson pool. In terms of operating costs, if a pool were to be closed the greatest savings would come from closing the Flynn pool.

#### **8.9 Costs of Improvements**

We prepared estimates in March of 2011 for costs of items required to meet Health Department requirements We have also prepared estimates of costs for additional improvements that will be required in the near future for continued operation of the pools, as well as for items that could be considered such as pool covers and a spray park . These costs are shown in Table 2A, 2B, and 2C.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **9.0 Community Needs Assessment**

#### **9.1 Pool Accessibility**

Figure 1 shows the three pool locations, along with a one mile radius indicating easy walking distance. The census blocks used to check population trends are also shown. Note that because of the need to climb a hill, Thompson Park is not as easy to access by walking or bicycle as the other pools, so in fact the accessible radius is probably smaller for that pool. Buses currently stop at the parks on weekends. The City should consider having buses stop on weekdays, as attendance does not appear to be related to day of the week. Recreation staff note that many pool users come are dropped off by car. All three pools are within easy driving distance of any location within the city.

#### **9.2 Population and Attendance Trends**

Attendance records for all three pools for 2003 to 2010 were compiled, and are shown in Table 3 and Figure 2. It should be emphasized that there are no turnstiles or other means of making an exact count, so attendance figures are only approximate.

While there is considerable variability from year to year, there is an overall downward trend in attendance. This is most notable for the Flynn pool. Looking at census data, (see Table 4) the overall population for Watertown actually increased between 2000 and 2010, from 26,705 to 26,963. However, for the population under 18, there was a decline in population between 2000 and 2010 from 6,923 to 6,543. It is interesting that the census tracts (see Figure 3) that showed the greatest decline in under 17 population - 61200, 61500, and 62200 - are closer to the Thompson Park and Alteri pools, while the census tracts that showed an increase in under 17 population - 61300 and 61400 - are closer to the Flynn pool. The sharp drop in attendance at the Flynn pool that occurred after 2007 was probably caused by the closing of a nearby housing project, although the decline in attendance at Flynn may also reflect a change in how pools are accessed, with more children being dropped off by car and fewer walking or riding. Thus events and other nearby attractions appear to be more important to draw users than a short walking distance.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **9.0 Community Needs Assessment (continued)**

#### **9.2 Population and Attendance Trends (continued)**

This conclusion is reinforced by a comparison of attendance figures with weather data for the 2010 season (Figures 4 and 5) In looking at the data, there was as expected a negative correlation between attendance and rain events, but there did not seem to be much positive correlation between high temperature and humidity and high attendance. In talking with recreation personnel, they noted that other special events at the parks had a big influence on attendance at the pools.

A new housing development has been constructed near the Flynn pool, and attendance may start to increase again. New directional signage in the vicinity of the pool could increase awareness of the pool and increase its use. The City may also want to consider hosting an event at the pool such as an ice cream social to increase awareness of the pool for new residents in the area. The City should monitor attendance trends at Flynn for the next few years to help determine whether the facility should remain open.

#### **9.3 Comparison with other cities**

The City of Watertown provides one swimming pool per 9000 residents. Table 5 Shows ratios for some other cities in upstate New York. Watertown is at the high side of pools per capita. The table also shows the ratio for the state as a whole, which is about one pool per 3000 residents. However the statewide figure is based on “public pools”, and includes facilities located at hotels/motels, campgrounds, apartment complexes, health clubs and children's camps in addition to municipally operated pools.

#### **9.4 Advertising**

The only advertising for the pools is on the City website. The City could put up banners near the pools, advertise in the local papers or put out a press release to increase pool utilization.

#### **9.5 Swim Programs**

There are swim programs such as the Learn To Swim program with 125 youths attending and 55 taking swimming lessons at the all three pools. According to 2002 statistics for the United States as a whole (National Vital Statistics Report, Volume 50, No. 15) , drowning was the second leading cause of accidental death among children aged 5 to 14 years, and the fifth leading cause of accidental death for all age groups. Swim programs are free to the public. Additional programs that could be added include exercise programs for the elderly and others with joint problems that prevent weight bearing exercise, as well as lane swimming sessions for middle-aged adults. Changes to the pools to allow such programs are discussed below.

## ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES

### 9.0 Community Needs Assessment (continued)

#### 9.6 Spray Park and other Alternatives

One alternative that has been suggested is to close one of the pools and convert it to a spray park. The Thompson Park pool is the obvious candidate, as this would free up the bathhouse for other uses such as using the building for bathrooms, birthday parties, reservations, community services, and/or eliminate the need to upgrade the bathhouse to provide handicap accessibility. However, from the standpoint of providing the best access to a swimming pool for the most population, this is probably not the best choice. As shown in Figure 1, there is considerable overlap in service area between Flynn and Alteri. Using a one and one half mile radius (Figure 1), almost all of the population of Watertown lies within close proximity to either the Thompson Park or Alteri pools.

If the City does want to consider closing the Thompson Park pool, the City could first construct a spray park adjacent to the pool and then close the pool while the old pool is demolished. As discussed in Section 2.0T, even if the Thompson pool is kept open for the long term it may make sense to completely replace the pool shell rather than just resurfacing it. Replacement would likely mean the pool would be closed for one season. If while the pool is closed for a season the attendance at the Flynn and Alteri pools increases so there is little change in total pool attendance, the City could decide not to construct a new pool shell and to use the area for other park purposes.

While swimming remains a desirable recreational opportunity, the trend in providing water based recreation is the *leisure pool* or *family aquatic center* (see “Amherst Master Plan” and “Aquatic Centers Make a Big Splash in Illinois” in References). The idea is to provide a range of water based recreation opportunities at or near a single facility. If other non-water based recreation opportunities are also available, so much the better. The types of opportunities typically offered include spray parks, traditional shallow water pools (often with enhanced handicapped access for the elderly), lane swimming for adult exercise, and diving boards and pool slides for older teens.

Spray parks (splash pads) are a good way to keep youths cool without the worry of drowning, especially for elderly people who don't have the mobility to supervise their youths properly while at a swim area. A combination of a swimming pool and a spray area would allow parents to bring the whole family with them to the facility.

The Alteri pool could be easily configured to provide walk-in handicapped access at the shallow end, and a time could be set aside for lane swimming in the deep end with the shallow end cordoned off but still available for youth and elderly. Since the Thompson Park pool already has a diving board, this would be a logical place to add a small slide, (See Section 2.9 for slide criteria). A large spray park could then be added at one of the facilities, or the existing spray area at Alteri could be expanded and a smaller spray park added at Thompson Park (see Figure 6). Shows how a 2000 square foot spray park could be sited adjacent to the Thompson Park pool.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **9.0 Community Needs Assessment (continued)**

#### **9.6 Spray Park and other Alternatives (continued)**

This plan also makes sense from the idea of having multiple recreational opportunities at a single location. There are fewer recreational opportunities at Flynn other than the ball fields. There are also scenic views from Alteri and Thompson Park, but not from Flynn. Also as shown in Table 6 the Flynn pool has the highest annual cost per attendee.

Spray parks can use recycled filtered water or one time through water to waste. The recycled water option requires a separate filter and disinfection system from the pool water. Special regulations apply to these types of parks to prevent bacterial diseases. The water to waste option has no special regulations. This type of park requires occupant sensing units to save the water when not in use. Generally this type of spray park is less expensive to build but water costs are higher.

Pool enclosures can keep the pools active year round. The Village East Syracuse, which used an inflatable dome for a year round structure, was able to have daily programs year round such as senior swimming, senior water aerobics, open swimming, providing a swim time for home schooled children, swimming lessons, after school swimming and other programs. They found that the swimmer attendance did not diminish over the winter months. A ballpark estimate for a permanent enclosure would be \$1,500,000 to \$2,500,000 depending on the type of enclosure desired. The Alteri pool is the best location for an enclosure if the City decides to pursue this.

Deck chairs could be added to the pool decks to give the parents and bathers a place to rest while at the pool. Prices for commercial deck chairs vary for \$200 to \$800 each depending on the style and longevity of the chair. Thompson Park Pool has a lawn area where the chairs can be placed. Alteri and Flynn pools have plenty of deck area for chairs. The deck areas are not counted in the bather capacity at the Watertown pools.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **10.0 Funding Sources**

#### **10.1 Community Development Block Grants**

The Federal HUD program Community Development Block Grants are targeted for areas that qualify by income level, and also for facilities that serve the general population, such as the pool facilities.

#### **10.2 New York State Energy Research and Development Agency (NYSERDA)**

NYSERDA has various programs that are designed specifically to reduce energy costs. They will assist in audits, equipment rebates, renewable energy assistance and technical assistance. Given the trend to increased utility costs, we recommend the City contact NYSERDA for an audit for each pool.

#### **10.3 New York State Office of Parks, Recreation and Historic Preservation (SHPO)**

SHPO has a 50% Grant Program. Administrative costs and the required independent CPA audit add approximately 15% to the awarded contract. This must be taken into consideration when applying. Funding is available under the Parks Program and for Thompson Park Pool under the Historic Preservation Program. The application deadline for these grants is September 1, 2011 for the 2012 funding.

#### **10.4 Corporate Sponsors**

The Parks Department could look at vendors for the parks department to sponsor events or items needed for the pools.

#### **10.5 Fund Raising**

There is no fund raising at the pool at this time. Fund raising should be considered for events or items needed at the pool. Good possibilities for funding would be a handicapped chair lift, a water slide, or deck chairs, as these could be labeled the name of the sponsor.

There are various organizations that could sponsor funding within Watertown such as the school district, Lions Club, Rotary Club etc., as well as regional and national foundations that have programs for municipalities.

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### **11.0 Summary**

The three outdoor municipal pools run by the City of Watertown were evaluated as to existing condition, compliance with Health Department regulations, operating cost, attendance trends, and recommended improvements and costs. Several alternatives to increase utilization were examined, including construction of a spray park, along with the possibility of closing one pool.

The Alteri Pool is generally in good condition but is in need of resurfacing. It is recommended that bids be obtained for resurfacing with fiberglass as well as marcite, as fiberglass would not be affected by the low level of calcium in the City water supply. The mechanical room should have positive ventilation, and a wiring diagram should be created to reflect the additions and alterations that have taken place over the years.

The Flynn Pool is also in need of resurfacing. A portion of the brick facing for the pool building is coming loose and should be inspected by a mason. Poles along the back of the fence are leaning because they are not properly set and should be replaced. Attendance at the Flynn Pool has declined significantly over recent years. If this trend continues the City should consider closing this pool.

The Thompson Park Pool is badly in need of resurfacing. Because the current pool shell was constructed inside of the original 1924 Pool, there is a continuing problem with delamination of the pool shell. If this pool is retained the City should consider complete replacement instead of just resurfacing. In addition, the current diatomaceous earth filter system should be replaced.

Control of pH at all three pools should be switched from muriatic acid to carbon dioxide to increase safety and provide for better buffering. The City should also contact Chemtrol about adding remote dialers to the chemical control units to contact the pool operator in case of an alarm condition.

The City should consider adding additional amenities at the Alteri Pool and Thompson Park to provide recreational opportunities for more age groups. These include diving boards, deck slides, zero depth entry for the elderly, and spray parks.

The City should pursue funding for the additional items through grants, advertising revenues, and contributions from local organizations.

# **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

## **12.0 EXHIBITS**

- 12.1 Photographs
- 12.2 Tables
- 12.3 Figures
- 12.4 Supporting Documents

## **12.1 PHOTOGRAPHS**

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

Photo A-1, Alteri Pool Deck Signage  
Photo A-2, Alteri Pool, Gate  
Photo A-3, Alteri Pool, Filter  
Photo A-4, Alteri Pool, Pump  
Photo A-5, Alteri Pool, Strainer  
Photo A-6, Alteri Pool, Main Drain  
Photo A-7, Alteri Pool, Air Gap  
Photo A-8, Alteri Pool, Chemtrol Unit  
Photo A-9, Alteri Pool, Corroded Electrical Boxes  
Photo A-10, Alteri Pool, Corroded Conduits  
Photo A-11, Alteri Pool, Telephone Wires  
Photo F-1, Flynn Pool, Gate  
Photo F-2, Flynn Pool, Filter  
Photo F-3, Flynn Pool, Circulation Pump  
Photo F-4, Flynn Pool, Strainer  
Photo F-5, Flynn Pool, Flow Controller  
Photo F-6, Flynn Pool, Air Gap  
Photo F-7, Flynn Pool, Chlorine Storage Tanks  
Photo F-8, Flynn Pool, Acid Storage Tank  
Photo F-9, Flynn Pool, Fence Leaning  
Photo F-10, Flynn Pool, Wall Separation  
Photo F-11, Flynn Pool, Corroded Conduits  
Photo F-12, Flynn Pool, Chemtrol Unit  
Photo F-13, Flynn Pool, Electrical Enclosures  
Photo F-14, Flynn Pool, Corroded Conduits  
Photo F-15, Flynn Pool, Alarm Box  
Photo T-1, Thompson Pool, Filter  
Photo T-2, Thompson Pool, Lifeguard Chair  
Photo T-3, Thompson Pool, Gate  
Photo T-4, Thompson Pool, Gate and Root  
Photo T-5, Thompson Pool, Signage, Keep Out  
Photo T-6, Thompson Pool, Signage, Warning  
Photo T-7, Thompson Pool, Signage, Pool Rules  
Photo T-8, Thompson Pool, Filter Valving  
Photo T-9, Thompson Pool, Filter Wiring Exposed  
Photo T-10, Thompson Pool, Chlorine Tanks  
Photo T-11, Thompson Pool, Acid Tank  
Photo T-12, Thompson Pool, Exposed Electrical Panel  
Photo T-13, Thompson Pool, Diving Board  
Photo T-14, Thompson Pool, Chemtrol Wiring  
Photo T-15, Thompson Pool, Filter Power Panels

### **12.2 TABLES**

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

Table 1, Operation and Maintenance Costs  
Table 2A, 2B, 2C, Health Department Estimates  
Table 3, Attendance Trends  
Table 4, Population Trends  
Table 5, Pools per Capita  
Table 6, Present Worth  
Table 7, Cost Estimate, Spray Park  
Table 8A, 8F, 8T, Pool Calculations  
Table 9, Carbon Dioxide Costs  
Table 10, Aquatic Certifications  
Table 11, Electrical Observations

### **12.3 FIGURES**

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

- Figure 1, Population Radius Map
- Figure 2, Attendance Trends, Graph
- Figure 3, Census Data, Map
- Figure 4, Attendance vs. Heat and Humidity
- Figure 5, Attendance vs. Precipitation
- Figure 6, Spray Park

### **12.4 SUPPORTING DOCUMENTS**

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

### References

Alteri Pool Drawings, 3 sheets

Flynn Pool Drawings, 3 sheets

Thompson Park Pool Drawing, 1 sheet

### References

STANDARDS FOR OPERATION AND MAINTENANCE

## **ENGINEERING EVALUATION OF THE CITY OF WATERTOWN SWIMMING POOL FACILITIES**

Chapter 1, State Sanitary Code, Subpart 6-1, SWIMMING POOLS (Statutory authority: Public Health Law, Section 225) . Includes Amendments Effective November 7, 2007. New York State Department of Health, Bureau of Community Sanitation and Food Protection.  
<http://www.health.state.ny.us/environmental/outdoors/swimming/>

Chapter 1, State Sanitary Code, Subpart 6-3, RECREATIONAL AQUATIC SPRAY GROUNDS (Statutory authority: Public Health Law, Section 225) . Effective March 28, 2007. New York State Department of Health, Bureau of Community Sanitation and Food Protection.

Recommended Standards for SWIMMING POOL DESIGN AND OPERATION, Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1996 Edition. <http://10statesstandards.com/swimmingpooldesign.pdf>

Certified Pool-spa Operators Handbook,2007 Edition, Ronald L. Ford, National Swimming Pool Foundation, Colorado Springs, Colorado. <http://www.nspf.org>

ASME A112.19.8-2007, Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, The American Society of Mechanical Engineers

Pool/Spa Safety and Drowning Prevention: Virginia Graeme Baker Pool and Spa Safety Act Frequently Asked Questions. <http://www.poolsafety.gov/pssafaq.html>

### **TRENDS IN AQUATIC RECREATION**

Town of Amherst, Recreation & Parks Master Plan, June 21, 2004, Monteith Planning Consultants. <http://www.amherst.ny.us/pdf/recreation/background.pdf>

Trends - Aquatic Centers Make a Big Splash in Illinois, Shari Moser Ross, Illinois Parks & Recreation, March/April 1996. <http://www.lib.niu.edu/1996/ip960347.html>

