

J. Proposed Streets, Sidewalks, Water and Sewerage Systems, Drainage Systems and Other Utilities

Proposed Streets and Sidewalks

The total project area is about 51 acres, including portions of Dog Lane and the Post Office Drive. The concept plan clusters most of the development along the existing developed corridor of Storrs Road. The intersection of Dog Lane and Storrs Road would be proposed to be reconfigured to improve the geometry of the intersection and create a new Mansfield Town Green. Other improvements to both new and existing roads and sidewalks would result from anticipated project improvements, such as streetscape, gateway and intersection improvements. Various sidewalk, streetscape, and landscaped median islands are shown along Storrs Road for traffic calming and pedestrian safety, while improving traffic flow on the state road. Much of the project revolves around creating a village neighborhood with a good pedestrian system that is integrated with the University and the remainder of the adjoining Storrs Road properties. See Figure 12 (Proposed Streets and Schematic Utilities). It is anticipated that an application will be submitted to the State Traffic Commission for a certificate of operation for the Project.

Proposed Drainage Systems

Stormwater management and protection of on-site and downstream natural resources is a critical component of the Project. The site contains two headwater watercourses and a vernal pool that drain east to the Fenton River, which is part of Willimantic Water Department public water supply watershed. As described in the Existing Conditions section of this MDP, both of these watercourses are currently affected by non-point source pollution, sediment, and debris from surrounding properties and roads. There does not appear to be any existing stormwater Best Management Practices (BMPs) in place to prevent on-going degradation of these watercourses. Storrs Center Alliance is proposing to improve these conditions by restoring the habitat along both watercourses, developing a full set of stormwater BMPs for the new development, and establishing a long-term management program for the important habitat areas on the site.

The Environmental Impact Evaluation (“EIE”) prepared for the project envisioned two detention basins: one along the northern watercourse near the Greek Orthodox Church property, and the other along the southern watercourse near the Joshua’s Trust Open Space in the southeast corner of the property (see Figure 3.1-16 of EIE, a copy of which is attached in this section of the MDP). A subsequent detailed environmental review of the wetlands and vernal pool habitats by Dr. Michael Klemens and Michael Klein for Storrs Center Alliance has prompted that concept to be reevaluated. Storrs Center Alliance has redesigned the project into a more compact building envelope on the western side of the property than was originally envisioned in the EIE. This concept plan allows greater flexibility in preserving more undisturbed open space on the eastern side of the project. This concept plan also has

allowed the design team to explore other BMPs which provide the necessary stormwater controls while lessening impacts (clearing & grading) to wetland buffers and upland vernal pool habitat than were proposed in the EIE.

Structured parking is proposed to service the development rather than using all surface parking in order to reduce impervious cover, and to allow greater flexibility in preserving existing woodlands. Stormwater runoff from building roofs, driveways, and parking will be collected in catch basins and yard drains, then piped via storm sewers to off-line Vortechincs oil-grit separators, which will filter and renovate the runoff. The Vortechincs oil-grit separators were selected because field testing by the Connecticut Department of Environmental Protection and the University of Connecticut has found that they are one of the most effective products on the market for renovating stormwater, particularly in meeting the 80% Total Suspended Solids (TSS) removal standards required by the State of Connecticut.

The clean stormwater runoff would then be discharged to underground detention and groundwater recharge systems that will be located beneath the parking structures or other developed areas. The two parking areas will have a combination of underground storage vaults and crushed stone recharge. This dual-use of certain areas within the development envelope eliminates some of the need to clear existing woodlands, thereby preserving more wooded wetland buffers. The detention systems will temporarily store runoff, allow for groundwater recharge which provides low flows to the watercourses, and gradually discharge the remainder of the runoff to the two watercourses via metered outlets. This metered outflow will protect the watercourses from increased flow rate, increased velocity, and associated streambank erosion.

This approach to stormwater management should result in a significant improvement in water quality to the two watercourses, while also improving wildlife habitat.

