



Received 7/26/21

**Whispering Oaks**  
**Memorandum Re: Section 43.4.4 Findings**

**43.4.4 Findings** In approving a zone change and Preliminary or Final Development Plan submitted under this Section, the Commission shall consider whether:

- A. The purposes specified in Section 43.4 have been substantially met.

All units are single level and can easily be adaptable to meet individual needs. The development will be declared as a condominium. The Declaration will require that the development meets the definition of an Age Restricted Plan Residential Development (ARPRD), as set forth in Section 23 Definitions and Section 43.4 of the Zoning Regulations, including the requirement that at least one occupant be age 55 or older.

As a result of public hearing comments, the applicant reduced the number of and increased the size of the units.

Plans call for thirteen (13) acres of Open Space and provide a balance and variety of housing types and styles diverse from the single family residential subdivision.

Consistent with the 2002 Plan of Development and Conservation and the current (2016) Plan of Conservation and Development (Page 23), both calling for "... a variety of housing types which offers a choice to meet the needs of various income levels and lifestyles."

Recent development in the town shows there are limited opportunities to find properties serviced by public water and sewers that are suitable for increased density while providing for reservation of open space, a goal of the Plan of Conservation and Development.

- B. The qualifying standards of Section 43.4.1 and the design standards of Section 43.4.8 have been met.

Plans and submittals show that the proposed development meets the qualifying standards of Section 43.4.1 including:

- 10 acres required, 24+ acres provided
- located in an R-40 zone
- Public Water and Sewer

The plans submitted show that number of units, number of bedrooms, ground coverage, private access, setbacks, parking, open space, etc. all meet the requirements of Section 43.4.8.

- C. Provisions for traffic, water, sewerage, storm water and open space are adequate, do not overburden existing streets, water, sewer and storm water drainage facilities on-or off-site and do not create water problems off-site.

**Professional engineers have reported on traffic and stormwater. The applicant has received Feasibility Approval from the Water Pollution Control Authority and the treatment plant has capacity to sewer the development. The Regional Water Authority has submitted favorable comments. Thirteen (13) acres of open space are provided.**

- D. No congestion in the streets surrounding the site will result from the ARPRD and the proposed development design will not require upgrading of the street system of the Town of Cheshire. This requirement can be waived only if the Commission and the Town Council, in their sole discretion, elect to permit the necessary upgrading at the applicant's expense. To make the necessary analysis, the applicant may be required to provide additional information, plans and data at his expense.

**Licensed Professional Engineer has testified regarding traffic and submitted reports. No upgrading of streets is required.**

- E. The proposed development design will not require upgrading of the existing "on" or "off" site sewer, water and similar municipal systems and drainage systems. To make the necessary analysis, the applicant may be required to provide additional information, plans and data at his expense.

**No upgrading of municipal systems and drainage systems is required. All connections and improvements are to be done by the developer and at the developer's expense.**

- F. The need exists in the community for a different type of housing unit than is allowed under the base zone.

**Plan of Conservation and Development (2016) recognizes that the median age of the population of the Town continues to increase and is higher than it was in 2002 when Section 43.4 of the Zoning Regulations was adopted.**

**The Wellspeak Dugas and Kane, L.L.C. report dated May 6, 2021 shows there is a market for additional age restricted housing in Cheshire.**

**No age restricted housing has been approved in Cheshire since 2005. Since 2005, approximately 360 single family residential subdivision lots have been approved. Plan of Conservation and Development (2016) at page 23 states that it is principal goal of the plan ... "to provide a variety of housing types which offer a choice to meet the needs of various income levels and life styles."**

- G. The development and design of the ARPRD will not have an adverse effect on surrounding properties, will be in harmony with the neighborhood, and will not have an adverse effect on property values in the area. The proposed development will not create an undue concentration of PRD's, particularly ARPRD's.

**The applications are for a residential development in a Residential R-40 Zone pursuant to Section 43.4 of the Zoning Regulations.**

**The project land abuts the Copper Beech Road subdivision, a cluster subdivision allowing for higher density also in an R-40 zone with lots as small as .57 acres.**

**Applicant has provided for:**

- **a 38 feet setback from adjacent properties on Charles Drive. A standard R-40 subdivision rear yard setback would be 40 feet.**
- **buffering along boundaries of adjacent residential properties. A standard R-40 subdivision would require no buffer and potential clearing could be to the property line.**
- **setback from Wallingford Road 100', R-40 lot setback would be 40'**
- **significant buffering/plantings from Wallingford Road**
- **detention of Stormwater runoff on site**

**Traffic report and testimony that there is no significant difference between the proposed development and a conventional R-40 subdivision and that the 34 unit ARPRD will have no significant effect on Wallingford Road or the nearby intersections.**

**Property Values – there is no empirical evidence that the proposed development or similar existing developments have a negative effect on values of neighboring properties. Research of the assessor's records and conversations with the assessor show there is no factor used or required to be used to reduce property values and accordingly to reduce assessments for properties abutting or in the vicinity of ARPRDs.**

**Examples of where there does not appear to have been any effect on property values include Fawn Drive and Southwick on South Main Street and Carriage House Commons adjacent to North Pond.**

**New subdivisions – Baxter Court and Orchard View have been approved in close proximity to Richmond Glen ARPRD on Wiese Road.**

