

**Stormwater
Technical Information Report
For:**

Indiana Members Credit Union Branch

**1073 W. Jefferson Street
Franklin, Indiana 46131**

Job #: M19-4944

Date: 07/11/19

Prepared for:

INDIANA 
Members Credit Union

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Section I: Project Description

A. Project Title

Indiana Members Credit Union – 1073 W. Jefferson Street

B. Project Description

This project is located at 1073 W. Jefferson Street in Franklin Township, Johnson County, Franklin, Indiana. The project lies on a 0.84 acre parcel with the proposed disturbed area being approximately 0.75+/- acres. The site formerly operated as a bank, with an associated drive-through and parking area. The proposed development will remove the existing building and construct a new building basically in its place. A majority of the existing pavement on the site will remain with only the drive-through lanes being revised to locate them on the property.

C. Project Parameters

Zoning

This site is currently zoned MXC (Mixed Use: Community Center). The Mixed Use Community Center zoning designation permits banks. The existing land uses and zoning adjacent to the site are as follows:

North: Commercial, MXC
West: Commercial, MXC
South: Commercial, MXC
East: Commercial, MXC

Soil Type

Soil maps from the United States Department of Agriculture, Soil Conservation Service, identify the site as having Brookston Silty Clay Loam (Br) and Crosby Silt Loam (CrA). This is part of Hydrologic Soil Group C.

Watershed

The site is located within the Young's Creek watershed. The 14-digit Hydrologic Unit Code is 05120204090040. The site is located in Zone X per Flood Map Panel 0227 of the Flood Insurance Rate Map for Johnson County, (FIRM Number 18081C0227D), dated August 2, 2007.

D. Design Methods and Criteria

The stormwater management system has been designed based on the criteria available from the City of Franklin Subdivision Control Ordinance along with supplemented information from the City of Indianapolis Stormwater Specifications Manual and the HERPICC Stormwater Drainage Manual. Runoff from the site has been calculated using the rational method. Factors involved in the use of this method are the area of the watershed, volume of detention storage, the runoff "c" factor (c), the time of concentration, and the associated rainfall intensity for the selected rainfall event. The runoff "c" factor is estimated based on the existing / proposed land use.

Pre-Developed Conditions:

The majority of the existing site is currently impervious. There is a 2,965 sf building located at the center of the site and pavement surrounding it. There is a 1,165 drive-through canopy and associated drive-through lane wrapping around the east and north side of the building. There are two separate drive entrances off Drake Road and one entrance connecting to the commercial development to the east. The perimeter of the property is lawn.

All of the existing storm water runoff from this site ends up in the storm sewer system along the east side of Drake Road. However, the site is basically divided into two separate basins. The northeast basin collects runoff from the drive-through area and the southwest basin collects the remainder of the site. The northeast basin is collected by an existing storm sewer located to the east of the property. The southwest basin is collected by a couple of existing storm sewer inlets and is eventually routed to an existing storm sewer located at the southwest corner of the site.

The on-site contributing drainage area leaving the site is 39,625 and the runoff "c" factor is 0.654 acres.

Post-Developed Conditions:

The proposed development of the site will consist of a new sales center building and will use a majority of the existing infrastructure to serve the building. A majority of the existing pavement on the site will be removed to facilitate the proposed development. However, a new drive through lane will be constructed to be located on the existing property.

The goal of the proposed management plan is to document the overall runoff from the site in accordance with the guidelines set forth in the City of Franklin Subdivision Control Ordinance. This is based on the current state of the property and the fact that a majority of the site will not be modified.

The proposed site will drain almost exactly the same as it does today. The northeast basin collects runoff from the drive-through area and the southwest basin collects the remainder of the site. The northeast basin will continue to drain to an existing storm sewer located to the east of the property. The southwest basin is collected by a couple of existing storm sewer inlets and is eventually routed to an existing storm sewer located at the southwest corner of the site.

The on-site contributing drainage area leaving the site is 38,225 and the runoff "c" factor is 0.687 acres.

