



Tacoma Street Playground & Great Brook Valley Playground



2018 Master Plan

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Worcester Department of Public Works & Parks

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ACKNOWLEDGEMENTS

We recognize the residents of the City of Worcester, especially those representing the Great Brook Valley and Tacoma Street Neighborhoods, the residents of the Worcester Housing Authority, and the surrounding community whose participation at various public meetings helped forge this Master Plan. The recommendations and priorities established within this document address the needs of the community the needs of various other stakeholders that make use of the important recreational amenities located at the property and the City of Worcester as a whole. Master plan solutions are intended to be pragmatic and to recognize the basic fact that municipal governments, like Worcester, must continue to provide a high level of service in a time of great financial uncertainty. To this end, it becomes essential that residents, who enjoy the benefits of these important parks, continue to advocate on their behalf and continue to be diligent custodians in a way that encourages maximum appropriate use and, in doing so, discourages misuse by others.



Tacoma Street and Great Brook Valley Playgrounds are important park and open space resources; this Master Plan seeks to strike the right balance by providing renovated or new facilities that meet the needs of the three main constituent groups identified below:

Neighborhood | City Sports Leagues | General Public

When implemented, the improvements identified within the Master Plan will provide enhanced opportunities for public use and enjoyment. These parks will be a place where the neighbors of the park, residents of the City, and City sports league participants can come to enjoy passive and active recreational opportunities.



The existing softball field at Great Brook Valley Playground

In the future, the parks will be filled with park patrons of all ages engaged in positive activities that help to maintain good health, good will, and good cheer within this community and larger society.

We also wish to express our appreciation to members of:

Worcester City Council:

Joseph M. Petty, Mayor

Morris A. Bergman
Anthony J. Economou
Michael T. Gaffney
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Konstantina B. Lukes

Candy F. Mero-Carlson
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Meg Mulhern, Chairperson
Scott Cashman
Nicholas Chacharone
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Lawrence Sullivan
Matthew Wally

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Alex Corrales, Executive Director
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Steve Alvarez, Director of Maintenance
Celeste Hynick, Director of Modernization

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Robert C. Antonelli, Jr., CPRP, Assistant Commissioner of Public Works and Parks

Worcester State House Delegation, Worcester City Manager's Office, and other committed public and private servants who contributed to the development of this Master Plan.

Thank you,
The Weston & Sampson Project Team

INTRODUCTION | EXECUTIVE SUMMARY

Working on behalf of the City of Worcester Department of Public Works and Parks, Weston & Sampson explored options for renovating Tacoma Street and Great Brook Valley Playgrounds in the Great Brook Valley Section of District 1 in Worcester.

The following study provides a comprehensive inventory and analysis of all existing conditions, and a series of recommendations for improving or adding new facilities at the site. We have looked, specifically, at the potential passive and active recreation possibilities for expansion.

Surrounding towns have moved aggressively to expand their field-based playing venues due to dramatically increased rates of participation in traditional (baseball, football, soccer) and emerging (lacrosse and field hockey) sports, and the expanding participation rate of women and girls in general. Worcester sees expansion in the number of programs offered and the number of individuals participating.

It is important to note that outdoor recreation needs relate not only to the sports/athletic programs that make use of them, but also to less formal recreational pursuits by individuals not aligned with a specific organization. Examples include the neighborhood kids who seek a pickup ball game within a particular venue and the parents who would like to stroll in the park with their children. In addition, we must consider that recreation is multi-generational; as such, the final master plan will identify strategies for improving recreational opportunities for those of all ages.

As demand for available recreational resources increases, so do pressures to establish and maintain playing venues in good condition; offer a sufficient number of facilities to support the desired level of use; and provide gender equity. This document proposes preferred master plans that, if implemented, can improve these conditions.

By committing to a master planning process for these properties, a community communicates that it seeks a higher level of passive and active recreational performance. Achieving this is accomplished by undertaking an analysis of existing conditions, an assessment of community needs, and the development of a conceptual master plan that identifies critical improvements. Without the benefit of a master plan, a community runs the risk of implementing improvements that are piecemeal, poorly planned/executed and, oftentimes, economically inefficient. The piecemeal approach also runs the risk of alienating key constituents by delivering less-than-stellar results, losing momentum, and precluding important opportunities for property enhancement that may not have been considered in a timely way.

In 2017, the City of Worcester Department of Public Works and Parks - Parks, Recreation, and Cemetery Division engaged Weston & Sampson; together, collaboration began with community stakeholders to develop this comprehensive Master Plan for Tacoma Street and Great Brook Valley Playgrounds.

During 2017, representatives of the Worcester Department of Public Works and Parks - Parks, Recreation, and Cemetery Division and Weston & Sampson developed conceptual and final master plans, which were generated in response to the expressed needs and desires of residents around the playgrounds and in response with various city sports leagues. A workshop was held with members of the park community. Several general public hearings were also held at the Edward M. Kennedy Community Health Center. At these meetings, opinions were voiced on a wide range of topics including:

- The condition of existing site features and facilities;
- Access within the park;
- Programming protocols / requests and discussions;
- Security matters;
- Maintenance concerns;
- Trash generated by softball and multipurpose field uses;
- Parking and pedestrian circulation system needs;
- Access from the Great Brook Valley Development;
- Possible new amenities for the facility.

Tacoma Street Playground & Great Brook Valley Playground



Existing condition plans of Tacoma Street (left) and Great Brook Valley (right) Playgrounds

With input from various park stakeholders and user groups, the designers established a series of concept plans addressing needs and priorities. The final preferred Master Plans, as presented in this document, were presented to the Worcester Parks & Recreation Commission at a public hearing on February 15, 2018. Matching the goals and aspirations of the majority of participants in the planning process, as well as the City Administration's assessment of park and community needs, these plans could be referred to as the "consensus" plans. It is understood that these Master Plans will be implemented over time and, when improvements are fully realized, will have achieved a number of primary community objectives including:

Tacoma Street Playground:

- New multi-use, synthetic turf, rectangular field (with new related amenities);
- New children's playground facilities;
- New dog park facility;
- Potential park support building when a community partner arises to maintain the facility;
- Improved and accessible pedestrian circulation systems;
- Loop walking paths;
- Renovated parking lot;
- New sports and pedestrian lighting systems;
- Shade shelters and picnic areas;
- Storage facilities;
- Park edge enhancements including fencing, sidewalk, and curb upgrades;
- Tree plantings and other landscape improvements;
- Improved aesthetics throughout the site;
- A cleaner, safer park;
- A "greener" park;
- A setting that is diverse, multi-generational, and provides access for all.

Great Brook Valley Playground:

- Upgraded multi-use rectangular and softball fields (with new related amenities);
- New handball and basketball court facilities;
- Improved and accessible pedestrian circulation systems;
- Loop walking paths;
- Improved access;
- Renovated parking lots;
- New sports and pedestrian lighting systems;
- Park edge enhancements to include fencing, sidewalk, and curb upgrades;
- Tree plantings and other landscape improvements;
- Food truck parking locations;
- Improved aesthetics throughout the site;
- A cleaner, safer park;
- A "greener" park;
- A setting that is diverse, multi-generational, and provide access for all.



The existing parking lot at Great Brook Valley (left) and the play area at Tacoma Street (right)

The preferred Master Plans, which are described in detail later in this report, include several major initiatives that will bring significant positive change over current conditions. Major themes of the preferred Master Plans are summarized below.

- **Field Complexes-** New fields are proposed for both parks. Improvements at Great Brook Valley would include a new softball field rotated for better access and orientation, and a new mid-sized rectangular multipurpose field. The softball field would include a new infield with backstop, new player’s benches, formal and informal options for spectator seating, and new irrigation and sub-drainage systems. A new sports field lighting system is included. Tacoma Street Improvements would include a new rectangular multi-purpose synthetic turf field with necessary amenities including bleacher seating, storage facilities, players areas, and sports field lighting.
- **Courts-** Great Brook Valley improvements would include four new handball courts and two new basketball courts with sports lighting.
- **Playground-** The new and expanded children’s playground at Tacoma Street will include a more diverse range of equipment geared to children of all ages and abilities, with a new picnic and seating area integrated into the center of the playground.
- **Parking Lots-** Refurbished parking lots with accessible pathways and edge improvements are included.
- **Pedestrian Circulation Systems-** Included are accessible pathways to park support facilities, park entrances, and major park facilities; improved loop paths for walking or jogging; refurbished trails within wooded areas; and a new pedestrian lighting system.
- **Picnic Areas and Shade Shelters** – New picnic areas are included at key locations and have picnic tables, benches, trees and shade shelters.
- **Landscape Enhancements-** To meet the hopes and desires of many stakeholders, the plans envision aesthetic enhancements throughout, such as new shade tree plantings and the installation of park furnishings (shade shelters, benches, trash receptacles).



The preferred Master Plans showing new sports field improvements with new and refurbished bleachers, dugouts, and sports field lighting, new handball and basketball courts, renovated pathways with pedestrian lighting, new expanded play facilities, and other park enhancements.

This report represents the culmination of the master planning process. The document contains narrative and graphic depictions of the Preferred Master Plans with relevant sections dedicated to identifying the full extent of potential improvements, potential phasing scenarios, and implementation strategies. The overarching goal was to improve facilities and programming opportunities, foster community interaction, improve park aesthetics, and improve environmental stewardship.

Implementation of the improvements outlined in this master plan will require significant effort. The funding opportunities section of the report identifies potential granting agencies, non-profit entities, and other sources of capital dollars or in-kind services that might help with the refurbishment of various spaces and facilities.

It is important to note that this Master Plan is a guidebook with general recommendations that are not “cast in stone”. It is fully intended and anticipated that, as particular projects are implemented, the general recommendations contained in this report will be followed; importantly, they will be refined or adjusted in order to meet actual site conditions and funding availability.

Background

This Master Plan was undertaken on behalf of the Worcester Department of Public Works and Parks - Parks, Recreation, and Cemetery Division, and on behalf of the residents of the Great Brook Valley and Tacoma Street constituent community. It was written by our core team of landscape architects and park planners with contributions from Worcester’s Parks, Recreation, and Cemetery Division representatives. The specific tasks that were accomplished include:

- Deed research, utility compilation, and field survey work to provide complete and recordable property line and topographic/detail base mapping of both Tacoma Street Playground and Great Brook Valley Playground;
- Inventory of all existing site facilities, features, and conditions;
- Participation in a public outreach process through the hosting of a series of public hearings and stakeholder interactions;
- Development of preliminary and final master planning documents;
- Presentation of the finished Master Plan to the Worcester Parks Commission and Worcester City Council.

The Master Plan addresses the entire 19.3-acre Tacoma Street and 9.5-acre Great Brook Valley parcels, which include undeveloped woodlands and trails located in the northwest part of each property and developed park areas throughout the eastern section of Tacoma Street and the middle area of Great Brook Valley.

The developed sections of the park contain the following major park and recreation facilities:

TACOMA PLAYGROUND – EXISTING MAJOR FACILITIES:
Two basketball courts
An old small children’s playground
Parking lot
An abandoned tether ball area
Pedestrian pathways (limited)
Open lawn area at former pool location
Three sloped lawn areas
Steeply sloped wooded area

GREAT BROOK VALLEY PLAYGROUND – EXISTING MAJOR FACILITIES:

One softball diamond

Multi-purpose rectangular field (160' x 270')

Unpaved parking lot with driveway

Pedestrian pathways (limited)

Basic Project Goals and Objectives

At present, the playgrounds read as a series of parts rather than as one well-integrated, high-quality park and open space landscape. Internal and external circulation system improvements (pedestrian, vehicular, and service) could dramatically enhance movement between different park assets, provide valuable ADA and multi-generational benefits, and help create a more cohesive arrangement of space.

PROJECT OBJECTIVES

The project objective for the master planning process includes the following:

- Inventory and analysis of all existing assets;
- Examination of access drives and parking areas, and development of concept plans for improvements;
- Analysis of unused or underperforming areas for reuse or new development;
- Identification of opportunities for perimeter pathways, linkages, trails, and structures;
- Development of a compelling master plan that sets forth a logical and compelling series of enhancements throughout the site;
- Protection and preservation of Poor Farm Brook;
- Estimate of associated costs.

Goals

The basic goals of the master planning process included the following:

- Improvement of existing facilities to perform at a higher level;
- Identification of new facilities and features that provide added value for current and future needs;
- Help to meet the cities need for additional rectangular shaped fields;
- Identification of site enhancements that make the site more multi-generational and more inclusive;
- Identification of enhancements that make the site more compelling aesthetically (in keeping with expectations for a signature park, recreation, and open space resource);
- Engagement of field and park program representative in an organized and thought-provoking dialogue in order to develop a series of concepts for the appropriate refurbishment, redevelopment, and expansion of the property;
- Provision of universal, barrier-free access to all facilities and features located within a given property, especially for the disabled and elderly within the community;
- New amenities and facilities that are well-designed and self-sustainable; durable, long lasting, and easily maintained with limited resources; economically feasible; and that may be implemented by using a combination of capital improvement funds and in-kind/volunteer services and donations;
- Developing plans that provide upgraded ancillary facilities such as drives, parking areas, pedestrian connections to facilities within the property and appropriate linkages to adjacent facilities;
- Develop phases for implementation that include any relocation of existing fields or other features.



Community Participation

To develop a Master Plan that meets the recreational needs of the surrounding neighborhood, Worcester residents at large, and a variety of other community organizations, the Department of Public Works and Parks- Parks, Recreation, and Cemetery Division conducted a series of public hearings. Ideas were presented, and community input was received. Community outreach meetings were held at the Edward M. Kennedy Community Health Center. Over the course of about four months, the Department of Publics Works and Parks- Parks, Recreation, and Cemetery Division presented concept plans for the properties, received comments, and addressed a variety of concerns. Following is a list of the major public forums that were held.

Public Input Meetings		
Date	Public Hearing Location	Meeting Purpose / Participants
11.06.2017	Edward M. Kennedy Community Health Center	Presentation of initial opportunities, reactions from meeting participants to the concepts, other general public input
12.04.2017	Edward M. Kennedy Community Health Center	Update on Master Plan and Improvement Program
12.18.2017	Edward M. Kennedy Community Health Center	Update on Master Plan and Improvement Program comments & coordination with WHA
02.15.2018	Parks Commission at 50 Skyline Drive	Parks & Recreation Commission

It should be noted that attendance at the various meetings was low and included mostly those affiliated with the parks, representatives from the Worcester Housing Authority (WHA), along with a handful of neighborhood residents. Attendance notwithstanding, several consistent lines of conversation, observations, and corresponding needs became clear over time, and are as summarized below:

- The fair to poor physical condition of the three basic recreational elements (ball fields, courts, and playgrounds) may discourage broader use by neighborhood and community residents;
- There is the need to incorporate more court amenities that are in demand with park users and in harmony with adjacent neighbors;
- Need a larger, full size soccer field;
- Need an improved full-size men's softball field;
- The poor condition of the parking lot at Great Brook Valley has been an issue;
- The lack of continuous walkways and need for loop paths were brought up in meetings and have been requested many times in other public forums by Worcester residents (see Open Space & Recreation Plan Update 2013);
- A more complete accessible path system is needed including accessible pathways from the Great Brook neighborhood to Great Brook Valley Playground.

The factors referenced above and comments and coordination with the WHA have helped define the range of design elements provided in the preferred Master Plans. It was generally agreed that the function and performance of all existing facilities must be improved, and new recreational facilities must be provided to build a strong constituent stakeholder base. In this way, new park stewards from the neighborhood and larger community will be established. The best way to protect

future investments at these properties is through the creation of formal and informal recreational offerings that attract residents of all ages to the property for wide ranging activities and enjoyment. Proper uses during all seasons of the year and all times of the day will help to discourage the inappropriate uses that often compromise public safety and enjoyment within parks and open space properties like Tacoma Street and Great Brook Valley Playgrounds. In addition to the public forums the project team met with representative from the WHA to discuss access, security, and the use of their internet system for video cameras at both parks.

The Master Plan addresses the challenges referenced above by identifying a series of phased improvements that provide maximum recreational benefit to stakeholders. In the end, it represents a balance between active and passive recreation, and between neighborhood and city-wide needs.

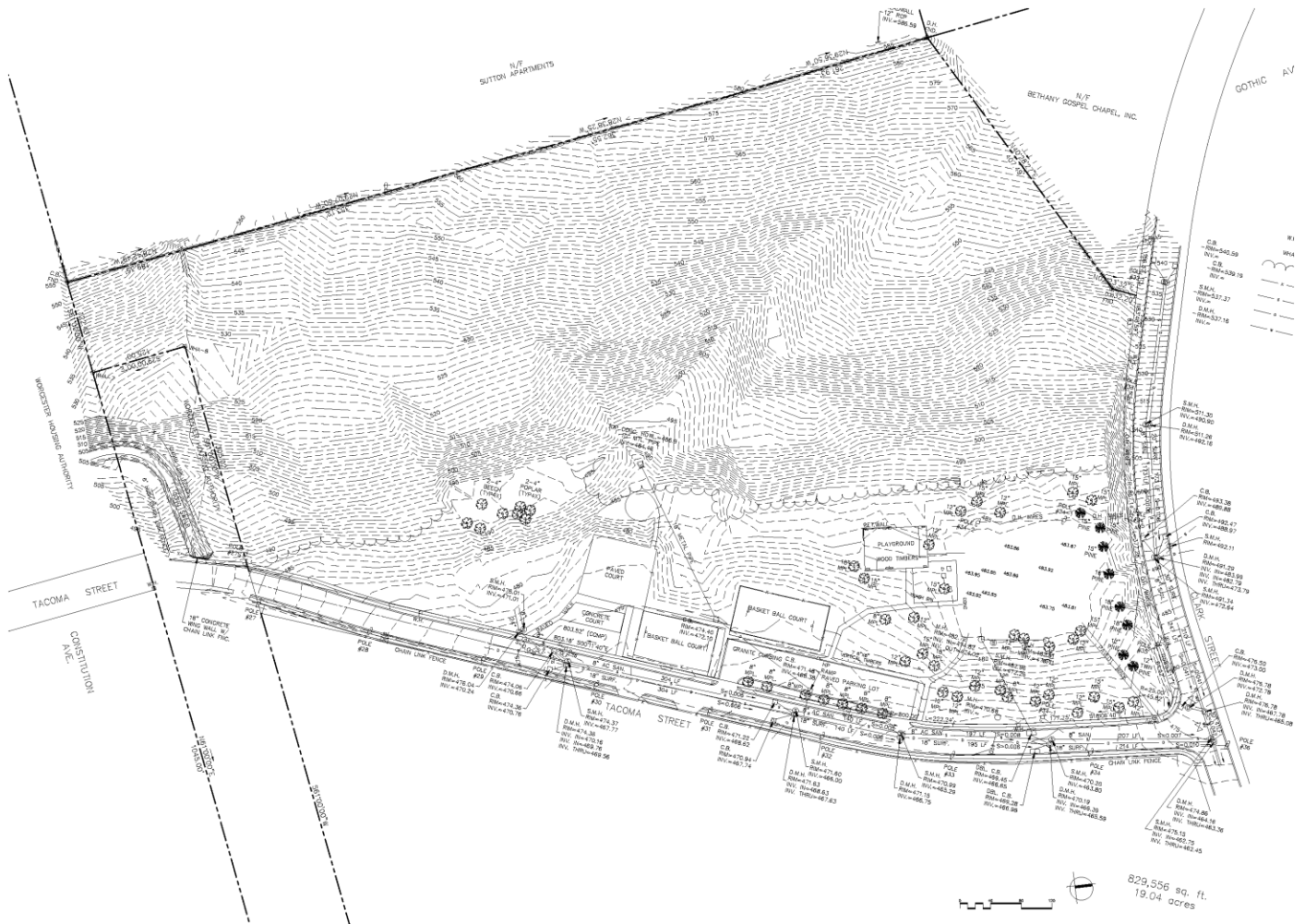
We invite you to review the complete document that follows, and to actively participate in the endeavor to provide improved, field-based recreational and athletic opportunities to all residents of the City of Worcester

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TACOMA STREET PLAYGROUND

Description of Existing Site

During the early stages of the project, representatives of Weston & Sampson gathered all available mapping and plan information to support master planning study and development efforts. The city provided GIS mapping for the property and aerial photography was also obtained. Site topographic/detail and property line survey was also performed; the resulting base plans will be suitable for the development of construction documents for all future phases of park improvements. A copy of the survey base plan is included below with a larger version appearing in the Appendix.



Weston & Sampson undertook extensive field reconnaissance work to observe how facilities are used, to better understand the physical characteristics of the site, and to record the conditions of all natural and man-made features at the property. The following is a summary of findings.

Topography

The park lies on a hillside, with steeper terrain on the northwest part of the park and slopes down to the east and southeast. The change in elevation is about 112 feet from the highest to lowest points on the property. The park's topography defines the use areas, resulting in the existing parking and courts at the lower, relatively flat eastern edge of the park, while steeper terrain tends to be undeveloped with informal trails traversing woodlands.

Tacoma Street Playground & Great Brook Valley Playground



Most of the open lawn areas have varying, sloping topography. The flatter lawn area in the background of the photo on the right is the location of the former swimming pool.



This image highlights the more level developed area of the park. The wooded area at the top consists of very steep slopes where development is not feasible.

Vegetation

Existing vegetation at the Tacoma Street Playground property is characterized and summarized as follows:

- Much of the site's vegetation consists of deciduous shade trees planted at park edges and randomly scattered throughout the park.
- Mostly native mature deciduous trees and some evergreens are within the steeply sloping and rocky western section of the park



Evergreen and deciduous shade trees are at the northern edge of the property (left and center photo). Densely planted, steep sloped woodland (center and right photo).

As future projects are planned, it will be essential to include new, strategic tree plantings and selective tree removals / pruning to ensure a safer, more functional and attractive park landscape for new generations. Tree plantings are critical elements in any park setting as they provide:

- Shade for those seeking relief from the hot summer sun
- A place for a picnic or social gathering
- Aesthetic qualities that benefit a neighborhood
- Refuge for birds and other wildlife
- Visual screening to reduce impacts of various park activities on surrounding properties
- Health benefits by improving air and water quality

Environmental Review

As part of our historical evaluation of the site, we reviewed historical aerial photographs, historical topographic maps, city directories, and the environmental databases (Environmental Data Resources, Inc. (EDR)). Based on our review, the site remained largely undeveloped and unchanged prior to 1966, where it appears to have been used for agricultural purposes. Between the years of 1966 and 1972 the Tacoma Street Playground was developed, during the same duration an adjacent housing development, running NW/SE of the parcel was built. The parcel remained unchanged until 1980 when a swimming pool was installed in the NE corner of the parcel. The swimming pool was removed between 2010 and 2012 and was backfilled.

Topographically, the site appears to have remained unchanged since 1934.

No significant environmental issues at the property were identified during the review of regulatory documents and databases. However, there were two residential underground storage tank (UST) releases that were reported remediated via a Response Action Outcome (RAO) Statement within one-quarter mile, and upgradient of, the property. Both were determined to have no significant environmental impact on the property due to the small nature of the release. Additionally, within a one-quarter mile downgradient of the subject property there were large quantity hazardous waste generators. These facilities generated corrosive wastes, silver, waste oils, and universal wastes. In 2012, a release of cadmium and lead was reported at the 324 Clark Street property. This release was reportedly remediated and closed via a Class A-2 RAO A2 Statement. This release is not likely to pose an environmental risk to the property.

Based upon our review of available data and our site reconnaissance visit, we did not observe any evidence of current or past environmental impacts at the Tacoma Street Playground property.

Neighborhood Setting

Tacoma Street Playground is in the northeastern section of Worcester in District 1, and approximately 6 miles from City Hall and 5.6 miles from I-290. It is situated just north of the Great Brook Valley housing complex and is surrounded by mixed use residential, commercial, and industrial uses on the northern, eastern and western sides as follows:

Clark Street- A secondary collector street connecting Burncoat Street and East Mountain Street. Clark Street has many residential neighborhood offshoots with some commercial and industrial properties closer to Tacoma Street Playground.