Photo A-1, Alteri Pool, Deck Signage



Photo A-2, Alteri Pool, Gate



Photo A-3, Alteri Pool, Filter



Photo A-4, Alteri Pool, Pump



Photo A-5, Alteri Pool, Strainer



Photo A-6, Alteri Pool, Main Drain



Photo A-7, Alteri Pool, Air Gap



Photo A-8, Alteri Pool, Chemtrol Unit



Photo A-9, Corroded Electrical Boxes



Photo A-10 Corroded Conduits



Photo A-11, Telephone Wiring



Photo F-1, Flynn Pool, Gate



Photo F-2, Flynn Pool, Filter



Photo F-3, Flynn Pool, Circulation Pump



Photo F-4, Flynn Pool, Strainer



Photo F-5, Flynn Pool, Flow Controller



Photo F-6, Flynn Pool, Air Gap



Photo F-7, Flynn Pool, Chlorine Storage Tanks



Photo F-8, Flynn Pool, Acid Storage Tank

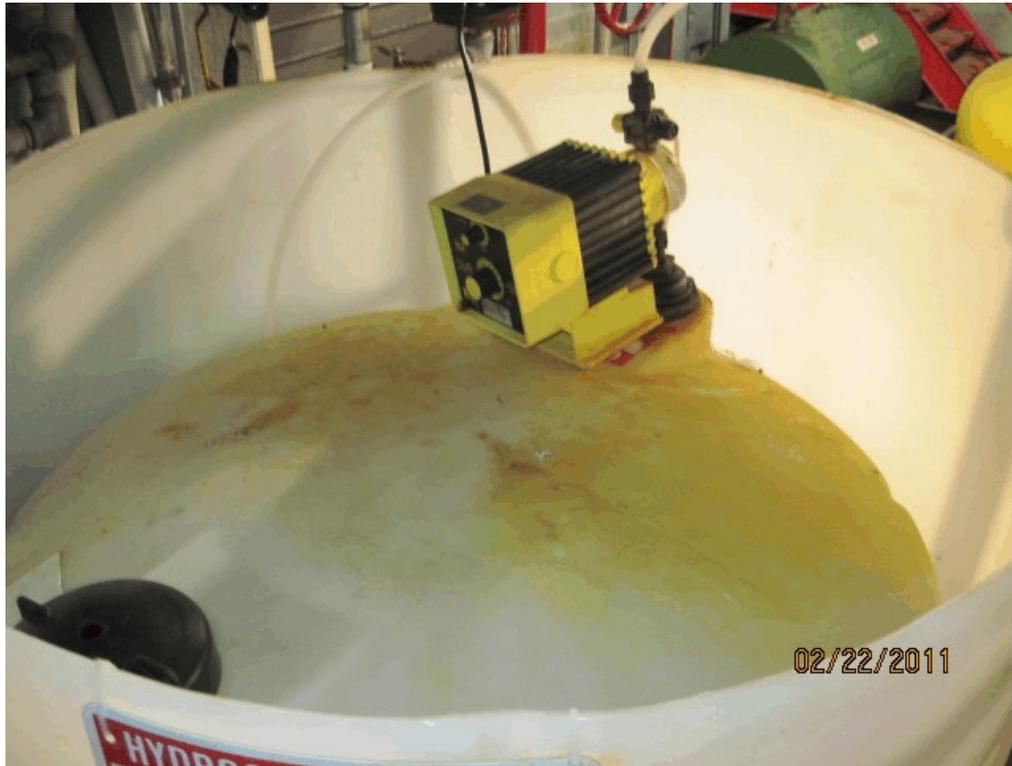


Photo F-9, Fence Leaning



Photo F-10, Wall Separation



Photo F-11 Corroded Conduit



Photo F-12 Chemtrol Unit



Photo F-13, Electrical Enclosures



Photo F-14, Corroded Conduits



Photo F-15, Alarm Box



Photo F-16 Ceiling Vent Wiring



Photo F-17, Pump Motor Starter



Photo T-1, Thompson Pool, Filter



Photo T-2, Thompson Park, Lifeguard Chair



Photo T-3, Thompson Pool, Gate



Photo T-4, Thompson Pool Gate-Root



Photo T-5, Thompson Pool, Signage, KEEP OUT



Photo T-6, Thompson Park, Signage, Pool Warning



PhotoT-7, Thompson Pool, Signage, Pool Rules



Photo T-8, Thompson Park, Filter Valving



Photo T-9, Thompson Pool, Filter Wiring Exposed



Photo T-10, Thompson Pool, Chlorine Tanks



Photo T-11, Thompson Pool, Acid Tank



Photo T-12, Exposed Electrical Panel



Photo T-13, Diving Board



Photo T-14, Chemtrol Wiring

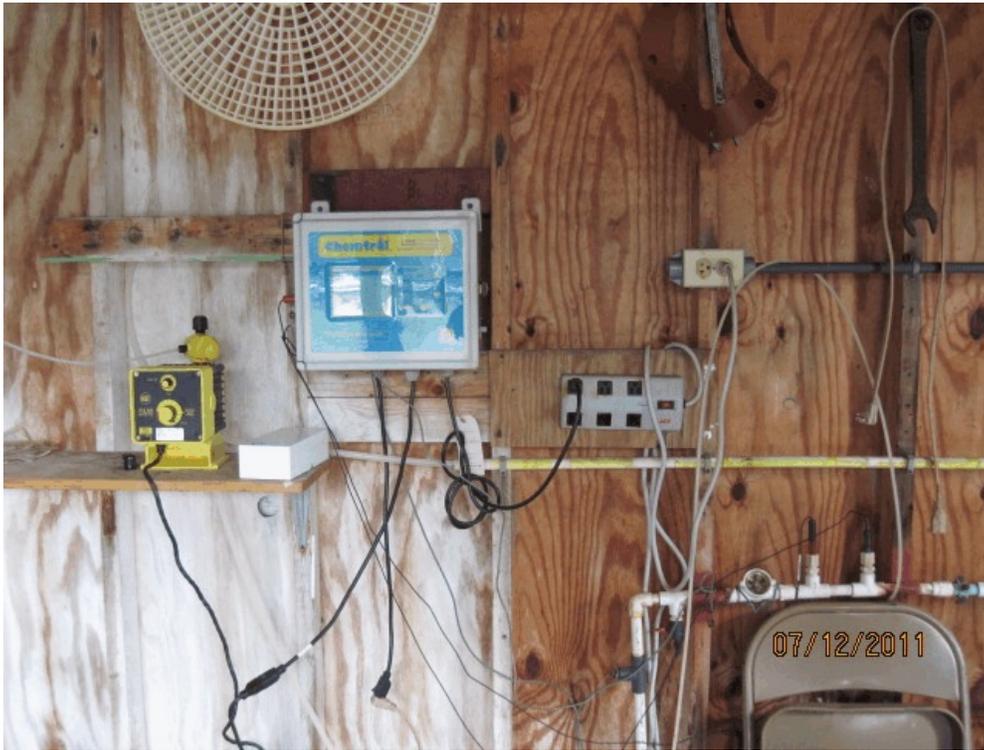


Photo T-15, Filter Power Panels



**Table 1**

Watertown Pools  
MAY 31, 2011

Revised 6/21/11

**OPERATION & MAINTENANCE COSTS FOR ALL POOLS**

<b>Utilities</b>	August 09	Sept 09	Oct 09	Nov. 09	Dec 09	Jan. 10	Feb. 10	March 10	April 10	May 10	June 10	July 10	Total All Pools	Total Alteri	Total Flynn	Total Thompson
Electricity	247.69	513.35	69.62	61.66	71.74	81.64	79.85	76.52	50.13	110.10	289.52	290.94	1942.76	\$1,012.18	\$767.39	\$163.19
Gas	23.65	23.65	23.65	26.11	198.94	673.00	713.64	644.10	410.32	30.06	23.89	23.89	2814.90	\$1,407.45	\$0.00	\$1,407.45
Oil	265.88	265.61	0.00	0.00	0.00	313.54	831.19	1438.73	0.00	1030.76	0.00	0.00	4145.71	\$0.00	\$4,145.71	\$0.00
Water and Sewer	412.51	0.00	412.51	412.51	0.00	412.51	412.51	0.00	0.00	412.51	412.51	412.51	3300.08	\$1,217.73	\$1,217.73	\$864.62
Telephone	90.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	91.89	91.50	274.01	\$91.34	\$91.34	\$91.34
													<b>Subtotal</b>			
													12477.46	\$3,728.69	\$6,222.17	\$2,526.60
<b>Chemicals</b>																
Chlorine	3797	5685	0	0	0	0	0	0	0	0	4119	4838	18439	\$6,803.99	\$6,803.99	\$4,831.02
Acid	1124	0	0	0	0	0	0	0	0	1586	802	1959	5471	\$2,018.80	\$2,018.80	\$1,433.40
Shock	64.5	0	0	0	0	0	0	0	0	0	175	0	239.5	\$88.38	\$88.38	\$62.75
Bicarb	450	0	0	0	0	0	0	0	0	0	375	207	1032	\$380.81	\$380.81	\$270.38
Calcium Chloride	0	0	0	0	0	0	0	0	0	0	326	180	506	\$186.71	\$186.71	\$132.57
Daitomatious Earth	0	0	0	0	0	0	0	0	0	0	145	0	145	\$0.00	\$0.00	\$145.00
Other Chemicals	0	0	0	0	0	0	0	0	0	0	130	0	130	\$47.97	\$47.97	\$34.06
													<b>Subtotal</b>			
													\$25,962.50	\$9,526.66	\$9,526.66	\$6,909.19
<b>Maintenance and Repair</b>																
Chemtrol Repairs	0	585	0	0	0	0	0	0	0	0	0	0	585	\$215.87	\$215.87	\$153.27
Filter System Repairs	0	0	357	0	0	0	0	0	1452	0	194	175.45	2178.45	\$803.85	\$803.85	\$570.75
Maintenance	1448	109	359.6	17.44	131.54	518	46.21	141.31	365.52	1565.2	5987	1811.55	12500.37	\$4,612.64	\$5,191.18	\$3,275.10
													<b>Subtotal</b>			
													\$15,263.82	\$15,206.98	\$15,785.52	\$10,942.37
<b>Other Expenses</b>																
Lifeguards													\$67,612.00	\$22,537.33	\$22,537.33	\$22,537.33
Social Security													\$4,394.78	\$1,464.93	\$1,464.93	\$1,464.93
Insurance													\$1,189.00	\$396.33	\$396.33	\$396.33
Lifeguard Equipment													\$2,500.00	\$833.33	\$833.33	\$833.33
Employee Related Testing													\$2,200.00	\$733.33	\$733.33	\$733.33
Uniforms													\$638.55	\$212.85	\$212.85	\$212.85
													<b>Subtotal</b>			
													\$78,534.33	\$26,178.11	\$26,178.11	\$26,178.11
													<b>Total per Pool</b>			
													\$132,238.11	\$54,640.44	\$57,712.45	\$46,556.26

## Table 2A

Steven D. Alteri Municipal  
February 25, 2011, Revised 6/14/2011

### Cost of Improvements to Meet Health Department Regulations

#### Subpart 6-1 New York State Sanitary Code

Subpart	Description	Approximate Cost	By Staff	Alternate
6.1.10	Pool Operation			
	Reprogram Chemtrol Unit (chemical saver)		X	
	Repaint 4" Tile Strip		X	
6.1.11	Treatment			
	Open Filter Relief Valve Daily		X	
	<b>or install Auto Relief Valve</b>	\$100.00		
	DPD Chlorine Pool Chemical Test Kit	\$250.00		
6.1.19	Water Quality			
	Microbiological Sample Bottles		X	
	Microbiological Laboratory on File		X	
	Secchi Disk	\$50.00		
	<b>or Secchi Disk Painted on bottom</b>		X	
	Relabel Muriotic Acid Storage Container		X	
6.1.23	Supervision			
	Free Telephone at Facility	\$100.00	X	
	Written Statement for All Bathers		X	
	Lifeguard Equipment (spine board, etc.)	\$700.00		
6.1.29	Swimming Pool Design Standards			
	Pool Resurface (Marcite)	\$112,100.00		
	Pool Resurface (Fiberglass)			\$150,253.00
	Designated First Aid Area		X	
	Fiberglass Easy Open Strainer	\$3,000.00	X	
	<b>Total</b>	<b>\$116,300.00</b>		

#### Additional Costs

Monitoring of Total Disolved Solids (TDS)			X	
Replace Hydrostatic Relief Valves	\$100.00			
Filter Sand	\$980.00			
VFD for pump motor	\$1,700.00			
CO <sub>2</sub> Connection	\$600.00			
CO <sub>2</sub> , season rental	\$200.00			
CO <sub>2</sub> per season	\$2,500.00			
Fence Paint Material Onlv	\$150.00		X	

## Table 2B

William J. Flynn Park Municipal Pool  
February 28, 2011, Revised 6/14/2011

### Cost of Improvements to Meet Health Department Regulations

#### Subpart 6-1 New York State Sanitary Code

Subpart	Description	Approximate Cost	By Staff	Alternate
6.1.10	Pool Operation			
	Reprogram Chemtrol Unit (chemical saver)		X	
	Repaint 4" Tile Strip		X	
6.1.11	Treatment			
	Open Filter Relief Valve Daily		X	
	<b>or install Auto Relief Valve</b>	\$100.00		
	DPD Chlorine Pool Chemical Test Kit	\$250.00		
6.1.16	Fencing			
	Install Man Gate Latch and Padlock Hasp	\$250.00		
6.1.19	Water Quality			
	Microbiological Sample Bottles		X	
	Microbiological Laboratory on File		X	
	Relabel Muriotic Acid Storage Container		X	
6.1.23	Supervision			
	Free Telephone at Facility	\$100.00	X	
	Written Statement for All Bathers	\$100.00	X	
	Lifeguard Equipment (spine board, etc.)	\$700.00		
6.1.29	Swimming Pool Design Standards			
	Pool Resurface (Marcite)	\$112,100.00		
	Pool Resurface (Fiberglass)			\$150,253.00
	Designated First Aid Area		X	
	Fiberglass Easy Open Strainer	\$3,000.00		
	<b>Total</b>	<b>\$116,600.00</b>		

#### Additional Costs

Monitoring of Total Dissolved Solids (TDS)		X	
Replace Hydrostatic Relief Valves	\$100.00		
Filter Sand	\$980.00		
VFD for pump motor	\$1,700.00		
CO <sub>2</sub> Connection	\$600.00		
CO <sub>2</sub> , season rental	\$200.00		
CO <sub>2</sub> per season	\$2,500.00		
Fence Paint Material Only	\$150.00	X	
Paint Filter Room	\$300.00	X	

## Table 2C

Thompson Park Municipal Pool  
February 25, 2011, Revised 6/14/2011

### Cost of Improvements to Meet Health Department Regulations

#### Subpart 6-1 New York State Sanitary Code

Subpart	Description	Approximate Cost	By Staff	Alternate
6.1.10	Pool Operation			
	Repair of Concrete included in 6.1.29	-		
	Reprogram Chemtrol Unit (chemical saver)		X	
	Repaint 4" Tile Strip		X	
	Sign (Head First Diving From Pool Deck Prohibited)		X	
6.1.11	Treatment			
	Open Filter Relief Valve Daily		X	
	<b>or install Auto Relief Valve</b>	\$100.00		
	DPD Chlorine Pool Chemical Test Kit	\$250.00		
6.1.15	Bathroom and Toilet Facilities			
	Changing Room Ventilation, 2. Installed	\$1,200.00		
	Strip and Paint Floors	\$500.00	X	
6.1.16	Fencing			
	Repair Man Gate	\$250.00	X	
6.1.17	Lighting and Electrical Requirements			
	Repair wiring at pool Filter	\$500.00		
6.1.19	Water Quality			
	Microbiological Sample Bottles		X	
	Microbiological Laboratory on File		X	
	Secchi Disk	\$50.00		
	<b>or Secchi Disk Painted on Pool Bottom</b>		X	
6.1.23	Supervision			
	Free Telephone at Facility	\$100.00	X	
	Written Statement for All Bathers		X	
	Lifeguard Equipment (spine board, etc.)	\$700.00		
6.1.29	Swimming Pool Design Standards			
	Pool Repair & Re-Marsite, Including Main Drain	\$167,623.00		
	Fiberglass Resurface, Including Main Drain Repair			\$213,097.00
	Designated First Aid Area		X	
	<b>Total</b>	<b>\$171,273.00</b>		
<b>Additional Costs</b>				
	Monitoring of Total Dissolved Solids (TDS)		X	
	Filter and Filter Room	\$192,200.00		

**Table 3****Attendance Trends at Watertown Pools**

<i>Pool</i>	<i>Year</i>								<b>Forecast</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Average Annual</b>	<b>2011</b>
<b>Thompson Park</b>	4998	2585	5353	4062	4199	2682	2932	5175	3998	3736
<b>Alteri</b>	5634	4520	6872	5581	5451	4433	4690	4926	5263	4644
<b>Flynn</b>	6577	5209	7933	6642	4578	2940	2836	2783	5245	1831
Total	17209	12314	20158	16285	14228	10055	10458	12884	14507	10346

Note: 2010 data for Flynn pool were not included in the average or trend figures as data is missing for August.

**Table 4**

Population Trends 2000 to 2010  
OUTDOOR POOL FACILITY STUDY  
CITY OF WATERTOWN

Census Tract	Population 2000 Census		Population 2010 Census	
	Total	Under 18	Total	Under 18
61200	3403	1182	3226	1072
61300	2688	761	2920	806
61400	3436	804	3570	841
61500	4513	1167	4225	910
61900	3636	773	3955	763
62100	4620	1010	4695	1029
62200	4409	1226	4372	1122
Total	26705	6923	26963	6543

**Table 5**Municipal Swimming Pool Comparison  
OUTDOOR POOL FACILITY STUDY  
CITY OF WATERTOWN

City	Number of Pools	Type of Pool	Population	Population per Facility
Albany			97856	
	5	spray parks		19571
	3	swimming pools		32619
			Overall	12232
Binghamton	6	swimming pools ( 3 large, 3 small)	47376	7896
	Rome	2	swimming pools	34950
3		wading pools		11650
			Overall	6990
Syracuse				145170
	3	indoor pools		48390
	8	outdoor pools		18146
			Overall	13197
Utica			62235	
	3	swimming pools		20745
Watertown			26963	
	3	swimming pools		8988
New York State	6400	public pools	19541453	3053

## Table 6

Present Worth  
June 22, 2011

Pool	Alteri	Flynn	Thompson	Spray Park
Total O&M Cost per Year	\$54,640.44	\$57,712.45	\$46,556.26	\$18,760.00
Total Capital Cost - Base	\$116,300.00	\$116,600.00	\$170,750.00	\$257,075.00 From(Tables 2A, 2B, 2C and 7)
Total Capital Cost - with Additional Improvements	\$147,230.00	\$147,530.00	\$433,800.00	0
Discount Rate	3.00%			
Annualized Capital Cost - Base	\$7,817.19	\$7,837.35	\$11,477.08	\$17,279.48
Annualized Capital Cost - with Improvements	\$9,896.17	\$9,916.33	\$29,158.17	0
Attendance	4644	1831	3736	1800
Cost per attendee - Base	\$13.45	\$35.80	\$15.53	\$20.02
Cost per attendee - with Improvements	\$13.90	\$36.94	\$20.27	0

**TABLE 7  
KIDDIE WATER PARK  
CITY OF WATERTOWN  
COST ESTIMATE**

Item	Description	Quantity	Units	Unit Prices	Item Total
1	New Concrete Wading Pool	2000	S.F.	\$10.50 /S.F.	\$21,000.00
2	No-Slip Pool Surface	2000	S.F.	\$8.00 /L.S.	\$16,000.00
3	Water Spray components	12	Ea.	\$1,500.00 /Ea.	\$18,000.00
4	Spray Park Drains and Grates	4	Ea.	\$1,000.00 /Ea.	\$4,000.00
5	4" PVC Drain Connection	200	L.F.	\$40.00 /L.F.	\$8,000.00
6	Manifold/ Pressure Relief Valves	2	Ea.	\$5,000.00 /Ea.	\$10,000.00
5	2" Main Tap and Copper Supply Line	75	L.F.	\$70.00 /L.F.	\$5,250.00
6	Activators and controllers	1	Ea.	\$6,800.00 /Ea.	\$6,800.00
7	Miscellaneous valves /shipping	1	Ea.	\$6,200.00 /Ea.	\$6,200.00
8	Piping and Pipe Chase	600	L.F.	\$75.00 /L.F.	\$45,000.00
10	Spray Park equipment Installed	1	L.S.	\$25,000.00 /L.S.	\$25,000.00
11	Fencing for Spray Park	1000	L.F.	\$32.50 /L.F.	\$32,500.00
UNIT PRICE TOTAL					\$197,750.00
Contingency 10%					\$19,775.00
Engineering and Legal (20%)					\$39,550.00
TOTAL PROJECT COST					\$257,075.00

Yearly Utility and Usage Costs

Water	\$3,600.00
Electric	\$160.00
Personnel	\$13,000.00
Maintenance	\$2,000.00
<b>Total Usage Costs per Year</b>	<b>\$18,760.00</b>

# SWIMMING POOL DESIGN CALCULATIONS

## Table 8 A

Pool Name: Alteri Municipal Pool  
 Owner: City of Watertown  
 Address:  
 Indoor/Outdoor: Outdoor  
 Phone:  
 Date: 05/26/11

<u>Pool Dimensions</u>							
Width	A	B	C	D	E	F	G
Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

<u>Pool Surface Area</u>			<u>Pool Volume</u>		<u>Deck Area</u>		
Shallow End	Deep End	Total	Length	Width	Area		
Sq. Ft.	Sq. Ft.	Sq. Ft.	Ft.	Ft.	Ft.		
2466.00	2400.00	4866.00	151.00	70.00	8276.00	6150	

### DESIGN ELEMENTS

Minimum Deck Area Required 1600 Square Feet

Maximum User Load Without diving board 383.00 Persons  
Deck allowance 123.00 Persons  
Shallow End 164.00 Persons  
Deep end 96.00 Persons

Pool Volume 250000.00 Gal.