E. Summary of Existing vs. Proposed Flowrates:

Pre-Developed Basin – Northeast – Peak Release Rate:

2yr. = 1.25 cfs, 10yr. = 1.71 cfs, 100yr. = 2.27 cfs

Developed Basin – Northeast – Peak Release Rate:

2yr. = 1.09 cfs, 10yr. = 1.50 cfs, 100yr. = 1.99 cfs

Pre-Developed Basin – Southwest – Peak Release Rate:
2yr. = 3.02 cfs, 10yr. = 4.15 cfs, 100yr. = 5.51 cfs

Developed Basin – Southwest – Peak Release Rate:
2yr. = 3.23 cfs, 10yr. = 4.44 cfs, 100yr. = 5.89 cfs

Although the existing runoff from the site will be slightly decreased to the northeast and slightly increased to the southwest, there are no negative impacts expected from the proposed development.

F. References

1. Herpicc Stormwater Drainage Manual – Revised July 1995.
2. Johnson County Soil Survey – National Resources Conservation Service.
3. City of Indianapolis Storm water Design and Construction Manual (Updated 2016).
4. National Flood Insurance Program - Federal Emergency Management Agency.
5. City of Franklin Subdivision Control Ordinance

SECTION II: APPENDIX

SITE MAPS

Soil Map—Johnson County, Indiana



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Johnson County, Indiana
Survey Area Data: Version 26, Sep 7, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2014—Mar 20, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Br	Brookston silty clay loam, 0 to 2 percent slopes	0.0	1.6%
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	0.9	98.4%
Totals for Area of Interest		0.9	100.0%

