TOWN OF WALLINGFORD
DEPARTMENT OF PUBLIC UTILITIES
WATER AND SEWER DIVISIONS

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INTEROFFICE MEMORANDUM

TO: ERIN O'HARE, ENVIRONMENTAL PLANNER

FROM: ERIK KRUEGER, P.E., SENIOR ENGINEER, WATER AND SEWER DIVISIONS

SUBJECT: **5 RESEARCH PARKWAY - INLAND WETLANDS AND WATERCOURSES PERMIT APPLICATION NO. A20-10.3**

DATE: NOVEMBER 6, 2020

CC: N. AMWAKE, P.E.; D. SULLIVAN; J. PAWLOWSKI; A. KAPUSHINSKI, P.E., TOWN ENGINEER; B. DELUKE, MONTANTE CONSTRUCTION, LLC; J. CHECKOWAY, 5 RESEARCH PARKWAY WALLINGFORD, LLC; J. DEWEY, BL COMPANIES

General Discussion – Project Understanding:

The existing site consists of approximately 180 acres of partially developed land that once housed the now demolished Bristol Meyers Squibb facility. Much of the site is undisturbed native woodland, and there are approximately 28.6 acres of wetlands on the site. The Muddy River, which is the main tributary stream to the MacKenzie Reservoir public water supply, flows through the site. The entire site is within the watershed for MacKenzie Reservoir and is designated as a Watershed Protection District (WPD) by the Planning and Zoning Commission. Watershed protection regulations for the WPD are enumerated in section 4.13 of the Wallingford Zoning Regulations.

MacKenzie Reservoir has the largest watershed of the Town's four public water supply reservoirs and the tributary area to MacKenzie Reservoir accounts for approximately 75% of total watershed area tributary to our reservoir system. The surface water supply system provides approximately 94% of the public drinking water delivered to approximately 39,000 residents and businesses in the Town of Wallingford. The watershed associated with the Mackenzie Reservoir is critical for supplying the Town with an adequate quantity and quality of potable water.

The proposed development as described in the subject application will include a new 219,000 square foot delivery station building and 1,500 parking spaces in addition to delivery van staging areas and truck loading docks. The site will be excavated and graded to provide a level building pad and parking areas. The ground surface will be excavated and filled with changes in grade in some areas up to 40 vertical feet. The development will create the potential for adverse impacts to the water quality in the Muddy River tributary to MacKenzie Reservoir. It is therefore imperative that all necessary precautions be implemented during and after construction in order to minimize adverse impacts to the Muddy River, MacKenzie Reservoir and subsequently the potable drinking water supply for the residents, businesses and visitors of Wallingford.

The areas to be excavated and filled are very large, and it seems that if the entire area is disturbed at the same time there will be the potential for erosion and sediment control system failures during a large storm event. For this reason, the excavation and filling activities shall be phased so that only limited areas are exposed at any given time. A phased earthwork, excavation and filling plan shall be included with the grading plan so each small area is restored and stabilized prior to opening up the next area.

The proposed development will have about 45 acres of impervious surface area. Section 19-13-B32(i) of the Connecticut Public Health Code regarding watersheds advises that facilities shall be designed to minimize soil erosion and maximize absorption of pollutants by the soil. Large impervious areas, by their very nature, create a conflict with this design requirement. Storm water treatment systems are proposed for the runoff from impervious areas associated with parking areas and traveled ways; however, there will still be a negative impact to the water quality of the runoff leaving the site.

One major concern for the Water Division is the potential for erosion of the native soils during construction and sediment laden runoff entering the Muddy River upstream of the public drinking water supply reservoir. If sediment laden runoff from the site is discharged downstream it potentially could affect the water quality entering MacKenzie Reservoir to the point at which the source would need to be taken out of service. If the reservoir needs to be taken out of service it may negatively impact the Town's ability to meet its water supply needs. It is therefore imperative that all possible best management plans be properly implemented and maintained during construction to reduce the possibility of sediment laden runoff leaving the site.

In addition to the possible negative effects of sediment laden discharges, there are also concerns related to construction equipment and materials at the site which could potentially leak or discharge chemicals, fuel, or other hazardous materials onto the surface.

