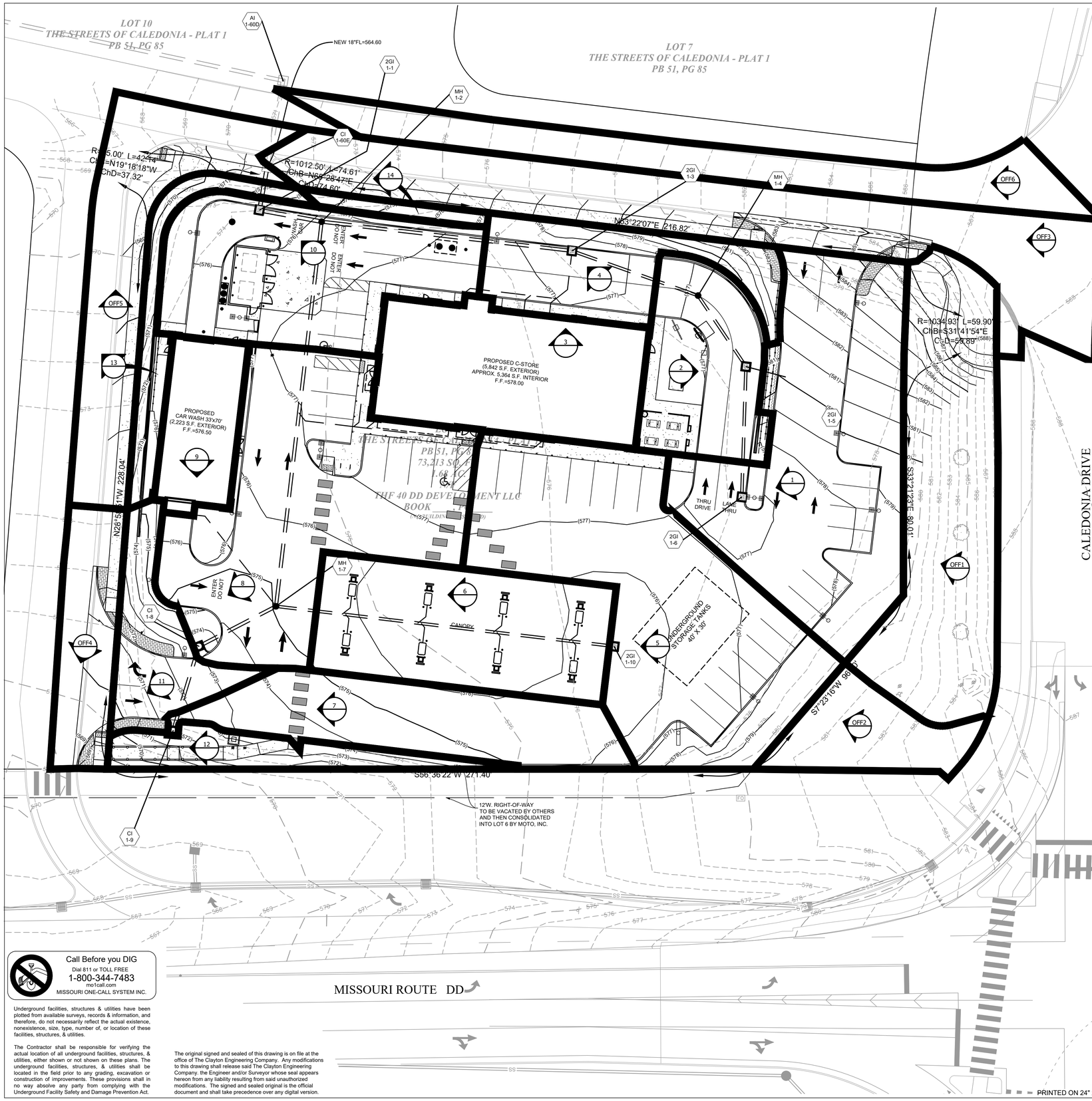

PROPOSED DRAINAGE AREAS (O'FALLON)

