



August 26, 2022

Richard Fon, Chairman of the Planning Board
Town of Yorktown
363 Underhill Avenue
Yorktown, NY 10598

Re: Mitigation Plan for Proposed Granite Knolls Park Solar Project
HESP Solar, LLC
Town of Yorktown, Westchester County, New York

Dear Mr. Fon:

The proposed 0.999 MW AC Granite Knolls Park Solar project ("Project") is located on Westchester County Parcel 26.09-1-22, which is a Town of Yorktown Park, consisting of sports field and wooded/grassed areas. The project will involve the proposed removal of 33 trees. As per The Town of Yorktown's Tree Law, a mitigation plan and Tree Permit is required for the Project. The Tree Permit Application is included as Enclosure A of this mitigation plan.

The mitigation measures provided below are based upon the options provided in the Tree Law, as well as items deemed likely to be important to the Town.

Tree Survey:

The tree survey was performed by certified arborist, Bartlett Tree Experts, which included a completed inventory of the 107 trees within the project area of which 96 qualify as protected trees. Trees were not surveyed in the areas outside of the proposed project boundary.

Each tree was tagged and is identified by number and categorized by condition ("dead", "poor", "fair", or "good") on the tree inventory list. Trees that are considered "poor" are falling apart, hazardous, and beyond salvaging. There is a total of 96 protected trees within the surveyed areas. Of these 96 surveyed protected trees, 74 are to remain, 10 are in either on "poor" condition or dead, resulting in 12 protected trees being cut and requiring mitigation measures to compensate for the impact of their removal.

See table below for a summary of the trees surveyed on the project property:

Total trees surveyed	107
Total trees to be removed	33
Total trees with a DBH greater than 8" to be removed	22
Less: dead/poor trees to be removed	10
Total protected trees to be removed	12
Average DBH of protected trees	13.32"



Mitigation Plan:

In accordance with the Town's Tree Law, we are proposing mitigation measures outline in section 270-10(D)(4) of the tree ordinance. First, we are proposing planting 44 new evergreen trees. See the detailed mitigation plan measures provided below.

New tree plantings:

The Landscaping Plan for the project involves 44 new evergreen trees across selected parts of the property. This includes the front yard along Stoney Street, along the entrance driveway north of the project location, and adjacent to the solar carport canopy system. All the trees planted will be evergreen species in order to provide year-round coverage, including White Fir, White Spruce, Canadian Hemlock and Colorado Spruce. These trees have installed heights ranging from 6 to 8 feet high and mature sizes ranging from 50 to 75 feet.

Planting of pollinator Friendly Seed Mix:

A pollinator friendly seed mix will be spread on the disturbed area at the Project site at the completion of construction in an effort to support a diverse ecosystem and habitat for pollinators within the project site.

Proposed Solar Farm Carbon Offset:

The EPA Greenhouse Gas Calculator was utilized to determine the positive environmental impacts that the proposed 0.999 MW AC Project will have. At peak capacity, the Project can save approximately 909 Metric Tons of Carbon Dioxide emissions per year. This is equivalent to the Carbon Dioxide sequestered by 1,076 acres of U.S. forests, 196 passenger vehicles driven per year or the offset of residential home electricity generated by 115 homes per year. Over the 25-year lifespan of the Project, the carbon offset will result in an enormously positive environmental impact by its carbon offset alone.

Suggestions from Tree Conservation Advisory Commission, Conservation Board, Planning Board and Public:
Any suggestions from the Tree Conservation Advisory Commission, Conservation Board, Planning Board and the Public will be considered for this Project. These suggestions may include additional mitigation opportunities, or any other measures deemed necessary for a complete Mitigation Plan for the Project.

We look forward to your consideration of this Mitigation Plan. It is our goal to cooperate with the Town as much as possible to ensure this Projects construction and completion. The clean, renewable, energy provided by this Project will be a great benefit to the Town and its citizens, allowing for a successful partnership for all involved parties for the life of this Project.