**Undue Concentration:**

**Determination is subjective. There are no ARPRDs located in what would be considered the Charles Drive and Tamarac neighborhoods.**

**Cheshire Crossing is about a mile away.**

**Richmond Glen 1.6 miles.**

**Stonegate 2 miles.**

- H. The proposed development will not have a significant adverse effect on the environment and in particular wetland and watercourse areas. In making this finding the recommendations of the Inland Wetlands and Watercourses Commission regarding the development will be taken into account.
- The development has received an approval from the Inland Wetlands and Watercourses Commission (IWWC) which included review of a Wetland Impact Assessment by SLR Consulting
  - Wetlands disturbance will be restored – Restoration Plan approved by IWWC
  - Other wetlands on the site protected as open space
  - The Regional Water Authority has reviewed the plans and commented favorably
- I. Where appropriate, the applicant has provided for continuing maintenance of private roads, parking areas, storm water drainage facilities, open space and other amenities not accepted by the Town of Cheshire.
- The development will be declared as a condominium pursuant to Connecticut Statute
  - A Homeowner's Association will be established and will be responsible for maintenance of roads, parking areas, Stormwater drainage facilities, and all other improvements within the development

Received 7/26/21

# kratzert, jones & associates, inc.

CIVIL ENGINEERS • LAND SURVEYORS • SITE PLANNERS

1755 MERIDEN-WATERBURY ROAD, BOX 337, MILLDALE, CONNECTICUT 06467-0337

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AN EQUAL OPPORTUNITY EMPLOYER - M - F

To: Planning and Zoning Commission  
Town of Cheshire  
84 South Main Street  
Cheshire, CT 06410

Re: Whispering Oaks application, 648 Wallingford Road

Date: July 26, 2021

The following responses are in response to comments raised at the July 12, 2021 public hearing for the above referenced application.

1. Engineering and Stormwater Design Standards:

The site engineering and stormwater design in particular have been developed to the current professional engineering standards, the Town regulations and been reviewed by the Town Engineering staff for the 40 unit layout and the current 34 unit layout. All comments raised have been addressed per the July 22, 2021 review letter. The applicant agrees to the recommendations for conditions of approval and updating the technical note referenced in the review letter. (See attached review letter.)

The stormwater management for the project has been designed and review by the Town for modeling of pre-development conditions, design of post-development conditions to not exceed pre-development runoff rates (flood control) and water quality treatment. A stormwater model using the computer software program Hydraflow Hydrographs utilizing the DeKalb rational method (represent storm volume and runoff rates) and the TR55 method was developed for the pre-development and post-development conditions. Runoff rates are based upon the NOAA Cheshire geographically localized data from National Weather Service data. Attached is a sampling of the data with the 24-hour duration highlighted for the 1 through 1000 year average recurrence interval. Also, included is the Hartford area calendar day precipitation totals sorted from highest to lowest for comparison to the statistical data for Cheshire. Although there are differences due to geography and calendar verses 24-hour, the data for the model is conservatively accurate for design purposes.

2. Stormwater Runoff Concerns:

Stormwater Management for runoff rates and water quality has been professionally designed and approved by the Town Engineering staff. Analysis was performed by modeling two watershed areas for the site. In the pre-development condition, watershed "EX-1" represents the 6 acres draining southwesterly to the Wallingford Road culvert and "EX-2" represents the 10.5 acres draining northwesterly toward the inland wetlands. In the post-development conditions the peak rate of runoff is attenuated by approximately

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70 percent for "PR-1" towards Wallingford Road and approximately 25 percent for "PR-2" towards the wetlands for the 2-year through the 100-year storm event. This peak runoff protection is achieved through watershed management, groundwater recharge units of the roof water and a stormwater basin with peak controls. The proposed design achieves Zero Increase in Runoff rates for the 2-year through the 100-year storm events.

The open space preservation also helps to ensure the the natural drainage patterns leading off site are maintained. There are no changes to the site runoff conditions proposed northwest of the wetland area towards Talmadge Road.

Water quality volumes and treatment have also been addressed in accordance with the CT DEEP standards and reviewed by Town Engineering staff. The stormwater system is designed to remove more than 80 percent of the total suspended solids.

Soil testing was performed throughout the site and provided with previous plan submissions to demonstrate the suitability of the proposed stormwater management facilities.

### 3. Landscaping:

The development plans call for the construction of a 4-foot high landscape berm along Wallingford Road with shrub and tree plantings as shown on sheet S-1. Along the easterly and westerly property lines extending from Wallingford Road a vinyl privacy fence is to be installed. From unit 2 northerly on the west property line and from unit 5 northerly along the east property line, native Atlantic cedars are proposed to provide year round natural screening of the project. The existing stone wall and trees along the east property line are also to remain.

Native deciduous trees and foundation shrub plantings are proposed throughout the project to provide shade and aesthetic enhancement to the curvi-linear New England design of the project.

### 4. Earthwork:

Site earthwork computations have been provided on sheet G-3 of the plans. The proposal is for the site earthwork to be balanced with the site grading, basement excavation and roadway work being completed utilizing the earth material on site without importing or exporting earthen material from the site.