Tacoma Street- The main road going through the Great Brook Valley Housing Complex and eventually leading to Boylston Street.



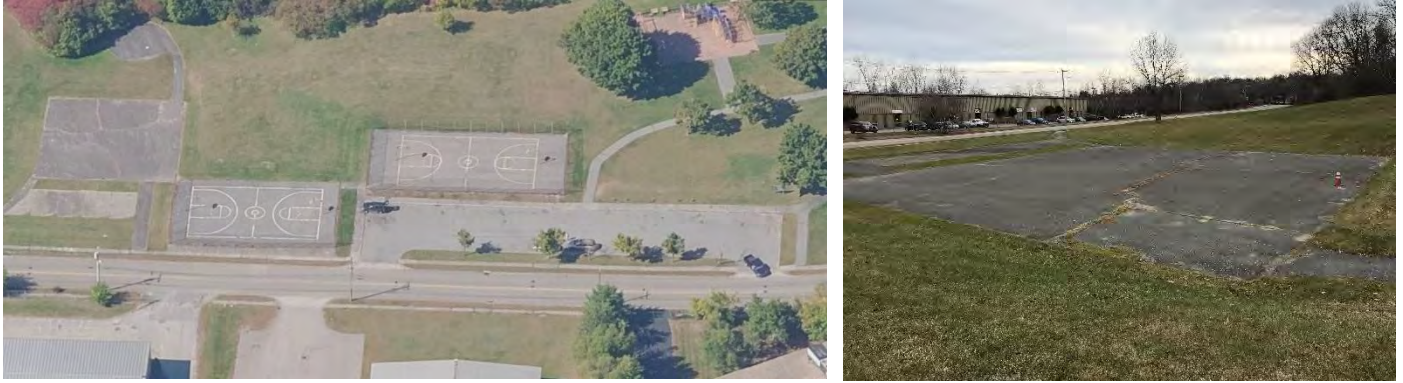
The image above shows surrounding neighborhood context for Tacoma Street Playground: Clark Street and Tacoma Street from the northern and eastern park perimeters.

There are thousands of city residents living within a very short walk of Tacoma Street Playground. The property is in a high-density neighborhood (between 5,000 and 10,000 person/square mile). The city is looking to form and maintain partnerships with local park stewards in order to achieve the basic goals of a cleaner and safer Tacoma Street Playground. The Preferred Master Plan seeks to improve use of and access to the playground, as well as visibility.

Demographic data indicate that residents within the immediate vicinity of the park have household incomes that are in Worcester's average-to-low income range. The majority of this residential area has a population younger than 35 years of age and has a significant minority population consisting of Hispanics, Asian, and African American racial groups (source: Mass GIS 2010). Therefore, the passive and active recreational amenities to be provided at Tacoma Street Playground will be of critical importance to these residents.

Parking, Access and Park Circulation

Off-street Parking- the park has one large parking lot with a capacity of \pm 25 car. Parking is currently meeting the communities needs for the existing amenities provided at the park but is informal and undefined.



Aerial view of the off-street parking areas at Tacoma Street Playground and street view of the informal secondary parking area to the left of the basketball courts.

On-street Parking- There is no on-street parking at Tacoma Street Playground.

Pedestrian Access- There is one bus stop, a paved sidewalk and only one crosswalk for pedestrian access into Tacoma Street Playground. Even though there is one formal connection into the northern part of the park, the majority of the surrounding population are coming from the southern edge. Access from Clark Street is not ADA accessible due to the steep grade change and lack of sidewalk. There is only one defined crosswalk connection from the other side of Tacoma Street into the site at the corner of Clark street towards the northern part of the site even though the majority of people live south of the park.

Pedestrian access (formal and informal) into Tacoma Street Playground is provided as follows:

Tacoma Street- Pedestrian access is found from the parking areas off Tacoma Street, with in the park, and from along the paved sidewalk leading from the Great brook valley Housing Complex south of the site. Pedestrians can also access the site from the crosswalk at the top of Tacoma Street where the bus stop is located.

Clark Street- No formal sidewalk or park entrance exist, and this is likely due to the steepness of the terrain along this park edge. Without benefit of formal access points, park users move freely in and out of the park since there are no barriers restricting access.



The only crosswalk into the site from Tacoma Street (left photo). No sidewalk or park entrance on Clark Street (middle photo) and paved sidewalks on both sides of Tacoma street looking north (right photo) but no crossing points.

Park Edges

The park is bordered by two public streets and has abutting woodlands and steep terrain to the west and south. The residential properties to the north sit comfortably above the elevation of the park with pleasant views looking south toward Tacoma Street.

There are scattered tree plantings at the park edges formed by Tacoma Street and Clark Street, with denser woodland vegetation bordering the remainder of the sites edges. The dense vegetation combined with the steep terrain and lack of formal park reduces the visibility of the park to the thousands of passersby each day traveling east down Clark Street, which is a major urban collector street.



Aerial oblique view of the park showing vegetation along park edges



Views from the site looking north towards Clark Street (left photo) showing few mature trees along the edge and steep grade change. View looking north along Tacoma Street (middle photo) and view from the site looking at the southern edge (right photo).

Tacoma Street Playground's topography make the site challenging in relation to the potential installation of new access points and circulation (pedestrian pathway) system improvements. It will be important to analyze the cost/benefit for both pedestrian and vehicular enhancements including the development of new universally accessible pathways and expansion of the existing parking lot. Forthcoming proposals should also align with the City's green initiatives to foster the use of alternative modes of sustainable transportation, such as biking, walking or riding the bus. To foster alternative modes of arrival to the park, investment in the creation of clearly articulated pedestrian connections from nearby bus stops into the park (particularly during peak summer use periods when off-street parking is limited) should be considered.

Recreation Facilities

The chart below identifies condition summaries for major Tacoma Street Playground facilities. The growing population in the area has called for additional demand for the upgrade of older facilities that have suffered from a lack of recent investment. The children’s playground, courts and fields have been identified as priorities for upgrading due to conditions that can be described as generally fair to poor.

Facility	Condition Assessment
Open Lawn Areas	Open fields/ lawn areas are in good condition, but they are not level and are not appropriate sizes for programing.
Playground	The children’s playground is in poor condition and all equipment and surfacing requires replacement.
Basketball Courts	Pavement and fencing is in poor condition, there is no ADA access, and the basketball goals are worn.
Parking Areas	The condition of pavement and drainage systems are generally poor. There are no defined parking spaces or ADA spaces.
Pedestrian Pathway Network	Asphalt pathways are in generally fair or poor condition with signs of deterioration evidenced by major surface cracking
Site Furnishings	Picnic tables are in fair to good condition. Benches are on poor condition. They are faded with crumbling foundations exposed. Fencing is in poor condition, becoming rusted with the fabric detaching and becoming hazards at certain locations. The park sign is in need of replacement. Additional site furnishings are desirable in order to support daily use and special events at the park site.

Following are a series of photographs that serve to document the existing conditions of various park facilities and furnishings.



The undulating lawn areas



The playground



One of the basketball courts



The open pavement area



Cracked bit. concrete pathway



Site bench with exposed foundations

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TACOMA STREET PLAYGROUND

Preferred Master Plan Recommendations

There is a great opportunity to improve passive and active recreational facilities, as well as other site features, at Tacoma Street Playground; the neighborhood and the City as a whole can benefit and be better served. This section of the Master Plan identifies the basic scope of recommended park improvements. It is important to note that the range of the improvements has been informed through a public engagement and feedback process, as well as from a variety of park stakeholder group discussions.

The improvements defined in the preferred Master Plan address the following basic needs:

- The need to provide new recreational opportunities to attract a wider audience and to build the next generation of park stewards;
- The need to improve visibility at night throughout the property to discourage inappropriate park activities;
- The need to provide upgraded recreational facilities;
- The need to provide upgraded playground facilities within an attractive, comfortable, and cohesive space yet with separation by age group;
- The city-wide need for additional rectangular shaped athletic fields (See Rectangular Shaped Sports Fields Feasibility Study, 2016 by Weston & Sampson)
- The need to address safety issues and provide quality play value in children's playgrounds;
- The need to provide improved on-street parking and expanded parking opportunities overall;
- A need to provide new and improved outdoor gathering spaces to support community needs, including shaded seating areas for caregivers at playgrounds and better spectator areas;
- A desire to upgrade overall park aesthetics;
- A critical need to design all future facilities in a way that recognized the City's ever-evolving ability to provide strategic and specifically targeted maintenance and upkeep services;
- The need to provide improved accessibility throughout the facility.

Master planning process participants recognized that the cost for major renovation efforts is well beyond the financial means of the City at this time and that, under the best of scenarios, improvements must be prioritized and implemented under many phases. A time frame of 5-10 years will likely be needed to accomplish the full breadth of desired park improvements through a continuing collaborative process that includes the Worcester Department of Public Works & Parks-Parks, Recreation, and Cemetery Division and other partners.

Specific Site Improvements

The narratives that follow describe the basic scope of improvements to be undertaken within the Tacoma Street Playground property. It is important to note that the potential scope of improvements has been presented to the public at numerous forums. The Master Plan describes an approach to providing new and refurbished recreational improvements in a manner that improves conditions and opportunities for use and enjoyment by all prospective park visitors. The narratives describe and support graphic plan images that are included throughout this section. These plans are conceptual in nature and are likely to be refined and expanded upon during future final design and implementation phases of work.

The overall Tacoma Street Playground Master Plan is presented on the following page. The plan shows the preferred and recommended range of improvements for the entire property. Excerpts from that plan are then used to identify and describe in more detail each area of intended improvements. An 8 ½ x 11-inch version of this same Master Plan drawing is contained in the Appendices.



The plan above represents the final preferred Master Plan with a range of improvements that best meet the wants, needs, and aspirations of the Tacoma Street Playground neighborhood and the city as a whole.

Recreation Facilities | Fields

The primary recommendation for the Clark Street open space area includes a complete re-design; to achieve program goals, a new multi-purpose field complex is proposed. The field complex will allow for a multipurpose field overlay of 360' x 240' for soccer. Additional improvements will include new bleacher seating, player benches, and a storage box. The installation of a new sports facility lighting system will extend daily and seasonal use of facilities and accommodate much higher demand and use.

The specific improvements suggested to be part of this new multi-use field project are:

- New rectangular shaped field;
- New storage box;
- New player's benches;
- New bleacher seating;
- New removable goals for soccer;
- Grading improvements throughout;
- New drainage systems;
- New athletic field and sport/pedestrian lighting;
- New pathways with connections to new park entrances and new amenities.

The new field will allow for more flexible programming offerings and opportunities; a wider array of sports league and neighborhood use requirements will be supported.



The Master Plan identifies a multi-purpose play field that offers flexibility and new sport choices.

Recreation Facilities | Children's Playground

There is a need for a new series of playground initiatives to replace outdated and unsafe play equipment. Two age-appropriate play zones will be integrated within one playground area, creating an inclusive new facility. This will foster more physical movement throughout the park, and encourage children to explore new, adjacent activities as amenities will no longer lie scattered and isolated across Tacoma Street Playground.

Basic goals, as depicted conceptually on the plan excerpt below, will include the following:

- Establishment of dynamic and highly interactive play offerings within one expansive zone. This will encourage movement between different play components and offer a more entertaining and collaborative play environment that is also focused on exercise and associated health benefits.
- Incorporation of traditional (using manufactured play equipment) play experiences that promote creative play and use of imagination, as well as provide enjoyment for children of varying ages and abilities.
- Establishment of tree plantings, shaded picnicking and sitting areas, and other park furnishings that support and accommodate parents, grandparents, supervisors, or caregivers.



The Master Plan identifies a variety of new play equipment offerings. Located at the core of the park and adjacent to parking, this play zone accommodates active recreation options to different age users in a closely supervised area.

It is anticipated that these integrated playground zones and ancillary spaces would support a diversity of needs of children, parents, and supervisors.

The following basic amenities will be included:

- Age appropriate play equipment for children with differing abilities;
- Age appropriate and other regulatory signage;
- Access ramps, walks and transfer stations for ADA and playground safety compliance;
- Resilient safety surfacing;
- Gathering spaces and nodes with shade, benches, picnic tables, trash receptacles, and other site furnishings;
- Landscaping and related site amenities.

Other Park Improvements | Large and Small Dog Runs

Recognizing the need to introduce new active recreational opportunities to support the City’s programming offerings and neighborhood use, the Master Plan identifies the potential for adding one new large and one new small dog run. One secured main access point is provided for the overall dog run area that will extend over approximately 27,000 SF, with each size-appropriate run given its own gated entry into separate fenced zones.

The following features would be included as part of the improvements.

- New paved main access point with secured entry;
- New gated and fenced large dog zone;
- New gated and fenced small dog zone;
- Universally accessible path and parking lot connections;
- New adjacent shade shelter seating area.



Within one designated area, two separate dog run zones are provided, one each for large and small animals. Located at one side of the park and adjacent to parking, this zone offers a secured entry point and gated

Other Park Improvements | Parking Lot

A new centrally-located parking lot is proposed. Located at the heart of the park, the lot is adjacent to the major park features: the dog runs, the children’s playground, and the multi-use field. Providing over 70 parking spaces, the lot accommodates ADA-compliant spaces and universally accessible park entry points, pathways, and connections to all amenities.

The new parking lot will accomplish the following:

- Add 72 spaces including multiple ADA-compliant parking spaces;
- Encourage use of the full park via connections with the pathway system;
- Provide ADA compliant access points and pathways that allow connections to each new facility;
- New lighting along parking lot edges for improved pedestrian comfort, security, and safety.



The new parking lot would be surfaced with asphalt for maximum use, accessibility, and ease of maintenance. New shade trees would be strategically located within parking lot islands to offer some shade.

Other Park Improvements | Entrances & Edges

As part of park improvements, it is recommended that park entrance points be conveniently and centrally located, adjacent to the new parking area. A secondary pedestrian and bicycle entrance is provided at one end of the park.

The preferred Master Plan identifies the need to upgrade the pedestrian arrival experience through the installation of simple amenities that might include:

- New sidewalk improvements along Tacoma Street;
- New centrally located parking lot with universally accessible parking spaces;
- New and visible visitor access points along Tacoma Street;



Located at one end of the park, a new pedestrian/bike entrance offers a secondary entry point and access to all Tacoma Street Playground facilities and amenities

- New parking lot lighting;
- Tree plantings along some of the park edges;
- Other landscape enhancements.

Other Park Improvements | Pathway Systems

Interior Paths | A new pathway system is proposed to accommodate both the new centrally-located parking lot, and the new secondary access point for pedestrians/bikes located at one end of the park. From the secondary entrance, a new path offers a pleasing route past the dog runs and children's play area, and to the multi-use field.

The new circulation connections will accomplish the following:

- Add multiple, new loop paths to encourage members of the surrounding neighborhood and other park users to exercise;
- Provide ADA compliant access points and pathways that allow connections to all new facilities at the park;
- New lighting along key paths for improved pedestrian comfort, security, and safety;
- Provide linkage to the pedestrian/bicycle park entrance.

Pathways would be surfaced with asphalt for maximum use, accessibility, and ease of maintenance. New shade trees would be strategically located along Tacoma Street, in the parking lot, and at the children's playground to offer some shade along the pathway system.



Multiple access points allow park entrance options. At the center of the park, a primary pathway system begins at the public sidewalk and parking lot, offering easy access to all park features. A long pathway from the secondary ped/bike entrance extends past major facilities and offers a route between the park and the edge of the adjacent woodlands.

Other Park Improvements | Gathering Spaces

Inherent to any successful park are gathering areas supportive of a wide range of park activities and community events. These spaces are essential in fostering social interaction and camaraderie among park users. To this end, the Master Plan seeks to establish a series of gathering and spectator spaces in close vicinity to new facilities. A picnic area is situated at the core of the playground, locating shaded seating and green space at this major park crossroads. This space will offer an outdoor socializing venue for the community that simultaneously allows for child supervision, meeting, or just taking a break from activities during nice weather.

Specific improvements within a picnic / gathering area could include the following:

- Furnishings such as benches and picnic tables;
- Pavement treatments under picnic tables for universal access;
- Shade shelters or shade tree plantings to protect park patrons during hot and sunny periods of use;
- Easy access to/from the centrally-located parking lot.
- Potential park support building to include restrooms, storage and concessions. The City will entertain the installation of a park support building if a partner is identified to maintain, secure and care for the structure. An example of this partnership is represented by the agreements with some of our little leagues.

Other Park Improvements | Landscape Enhancements

While major master plan recommendations are discussed in detail above, there are other miscellaneous improvements that, if incorporated into various park improvement initiatives, would help to dramatically transform the overall look, feel, and function of Tacoma Street Playground.

These improvements include:

- Installation of new shade trees at select locations;
- Installation of new park furnishings including benches, picnic tables, a shade shelter, trash receptacles, bike racks, fence treatments and informational signage.

Summary

Through the development of the Master Plan, it became evident that:

- Tacoma Street Playground is underused and under serves both the neighborhood and larger communities/other permitted sports groups;
- A new generation of park stewards must be established to help protect the park as future improvements are implemented;
- The City is committed to upgrading the park through a series of capital improvement programs;
- Improvements will help to establish or reestablish a wide range of passive and active recreational amenities that meet the current and future needs of the Tacoma Street Playground community;
- The full renovation of Tacoma Street Playground will take numerous phases and at least five to ten calendar years to be fully realized as a best case scenario.

A successful Tacoma Street Playground aims to host residents of all ages and backgrounds. Improvements will help to establish and maintain a diverse park environment that supports a variety of uses and, therefore, help discourage inappropriate use. As such, Tacoma Street Playground will foster a safe and healthy environment for the use of all members of the community.

TACOMA STREET PLAYGROUND

Budgets and Phasing

The Budget Summary included below identifies the potential breakdown of costs associated with various improvement phases. All costs are in current (2018) dollars, have been rounded and are estimated based on the preferred Master Plan designs that has been developed for the community.

PARK IMPROVEMENT ELEMENT	BUDGET COST	NOTES
Contractor's General Conditions	\$350,000	Mobilization, management, overhead and profit
Demo & Site Prep	\$275,000	All site preparation including environmental protection and earthwork
Parking Lot	\$250,000	Access drives, gates, parking and lighting
Multi-Purpose Rectangular Synthetic Turf Field	\$2,000,000	Field w/drainage, bleachers, players benches, fencing, walls and sports lighting
Playground	\$500,000	Play equipment, surfacing, drainage, fencing, and shelter
Dog Park	\$250,000	Handball and Basketball w/benches and lighting
Picnic Area	\$70,000	Includes shelter, tables, benches, walls and planters
Walkways with pedestrian lighting	\$450,000	Walkways, stairs, walls, lighting with security cameras
Edge Improvements and Planting	\$100,000	Guard rails fencing and plantings
Optional Building	\$800,000	Restroom and concessions building
Utility Services	\$100,000	Upgrading if deemed necessary
Subtotal	\$5,145,000	
*Soft Costs Contingency (25%)	\$1,286,250	
Grand Total Estimates / 2018	\$6,431,250	Say \$6,420,000

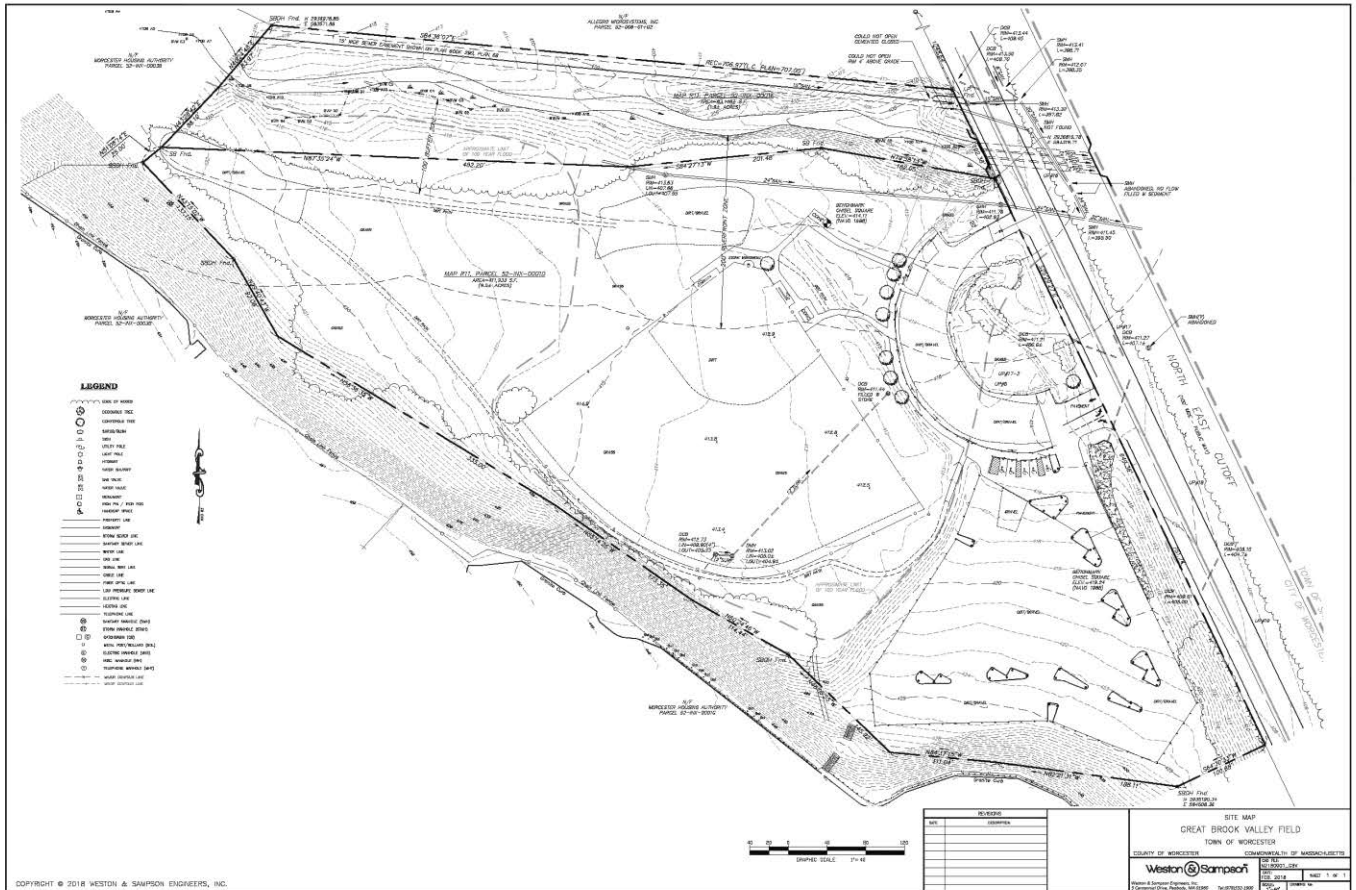
*Soft costs equal approximately 25% of the total construction cost and typically include engineering and project management services, public hearings, permits, printing and advertising, etc. and other efforts associated with implementation of a project

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GREAT BROOK VALLEY PLAYGROUND

Description of Existing Site

During the early stages of the project, representatives of Weston & Sampson gathered all available mapping and plan information to support master planning study and development efforts. The city provided GIS mapping for the property and aerial photography was also obtained. Site topographic/detail and property line survey was also performed; the resulting base plans will be suitable for the development of construction documents for all future phases of park improvements. A copy of the survey base plan is included below with a larger version appearing in the Appendix.



Weston & Sampson undertook extensive field reconnaissance work to observe how facilities are used, to better understand the physical characteristics of the site, and to record the conditions of all natural and man-made features at the property. The following is a summary of findings.