Therefore, best management practices such as the following shall be implemented during construction:

- Erosion controls shall be designed and installed in accordance with recommended standards, and inspected and approved by the Town prior to and during excavation activity at the site until the site is stabilized.
- Erosion control enforcement agent:
    - Contractor/Developer shall pay for the Town to hire an outside independent erosion control specialist and enforcement agent to inspect the erosion controls at intervals to be determined by the Town and direct the Contractor/Developer to make needed repairs and perform maintenance during demolition and construction operations until the site is fully restored and ground cover is established.
    - Selection of the erosion control specialist shall be through a joint effort of Town of Wallingford departments including Inland Wetlands, Planning and Zoning, the Water Division, and the Engineering Department.
    - Samples from the sediment basin discharges shall be routinely obtained and analyzed for parameters on a schedule as determined by the Wallingford Water Division.
- Emergency Response Plan:
    - A "Construction Site Contingency Plan for Erosion Control and Emergency Spills" dated October 20, 2020 was submitted for the subject application.
    - The plan covers most of the items the Wallingford Water Division had requested for the previous site development proposal in 2018.

  - The plan states equipment shall only be fueled within fueling pads with adequate containment as indicated on the plans; however, I do not see details of the fueling pads or locations on the plans as submitted.
  - Vehicle refueling pad shall be located in a designated area away from wetlands and watercourses, exposed earth surfaces and storm drains.
  - Methods and locations for refueling, servicing and storage of vehicles and machinery shall be addressed and included on the site plans.

- General Site Conditions:
  - Burying of stumps and construction debris shall not be allowed on-site.
  - Sediment fences and hay bales must be inspected and maintained to prevent sedimentation and erosion.
  - Temporary storm water sediment traps and basins must be routinely inspected and maintained.
  - If unexpected conditions occur, additional erosion control materials shall be available on-site as needed to prevent erosion.
  - Existing and future stockpiles of soil shall be protected from erosion.
  - Use as little water as possible for dust control.
  - Clean up leaks, drips and other spills immediately to minimize contamination.
  - Never hose down contaminated pavements surfaces where materials have spilled, use dry cleanup methods.
- Hazardous material Storage:
  - Paints and other hazardous materials shall be removed from the site during non-working hours or stored in a secure container with containment.
  - Covered trash cans and recycling receptacles shall be made available for use around the site.
  - Dumpsters shall be covered, checked frequently for leaks and never be cleaned by hosing it down on the site.
- Sanitation:
  - Sufficient number of portable toilets shall be provided for workers and shall be serviced frequently.
- Notification:
  - Wallingford Water Division shall be notified before work commences.
  - Wallingford Water Division personnel shall be granted daily site access to review compliance with the best management practices.
  - Wallingford Water Division, Connecticut Department of Public Health and the Department of Energy and Environmental Protection shall be notified immediately of all chemical or fuel spills or a meaningful failure of erosion and sediment control at the site.

- Emergency telephone numbers and a statement identifying the site as a sensitive public water supply area shall be posted in locations where they are readily visible to persons on the site.
- A note shall be included on the construction documents that states the work site is part of a sensitive public water supply area.
- The Contractor/Developer shall provide a list of emergency contact information, including names, telephone numbers and email addresses.

Please note that the Wallingford Water Division has not entirely finished its technical review of the wetland permit application at this time and will issue additional comments and questions as the review process continues.

We request that the following general comments and recommendations be made conditions of approval to be addressed prior to issuance of a wetlands permit:

1. <u>Parking and impervious areas:</u>
   a. The total amount of automobile parking seems to be quite large for the proposed use. It is requested that the total amount of proposed parking be minimized to provide only what is required for the operation as additional paved parking areas tend to increase the negative impact to downstream water quality.
   b. On page three of the Stormwater Management Report it states that the previous site development, when occupied by Bristol Meyers Squibb, contained almost 2,000 parking spaces. The previous parking areas shown on the existing conditions plan EX-0 appear to contain far less than 2,000 parking spaces. Also, please note on page 7 of the Stormwater Management Plan it states that the proposed site will contain approximately 1,500 hundred parking spaces including oversized parking spaces for delivery vans and trucks. If the delivery van staging areas and loading dock areas are included, the total paved area for this proposed development is significantly larger than what previously existed during the Bristol Meyers Squibb operation at the site.
   c. In addition, the table shown on site plan SP-0 indicates the proposed number of parking spaces is 715 spaces with a dimension of 9 feet by 18 feet. This does not match the parking spaces shown on the drawings which show a much larger number of parking spaces including spaces larger than 9 feet by 18 feet.
   d. Sheet EXH-2 – Proposed Impervious Surface Comparison shows the difference in impervious areas between the current proposal and the previous proposal submitted in 2018 for 2 warehouse buildings. Using the data shown on sheet EXH-2 I have generated the following table.

