

STORMWATER TECHNICAL INFORMATION REPORT

TAKE 5 OIL CHANGE

Project Location:

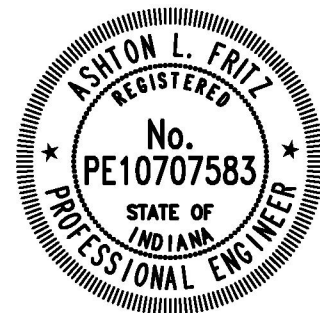
1795 N. MORTON STREET
FRANKLIN, IN 46123

Prepared For:

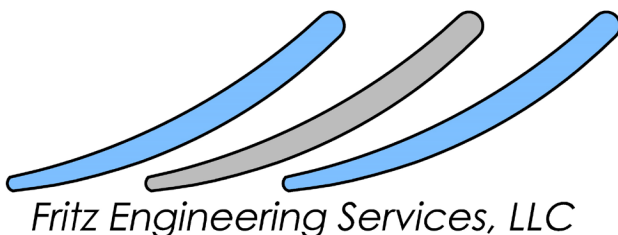
BALDWIN CAPITAL PARTNERS
10884 GRESHAM PLACE
NOBLESVILLE, IN 46060

Date:

JULY 10, 2019
Last Revised:



A handwritten signature in black ink that reads "Ashton L. Fritz".



- CIVIL ENGINEERS
- LAND DEVELOPMENT CONSULTANTS
- DRAINAGE CONSULTANTS
- CERTIFIED FLOODPLAIN MANAGER

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PROJECT DESCRIPTION

Baldwin Capital Partners is proposing to construct a new Take 5 Oil Change facility at the intersection of N. Morton Street (US 31), Schoolhouse Road and Main Street in Franklin, Indiana. The facility will utilize existing entrances from N. Morton Street and Main Street. The proposed improvements include a 1,000 SF quick oil change building with two drive through bays and associated parking and utility services. The site is located at 1795 N. Morton Street in Franklin, Johnson County, Indiana. For reference, the project site is located at approximately latitude 39° 29' 04"N and longitude 86°03'54"W.

FEMA MAP OVERVIEW

The project site is located within the FEMA Community Panel Map #18081C0227D dated August 2, 2007. Review of the map indicates the site is located within the Flood Designation 'Zone X' (unshaded). Therefore, the site is not subject to Flood Control Ordinance requirements. The FEMA Map is included in Appendix B.

WATERSHED DESCRIPTION

The project site is located within the 'Youngs Creek-Ray Creek' watershed as provided on the [IndianaMap](#) GIS system. The 14-digit Hydrologic Unit Codes (HUC) for this watershed is 05120204090040.

SOILS OVERVIEW

The project site contains the soils listed in the following **Table**. The Hydrologic Soil Group (HSG) for each soil is also provided. The appropriate limits of each soil type are depicted in the Soils Map provided in Appendix C.

TABLE 1 – PROJECT SOILS

Soil Symbol	Soil Name, Description	HSG
Br	Brookston silty clay loam	B/D
CrA	Crosby silty loam	C/D

ZONING INFORMATION

The site is within the corporate limits of the City of Franklin, Indiana. The underlying Zoning Classification is MXC, Mixed Commercial and is within the US 31 Overlay District. The proposed use is permitted in the MXC Zoning District and will likely require zoning variances for setbacks due to the narrow width of the lot. The variance(s) will be filed as necessary by the developer.

DEVELOPMENT STANDARDS

The project site is located within the City of Franklin, Johnson County, Indiana. Therefore, the proposed drainage improvements are subject to the standards of design and construction of the City of Franklin. Runoff calculations will be calculated using the Rational Method and local rainfall data with assumed minimum Time of Concentrations of 5 minutes.

EXISTING CONDITIONS

The proposed Take 5 Oil Change site is currently developed with a commercial use, parking area and existing utility services. The existing structure and onsite pavement will be removed for the new project. The existing site has essentially two distinct drainage patterns as described below.

EX1 - sheet drains approximately one-third of the western portion of the site to the roadside ditch N. Morton Street. The runoff enters the road drainage system near the existing entrance near the southwest corner of the site.