The eastern portion of the development includes apartments being built with underground parking, and smaller town homes. This area will have a similar storm collection system as noted above (catch basins, storm sewers, oil separators, etc.). This area will feature underground recharge galleries or perforated pipe as part of the collection system.

A small surface detention basin (DB #1) is proposed in the northeast corner of the ring road to control runoff from 2.4 ac. of this residential development. This vegetated BMP would be designed to provide additional filtering as requested by the Connecticut DEP in its written comments to the EIE. Vegetated BMPs are more appropriate for the eastern portion of the development, than the western portion, due to the compact urban nature of the developed area along Storrs Road. The outlet from the detention basin would be from a level spreader designed to distribute flows into the northern watercourse, and mimic existing hydrologic patterns.

A second surface detention basin (DB #2) is envisioned on the southeast end of the ring road to control runoff from 2.4 ac. of residential development. The outlet for the detention basin would be a level spreader near an existing stone wall that parallels the watercourse. The stormwater system was designed to emulate the existing watersheds to the two watercourses as much as possible. The southern watercourse has a better-developed wetland habitat corridor along it than the northern watercourse, and the stormwater system is being designed to protect wetland buffers along both watercourses, but especially so along the southern watercourse.

Pulling this detention basin (DB #2) back by the ring road is an alternative with less impact to the southern wetlands, and which preserves more undisturbed woodland habitat near the Joshua's Trust property. This is possible because most of the detention and recharge for the development is occurring at the top of each watershed under the parking structures, so less area is needed for surface detention basins, which allows greater preservation of undisturbed woodlands.

Both detention basins would be excavated and landscaped to blend in with the nearby open space. Level spreaders will be used at the outlets from the basins to diffuse runoff back into the wetland corridors, rather than creating a single point outlet for the systems. This is proposed to address the written comments from the Connecticut Department of Health Services in the EIE regarding direct discharges to watercourses that drain to the Fenton River. A vegetated overflow channel down to the wetlands may be required to prevent erosion in very large storms. The basins will be small depressions, designed to temporarily store runoff, which will be equipped with suitable outlets and emergency spillways for erosion protection along each watercourse.

A second underground detention and groundwater recharge (UG #2) system is envisioned under the parking areas in the southern end of the project. Runoff from 5.4 acres to this underground system would be collected and renovated prior to discharge to the recharge system, similar to that used for the northern watershed. Seepage from this recharge system would flow through a retaining wall to provide a source of clean runoff for the top of the southern watercourse.

The existing Post Office building is proposed to remain, and will be connected with the Storrs Center neighborhood with the addition of the access drive. It may be possible to retrofit the existing Post Office drainage system to eliminate some non-point source pollution of the southern watercourse. The southern watercourse is being affected by erosion from an offsite gravel parking lot at the Town athletic complex. Storrs Center Alliance has begun discussions with Town officials about possibly correcting this ongoing problem in conjunction with the proposed development.

The portion of the development at the intersection of Storrs Road and Dog Lane is heavily developed, and will see a decrease in runoff due to the creation of the Town Green. Much of that area drains to the northern watercourse. About 2.2 acres will

continue to drain in the existing direction, toward Storrs Road and Mirror Lake, matching existing drainage patterns. Stormwater BMPs will renovate runoff prior to discharge.

Figure 13 (Sheet PU-2) includes a schematic proposed stormwater drainage system.

Proposed Utilities, Including Water and Sewerage Service

The MDP project area is located within the existing development pattern that surrounds the University of Connecticut, with significant infrastructure and utility service already in place. Utility upgrades and improvements to utility infrastructure will result from certain anticipated project improvements. In particular, the University has committed to providing potable water service and sanitary sewer service to the Project. The University has undertaken sufficient studies confirming that its water and sewer capacity is sufficient to serve the Project and any other reasonably anticipated potential future development on the UConn campus. See Figure 14 (Sheet PU-3) for proposed sanitary sewer and water service.

Schematic utility locations are shown on Figure 12 (Sheet PU-1). The exact size, location and design of utility improvements will be determined when more detailed site plans are prepared.