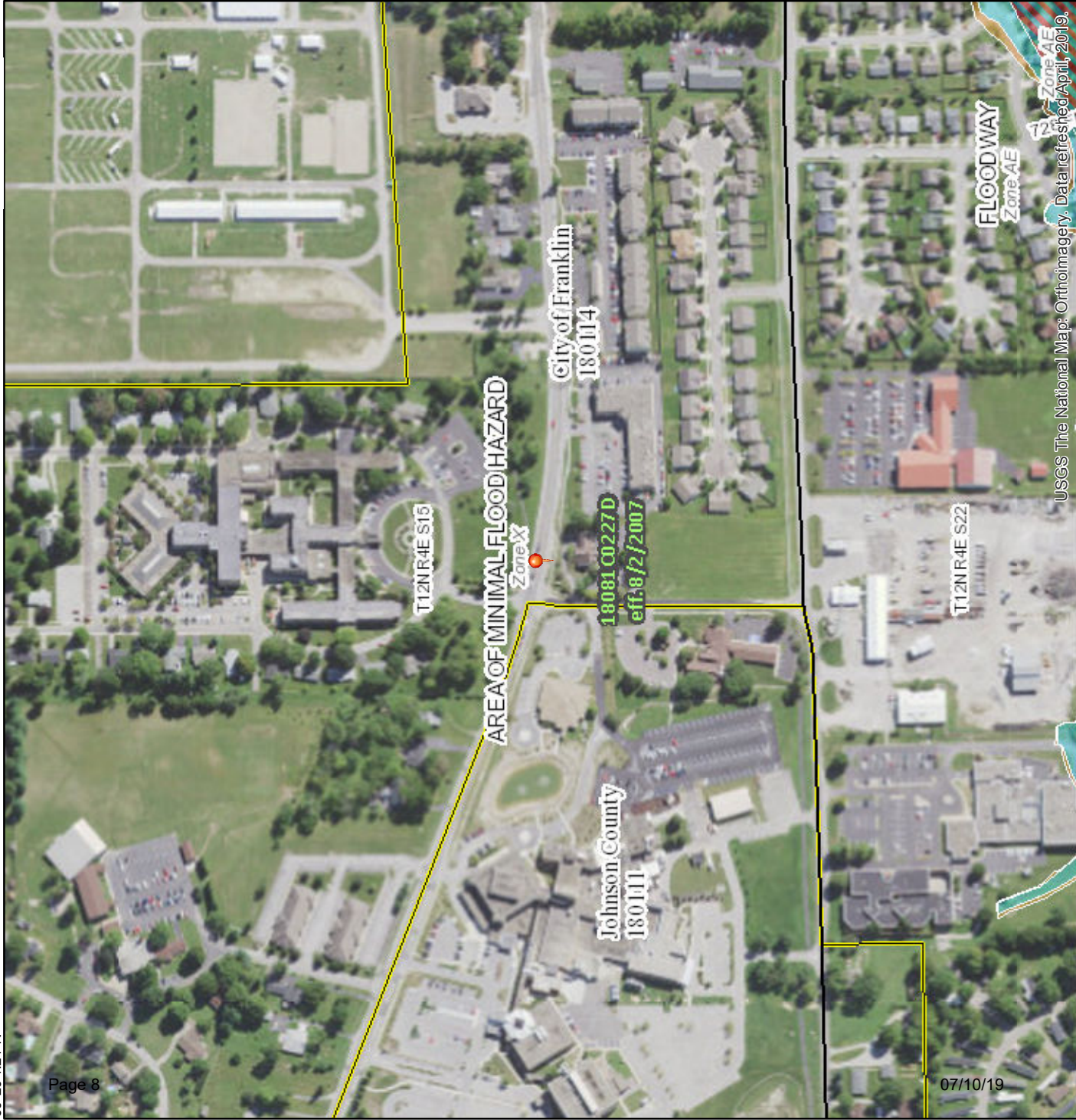
National Flood Hazard Layer FIRMette



39°29'1.21"N

86°4'44.32"W

Page 8



86°4'6.87"W

39°28'33.44"N

USGS The National Map: Orthoimagery. Data refreshed April, 2019.

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth
Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
Zone X
- Future Conditions 1% Annual Chance Flood Hazard
Zone X
- Area with Reduced Flood Risk due to Levee. See Notes.
Zone X
- Area with Flood Risk due to Levee
Zone D

OTHER AREAS

- Area of Minimal Flood Hazard
Zone X
- Effective LOMR
- Area of Undetermined Flood Hazard
Zone D

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance
Water Surface Elevation
Coastal Transect
Base Flood Elevation Line (BFE)
Limit of Study
Jurisdiction Boundary
Coastal Transect Baseline
Profile Baseline
Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/27/2019 at 1:13:30 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXISTING CONDITIONS

1073 W. Jefferson Runoff Calculations

PRE-DEVELOPED							
WATERSHED	TOTAL AREA (sf)	ROOF 0.90	PAVE 0.85	CONCRETE 0.85	LAWN 0.30	WEIGHTED RUNOFF C	IMPERVIOUS AREA (Sq.Ft.)
Northeast	11175	1165	5734	675	3601	0.678	7574
Southwest	28450	2965	12140	855	15460	0.645	15960
Total	39625	4130	17874	1530	19061	0.654	23534

POST-DEVELOPED							
WATERSHED	TOTAL AREA (sf)	ROOF 0.90	PAVE 0.85	CONCRETE 0.85	LAWN 0.30	WEIGHTED RUNOFF C	IMPERVIOUS AREA (Sq.Ft.)
Northeast	9775	1065	5149	405	3156	0.678	6619
Southwest	28450	3700	15155	990	8605	0.690	19845
Total	38225	4765	20304	1395	11761	0.687	26464

BASIN RELEASE RATES

Per Indy IDF Table 202-01

Pre-Developed Northeast	
From Site	Q=CiA (cfs)
2-year	1.25
10-year	1.71
25-year	1.94
100-year	2.27

Developed Northeast	
From Site	Q=CiA (cfs)
2-year	1.09
10-year	1.50
25-year	1.70
100-year	1.99

Tc = (hr)	0.08	i=a/(t+b)^N
		7.16
Tc = (hr)	0.00	9.85
		11.15
		13.07

Pre-Developed Southwest	
From Site	Q=CiA (cfs)
2-year	3.02
10-year	4.15
25-year	4.70
100-year	5.51