EX2 - sheet drains the majority of the site to the east into Main Street. The runoff from the onsite basin as well as most of the Main Street roadway drains to an existing inlet in the east side of the road approximately near the north-south middle of the proposed site.

TABLE 2 – EXISTING PEAK DISCHARGE RATES

Basin Name	Peak Runoff Rate, cfs		
	10 yr	25 yr	100 yr
EX1	0.53	0.61	0.73
EX2	1.77	2.04	2.45
TOTAL	2.30	2.65	3.18

For clarity, a map of the existing drainage sheds and infrastructure is illustrated in Appendix D.

PROPOSED CONDITIONS

The project includes the construction of a new single-story oil change building as well as associated parking, drive aisles, loading areas and utility service infrastructure. Stormwater runoff from the developed site will follow existing drainage patterns to the greatest extent possible. The drainage patterns will be subject to direct sheet drain runoff but will be limited to amounts less than or equal to those contributing under existing conditions and areas of pervious surface coverage. A summary of proposed runoff/discharge is provided below.

TABLE 3 – PROPOSED CONDITION RUNOFF COMPARISON TABLE

Basin Name	Corresponding Existing Basin	Peak Runoff / Discharge Rate, cfs		
		10 yr	25 yr	100 yr
PR1	EX1	0.41	0.48	0.57
PR2	EX2	1.42	1.64	1.97
OVERALL SITE		1.83	2.12	2.64

NOTE: The proposed improvements show reduced flows as compared to existing peak runoff in each point of offsite flow direction.

The proposed improvements are consistent with the City of Franklin stormwater management standards. Runoff calculations for the proposed conditions are computed in Appendix F using the minimum 5 minute Time of Concentration. A map of the proposed basins is provided in Appendix E.

STORMWATER DETENTION

The proposed project is a redevelopment of an existing commercial use property. All inclusive, the overall site will have a decrease in the impervious surfaces and overall corresponding runoff. Therefore, stormwater detention is not required or provided.

STORMWATER QUALITY

The proposed site includes a total land disturbance of less than 0.4 acres. Per the City of Franklin Construction Site & Post Construction Site Stormwater Control Ordinance (No. 2006-16), post construction stormwater control measures are required for projects with land disturbances of 1 acre or more. Therefore, post construction stormwater quality measures are not required for this project.

SUMMARY

Baldwin Capital Partners is proposing to redevelop a site at 1795 N. Morton Street in Franklin, Indiana. The redevelopment will include removal of the existing onsite building and impervious surfaces and the construction of a new two bay quick oil change building with associated parking, drives and utility services. Stormwater detention is not required due to a decrease in impervious surface from existing conditions. Stormwater quality is not required due to the limited proposed land disturbance.

As a result of the onsite drainage analysis, the proposed improvements are not anticipated to have adverse impacts on the surrounding or downstream drainage systems.

REFERENCES

1. Johnson County Soils Map (Web Soil Survey)
2. FEMA Flood Insurance Rate Maps, FEMA Website
3. Indiana Drainage Handbook
4. Franklin Subdivision Control Ordinance
5. Franklin Stormwater Standards
6. Franklin Construction Site & Post Construction Site Stormwater Control Ordinance (No. 2006-16)

