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03/12/2024

Town of Parker
20120 E. Mainstreet
Parker, CO 80138

RE: Land of Sushi – Crown Point Filing #1, Lot 4E, Drainage Conformance Letter

To Whom It May Concern,

The purpose of this letter is to show that the proposed development of the Land of Sushi on Lot 4E of Crown Point Filing #1 conforms to the requirements of the "*Phase III Drainage Study for Boondocks Entertainment Facility*" prepared by MM&D Engineering dated December 21, 2014.

Based on the "*Phase III Drainage Study for Boondocks Entertainment Facility"* Lot 4E is fully or partially apart of the following drainage Basins: A11, A12, A13, A14, A15, A16 & B1 which contains 1.08 acres of Lot 4E. This area is the part of lot that will be developed with this project. Basin A, along with the other Basins comprising the Crown Point Filing #1 development, eventually drain to a 42" storm line that crosses 18800 Rd. per the Crown Point Filing 1 14th Amendment drainage report. All flows and water quality/detention have been accommodated with the design of Crown point Filing 1.

The proposed OS1 and OS2 Basin correlates to Basin B1 from the "*Phase III Drainage Study for Boondocks Entertainment Facility".* These basins have a decrease in imperviousness (12.2% vs 29.7%) than the anticipated Basin B1 and which generate smaller flows, thus downstream infrastructure will experience no adverse impacts. All flows will continue to Cottonwood Dr and 18800DFR where it is captured by a 10' Type R inlet at the intersection of Cottonwood Dr. and 18800 Rd.

Basin OS3 will be conveyed to Cottonwood Drive where it will combine with OS2 and travel west along Cottonwood Drive where it is captured by the same 10' Type R inlet described above. Total flow from Basin B1 Check (Exhibit provided) = 2.0 CFS compared to the proposed combined flow of OS1, OS2, and OS3 =1.4 CFS. Thus, the inlet downstream has capacity for these offsite flows in the proposed condition.

The assumed flows from the developed lot for a 5-year and 100-year storm are 2.9 cfs and 7.1 cfs respectively.

The calculations for post-development Basin A (Lot 4E) for both the 5-year and 100-year storm are attached as part of Appendix A at the end of this letter. *Phase III Drainage Study for Boondocks Entertainment Facility"* drainage map and calculation for Basin A are included in Appendix D. Inlet capacities are included in Appendix B.

The Land of Sushi site was broken into six on-site sub-basins as follows and as shown on the Drainage Map included in Appendix C:

- Basin A1 (0.15 ac, 90% impervious) – Building roof area collected by roof drain system and connected to proposed storm line
- Basin A2 (0.40 ac, 87.9% impervious) – Contains eastern portion of the site which includes drive aisle and parking. Flows are captured by proposed Combo Type 13 inlet.
- Basin A3 (0.24 ac, 90% impervious) – Contains drive aisle, parking, and sidewalk south of the proposed building. Flows are captured by proposed Type 13 inlet.

The hydraulic grade lines were modeled in the 5-year and 100-year event based on the downstream assumptions. It was determined that the 100-year event HGL for the Storm Line A is unable to be a

minimum of 1 foot below finished grade. The HGL is below grade in this event. A variance is being requested, as the downstream constraints of the existing HGL at storm manhole S-4 is unable to be changed.

VARIANCES

The following variance is being requested from the SDECM:

Section 6.3.3.4 Hydraulic Design
In the major storm event, the hydraulic grade must be located 12-inches below finished grade as a maximum condition.

Based on existing hydraulics, the HGL at the existing storm manhole S-4 is approximately at elevation 5798.90. Therefore, as additional flow enters this system the HGL rises and is unable to provide the 1 foot minimum below finished grade. The HGL does remain below finished grade in the major storm event.

The actual design for Lot 4E is 1.08 acres which slightly differs from the Phase III Drainage Study as the proposed site is more refined. The approximate site imperviousness of 68% is less than the anticipated 70.6% imperviousness from the Phase III Drainage Study. Therefore, the Land of Sushi project follows the Final Drainage Report and there should be no adverse effects on the downstream system.

Sincerely,
GALLOWAY

Matthew Pepin
Civil Project Engineer

Appendices:

Appendix A – Hydrologic & Hydraulic Computations

Appendix B – Inlet Calcs

Appendix C – Drainage Map

Appendix D – Excerpts from "*Phase III Drainage Study for Boondocks Entertainment Facility*"

Appendix A: Hydrologic & Hydraulic Computations

Appendix B: Inlet Calcs

Appendix C: Drainage Map

Appendix D: Excerpts from "*Phase III Drainage Study for Boondocks Entertainment Facility*"