# Barton &Loguidice

July 22, 2021

Mr. George Noewatne, Director of Public Works & Engineering  
Town of Cheshire  
84 South Main Street  
Cheshire, CT 06410

Dear Mr. Noewatne:

Barton & Loguidice, LLC has received the following information:

- Plan set for Whispering Oaks, An Age Restricted Planned Residential Development, 648 Wallingford Road, Cheshire, Connecticut dated March 24, 2021 and revised through 7/16/21 prepared by Kratzert, Jones & Associates;
- Water Quality Volume calculations revised 07/09/21;
- Response letter dated July 19, 2021.

We have no additional comments. We would just like to reiterate our recommendation that it be a condition of approval that the construction of the stormwater basin be reviewed with town staff at the time of construction to determine if any design modifications are required based on soil and groundwater conditions. It is also recommended that town staff review the proposed roof infiltration locations during construction.

Please note that the height of the forebay riprap filter berm appears to be incorrect on the detail (sheet D-3) as noted previously in comment #3. Also, the second riprap filter berm at the detention basin outlet as described in the response to previous comment #4 has not been included on the plans.

If you have any questions regarding the above comments, please contact me at (860) 633-8770.

Sincerely,



Denise P. Lord, P.E.  
Lead Engineer



NOAA Atlas 14, Volume 10, Version 3  
Location name: Cheshire, Connecticut, USA\*  
Latitude: 41.4915°, Longitude: -72.8791°  
Elevation: 314.84 ft\*\*  
\* source: ESRI Maps  
\*\* source: USGS



### POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Oran White

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriols](#)

#### PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.340 (0.265-0.427)	0.412 (0.320-0.518)	0.530 (0.410-0.668)	0.627 (0.483-0.795)	0.761 (0.568-1.01)	0.862 (0.630-1.18)	0.967 (0.687-1.37)	1.09 (0.731-1.58)	1.26 (0.814-1.90)	1.40 (0.884-2.16)
10-min	0.482 (0.375-0.605)	0.584 (0.454-0.733)	0.750 (0.581-0.947)	0.888 (0.684-1.13)	1.08 (0.804-1.44)	1.22 (0.892-1.66)	1.37 (0.974-1.95)	1.54 (1.04-2.24)	1.78 (1.15-2.70)	1.98 (1.25-3.06)
15-min	0.567 (0.441-0.711)	0.687 (0.534-0.883)	0.883 (0.684-1.11)	1.05 (0.805-1.33)	1.27 (0.946-1.69)	1.44 (1.05-1.96)	1.61 (1.15-2.29)	1.81 (1.22-2.64)	2.10 (1.36-3.17)	2.33 (1.47-3.60)
30-min	0.793 (0.610-0.983)	0.945 (0.735-1.19)	1.21 (0.937-1.53)	1.43 (1.10-1.81)	1.73 (1.29-2.31)	1.98 (1.43-2.67)	2.20 (1.56-3.12)	2.47 (1.66-3.60)	2.86 (1.85-4.33)	3.18 (2.01-4.92)
60-min	1.00 (0.778-1.25)	1.20 (0.898-1.51)	1.54 (1.19-1.94)	1.82 (1.40-2.30)	2.20 (1.64-2.93)	2.48 (1.82-3.39)	2.78 (1.98-3.96)	3.13 (2.10-4.56)	3.62 (2.35-5.48)	4.03 (2.55-6.24)