APPENDICES

APPENDIX A – LOCATION MAP

APPENDIX B – FEMA MAP

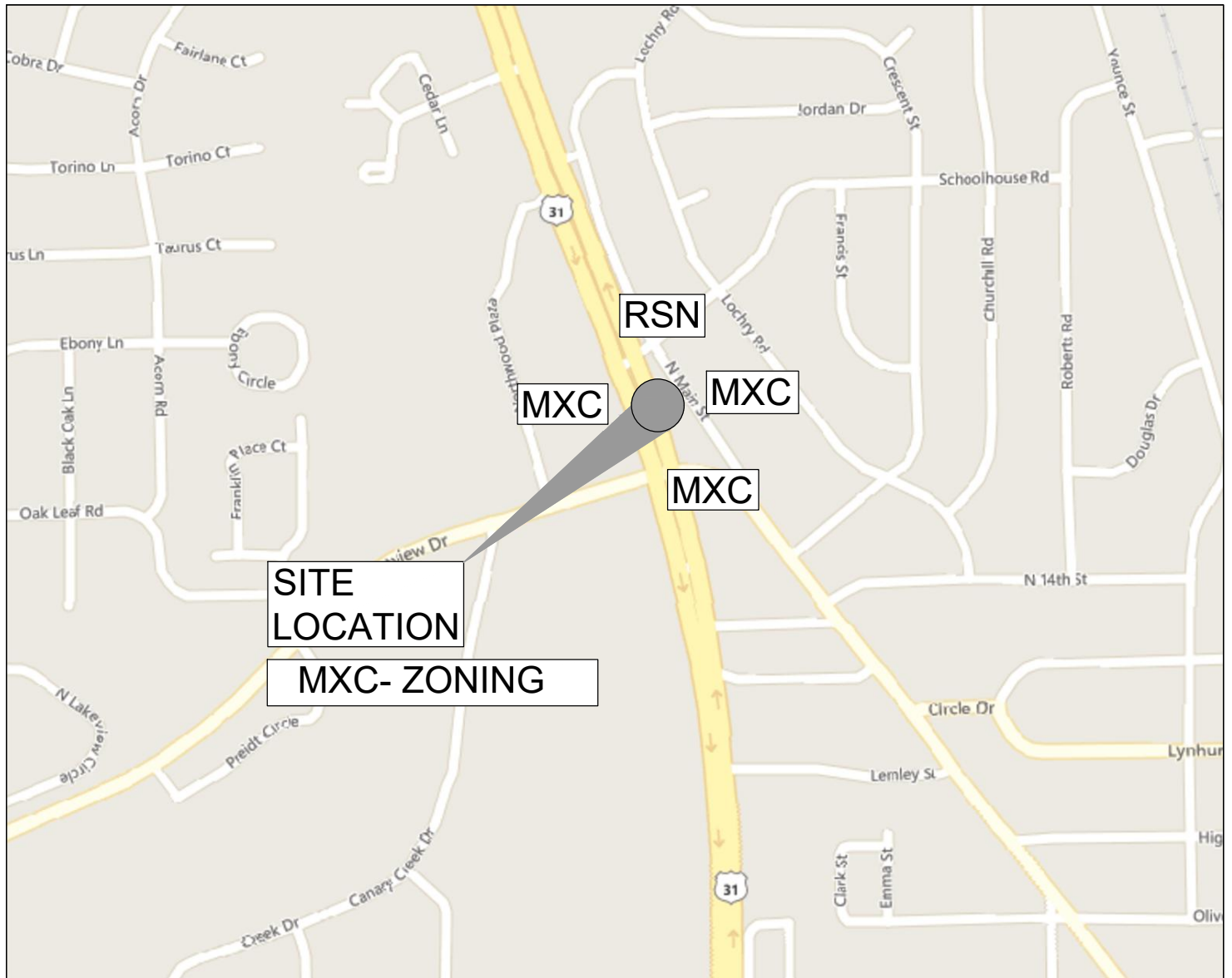
APPENDIX C – SOILS DATA & MAP

APPENDIX D – EXISTING DRAINAGE PATTERN MAP

APPENDIX E – PROPOSED DRAINAGE PATTERN MAP

APPENDIX G – SUFFICIENCY OF PLAN

APPENDIX A – LOCATION MAP



SITE VICINITY & ZONING MAP



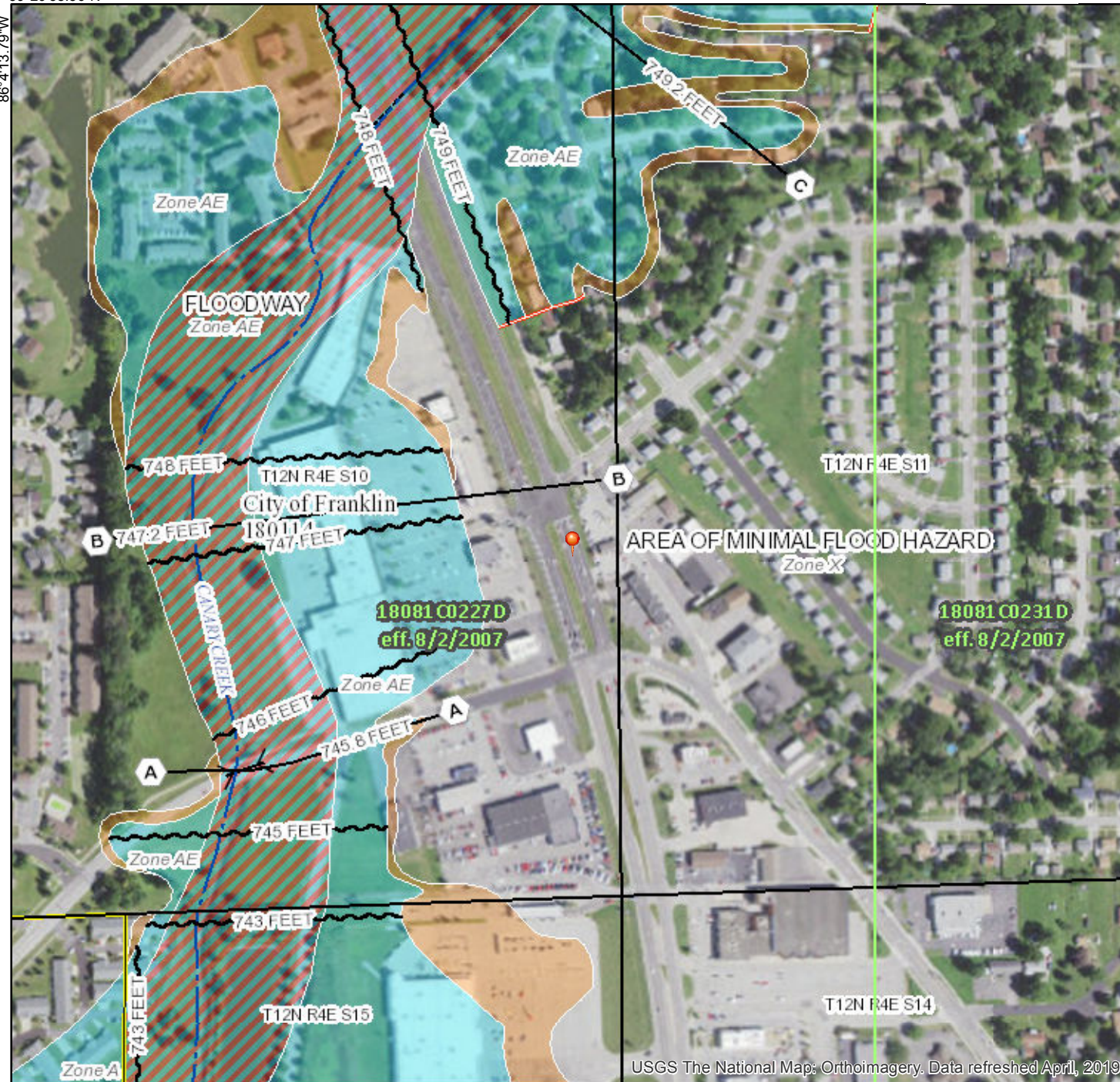
APPENDIX B – FEMA MAP

National Flood Hazard Layer FIRMette



July 10, 2019
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39°29'58.36"N



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 LOMRs
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		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 6/18/2019 at 1:19:50 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.

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

0 250 500 1,000 1,500 2,000 Feet 1:6,000

39°29'30.60"N

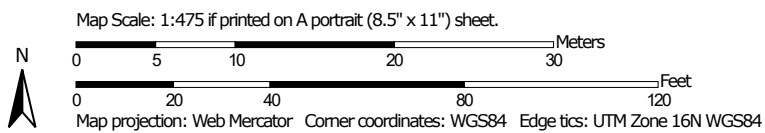
86°33'33"W

APPENDIX C – SOILS DATA & MAP

Soil Map—Johnson County, Indiana




Soil Map may not be valid at this scale.



Soil Map—Johnson County, Indiana

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

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.