I.D.	Total Area (ac.)	Grass (ac.)	Pavement (ac.)	Roof (ac.)	15-yr Comp. PI	15-yr Flow, Q (cfs)	15-yr Flow, Q x 1.1* (cfs)	to Structure
1	0.24	0.09	0.15	0.00	2.83	0.68	0.75	Surface Flow to 2GI 1-6
2	0.09	0.02	0.07	0.00	3.10	0.28	0.31	Surface Flow to 2GI 1-5
3	0.13	0.00	0.00	0.13	3.50	0.46	0.50	Building Roof Flow to 2GI 1-3
4	0.09	0.04	0.05	0.00	2.70	0.24	0.27	Surface Flow to 2GI1-3
5	0.26	0.04	0.22	0.00	3.22	0.84	0.92	Surface Flow to 2GI 1-10
6	0.14	0.00	0.00	0.14	3.50	0.49	0.54	Canopy Roof Flow to pipe D.S. of 2GI 1-10
7	0.12	0.00	0.12	0.00	3.50	0.42	0.46	Surface Flow to CI 1-9
8	0.25	0.03	0.22	0.00	3.28	0.82	0.90	Surface Flow to CI 1-8
9	0.05	0.00	0.00	0.05	3.50	0.18	0.19	Building Roof Flow to MH 1-7
10	0.16	0.03	0.13	0.00	3.16	0.51	0.56	Surface Flow to 2GI 1-1
11	0.06	0.02	0.04	0.00	2.90	0.17	0.19	Surface Flow to Offsite Hwy. DD Storm Sewers
12	0.04	0.03	0.01	0.00	2.15	0.09	0.09	Surface Flow to Offsite Hwy. DD Storm Sewers
13	0.04	0.04	0.00	0.00	1.70	0.07	0.07	Surface Flow to Offsite Drainage Swale
14	0.01	0.01	0.00	0.00	1.70	0.02	0.02	Surface Flow to Offsite Drainage Swale
	1.68	0.35	1.01	0.32		5.25	5.78	CUMULATIVE TOTALS

PROPOSED OFFSITE DRAINAGE AREAS (O'FALLON)

I.D.	Total Area (ac.)	Grass (ac.)	Pavement (ac.)	Roof (ac.)	15-yr Comp. PI	15-yr Flow, Q (cfs)	15-yr Flow, Q x 1.1* (cfs)	to Structure
OFF1	0.19	0.18	0.01	0.00	1.79	0.34	0.38	Surface Flow to 2GI 1-6
OFF2	0.05	0.05	0.00	0.00	1.70	0.09	0.09	Surface Flow to 2GI 1-10
OFF3	0.23	0.02	0.21	0.00	3.34	0.77	0.85	Surface Flow to CI 1-60E
OFF4	0.06	0.00	0.06	0.00	3.41	0.20	0.23	Surface Flow to Offsite Hwy. DD Storm
OFF5	0.13	0.02	0.11	0.00	3.22	0.42	0.46	Surface Flow to Offsite Drainage Swale
OFF6	0.12	0.00	0.12	0.00	3.50	0.42	0.46	Surface Flow to AI 1-60D
	0.78	0.27	0.51	0.00		2.24	2.46	CUMULATIVE TOTALS

* INCLUDES A GROUND SATURATION FACTOR OF 1.1

CITY OF O'FALLON
Design Storm: 15-yr., 20-min.
(per CITY OF O'FALLON) for Storm Sewer Sizing;
Roof PI=3.5; Pavement PI=3.5; Grass PI=1.7;

Discharge Body: Dardenne Creek

(#) =Drainage Area I.D.

CITY STORM WATER CALCULATIONS (15-YR., 20-MIN.)

ONSITE

EXISTING CONDITIONS
PROPERTY AREA = 1.68 AC
GRASS AREA = 1.68 AC
PAVEMENT AREA = 0.00 AC
ROOF AREA = 0.00 AC
COMPOSITE PI = 1.70 CFS/AC
Q = 2.86 CFS

DEVELOPED CONDITIONS
PROPERTY AREA = 1.68 AC
GRASS AREA = 0.35 AC
PAVEMENT AREA = 1.01 AC
ROOF AREA = 0.32 AC
COMPOSITE PI = 3.125 CFS/AC
Q = 5.25 CFS

OFFSITE - R/W + OTHER

EXISTING CONDITIONS
OFFSITE AREA = 0.78 AC
GRASS AREA = 0.38 AC
PVMT. AREA = 0.40 AC
COMPOSITE PI = 2.63 CFS/AC
Q = 2.05 CFS

DEVELOPED CONDITIONS
OFFSITE AREA = 0.78 AC
GRASS AREA = 0.27 AC
PVMT. AREA = 0.51 AC
COMPOSITE PI = 2.87 CFS/AC
Q = 2.24 CFS