Topography

The park lies on a hillside, with steep terrain sloping down on the northern and eastern sides and sloping up on the western and southern sides. Within the site there are varying levels of flat areas to accommodate the existing softball field and parking. The change in elevation is about 24 feet from the highest to lowest points on the property. The park’s topography defines the use areas, resulting in the existing parking higher than the existing fields. The adjacent road following the northeast edge of the property maintains that same elevations as the fields, but descends lower than the parking area.



The photo on the left depicts the varying elevation from the adjacent property south west of the site. The photo on the right shows the elevation change between the parking area and the fields.



This image highlights the more level developed area of the park and also shows the grade change between the site and the adjacent properties.

Vegetation

Existing vegetation at the Great Brook Valley Playground property is characterized and summarized as follows:

- Much of the site's vegetation consists of deciduous shade trees planted at park edges and randomly scattered throughout the park.
- Mostly native mature deciduous trees are within the steeply sloping and rocky western section of the park
- Most of the Park's edges are overgrown with a mixture of native and invasive grasses and shrubs.
- The northern edge is covered in wetland species due to the brook that runs parallel to the property line.



The photo on the left depicts the natural landscape that has grown on the slope of the southwestern edge and the photo on the right shows the wetland species growing around the brook on the northern edge.

As future projects are planned, it will be essential to include new, strategic tree plantings and selective tree removals / pruning to ensure a safer, more functional and attractive park landscape for new generations. Tree plantings are critical elements in any park setting as they provide:

- Shade for those seeking relief from the hot summer sun
- A place for a picnic or social gathering
- Aesthetic qualities that benefit a neighborhood
- Refuge for birds and other wildlife
- Visual screening to reduce impacts of various park activities on surrounding properties
- Health benefits by improving air and water quality

Environmental Review

As part of our historical evaluation of this site, we reviewed historical aerial photographs, historical topographic maps, Sanborn Fire Insurance Rate Maps and the environmental databases (Environmental Data Resources, Inc. (EDR). Based on our review, the site remained largely undeveloped and unchanged prior to 1960. However, in 1952 an aerial image shows roughly 30 cars parked in the Northwest corner of the property. Between the years of 1960 and 1966, the Great Brook Valley Park was developed, consisting of a baseball diamond and a basketball or tennis court. There is no visible change in the parcel from 1966 through 1995, when the basketball/tennis court in the Northwest corner of the parcel was removed. It also appears that between 1995 and 2001 the baseball diamond was improved. In 2005, an additional parking lot was constructed in the southeast corner of the property. There have been no noticeable changes at the property since 2005.

Topographically, the site appears to have remained unchanged from 1939 until the park construction. Additionally, the sole Sanborn Fire Insurance Rate Maps provided was published in 1978, the map displays no buildings or use of the subject land during that year.

No significant environmental issues were identified during the review of regulatory documents and databases. However, within a one-quarter mile radius of the subject property, 9 storage tanks were removed ranging from a capacity of 500 to 20,000 gallons. No environmental risks to the property from these tanks was determined. Directly upgradient of the park, at Allegro Microsystems, in 2003, a release of turbine oil, from a compressor, was reported. The release of the turbine oil was contained to the concrete enclosure and was reportedly remediated and closed via a Class A-1RAO Statement. Lastly, the Shell gas station located at 747 Plantation St, reported hazardous material spills in 2005 and 2007. All spills were reportedly remediated and closed via a Class A-2 RAO Statement, and were at a lower topographical elevation, and down gradient of the property. Therefore, it is our opinion that no significant environmental impact to the property have resulted from these releases.

Based upon our review of available data and our site reconnaissance visit, we did not observe any evidence of current or past environmental impacts at the Great Brook Valley Park property.

Neighborhood Setting

Great Brook Valley Playground is in the northeastern section of Worcester in District 1, and approximately 6 miles from City Hall and 5.6 miles from I-290. It is situated southeast of the Great Brook Valley housing complex and is surrounded by mixed use industrial and residential use on all sides as follows:

NE Cutoff- A secondary collector street connecting Boylston Street and Clark Street. There are a few industrial and commercial properties off of NE Cutoff, but most of this road is surrounded by woodland.

Brookview Drive- A local road, mainly used by the residents of the Great Brook Valley Housing Complex. This drive contains perpendicular parking making it read more like a parking lot.



The image above shows surrounding neighborhood context for Great Brook Valley Playground: NE Cutoff Road runs along the northeastern park perimeters.

There are thousands of city residents living within a very short walk of Great Brook Valley Playground, however pedestrian access is difficult due to the topography change and type of roadway. The property is in a high-density neighborhood (between 5,000 and 10,000 person/square mile). The city is looking to form and maintain partnerships with local park stewards in order to achieve the basic goals of a cleaner and safer Great Brook Valley Playground. The Preferred Master Plan seeks to improve use of and access to the playground, as well as visibility.

Demographic data indicate that residents within the immediate vicinity of the park have household incomes that are in Worcester's average-to-low income range. The majority of this residential area has a population younger than 35 years of age and has a significant minority population consisting of Hispanics, Asian, and African American racial groups (source: Mass GIS 2010). Therefore, the passive and active recreational amenities to be provided at Great Brook Valley Playground will be of critical importance to these residents.

Parking, Access and Park Circulation

Off-street Parking- The park has two internal parking lots. The main parking lot has a capacity of \pm 55 cars with 2 of those spaces designated as handicap. The secondary parking area was once extensively larger, but has since been overgrown with vegetation and is now used as 6 additional handicap spaces and vendor parking. Both parking areas share a paved entrance from the street, with the change to gravel in the parking area. The main parking lot loops back to the road in the opposite direction as the secondary lot. The two paved entrances, the vendor parking and the two handicap spaces within the main lot are paved and the remaining parking areas are gravel. Parking is currently not meeting the communities needs for the existing amenities provided at the park and often people will park on NE Cutoff, creating traffic issues.



Aerial view of the off-street parking areas at Great Brook Valley Playground and street view of the informal main gravel parking area.

On-street Parking- There is no on-street parking at Great Brook Valley Playground, but people parallel park on the North-East Cutoff when the off-street parking fills up.

Pedestrian Access- There is only one formal (paved) pedestrian access point into Great Brook Valley Playground which is the paved sidewalk running along NE Cutoff. There are no crosswalk connections to help facilitate access into the park and there are no bus stops directly associated with the site. There is a set of concrete stairs from Brookview Drive with a paved walkway going into the park, but the walkway stops short of any of the park's amenities.

Pedestrian access (formal and informal) into Great Brook Valley Playground is provided as follows:

NE Cutoff- Pedestrian access is found from the paved sidewalk that runs along the entire NE Cutoff. Although there are no residential areas off this road and no bus stops along this road, requiring pedestrians to walk for a long distance to access this park from this access point.

Brookview Drive- There is no ADA access from this drive and the pedestrian access is limited. There are two sets of concrete stairs along the same path leading from Brookview Drive down to the southern edge of the park. The stairs terminate into the overgrown vegetation. An asphalt path leads from the bend in Brookview Drive down into the site, converging with the staircase pathway at the landing between stairs. This asphalt pathway extends another 100 feet before terminating into the overgrown vegetation. The stair cases are in poor condition and the pathway is drastically steep, making both of these access points unsafe for pedestrians.



The sidewalk along NE Cutoff (left photo). The stairs leading down to the southern edge of the site with the converging pathway (middle photo) and the asphalt pathway from the bend in Brookview Drive (right photo).

Park Edges

The park is bordered by two public streets on the northeastern and southwestern edges and has abutting woodlands, wetlands and steep terrain to the north. The residential properties to the south sit comfortably above the elevation of the site with pleasant views looking northwest toward the park.

There are scattered tree plantings and sections of dense vegetation along NE Cutoff and denser woodland vegetation bordering the northern edge of the site. Poor Farm Brook also runs along the northern edge, almost running parallel with the property line. There is steep terrain and dense vegetation at the southwestern edge that runs along Brookview Drive. The dense vegetation and lack of formal park reduces the visibility of the park to the thousands of passersby each day traveling down NE Cutoff, which is a major connection street.



Aerial oblique view of the park showing vegetation along park edges



View from NE Cutoff, into the park (left photo). View of the southwestern edge of the site from the left foul line of the softball field (middle photo) and a view of Poor Farm Brook along the northern edge of the site (right photo).

Great Brook Valley Playground's topography make the site challenging in relation to the potential installation of new access points and circulation (pedestrian pathway) system improvements. It will be important to analyze the cost/benefit for both pedestrian and vehicular enhancements including the development of new universally accessible pathways and expansion of the existing parking lot. Forthcoming proposals should also align with the City's green initiatives to foster the use of alternative modes of sustainable transportation, such as biking, walking or riding the bus. To foster alternative modes of arrival to the park, investment in the creation of clearly articulated pedestrian connections from nearby bus stops into the park (particularly during peak summer use periods when off-street parking is limited) should be considered.

Recreation Facilities

The chart below identifies condition summaries for major Great Brook Valley Playground facilities. The growing population in the area has called for additional demand for the upgrade of older facilities that have suffered from a lack of recent investment. The fields and parking areas have been identified as priorities for upgrading due to conditions that can be described as generally fair to poor.

Facility	Condition Assessment
Rectangular Field	Field is in poor to fair condition. Turf has worn areas where the ground has been compacted and grass cannot grow. There are pathways running through the field creating a depressed, uneven surface.
Softball Field	The softball field is in poor to fair condition. The skinned infield is in good condition, but some evidence of drainage issues are present. The outfield turf is patchy and uneven. The fencing is rusting and the fabric is torn at certain sections. The lighting is old, but appears to be in good condition.
Parking Areas	The condition of pavement and drainage is in poor condition. The spaces are undefined. The second parking lot is completely overgrown with vegetation and is not functioning as a parking lot.
Pedestrian Pathway Network	Asphalt pathways are in generally fair or poor condition with signs of deterioration evidenced by major surface cracking. There is limited ADA access to the park facilities and many pathway are leading to nowhere.
Site Furnishings	Trash receptacles and bike racks are in good condition. Metal guardrails are in good condition, but the wooden guardrails are in fair to poor condition. The park sign is in fair to good condition. Spectator seating is in poor condition and player's benches are in fair condition.

Following are a series of photographs that serve to document the existing conditions of various park facilities and furnishings.



The pathway through the field



The softball field



The main parking area with drainage issues



Cracked and uneven pathways



Trash receptacle and bike rack



Spectator seating at the softball field

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GREAT BROOK VALLEY PLAYGROUND

Preferred Master Plan Recommendations

There is a great opportunity to improve passive and active recreational facilities, as well as other site features, at Great Brook Valley Playground; the neighborhood and the City as a whole can benefit and be better served. This section of the Master Plan identifies the basic scope of recommended park improvements. It is important to note that the range of the improvements has been informed through a public engagement and feedback process, as well as from a variety of park stakeholder group discussions.

The improvements defined in the preferred Master Plan address the following basic needs:

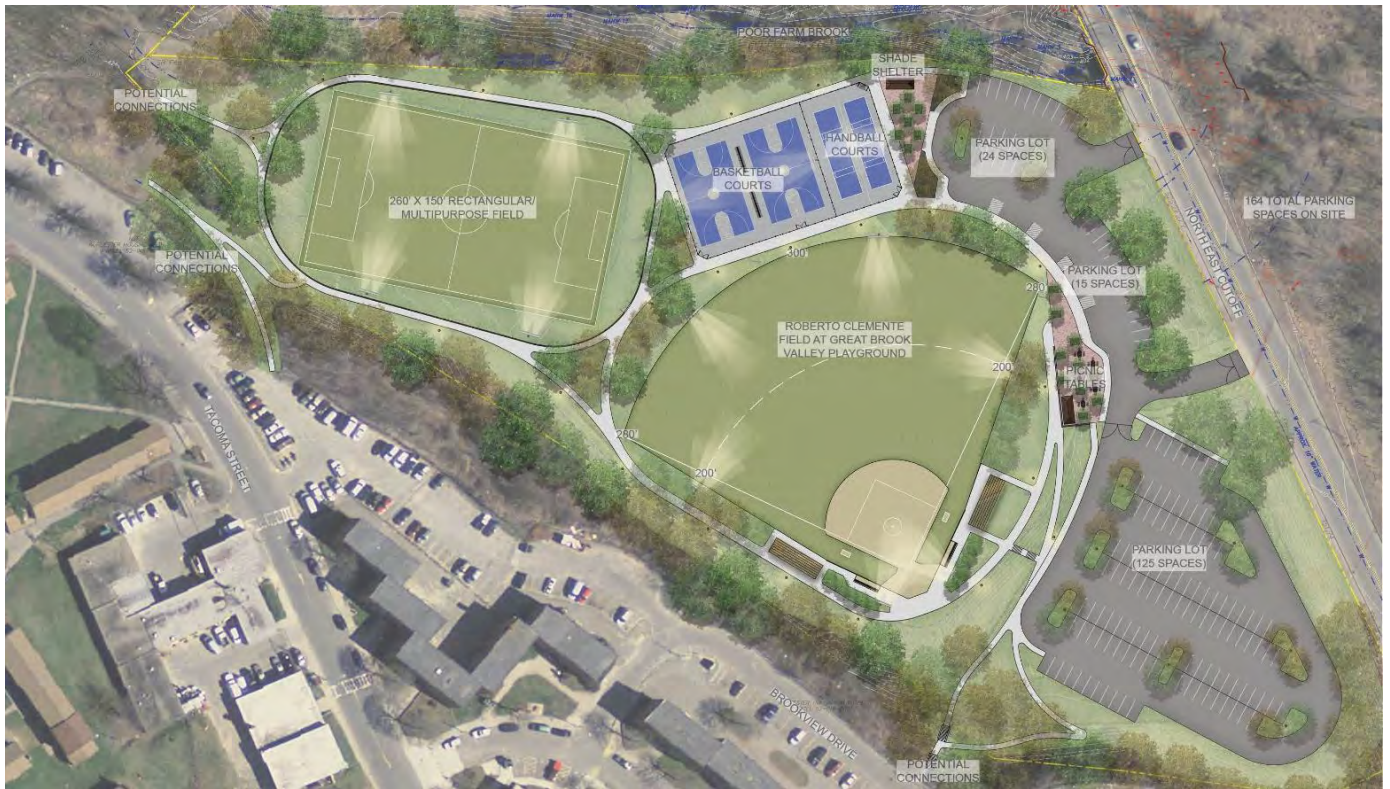
- The need to provide new recreational opportunities to attract a wider audience and to build the next generation of park stewards;
- The need to improve visibility at night throughout the property to discourage inappropriate park activities;
- The need to provide upgraded recreational facilities;
- The need to address safety issues and provide quality play value throughout;
- The need to minimize on-street parking and expanded on-site parking opportunities overall;
- A need to provide new outdoor gathering spaces to support community needs, including shaded seating and picnicking areas for visitors, and better player and spectator areas;
- A desire to upgrade overall park aesthetics;
- A critical need to design all future facilities in a way that recognized the City's ever-evolving ability to provide strategic and specifically targeted maintenance and upkeep services;
- The need to provide improved accessibility throughout the facility.

Master planning process participants recognized that the cost for major renovation efforts is well beyond the financial means of the City at this time and that, under the best of scenarios, improvements must be prioritized and implemented under many phases. A minimum time frame of 5-10 years will likely be needed to accomplish the full breadth of desired park improvements through a continuing collaborative process that includes the Worcester Department of Public Works & Parks- Parks, Recreation, and Cemetery Division and other partners.

Specific Site Improvements

The narratives that follow describe the basic scope of improvements to be undertaken within the Great Brook Valley Playground property. It is important to note that the potential scope of improvements has been presented to the public at numerous forums. The Master Plan describes an approach to providing new recreational improvements in a manner that improves conditions and opportunities for use and enjoyment by all prospective park visitors. The narratives describe and support graphic plan images that are included throughout this section. These plans are conceptual in nature and are likely to be refined and expanded upon during future final design and implementation phases of work.

The overall Great Brook Valley Playground Master Plan is presented on the following page. The plan shows the preferred and recommended range of improvements for the entire property. Excerpts from that plan are then used to identify and describe in more detail each area of intended improvements. An 8 ½ x 11-inch version of this same Master Plan drawing is contained in the Appendices.



The plan above represents the final preferred Master Plan with a range of improvements that best meet the wants, needs, and aspirations of the Great Brook Valley Playground neighborhood and the city as a whole.

Recreation Facilities | Fields

The primary recommendation for the park is for sports fields and includes a new softball field in the location of the existing one, along with a new multi-purpose rectangular field and additional amenities, as described below.

Multi-Purpose Field | The open space area at the Tacoma Street end of the park includes a complete re-design; to achieve program goals, a new multi-purpose field is proposed. The field will provide a 260' x 150' rectangular multi-purpose area for soccer, lacrosse, and other field sports. Additional improvements will include a loop walk around its perimeter, serving as a pedestrian/bike connection to other facilities within the park, new bleacher seating, player benches, and a storage box. The installation of a new sports facility lighting system will extend daily and seasonal use of facilities and accommodate much higher demand and use.

The specific improvements suggested to be part of this new multi-use field project are:

- Grading improvements throughout;
- New drainage systems;
- New irrigation systems;
- New athletic field and sport/pedestrian lighting;
- New pathways with connections to new park entrances and new amenities.

The new field will allow for more flexible programming offerings and opportunities; a wider array of sports league and neighborhood use requirements will be supported.



The Master Plan identifies a new multi-purpose play field that offers flexibility and new sport choices at this location.

Softball Field | Primary recommendations include a complete re-design of the existing softball field to achieve an improved layout. The field will continue to be programmed for adult softball and the new orientation will allow for improved playing conditions. The softball field will include new bleachers and player benches. The installation of new sports facility lighting systems will extend daily and seasonal use of facilities and accommodate much higher demand and use.

The specific improvements that are suggested to be part of this softball field renovation project are listed below:

- New infield area;
- New backstop;
- New player’s benches/dugouts with canopies;
- New spectator bleacher seating;
- Grading improvements throughout;
- New drainage systems;
- New irrigation systems;
- New athletic field and sport/pedestrian lighting;
- Improved loop pathway with connections to new park entrances and new/refurbished facilities.



The Master Plan identifies a new softball field that improves playing conditions with its improved orientation and amenities.

The field improvements will allow for more flexible programming offerings and opportunities to support a wider array of sports league and neighborhood use requirements.

Recreation Facilities | New Basketball and Handball Courts

Recognizing the need to introduce new active recreational opportunities to support the City’s programming offerings and neighborhood use, the Master Plan identifies the potential for adding a new court zone. It features two full size basketball courts and two new handball courts at the Northeast Cutoff end of the property.

The following features would be included as part of the improvements.

- Paving of new court surfaces, and color sealcoating;
- Handball walls;
- Netting and other appurtenances;
- Universally accessible path connections;
- New fencing at court perimeter and separating basketball and handball;
- New shade shelters and seating adjacent to the courts;
- Court lighting for extended use.



The Master Plan identifies a new court zone featuring full size basketball and handball facilities.

Other Park Improvements | Parking Lot

A new parking zone comprised of three parking lots is proposed for the area along Northeast Cutoff. Gated access to each of the three lots is recommended. The new main lot replaces the existing and is the largest of three parking areas. It is adjacent to the new softball field. Direct vehicular access to these 125 spaces is provided. Two smaller parking lots, also located at the park’s main vehicular entrance, are convenient to the new basketball and handball courts, as well as to the new shade shelters and picnicking area. ADA-compliant spaces are provided among these 39 new spaces. Providing a

Tacoma Street Playground & Great Brook Valley Playground

total of 164 parking spaces, the new parking zone accommodates universally accessible park entry points, pathways, and connections to all amenities.

The new parking lot will accomplish the following:

- Provide 164 parking spaces including multiple ADA-compliant parking spaces;
- Provide ADA compliant access points and pathways that allow connections to each new facility;
- Food truck stalls adjacent the softball field and picnic area for easy access;
- New lighting along parking lot edges for improved pedestrian comfort, security, and safety;
- New shade tree plantings within and adjacent to the parking zone.

The new parking lot zone would be surfaced with asphalt for maximum use, accessibility, and ease of maintenance. New shade trees would be strategically located within parking lot islands to offer some shade and contribute to improved aesthetics.

Other Park Improvements | Gathering Spaces

Inherent to any successful park are gathering areas supportive of a wide range of park activities and community events. These spaces are essential in fostering social interaction and camaraderie among park users. To this end, the Master Plan seeks to establish a series of gathering and spectator spaces in close vicinity to new facilities. A picnic area is situated adjacent to the new softball field, locating shaded seating and green space at this major park amenity, and convenient to the parking zone. A shade shelter area is next to the basketball and handball courts zone and is adjacent to parking facilities. These two spaces will offer outdoor socializing venues for the community that simultaneously allow for viewing of sporting activities, meeting, or just taking a break during nice weather.

Specific improvements within a picnic / gathering area could include the following:

- Furnishings such as shade shelters, benches and picnic tables;
- Pavement treatments under picnic tables for universal access;
- Shade shelters or shade tree plantings to protect park patrons during hot and sunny periods of use;
- Easy access to/from the centrally-located parking lot and all park amenities.
- Potential park support building to include restrooms, storage and concessions. The City will entertain the installation of a park support building if a partner is identified to maintain, secure and care for the structure. An example of this partnership is represented by the agreements with some of our little leagues.

Other Park Improvements | Entrances & Edges

As part of park improvements, it is recommended that park entrance points be conveniently and centrally located. Two main pedestrian entrance points are suggested. One potential connection area is adjacent to the Tacoma Street end of the new multi-purpose field. Another area for potential connections is between Brookfield Drive in the WHA Great Brook



The Master Plan identifies both a new parking, food truck areas, picnic area and shade shelter area convenient to park facilities.

Valley Complex, the new softball field, and the parking zone. Two one-way vehicular entrances are provided along Northeast Cutoff, allowing easy access to each of the three parking lots that form the parking area.

The preferred Master Plan identifies the need to upgrade the pedestrian arrival experience through the installation of simple amenities that might include:

- New, highly visible, pedestrian/bicycle entrance areas along Tacoma Street and Brookview Drive;
- New parking lot with universally accessible parking spaces located along Northeast Cutoff;
- New lighting that contributes to visitor security and safety at entrances and edges;
- Tree plantings along some of the park edges;
- Other landscape enhancements.



Located at the Tacoma Street end of the park, a new pedestrian/bike entrance offers a visible entry point, and access to all facilities and amenities. (left) Located by the new softball field and parking lots, this new pedestrian/bike entrance by Brookview Drive provides an entry point and direct access to all facilities and amenities. (right)

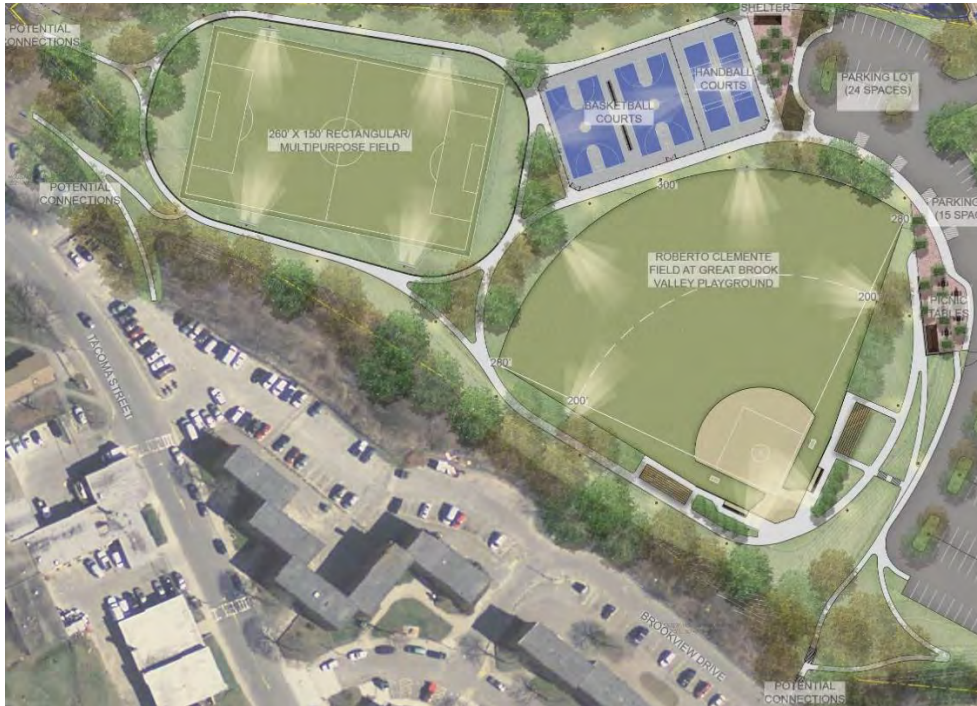
Other Park Improvements | Pathway Systems

Interior Paths | A new pathway system is proposed to accommodate both the new parking zone along Northeast Cutoff, and two new access points for pedestrians/bikes located at each end of the park. The new path system offers a variety of pleasing routes past the softball field, court area, and multi-use field, as well as to the shade shelter and picnic zones.