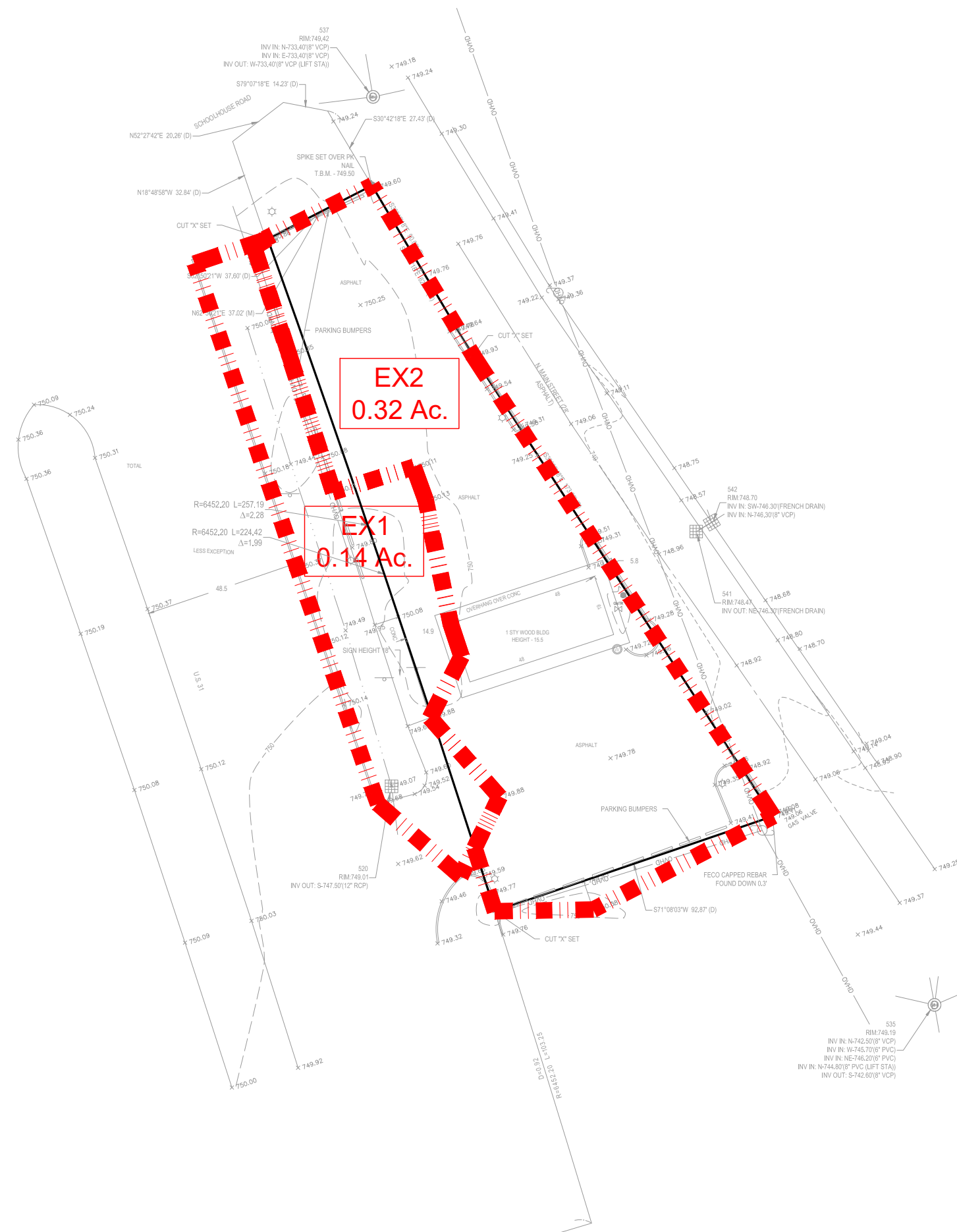
Date(s) aerial images were photographed: Sep 24, 2014—Mar 20, 2017

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	0.3%
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	0.4	99.7%
Totals for Area of Interest		0.4	100.0%

APPENDIX D – EXISTING DRAINAGE PATTERN MAP



0 40' 80'

SCALE: 1" = 40'



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SHEET NAME / NO.
EXISTING BASIN MAP