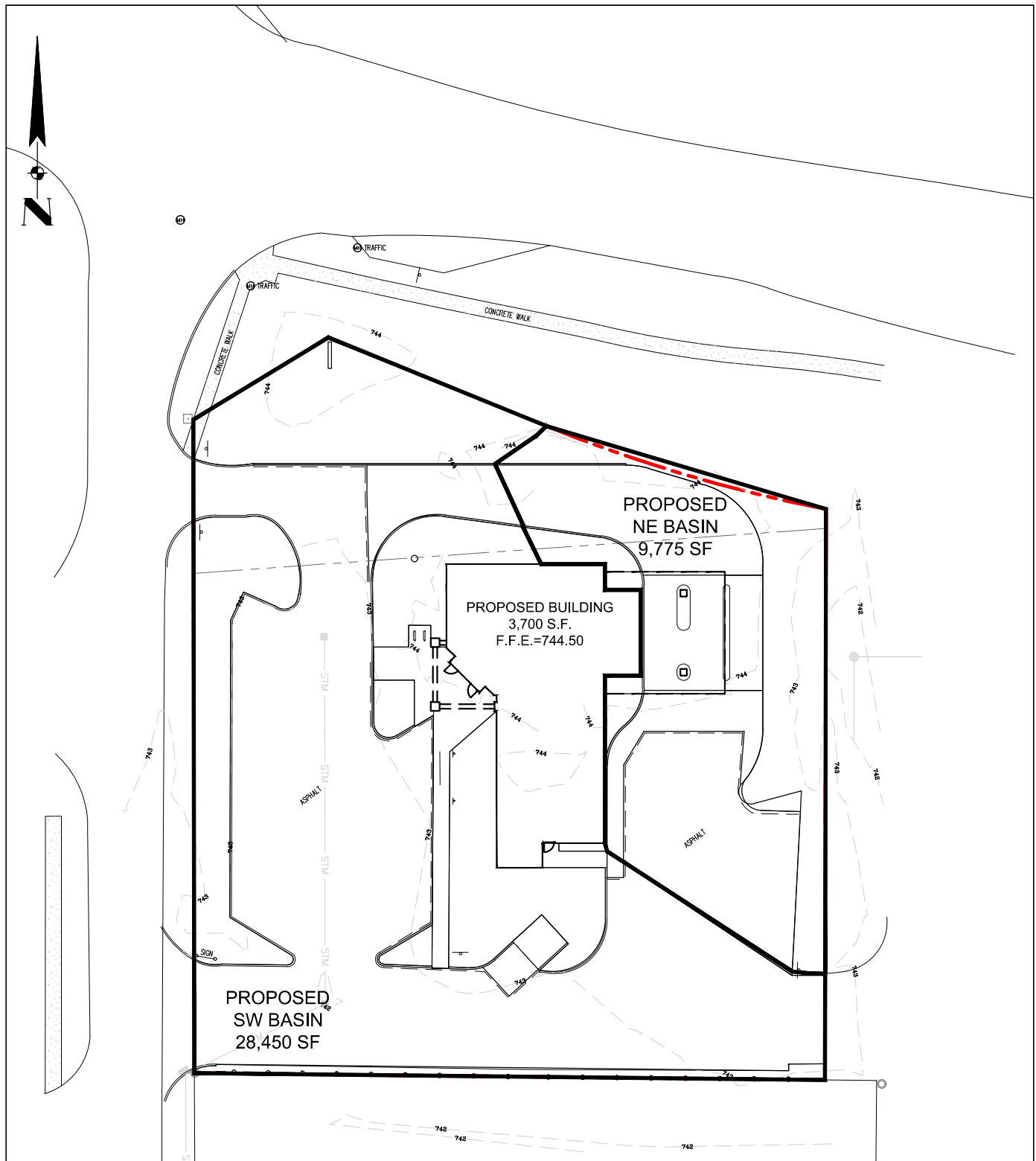
Developed Southwest	
From Site	Q=CiA (cfs)
2-year	3.23
10-year	4.44
25-year	5.03
100-year	5.89

Tc = (hr)	0.08	7.16
Tc = (hr)	0.00	9.85
		11.15
		13.07

Time of Concentration Calculations:

PRE-DEV	POST-DEV
5.0	5.0

PROPOSED CONDITIONS

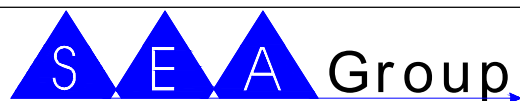


DEVELOPED BASIN MAP
 Indiana Members Credit Union
 1073 W. Jefferson St., Franklin, IN

SEA PROJECT NUMBER:
M19-4944

DATE: 07/11/19
 DWN. BY: CH
 CHKD. BY: CH
 SCALE: 1"=40'

SHEET 1 OF 1



**Land Surveyors & Civil Design
 Construction Layout**

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1073 W. Jefferson Runoff Calculations

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POST-DEVELOPED							
WATERSHED	TOTAL AREA (sf)	ROOF 0.90	PAVE 0.85	CONCRETE 0.85	LAWN 0.30	WEIGHTED RUNOFF C	IMPERVIOUS AREA (Sq.Ft.)
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