2-hr	1.32 (1.03-1.64)	1.67 (1.23-1.96)	1.99 (1.55-2.49)	2.33 (1.81-2.94)	2.81 (2.11-3.72)	3.17 (2.33-4.30)	3.55 (2.54-5.01)	3.98 (2.69-5.76)	4.61 (2.99-6.93)	5.13 (3.25-7.88)
3-hr	1.53 (1.20-1.90)	1.82 (1.43-2.26)	2.30 (1.80-2.87)	2.70 (2.10-3.39)	3.25 (2.45-4.29)	3.66 (2.71-4.95)	4.10 (2.94-5.77)	4.60 (3.12-6.63)	5.33 (3.47-7.99)	5.94 (3.78-9.11)
6-hr	1.94 (1.54-2.39)	2.32 (1.84-2.86)	2.95 (2.32-3.65)	3.47 (2.72-4.32)	4.18 (3.17-5.48)	4.71 (3.51-6.33)	5.28 (3.82-7.41)	5.95 (4.05-8.52)	6.93 (4.53-10.3)	7.76 (4.95-11.8)
12-hr	2.39 (1.91-2.93)	2.90 (2.31-3.55)	3.72 (2.95-4.58)	4.40 (3.48-5.45)	5.34 (4.09-6.97)	6.04 (4.53-8.09)	6.79 (4.95-9.51)	7.69 (5.25-11.0)	9.05 (5.94-13.4)	10.2 (6.53-15.4)
24-hr	2.81 (2.26-3.41)	3.46 (2.77-4.21)	4.51 (3.61-5.51)	5.39 (4.29-6.63)	6.60 (5.09-8.58)	7.49 (5.66-10.0)	8.46 (6.23-11.9)	9.67 (6.62-13.7)	11.5 (7.59-17.0)	13.2 (8.45-19.8)
2-day	3.17 (2.57-3.82)	3.96 (3.21-4.79)	5.26 (4.24-6.39)	6.34 (5.08-7.75)	7.83 (6.09-10.2)	8.91 (6.80-11.9)	10.1 (7.54-14.2)	11.7 (8.02-16.4)	14.2 (9.34-20.7)	16.4 (10.5-24.4)
3-day	3.44 (2.80-4.13)	4.32 (3.51-5.20)	5.75 (4.65-6.95)	6.94 (5.58-8.44)	8.58 (6.70-11.1)	9.77 (7.49-13.0)	11.1 (8.31-15.5)	12.8 (8.84-18.0)	15.6 (10.3-22.8)	18.1 (11.7-26.9)
4-day	3.69 (3.01-4.42)	4.62 (3.77-5.55)	6.15 (4.99-7.41)	7.42 (5.98-8.99)	9.16 (7.17-11.8)	10.4 (8.01-13.8)	11.8 (8.89-16.5)	13.7 (9.44-19.1)	16.7 (11.0-24.2)	19.3 (12.5-28.6)
7-day	4.40 (3.61-5.24)	5.44 (4.45-6.49)	7.13 (5.82-8.54)	8.54 (6.93-10.3)	10.5 (8.24-13.4)	11.9 (9.17-15.6)	13.5 (10.1-18.6)	15.5 (10.7-21.5)	18.7 (12.4-26.9)	21.4 (13.9-31.6)
10-day	5.11 (4.21-6.06)	6.20 (5.10-7.37)	7.99 (6.55-9.54)	9.48 (7.72-11.4)	11.5 (9.07-14.6)	13.0 (10.0-17.0)	14.7 (11.0-20.1)	16.7 (11.6-23.2)	19.9 (13.3-28.7)	22.7 (14.7-33.3)
20-day	7.31 (6.07-8.62)	8.49 (7.03-10.0)	10.4 (8.59-12.3)	12.0 (9.83-14.3)	14.2 (11.2-17.8)	15.8 (12.2-20.3)	17.6 (13.1-23.5)	19.6 (13.7-26.8)	22.5 (15.0-32.1)	24.9 (16.2-36.3)
30-day	9.16 (7.64-10.8)	10.4 (8.63-12.2)	12.3 (10.2-14.6)	14.0 (11.5-16.6)	16.2 (12.9-20.2)	18.0 (13.9-22.8)	19.7 (14.6-26.0)	21.6 (15.2-29.5)	24.3 (18.3-34.4)	26.4 (17.2-38.3)
45-day	11.5 (9.59-13.4)	12.7 (10.8-14.9)	14.7 (12.3-17.3)	16.4 (13.6-19.4)	18.8 (14.9-23.1)	20.6 (15.9-25.9)	22.4 (16.6-29.1)	24.1 (17.0-32.8)	26.5 (17.8-37.4)	28.3 (18.4-40.9)
60-day	13.4 (11.2-15.6)	14.8 (12.3-17.1)	16.7 (14.0-19.6)	18.5 (15.3-21.8)	20.9 (16.6-25.6)	22.7 (17.8-28.5)	24.8 (18.2-31.8)	26.3 (18.6-35.5)	28.4 (19.2-40.0)	30.0 (19.6-43.3)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).  
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.  
Please refer to NOAA Atlas 14 document for more information.