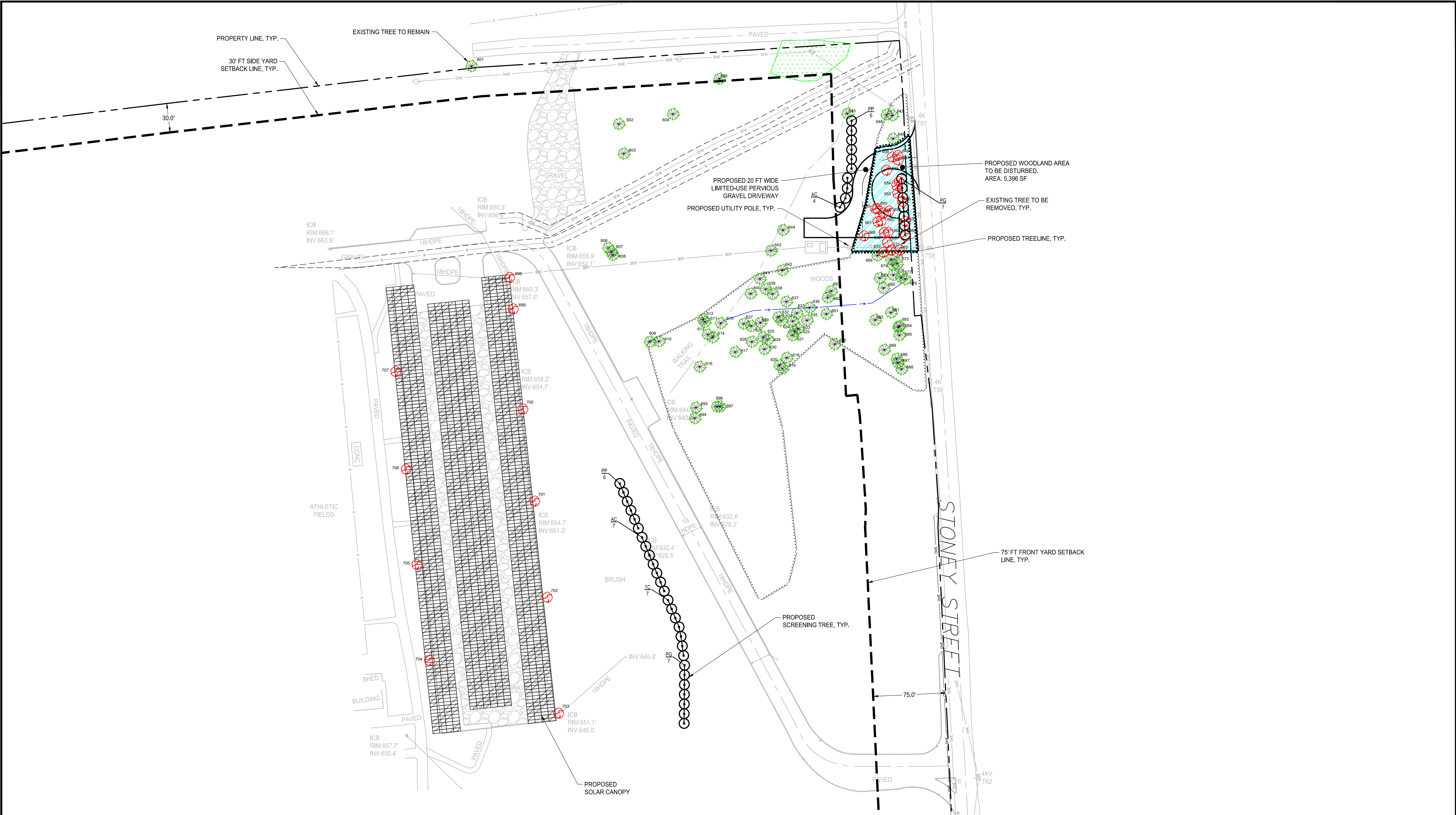
If you should have any questions or require any additional information, please do not hesitate to contact me via phone at (518) 556-3631 or by email at eredding@bergmannpc.com.

Sincerely,

Eric Redding, PE, LEED AP
Discipline Leader, BERGMANN

Enclosures:

- Enclosure A: Tree Mitigation Site Plan
- Enclosure B: US EPA Greenhouse Gas Equivalency Calculator
- Enclosure C: Tree Inventory