The new circulation connections will accomplish the following:

- Add multiple, new loop paths to encourage members of the surrounding neighborhood and other park users to exercise;
- Provide ADA-compliant access points and pathways that allow connections to all new facilities at the park;
- New lighting along key paths for improved pedestrian comfort, security, and safety;
- Provide linkage to the pedestrian/bicycle park entrance.

Pathways would be surfaced with asphalt for maximum use, accessibility, and ease of maintenance. New shade trees would be strategically located along Tacoma Street, in the parking lot, at by the children's playground to offer some shade along the pathway system.



Multiple access points allow park entrance options. At the parking lot zone, a primary pathway system begins at the sidewalk and offers easy access to all park features. The two pedestrian/bicycle entrances connect into looping paths, connecting major facilities.

Other Park Improvements | Landscape Enhancements

While major master plan recommendations are discussed in detail above, there are other miscellaneous improvements that, if incorporated into various park improvement initiatives, would help to dramatically transform the overall look, feel, and function of Great Brook Valley Playground.

These improvements include:

- Installation of new shade trees at select locations;
- Installation of new park furnishings including benches, picnic tables, shade shelters, trash receptacles, bike racks, fence treatments, and informational signage.

Summary

Through the development of the Master Plan, it became evident that:

- Great Brook Valley Playground is underused and under serves both the neighborhood and larger communities/other permitted sports groups;
- A new generation of park stewards must be established to help protect the park as future improvements are implemented;
- The City is committed to upgrading the park through a series of capital improvement programs;
- Improvements will help to establish or reestablish a wide range of passive and active recreational amenities that meet the current and future needs of the Great Brook Valley Playground community;
- The full renovation of Great Brook Valley Playground will take numerous phases and at least five to ten calendar years to be fully realized as a best-case scenario.

A successful Great Brook Valley Playground aims to host residents of all ages and backgrounds. Improvements will help to establish and maintain a diverse park environment that supports a variety of uses and, therefore, help discourage inappropriate use. As such, Great Brook Valley Playground will foster a safe and healthy environment for the use of all members of the community

GREAT BROOK VALLEY PLAYGROUND

Budgets and Phasing

The Budget Summary included below identifies the potential breakdown of costs associated with various improvement phases. All costs are in current (2018) dollars, have been rounded and are estimated based on the preferred Master Plan designs that has been developed for the community.

PARK IMPROVEMENT ELEMENT	BUDGET COST	NOTES
Contractor's General Conditions	\$350,000	Mobilization, management, overhead and profit
Demo & Site Prep	\$325,000	All site preparation including environmental protection and earthwork
Parking Lots	\$750,000	Access drives, gates, parking and lighting
Relocated Softball Field	\$650,000	New field w/drainage, infield, natural turf, irrigation, bleachers, players benches, fencing and sports lighting
Rectangular Multi-Purpose Field	\$550,000	Field w/drainage, irrigation, bleachers, players benches, fencing and sports lighting
Courts	\$500,000	Handball and Basketball w/benches and lighting
Picnic Areas	\$250,000	2 locations, includes shelters, tables, benches, walls and planters
Walkways with pedestrian lighting	\$630,000	Walkways, stairs, walls, lighting with security cameras. To include connections to the Great Brook Valley Complex.
Edge Improvements and Planting	\$150,000	Guard rails fencing and plantings
Optional Building	\$800,000	Restroom and concession building
Utility Services	\$100,000	Upgrading if deemed necessary
Subtotal	\$5,055,000	
*Soft Costs Contingency (25%)	\$1,263,750	
Grand Total Estimates / 2018	\$6,318,750	Say: \$6,350,000

*Soft costs equal approximately 25% of the total construction cost and typically include engineering and project management services, public hearings, permits, printing and advertising, etc. and other efforts associated with implementation of a project

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FUNDING CONSIDERATIONS

There are many potential sources of funding from both public and private entities that could help to pay for potential improvements to Tacoma Street Playground and Great Brook Valley Playground. Donations, both large and small, can be lumped together to create the financing needed to undertake meaningful improvements. The Worcester Department of Public Works and Parks - Parks, Recreation, and Cemetery Division will aggressively pursue a variety of funding and implementation strategies that could include:

- **Traditional Public Bidding-** Develop plans, specifications, and estimates for the desired improvements; publicly advertise; receive bids; and award a construction contract to the lowest qualified bidder.
- **In-kind Services-** Implement improvements making use of city labor forces, materials, and equipment. This method is typically appropriate for projects that are limited in scope, such as the construction of a parking area or driveway, or refurbishment of adjacent city sidewalks. As funding, material, equipment, and human resources permit, other minor improvement efforts can be planned and undertaken. The removal of dead or diseased trees, pruning of healthy trees, and the installation of other limited site or utility elements are examples of work efforts that can sometimes be completed by using city forces and materials.
- **Donations / Corporate Sponsorships / Community Build-** Implement improvements for projects through a variety of means that might include: construction of a children's playground by a corporation or community group; or construction of a park feature or facility with funding generated through linkage or mitigation arrangements (often originating from the approval of a large area development). In certain cases, improvements can also be undertaken by contractors looking to donate their services.

For consideration, a number of potential funding sources and mechanisms have been identified. Many of the governmental sources identified allocate millions of dollars per year for parks, open space, and athletic facility improvement programs, though competition is intense. The actual improvements would be implemented through a public design, bid, and construction process.

Partnerships

Partnerships can also play an important role in the overall plan to improve, manage, and maintain various park properties. As an example, there are many privately managed sports leagues in Worcester with a history of supporting certain maintenance and capital improvement initiatives. Cities and Towns are increasingly relying on these types of public/private partnerships to create the types of facilities and related playing conditions that are needed to support sports programming in their communities.

Commonwealth of Massachusetts - Division of Conservation Services (DCS)

This state agency has funded hundreds of park, open space, and recreation projects throughout Massachusetts over the past several decades. Each June, the agency receives applications from municipalities for improvements to parks, playgrounds, and athletic facilities, or assistance in the acquisition of open space properties. DCS administers several programs including the "**LAND**" program, which generally funds acquisitions and limited enhancements to open space properties. The funds for acquisitions are designed to protect natural resources for conservation by eliminating threatened development. The "**PARC**" program typically funds the purchases and the renovations of parks, playgrounds, and athletic facilities in larger communities that have fewer outlets for recreation. Demographics play a role in the grant award process. Communities that are more urban in nature with high percentages of low-income residents tend to fair better in the decision-making process as compared to smaller communities or larger communities with higher income levels. Worcester has a very successful track record in applying for and receiving funding from both of these long established programs.

DCS also receives Federal Land and Water Conservation Funds for distribution to communities that are considering park improvements or land acquisitions, as described above. The allocation for Massachusetts for the upcoming year has not been determined, although the funds, when available, may be used to supplement both the **PARC** and **LAND** programs.

Massachusetts Department of Transportation (MassDOT) Ch. 91 Funding

Worcester and every other city and town in Massachusetts receives annual Chapter 91 funding through MassDOT. This funding is intended to pay for the restoration of local streets and roadways including the construction of sidewalks, crosswalks, and other pedestrian accommodations. This is a likely source of funding as improvements are proposed for some of the streets that form the perimeter of the Tacoma Street Playground and Great Brook Valley Playground properties.

Other Alternative Methodologies for Implementing Improvements

The City of Worcester, through the Department of Public Works and Parks - Parks, Recreation, & Cemetery Division, receives annual quotations for a variety of public improvements that can be ordered on an as-needed basis. The installation of fencing, bituminous concrete pavements for roadways/parking areas, and curbing are examples. As deemed appropriate, ordering work through this method could be used to complement or support other improvements that are accomplished through other means.

Tacoma Street Playground & Great Brook Valley Playground Master Plans

APPENDIX







N/F SUTTON APARTMENTS

N/F BETHANY GOSPEL CHAPEL, INC.

GOTHIC AV

WORCESTER HOUSING AUTHORITY

TACOMA STREET

CONSTITUTION AVE.

C.B. -RIM=540.59
INV.=
C.B. -RIM=539.19
INV.=
S.M.H. -RIM=537.37
INV.=
D.M.H. -RIM=537.16
INV.=

S.M.H. RIM=511.30
INV.=490.90
D.M.H. RIM=511.26
INV.=492.16

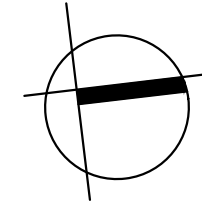
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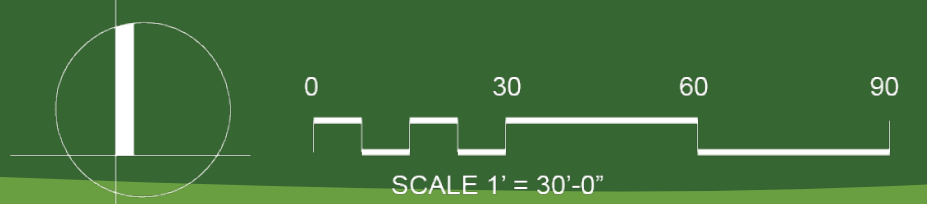
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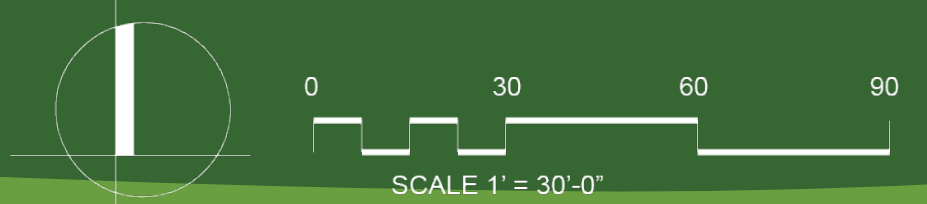
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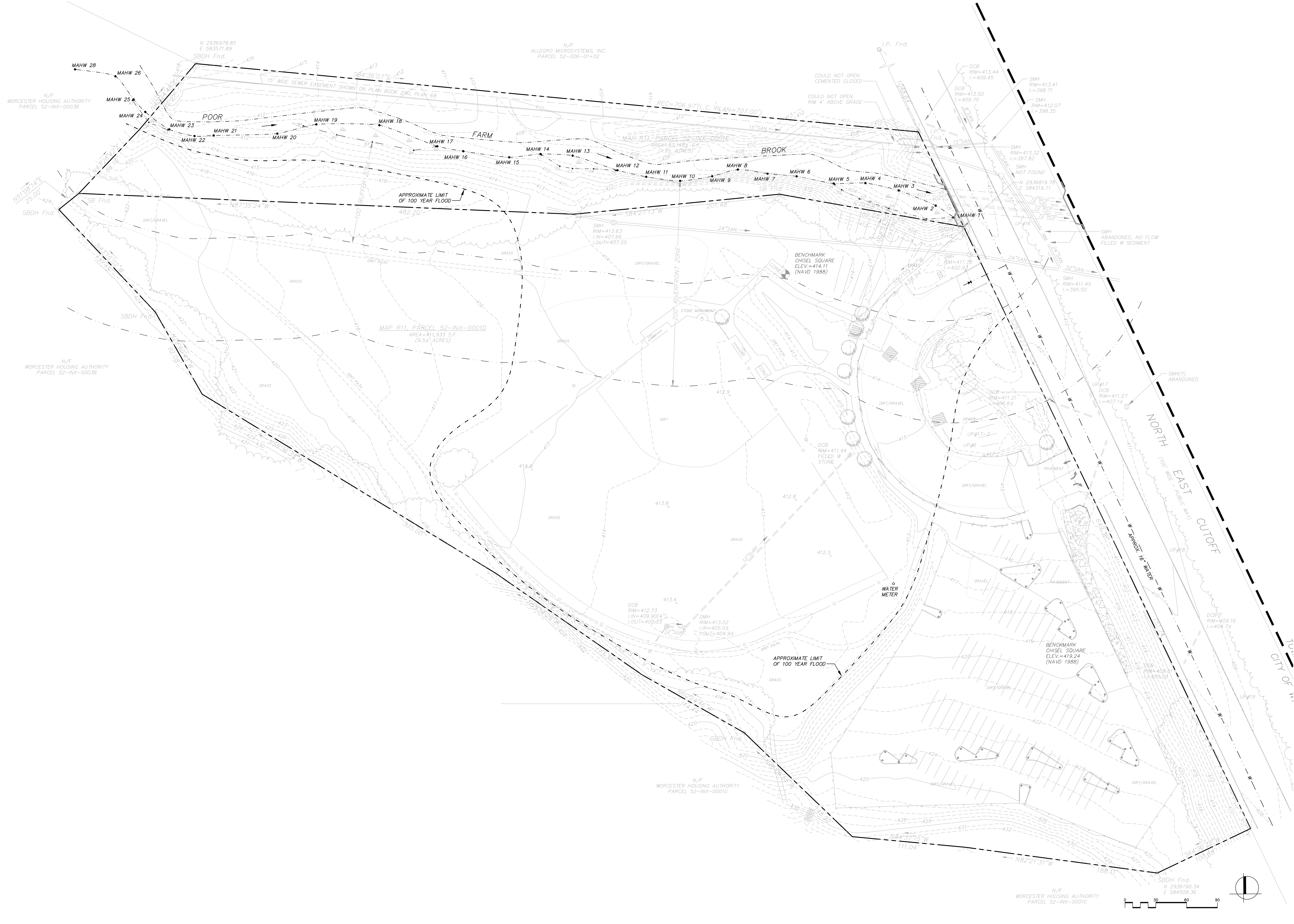
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INV. THRU=463.36
S.M.H. RIM=475.15
INV. IN=462.75
INV. THRU=462.45

829,556 sq. ft.
19.04 acres









N 2936978.85
E 583571.89
SBDH Fnd.

N/F
ALLEGRO MICROSYSTEMS, INC.
PARCEL 52-006-01+02

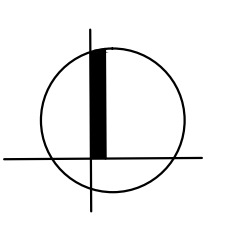
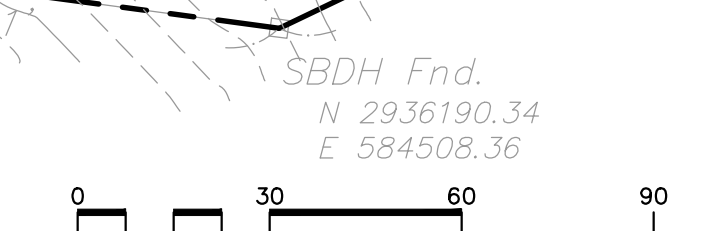
N/F
WORCESTER HOUSING AUTHORITY
PARCEL 52-INX-0003B

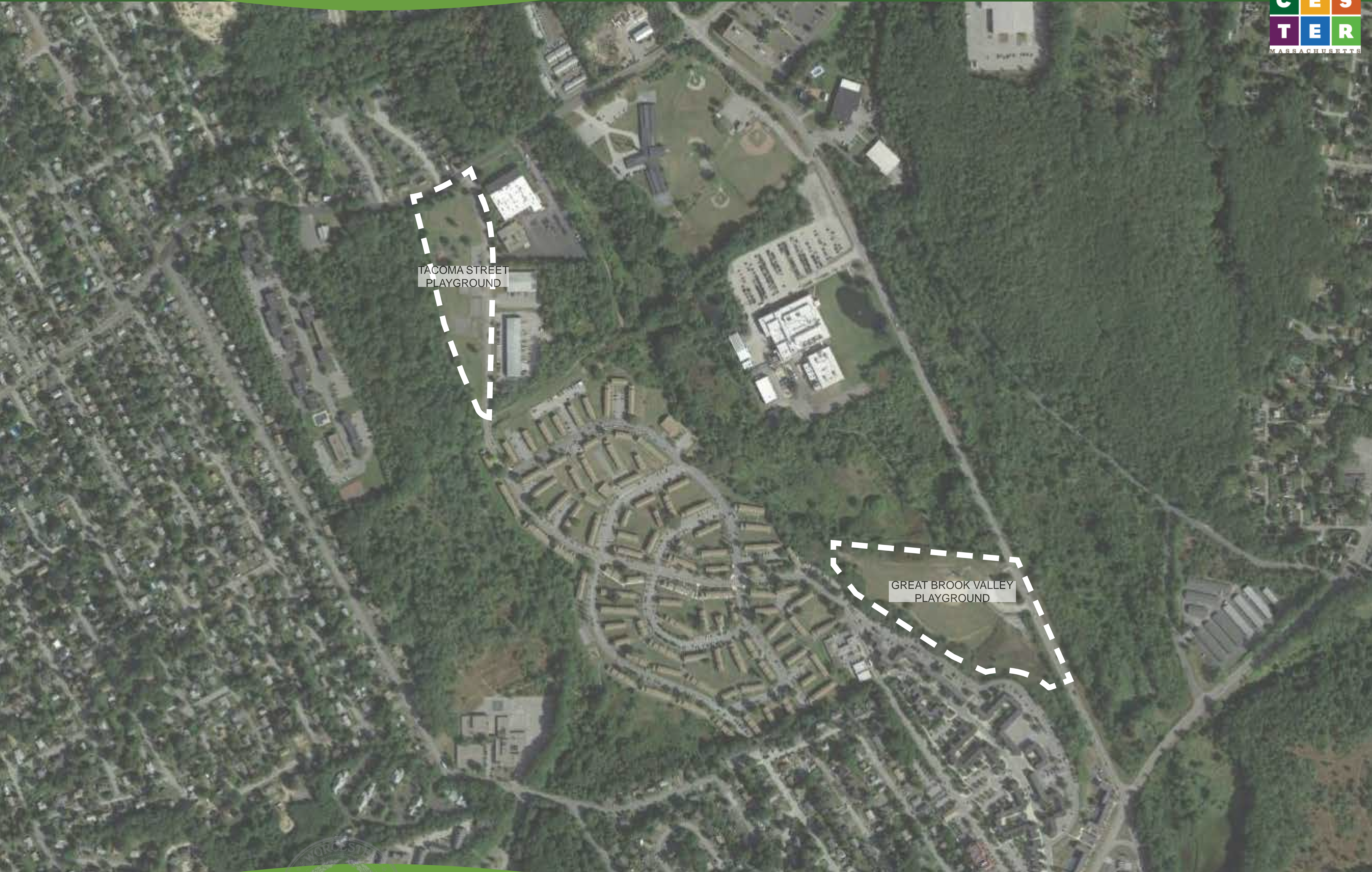
SBDH Fnd.

N/F
WORCESTER HOUSING AUTHORITY
PARCEL 52-INX-0003B

N/F
WORCESTER HOUSING AUTHORITY
PARCEL 52-INX-0001G

N/F
WORCESTER HOUSING AUTHORITY
PARCEL 52-INX-0001G





TACOMA STREET
PLAYGROUND

GREAT BROOK VALLEY
PLAYGROUND



MEMORANDUM

TO: Michael Moonan, RLA, LEED AP BD+C

FROM: Kenneth Gendron, PG, LSP, Abigail Barrett

DATE: February 8, 2018

SUBJECT: Limited Environmental Assessment, Tacoma Street Playground & Great Brook Valley Park Master Plan

Weston & Sampson completed a Limited Environmental Assessment of the above-referenced properties. We conducted a review of historical documents to assess potential impacts from past site and site vicinity usage. This task consisted of a review of environmental documents maintained at local, state and Federal entities. We also contracted an environmental database search from Environmental Data Resources, Inc. (EDR) of Milford, Connecticut (EDR). Finally, Weston & Sampson personnel conducted a field reconnaissance visit to both sites on January 31, 2018 to observe current site conditions.

Tacoma Street Playground:

As part of our historical evaluation of the site, we reviewed historical aerial photographs, historical topographic maps, city directories, and the environmental databases referenced above. Sanborn Fire Insurance Rate Maps were not published for this area. Based on our review, the site remained largely undeveloped and unchanged prior to 1966, where it appears to have been used for agricultural purposes. Between the years of 1966 and 1972 the Tacoma Street Playground was developed, during the same duration an adjacent housing development, running NW/SE of the parcel was built. The parcel remained unchanged until 1980 when a swimming pool was installed in the NE corner of the parcel. The swimming pool was removed between 2010 and 2012 and was presumably backfilled.

Topographically, the site appears to have remained unchanged since 1934.

No significant environmental issues at the subject property were identified during the review of regulatory documents and databases. However, during our review there were two residential underground storage tank (UST) releases that were reported remediated via a Response Action Outcome (RAO) Statement within one-quarter mile, and upgradient of, the subject property. Both were determined to have no significant environmental impact on the subject property due to the small nature of the release. Additionally, within a one-quarter mile downgradient of the subject property there were large quantity hazardous waste generators. These facilities generated corrosive wastes, silver, waste oils, and universal wastes. In 2012, a release of cadmium and lead was reported at the 324 Clark Street property. This release was reportedly remediated and closed via a Class A-2 RAO A2 Statement. This release is no likely to pose an environmental risk to the subject property.

Based upon our review of available data and our site reconnaissance visit, we did not observe any evidence of current or past environmental impacts at the Tacoma Street Playground property.