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#### PF graphical



# 1920-2020 NWS NOAA WEATHER DATA DAILY MAX PRECIPITATION

## Monthly Highest Precipitation for Hartford Area, CT (ThreadEx)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	CHESHIRE
1955	0.41	0.90	1.46	0.85	0.26	1.19	0.77	7.70	1.58	3.68	2.14	0.50	1 7.70 (100)	
1938	1.62	0.60	0.62	0.87	1.59	1.93	2.28	1.17	6.10	0.80	0.81	0.95	2 6.10 (50)	7.49"-50 YR
1982	1.86	1.39	0.45	1.27	2.45	5.88	1.71	3.75	0.73	1.42	1.66	0.66	3 5.88 (33)	6.60"-25 YR
1999	1.34	1.39	1.11	0.33	1.23	0.27	1.22	0.90	5.72	0.92	1.42	0.86	4 5.72 (25)	
2005	0.80	0.54	1.96	1.67	0.47	1.08	3.32	0.99	0.82	5.26	1.06	0.87	5 5.26 (20)	
2008	1.00	2.53	1.06	1.85	0.78	1.84	2.12	2.15	5.22	1.37	1.17	1.72	6 5.22 (17)	
1960	1.15	1.80	1.12	0.91	0.61	3.15	2.85	1.30	5.10	1.13	1.60	1.06	7 5.10 (14)	
1989	0.19	0.62	0.86	0.84	4.81	2.84	0.71	2.98	1.20	3.06	0.75	0.46	8 4.81 (13)	
1920	1.00	1.87	0.83	1.15	1.13	2.50	2.60	1.68	4.59	0.56	1.98	2.24	9 4.59 (11)	5.39"-10 YR
1944	0.92	0.35	1.11	2.25	0.82	1.50	0.78	0.95	4.41	1.34	2.21	0.76	10 4.41 (10)	
1959	0.97	1.15	1.37	1.35	0.25	1.39	1.22	1.50	1.01	4.31	0.93	1.30	11 4.31 (9)	
1991	0.54	0.74	0.77	2.08	2.72	1.21	0.95	4.05	3.25	1.20	1.91	1.31	12 4.05 (8)	
2003	0.96	1.00	0.68	0.94	1.60	1.36	0.59	1.99	4.04	1.57	1.08	1.04	13 4.04 (8)	
1923	1.91	0.37	0.85	1.32	1.18	1.35	2.51	0.89	1.23	3.93	1.24	1.23	14 3.93 (7)	
1954	0.45	0.71	0.80	1.74	1.09	0.45	1.31	3.18	3.86	0.78	1.04	1.70	15 3.86 (7)	
2011	1.38	1.44	2.22	2.01	0.85	1.21	0.46	3.84	3.85	1.27	1.33	2.05	16 3.85 (6)	
2013	0.68	1.28	1.09	0.68	1.61	2.53	1.28	3.79	1.29	1.18	3.20	1.17	17 3.79 (6)	
1940	1.78	1.02	1.59	1.44	3.67	0.84	0.80	1.16	1.59	0.89	1.78	1.17	18 3.67 (6)	
2017	0.89	0.95	1.54	1.11	1.54	1.51	1.47	1.52	0.91	3.40	0.29	0.70	19 3.40 (5)	4.41"-5 YR
1937	0.75	0.92	1.54	1.41	1.68	1.59	1.16	1.95	2.03	2.30	3.34	0.52	20 3.34 (5)	
2010	1.51	1.52	1.81	0.47	0.70	0.80	0.83	1.58	1.29	2.26	1.45	3.34	3.34	
1986	2.00	0.63	1.35	0.29	0.70	3.31	1.63	1.23	0.19	0.86	1.23	1.95	3.31	
1994	1.33	0.76	1.65	0.86	1.33	1.35	2.96	2.06	3.30	0.60	1.85	1.76	3.30	
2007	0.93	0.66	1.85	3.21	1.84	1.67	1.34	0.48	0.75	0.96	0.95	0.92	3.21	
1987	1.74	0.28	2.52	1.55	0.70	1.30	1.01	1.16	3.19	1.45	1.52	0.59	3.19	
1972	0.45	1.52	1.65	1.40	2.56	2.34	1.64	1.10	0.54	3.12	2.02	1.36	3.12	
1975	0.90	1.20	1.16	2.18	0.71	1.04	2.47	1.21	3.07	1.62	1.22	1.36	3.07	
2000	1.14	1.02	1.21	2.07	1.30	2.99	2.48	1.87	1.10	0.51	0.63	1.92	2.99	
1929	0.92	2.48	0.86	1.27	1.04	0.79	0.38	2.98	0.49	2.71	1.23	0.65	2.98	
1969	0.60	1.46	1.96	2.98	1.25	1.26	1.50	2.01	1.02	0.49	1.36	2.02	2.98	
1973	1.04	1.90	1.00	1.66	1.10	1.80	0.55	1.72	1.10	1.50	0.48	2.96	2.96	
2006	1.39	1.10	0.46	1.90	2.94	1.87	0.62	0.97	0.77	2.05	1.69	0.69	2.94	
1926	0.91	1.57	1.01	0.62	0.62	0.47	0.66	1.64	0.70	1.35	2.93	1.26	2.93	
1935	1.30	0.96	0.86	0.89	0.78	0.59	1.79	0.25	2.93	0.23	1.13	0.28	2.93	
1979	2.17	1.42	2.48	2.92	0.83	0.46	0.64	1.42	0.81	2.18	1.20	1.39	2.92	
1988	1.05	1.82	0.79	1.58	1.18	0.18	2.72	1.56	1.53	0.87	2.90	0.43	2.90	
1996	1.22	0.59	0.94	2.76	0.88	0.79	2.90	0.69	1.86	1.99	1.70	1.57	2.90	
1970	0.10	1.86	1.10	2.89	1.43	0.86	0.48	1.13	1.10	0.78	0.95	1.20	2.89	
1962	2.18	1.11	1.61	1.56	1.18	0.95	0.95	2.85	1.37	2.12	0.81	0.60	2.85	
2004	0.44	1.11	1.35	2.25	0.76	1.08	0.65	1.18	2.84	0.67	0.98	1.08	2.84	
1932	1.49	0.80	2.80	0.76	1.02	1.66	1.20	1.45	2.55	2.43	2.15	0.39	2.80	
1934	1.31	1.86	0.93	2.53	2.17	2.11	1.31	0.72	2.78	0.91	0.68	1.44	2.78	
1985	0.17	0.70	1.06	0.54	0.88	0.89	1.02	2.73	1.12	0.93	1.79	0.36	2.73	
1998	1.09	0.77	2.40	0.72	2.02	2.70	1.08	0.93	1.08	2.11	1.17	0.30	2.70	
1971	0.66	1.16	0.91	0.57	1.39	0.29	0.95	1.77	1.95	2.67	1.56	0.88	2.67	
1945	0.94	1.39	0.70	2.64	1.24	1.32	0.92	1.92	0.76	0.48	1.58	1.65	2.64	
1984	0.35	1.43	1.02	1.49	2.60	1.20	1.95	0.51	0.51	0.90	0.80	0.73	2.60	
1990	0.87	0.60	0.90	1.99	1.26	1.75	1.72	1.93	0.69	2.22	2.56	1.97	2.56	
1967	1.07	0.63	1.39	1.27	2.55	1.09	0.65	1.32	1.00	1.25	0.68	1.60	2.55	
1983	1.13	1.15	1.48	2.47	1.10	1.59	0.70	0.66	0.78	2.01	1.43	1.15	2.47	
1963	0.67	1.41	1.03	0.81	0.68	1.37	1.36	0.39	2.46	0.21	1.69	1.04	2.46	