EX-1



WEIGHTED RUNOFF COEFFICIENTS

PROJECT NAME: TAKE 5 FRANKLIN
FES PROJECT #: 1905001
DATE: 7/10/2019

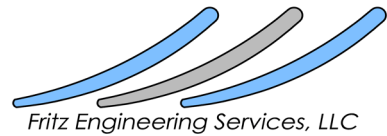
STRUCTURE/BASIN I.D.	TOTAL DRAINAGE AREA (Ac.)	RUNOFF COEFFICIENTS CALCULATIONS			
		% Grass 0.35	% Gravel/Pvmt 0.82	% Rooftop 0.85	Weighted C
EX-1	0.14 Ac. 5,930 SF	56% 3,300 SF	44% 2,630 SF	0% SF	Weighted C= 0.56
EX-2	0.32 Ac. 13,930 SF	7% 950 SF	82% 11,430 SF	11% 1,550 SF	Weighted C= 0.79
Overall EXISTING	0.46 Ac. 19,860 SF	21% 4,250 SF	71% 14,060 SF	8% 1,550 SF	Weighted C= 0.72



WEIGHTED RUNOFF COEFFICIENTS

PROJECT NAME: TAKE 5 FRANKLIN
FES PROJECT #: 1905001
DATE: 7/10/2019

STRUCTURE/BASIN I.D.	TOTAL DRAINAGE AREA (Ac.)	RUNOFF COEFFICIENTS CALCULATIONS			
		% Grass 0.35	% Gravel/Pvmt 0.82	% Rooftop 0.85	Weighted C
PR-1	0.15 Ac. 6,730 SF	93% 6,230 SF	7% 500 SF	0% SF	Weighted C= 0.38
PR-2	0.30 Ac. 13,130 SF	31% 4,130 SF	61% 8,000 SF	8% 1,000 SF	Weighted C= 0.67
Overall	0.46 Ac. 19,860 SF	52% 10,360 SF	43% 8,500 SF	5% 1,000 SF	Weighted C= 0.58



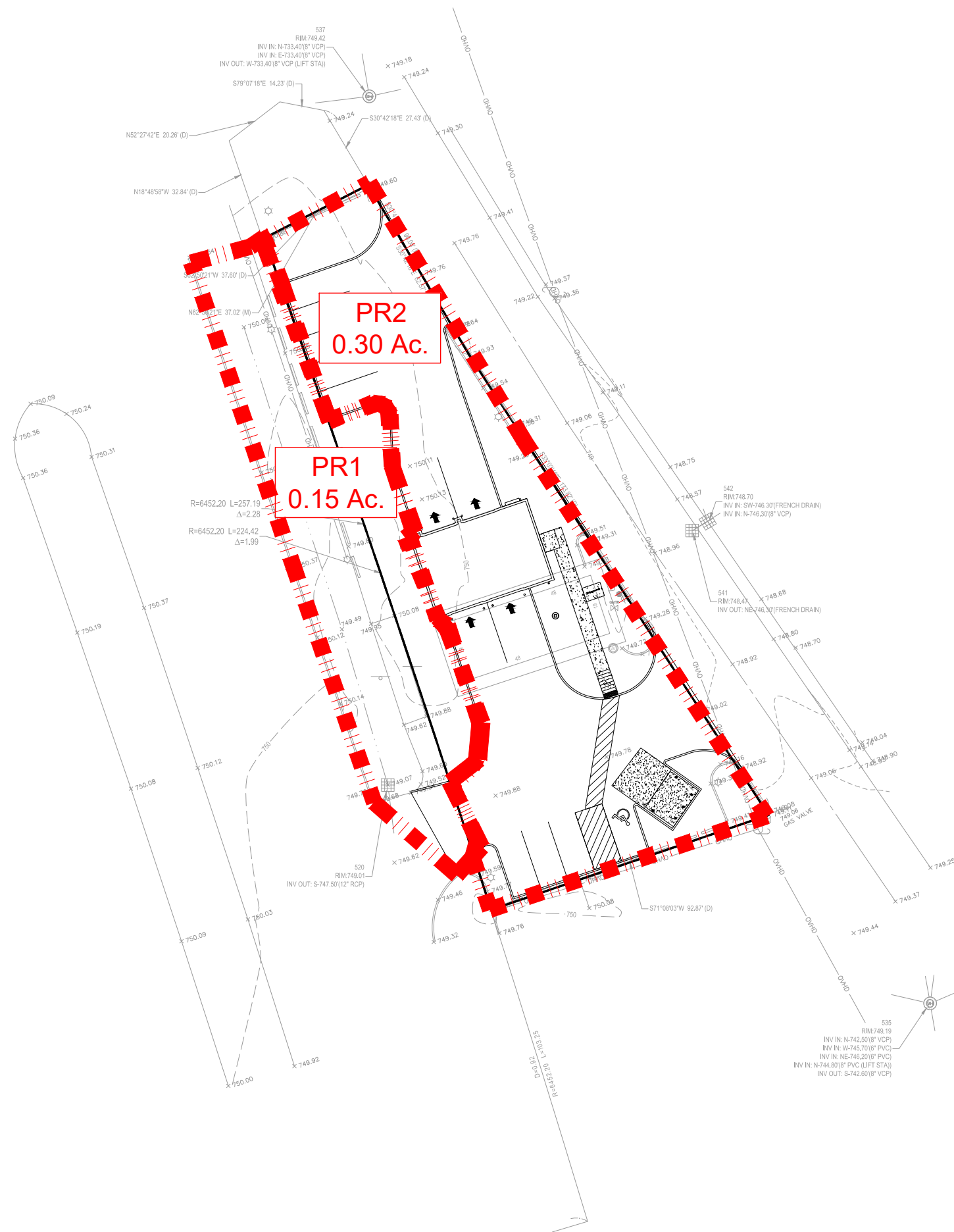
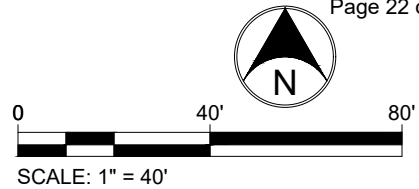
ADDITIONAL CALCULATIONS