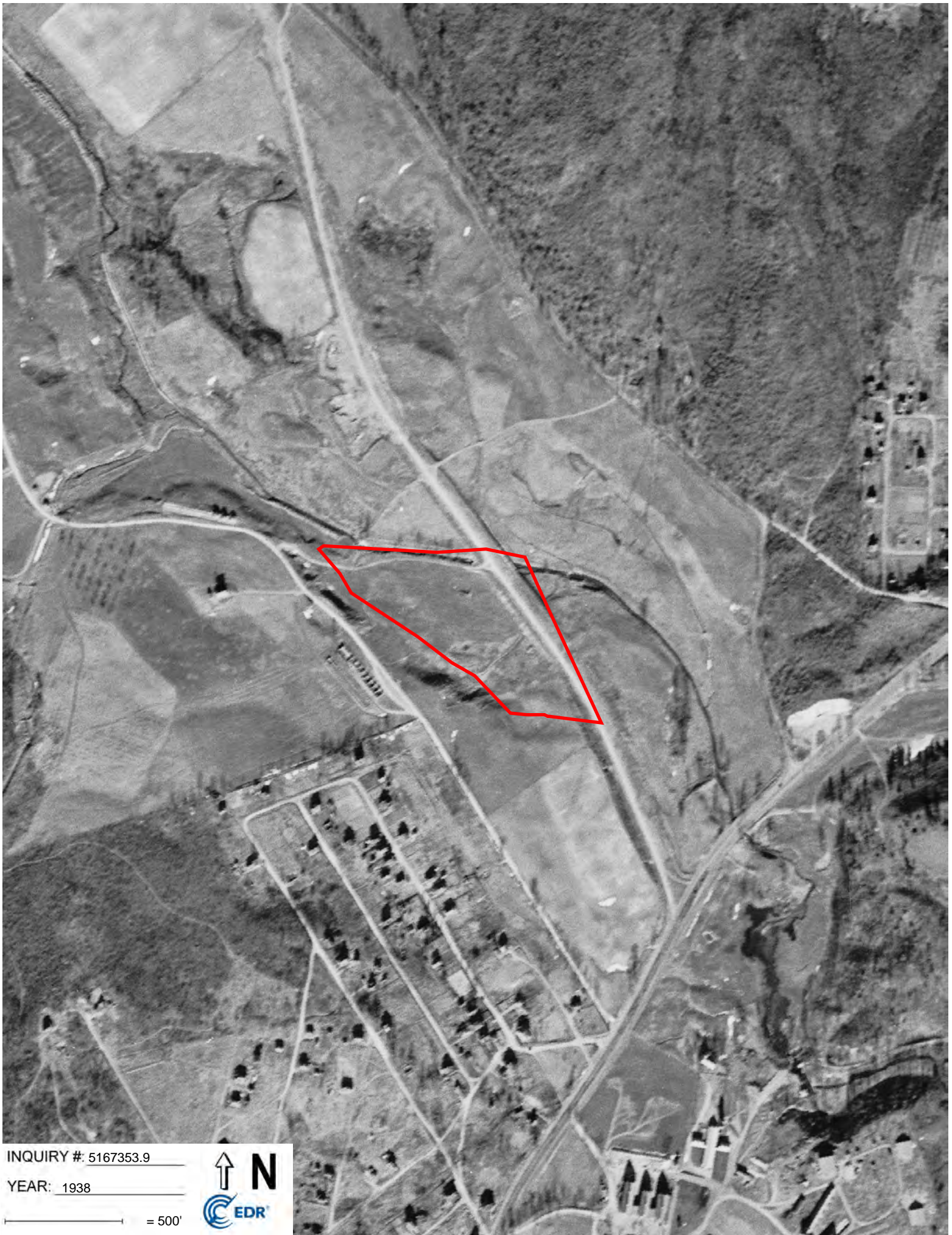
Great Brook Valley Park:

As part of our historical evaluation of this site, we reviewed historical aerial photographs, historical topographic maps, Sanborn Fire Insurance Rate Maps and the environmental databases referenced above. Based on our review, the site remained largely undeveloped and unchanged prior to 1960. However, in 1952 an aerial image shows roughly 30 cars parked in the Northwest corner of the subject property. Between the years of 1960 and 1966, the Great Brook Valley Park was developed, consisting of a baseball diamond and a basketball or tennis court. There is no visible change in the parcel from 1966 through 1995, when the basketball/tennis court in the Northwest corner of the parcel was removed. It also appears that between 1995 and 2001 the baseball diamond was improved. In 2005, an additional parking lot was constructed in the southeast corner of the subject property. There have been no noticeable changes at the property since 2005.

Topographically, the site appears to have remained unchanged from 1939 until the park construction. Additionally, the sole Sanborn Fire Insurance Rate Map provided was published in 1978, the map displays no buildings or use of the subject land during that year.

No significant environmental issues were identified during the review of regulatory documents and databases. However, within a one-quarter mile radius of the subject property, 9 storage tanks were removed ranging from a capacity of 500 to 20,000 gallons. No environmental risks to the subject property from these tanks was determined. Directly upgradient of the park, at Allegro Microsystems, in 2003, a release of turbine oil, from a compressor, was reported. The release of the turbine oil was contained to the concrete enclosure and was reportedly remediated and closed via a Class A-1RAO Statement. Lastly, the Shell gas station located at 747 Plantation St., reported hazardous material spills in 2005 and 2007. All spills were reportedly remediated and closed via a Class A-2 RAO Statement, and were at a lower topographical elevation, and downgradient of the subject property. Therefore, it is our opinion that no significant environmental impact to the subject property have resulted from these releases..

Based upon our review of available data and our site reconnaissance visit, we did not observe any evidence of current or past environmental impacts at the Great Brook Valley Park property.



INQUIRY #: 5167353.9

YEAR: 1938

— = 500'





INQUIRY # 5167353.9

YEAR: 1952

— = 500'





INQUIRY #: 5167353.9

YEAR: 1960

— = 500'





INQUIRY #: 5167353.9

YEAR: 1966

— = 500'





INQUIRY # 5167353.9

YEAR: 1972

— = 500'





INQUIRY #: 5167353.9

YEAR: 1975

— = 500'





INQUIRY #: 5167353.9

YEAR: 1980

— = 500'



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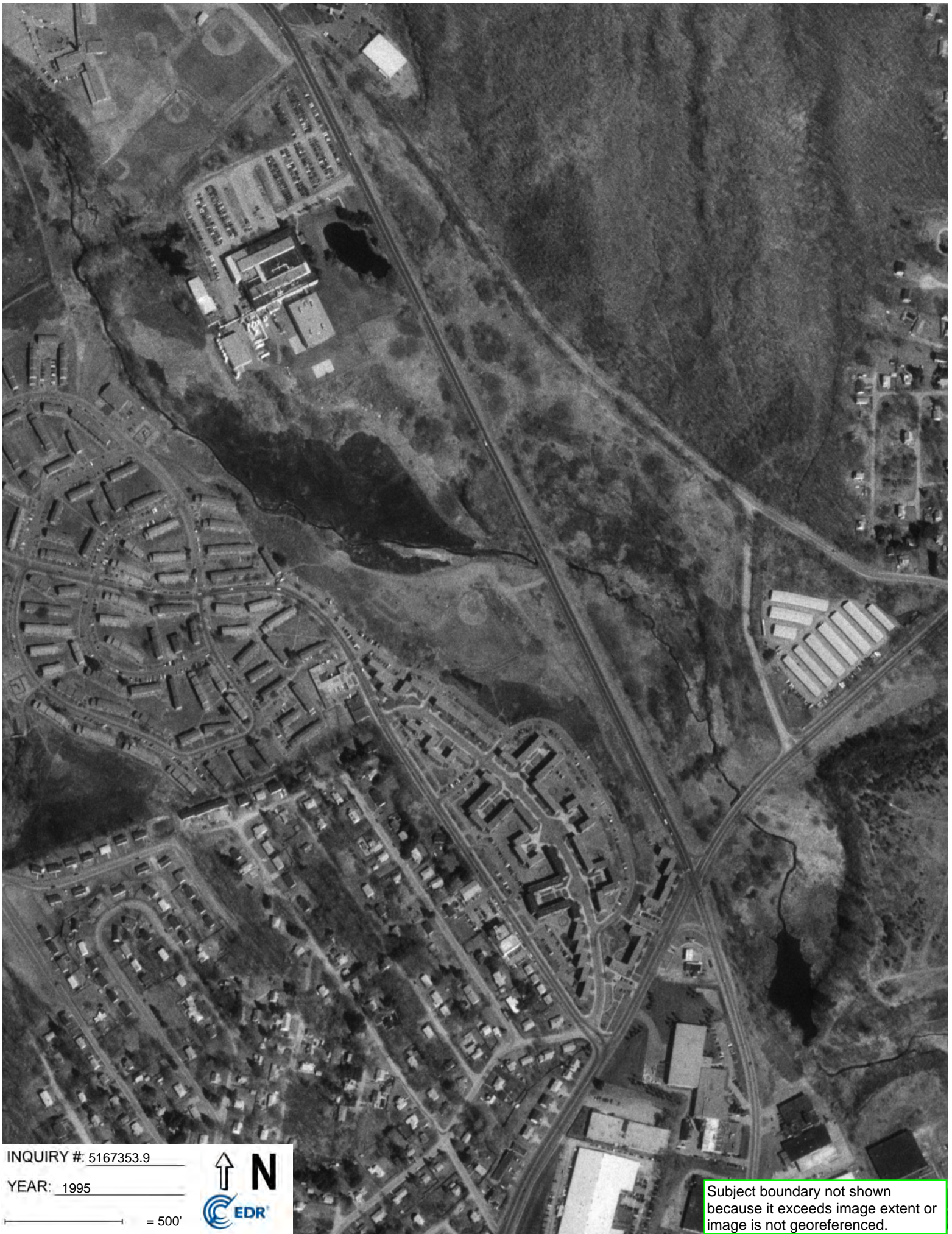


INQUIRY #: 5167353.9

YEAR: 1985

— = 500'





INQUIRY #: 5167353.9

YEAR: 1995

— = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY # 5167353.9

YEAR: 2006

— = 500'



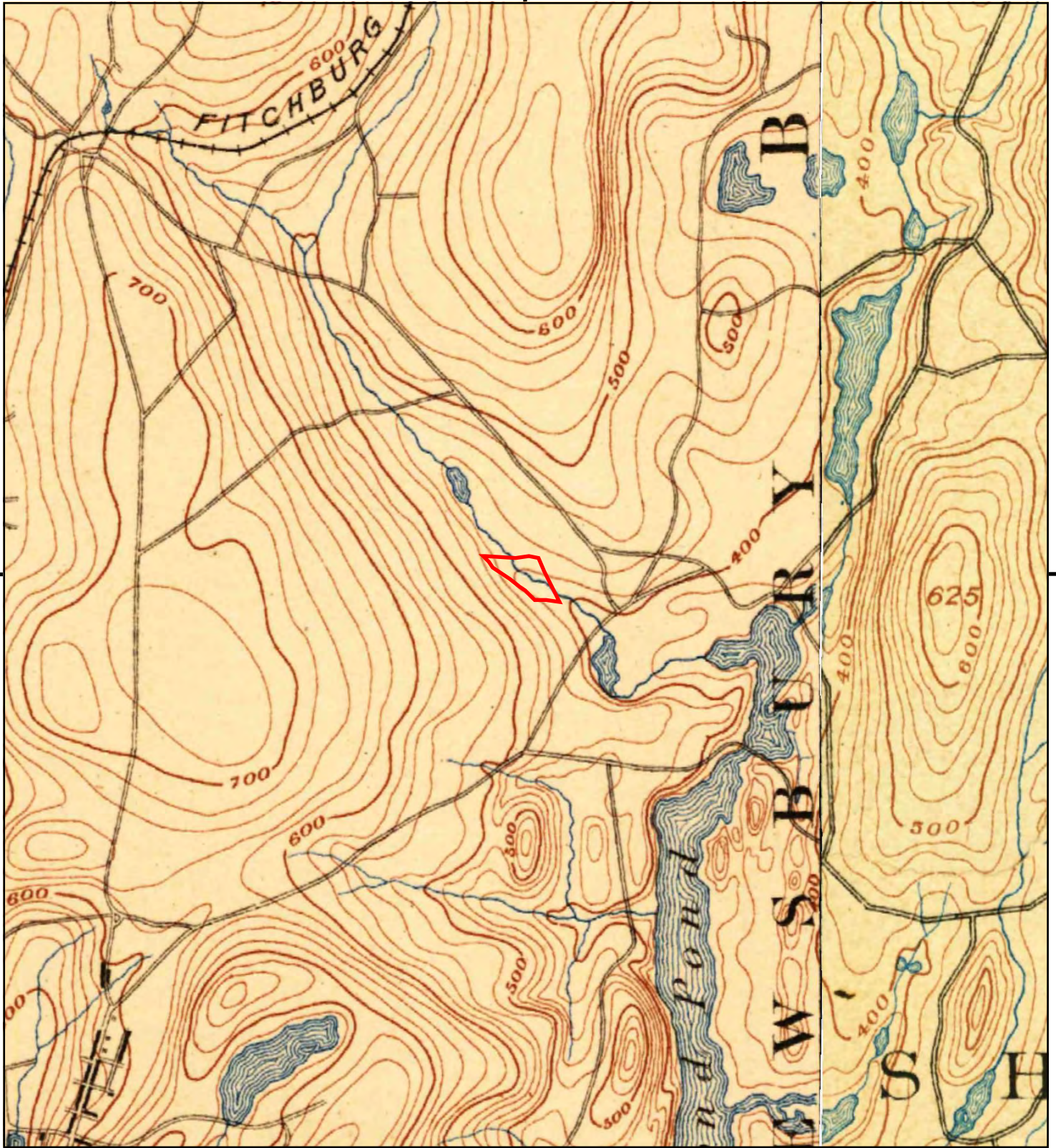


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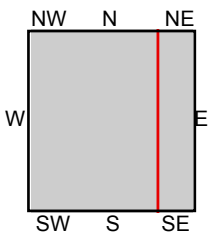
YEAR: 2012

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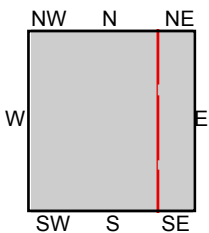
TP, Worcester, 1886, 15-minute
NE, Marlboro, 1889, 15-minute

SITE NAME: Great Brook Valley Park
ADDRESS: North East Cutoff
Worcester, MA 01606
CLIENT: Weston and Sampson Engineers





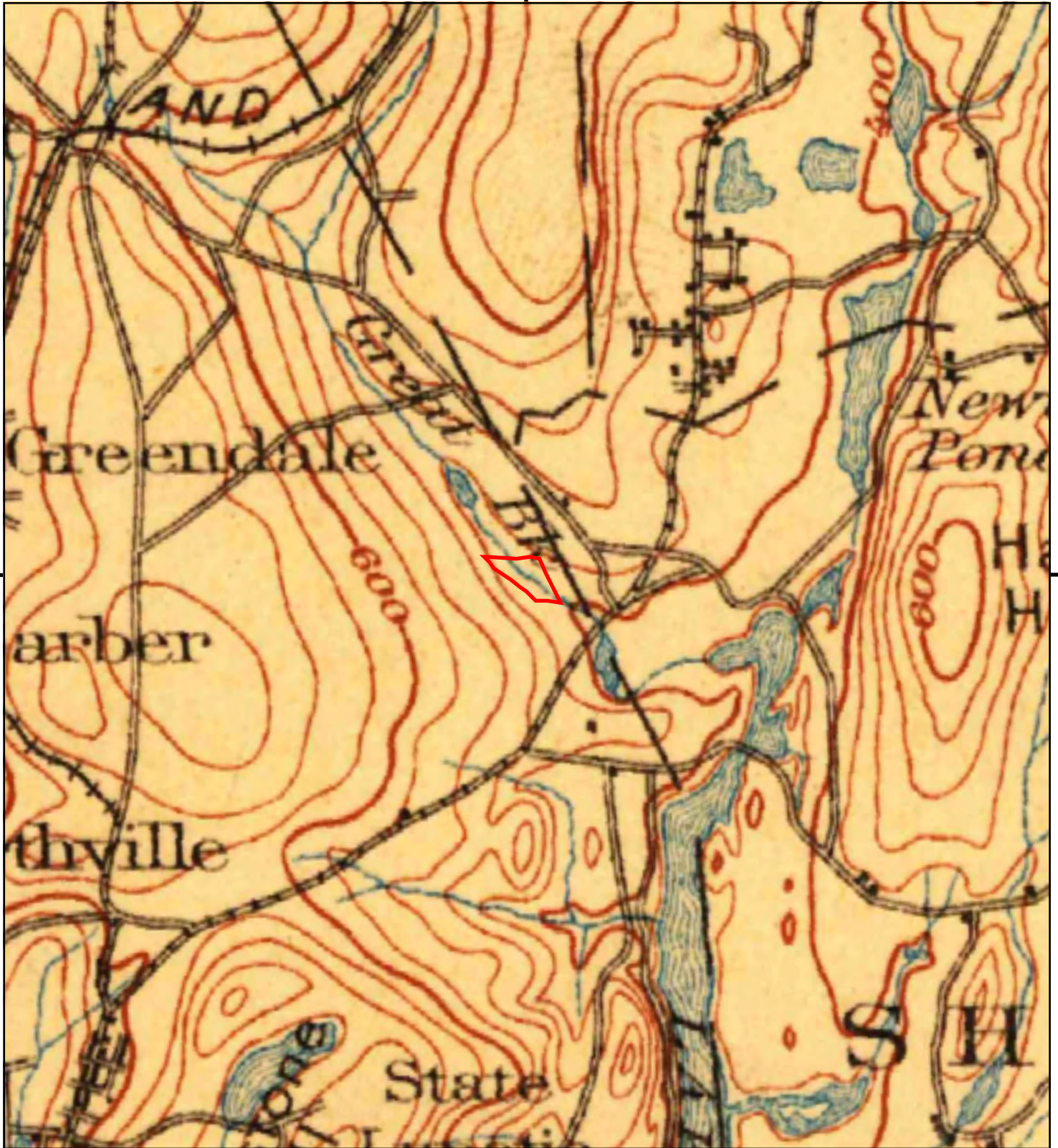
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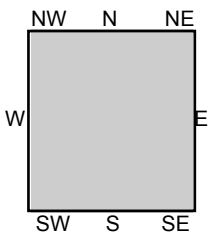
TP, Worcester, 1892, 15-minute
NE, Marlboro, 1896, 15-minute

SITE NAME: Great Brook Valley Park
ADDRESS: North East Cutoff
 Worcester, MA 01606
CLIENT: Weston and Sampson Engineers





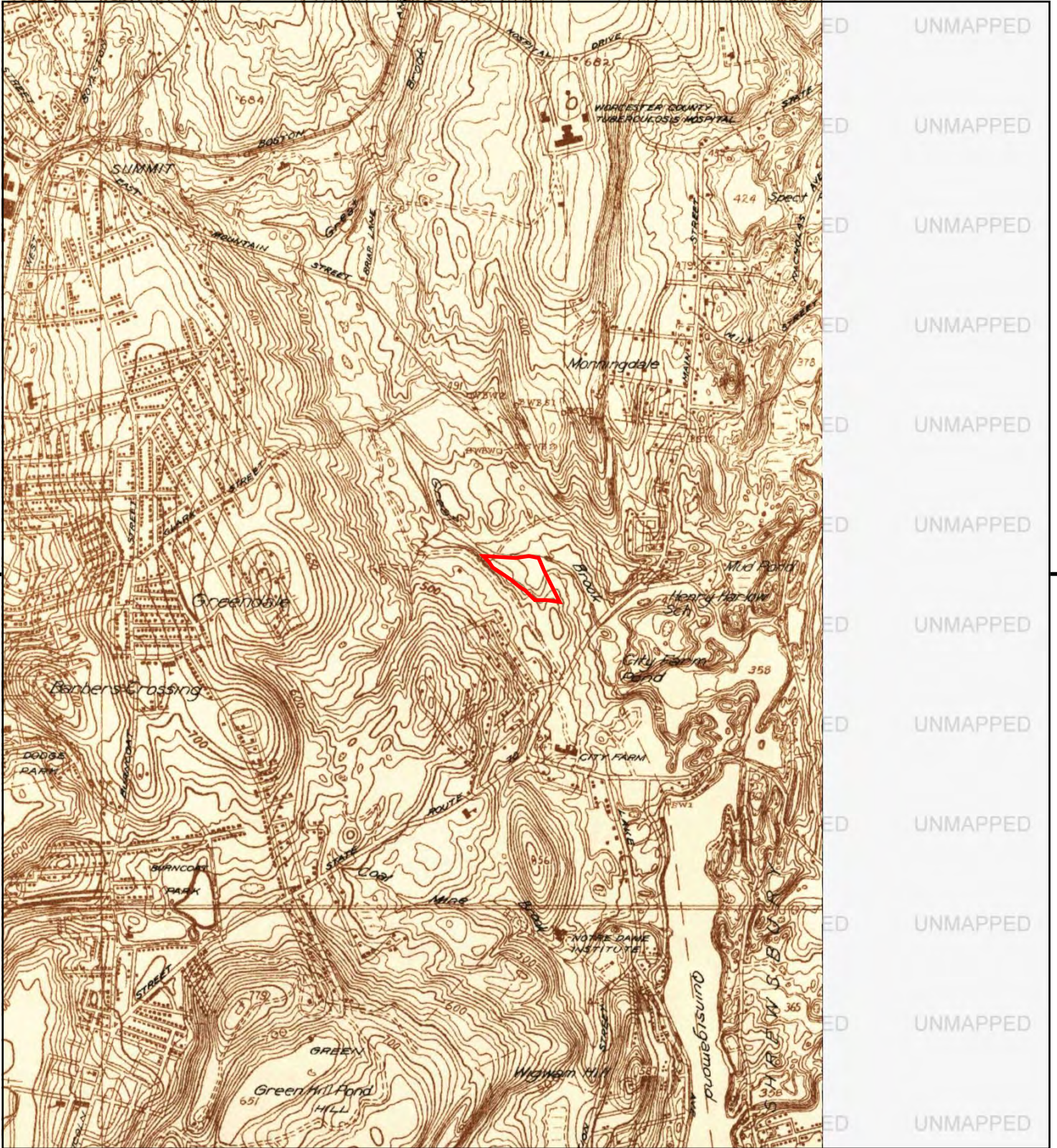
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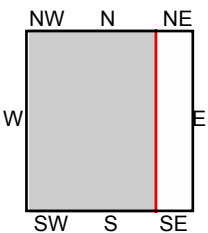
TP, Quinsigamond, 1908, 30-minute

SITE NAME: Great Brook Valley Park
 ADDRESS: North East Cutoff
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers





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TP, Worcester, 1934, 7.5-minute

SITE NAME: Great Brook Valley Park
 ADDRESS: North East Cutoff
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers





INQUIRY #: 5167347.9

YEAR: 1938

— = 500'





INQUIRY #: 5167347.9

YEAR: 1952

— = 500'





INQUIRY #: 5167347.9

YEAR: 1960

— = 500'





INQUIRY #: 5167347.9

YEAR: 1966

— = 500'





INQUIRY #: 5167347.9

YEAR: 1972

— = 500'





INQUIRY #: 5167347.9

YEAR: 1980

— = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY #: 5167347.9

YEAR: 1985

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INQUIRY #: 5167347.9

YEAR: 1995

— = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY #: 5167347.9

YEAR: 2006

— = 500'