## 1948-77;2002-21; NWS NOAA WEATHER DATA DAILY MAX PRECIPITATION

Monthly Highest Precipitation for NEW HAVEN TWEED AP, CT													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1972	0.43	1.17	1.20	0.79	2.35	5.24	1.17	0.78	0.90	3.85	2.19	1.44	5.24
1960	0.83	0.91	1.33	0.90	0.99	0.92	1.72	0.63	5.07	1.02	1.08	0.93	5.07
1954	0.53	0.66	0.92	1.78	1.84	0.35	0.21	2.62	4.61	1.28	1.29	2.23	4.61
1971	1.10	1.00	0.87	0.62	0.90	0.20	4.59	2.00	3.55	2.25	1.23	0.66	4.59
1963	0.80	1.26	1.25	1.66	0.68	2.10	0.89	0.62	1.52	0.23	4.33	0.89	4.33
1953	1.03	1.11	2.57	1.46	1.33	0.86	4.29	1.21	0.74	1.10	1.93	1.43	4.29
2006	1.44	0.47	0.23	3.96	3.55	1.63	0.54	4.20	0.84	1.86	1.75	1.06	4.20
2004	0.67	1.68	2.10	3.61	0.67	0.33	1.36	1.37	3.90	0.87	1.00	0.83	3.90
1974	1.16	M	3.76	0.70	0.63	2.00	0.56	0.67	1.95	1.95	M	1.75	3.76
1950	0.47	1.14	0.97	0.55	0.67	1.27	0.61	3.67	0.54	0.87	1.25	0.98	3.67
2021	0.77	0.88	0.96	1.96	1.01	0.70	3.53	M	M	M	M	M	3.53
2007	1.99	0.55	3.47	3.41	0.40	1.83	1.03	1.13	1.70	0.84	0.78	0.71	3.47
2008	0.92	1.98	1.67	2.17	0.83	0.96	2.05	0.90	3.31	0.97	0.92	2.06	3.31
1959	0.87	0.88	1.33	1.53	0.54	1.10	1.23	1.84	0.32	3.24	1.27	1.86	3.24
1955	0.29	0.83	1.13	0.79	0.22	0.89	0.81	3.24	1.08	3.08	2.58	0.32	3.24
2005	1.07	0.54	2.36	2.25	0.41	1.05	2.84	0.29	1.00	3.15	0.97	1.61	3.15
1976	1.85	1.46	0.66	1.74	1.32	0.51	0.82	3.05	0.35	2.78	0.25	1.63	3.05
2017	0.50	0.25	1.17	1.13	1.02	0.18	0.95	0.59	0.68	3.02	0.56	0.34	3.02
1948	1.29	0.43	1.01	2.75	1.59	1.15	0.88	1.42	0.50	0.58	2.56	2.93	2.93
2010	0.86	1.95	2.91	0.78	1.02	0.74	1.65	2.25	0.69	1.27	0.93	2.65	2.91
2009	1.33	0.30	0.86	0.98	0.50	1.56	2.86	0.47	1.61	1.52	1.23	1.45	2.86
2002	0.25	0.30	0.75	1.42	1.59	1.01	0.74	2.27	2.86	1.58	0.86	0.88	2.86
1966	0.67	2.76	0.32	0.57	1.45	0.56	0.99	0.39	2.14	2.18	0.82	0.91	2.76
1968	0.73	0.91	1.17	1.22	1.61	1.25	0.90	0.92	1.68	0.71	1.50	2.73	2.73
2014	0.44	0.74	1.36	1.29	1.49	0.78	0.62	2.72	1.36	0.72	1.06	1.70	2.72
2011	0.90	1.43	0.98	1.62	2.32	1.37	0.26	2.72	2.45	1.16	1.33	1.44	2.72
1975	0.90	0.90	0.50	1.13	0.95	1.40	1.03	0.50	1.57	2.72	2.05	1.61	2.72