	Required	Provided
<u>Backwash Rate</u>	528.00	528 GPM
<u>Balance Tank Capacity</u>	4866.00	10000.00 Gal.
<u>Flow Rate</u>	694.44	754.00 GPM
<u>Gutter Volume</u>		Gal.
<u>Filter Bed Area</u>	46.30	44.00 Sq. Ft.
<u>Make Up Water</u>		7785.6 Gal. Per In.
<u>Turn Over Rate</u>	6.00	5.53 Hours

Lifeguards

# SWIMMING POOL DESIGN CALCULATIONS

## Table 8F

Pool Name: Flynn Municipal Pool  
 Owner: City of Watertown  
 Address:  
 Indoor/Outdoor: Outdoor  
 Phone:  
 Date: 08/01/11

<u>Pool Dimensions</u>							
Width	A	B	C	D	E	F	G
Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

<u>Pool Surface Area</u>			<u>Pool Volume</u>		<u>Deck Area</u>		
Shallow End	Deep End	Total	Cu. Ft.	Gal.	Length	Width	Area
Sq. Ft.	Sq. Ft.	Sq. Ft.			Ft.	Ft.	Ft.
2466.00	2400.00	4866.00	0	0.00	151.00	70.00	5704.00

### DESIGN ELEMENTS

Minimum Deck Area Required		100 Square Feet
<u>Maximum User Load</u>		342.00 Persons
<u>Deck allowance</u>		82.00 Persons
<u>Shallow End</u>		164.00 Persons
<u>Deep end</u>		96.00 Persons
<u>Pool Volume</u>		250000.00 Gal.
	Required	Provided
<u>Backwash Rate</u>	528.00	528 GPM
<u>Balance Tank Capacity</u>	4866.00	10000.00 Gal.
<u>Flow Rate</u>	694.44	754.00 GPM
<u>Gutter Volume</u>		Gal.
<u>Filter Bed Area</u>	46.30	44.00 Sq. Ft.
<u>Make Up Water</u>		7785.6 Gal. Per In.
<u>Turn Over Rate</u>	6.00	5.53 Hours

# SWIMMING POOL DESIGN CALCULATIONS

## Table 8T

Pool Name: Thompson Park Swimming Pool  
 Owner: City of Watertown  
 Address:  
 Indoor/Outdoor: Outdoor  
 Phone:  
 Date: July 27, 2011

<u>Pool Dimensions</u>							
Width	A	B	C	D	E	F	G
Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.
45.00	2.00	4.50	8.50	6.50	12.00	28.00	62.83

<u>Pool Surface Area</u>			<u>Pool Volume</u>		<u>Deck Area</u>		
Shallow End	Deep End	Total	Length	Width	Area		
Sq. Ft.	Sq. Ft.	Sq. Ft.	Ft.	Ft.	Ft.		
2827.35	1800.00	4627.35	151.00	70.00	5942.65		
						Cu. Ft.	Gal.
						20888.8875	156248.88

### DESIGN ELEMENTS

Minimum Deck Area Required		392.5 Square Feet
<u>Maximum User Load</u>		359.49 Persons
<u>Deck allowance</u>		111.00 Persons
<u>Shallow End</u>		188.49 Persons
<u>Deep end</u>		72.00 Persons
<u>Pool Volume</u>		170000.00 Gal.
	Required	Provided
<u>Backwash Rate</u>	3600.00	3600.00 GPM
<u>Balance Tank Capacity</u>	4627.35	10000.00 Gal.
<u>Flow Rate</u>	472.22	472.00 GPM
<u>Gutter Volume</u>		Gal.
<u>Filter Bed Area</u>	314.81	300.00 Sq. Ft.
<u>Make Up Water</u>		7403.76 Gal. Per In.
<u>Turn Over Rate</u>	6.00	6.00 Hours

**Table 9 Carbon DiOxide Costs**  
**July 29, 2011**  
**Watertown Pools**

Netto Welding Supply in Watertown New York

384lb. Tank Rental	2 ea.	\$60.00 per tank per month	\$120.00 per month
C02 Liquid	600 per lb	\$0.38 per pound per week	\$228.00 per month

Monthly Operational Cost \$348.00

Equipment needed

ASCO Solenoid Valve	in Kit	\$500.00
PVC Cneck Valve Injector	in Kit	
Flow Meter	in Kit	
20' of Tubing	in Kit	
Pressure Regulator		\$450.00
Total Equipment needed		\$950.00

# AQUATIC CERTIFICATIONS for NYS Bathing Facilities

## Fact Sheet - January 2011

(Go to [www.health.ny.gov](http://www.health.ny.gov) to view most current certification list.)

When the State Sanitary Code (SSC) requires "lifeguard supervision" or a "qualified lifeguard" at a bathing facility, an approved lifeguard certification SPECIFIC to the type of bathing facility is required.

**NOTE:**

- All lifeguards are required to possess American Red Cross (ARC) Basic Life Support for the Professional Rescuer cardiopulmonary resuscitation (CPR) or a CPR equivalent noted on the CPR fact sheet unless otherwise indicated. All cardiopulmonary resuscitation certificates are valid for 1 year from course completion, regardless of the expiration date noted on the card.
- Children's camp lifeguards must be at least 17 years of age, except;
  - A maximum of 20% of the required lifeguards on duty may be 16 years of age;
  - Lifeguards for wilderness swimming must be at least 18 years of age.
- Lifeguard certifications shall be valid for the time period specified by the certifying agency, but may not exceed a consecutive three-year period from course completion.
- Supervising lifeguards must possess at least Supervision Level IIb certification, be at least 18 years old, and have at least 2 seasons of lifeguarding experience.

<b>STANDARD</b>				
<b>New York State Sanitary Code</b>	<ul style="list-style-type: none"> <li>• Subpart 6-1, Section 6-1.31, Swimming Pools</li> <li>• Subpart 6-2, Section 6-2.20, Bathing Beaches</li> <li>• Subpart 7-2, Section 7-2.5(g), Children's Camps</li> </ul>			
<b>ACCEPTED COURSES</b>				
PROVIDER	CERTIFICATION TITLE	<b>SUPERVISION LEVEL</b>		
		Level I Surf	Level II b Pool &	Level II a Pool Only
Marked boxes indicate acceptability				
<b>American Red Cross (ARC)</b>	Lifeguarding (New 2007)			X
	Waterpark Lifeguarding (New 2007)			X
	Waterfront Lifeguarding (New 2007)		X	X
<b>American Lifeguard Association (ALA)</b> <small>CERTIFICATE MUST STATE THE WORDS "INSTRUCTOR-LED COURSE"</small>	Lifeguarding Instructor-Led Course			X
	Waterpark Lifeguarding Instructor-Led Course			X
	Waterfront Lifeguarding Instructor-Led Course		X	X
<b>Boy Scouts of America (BSA)</b> <small>ALL CERTIFICATIONS ARE VALID FOR 3 YEARS FROM DATE OF ISSUANCE AND CARD HOLDER MUST BE AT LEAST 15 YEARS OF AGE (17 YEARS OF AGE FOR CHILDREN'S CAMPS).</small>	Lifeguard, BSA		X	X
	Aquatics Instructor, BSA		X	X
<b>Breezy Point Cooperative, Inc.</b>	Breezy Point Surf Lifeguard	X		
<b>Cattaraugus County EMS</b>	Cattaraugus County EMS Lifeguard Training Program		X	X
<b>Hamptons Consortium</b>	Hamptons Consortium Surf Lifeguard	X	X	X
<b>Ellis &amp; Associates Inc., International Lifeguard Training Program</b> <small>Separate certificate for CPR is NOT required. *CERTIFICATE MUST INDICATE COMPLETION OF OPEN WATER TRAINING.</small>	Pool Lifeguard Training			X
	Special Facilities Lifeguard Training			X
	Special Facilities Lifeguard Training with Open Water Training*		X	X
<b>Incorporated Village of Saltaire</b>	Ocean Lifeguard Certificate	X		
	Bay Front Lifeguard Certificate		X	
<b>Lindenhurst School District</b>	Lindenhurst School District Surf Lifeguard	X	X	X

# AQUATIC CERTIFICATIONS

## For NYS Bathing Facilities

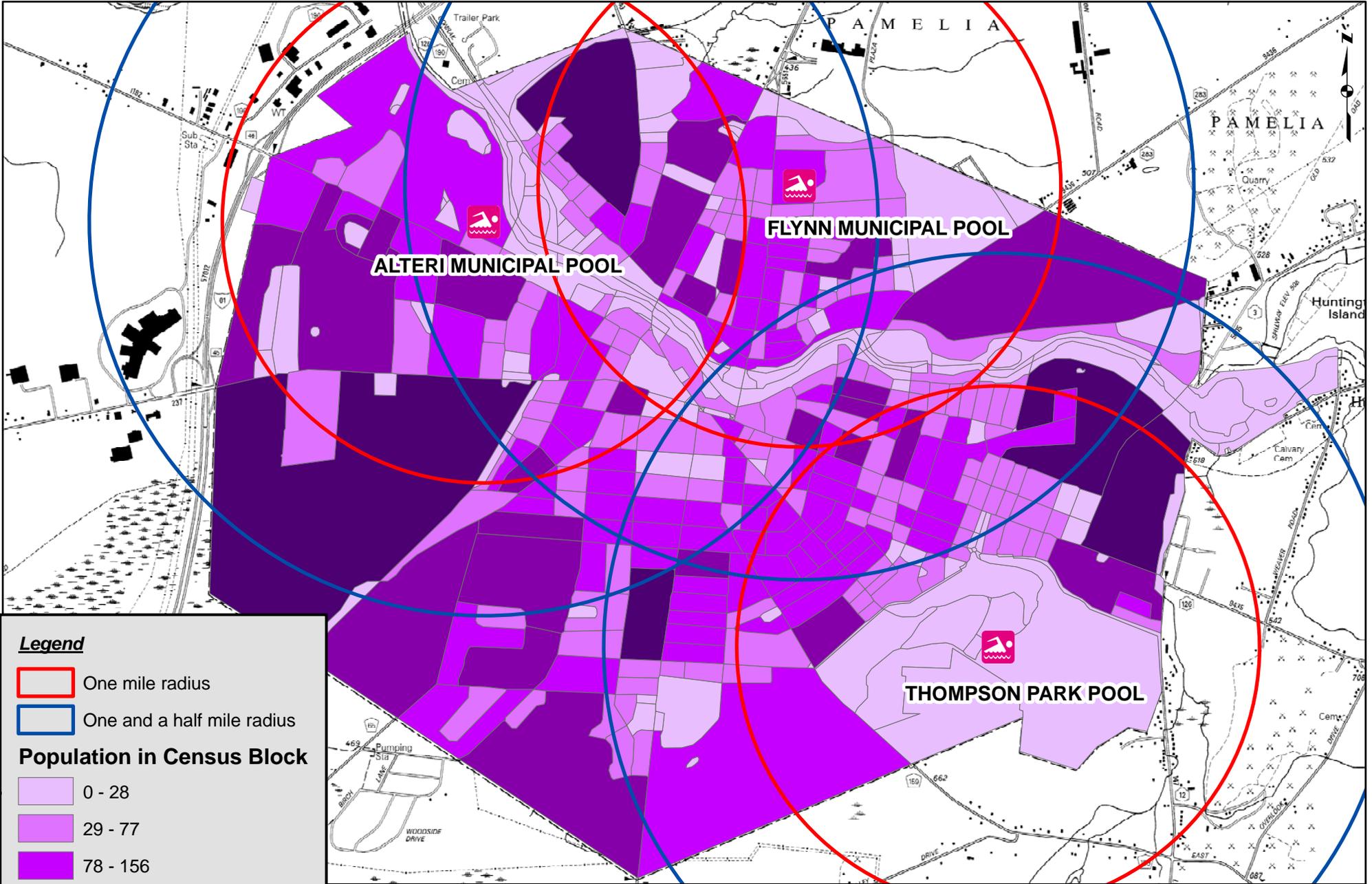
Continued

		<b>SUPERVISION LEVEL</b>		
		Marked boxes indicate acceptability		
PROVIDER	CERTIFICATION TITLE	Level I Surf	Level II b Pool &	Level II a Pool Only
<b>Nassau County Department of Health</b>	"Day Camp Only"			X
	Grade 1A			X
	Grade 1B			X
	Grade II		X	X
	Grade III	X	X	X
<b>New York City Department of Parks</b>	Municipal Lifeguard	X	X	X
	Municipal Lifeguard "pool only"			X
<b>Royal Life Saving Society, Canada</b> <small>ALL CERTIFICATIONS ARE VALID FOR 2 YEARS FROM DATE OF ISSUANCE.</small>	National Lifeguard Service (NLS) Pool			X
	National Lifeguard Service (NLS) Waterfront		X	
	National Lifeguard Service (NLS) Surf	X		
	National Lifeguard Service (NLS) Waterpark			X
<b>Starfish Aquatics Institute, Inc.</b> <small>CERTIFICATION IS VALID FOR 1 YEAR FROM DATE OF ISSUANCE AND CERTIFICATE MUST SPECIFY "MEETS NY STATE DEPARTMENT OF HEALTH REGULATIONS." Separate certificate for CPR is NOT required. *IN "SPECIALTY MODULE TRAINING" SECTION OF CERTIFICATION CARD, "WATERFRONT" MUST NOT BE CROSSED OUT.</small>	StarGuard Best Practices for Lifeguards			X
	StarGuard Best Practices for Lifeguards with Waterfront Specialty Module Training*		X	X
<b>Suffolk County Department of Parks</b>	Ocean Lifeguard Training	X		
	Stillwater Lifeguard Training Course		X	
<b>Town of Babylon</b>	Ocean Lifeguard	X	X	X
	Stillwater Lifeguard Training Course		X	X
<b>Town of Brookhaven</b>	Ocean Theory Course	X	X	X
<b>Town of East Hampton</b>	Surf Lifeguard	X	X	X
	Pool and Beach Lifeguard		X	X
<b>Town of Islip</b>	Surf Lifeguard	X	X	X
	Pool and Beach Lifeguard		X	X
<b>Town of Southampton</b>	Ocean Lifeguard	X	X	X
	Stillwater Lifeguard		X	X
<b>Village of Ocean Beach</b>	Ocean Beach Atlantic Ocean Lifeguard Course	X	X	X
<b>YMCA</b>	YMCA Lifeguard		X	X
	Lifeguard		X	X
<b>SHALLOW WATER CERTIFICATION</b>				
<b>*Valid for shallow pools as indicated below</b>				
	<b>CERTIFICATION TITLE</b>			
<b>American Red Cross (ARC)</b>	Shallow Water Attendant (New 2007) *Valid for water depths of 4 feet or less.			
<b>American Lifeguard Association (ALA)</b> <small>CERTIFICATE MUST STATE THE WORDS "INSTRUCTOR-LED COURSE"</small>	Shallow Water Lifeguard Instructor-Led Course *Valid for water depths of 4 feet or less.			
<b>Ellis &amp; Associates Inc.</b> <b>International Lifeguard Training Program</b> <small>Separate certificate for CPR is NOT required.</small>	Shallow Water Lifeguard *Valid for water depths of 5 feet or less.			