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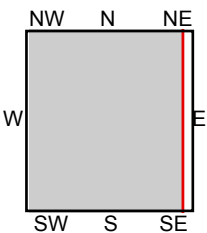
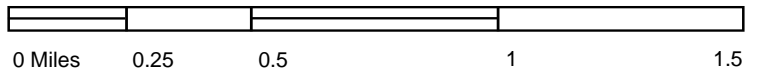
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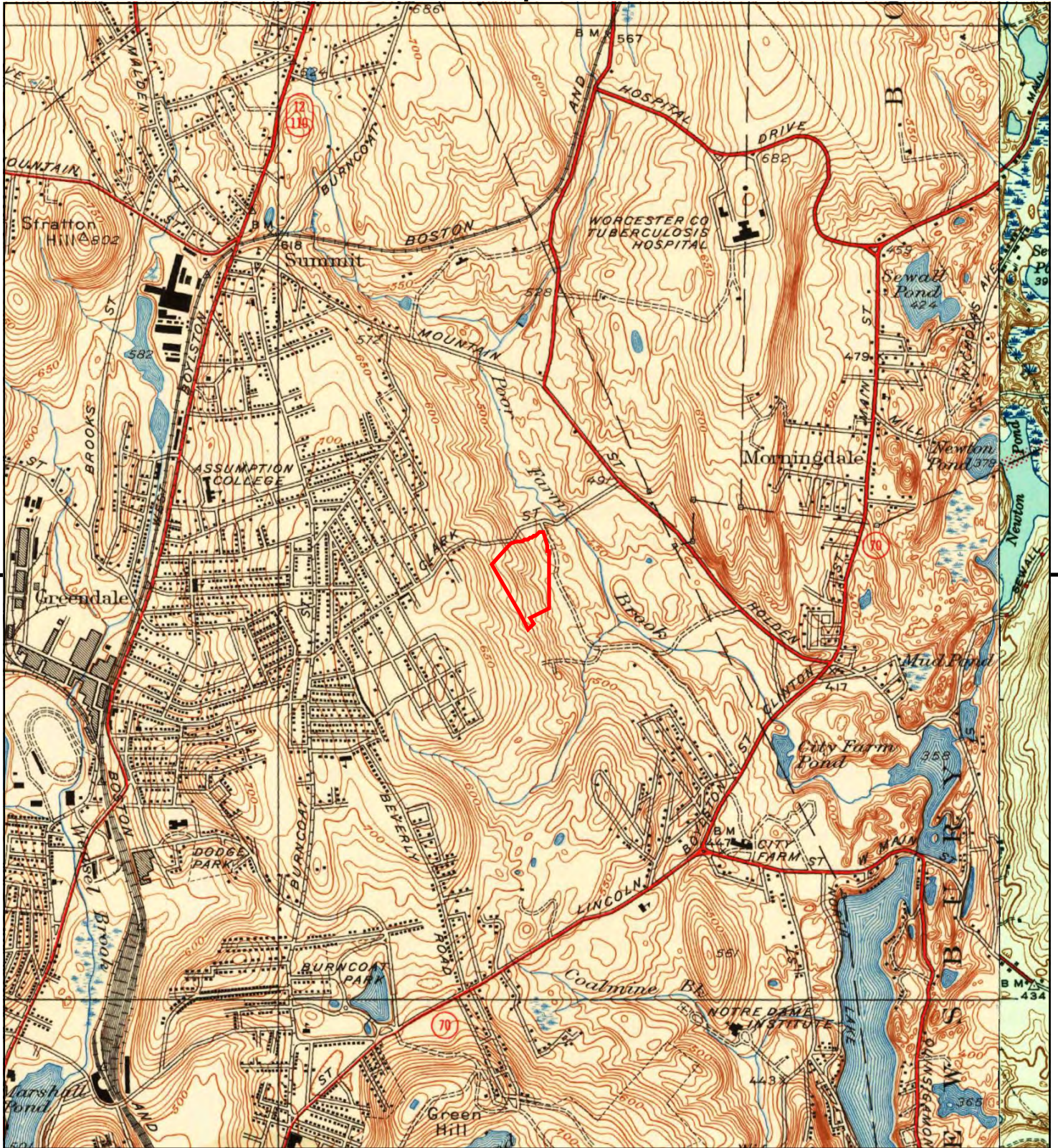
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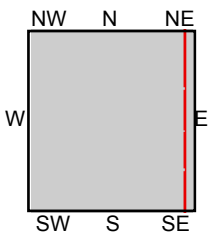
TP, Worcester, 1934, 7.5-minute

SITE NAME: Tacoma Street Park
 ADDRESS: Tacoma Street
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers





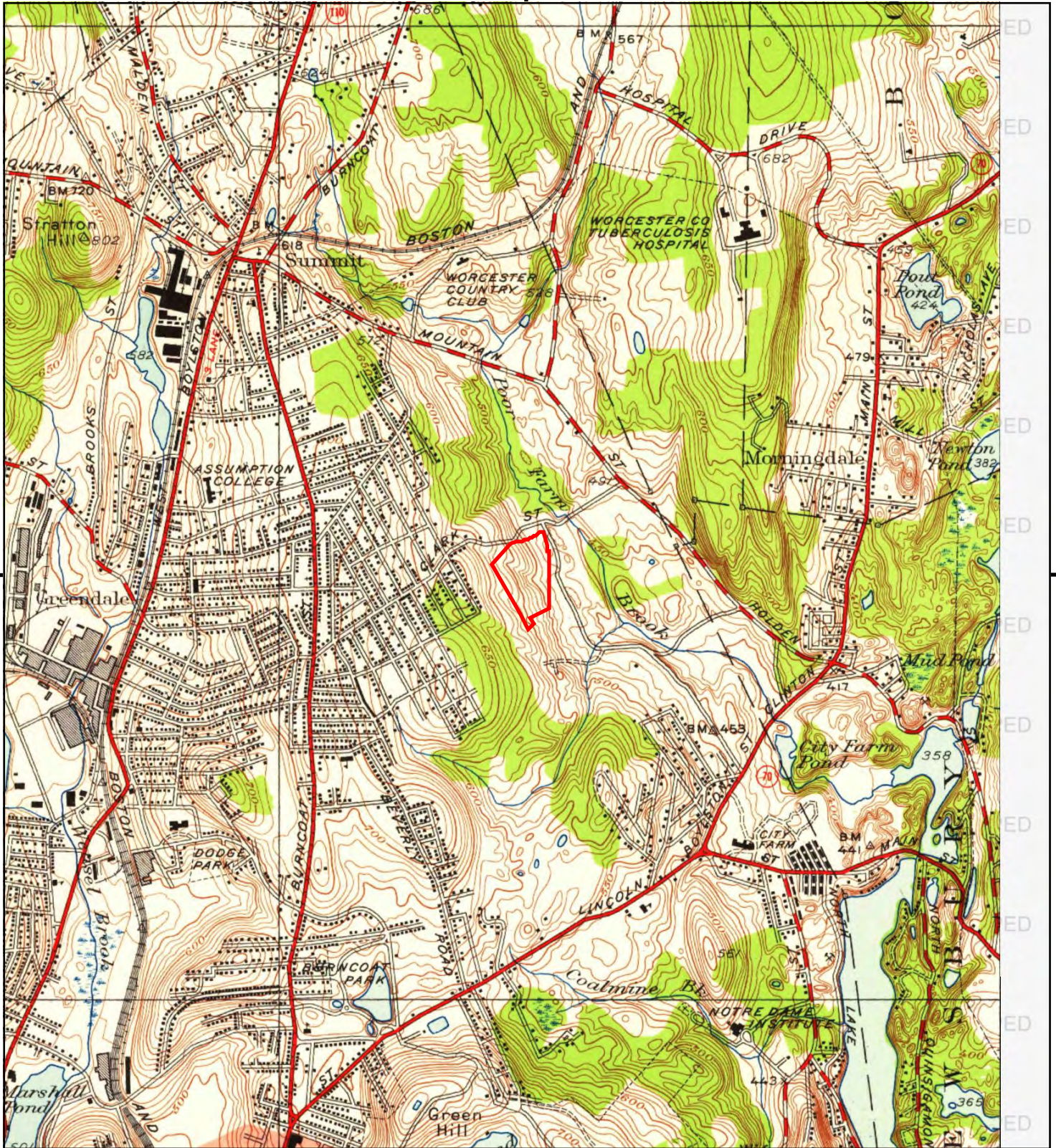
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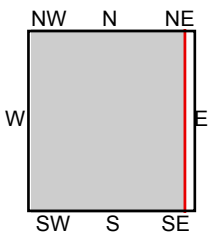
TP, Worcester North, 1939, 7.5-minute
E, Shrewsbury, 1943, 7.5-minute

SITE NAME: Tacoma Street Park
ADDRESS: Tacoma Street
Worcester, MA 01606
CLIENT: Weston and Sampson Engineers





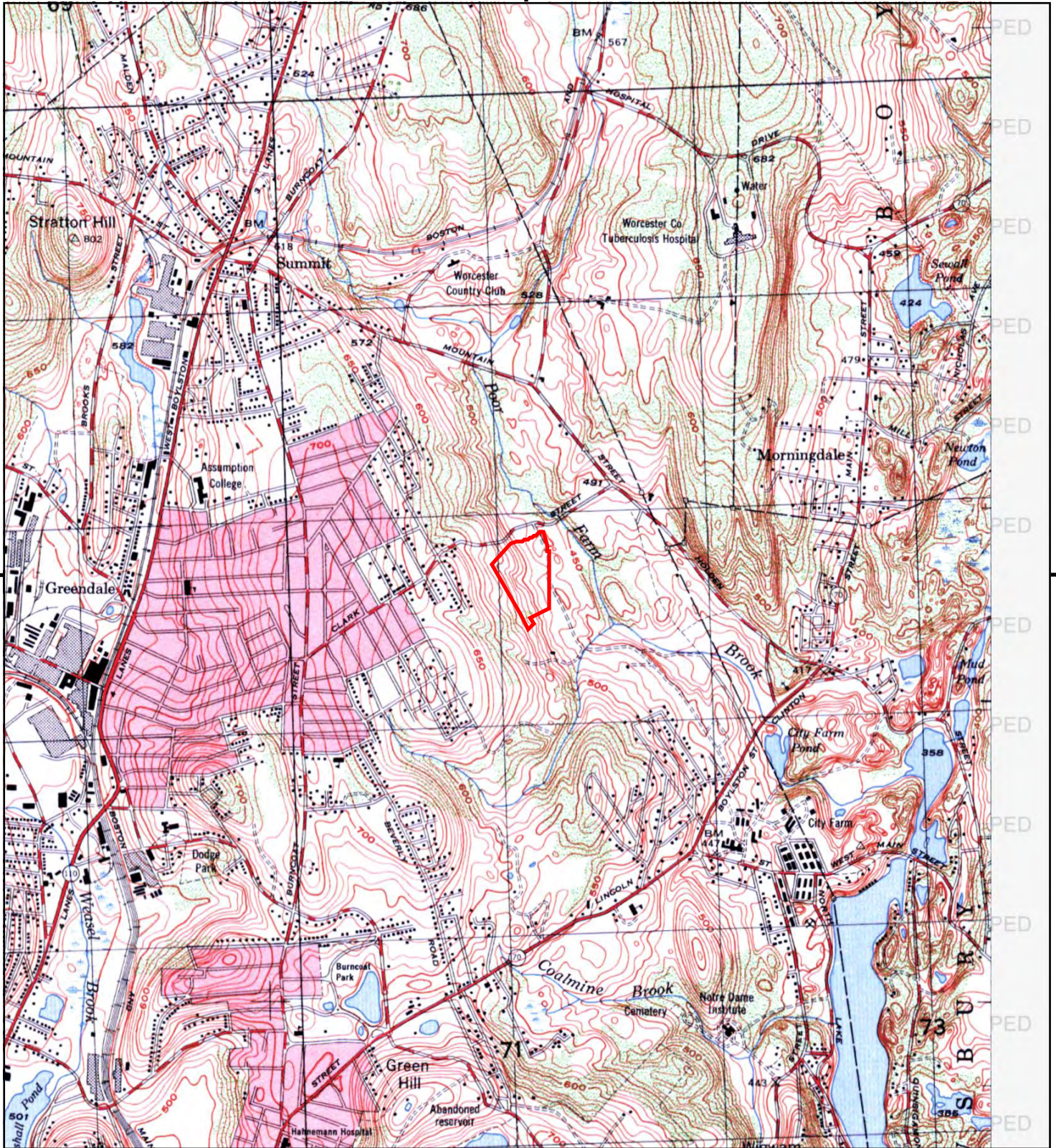
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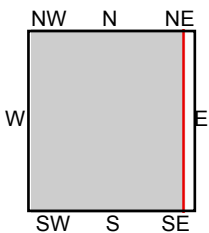
TP, Worcester North, 1948, 7.5-minute

SITE NAME: Tacoma Street Park
 ADDRESS: Tacoma Street
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers





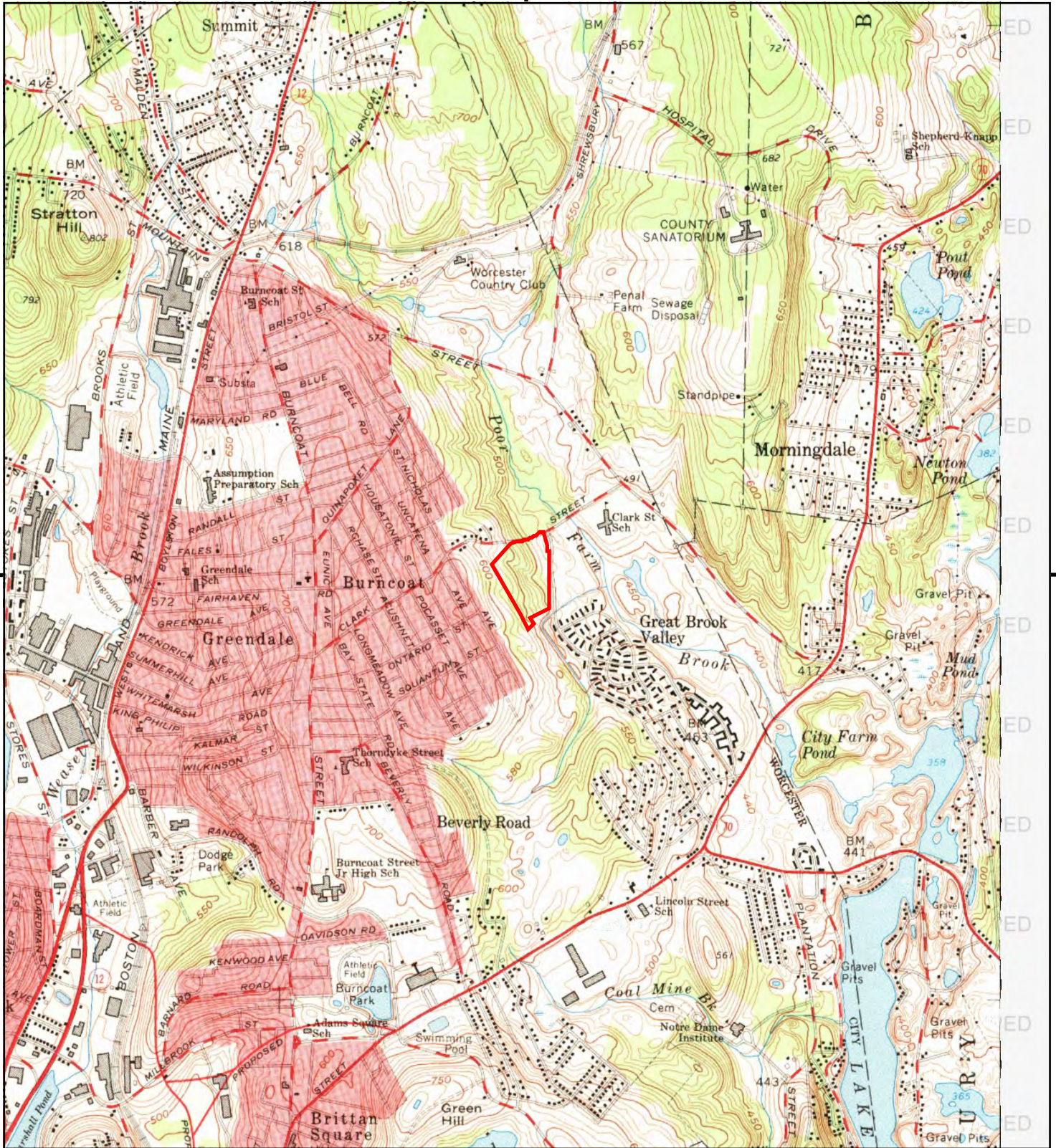
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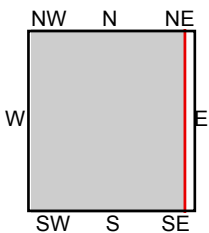
TP, WORCESTER NORTH, 1950, 7.5-minute

SITE NAME: Tacoma Street Park
 ADDRESS: Tacoma Street
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers





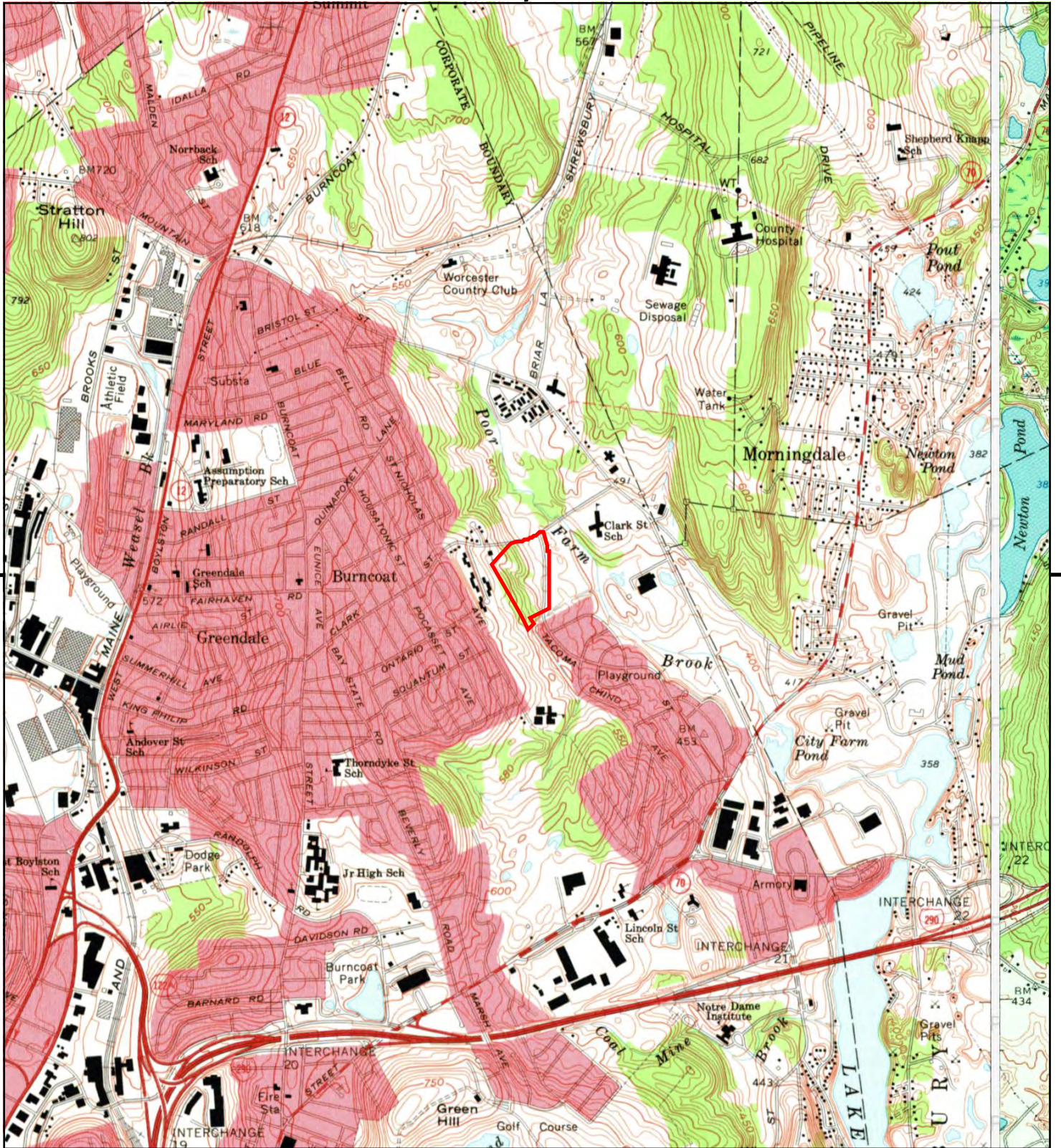
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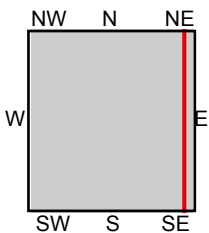
TP, Worcester North, 1960, 7.5-minute

SITE NAME: Tacoma Street Park
 ADDRESS: Tacoma Street
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers





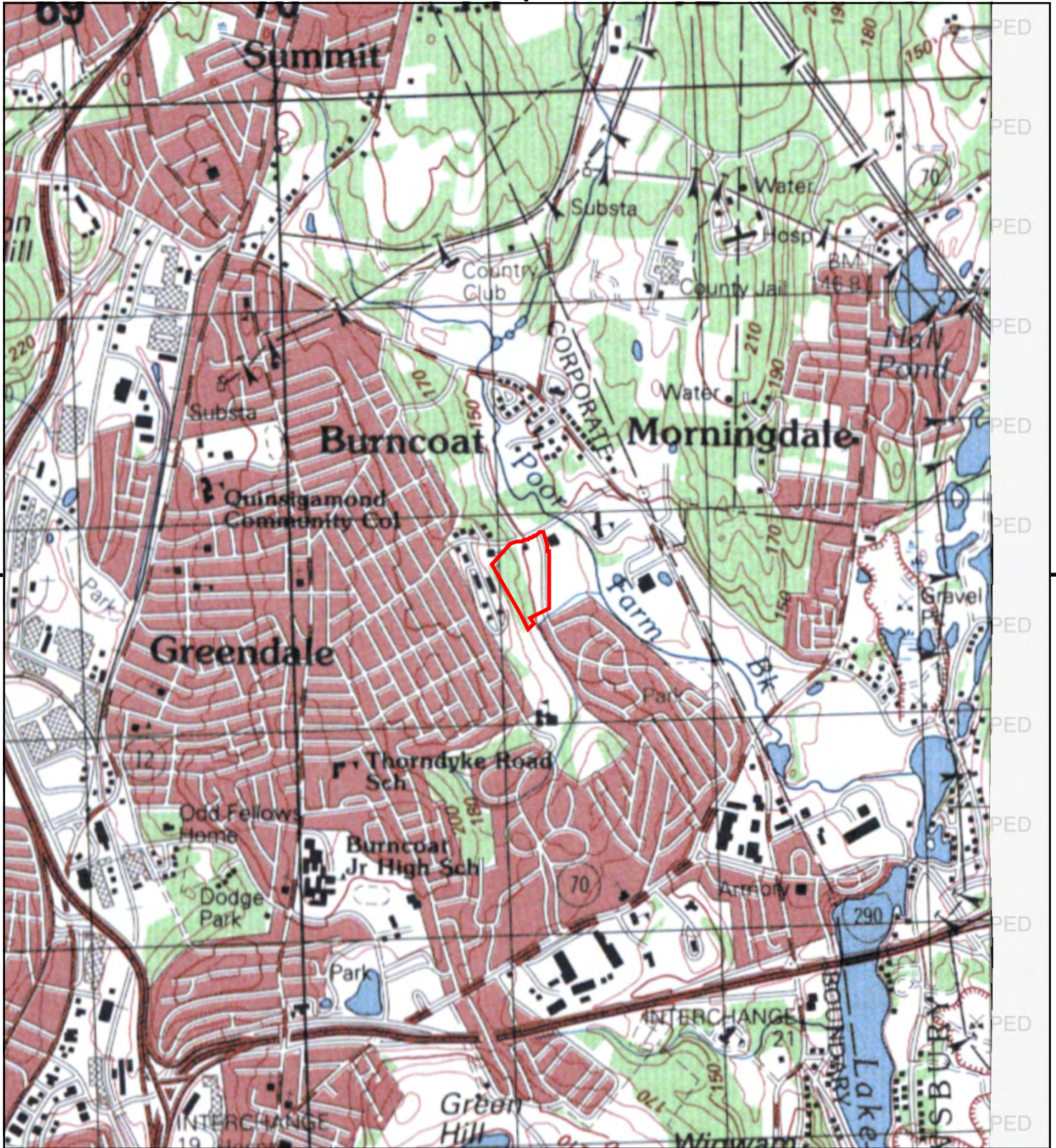
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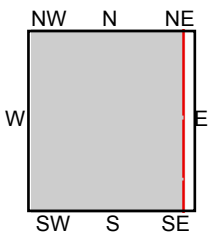
TP, WORCESTER NORTH, 1974, 7.5-minute
E, Shrewsbury, 1969, 7.5-minute

SITE NAME: Tacoma Street Park
ADDRESS: Tacoma Street
Worcester, MA 01606
CLIENT: Weston and Sampson Engineers





This report includes information from the following map sheet(s).



TP, WORCESTER NORTH, 1985, 15-minute

SITE NAME: Tacoma Street Park
 ADDRESS: Tacoma Street
 Worcester, MA 01606
 CLIENT: Weston and Sampson Engineers



M E M O R A N D U M

TO: Michael Moonan
FROM: Nathaniel Parker
DATE: 12/19/2017
SUBJECT: Wetland Delineation
Great Brook Valley Field, Worcester, MA

On November 29, 2017, the presence of wetland resources was investigated at the Great Brook Valley Field in Worcester, MA. The area under consideration is in a semi-urban community within a topographically variable landscape composed of glaciofluvial sediments overlain, in some areas, with fill.