Total impervious area for previous 2018 warehouse proposal	2,572,613 SF
Building area for previous 2018 warehouse proposal	1,100,000 SF
Paved area for previous 2018 warehouse proposal (by subtraction)	1,472,613 SF
Currently proposed impervious surface area	1,967,511 SF
Currently proposed building area	219,000 SF
Paved area for current proposed site plan (by subtraction)	1,748,511 SF
Percent increase in paved area for current proposal over previous proposal	19%

e. Although the total impervious area has been reduced by approximately 23% as compared to the previous proposal; the total paved area has increased by approximately 19%. In terms of impact to the public drinking supply watershed, runoff from pavement will have a greater negative affect on the water quality than relatively clean roof runoff.

2. Water and Sanitary Sewer Utilities:

a. The Site Utility Plan shows a new private water main to be laid along the alignment of the existing interior access road from the existing guard shack to the location of the previous utility plant building. It appears that this is necessary because the elevation of the proposed access road will be different than the existing road. If the grading could be adjusted to save and reuse the existing private water main it would result in fewer disturbances and less cost. Can this option be considered?

b. The existing private sanitary sewer main on the site upstream from the guard shack has been abandoned in place. It may be necessary to remove portions of the sewer main and existing manholes if they will not be reused for service at the site. Also a portion of the private water main and fire hydrants will need to be removed as well. All water and sewer utilities that will not be reused for the new proposed development must be permanently removed at the connection to the municipal utility per the requirements of the Wallingford Water and Sewer Divisions.

c. Based on the elevation of the proposed building (finished floor elevation = 416.7) the available static water pressure in the distribution system at this location will be approximately 29 to 33 psi. This residual pressure in the water main at the point of service is less than the minimum required design pressure criteria as specified in the Wallingford Water Division Technical Standards. Unless the building can be constructed at a lower elevation, a booster pump system for both the domestic and fire sprinkler system will be required. The location and elevation of any required booster pump system would be dependent on the required suction pressure needed to operate the pumps.

d. Not all of the existing water and sewer utilities have been abandoned and not all of the structures have been demolished on the site. The existing guard shack is still connected to water and sanitary sewer and the Chemical Treatment building is still connected to municipal water. The demolition plan submitted with the application does not indicate if these building will be

demolished nor does it include the requirements to remove the connections to the municipal water and sewer services.

e. The drawings do indicate that a new guard shack is proposed and will be connected to municipal water and sanitary sewer. It also shows that the sanitary sewer to the Chemical Treatment building will be reconnected. The water service to the Chemical Treatment building currently is fed from the existing water service to the existing guard shack. The details of water and sanitary sewer service to these buildings must be revisited and revised as necessary.

f. If non-domestic wastewater will be discharged from the proposed building the Applicant must fill out a Wastewater Discharge Survey and submit it for review by the Wallingford Sewer Division. If deemed necessary by the Sewer Division, pretreatment of the non-domestic wastewater in addition to all required permits and registrations must be provided by the Owner.

g. Additional comments of the Water and Sewer Division requirements for the utility service to the proposed building will be detailed in our review of the anticipated planning and zoning application for this project.

3. Blasting and rock excavation:

a. The proposed excavation at the northeast corner of the site is relatively close to the parcel of land owned by the Town on Carpenter Lane with a 1,000,000 gallon pre-stressed concrete water storage tank operated by the Wallingford Water Division located on this parcel. If there will be blasting or rock excavation in this area of the site it is requested that a pre-blast and post-blast survey shall be conducted along with a plan to mitigate any possible damage to the water storage tank. If deemed necessary by the Town, the existing tank should be monitored for movement and or settlement during construction activities.

b. Please note that the Geotechnical Engineering Report submitted with the subject application is the same report submitted for the previous 2018 proposed development. This report should be updated to address items pertinent to the current application.