LEGEND

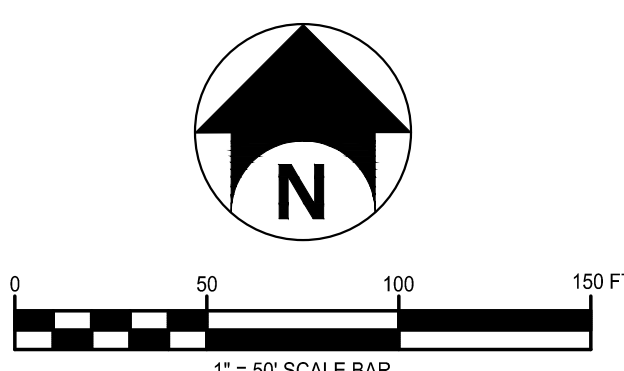
	PROPERTY LINE		EXISTING EDGE OF ASPHALT
	SET BACK LINE		APPROXIMATE EXISTING TREELINE
	STONE WALL		PROTECTED WOODLAND AREA TO BE DISTURBED
	ADJOINER PROPERTY LINE		EXISTING WETLAND (PEM - NON WOTUS)
	ROAD RIGHT-OF-WAY		EXISTING UTILITY POLE
	EXISTING ROAD CENTERLINE		PROPOSED UTILITY POLE
	EXISTING OVERHEAD WIRE		EXISTING TREE TO BE REMOVED
	EXISTING STREAM CENTERLINE		EXISTING TREE TO REMAIN
	PROPOSED FENCE LINE		PROPOSED SCREENING TREE
	EXISTING FENCE LINE		
	PROPOSED OVERHEAD UTILITY LINE		
	PROPOSED UNDERGROUND UTILITY LINE		
	PROPOSED SWALE		
	PROPOSED TREELINE		
	SWALE CENTERLINE		
	EXISTING BUILDING		

TREE MITIGATION DATA TABLE

TREES TO BE REMOVED	TREES TO REMAIN	PROTECTED WOODLAND AREA DISTURBED (SF)
33	74	5396

PLANT LIST

Key	Qty.	Botanical Name	Common Name	Mature Size		Installed Size	Condition	DBH
				Height	Spread			
Evergreen Trees								
AC	11	Abies Concolor	White Fir	50'-75'	20'-30'	6'-7' Ht.	B&B	3"
PG	14	Picea Glauca	White Spruce	40'-60'	10'-20'	8' Ht.	B&B	3"
TC	7	Tsuga Canadensis	Canadian Hemlock	40'-70'	25'-35'	8' Ht.	B&B	3"
PP	12	Picea Pungens	Colorado Spruce	30'-60'	10'-20'	7'-8' Ht.	B&B	3"
TOTAL	44							



2 Winners Circle, Suite 102
Albany, NY 12205
www.bergmannpc.com
office: 518.862.0325

HESP SOLAR, LLC

GRANITE KNOLLS PARK SOLAR PROJECT

2975 STONEY STREET
MOHEGAN LAKE, NY 10547

Date Revised	Description
10/27/2021	REVISED PER CLIENT COMMENTS
11/09/2021	REVISED PER CLIENT COMMENTS
01/06/2022	REVISED PER CLIENT COMMENTS
03/01/2022	REVISED PER TOWN COMMENTS
04/08/2022	REVISED PER TOWN COMMENTS
08/26/2022	REVISED PER TOWN COMMENTS

NOT FOR CONSTRUCTION

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
AG	MDP
Date Issued	Project Number
09/15/2021	15111.00

Sheet Name

LANDSCAPING/TREE MITIGATION SITE PLAN

Drawing Number

C008

909 Metric Tons of Carbon Dioxide (CO₂) equivalent

This is equivalent to greenhouse gas emissions from:

196 gasoline-powered passenger
vehicles driven for one year 

[<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#vehicles>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#vehicles)



2,257,532 miles driven by an average
gasoline-powered passenger vehicle 

[<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#miles>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#miles)



This is equivalent to CO₂ emissions from:

102,339 gallons of gasoline consumed 

[<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gasoline>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gasoline)



89,340 **gallons of diesel consumed** 

<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#diesel>




1,006,264 **pounds of coal burned** 

<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#lbscoal>




12 **tanker trucks' worth of gasoline**


 <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#tankers>




115 **homes' energy use for one year**

 <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#houseenergy>




177 **homes' electricity use for one**
year  <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#houseelec>




5 **railcars' worth of coal burned** 
<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#railcars>




2,106 **barrels of oil consumed** 
<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#oil>




37,139 **propane cylinders used for home**
barbeques  <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#propane>




0.0002 **coal-fired power plants in one year**  [<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#coalplant>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#coalplant)




0.002 **natural gas-fired power plants in one year**  [<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gasplant>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gasplant)



110,632,313 **number of smartphones charged**  [<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#smartphones>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#smartphones)




This is equivalent to greenhouse gas emissions avoided by:

315 **tons of waste recycled instead of landfilled**  [<https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#recycle>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#recycle)




45 **garbage trucks of waste recycled**

instead of landfilled  <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gtrucks>