Wetland resource areas including bordering vegetated wetlands (BVW) and streams were identified and flagged in the field using pink flagging by a Weston & Sampson employee who is trained in the wetland delineation process using the Massachusetts Department of Environmental Protection (MassDEP) manual "*Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act*" and the US Army Corps of Engineers' *Wetland Delineation Manual*. The location and flag numbering system can be seen on the attached field map. A further description of these wetland resource areas is presented, below.

Bordering Vegetated Wetlands

BVW A-Series

This resource area is associated with Poor Farm Brook and located approximately 0-100 feet west of Northeast Cutoff. Wetland flags left in the field to identify BVW limits were labeled BVW-A1 through BVW-A5.

Dominant vegetation within this resource area included silky dogwood (*Cornus amomum*), purple loosestrife (*Lythrum salicaria*), small white aster (*Symphotrichum falcatum*), and rough-leaved goldenrod (*Solidago patula*), all species that thrive in wet conditions. Soils within the BVW were considered muck and mucky sandy loam. Mottles soils were documented at approximately three inches below ground surface. Other indicators of wetland hydrology included soil saturation at the surface, water marks, and drainage patterns.

Dominant upland vegetation next to this BVW included winged sumac (*Rhus copallinum*), multiflora rose (*Rosa multiflora*), an unidentified upland grass, and bittersweet (*Celastrus scandens*). Soil in the upland area consisted of dry sandy loam with no evidence of mottling within the top 14 inches.

BVW B-Series

This resource area is associated with Poor Farm Brook and located approximately 350 feet west of Northeast Cutoff. Wetland flags left in the field to identify BVW limits were labeled BVW-B1 through BVW-B6.

Dominant vegetation within this resource area included broadleaf cattail (*Typha latifolia*) and purple loosestrife (*Lythrum salicaria*). Soils within the BVW were considered saturated sandy loam. Soil depletions and concentrations were documented at approximately 8 inches below ground surface. Other indicators of wetland hydrology included soil saturation at the surface, water marks, drift lines, and drainage patterns.

Dominant upland vegetation next to this BVW included winged sumac (*Rhus copallinum*) and an unidentified upland grass*. Soil in the upland area consisted of dry sandy loam with no evidence of mottling within the top 14 inches.

*Note: The unidentified upland grass was standard lawn grass that is typically used to make soccer and baseball fields.

BVW C-Series

This resource area is associated with Poor Farm Brook and located approximately 500 feet west of Northeast Cutoff. Wetland flags left in the field to identify BVW limits were labeled BVW-C1 through BVW-C5.

Dominant vegetation within this resource area included broadleaf cattail (*Typha latifolia*) and skunk cabbage (*Lysichiton americanus*). Soils within the BVW were considered saturated sandy loam. Concentrations in the soil were documented at approximately 10 inches below ground surface. Other indicators of wetland hydrology included soil saturation at the surface, water marks, and drift lines.

Dominant upland vegetation next to this BVW included winged sumac (*Rhus copallinum*) and an unidentified upland grass*. Soil in the upland area consisted of dry sandy loam with no evidence of mottling within the top 14 inches.

*Note: The unidentified upland grass was standard lawn grass that is typically used to make soccer and baseball fields.

BVW D-Series

This resource area is associated with Poor Farm Brook and located approximately 700 feet west of Northeast Cutoff. Wetland flags left in the field to identify BVW limits were labeled BVW-D1 through BVW-D5.

Dominant vegetation within this resource area included broadleaf cattail (*Typha latifolia*) and skunk cabbage (*Lysichiton americanus*), both species that thrive in wet conditions. Soils within the BVW were considered saturated loam. Other indicators of wetland hydrology included soil saturation at ground surface, water marks, and drift lines.

Dominant upland vegetation next to this BVW included American red raspberry (*Rubus idaeus*), Soil in the upland area consisted of dry sandy loam with no evidence of mottling within the top 14 inches.

BVW E-Series

This resource area is associated with Poor Farm Brook and located approximately 830 feet west of Northeast Cutoff. Wetland flags left in the field to identify BVW limits were labeled BVW-E1 through BVW-E3.

Dominant vegetation within this resource area included broadleaf cattail (*Typha latifolia*) and skunk cabbage (*Lysichiton americanus*), both species that thrive in wet conditions. Soils within the BVW were considered mucky sandy loam. Indicators of wetland hydrology included soil saturation at the surface, water marks, drift lines and drainage patterns.

Dominant upland vegetation next to this BVW included red oak (*Quercus rubra*), winged sumac (*Rhus copallinum*), and Morrow's honeysuckle (*Lonicera morrowii*). Soil in the upland area consisted of sandy loam with no evidence of mottling within the top 14 inches.

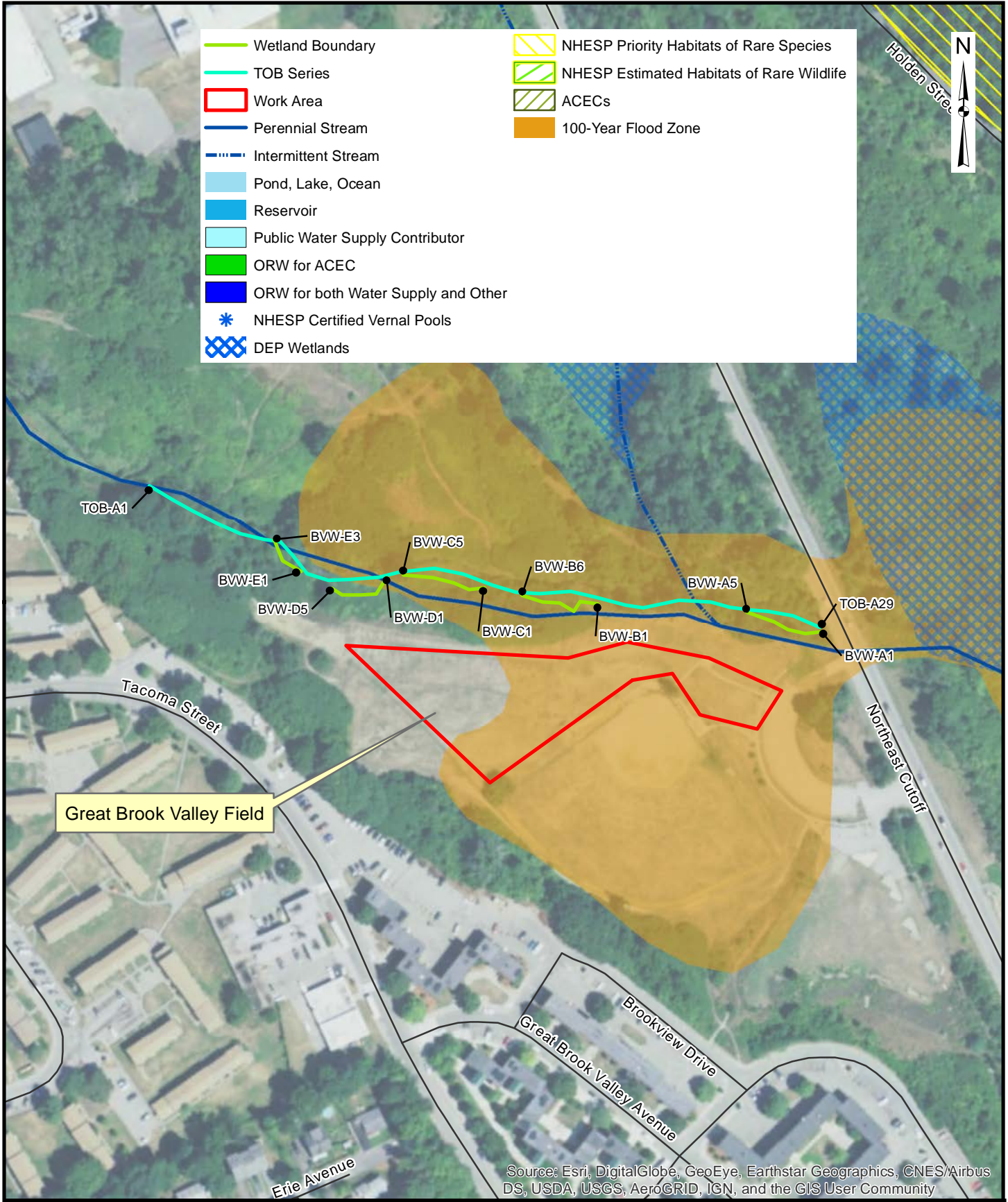
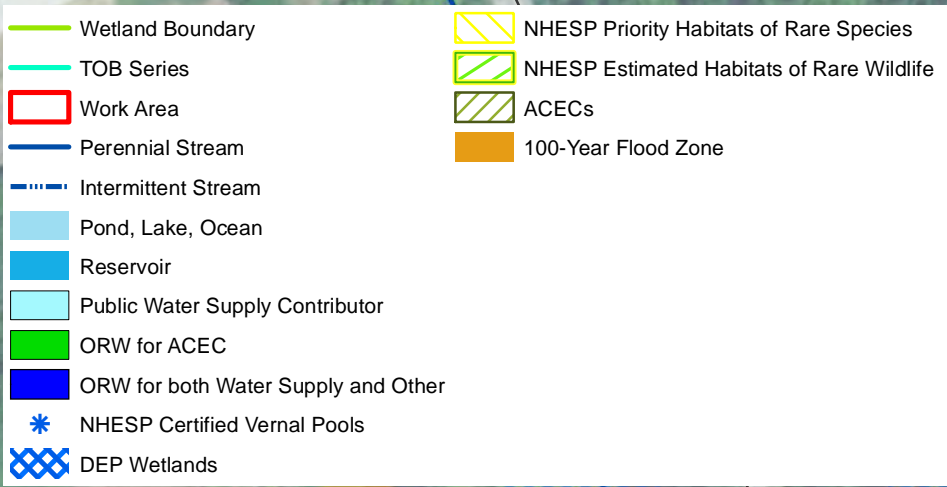
Perennial Stream

Poor Farm Brook is listed as a perennial stream by the USGS. The section of the stream that was delineated adjacent to the Great Brook Valley Field begins approximately 1050 feet west of Northeast Cutoff and ends immediately west of Northeast Cutoff. Flags left in the field to delineate the stream were labeled TOB-A1 through TOB-A29.

A combination of factors were used to delineate the limits of the stream boundary – first break in slope, signs of erosion, and water marks. Most areas along the stream were simple to delineate and only required identifying the first break in slope. Few areas along the stream required employing signs of erosion and water marks to delineate the stream boundaries.

Attached please find a field map showing the wetland limits flagged in the field with associated wetland flag numbers. Completed ACOE Wetland Determination Data Forms are also attached to this memorandum.

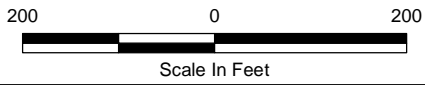
\\wse03.local\WSE\Projects\MA\Worcester MA\Tacoma-Great Brook Valley\Master Planning\Wetlands Delineation\Great Brook Valley Field\Wetlands Memo.docx



Path: T:\Water\ERMAP\GIS - Constraints Mapping\Worcester\Tacoma and Great Brook parks 2017\Figure 1 - Env Receptor.mxd User: ParkerN Saved: 12/7/2017 5:25:52 PM Opened: 12/18/2017 11:42:03 AM

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE 1
Tacoma and Great Brook Valley Parks
Worcester, Massachusetts
ENVIRONMENTAL RECEPTORS



MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-A2 (Wet)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*

Trees: None

Shrubs: Silky Dogwood (<i>Cornus amomum</i>)	10	67	Yes	FACW
Multiflora rose (<i>Rosa multiflora</i>)	5	33	No	FACU
Cover: Broadleaf Cattail (<i>Typha latifolia</i>)	10	7	No	OBL
Purple Loosestrife (<i>Lythrum salicaria</i>)	50	36	Yes	OBL
Small White Aster (<i>Symphotrichum falcatum</i>)	50	36	Yes	FAC
Rough-leaved goldenrod (<i>Solidago patula</i>)	30	21	Yes	OBL
Trailing: Bittersweet (<i>Celastrus scandens</i>)	10	100	Yes	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 4

Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? **yes**

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: silt loam
 hydric soil inclusions:

Are field observations consistent with soil survey? yes
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
O	-3-0	10 YR 3/2	
A	0-13	10 YR 3/2	2.5 YR 2.5/4

Remarks:
 O horizon was hemic muck.
 A horizon was mucky sandy loam.

3. Other:

Conclusion: Is soil hydric? yes

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: 0
- Water marks: _____ Yes _____
- Drift lines: _____ Yes _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<u>X</u>	_____
Wetland hydrology present:		
Hydric soil present	<u>X</u>	_____
Other indicators of hydrology present	<u>X</u>	_____
Sample location is in a BVW	<u>X</u>	_____

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-A2 (Up)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Sumac <i>(Rhus copallinum)</i>	40	73	Yes	UPL
Red Maple <i>(Acer rubrum)</i>	15	27	Yes	FAC
Shrubs: Multiflora rose <i>(Rosa multiflora)</i>	20	100	Yes	FACU
Cover: Rough-leaved goldenrod <i>(Solidago patula)</i>	10	11	No	OBL
Unidentified upland grass	80	89	Yes	
Trailing: Bittersweet <i>(Celastrus scandens)</i>	20	100	Yes	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 1 Number of dominant non-wetland indicator plants: 4

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? No

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: udorthents
 hydric soil inclusions:

Are field observations consistent with soil survey?
 Remarks:

Yes

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12	10 YR 3/3	

Remarks:

Dry Sandy loam

3. Other:

Conclusion: Is soil hydric? no

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: _____
- Water marks: _____
- Drift lines: _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	_____	_____ X
Wetland hydrology present:		
Hydric soil present	_____	_____ X
Other indicators of hydrology present	_____	_____ X
Sample location is in a BVW	_____	_____ X

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-B2 (Wet)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Winged Sumac (<i>Rhus copallinum</i>)	30	100	Yes	UPL
Shrubs: None				
Cover: Purple Loosestrife (<i>Lythrum salicaria</i>)	20	20	Yes	OBL
Broadleaf Cattail (<i>Typha latifolia</i>)	80	80	Yes	OBL
Trailing: None				

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 2

Number of dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? No

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: fine sandy loam
 hydric soil inclusions:

Are field observations consistent with soil survey? yes
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-8	10 YR 3/2	
B	8-14 8	10 YR 3/2	10 YR 6/2, 2.5 YR 3/6

Remarks:
 Saturated sandy loam

3. Other:

Conclusion: Is soil hydric? yes

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: 0
- Water marks: _____ Yes _____
- Drift lines: _____ Yes _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____ Yes _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion		
	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<u>X</u>	_____
Wetland hydrology present:		
Hydric soil present	<u>X</u>	_____
Other indicators of hydrology present	<u>X</u>	_____
Sample location is in a BVW	<u>X</u>	_____
<i>Submit this form with the Request for Determination of Applicability or Notice of Intent.</i>		

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-B2 (Up)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Winged Sumac <i>(Rhus copallinum)</i>	70	100	Yes	UPL
Shrubs: None				
Cover: Unidentified upland grass	100	100	Yes	UPL
Trailing: None				

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? No

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: udorthents
 hydric soil inclusions:

Are field observations consistent with soil survey?
 Remarks:

Yes

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12	10 YR 3/3	

Remarks:

Dry Sandy loam

3. Other:

Conclusion: Is soil hydric? no

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: _____
- Water marks: _____
- Drift lines: _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	_____	_____ X
Wetland hydrology present:		
Hydric soil present	_____	_____ X
Other indicators of hydrology present	_____	_____ X
Sample location is in a BVW	_____	_____ X

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-C1 (Wet)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*

Trees: None

Shrubs: None

Cover:				
Broadleaf Cattail (<i>Typha latifolia</i>)	80	89	Yes	OBL
Skunk Cabbage (<i>Lysichiton americanus</i>)	10	11	No	OBL

Trailing: None

** Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.*

Vegetation conclusion:

Number of dominant wetland indicator plants: 0

Number of dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? Yes

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: sandy loam
 hydric soil inclusions:

Are field observations consistent with soil survey? yes
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12 10	10 YR 3/2	2.5 YR 3/6

Remarks:
 Saturated sandy loam

3. Other:

Conclusion: Is soil hydric? yes

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: 0
- Water marks: _____ Yes _____
- Drift lines: _____ Yes _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<u>X</u>	_____
Wetland hydrology present:		
Hydric soil present	<u>X</u>	_____
Other indicators of hydrology present	<u>X</u>	_____
Sample location is in a BVW	<u>X</u>	_____

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-C1 (Up)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Winged Sumac <i>(Rhus copallinum)</i>	60	100	Yes	UPL
Shrubs: None				
Cover: Unidentified upland grass	80	100	Yes	UPL
Trailing: None				

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? No

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: udorthents
 hydric soil inclusions:

Are field observations consistent with soil survey?
 Remarks:

Yes

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12	10 YR 3/3	

Remarks:

Dry Sandy loam

3. Other:

Conclusion: Is soil hydric? no

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: _____
- Water marks: _____
- Drift lines: _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	_____	_____ X
Wetland hydrology present:		
Hydric soil present	_____	_____ X
Other indicators of hydrology present	_____	_____ X
Sample location is in a BVW	_____	_____ X

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-D3 (Wet)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*

Trees: None

Shrubs:

American red raspberry (<i>Rubus idaeus</i>)	60	100	Yes	UPL
---	----	-----	-----	-----

Cover:

Broadleaf Cattail (<i>Typha latifolia</i>)	80	89	Yes	OBL
Skunk Cabbage (<i>Lysichiton americanus</i>)	10	11	No	OBL

Trailing: None

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 1

Number of dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? Yes

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: sandy loam
 hydric soil inclusions:

Are field observations consistent with soil survey? yes
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-14 8	10 YR 3/2	10 YR 6/2, 2.5 YR 3/6

Remarks:
 Saturated sandy loam

3. Other:

Conclusion: Is soil hydric? yes

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: _____ 0 _____
- Water marks: _____ Yes _____
- Drift lines: _____ Yes _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<u> X </u>	_____

Wetland hydrology present:

Hydric soil present	<u> X </u>	_____
Other indicators of hydrology present	<u> X </u>	_____

Sample location is in a BVW

	<u> X </u>	_____
--	--------------	-------

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1	Transect Number: BVW-D3 (Up)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no) E. Wetland Indicator Category*

Trees: None

Shrubs: American red raspberry (<i>Rubus idaeus</i>)	30	100	Yes	UPL
Cover: Unidentified upland grass	80	100	Yes	UPL

Trailing: None

** Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.*

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? No

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: udorthents
 hydric soil inclusions:

Are field observations consistent with soil survey?
 Remarks:

Yes

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12	10 YR 3/3	

Remarks:

Dry Sandy loam

3. Other:

Conclusion: Is soil hydric? no

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: _____
- Water marks: _____
- Drift lines: _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	_____	_____ X
Wetland hydrology present:		
Hydric soil present	_____	_____ X
Other indicators of hydrology present	_____	_____ X
Sample location is in a BVW	_____	_____ X

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field, MA File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number: 1		Transect Number: BVW-E1 (WET)	Date of Delineation: 11/29/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*

Trees: None

Shrubs: None

Cover:				
Broadleaf Cattail (<i>Typha latifolia</i>)	60	92	Yes	OBL
Skunk Cabbage (<i>Lysichiton americanus</i>)	5	8	No	OBL

Trailing: None

** Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.*

Vegetation conclusion:

Number of dominant wetland indicator plants: 1 Number of dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Plymouth County, MA
 map number: MA023
 soil type mapped: Sandy Loam
 hydric soil inclusions:

Are field observations consistent with soil survey? yes
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
O/A	0-14 8	10 YR 3/2	5 YR 5/8

Remarks:

Mucky sandy loam

3. Other:

Conclusion: Is soil hydric? yes

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: 0
- Water marks: Yes
- Drift lines: Yes
- Sediment Deposits: _____
- Drainage patterns in BVW: Yes
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	<u>X</u>	___
Wetland hydrology present:		
Hydric soil present	<u>X</u>	___
Other indicators of hydrology present	<u>X</u>	___
Sample location is in a BVW	<u>X</u>	___

Submit this form with the Request for Determination of Applicability or Notice of Intent.

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: City of Worcester Prepared by: Weston & Sampson Project location: Great Brook Valley Field, MA File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number:		Transect Number: <u>BVW-E1 (UP)</u>	Date of Delineation: <u>11/29/2017</u>
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*

Trees: Red Oak (<i>Quercus rubra</i>)	20	25	Yes	FACU
Winged Sumac (<i>Rhus copallinum</i>)	60	75	Yes	UPL
Shrubs: Morrow's Honeysuckle (<i>Lonicera morrowii</i>)	15	100	Yes	FACU

Cover: None

Trailing: None

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 Number of dominant non-wetland indicator plants: 3

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? No

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes
 title/date: Worcester County, MA
 map number: MA613
 soil type mapped: Sandy Loam
 hydric soil inclusions:

Are field observations consistent with soil survey? yes
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-14	10 YR 3/3	

Remarks:
 Sandy Loam

3. Other:

Conclusion: Is soil hydric? No

Other Indicators of Hydrology: (check all that apply & describe)

- Site Inundated: _____
- Depth to free water in observation hole: _____
- Depth to soil saturation in observation hole: _____
- Water marks: _____
- Drift lines: _____
- Sediment Deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):

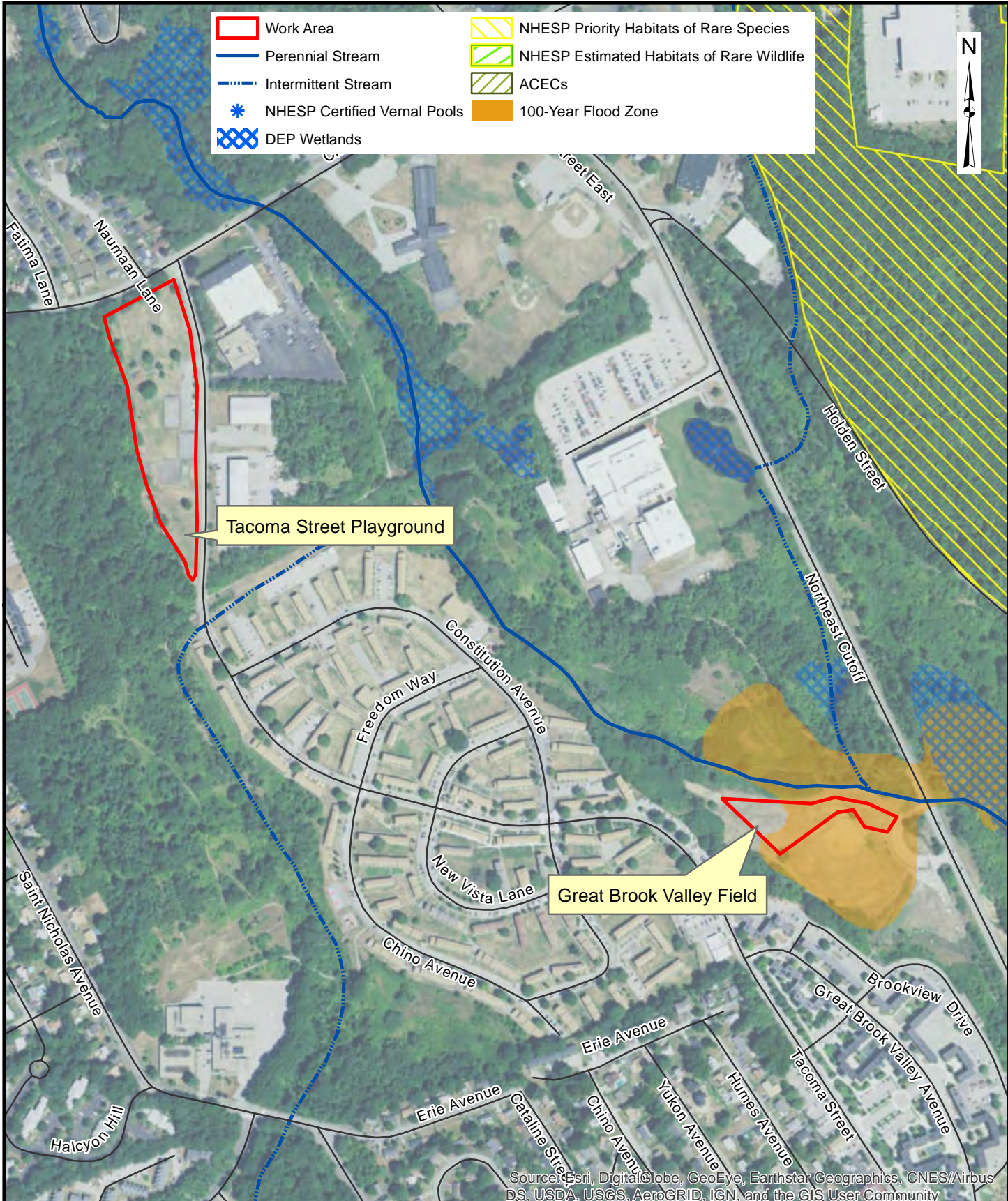
- Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants \geq # of non-wetland indicator plants	_____	<u> X </u>
Wetland hydrology present:		
Hydric soil present	_____	<u> X </u>
Other indicators of hydrology present	_____	<u> X </u>
Sample location is in a BVW	_____	<u> X </u>

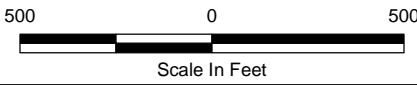
Submit this form with the Request for Determination of Applicability or Notice of Intent.