**OUTDOOR POOL FACILITIES STUDY  
POOL LOCATIONS  
WATERTOWN, NEW YORK**

**FIGURE 1**

JEFFERSON COUNTY



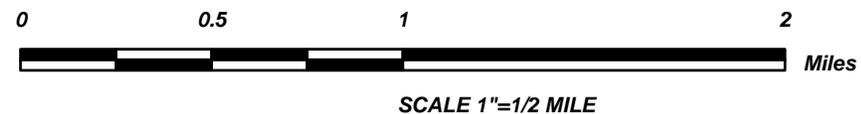
**Legend**

One mile radius  
 One and a half mile radius

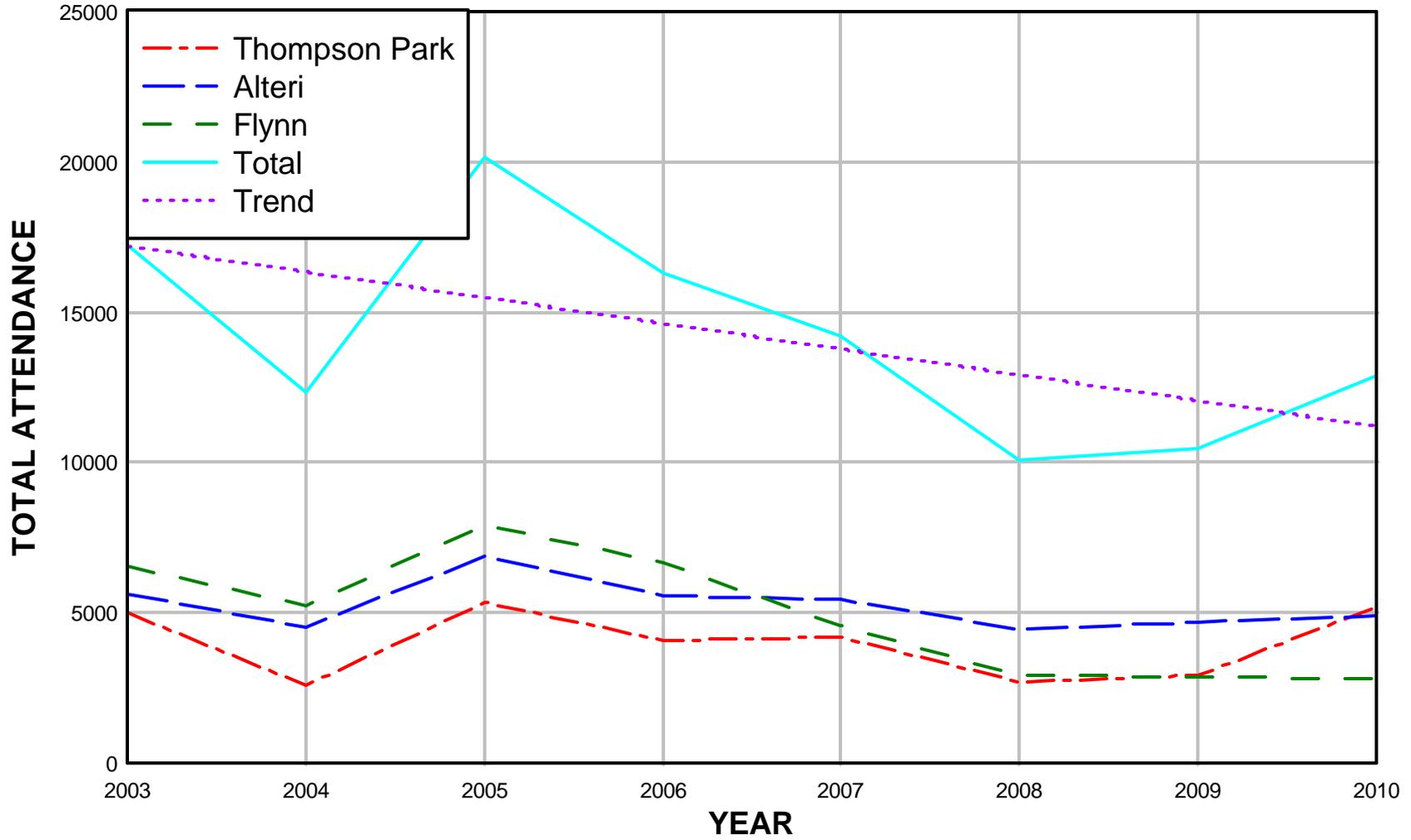
**Population in Census Block**

	0 - 28
	29 - 77
	78 - 156
	157 - 339
	340 - 902

**W-M ENGINEERS, P.C.**  
 111 BOXWOOD LANE, SYRACUSE, NY 13206  
 PH 315.437.2981 FAX 315.437.3044



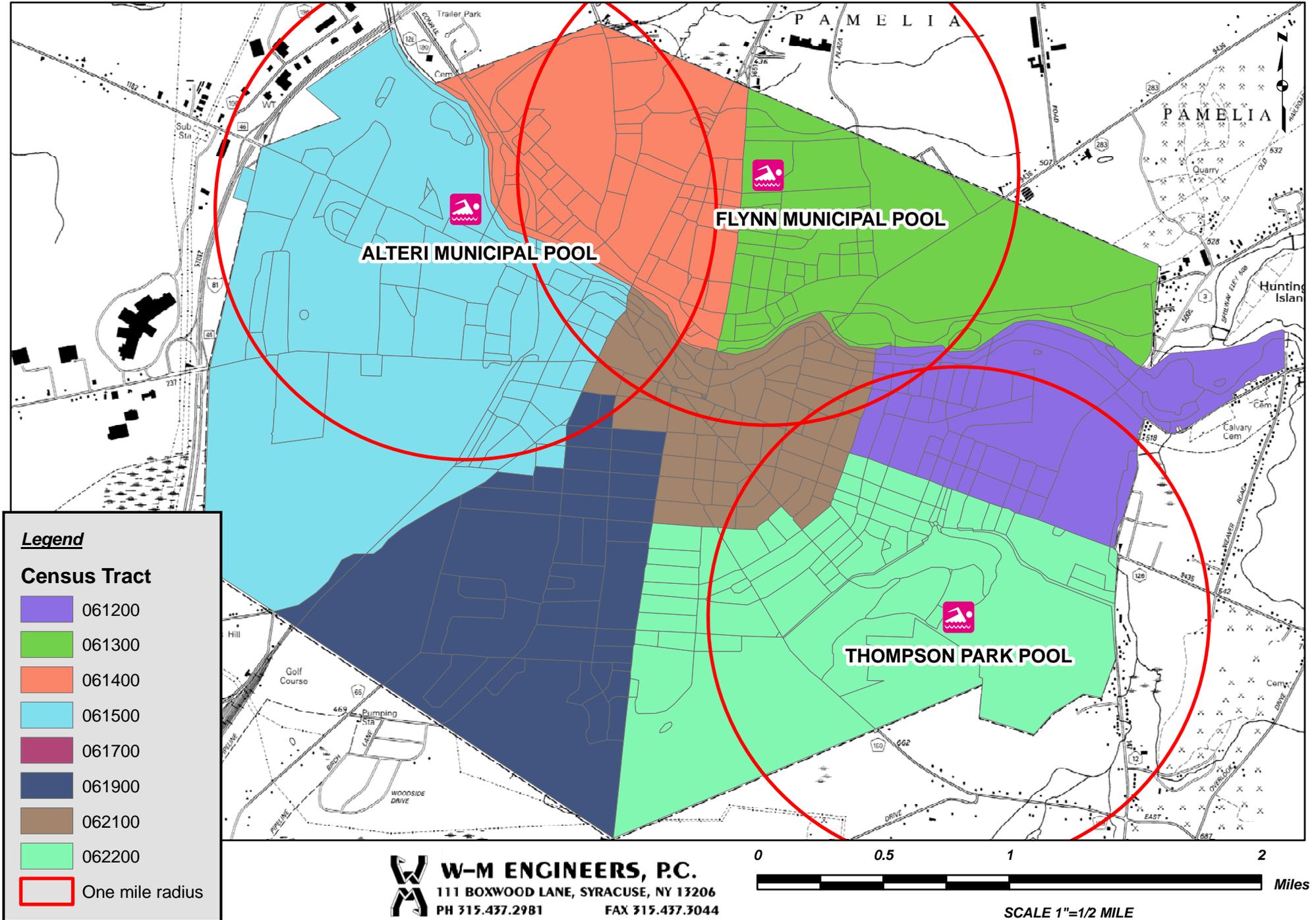
**FIGURE 2**  
**ATTENDANCE TRENDS**  
**OUTDOOR POOL FACILITY STUDY**  
**CITY OF WATERTOWN**



**OUTDOOR POOL FACILITIES STUDY  
CENSUS DATA  
WATERTOWN, NEW YORK**

**JEFFERSON COUNTY**

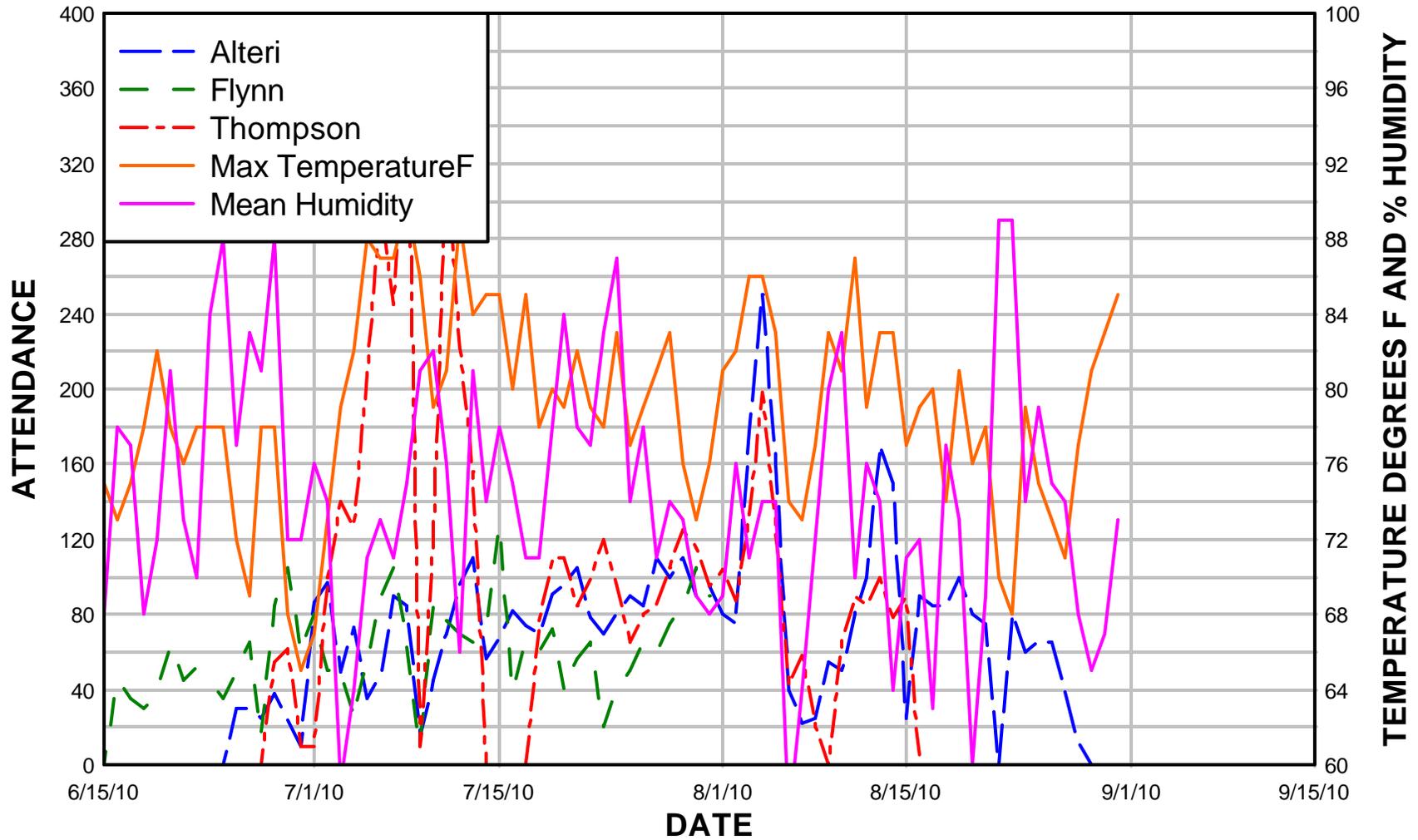
**FIGURE 3**



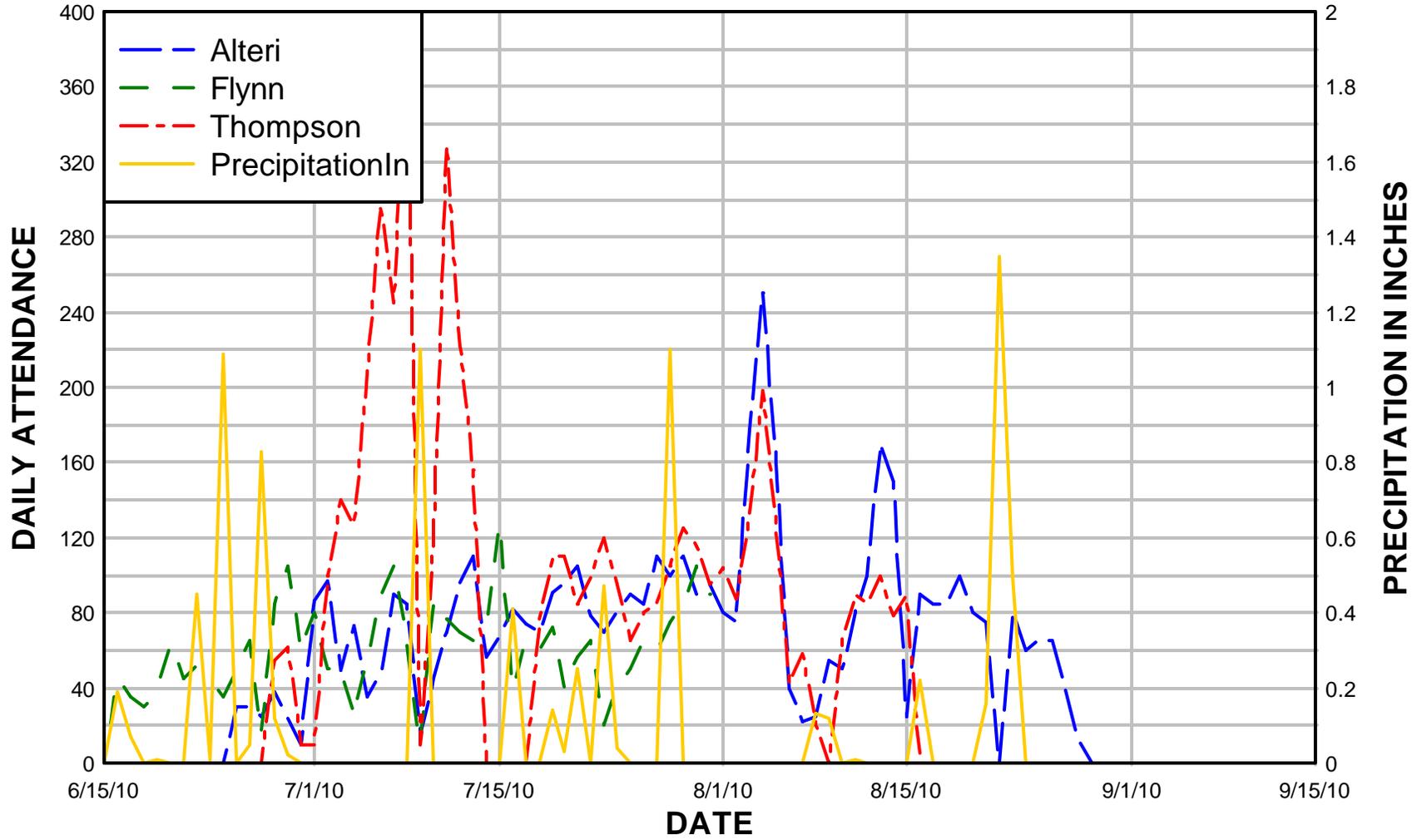
**W-M ENGINEERS, P.C.**  
111 BOXWOOD LANE, SYRACUSE, NY 13206  
PH 315.437.2981 FAX 315.437.3044

0 0.5 1 2 Miles  
SCALE 1"=1/2 MILE

**FIGURE 4**  
**2010 ATTENDANCE VS. HEAT AND HUMIDITY**  
**OUTDOOR POOL FACILITY STUDY**  
**CITY OF WATERTOWN**



**FIGURE 5**  
**2010 ATTENDANCE VS. PRECIPITATION**  
**OUTDOOR POOL FACILITY STUDY**  
**CITY OF WATERTOWN**





WASTEWATER DRAINAGE		 <b>W-M ENGINEERS, P.C.</b> SYRACUSE, New York (315-437-2981)		HIGHWAY WATER		
		<b>PLAN</b> <b>SPRAY PARK</b>				
		CITY OF WATERTOWN		<b>OUTDOOR POOL          FACILITIES STUDY</b> COUNTY OF JEFFERSON		
<small>NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7800 SUBSECTION 2 OF THE NEW YORK EDUCATION LAW.</small>		<small>SCALE:</small> 1" = 50' <small>DRAWN BY:</small> WDM	<small>DATE:</small> JULY 27, 2011 <small>CHECKED BY:</small>	<small>JOB NO.:</small> B025 <small>DWG NO.:</small> B025-1SP <small>SHEET NO.:</small> OF		

General:

1. Conduct a review of incoming high voltage power including 3-phase and 1-phase distribution throughout the facility. This is to check for service capacity, disconnects, circuit protection, wiring, enclosures and labeling.
2. A review of electrical distribution is likely to identify obsolete and/or redundant connections that can be simplified.
3. Although the integrity of control systems can be improved with proper layout and protection of signal circuits, there are no safety requirements with respect to sensors or sensor signal wiring. Many sensors are self powered. However, those sensors with separate power wiring need to be reviewed.
4. Electrical enclosures need to be NEMA 12 (indoor dripping, dust), NEMA 3 (outdoor rain, dust), NEMA 4 (Indoor/Outdoor dripping, hosedown, dust) or NEMA 4X (Indoor/Outdoor dripping, hosedown, dust, corrosion).

Alteri Mechanical Room

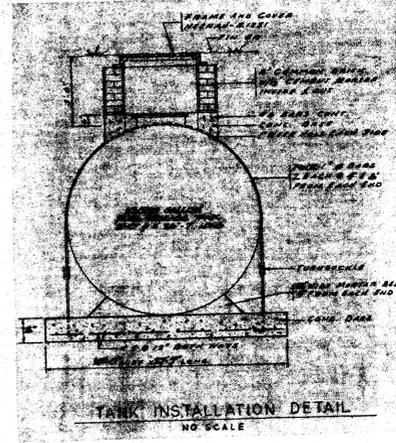
1. Small water pump needs to be in conduit (see photo A-3).
2. Electrical enclosures need to be replaced and labeled. Some consolidation is suggested (see photo A-9).
3. Electrical enclosures needed for telephones and internet (see photo A-11). Review Disconnects and Circuit protection. Some Consolidation is suggested.
4. Various pieces of equipment have been added and modified since the initial installation. It is suggested that a wiring diagram be drawn to show existing conditions.

Flynn Mechanical Room

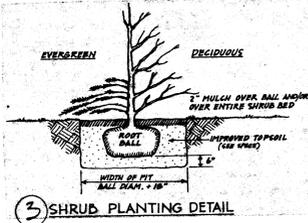
1. Electrical enclosure to the right of the Chemtrol Unit should be reviewed (see photo F-12).
2. Group electrical enclosures should be reviewed and labeled (see photo F-13). The conduit connection boxes are new pvc , so some recent maintenance has been performed.
3. Excessive corrosion suggest that the electrical circuitry be evaluated for relocation (see photo F-14).
4. Install a cover or new connection box/condulette and label (see photo F-15).
5. Photo F-16, Is this a relay? If so powered relays need to be installed in an electrical enclosure.
6. Replace all electrical enclosures currently protected by a plastic sheet with a NEMA 4 or 4X enclosure (see photo F-17, Pump Motor Starter).

Thompson Park Bathhouse, Mechanical Room and Filter

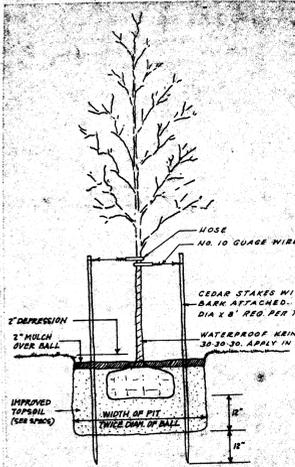
1. Review, clarify and label electrical equipment(see photo T-12). As stated previously in this report the Electrical equipment should not be in reach of the bathers. An enclosure or partition is required.
2. Add power distribution enclosure with secured conduit (see photo T-14).
3. Review outdoor power distribution center for appropriate enclosures disconnects and labeling (see photo T-15).