39,368 **trash bags of waste recycled**

instead of landfilled  <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#trash>



0.247 **wind turbines running for a year**

 <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#wind>



34,470 **incandescent lamps switched to**

LEDs  <https://epa.gov/energy/greenhouse-gases-equivalencies->



calculator-calculations-and-references#lights>



This is equivalent to carbon sequestered by:

15,038 tree seedlings grown for 10 years

[? <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#seedlings>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#seedlings)



1,076 acres of U.S. forests in one year

[? <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#pineforests>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#pineforests)



6.1 acres of U.S. forests preserved from conversion to cropland in one year

[? <https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#deforestation>](https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#deforestation)



GRANITE KNOLLS PARK SOLAR PROJECT TREE INVENTORY

Tree ID	Common Name	Genus	Species	DBH	Stems	Condition Class	
601	Juniper-Eastern Redcedar	Juniperus	virginiana	22	2	Fair	(remain)
602	Crabapple	Malus	sp	13	2	Poor	
603	Cherry	Prunus	sp	28	1	Fair	
604	Ash-Green	Fraxinus	pennsylvanica	8	1	Poor	
605	Honeylocust-Thornless Common	Gleditsia	triacanthos var. inermis	18	1	Good	
606	Crabapple	Malus	sp	9	1	Poor	
607	Crabapple	Malus	sp	11	3	Fair	
608	Crabapple	Malus	sp	8	2	Fair	
609	Locust-Black	Robinia	pseudoacacia	12	1	Fair	
610	Locust-Black	Robinia	pseudoacacia	17	1	Good	
611	Locust-Black	Robinia	pseudoacacia	8	1	Fair	
612	Locust-Black	Robinia	pseudoacacia	16	1	Good	
613	Hickory-Pignut	Carya	glabra	9	1	Good	
614	Maple-Red	Acer	rubrum	7	2	Fair	
615	Maple-Red	Acer	rubrum	8	3	Fair	
616	Tree of Heaven	Ailanthus	altissima	28	1	Poor	
617	Oak-Swamp White	Quercus	bicolor	9	1	Good	
618	Oak-Swamp White	Quercus	bicolor	13	1	Good	
619	Locust-Black	Robinia	pseudoacacia	17	1	Poor	
620	Locust-Black	Robinia	pseudoacacia	17	1	Poor	
621	Locust-Black	Robinia	pseudoacacia	25	1	Fair	
622	Maple-Sugar	Acer	saccharum	9	1	Poor	
623	Maple-Sugar	Acer	saccharum	8	1	Fair	
624	Maple-Sugar	Acer	saccharum	13	1	Good	
625	Maple-Sugar	Acer	saccharum	8	1	Good	
626	Maple-Red	Acer	rubrum	18	3	Poor	
627	Maple-Sugar	Acer	saccharum	12	2	Good	
628	Maple-Sugar	Acer	saccharum	10	1	Fair	
629	Cherry	Prunus	sp	8	1	Fair	
630	Locust-Black	Robinia	pseudoacacia	13	1	Fair	
631	Maple-Sugar	Acer	saccharum	11	1	Good	
632	Maple-Sugar	Acer	saccharum	8	1	Good	
633	Maple-Sugar	Acer	saccharum	12	1	Good	
634	Locust-Black	Robinia	pseudoacacia	11	1	Fair	
635	Locust-Black	Robinia	pseudoacacia	8	1	Poor	
636	Locust-Black	Robinia	pseudoacacia	26	1	Poor	
637	Maple-Sugar	Acer	saccharum	13	1	Good	
638	Maple-Sugar	Acer	saccharum	9	1	Good	
639	Maple-Sugar	Acer	saccharum	9	1	Poor	
640	Maple-Sugar	Acer	saccharum	23	1	Good	
641	Locust-Black	Robinia	pseudoacacia	22	1	Fair	
642	Locust-Black	Robinia	pseudoacacia	14	1	Poor	
643	Ash-Green	Fraxinus	pennsylvanica	11	1	Dead	
644	Crabapple	Malus	sp	32	1	Poor	
645	Locust-Black	Robinia	pseudoacacia	20	1	Good	
646	Locust-Black	Robinia	pseudoacacia	16	1	Poor	
647	Locust-Black	Robinia	pseudoacacia	16	2	Fair	
648	Maple-Sugar	Acer	saccharum	13	1	Good	
649	Maple-Sugar	Acer	saccharum	12	1	Fair	Removed
650	Maple-Sugar	Acer	saccharum	12	1	Good	Removed
651	Maple-Sugar	Acer	saccharum	9	1	Fair	Removed
652	Locust-Black	Robinia	pseudoacacia	13	1	Poor	Removed
653	Locust-Black	Robinia	pseudoacacia	12	1	Poor	Removed
654	Locust-Black	Robinia	pseudoacacia	14	1	Poor	Removed
655	Locust-Black	Robinia	pseudoacacia	11	1	Poor	Removed
656	Maple-Sugar	Acer	saccharum	9	1	Poor	Removed

