



MEMORANDUM

TO: City of Salem
FROM: Mike Towle, PE
DATE: 5/23/2022
SUBJECT: Willamette Town Center – Dave's Hot Chicken – Stormwater Memo

The Willamette Town Center – Dave's Hot Chicken project proposes two restaurant buildings, including a drive-thru, courtyard, trash enclosure, along with stormwater LID facilities and utilities. The proposed site is currently used as an asphalt parking area. The existing site is entirely impervious with three internal landscape islands. Stormwater from the existing site would sheet flow to the existing catch basins in the parking lot and would discharge north to the existing storm conveyance pipe system within the Willamette Town Center complex.

The entirety of impervious area within the proposed site is 0.55 AC. Most of the stormwater on-site is proposed to be treated and detained prior to leaving the site. All stormwater treatment must be completed on-site since no stormwater infrastructure can be installed to cross onto other lots within the Willamette Town Center complex. Due to this, along with topographical, elevation, and space constraints, the entirety of the proposed site cannot be treated on the DHC Site.

LIDA facilities were provided on-site to the maximum extent feasible to treat the impervious area. Three LIDA facilities are proposed to capture a total of 0.16 AC impervious area. The three facilities capture the impervious area from the roof of the western proposed building, the proposed courtyard area, and the majority of the drive-thru area south of the proposed buildings.

Three filter catch basins are proposed to collect an additional 0.14 AC of impervious area on site. This area includes the eastern proposed building roof, and drive-thru area to the east and west of the proposed buildings. The runoff captured with these catch basins, along with the LIDA facilities, will discharge to a proposed Stormtech underground chamber system for detention. The entirety of the impervious area discharging to the proposed underground system is 0.30 AC.

The Stormtech underground chamber system will treat and detain runoff for the 0.30 AC basin. The system will be designed such that the post-development discharge rates for the 2-, 5-, and 10-year storm events are less than the pre-development discharge rates. The system will discharge to an existing 15" stormwater main within the Center St. ROW. Since the existing site discharges stormwater away from the Center St. ROW, a downstream analysis will need to be conducted to ensure the storm main within Center St. can accommodate the additional proposed flows.

Stormwater runoff from the asphalt drive aisles north and west of the proposed buildings, along with the proposed five asphalt parking spaces, will not be captured by proposed stormwater infrastructure on-site. This asphalt area makes up a total of 0.21 AC of impervious area. Stormwater runoff from this area will retain the same drainage patterns as pre-development and sheet flow north to the existing catch basins. Since this area is proposed to remain asphalt, the same as in pre-development, this area is considered maintenance and does not need to be treated or detained with the proposed development.

The remaining 0.04 acres on-site consists of the sidewalk frontage for the proposed buildings, as well as a small portion of the drive-thru on each side of the buildings. This area cannot be detained on-site due to space and topographical constraints. Instead, it will retain its pre-development drainage area and convey to the existing stormwater system north of the site. To accommodate treatment of these areas and the sidewalk addition on the east side of the parking lot, a new treatment catch basin will be proposed on another location

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on the site. There is an existing low point on the SW corner of the TJ Maxx loading area that is not currently captured by a catch basin. This area exceeds the required treatment area for the new sidewalks and therefore meets the treatment needs on the site. Per conversations with Laurel Christian, this will be shown on the Construction permit sets for the civil site work.

See the attached figure, STM-1, for additional information regarding the stormwater treatment for this site including drainage area delineations and stormwater facility locations.

Please feel free to contact me with any questions.



Mike Towle, PE