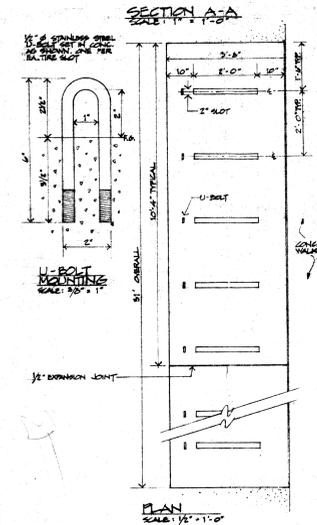
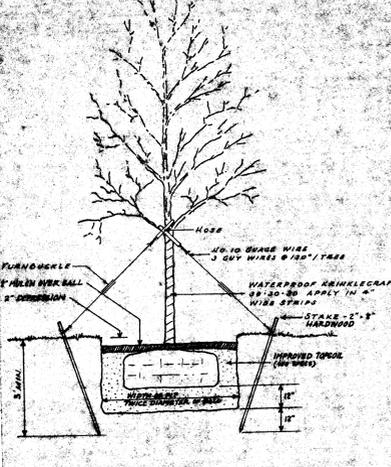
**CONCRETE CURB ENDING**  
SCALE 3/4" = 1'-0"



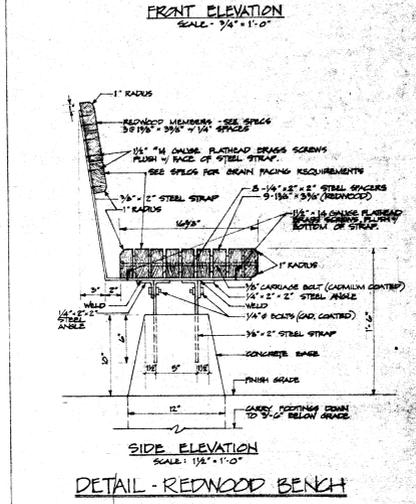
**DETAIL - MINOR TREE PLANTING**



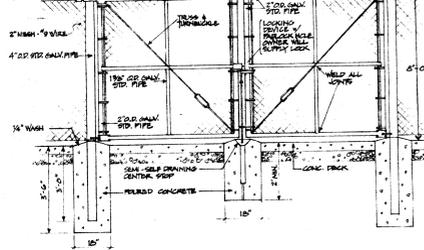
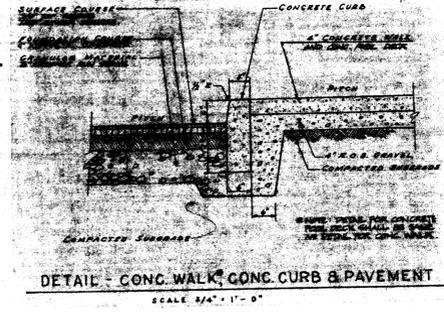
**DETAIL - MAJOR TREE PLANTING**



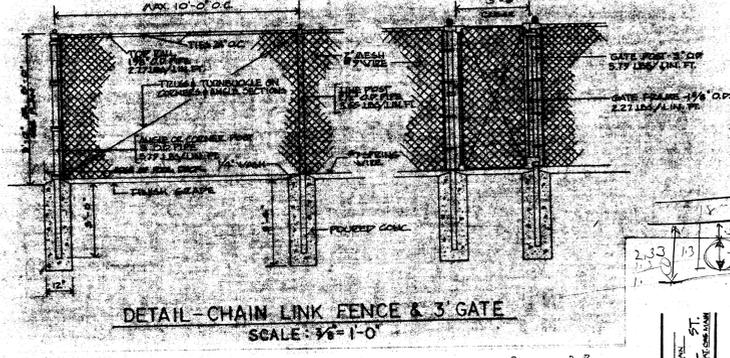
**DETAIL - BICYCLE RACKS**



**DETAIL - REDWOOD BENCH**



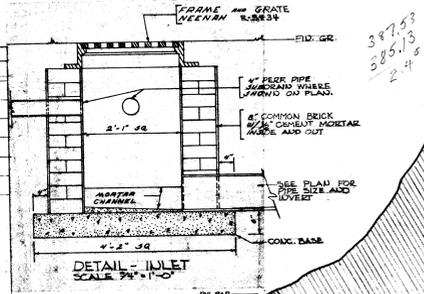
**15' CHAIN LINK DOUBLE GATE @ SERVICE AREA**



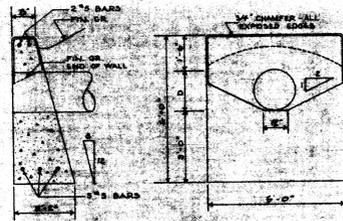
**DETAIL - CHAIN LINK FENCE & GATE**

**LIST OF REQUIRED PLANT MATERIALS**

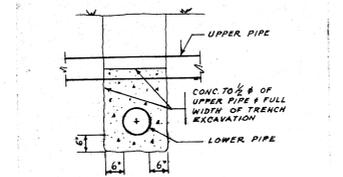
DETAIL NO.	BOTANICAL NAME	COMMON NAME	SIZE	PLANTING NOTES
1	ELAEAGNUS AMGUSTIFOLIA	RUSSIAN OLIVE	8'-9", B&B	TREES/SHRUB, 25' O.C.
2	JUNIPERUS COMMENSIS SARGENTII	SARGENT JUNIPER	3'-2 1/2" DIA	SPECIMEN QUALITY
3	PHILLODENDRON ANDRAGAE	PALE GREEN TREE	12'-14" DIA	SPECIMEN QUALITY
4	PIEDMONT MOUNTAIN PINE (P. MONTANA M.)	MOUNTAIN PINE	15'-24", B&B	SPACE 2'-6" O.C.
5	RHAMNUS FRANKLINIA COLUMBIANA	"TALLHERB"	3'-4"	SPACE 2'-6" O.C.
6	RHUS ARNICA (CANADENSIS)	FRAGRANT SUMAC	15'-24"	SPACE 2'-6" O.C.
7	SYRINGA VILLOSA	COMMON LILAC	4'-8" DIA, HEAVY	



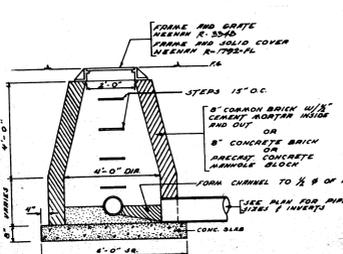
**DETAIL - INLET**



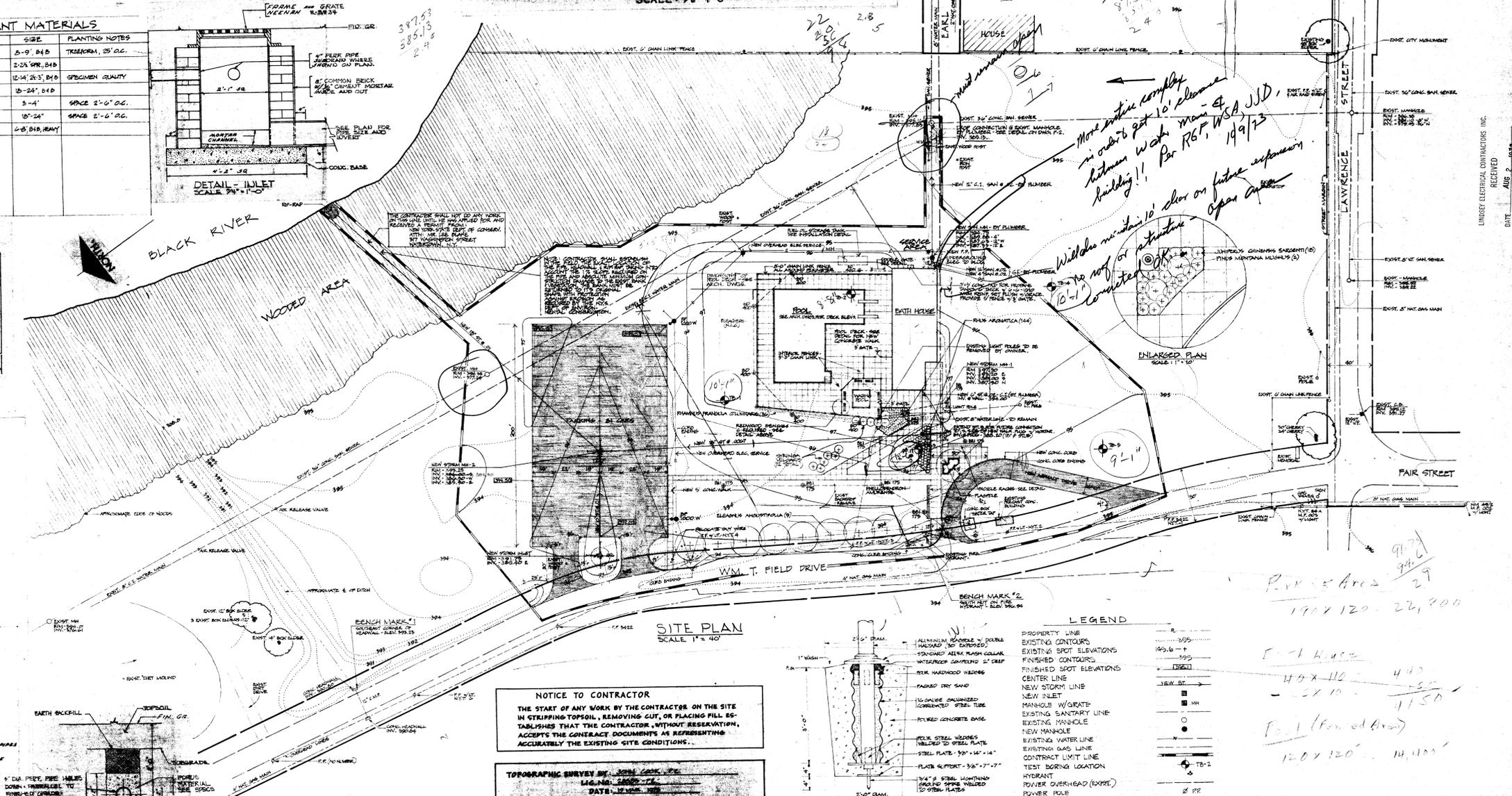
**DETAIL - CONCRETE HEADWALL**



**DETAIL - CONCRETE SADDLE**



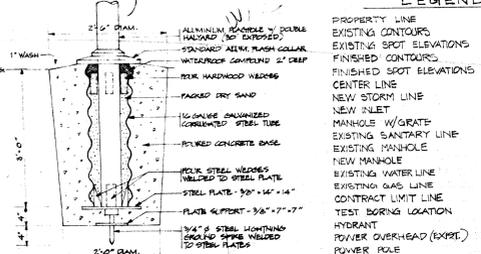
**DETAIL - TYPICAL MANHOLE**



**NOTICE TO CONTRACTOR**  
THE START OF ANY WORK BY THE CONTRACTOR ON THE SITE IN STRIPPING TOPSOIL, REMOVING CUT, OR PLACING FILL ESTABLISHES THAT THE CONTRACTOR, WITHOUT RESERVATION, ACCEPTS THE CONTRACT DOCUMENTS AS REPRESENTING ACCURATELY THE EXISTING SITE CONDITIONS.

**TOPOGRAPHIC SURVEY BY JOHN JACK, P.E.**  
LEGEND: 12/78  
DATE: 12/78

**BOUNDARY SURVEY BY JOHN JACK, P.E.**  
LEGEND: 12/78  
DATE: 12/78



**DETAIL - FLAGPOLE BASE**

**LEGEND**

PROPERTY LINE	---
EXISTING CONTOURS	---
EXISTING SPOT ELEVATIONS	100.0 - 100.0
FINISHED CONTOURS	---
FINISHED SPOT ELEVATIONS	---
NEW STORM LINE	---
NEW INLET	---
MANHOLE W/GRATE	---
EXISTING SANITARY LINE	---
EXISTING MANHOLE	---
NEW MANHOLE	---
EXISTING WATER LINE	---
EXISTING GAS LINE	---
CONTRACT LIMIT LINE	---
TEST BORING LOCATION	---
HYDRANT	---
POWDER OVERHEAD (EXPOSE)	---
POWER POLE	---
CHAIN LINK FENCE	---
NEW SANITARY LINE	---
SUBDRAIN	---
NEW POWER POLE W/ LIGHT	---
NEW LUMINAIRE	---

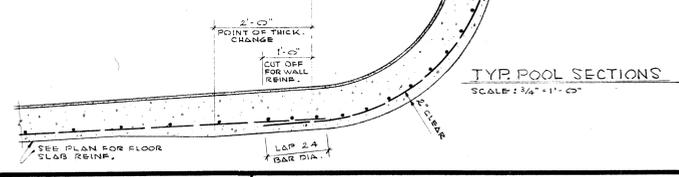
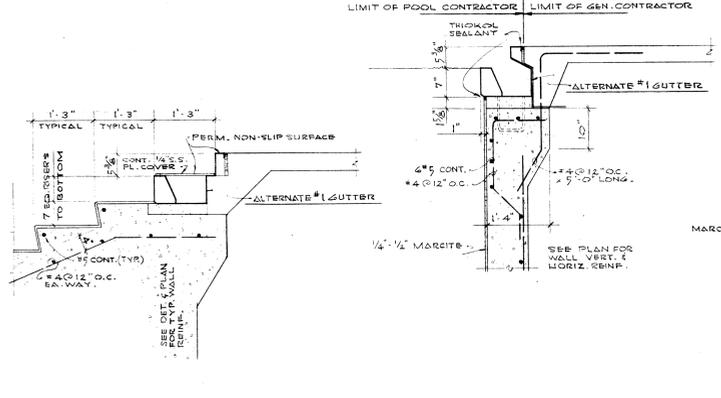
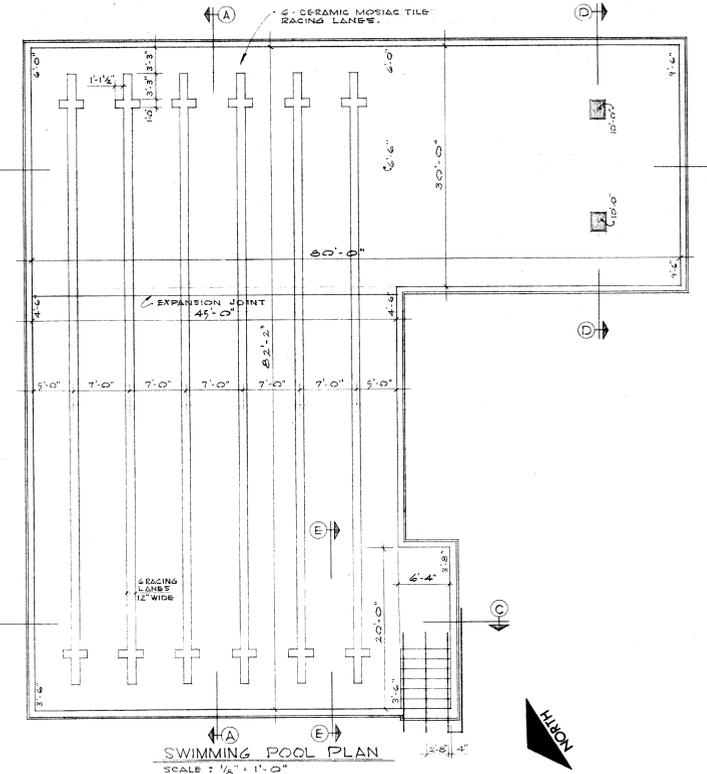
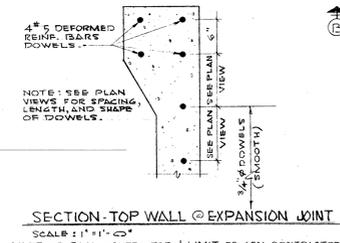
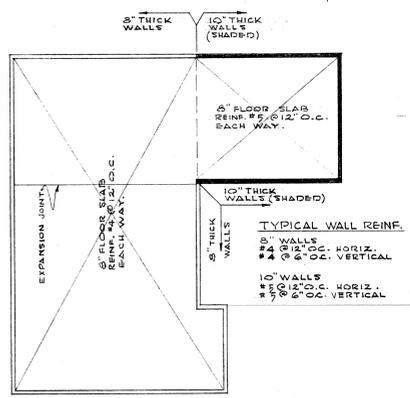
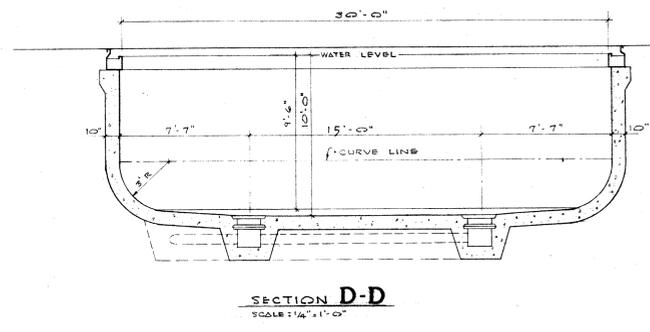
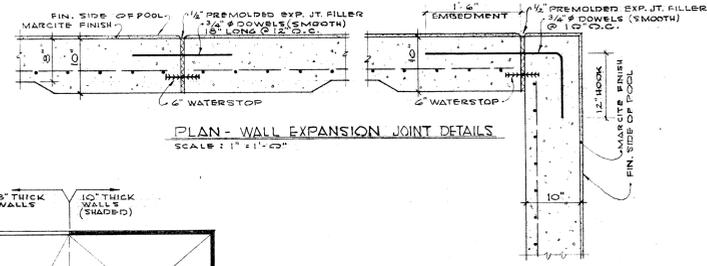
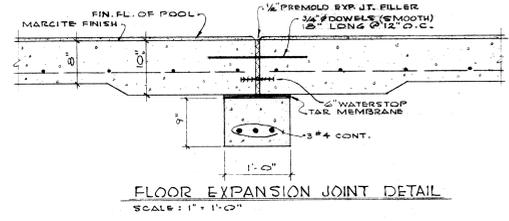
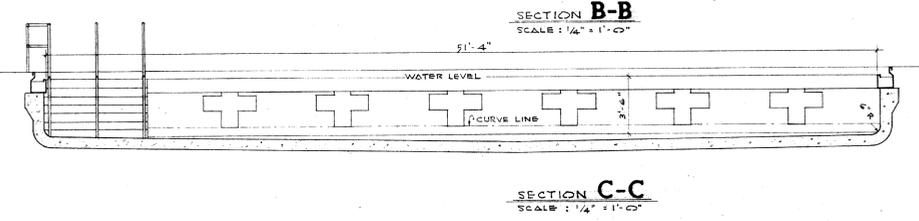
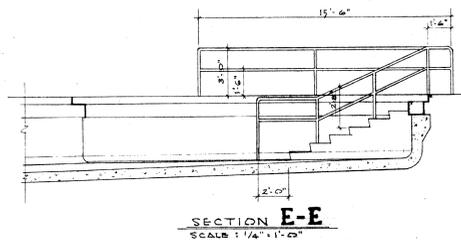
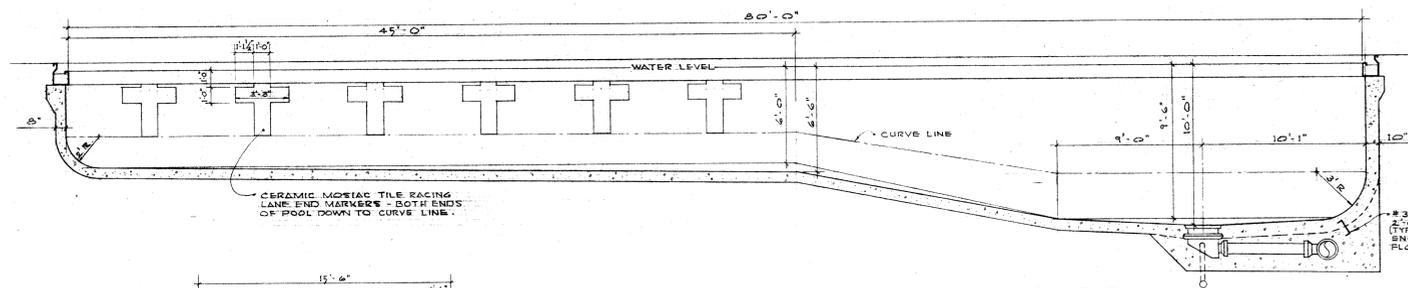
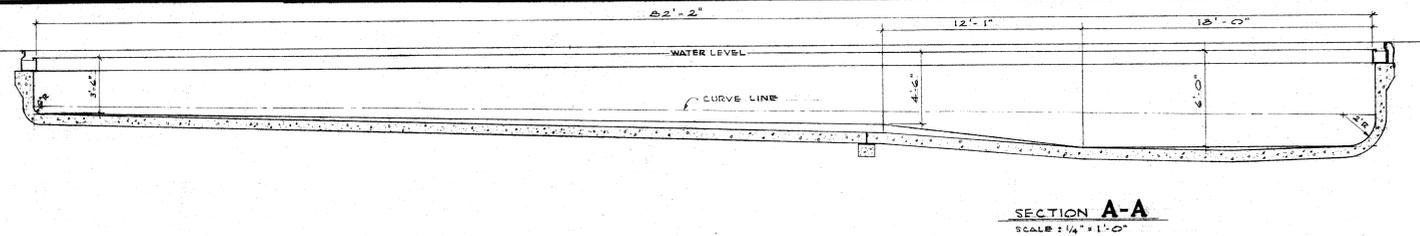
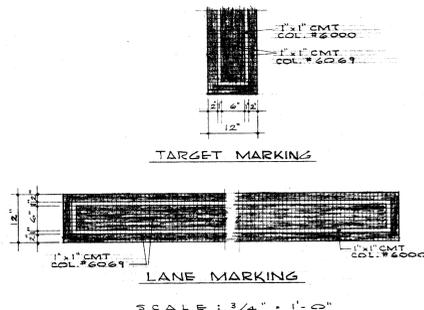
**WATERTOWN SWIMMING POOL**  
NEW YORK

**PROJECT 70-35**  
SARGENT & LUNDY  
ARCHITECTS

**SITE PLAN AND DETAILS**  
DATE: 12 JULY 78  
SCALE: AS NOTED  
S-1 (REVISED)

**GENERAL CONCRETE NOTES FOR POOL ONLY**

1. ALLOWABLE SOIL PRESSURE ASSUMED AT 3000 PSF.
2. ALL CONCRETE IS TO BE PLACED ON FIRM COMPACTED ROGUE FILL OR UNDISTURBED SOIL AND CONTOUR FORMS AS REQUIRED.
3. CONCRETE TO BE PROPORTIONED 1 PART PORTLAND CEMENT 4 PARTS SAND.
4. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI @ 28 DAYS.
5. REINFORCING BARS TO BE ASTM A615 GRADE 60.