657	Locust-Black	Robinia	pseudoacacia	13	1	Fair	Removed
658	Locust-Black	Robinia	pseudoacacia	14	1	Fair	Removed
659	Locust-Black	Robinia	pseudoacacia	15	1	Poor	Removed
660	Maple-Sugar	Acer	saccharum	8	1	Fair	Removed
661	Maple-Sugar	Acer	saccharum	9	1	Fair	Removed
662	Locust-Black	Robinia	pseudoacacia	14	1	Poor	Removed
663	Maple-Red	Acer	rubrum	13	1	Poor	Removed
664	Maple-Sugar	Acer	saccharum	10	1	Fair	Removed
665	Maple-Sugar	Acer	saccharum	11	1	Good	Removed
666	Locust-Black	Robinia	pseudoacacia	13	1	Fair	Removed
667	Locust-Black	Robinia	pseudoacacia	15	1	Fair	Removed
668	Hickory-Pignut	Carya	glabra	9	1	Good	Removed
669	Cherry	Prunus	sp	8	1	Fair	
670	Maple-Sugar	Acer	saccharum	3	1	Fair	Removed
671	Maple-Sugar	Acer	saccharum	10	1	Fair	Removed
672	Maple-Sugar	Acer	saccharum	14	1	Fair	Removed
673	Locust-Black	Robinia	pseudoacacia	14	1	Fair	
674	Locust-Black	Robinia	pseudoacacia	14	1	Fair	
675	Locust-Black	Robinia	pseudoacacia	12	1	Poor	
676	Maple-Sugar	Acer	saccharum	9	1	Fair	
677	Maple-Sugar	Acer	saccharum	8	1	Fair	
678	Locust-Black	Robinia	pseudoacacia	21	1	Dead	
679	Maple-Sugar	Acer	saccharum	10	1	Fair	
680	Maple-Sugar	Acer	saccharum	13	1	Good	
681	Maple-Sugar	Acer	saccharum	12	1	Good	
682	Maple-Sugar	Acer	saccharum	15	1	Good	
683	Maple-Sugar	Acer	saccharum	10	3	Fair	
684	Maple-Sugar	Acer	saccharum	14	1	Fair	
685	Maple-Sugar	Acer	saccharum	14	1	Fair	
686	Locust-Black	Robinia	pseudoacacia	14	1	Fair	
687	Maple-Sugar	Acer	saccharum	13	1	Fair	
688	Locust-Black	Robinia	pseudoacacia	13	1	Poor	
689	Maple-Sugar	Acer	saccharum	13	1	Poor	
690	Maple-Red	Acer	rubrum	16	1	Good	
691	Locust-Black	Robinia	pseudoacacia	14	1	Fair	
692	Maple-Sugar	Acer	saccharum	12	1	Fair	
693	Locust-Black	Robinia	pseudoacacia	13	1	Poor	
694	Maple-Sugar	Acer	saccharum	18	1	Fair	
695	Maple-Norway	Acer	platanoides	18	1	Good	
696	Locust-Black	Robinia	pseudoacacia	13	1	Poor	
697	Locust-Black	Robinia	pseudoacacia	12	1	Poor	
698	Oak-Northern Red	Quercus	rubra	3	1	Fair	Removed
699	Oak-Northern Red	Quercus	rubra	3	1	Good	Removed
700	Oak-Northern Red	Quercus	rubra	4	1	Good	Removed
701	Oak-Northern Red	Quercus	rubra	3	1	Poor	Removed
702	Oak-Northern Red	Quercus	rubra	3	1	Fair	Removed
703	Oak-Northern Red	Quercus	rubra	3	1	Fair	Removed
704	Maple-Sugar	Acer	saccharum	3	1	Fair	Removed
705	Oak-Pin	Quercus	palustris	3	1	Fair	Removed
706	Oak-Pin	Quercus	palustris	3	1	Fair	Removed
707	Oak-Pin	Quercus	palustris	3	1	Poor	Removed