1977	1.40	1.25	1.80	1.30	0.71	0.78	0.59	1.00	2.70	1.58	M	M	2.70
1962	2.60	0.93	1.05	2.36	0.32	0.97	0.85	1.37	1.92	1.92	1.26	0.72	2.60
2012	1.04	1.00	0.24	2.00	0.75	1.61	0.75	2.36	2.51	0.76	0.27	0.70	2.51
1969	0.67	1.27	1.32	1.90	1.81	0.35	1.05	0.49	2.50	1.19	1.45	1.69	2.50
1951	0.98	1.45	2.33	1.04	1.39	0.61	1.37	0.78	0.48	1.80	2.49	1.08	2.49
2003	0.89	1.39	1.06	0.63	2.18	1.36	0.47	1.84	2.46	1.39	0.70	1.30	2.46
2018	0.62	1.15	1.06	2.36	0.72	0.89	1.97	0.76	2.26	1.12	1.34	1.32	2.36
1952	1.25	1.03	1.17	1.29	1.56	2.32	0.61	2.23	1.14	0.28	1.78	1.32	2.32
1970	0.10	1.60	0.97	2.30	1.46	1.10	0.18	1.52	0.91	0.45	1.86	0.58	2.30
1958	1.99	1.61	1.20	2.05	1.42	1.14	1.14	1.56	1.19	2.22	1.42	1.10	2.22
2019	1.30	0.69	0.47	1.66	1.12	0.94	1.35	1.09	0.40	2.19	0.69	2.13	2.19
2013	0.44	1.42	0.62	0.51	0.60	2.17	0.60	0.82	0.71	0.37	1.04	1.18	2.17
1967	0.85	0.78	1.97	0.71	2.10	0.89	1.44	1.38	0.48	1.36	0.75	1.26	2.10
1973	1.00	M	1.15	2.09	M	0.96	1.12	1.88	0.84	1.27	0.50	1.84	2.09
1961	0.98	0.92	0.94	1.43	1.47	0.74	1.36	1.42	1.80	1.24	0.57	1.24	1.80
1957	0.78	0.99	0.66	1.71	1.17	0.44	0.81	0.88	0.78	1.48	1.24	1.38	1.71
1964	1.04	0.71	0.69	1.30	0.45	0.58	1.70	1.32	1.17	0.50	0.84	1.44	1.70
1956	0.83	0.88	1.03	0.70	0.77	1.05	1.69	0.52	0.73	1.16	0.96	1.39	1.69
1949	1.02	1.21	0.52	1.06	1.62	0.06	0.54	1.01	0.64	1.41	0.50	0.54	1.62
2020	0.80	0.82	1.47	1.59	0.51	1.01	0.76	0.85	0.87	1.15	1.18	1.47	1.59
2016	1.36	1.14	0.90	0.91	1.48	0.81	0.66	1.22	1.28	1.38	1.21	0.52	1.48
2015	0.96	0.36	0.44	0.78	0.46	0.88	0.47	1.42	0.88	0.74	0.69	0.84	1.42
1965	0.80	0.95	0.58	0.88	0.79	0.66	0.96	1.35	0.41	0.98	0.77	0.55	1.35
2000	M	M	M	M	M	M	0.79	0.60	0.54	M	M	M	0.79
2001	M	M	M	M	M	M	M	M	M	0.43	0.35	0.50	0.50
1999	M	M	M	M	M	M	M	M	M	M	M	M	M
1998	M	M	M	M	M	M	M	M	M	M	M	M	M
1997	M	M	M	M	M	M	M	M	M	M	M	M	M
1996	M	M	M	M	M	M	M	M	M	M	M	M	M
1995	M	M	M	M	M	M	M	M	M	M	M	M	M
1994	M	M	M	M	M	M	M	M	M	M	M	M	M
1993	M	M	M	M	M	M	M	M	M	M	M	M	M
1992	M	M	M	M	M	M	M	M	M	M	M	M	M
1991	M	M	M	M	M	M	M	M	M	M	M	M	M
1990	M	M	M	M	M	M	M	M	M	M	M	M	M
1989	M	M	M	M	M	M	M	M	M	M	M	M	M
1988	M	M	M	M	M	M	M	M	M	M	M	M	M
1987	M	M	M	M	M	M	M	M	M	M	M	M	M
1986	M	M	M	M	M	M	M	M	M	M	M	M	M