**WATERTOWN SWIMMING POOL**  
NEW YORK  
**WATERTOWN**

PROJECT **70-35**  
SARGENT & Lundy  
WENSHAW  
& FOLLEY  
ARCHITECTS  
ENGINEERS, PLANNERS  
SURVEYORS

DATE	REVISION	BY
12 JULY 1973 <td>45 <td>NOTED</td> </td>	45 <td>NOTED</td>	NOTED

CONCRETE POOL  
PLAN &  
SECTIONS

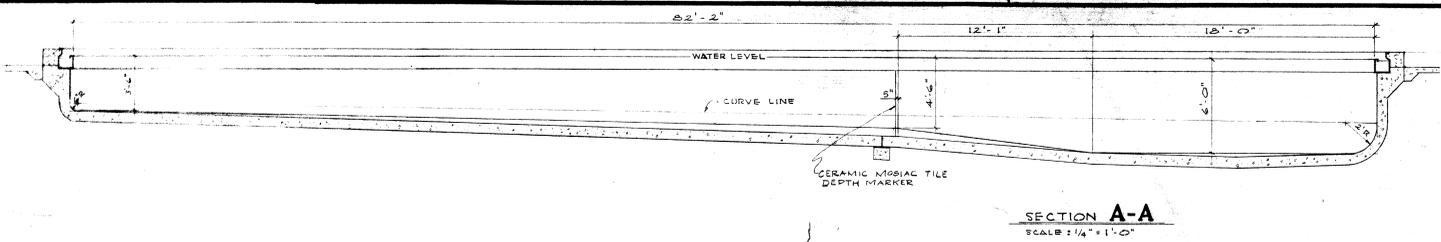
SHEET NO.  
**ST-1**



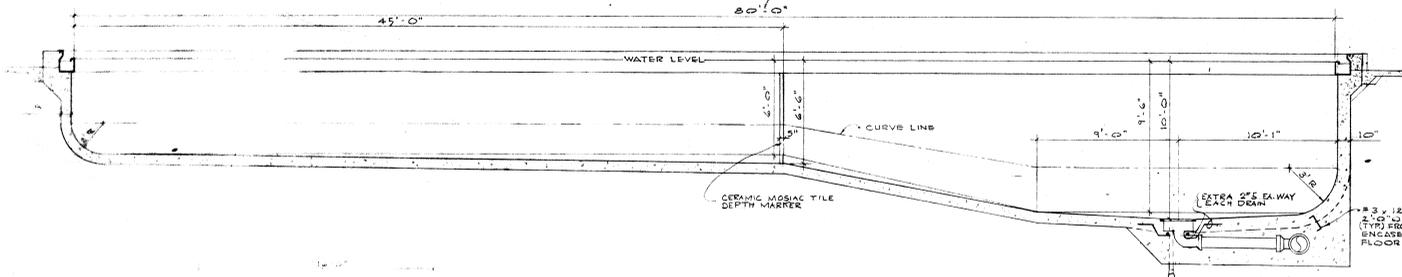


GENERAL CONCRETE NOTES FOR POOL ONLY

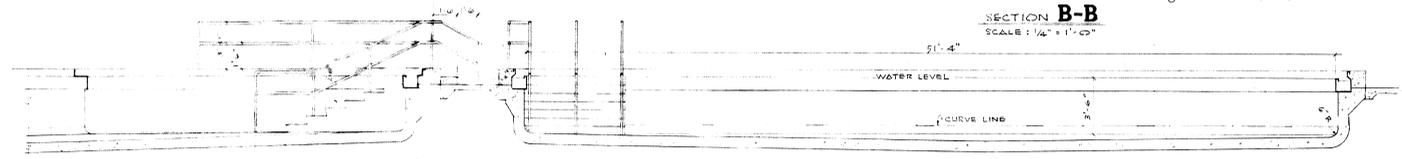
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3. CONCRETE TO BE PROPORTIONED WITH ONE PART PORTLAND CEMENT 4 PARTS SAND.
4. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS.
5. REINFORCING BARS TO BE #4 ALL UNLESS NOTED.



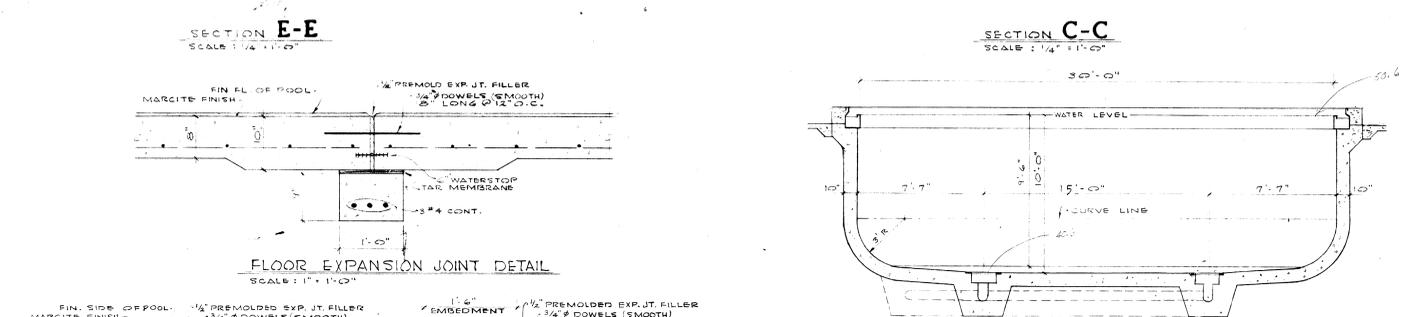
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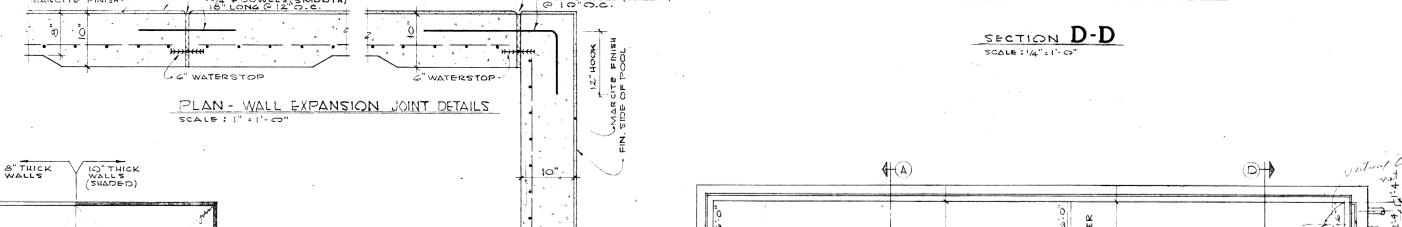
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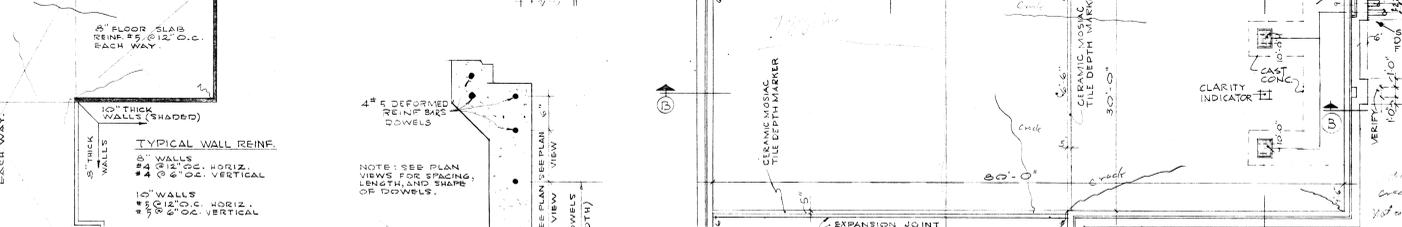
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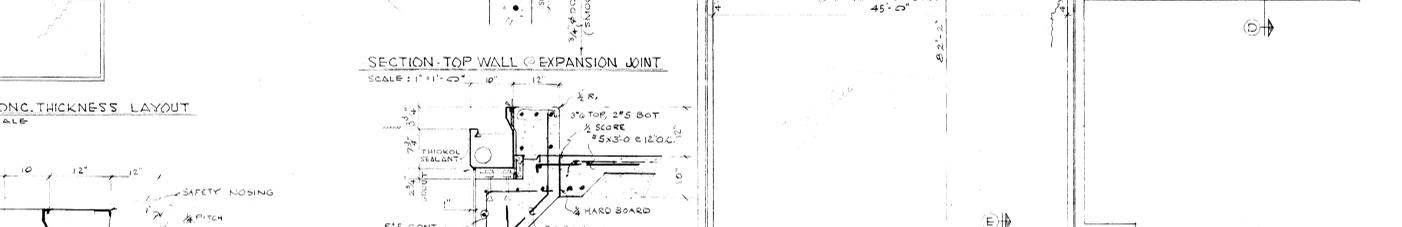
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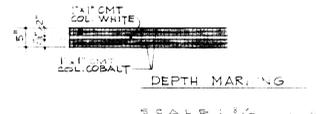
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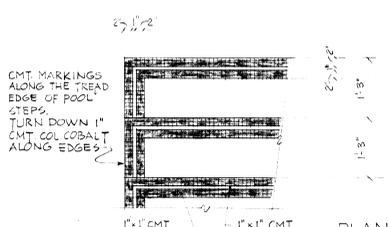
FLOOR EXPANSION JOINT DETAIL  
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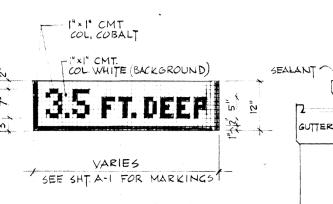
PLAN - WALL EXPANSION JOINT DETAILS  
SCALE: 1" = 1'-0"



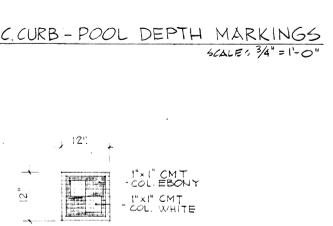
DEPTH MARKING  
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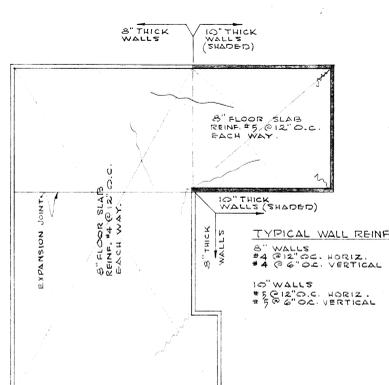
POOL STEPS MARKING  
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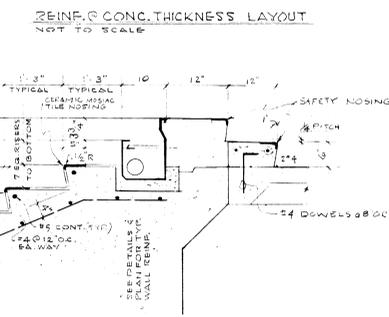
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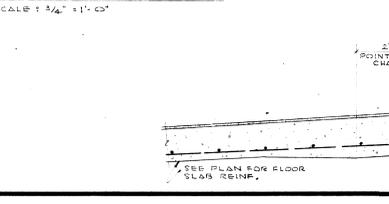
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REINFC. CONG. THICKNESS LAYOUT  
NOT TO SCALE



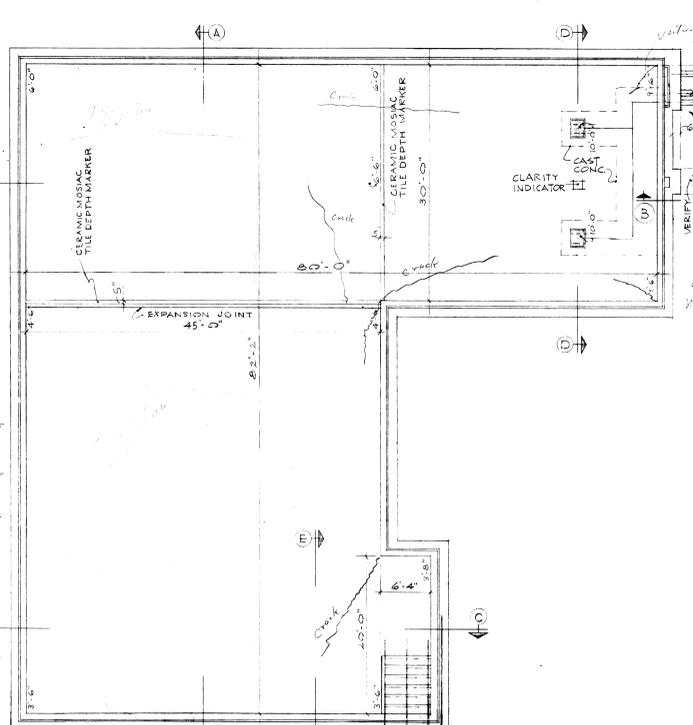
TYPICAL WALL REINFC.



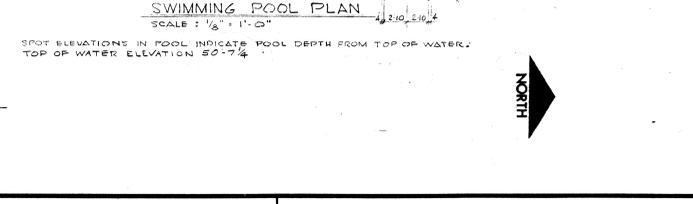
BUTTER AT TOP OF STAIRS  
SCALE: 3/4" = 1'-0"



SECTION - TOP WALL @ EXPANSION JOINT  
SCALE: 1" = 1'-0"



SWIMMING POOL PLAN  
SCALE: 1/8" = 1'-0"



TYR POOL SECTIONS  
SCALE: 3/4" = 1'-0"

JOHN G. ADAMS SWIMMING POOL  
NEW YORK  
WATERTOWN

PROJECT 74-35

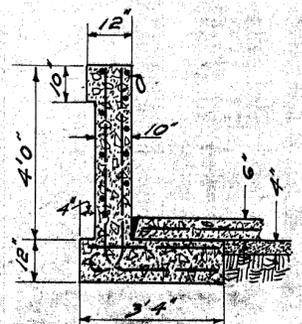
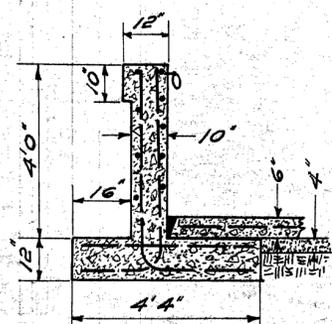
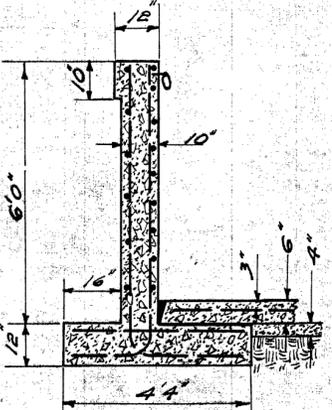
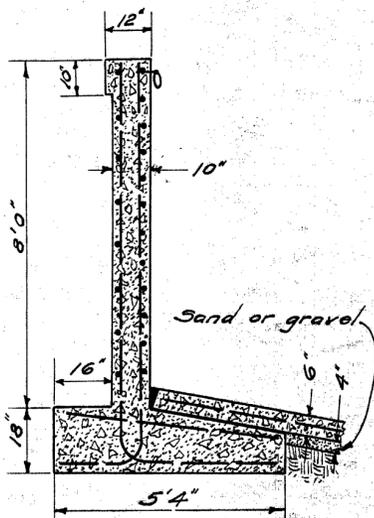
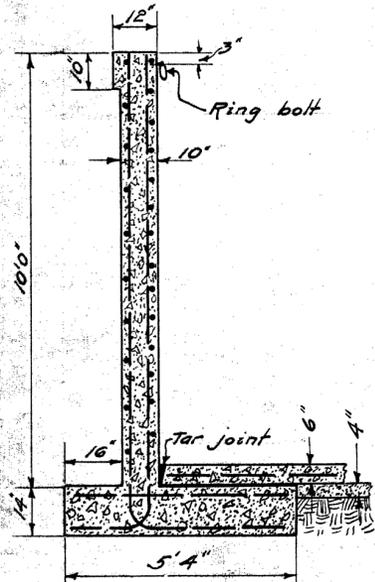
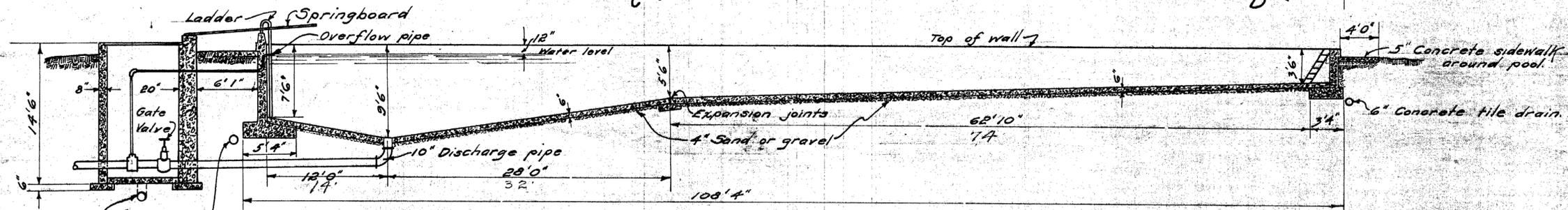
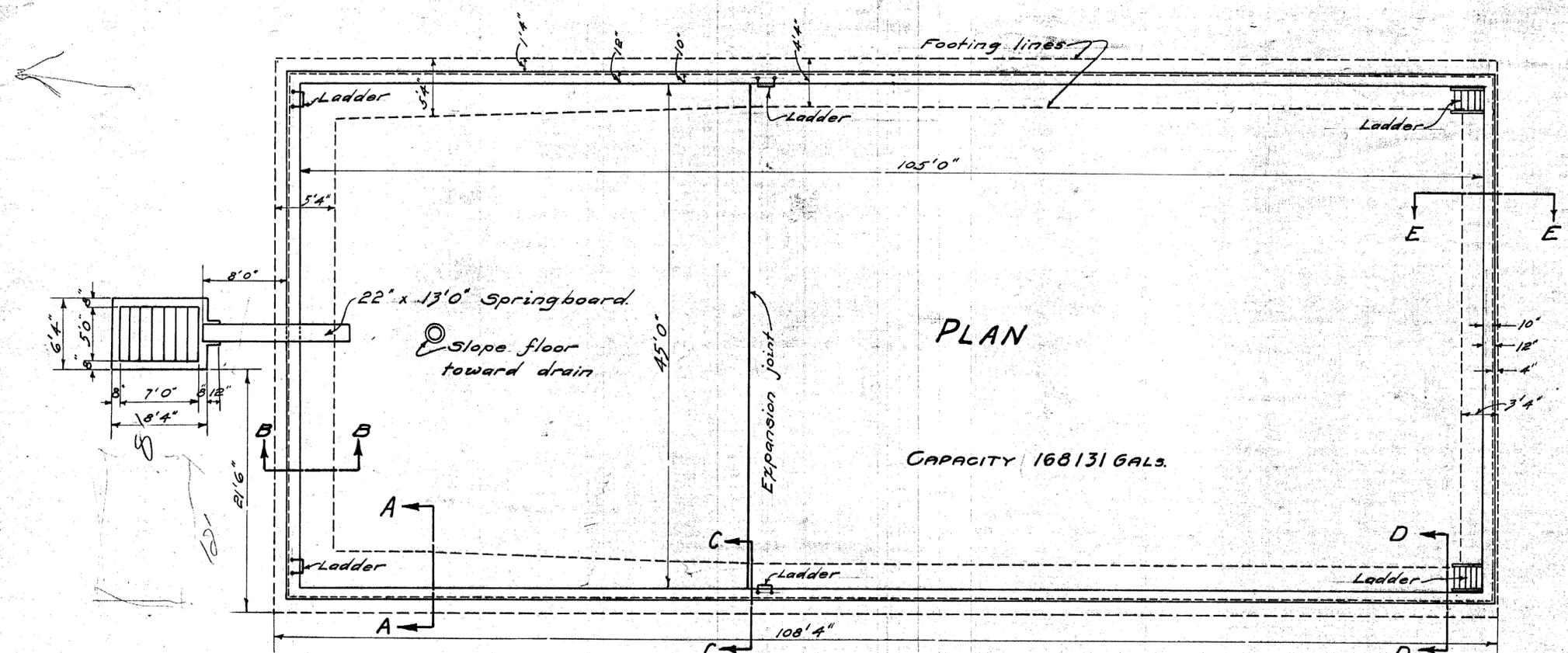
SARGENT & Lundy  
ARCHITECTS  
SAN JUAN, PUERTO RICO

