



BARGHAUSEN



04/10/2024

Drainage Report

Dutch Bros Coffee (CO0907)

PREPARED BY

Barghausen Consulting
Engineers, Inc.

PREPARED FOR

Dutch Bros Coffee

CLIENT ADDRESS

110 S.W. 4th Street, Grants Pass, OR 97526

SITE ADDRESS

5810 Omaha Boulevard,
Colorado Springs,
Colorado 80915

PROJECT NO.

23098

DATE

04/10/2024

JURISDICTION

City of Colorado Springs

ENGINEER'S STATEMENT:

This report and plan for the drainage design of **Dutch Bros CO0907** was prepared by me (or under my direct supervision) and is correct to the best of my knowledge and belief. Said report and plan has been prepared in accordance with the City of Colorado Springs Drainage Criteria Manual and is in conformity with the master plan of the drainage basin. I understand that the City of Colorado Springs does not and will not assume liability for drainage facilities designed by others. I accept responsibility for any liability caused by any negligent acts, errors, or omissions on my part in preparing this report.

Anthony E. Merlino, PE#60820



Seal

DEVELOPER'S STATEMENT:

04/10/2024

Dutch Bros LLC hereby certifies that the drainage facilities for **Dutch Bros CO0907** shall be constructed according to the design presented in this report. I understand that the City of Colorado Springs does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that the City of Colorado Springs reviews drainage plans pursuant to section 7.7.906 of the City Code; but cannot, on behalf of **Dutch Bros CO0907**, guarantee that final drainage design review will absolve Dutch Bros LLC and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design."

Printed Name _____ Authorized Signature _____ Date _____

Title: _____ Address: _____

CITY OF COLORADO SPRINGS:

Filed in accordance with Section 7.7.906 of the Code of the City of Colorado Springs} 2001, as amended,

BY: _____
City Engineer

DATE: _____

CONDITIONS:

PROJECT OVERVIEW

This document is the Drainage Report for 5810 Omaha Boulevard, Colorado Springs, CO 80915. This report is intended to demonstrate that the drainage requirements for the proposed Dutch Bros. Coffee development is in conformance with the predetermined storm basin requirements for the existing commercial development.

This project is located in the northwest corner of Powers Boulevard and Omaha Boulevard, Colorado Springs, Colorado and is currently an existing gas station. The parcel is approximately 0.62± ac or 26,869± square feet and is bounded by Powers Boulevard to the west, existing commercial development on the east and north, and Omaha Boulevard to the south. The disturbed area consists of approximately 0.62± ac or 26,869± square feet. Overall, the site slopes from the northeast to the southwest. Refer to Appendix A for the Vicinity Map.

The property is zoned as Commercial Regional. The proposed development includes a building footprint of 950 square feet and a 272-square-foot trash enclosure. The planned site improvements include paved asphalt driving area, reinforced concrete driving area, on-site sidewalk area, and landscaping. These values give the site an overall impervious percentage of approximately 59%±.

SOILS

Per the Natural Resources Conservation Service web soils survey, soils for this project, delineated on the Soils Map within Appendix B of this report, are classified as Blendon Sandy Loam. Blendon Sandy Loam has been classified as Hydrologic Soil Type "B". The study area consists of undeveloped land with sparse, grassy vegetation.

FLOODPLAN STATEMENT

The subject property is located in Zone "X" (Area determined to be outside the 0.2% annual chance floodplain) per the Flood Insurance Rate Map for County of El Paso, Colorado Map Number 08041C0751G, revised December 7, 2018.

EXISTING DRAINAGE

The existing site is currently an existing gas station with existing drainage inlets near the south side of the site. There is an existing storm drain system located near the south end of the site. In general, the site typically sheet flows from the northeast to the southwest towards the existing inlets. Refer to Appendix B for the Existing Conditions Drainage Map.

In existing conditions, Basin A-1 is approximately 0.62 acres in size and approximately 90% impervious. The runoff coefficient for the 5-year and 100-year storm event is 0.81 and 0.88, respectively. The flow rate was calculated using a minimum time of concentration of 5 minutes. The runoff is approximately 2.61 cfs for the 5-year and 4.76 cfs for the 100-year storm event. The runoff is conveyed and collected by the existing drainage inlets located near the south end of the site and is conveyed to the existing storm drain.

PROPOSED DRAINAGE

The project proposes to construct a new Dutch Bros Coffee building, drive aisles, parking stalls, landscaping, and utilities. In proposed conditions, the project proposes more landscaping than existing conditions, which reduces the amount of runoff to the tributary drainage inlets.

In proposed conditions, Basin A-1 is the proposed Dutch Bros Coffee site. The basin is approximately 0.63 acres in size and approximately 73% impervious. The runoff coefficient for the 5-year and 100-year storm event is 0.68 and 0.80, respectively. The flow rate was calculated using a minimum time of concentration of 5 minutes. The runoff is approximately 2.22 cfs for the 5-year and 4.35 cfs for the 100-year storm event, which is less than the existing conditions. The runoff is conveyed to curb cuts, is collected by the drainage inlets located near the south end of the site, and is conveyed to the existing storm drain.

Refer to Appendix B for the Proposed Conditions Drainage Map and Appendix C for the Hydrology Calculations for Basin A-1.

SUMMARY

It has been concluded that the proposed project and the constructed improvements will maintain the thresholds of the existing conditions. The proposed project is less than one (1) acre in size, reduces the amount of the existing impervious area from 90% impervious to 73% impervious, and reduces the amount of runoff from 2.61 cfs to 2.22 cfs for the 5-year storm event and from 4.76 cfs to 4.35 cfs for the 100-year storm event. The proposed site also maintains the existing drainage patterns; because the site reduces the amount of runoff tributary to the existing inlets, the existing storm drains/appurtenances will not adversely affect the downstream and surrounding developments. Therefore, the proposed site is in conformance with the City of Colorado Springs and El Paso County standards and requirements.

APPENDIX A

VICINITY MAP

APPENDIX B

- EXISTING CONDITIONS DRAINAGE MAP
- PROPOSED CONDITIONS DRAINAGE MAP

APPENDIX C

HYDROLOGY CALCULATIONS

APPENDIX D

REFERENCES