4. Storm water collection and treatment system:

a. The Watershed Protection Regulations stipulate that the storm water treatment system be designed to treat the runoff from the initial 0.5 to 1 inch of rainfall from all parking areas, loading docks and impervious traveled ways. The Water Division has determined that for this site; due to the proposed usage, topography and size of the project, the runoff from the initial 1 inch of rainfall will be required to be treated.

b. Runoff from unpaved, non-traffic areas such as lawns, wooded or natural areas and building roofs should be diverted away from the storm water treatment system.

c. Significant portions of the tributary areas for several of the proposed storm water treatment systems contain pervious areas such as landscaped areas and grass.

d. The volume of the sand filter must be equal to 1-inch of rainfall over the entire contributing area with at least 1-foot of freeboard above the maximum water elevation.

e. It appears that the water quality volume calculated in the Water Quality Calculations used only the impervious portion of the tributary area. The storage volume of the sand filters for all of the treatment systems as shown in Section 5 – Sand Filter Calculations of the Storm Water Management Report do not meet the minimum volume requirement of the initial 1-inch of runoff for the entire tributary area plus 1-foot of freeboard. This is partially due to the fact that the runoff from parking areas and travel ways has not been separated from the runoff from other non-traffic areas.

f. The rated capacity of each of the oil-water-grit separators, "Hydrodynamic Separators", for each treatment system is not provided in the Storm Water Management Report or on the detail drawings. Each separator must be able to pass the runoff associated with the 25-year storm (Q25). Kindly provide information on the capacity of the proposed separators.

g. Provide information from the manufacturer of the "Hydrodynamic Separators" to verify that they are capable of meeting the treatment requirements as set forth in the Watershed Protection regulations section 4.13 C. 1.

h. The oil-water-grit separators and diversion overflow weir need to be designed such that the water level in the separator will remain at least 3-inches below the inside of the top slab during the 100-year storm event.

i. The oil-water-grit separators shall be designed to limit the velocity to 1 foot per second through the tank under Q25 flow conditions.

j. The proposed development plan shows the sand filter to be part of the detention basin used to attenuate peak flows. The standard layout as shown in the Water Division Technical Details depicts a detention basin separate from the sand filter. The intent of the regulations is to construct the sand filters separate from the detention basin. Revise drawings as necessary to separate the sand filter from the detention basins.

5. Storage containers:

a. Storage vessels in the Watershed Protection District are regulated under section 4-13 C. of the Zoning Regulations.

b. It is not known if storage vessels are proposed for this site. If any such storage vessels are proposed they will be subject to the rules as defined in the Watershed Protection District regulations.

6. Ice control:

a. No parking lot containing more than ten parking spaces shall use sodium chloride for ice control. Only products or materials which do not contain sodium chloride shall be used for snow and ice control.

7. Erosion Controls:

a. Erosion controls for the project are critical to the protection of the public drinking water supply downstream of the site. Extreme care shall be used in

the installation and maintenance of the erosion control systems for the duration of the project.

b. The Water Division has concerns that the type of native soil at the site consisting of fine silty sand has the ability to be suspended in runoff from excavated areas. Extra measures to ensure sediment laden waters are not allowed to be transported downstream shall be made a part of the erosion control plan.

c. There are large cuts and fills up to 40 vertical feet proposed as part of the grading plan for the site. There are also finished slopes of 2 horizontal to 1 vertical which will have the potential to generate erosion on the site. Slopes should be regraded to a more moderate slope to provide for soil stability.

d. The temporary diversion swales shall include filter fabric and crushed stone channel lining.

e. All erosion controls will be subject to the Water Division water quality inspectors review and approval prior to the start of earth moving operations.

f. Detail Sheet EC-41 shows a "wash rack". What is the purpose of the wash rack?

8. <u>Wetland disturbance:</u>

a. There are some areas where the proposed grading of the site encroaches into the 50 foot wetlands buffer.

b. All disturbances in the wetland buffer areas in the public drinking water supply will have an impact on water quality. All such wetland buffer disturbances should be eliminated or minimized to the extent possible.

c. Please note that the Wetland and Biological Assessment submitted for this application is the same report submitted for the previous proposed development in 2018. This report should be updated to address items pertinent to the current application.

9. <u>Site Operations and Maintenance Plan:</u>

a. Kindly provide a storm water operations and maintenance plans as required under the WPD regulations which identifies the schedule of maintenance for the storm water treatment systems, plans for sweeping the parking areas, and vegetation maintenance in the sand filters and detention basins.

b. A section on the "Hydrodynamic Separators" shall include the removal of oils, scum and floatables in the tank on the same schedule as grit removal a minimum of three times per year.

c. The Water Division shall retain the right to sample the effluent of the storm water management system and have such samples analyzed by a State certified laboratory to determine if the runoff is in compliance with the cited water quality standards. Cost of such sampling and analysis shall be paid by the Owner for up to four samples at each treatment system per year.