DATE: 9 SEP 1977  
BY: [Signature]

SCALE: AS NOTED

CONCRETE POOL  
PLAN &  
SECTIONS

SHEET NO.  
ST-1



**-GENERAL NOTES-**  
 For Reinforcement Details see sheet ②

ENGINEERING DEPT.  
 WATERTOWN, N.Y.  
**FILE NO.**

CITY OF WATERTOWN  
**GENERAL PLAN**  
 45'0" x 105'0"  
**SWIMMING POOL**  
 Drawn by Date 4-16-24  
 Traced by Scale 1/8" = 1'-0"  
 Approved File  
 City Engineer

BERNIER CARR & ASSOCIATES PC

**CITY OF WATERTOWN  
THOMPSON PARK SWIMMING  
POOL FACILITY**

Project No. 98-086

**DRAFT**

*Prepared for:*

Mr. Jay St. Croix, Superintendent  
Parks and Recreation Department  
City of Watertown  
Watertown, New York 13601

*Prepared by:*

Bernier, Carr & Associates, P.C.  
172 Clinton Street  
Watertown, New York 13601

October 1998





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WATERTOWN NY 13601  
TEL 315 782 8130  
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E-MAIL:BCAWAIN@MCNET.NET

October 30, 1998

ENGINEERING

ARCHITECTURE

PLANNING

SURVEYING

CONSTRUCTION MANAGEMENT

**Mr. Jay St. Croix**  
Superintendent Parks and Recreation  
Municipal Arena  
600 W.T. Field Drive  
Watertown, New York 13601

**Re: City of Watertown  
Thompson Park Pool  
Project No. 98-086**

Dear Mr. St. Croix:

Enclosed are five copies of the draft of the *"Engineering Assessment Report"* for the Thompson Park Swimming Pool Facility.

We ask that you review this report and provide any comments or revisions that may be necessary prior to our submission of the final report.

We look forward to hearing from you in the near future. Should you have any questions regarding this matter, do not hesitate to contact our office.

Very truly yours,

BERNIER, CARR & ASSOCIATES, P.C.

Joseph L. Thesier, P.E.  
Vice President of Architectural Engineering

JLT:lr

Stcroix.l1

Enclosure

cc: Mr. Robert J. Company, P.E. - BC&A

WATERTOWN  
BUFFALO  
SYRACUSE

*Draft Report*  
**City of Watertown**  
Thompson Park Swimming Pool Facility  
Engineering Assessment

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## Executive Summary

By request of the City of Watertown's Parks and Recreation Department, Bernier, Carr & Associates has evaluated the Thompson Park Swimming Facility to assess the existing conditions of this facility and make recommendations for improvements to these facilities. The pool facility consists of four components: bath house, pool structure, pool filtration system, and pool chemical treatment system.

### A. BATH HOUSE

The bath house was found to be in poor condition and not in compliance with the New York State Uniform Fire Prevention and Building Codes (NYSUFPBC). The following items were noted:

- ▶ Roofing is in poor condition and leaking.
- ▶ Ceiling is in poor condition with failed areas.
- ▶ Partitions within changing rooms in poor conditions.
- ▶ Plumbing fixtures (including lavatories, toilets, and showers) in poor condition.
- ▶ No hot water provided at lavatories and showers.
- ▶ Non-accessible to persons with disabilities.
- ▶ Electrical system in poor condition.
- ▶ No fire detection.
- ▶ No emergency lighting.

Thompson Park, including the Bath House, has been determined to be eligible for inclusion on the National Register of Historic Places. Complete demolition and replacement of the bath house is not recommended.

*It is recommended that the existing additions be demolished, new additions constructed, and the original facility be renovated with all work to be done in such a manner as to maintain the existing character of the building yet bringing it into compliance with the New York State Uniform Fire Prevention and Building Code. These renovations would include providing access in accordance with the Americans with Disabilities Act (ADA) of 1990.*

*The estimated cost range associated with these renovations and additions is \$380,000 to \$420,000.*

### **B. POOL STRUCTURE**

The pool structure was found to be in good condition. Repairs to the pool structure were performed in the spring of 1996 by the Parks and Recreation Department.

*It is recommended that a sling and removable access ramp be installed for compliance with the Americans with Disabilities Act of 1990. It is also recommended that yearly maintenance be performed on the caulk joint between the pool gutter system and the gunite wall to insure water tightness of the pool as well as removal and replacement of any delaminated areas.*

*The estimated cost associated with the sling and access ramp is \$12,100. No cost figures are provided for routine maintenance.*

### **C. POOL FILTRATION SYSTEM**

The pool filtration system was found to be in fair condition. Water quality of the filtered water is good. Items of major concern are the condition of the control valves within the filter housing.

*It is recommended that (4) valves be removed and replaced and the interior and exposed exterior of the filter unit be cleaned and painted. It is assumed that the recommended work items will be performed by City personnel.*

*The estimated material cost associated with the replacement valves is \$1,954.*

### **D. POOL CHEMICAL TREATMENT SYSTEM**

The pool chemical treatment system was found to be in good condition.

*There are no recommended improvements at this time. It is recommended that the valve replacement on the pool filtration system be performed prior to the 1999 season. Design of the renovations of the bath house should begin in the spring of 1999 for a construction start in the fall of 1999.*

*Replacement of the pool filtration system should be planned for 2001-2002. Replacement and/or renovation of the pool structure will be dependent on the extent of maintenance necessary to remediate ongoing delamination of the gunite structure. An option is to evaluate the extent of delamination when the pool is drained in the spring of 1999 to determine if a maintenance program will be sufficient to maintain the structural integrity of the pool.*

**SECTION 1**  
**Introduction**

By request of the City of Watertown Parks and Recreation Department, Bernier, Carr & Associates has prepared this report on the evaluation of the Thompson Park Swimming Pool Facilities. The purpose of this report is to assess the existing conditions of this facility through on-site visual inspection and examination of available documents and drawings, review the facility as it pertains to current code compliance, and develop various options and estimates of probable costs for recommended improvements.

The purpose of this report is to provide the City of Watertown Parks and Recreation Department with a plan for making improvements to its' Thompson Park Swimming Pool Facilities so that the City of Watertown can evaluate, prioritize and schedule future improvements for projects at this facility.

**SECTION 2**  
**Evaluation of Existing Conditions**

### A. BATH HOUSE

An on-site investigation was conducted to evaluate the existing conditions for the bath house at the Thompson Park swimming pool facility. The bath house structure was constructed in the 1920's. Shower and toilet additions were later constructed on each end of the building.

Thompson Park has been determined to be eligible for inclusion on the National Register of Historic Places and the bath house (as well as the pool) are contributing components of the Park. Therefore, any proposed work to the pool and/or bath house must be submitted for review by the State Historic Preservation Office.

The bath house at Thompson Park is a single story Colonial Revival structure with full attic and gambrel roof. The bath house is of masonry construction with a painted stucco exterior and brick accents. There are additions on both ends of painted concrete block with low pitch sloped roofs which are unsympathetic and detract from the original design of the bath house.

The building is located on symmetrical access to the existing pool on the south end. The building contains approximately 2,100 square feet with the two additions being used as toilet and shower areas and the former toilet and shower areas of the original building being used as changing rooms.

Items of immediate concern that are existing in the bath house are the need for a new roof to replace deteriorated asphalt shingles which are over the top of original wood shingles, the plaster ceilings are deteriorated, and the glazed block on the interior of the additions is spalled in several locations. There appears to be asbestos pipe wrap on existing piping in the facility. The building is currently not handicapped accessible and there are no provisions for hot water for sinks and showers.

Other items include the electrical panels and meters are exposed in the public areas and ventilation of the toilet rooms and changing areas is inadequate.

**B. POOL STRUCTURE**

It is currently unknown when the original pool was constructed. Contract Documents dated October 3, 1973, outline the construction of a Gunitite pool within in the existing pool structure. It is presumed from documents that this work was performed in 1974. The design data described in the Contract Documents are as follows:

▶ pool area	4,576 square feet
▶ pool perimeter	296 feet
▶ pool capacity	170,000 gallons
▶ flow rate for 6 hour turnover	472 gallons per minute
▶ jet flow gutter wash fittings	23 gallons per minute
▶ total recirculating rate	495 gallons per minute
▶ filter area	300 square feet
▶ filter rate	1.65 gallons per minute per square foot

Since the installation of the new Gunitite pool in 1974, problems have occurred with the pool structure. Cracking and delamination has been a problem as can be seen in the photographs taken April 25, 1996. Parks and Recreation staff removed much of the loose material and patched these areas, reducing the loss of water within the pool to approximately 1 inch per day. These repairs currently are holding up, and further delamination has not been noted since repairs of 1996, but due to the age and construction of this pool, continued maintenance maybe necessary to ensure structural integrity and water tightness of the pool structure.

**C. POOL FILTRATION SYSTEM**

The existing pool filtration system is a vacuum diatomaceous earth unit. From final equipment drawings dated March 18, 1974, it can be seen that the filtration system is a factory built unit, as manufactured by VEC. The unit is housed in a steel plate structure consisting of 2 chambers. One chamber houses the system pump, piping and valves; the other chamber houses the filter elements. Through onsite visual inspection and review of the As-Built Drawings, it can be seen that the only minor modifications to the filtration system have occurred since its installation in 1974. These modifications consists of replacement of the filter to waste line and valve, and re-circulation line and valve. This piping and valves are assumed to have been originally ductile iron and have been replaced with PVC. The only other modification noted is

in the sump pump discharge. The As-Built Drawings indicate the sump pump discharge connecting into the gravity waste line. Currently, the sump pump discharge has been re-piped and discharges to the exterior of the filter housing.

The operation of the pool filtration system is simplistic in nature and is based upon the open and close positions of the filtration system control valves. The control valves are hand operated and are as follows:

- |                                     |                    |
|-------------------------------------|--------------------|
| ▶ Main drain filter effluent        | 8" hand crank gear |
| ▶ Main pump suction filter effluent | 5" hand crank gear |
| ▶ Re-circulation pre-coat           | 3" PVC ball        |
| ▶ Filter return                     | 6" hand crank gear |
| ▶ Gravity waste from wet well       | 6" hand lever      |
| ▶ Filter to waste                   | 3" PVC ball valve  |
| ▶ Overflow control                  | 8" hand lever      |

Prior to actual filtration of the pool water, the filter unit must be pre-coated with diatomaceous earth, to aid in the filtration process. This is accomplished by adding the filter aid (diatomaceous earth) into the filter element chamber, and opening the re-circulation pre-coat valve and filter to waste valve, while closing the filter return valve. This allows water to circulate thru the filter, as well as to waste, allowing the pre-coat to settle onto the filter media. Once the pre-coat is set, the re-circulation valve and filter to waste valve are closed while opening the filter return valve.

Filtration is accomplished by water being drawn through the filter units utilizing a suction pump. The filter units are connected to the suction side of a centrifugal pump. The discharge side of this pump is connected to the filter return piping, which discharged back into the pool through the pool gutter system. As water is drawn through the filter units by the pump, water is circulated back to the filter chamber by gravity through the main drain effluent line and overflow line. The main drain effluent line is connected to the drain in the bottom of the pool, and the overflow line is connected to the pool gutter system. The volume of water returned through the main drain and gutter systems are regulated by the position of the main drain filter effluent valve and overflow control valve.

During filtration, chemicals are added to the water for disinfection and Ph control. The chemical feed system is controlled by an analyzer, which automatically injects the chemicals as needed to maintain set chlorine residuals and Ph.

Eventually, the filter needs to be cleaned due to the accumulation of debris on the filter media. The vacuum gauge on the suction side of the pump is used as an indicator for when cleaning is required. Under new conditions, the filter system should operate for up to 2 weeks without cleaning. Cleaning is accomplished by shutting down the filter pump and closing the following valves:

- ▶ Main drain filter effluent.
- ▶ Overflow.
- ▶ Filter return.

Once these valves are closed, the gravity waste from wet well valve is opened and the diatomaceous earth is hosed off the filter media. The diatomaceous earth and debris is flushed down the waste line, which is connected to the City's sanitary sewer system.

Once the filter elements are cleaned and the wet well is hosed down, the process of pre-coating is performed and filtration put back on-line.

Through visual inspection and discussions with personnel from Parks and Recreation, the major problems with operation of the filtration unit is the condition of control valves. Due to the moist and corrosive environment within the filter housing, the hand crank gear units and hand levers on the control valves are either broke or are ready to break.

The following is a list of valve conditions:

- ▶ Poor Condition      Main drain filter effluent - hand crank handle. Broken (operated by other means).
- ▶ Fair Condition      Main pump suction filter effluent - corrosion.
- ▶ Good Condition      Re-circulation pre-coat - replacement with PVC.
- ▶ Fair Condition      Filter return - corrosion.
- ▶ Poor Condition      Gravity waste from wet well - corrosion.
- ▶ Good Condition      Filter to waste - replacement with PVC.
- ▶ Poor Condition      Overflow control - corrosion.

The description of the filtration process is not all inclusive, yet is meant to outline the importance of the operation of the filter control valves. Malfunction of any one of the control valves will render the filtration unit inoperable.

The design filtration rate as indicated on the Contract Documents, is 492 gallons per minute. Personnel from Parks and Recreation indicated that the main filtration pump was overhauled prior to the 1997 swimming season. The work consisted of a new impeller and the motor was re-wound. The pumping rate was approximately equal to the 492 gpm design rate.

Filter run time was reported to be approximately (1) one week. For a new filter system, two (2) week run times can be expected. The loss of run time can be attributed to age of the filter media. Personnel from Parks and Recreation indicated they achieve a good quality filter effluent and were not dissatisfied with water quality.

#### **D. POOL CHEMICAL TREATMENT SYSTEM**

The pool chemical treatment system consists of two (2) chemical storage tanks, chemical injection pumps, and water quality analyzer. The pool water is treated with muriatic acid for pH control and sodium hypochloride for disinfection. These chemicals are commonly used by the pool industry and are relatively easy to handle and dispense.

**SECTION 3**  
**Code Analysis**

A code analysis was performed to determine compliance with the NYS Health and Building Codes. Only those items which could be visually inspected or outlined on existing drawings were evaluated. This code analysis is not all inclusive in that a comprehensive code review is beyond the scope of this project.

**A. BATH HOUSE**

In New York State, universal accessibility for buildings is regulated by the New York State Uniform Fire Prevention and Building Code, ANSI A117.1-1992 (American National Standard - Accessible and Usable Buildings and Facilities), and the American with Disabilities Act of 1990 (ADA). These code/reference standards are required to be met and complied with by all public accommodations and places of public accommodation. A place of public accommodation as defined by ADA as *"A facility operated by a private entity whose operations affect commerce and fall within at least one of twelve specified categories."* Places of recreation as described in the ADA are included as areas of public accommodation. Therefore, it is our interpretation that the pool and bath house are included as areas of public accommodation.

The ADA requires a public accommodation to remove architectural barriers in existing facilities, including communication barriers that are structural in nature where such removal is readily achievable. The ADA requires the following priority in providing access to existing buildings:

- ▶ Provide access to facility from public walks, parking, and public transportation.
- ▶ Provide access to those areas of the facility where goods or services are available.
- ▶ Provide access to restroom facilities.
- ▶ Provide any other measures necessary to provide access to goods, services, facilities privileges or accommodations.

As a result, the bath house is required to comply with the requirements of the ADA in accordance with the aforementioned. These alterations could include removal of existing stairs, construction of a ramp, widening door openings, modifying door hardware, and providing accessible toilets and showers.

NYS Building Codes require public buildings to be equipped with fire alarm systems and emergency lighting. The current building is not equipped with a fire alarm and/or emergency lighting.

**B. POOL STRUCTURE**

As previously mentioned, all areas of public accommodation need to meet ADA requirements. The pool structure currently does not meet these requirements.

With reference to the New York State Health Code, Section 6-1.10 and 6-1.29 (4.0 and 5.0), the pool structure is assumed in compliance. Comment on the operation and supervision of the pool is beyond the scope of this project.