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## Summary of Peak Discharge Rates

### WATERSHED #1

Values shown are in Runoff Volumes in Cubic Feet per Second (CFS)

Storm Event	Pre-Development	Post-Development	$\Delta$ (%)
2-year	5.6	1.7	-3.9 (-70%)
5-year	7.1	2.2	-4.9 (-69%)
10-year	8.4	2.6	-5.8 (-69%)
25-year	10.2	3.2	-7.0 (-69%)
100-year	12.9	4.0	-8.9 (-69%)

### WATERSHED #2

Values shown are in Runoff Volumes in Cubic Feet per Second (CFS)

Storm Event	Pre-Development	Post-Development	$\Delta$ (%)
2-year	6.0	4.5	-1.5 (-25%)
5-year	7.6	5.8	-1.8 (-24%)
10-year	9.0	6.7	-2.3 (-26%)
25-year	10.9	7.8	-3.1 (-28%)
100-year	13.8	10.6	-3.2 (-23%)

REVISION-2  
 REVISION-1  
 REVISION-3  
 REVISION-4  
 REVISION-5  
 REVISION-6  
 REVISION-7  
 PROJECT  
 SHEET NO. 1 OF 1  
 SCALE

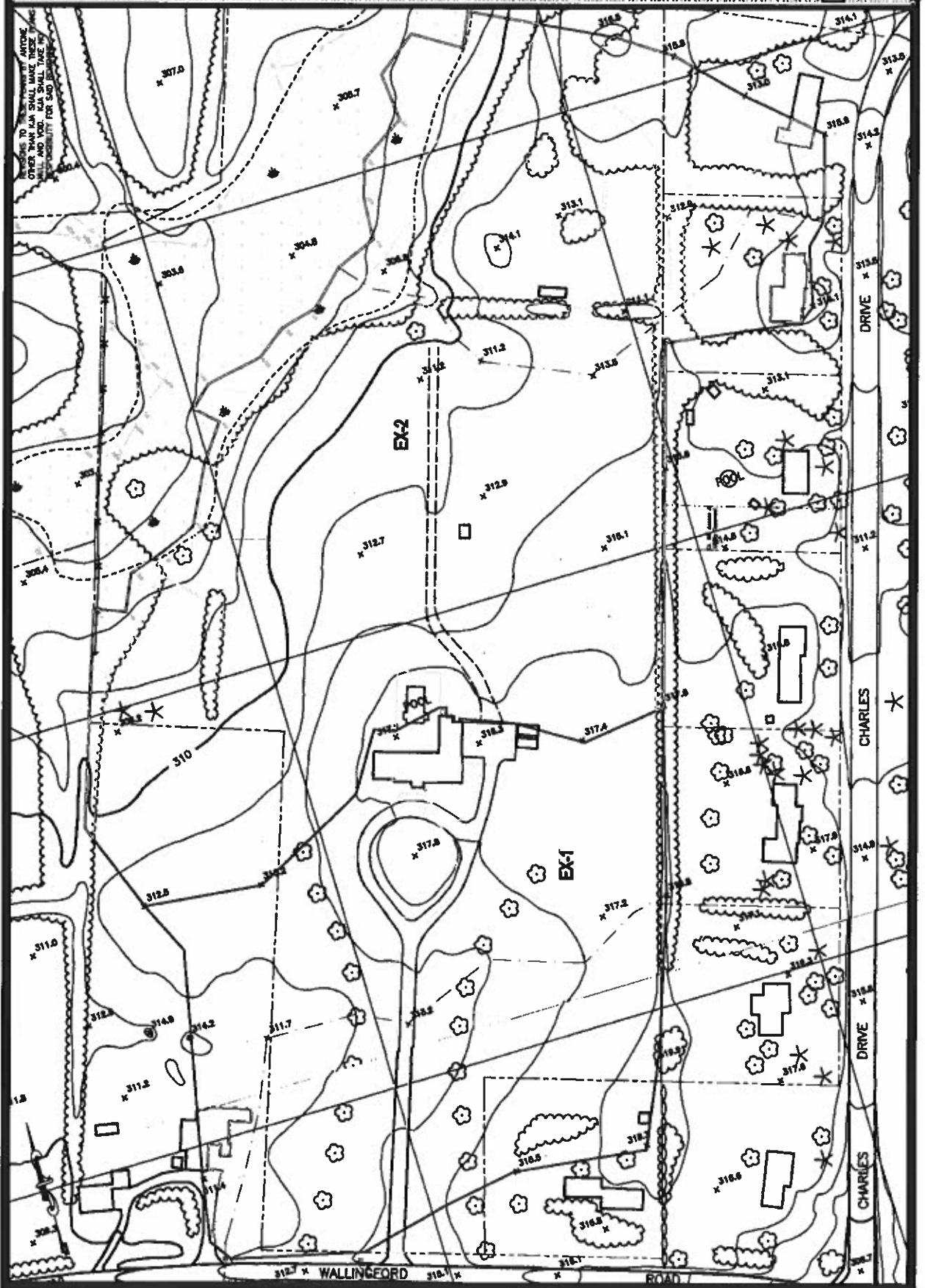
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 WILMINGTON, DE 19801-2000  
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 QUALITY ASSURANCE

PRE-  
 DEVELOPMENT  
 WATERSHED MAP

for  
 WHISPERING OAKS

640 WALLINGFORD  
 ROAD  
 CHESHIRE, CT

SCALE: 1" = 100'  
 DATE: MARCH 24, 2021  
 HALF ONE INCH  
 INCHES ON ORIGINAL  
 220-021 WS-1





RECORD-1	RECORD-2
RECORD-3	RECORD-4
RECORD-5	RECORD-6
RECORD-7	RECORD-8
RECORD-9	RECORD-10
RECORD-11	RECORD-12
RECORD-13	RECORD-14
RECORD-15	RECORD-16
RECORD-17	RECORD-18
RECORD-19	RECORD-20
RECORD-21	RECORD-22
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RECORD-29	RECORD-30
RECORD-31	RECORD-32
RECORD-33	RECORD-34
RECORD-35	RECORD-36
RECORD-37	RECORD-38
RECORD-39	RECORD-40
RECORD-41	RECORD-42
RECORD-43	RECORD-44
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RECORD-89	RECORD-90
RECORD-91	RECORD-92
RECORD-93	RECORD-94
RECORD-95	RECORD-96
RECORD-97	RECORD-98
RECORD-99	RECORD-100

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 PHONE: (612) 622-3030  
 FAX: (612) 622-3030  
 DATE: 03/24/2021

POST-  
 DEVELOPMENT  
 WATERSHED MAP

for  
 WHISPERING OAKS

648 WALLINGFORD  
 ROAD  
 CHESHIRE, CT.

SCALE 1"=
 DATE MARCH 24, 2021  
 HALF ONE INCH  
 INCHES ON ORIGINAL  
 220-021 WS-2