STORMWATER MANAGEMENT SUMMARY:
15-yr, 20-min. ONSITE DIFFERENTIAL = +2.65 CFS

~~FLOOD DETENTION IS REQUIRED BY DIFFERENTIAL FLOW OF INDIVIDUAL LOT. DETENTION IS PROVIDED AS A PART OF THE STREETS OF CALEDONIA DEVELOPMENT IN A REGIONAL DETENTION BASIN DOWNSTREAM (SEE NOTES BELOW)~~

AREA OF DISTURBANCE = 1.87± AC. > 1 AC.
~~WATER QUALITY IS REQUIRED BY INDIVIDUAL LOT DISTURBANCE. WATER QUALITY IS PROVIDED AS A PART OF THE STREETS OF CALEDONIA DEVELOPMENT (SEE NOTES BELOW)~~

NOTES:
1. REFER TO DRAINAGE MAP BOUNDARIES PREPARED BY COCHRAN ENGINEERING FOR "STREETS OF CALEDONIA" DATED AUGUST 2020 FOR INTENDED COLLECTION TO EXISTING REGIONAL ABOVE GROUND DETENTION BASIN AND WATER QUALITY BMP.
2. STORMWATER RUNOFF WILL FOLLOW SIMILAR DRAINAGE PATTERNS TO THE EXISTING STORMWATER COLLECTION & DETENTION SYSTEM. A STORMWATER DETENTION BASIN WITH WATER QUALITY TREATMENT WILL BE INSTALLED WITH THE STREETS OF CALEDONIA DEVELOPMENT PROJECT. THIS PARCEL'S (LOT 6) IMPROVEMENTS AND ITS LAND DISTURBANCE IS INCLUDED IN THE DESIGN OF THOSE STORMWATER BMPs.

DISTURBANCE LIMITS
PROPOSED SURFACE DRAINAGE FLOW PATH

LAND DISTURBANCE NOTES
1. All storm and sanitary sewer structures and appurtenances are to conform to the Standard Details and Construction Specifications shown in the current Metropolitan St. Louis Sewer District, Standard Construction Specifications for Sewers and Drainage facilities, 2009, except as modified by the City of O'Fallon Ordinances.
2. Limits of Disturbance - The Contractor shall stay within the limits of disturbance as shown on these plans and minimize disturbance within the work area wherever possible.
3. Stormwater Management Note - Land Area Disturbed = 1.87 acres (1.44 acres impervious). Any future land disturbance and/or increase in impervious area on this site may require additional storm water management per CITY Regulations in place at that time (including total land disturbance and/or imperviousness added on this plan).

0 20' 40'
SCALE IN FEET

Scale 1" = 20'

Note: Caution should be taken in comparing the written scale to the graphic scale to ascertain if this plan has been enlarged or reduced.

THIS SHEET IS NOT FOR CONSTRUCTION. DRAINAGE EXHIBIT ONLY.

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Underground facilities, structures & utilities have been plotted from available surveys, records & information, and therefore, do not necessarily reflect the actual existence, nonexistence, size, type, number of, or location of these facilities, structures, & utilities.

The Contractor shall be responsible for verifying the actual location of all underground facilities, structures, & utilities, either shown or not shown on these plans. The underground facilities, structures, & utilities shall be located in the field prior to any grading, excavation or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act.

The original signed and sealed of this drawing is on file at the office of The Clayton Engineering Company. Any modifications to this drawing shall release said The Clayton Engineering Company, the Engineer and/or Surveyor whose seal appears hereon from any liability resulting from said unauthorized modifications. The signed and sealed original is the official document and shall take precedence over any digital version.

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PLOTTED: 11/22/2021 10:04 AM BY: ERIK STALEY	Drawn: EJS / RFK
FILE:G:\20xxx\20350_MOTOHWDD\Plans\MotoMart Hwy DD_SitePlan02.dwg	F.B. 1447

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ERIK J. STALEY
NUMBER PE-2006000132
PROFESSIONAL ENGINEER
11/22/2021

ERIK J. STALEY, PE
ENGINEER No. 2006000132

The professional engineer seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this engineer, and this engineer expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE 08/25/2021

ISSUANCE		
NO	DATE	DESCRIPTION
1.	08/25/21	CITY SUBMITTAL
2.	09/22/21	2nd CITY SUBMITTAL
3.	10/06/21	3rd CITY SUBMITTAL
4.	11/22/21	4th CITY SUBMITTAL (BID SET)

O'FALLON, MO MOTOMART
NEW CONVENIENCE CENTER AND CARWASH
FKG OIL COMPANY

PROPOSED DRAINAGE AREA MAP

SHEET NO.
C8.1

JOB NO. 21-3133.01