**C. POOL FILTRATION SYSTEM**

The pool infiltration system is in non-compliance with the following sections of the New York State Health Code:

1. Section 6-1.29 Swimming Pool Design Standards, 8.0 Water Supply and Wastewater Disposal, 8.5 pool wastewater: *"Pool waste water shall be discharged to the sewer system or storm drain through a suitable air gap so as to preclude the possibility of backup of sewage or waste water into the swimming pool piping system."* Review of design drawings indicate the main drain and gravity waste from wet well are tied directly into the sanitary sewer with no suitable air gap.
2. Section 6-1.29 Swimming Pool Design Standards, 9.0 Recirculation System and Equipment, 9.4 Color Coding: *"All exposed piping shall be color coded in accordance with the following table:*

<i>Piping</i>	<i>Color</i>	<i>Waste Lines</i>	<i>Color</i>
<i>Potable Water Lines</i>	<i>Dark Blue</i>	<i>Backwash Line</i>	<i>Dark Brown</i>
<i>Filtered Water</i>	<i>Aqua</i>	<i>Sewer</i>	<i>Dark Gray</i>
<i>Gutter Return</i>	<i>Olive Green</i>	<i>Deck Drains</i>	<i>Light Brown</i>
<i>Main Drain</i>	<i>Black</i>		
<i>Aluminum</i>	<i>Orange</i>		
<i>Chlorine</i>	<i>Yellow</i>		
<i>(gas/solution)</i>			
<i>Soda Ash</i>	<i>White</i>		
<i>Acid</i>	<i>Pink"</i>		

Visual inspection of the filter unit found no color coding of exposed piping.

3. Section 6-1.11 Treatment, (b) Filtration, (2) Diatomaceous Earth Filters, (i):  
*"Diatomaceous earth filters shall be properly maintained and operated according to the manufacturer's instructions and at a filter rate not to exceed 2 GPM/SF with body feed or 1.5 GPM/SF without body feed."*  
The design filtration rate is 1.65 GPM/SF. Assuming 25 percent blinding of the filter media increases the filtration rate up to 2.2 GPM/SF.

#### **D. POOL CHEMICAL TREATMENT SYSTEM**

The pool chemical treatment system was reviewed and found to be in substantial compliance with regard to the New York State Health Code, Section 6-1.29 Swimming Pool Design Standards, 11.0 Disinfection. The chemical treatment facility was not reviewed regarding OSHA requirements.

**SECTION 4**  
**Recommendations and Alternatives**

**A. BATH HOUSE****1. Handicapped Compliance****a. Exterior Approach**

The current access to the bath house does not provide handicapped parking in close proximity to the pool, and the curb cut and sidewalk to the building need improvement.

**b. Interior Accessible Route**

Currently, accessibility to the interior of the building from the exterior is not provided. Concrete steps prevent access between grade and the first floor as well as between the first floor and the pool deck. Access to grade could be accommodated through the addition of a ramp.

Another consideration is the existing door widths and latch side clearance. Several of the existing doors do not provide the minimum 32 inch clear opening as required of current accessibility standards. Furthermore, many of the existing doors at various locations within the building have barriers which limit the approach and side reach for a wheelchair bound individual to open and shut the door. At the entrance to the toilet rooms, this is further exasperated by the door. When fully opened, the door does not have adequate clearance of the privacy wall. To correct the current conditions, doors could be modified and provided with power assisted operators and walls could be modified; all of this could provide an accessible route within the building.

Along with the existing door reconfiguration, lever handled hardware is required throughout the building to eliminate the pinching and twisting action of the existing hardware (door knobs).

Toilet facilities will require modification to wheelchair access to these facilities. This would require reconfiguration of the toilet area. At least one toilet in each (male and female) would be required to be modified to provide wheelchair access. This would be accomplished by increased size and adding the appropriate toilet room accessories.

**c. Signage**

Currently, the existing building has not been provided with signage that is in compliance with the current accessibility standards. Current accessibility standards require that letters and number on signs have a width-to-height ratio between 3:5 and 1:1 and a stroke width to a height ratio between 1:5 and 1:10 utilizing an uppercase (X) for measurement. The heights of the characters are regulated by where the signage is to be located. If the sign is located more than 80 inches above the finished floor, the minimum character height shall be 3 inches; if mounted more than 48 inches and not more than 60 inches, the character height shall be a minimum of 1 inch. All signage in accordance with current accessibility standards shall be provided with raised characters and symbols as well as braille, with braille being Grade 2 and conforming to Specification 800 of the National Library Service of the Library of Congress.

**d. Life Safety**

The final item which is directly tied to handicapped accessibility and the NYSUFPBC is life safety systems. Currently, the existing building has not been provided with emergency lighting and audio/visual devices as required by NYSUFPBC. It was noted that the toilet rooms and locker rooms have not been provided with the visual devices as required by current accessibility standards.

**2. Building Components**

The existing asphalt shingle roofs on the main building have been leaking, causing interior damage. They should be completely removed along with the old wood shingles below. The flat roofs over additions should be replaced at the same time, possibly with new gable roof to be more sympathetic to the original bath house.

The interior of the original building needs to be completely re-done with more durable materials such as ceramic tile.

The additions need to be reconfigured as discussed above for handicapped accessibility. This will necessitate new partitions, plumbing, and fixtures.

Additionally, the interior of the outside walls has spalled and will need patching and painting. Other work will include repair of existing windows.

**3. Electrical, Plumbing, and Ventilation**

The exposed electrical panels, meter, and disconnect should be enclosed or screened from the public.

The plumbing will have to be modified to accommodate revised toilet/shower locations, as described to comply with ADA.

Although the existing windows contribute to the required ventilation, mechanical ventilation for the dressing, toilet, and shower areas should be added.

The existing bath house is a significant feature to the overall Thompson Park. The later additions to the building are non-contributing and actually detract from the original design. Based upon the amount of work necessary to renovate the existing additions, they should be considered for removal and replacement with more sympathetic additions that could better accommodate the current needs of the pool. Designs to this effect have already been completed and considered by the City of Watertown. The original central portion of the building would then be renovated to satisfy the problems identified above. Removal of the existing asbestos pipe wrap, installation of a new domestic hot water system for showering and hand washing, installation of new ceilings and lighting, repair of existing windows and doors, resurfacing of the existing floors, and modifications for better handicapped accessibility. An alternative would be to conduct renovations of the existing pool building. This would include repairs to the existing spalled glazed block, repair of windows, modifications to the plumbing for ADA and new ventilation system.

**B. POOL STRUCTURE**

The construction of the Gunite pool at Thompson Park was performed in 1974. This pool was constructed inside an existing concrete pool structure. Delamination of the Gunite has occurred under the gutter system round the whole pool perimeter. Parks and Recreation personnel have performed maintenance to repair areas of the pool where delamination has occurred.

The cracking and delamination of the pool structure can be attributed to water penetrating the Gunitite at the wall to gutter interface in conjunction with the freeze/thaw cycle experienced in this region of the Country.

Cracking and delamination will continue to be a maintenance problem. The pool structure continues to function as designed indicated by the low water loss being experienced.

It is recommended that the City continue to perform yearly maintenance on the pool structure to ensure water tightness (including repair of any cracking and delaminated areas and removal/replacement of the caulk seal at the gutter to wall interface). Replacement of the caulk seal will prevent water from penetrating the pool structure and problems associated with the freeze/thaw cycle.

Until the pool is replaced and access for persons with disabilities is incorporated into the design, it is recommended a sling and removable access ramp be provided.

Eventually, the City will need to replace this pool when the cost/benefit of repair begins to exceed the cost of a new structure. With the requirement of public facilities providing access for the disabled, construction of a new pool can incorporate access for patrons with disabilities.

### **C. POOL FILTRATION SYSTEM**

The pool filtration system was installed in 1974. Other than routine maintenance, no work has been performed on this system. Parks and Recreation personnel have indicated that water quality is not a problem.

To ensure continued operation of the pool filtration system, it is recommended that the following control valves be replaced:

- ▶ Main drain filter effluent.
- ▶ Filter return.
- ▶ Gravity waste from wet well.
- ▶ Overflow control.

These valves can be replaced with standard hand control butterfly valves with position control. Other improvement should be removal of corrosion on piping and filter

enclosure and painting utilizing an epoxy painting system. Epoxy will last longer with the moist and corrosive environment present within the filter housing.

The filtration system will require replacement at some point in time. The useful life for such a system is 25 to 30 years. If maintained, it should perform satisfactorily for another 3 to 5 years. Code compliance regarding the direct connection of the sanitary sewer to the filter waste line would need to be addressed when the filter unit is replaced.

#### **D. POOL CHEMICAL TREATMENT SYSTEM**

It is unknown when the chemical treatment system currently being utilized was installed. The system is relatively new. According Parks and Recreation personnel, the system functions properly and requires only routine maintenance. Therefore, no improvements are recommended.

**SECTION 5**  
**Cost Estimates for Improvements**

## SECTION 5

## Cost Estimates for Improvements

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### A. BATH HOUSE

Renovation of the original Bath House Building	\$ 70,000 to \$ 90,000
Renovation of the Additions	\$ 80,000 to \$100,000
Construct new, larger wings with basement	\$180,000 to \$200,000

### B. POOL STRUCTURE

Materials for Access Sling and Access Ramp	\$12,100
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### C. POOL FILTRATION SYSTEM

#### PVC Control Valves

8" Main Drain Filter Effluent	\$ 582
6" Filter Return Valve	395
6" Gravity to Waste	395
8" Overflow Control	<u>582</u>
<b>Total</b>	<b>\$1,954</b>

#### New Pressure Sand Filters, Piping, and Pumps

Materials	\$15,000 to \$20,000
Labor	<u>\$ 5,000 to \$10,000</u>
<b>TOTAL</b>	<b>\$20,000 to \$30,000</b>

### D. POOL CHEMICAL TREATMENT SYSTEM

No costs.

March 9, 2016

To: The Honorable Mayor and City Council  
From: Kenneth A. Mix, Planning and Community development Coordinator  
Subject: Thompson Park Master Plan

## **Introduction**

Staff has been putting together ideas over the last few months for a new master plan for Thompson Park. The last comprehensive plan for the park was completed in 1985. Nearly \$2 million worth of projects were completed based on that plan. It is a good plan, but it was done without the benefit of the information we now have on the original Olmsted plan and it is 31 years old, so a few things have changed.

Thompson Park is an under-utilized asset of the City. Much of its acreage is rarely visited. Less than 20% of the park's original plan was actually built. The purpose of the master plan will be to lay out the long-term vision for what the park is to become. We have much of the historical information on what the Olmsteds intended it to become. That can be used as starting point for making the park an even greater asset to the citizens of Watertown and attractive to more visitors to the City.

The activities that are to be planned for have to be determined first for any facility. Staff has created a preliminary list of activities, which is attached.

This memo will concentrate on the area east of Tower Square, where there has been a lot of interest recently in the facilities. I will also go into more detail about the procurement process for the splash pad and playground. The playground is not in this area, but its process is closely associated with the splash pad.

While City Planning and Parks staff have discussed these ideas, the Friends of Thompson Park has just recently created a Master Plan Committee, which has not met yet and has not reviewed them.

## **East of Tower Square**

Tower Square is where the 10<sup>th</sup> Mountain Division Monument is being built. The Square had a water tower on it until 1978. The area east of there was not completed under the Olmsted Plan. During Thompson's ownership, a temporary maintenance road was built that became permanent and the area served as a holding nursery for trees that ended up not being moved.

After it was given to the City in 1917, there was no effort to use the Olmsted plan in developing the park. The swimming pool and bathhouse were added in the 1920's. The lawn south of the bathhouse became known as the Bowling Green. The zoo also had its beginning in the 1920's and has continued to develop through today. The parking lot was built in the 1960's. The maintenance building and access road were built in 1999. The Rotary Pavilion was built in 2009 and the exercise trail in 2013.

The Olmsted plan shows an axis from Tower Square to what would have been a lake that is perpendicular to the axis from Tower Square to the former wading pool. Along the axis would have been a fountain basin and a long tree-lined allee (called Lake Vista) that terminated at the lake. There were to be flower gardens on the east and west side of the fountain basin. A copy of a section of the Olmsted plan with today's topography, including roads, overlaid on it is attached.

On the south side of the allee was to be the largest lawn area (Middle Down) in the park. This is now most of the golf course. Lake Grove and the Administration Buildings were to be north of the allee. The parking lot, zoo, and maintenance area are there now.

A preliminary sketch of a plan for the area is attached. The concept being discussed for the current plan is to use the form of the fountain basin for the proposed splash pad and an outdoor skating area. The basin will be shifted a few feet to line up with bathhouse. The shape will also be truncated where it would have overlapped the bathhouse. The bathhouse should be renovated to provide handicapped accessible bathrooms, to serve as changing rooms for the splash pad, and serve as a "warming hut" for skating, cross-country skiing and snow shoeing. The swimming pool could be renovated or removed. While the pool is another amenity in the park, it is not critical to the park's success. The pool area could be designed as a picnic area. We've included a volleyball court next to it.

Last June staff informed the City Council that we had identified two possible locations for the splash pad. The former wading pool area was recommended as the preferred site. After further thought and discussions, including with the equipment supplier, we have shifted our attention to the area south of the bathhouse.

The plan includes an expansion area for the existing parking lot and a new parking area south of the Monument. If park use increases there will be a need for additional parking. The drives are already quite congested with parked cars on summer weekends.

Trails are added to give better access to under-utilized areas in the western and eastern parts of the park. The "warming hut" in the bathhouse will serve as a trail head with trails leading to all sections of the park.

A bold move would be to construct the allee. While there is no lake at the end of it, the view could be opened up to see across the golf course. This would require fence relocations, alteration of roads, and alteration of the exercise trail. The length of it would be shortened a few feet to avoid a conflict with vehicular circulation around the maintenance

building. A circular form has been drawn at the end of it, which could serve as a location for a focal point.

### **Splash Pad and Playground**

The City's Capital Budget contains \$375,000 for a splash pad and \$385,000 for playground replacement in Thompson Park for FY 2016-17. The Rotary Club has committed at least \$50,000 for the splash pad. Senator Pattie Ritchie has obtained a \$50,000 grant for the playground.

The most efficient method of procurement for these projects appears to be purchasing the equipment from State contracts. Five vendors have contracts. The State contracts, however, do not cover installation, so the City will have to solicit bids for that.

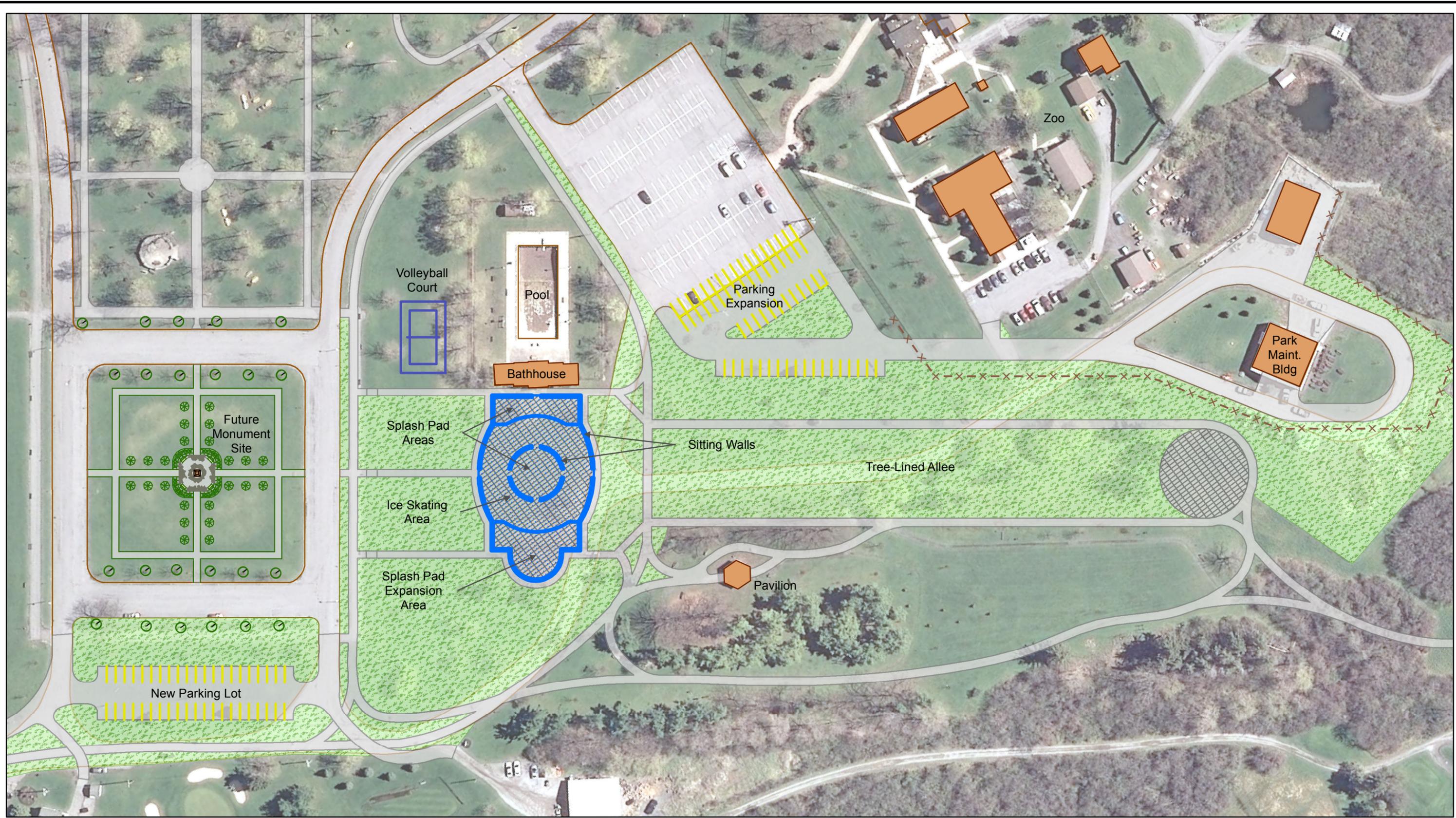
A committee made up of Parks, Purchasing, Engineering and Planning Staff requested and received information from each of the vendors and interviewed three of them. The committee decided to work with Parkitects, Inc. on the playground equipment and KOMPAN, Inc. on the splash pad. They will both assist us with design at no cost. The designs will then have to be turned over to a licensed engineer or architect to produce biddable plans and specifications for construction.

Installing the playground as a community build project with volunteers is still an option, but a group of citizens would have to organize that.

## **Thompson Park Activity Program 3/9/16**

Year-round:	Walking/Hiking Landscape/Nature Appreciation Visiting Zoo Special Events
Summer:	Picnicking Children's Play Apparatus Exercise Apparatus Water Play Concerts Mountain Biking On-road/Paved Trail Biking Tennis Volleyball Softball/Kickball Disc Golf
Winter:	Cross Country Skiing Snow Shoeing Sledding Skating
Ancillary Facilities:	Walks Roads Parking Restrooms Lighting/Electric Lines Water Lines Sewer Lines Pavilions Grills





Revision	Description of Revision	Date	By

Project:  
**City of Watertown, New York - Thompson Park**

Title:  
**East of Tower Square**



**CITY OF WATERTOWN, NEW YORK**  
**GIS DEPARTMENT**  
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Project: City of Watertown, New York - Thompson Park	
Requested By: K.Mix	Approved By:
Drawn By: J.Carlsion	Date:
Date: 3/10/2016	Map Number: 16-21
Scale: 1 inch = 100 feet	
Title: East of Tower Square	