- Work Area
- Perennial Stream
- Intermittent Stream
- * NHESP Certified Vernal Pools
- DEP Wetlands
- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife
- ACECs
- 100-Year Flood Zone



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE 1
Tacoma and Great Brook Valley Parks
Worcester, Massachusetts
ENVIRONMENTAL RECEPTORS



Path: T:\Water\ERMAP\GIS - Constraints Mapping\Worcester\Tacoma and Great Brook parks 2017\Figure 1 - Env Receptor.mxd User: higginsm Saved: 11/22/2017 8:06:54 AM Opened: 11/22/2017 8:38:01 AM

DPW & Parks - Parks, Recreation and Cemetery Division

Tacoma St. & Great Brook Valley Master Plan Public Meeting # 1

E.M. Kennedy Community Health Center, 650 Lincoln St. November 06, 2017 @ 6:30 PM

Robert C. Antonelli Jr., Assistant Commissioner



	Name	Address	Phone No.	Affiliation/Resident
1	Jonathan Hardy-Lavie			Worc. World Cup
2	Joshua Plisinski			ACE
3	BRITTANY LEGASEY			PARKSPIRIT
4	STEVE ALVAREZ			WHA
5	Stan Pichko			WHA
6	Judy Tatro			
7	Aomid Baker			
8	Ayub mohamed			WHA
9	Abdikadir Mohamed			
10	Abdi Tawane			
11	Abdi Ibrahim			
12	Salad SALEBAH			
13	TOM ECONOMOU			
14				
15				
16				
17				
18				
19				
20				

DPW & Parks - Parks, Recreation and Cemetery Division

Tacoma St. & Great Brook Valley Master Plan Public Meeting # 2

E.M. Kennedy Community Health Center, 650 Lincoln St. December 04, 2017 @ 6:30 PM

Robert C. Antonelli Jr., Assistant Commissioner



	Name	Address	Phone No.	Affiliation/Resident
1	WILLIAM G. BURGoyNE			Resident
2	Joshua Plisinski			Resident
3	Jonathan Hardy-Larvic			Resident
4	Walter Jovel			City Resident
5	BONIFACE IGIBE			
6	TOMY ECONOMOU			
7				
8				
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DPW & Parks - Parks, Recreation and Cemetery Division

Tacoma St. & Great Brook Valley Master Plan Public Meeting # 3

E.M. Kennedy Community Health Center, 650 Lincoln St. December 18, 2017 @ 6:30 PM

Robert C. Antonelli Jr., Assistant Commissioner



	Name	Address	Phone No.	Affiliation/Resident
1	Melby Gominis			
2	T. Macal - Torres			
3	Cassie Giardina			
4	Adam Mackij			
5	Jonathan Hardy-Cavie			
6	Judy Tatro			
7	TONY ECONOMOU			
8	STEVE ALVAREZ			
9	Stan Fitchko			
10	+			
11				
12	Ray Lepelish			
13				
14				
15				
16				
17				
18				
19				
20				

CITY OF WORCESTER

DEPARTMENT OF PUBLIC WORKS AND PARKS

Parks, Recreation and Cemetery Division 50 Skyline Drive Worcester, MA 01605-2898

Paul J. Moosey, P.E.
Commissioner



Robert C. Antonelli, Jr., CPRP
Assistant Commissioner

(508) 799-1190
(508) 799-1293 FAX

Edward M. Augustus, Jr., City Manager

PARKS AND RECREATION COMMISSION MEETING Sign-in Sheet

Thursday, February 15, 2018
6:30 p.m.

(PRINT ONLY)

	<u>Name</u>	<u>Address/Organization</u>	<u>Item of Interest</u>	<u>Email</u>
1.	Ashley Carter	Regional Environmental Council		
2.				
3.	MATT WAHLY	61 Belvidere St	HADWEN	
4.	Jan Parent			
5.	Rick Quinn	Park Spirit	Hadwen Park	
6.	Mike Parent		H.P.	
7.	Mark Bimall		Hadwen Park	
8.	MARK GALLANT	Dogfather	Green Hill Park	
9.	Jonathan Handy-Loveis	Worcester World Cup	GBV/Tacoma	
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
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20.				
21.				

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27²⁰

98755

QUITCLAIM DEED

The WORCESTER HOUSING AUTHORITY, a body politic and corporate, duly established under the laws of the Commonwealth of Massachusetts with a principal place of business at 40 Belmont Street, Worcester, Massachusetts (the "GRANTOR"), for consideration paid of one dollar, the receipt and sufficiency of which are hereby acknowledged, hereby GRANTS to the CITY OF WORCESTER, a municipal corporation duly established under the laws of the Commonwealth of Massachusetts, with a principal place of business at 455 Main Street, Worcester, Massachusetts (the "GRANTEE"), with QUITCLAIM COVENANTS, two parcels of land located on North East Cutoff in Worcester, Worcester County, Massachusetts. Said parcels being more particularly described as "Lot 1" and "Lot 2" in Exhibit A hereto.

Said parcels labeled "Lot 1," consisting of approximately 9.46 acres and "Lot 2," consisting of approximately 1.91 acres, as shown on a plan of land entitled "PLAN OF THE WORCESTER HOUSING AUTHORITY TO CREATE THE GREAT BROOK VALLEY PLAYGROUND IN WORCESTER, MASSACHUSETTS," prepared by Louis Federici & Associates, dated September 9, 1999; and recorded in the Worcester District Registry of Deeds in Plan Book 754, Plan No. 51.

Northeast Cutoff, Worcester

EXCEPTING AND RESERVING unto the GRANTOR, its successors and assigns, the perpetual right and easement along, upon, above, under and across Lot 1 and Lot 2 to enter and maintain the slope area which runs along the westerly boundary of Lot 1 and Lot 2 with other land of the GRANTOR, for the purposes of constructing and maintaining slopes serving land of the GRANTOR, including any necessary landscaping and other improvements related thereto, as the GRANTOR may from time to time deem necessary and the right and easement to cut and trim trees, brush, overhanging branches and other obstructions to the extent that the GRANTOR deems necessary; and the right to enter said parcels for access thereto for all the above purposes. The GRANTOR's right and easement, however, shall not impede, infringe or prevent the GRANTEE from erecting buildings, fences or other structures or fixtures upon the granted premises or otherwise using the premises for municipal purposes.

00 AUG 18 PM 3:21

For GRANTOR's title, see deed dated March 30, 1950, recorded at the Worcester District Registry of Deeds in Book 3245, Page 54.

Said parcels do not constitute all or substantially all of the assets of the Worcester Housing Authority.

See note attached hereto as Exhibit B

RETURN

TO THE OFFICE OF:
CITY SOLICITOR
ROOM 301, CITY HALL
WORCESTER, MA 01608

DOCUMENT No 7392

APPENDIX I - TACOMA DEED

Statute Form of
Warranty Deed

John W. Fellows

Grantor TO

H. A. Allen

2.
1.

City of Worcester

WORCESTER REGISTRY DISTRICT,
RECEIVED FOR REGISTRATION

MAY 12 1936

3 O'CLOCK 45 m P.M.

..... 19
at..... o'clock and..... minutes..... m.
Received and entered with.....
..... Deeds

TRANSFER CERTIFICATE OF TITLE ISSUED
AND TRANSCRIBED INTO
Attest: REGISTRATION BOOK 13
BEING CERTIFICATE No. 2218 IN
WORCESTER REGISTRY DISTRICT. Register
FROM THE OFFICE OF

Norman & Campbell
314 Main St.,
Worcester, Mass.

HOBBS & WARREN, INC.
PUBLISHERS STANDARD LAW BLANKS
BOSTON - MASS.
Form 872

I, JOHN W. FELLOWS,

of Worcester Worcester County, Massachusetts

being unmarried, for consideration paid, grant to City of Worcester, a municipal

corporation duly established by law and located within the
City of Worcester, in said County,

-of-

with warranty covenants

the land in Worcester aforesaid.

[Description and encumbrances, if any]

Two certain tracts or parcels of land located in Worcester and taken by eminent domain as recorded in the Worcester District Registry of Deeds, Book

That W. portion of lot B which is in the City of Worcester

First Parcel: Beginning at a point on the southerly line of Clark St. at land now or formerly of Daniel W. Hoyt. Thence South $82^{\circ}-24'$ East by the southerly line of Clark St. sixty-six and eighty-five hundredths (66.85) feet to a stone bound. Thence North $28^{\circ}-19'-15''$ East by the southeasterly line of Clark St. one hundred sixty-eight and twenty-seven hundredths (168.27) feet to a stone bound. Thence North $64^{\circ}-08'$ East by the southeasterly line of Clark St. fifty and twenty-six hundredths (50.26) feet to a stone bound. Thence North $84^{\circ}-38'$ East by the southerly line of Clark, St. three hundred sixty-three and seventy-three hundredths (363.73) feet to a point. Thence South $5^{\circ}-22'$ East by the westerly line of Clark St. seventeen (17) feet to a point. Thence easterly by a curve to the right the radius of which is two hundred (200) feet by the southerly line of Clark St. ninety-one and ninety-two hundredths (91.92) feet to a point. Thence easterly by a curve to the left the radius of which is four hundred six and twenty-two hundredths (406.22) feet by the southerly line of Clark St. two hundred seventy-one and ninety hundredths (271.90) feet to a point. Thence North $72^{\circ}-37'$ East by the southerly line of Clark St. nine hundred seventy-seven and thirteen hundredths (977.13) feet to a point. Thence easterly and southeasterly by a curve to the right the radius of which is twenty-five (25) feet by the southerly and southwesterly line of Clark St. Thirty-two and ninety-seven hundredths (32.97) feet to a point. Thence southeasterly by a curve to the left the radius of which is eighteen hundred (1800) feet by the southwesterly line of Mountain St. one hundred ninety-eight and eighty-five hundredths (198.85) feet to a point. Thence South $38^{\circ}-09'$ East by the southwesterly line of Mountain St. six hundred seventy-seven and seventy-six hundredths (677.76) feet to a stone bound at the Worcester-West Boylston line. Thence southerly along the Worcester-West Boylston line and the Worcester-Shrewsbury line eleven hundred twenty (1120) feet more or less to land now or formerly of the City of Worcester. Thence South $71^{\circ}-25'$ West one hundred twenty and ninety-five hundredths (120.95) feet more or less to a stone bound. Thence South $84^{\circ}-43'-30''$ West one thousand eighty and sixty three hundredths (1080.63) feet to a point. Thence North $72^{\circ}-12'$ West, thirty and thirty hundredths (30.30) feet to a stone bound. Thence South $84^{\circ}-37'$ West four hundred and sixty hundredths (400.60) feet to a point. Thence North $15^{\circ}-31'$ West one hundred eighty-eight and ninety hundredths (188.90) feet to a point. Thence South $82^{\circ}-34'$ West, nine hundred ninety-five and twenty-nine hundredths (995.29) feet to a drill hole in a stone wall. Thence North $11^{\circ}-43'$ West seventy-two and seventy-five hundredths (72.75) feet to a drill hole in a stone wall. The last seven (7) described lines being by land of the City of Worcester. Thence North $15^{\circ}-13'-30''$ West eight hundred seven and forty-six hundredths (807.46) feet to a drill hole in a stone wall. Thence North $15^{\circ}-36'$ West three hundred fifty-seven and twenty-five hundredths (357.25) feet to a drill hole in a stone wall. Thence North $54^{\circ}-14'-20''$

East four hundred ten and forty-four hundredths (410.44) feet to a point. Thence North 10°-37' East forty-eight and sixty-four hundredths (48.64) feet to the place of beginning. The last four (4) described lines being by land now or formerly of Daniel W. Hoyt.

Being that portion of parcel B lying wholly within the City of Worcester as shown on plan #15625 A filed with Certificate of Registration #2108, Volume 11, Land Registration, Worcester District Registry of Deeds.

lot C. on
plan
15625A

Mo

Second Parcel: Beginning at a point on the southwesterly line of Mountain St. at land now or formerly of Frederick E. Mellen. Thence South 25°-49' East by the southwesterly line of Mountain Street four hundred seventy-eight and forty hundredths (478.40) feet to a point. Thence southeasterly by a curve to the left the radius of which is eighteen hundred (1800) feet by the southwesterly line of Mountain St. ninety-three and thirty-three hundredths (93.33) feet to a point. Thence southeasterly to westerly by a curve to the right the radius of which is twenty (20) feet by the southwesterly and northerly line of Clark St. thirty-five and thirty-nine hundredths (35.39) feet to a point. Thence South 72°-37' West by the northerly line of Clark St. nine hundred sixty and forty-six hundredths (960.46) feet to a point. Thence westerly by a curve to the right the radius of which is three hundred fifty-six and twenty-two hundredths (356.22) feet, by the northerly line of Clark St. two hundred thirty-eight and forty-three hundredths (238.43) to a point. Thence westerly by a curve to the left the radius of which is two hundred fifty (250) feet by the northerly line of Clark St. one hundred fourteen and ninety hundredths (114.90) feet to land now or formerly of Frederick E. Mellen. Thence North 15°-55'-20" West by land now or formerly of Frederick E. Mellen, six hundred thirty-seven (637) feet to a drill hole in a stone wall. Thence North 90°-33'-20" East by land now or formerly of Frederick E. Mellen, one thousand two hundred and forty-two hundredths (1212.42) feet to the place of beginning.

Said land is designated as parcel C, lying wholly within the City of Worcester as shown on plan #15625A filed with Certificate of Registration #2108, Volume 11, Land Registration, Worcester District Registry of Deeds.

Said land is conveyed free and clear of all encumbrances except taxes for the year 1936.

? 7

Being a portion of the premises conveyed to the grantor herein mentioned by deed of Ada O. Clark dated May 1936, to be recorded herewith.

husband / wife / of said grantor,

release to said grantor all rights of tenancy by the courtesy and homestead and other interests therein.

Witness my hand and seal this eleventh day of May 19 36

John W. Fellows



The Commonwealth of Massachusetts

Worcester

ss.

May 11th

1936

Then personally appeared the above named John W. Fellows

and acknowledged the foregoing instrument to be his free act and deed before me

Benjamin T. Murphy
Justice of the Peace

My commission expires July 14 1937

ATTEST: WORC. Anthony J. Vigliotti, Registrar

(THE FOLLOWING IS NOT A PART OF THE DEED, AND IS NOT TO BE RECORDED.)

CHAPTER 188, SECTION 10, GENERAL LAWS

A deed in substance following the form entitled "Warranty Deed" shall, when duly executed, have the force and effect of a deed in fee simple to the grantee, his heirs and assigns, to his and their own use, with covenants on the part of the grantor, for himself, his heirs, executors, administrators and successors, with the grantee, his heirs, successors and assigns, that, at the time of the delivery of such deed (1) he was lawfully seized in fee simple of the granted premises, (2) that the granted premises were free from all encumbrances, (3) that he had good right to sell and convey the same to the grantee and his heirs and assigns, and (4) that he will, and his heirs, executors and administrators shall, warrant and defend the same to the grantee and his heirs and assigns against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the WORCESTER HOUSING AUTHORITY has caused this instrument to be executed by its duly authorized representatives this 26 day of May, 2000.

GRANTOR:
WORCESTER HOUSING AUTHORITY

By: [Signature]
Joseph P. Carlson, Chairman,
Board of Commissioners

ACCEPTED:
GRANTEE: CITY OF WORCESTER

By: [Signature]
Thomas R. Hoover, City Manager

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss.

May 26, 2000

Then personally appeared above-named Joseph P. Carlson, as Chairman of the Board of Commissioners of the Worcester Housing Authority, and acknowledged the foregoing instrument to be her free act and deed on behalf of the Worcester Housing Authority, before me.

[Signature]
Notary Public
My Commission Expires: April 5, 2007

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss.

May 26, 2000

Then personally appeared the above-named Thomas R. Hoover, as City Manager of the City of Worcester, and acknowledged the foregoing instrument to be his free act and deed on behalf of the City of Worcester, before me.

[Signature]
Notary Public
My Commission Expires: April 5, 2007

EXHIBIT A"LOT 1"
LAND IN WORCESTER, MASSACHUSETTS

Beginning at the northeasterly corner of the herein described parcel at a granite monument set in the ground, said point lying on the westerly line of the North East Cutoff, said point also being at coordinates north 2936818.60 and east 584321.45 (based on the City of Worcester GIS Datum).

- THENCE, southeasterly, along the westerly line of the North East Cutoff, a distance of 649.36', more or less, to a granite monument set in the ground for a corner. Said corner having coordinates of north 2936233.95 and east 584604.03.
- THENCE, southwesterly turning an interior angle of 90°00'00" a distance of 100.68', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 146°52'04" a distance of 188.11', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 182°15'44" a distance of 111.04', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 141°29'40" a distance of 145.92', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 194°17'51" a distance of 114.44', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 174°49'39" a distance of 173.35', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 183°22'10" a distance of 335.00', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 151°04'08" a distance of 92.08', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 193°34'19" a distance of 137.15', more or less, to a granite monument set in the ground for a corner.
- THENCE, northeasterly turning an interior angle of 85°36'44" a distance of 25.00', more or less, to a granite monument set in the ground for a corner.
- THENCE, southeasterly turning an interior angle of 138°43'38" a distance of 482.20', more or less, to a granite monument set in the ground for an angle turn.
-

THENCE, northeasterly turning an interior angle of $187^{\circ}57'23''$ a distance of 201.48', more or less, to a granite monument set in the ground for an angle turn.

THENCE, southeasterly turning an interior angle of $164^{\circ}25'29''$ a distance of 182.05', more or less, to the point and place of beginning. The last course forming an interior angle of $125^{\circ}31'11''$ with the first mention course.

Said parcel contains 412,101 square feet or 9.46 acres more or less, as shown on a plan of land entitled "PLAN OF THE WORCESTER HOUSING AUTHORITY TO CREATE THE GREAT BROOK VALLEY PLAYGROUND IN WORCESTER, MASSACHUSETTS," prepared by Louis Federici & Associates, dated 9/9/99, and recorded in the Worcester District Registry of Deeds in Plan Book 754, Plan No. 51.

"LOT 2"
LAND IN WORCESTER, MASSACHUSETTS

Beginning at the southeasterly corner of the herein described parcel at a granite monument set in the ground, said point lying on the westerly line of the North East Cutoff, said point also being at coordinates north 2935818.60 east 584321.45 (based on the City of Worcester GIS Datum).

- THENCE, northeasterly a distance of 182.05' to a granite monument set in the ground for a corner.
- THENCE, southwesterly turning an interior angle of 195°34'31" a distance of 201.48', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 172°02'37" a distance of 482.20', more or less, to a granite monument set in the ground for a corner turn.
- THENCE, northeasterly turning an interior angle of 46°55'58" a distance of 86.10', more or less, to a granite monument set in the ground for an angle turn.
- THENCE, northwesterly turning an interior angle of 183°03'50" a distance of 85.97', more or less, to an existing stone bound for a corner.
- THENCE, southeasterly turning an interior angle of 125°00'55" a distance of 706.97', more or less, to the westerly line of the North East Cutoff for a corner.
- THENCE, southwesterly turning an interior angle of 120°53'20" a distance of 102.38', more or less, to the point and place of beginning. The last course forming an interior angle of 54°28'49" with the first mention course.

Said parcel contains 63,136 square feet or 1.91 acres more or less, as shown on a plan of land entitled "PLAN OF THE WORCESTER HOUSING AUTHORITY TO CREATE THE GREAT BROOK VALLEY PLAYGROUND IN WORCESTER, MASSACHUSETTS," prepared by Louis Federici & Associates, dated 9/9/99, and recorded in the Worcester District Registry of Deeds in Plan Book 754, Plan No. 51.

EXHIBIT B

CITY OF WORCESTER

- WHEREAS, the City and the Worcester Housing Authority believed the City held title in certain real property commonly know as "Roberto Clemente Field/Great Brook Valley Playground," located on Northeast Cutoff, Worcester; and
- WHEREAS, the City's title in the property could not be confirmed and research indicated title may be held by the Worcester Housing Authority; and
- WHEREAS, the City and the Worcester Housing Authority engaged in negotiations to clarify title and the Worcester Housing Authority agreed to execute a deed conveying to the City the parcel commonly known as "Roberto Clemente Field/Great Brook Valley Playground," together with an adjacent parcel of land.

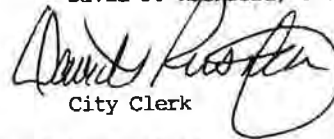
NOW THEREFORE, be it ORDERED, That

The city manager be and he is hereby authorized and requested to execute the necessary documents to acquire and accept on behalf of the City of Worcester a deed of two parcels of land. The first parcel, commonly known as Roberto Clemente Field/Great Brook Valley Playground, containing approximately 9.46 acres and shown as "Lot 1" on a plan of land dated 9/9/99 and recorded at the Worcester District Registry of Deeds, Plan Book 754, Plan Number 51, to be held for park and playground purposes, in the care, custody, management and control of the Parks, Recreation and Cemetery Department. The second parcel, containing approximately 1.91 acres and shown as "Lot 2" on said plan of land, to be held for public works purposes, in the care, custody, management and control of the Department of Public Works.

In City Council
Resolution Adopted.
A Copy. Attest:

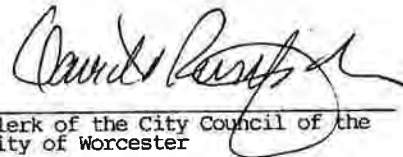
July 11, 2000

David J. Rushford, Clerk



City Clerk

I hereby certify that the foregoing is a true copy of the Resolution authorizing and requesting the City Manager to execut the necessary documents to acquire and accept on behalf of the City of Worcester a deed of two parcels of land adopted by the City Council of the City of Worcester July 11, 2000.



Clerk of the City Council of the
City of Worcester

ATTEST: WORC. Anthony J. Vigliotti, Register

Master Plan Approved by Worcester Parks Commission
February 15, 2018

Master Plan Approved by Worcester City Council
July 17, 2018

City of Worcester Department of Public Works and Parks