RATIONAL METHOD PEAK RUNOFF

PROJECT NAME: TAKE 5 FRANKLIN
FES PROJECT #: 1905001
DATE: 7/10/2019

STRUCTURE		BASINS					COMPOSITE BASINS		DESIGN STORMS					
UP	DOWN	BASIN #	c	A	c*A	Tc	SUM	Tc	10		25		100	
				(acres)		(min)	(c*A)	(min)	I	Q	100	Q	I	Q
									(in/hr)	(cfs)	(in/hr)	(cfs)	(in/hr)	(cfs)
EX-1		EX-1	0.56	0.14 Ac.	0.08	5 min.	0.08	5.0 min.	6.98 in/hr	0.53 cfs	8.08 in/hr	0.61 cfs	9.69 in/hr	0.73 cfs
EX-2		PR-1	0.79	0.32 Ac.	0.25	5 min.	0.25	5.0 min.	6.98 in/hr	1.77 cfs	8.08 in/hr	2.04 cfs	9.69 in/hr	2.45 cfs
PR-1		PR-1	0.38	0.15 Ac.	0.06	5 min.	0.06	5.0 min.	6.98 in/hr	0.41 cfs	8.08 in/hr	0.48 cfs	9.69 in/hr	0.57 cfs
PR-2		PR-2	0.67	0.30 Ac.	0.20	5 min.	0.20	5.0 min.	6.98 in/hr	1.42 cfs	8.08 in/hr	1.64 cfs	9.69 in/hr	1.97 cfs

APPENDIX E – PROPOSED DRAINAGE PATTERN MAP




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SHEET NAME / NO.
PROPOSED BASIN MAP

PR-1

APPENDIX G – SUFFICIENCY OF PLAN

CITY OF FRANKLIN – SITE DEVELOPMENT PLAN REVIEW

Certificate of Sufficiency of Plan

To be submitted with drainage calculations

PREMISES AFFECTED-COMMON ADDRESS (ATTACH LEGAL DESCRIPTION)

1795 N. MORTON STREET
FRANKLIN, IN 46123

DATE OF PLAN COMPLETION:

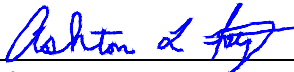
JULY 10, 2019

With the Submission of my Professional Seal: I hereby certify that to the best of my knowledge and belief:

1. The drainage plan for this project is in compliance with all of the drainage requirements set forth in the Franklin City Subdivision Control and Zoning Ordinances.
2. The calculations, designs, reproducible drawings, masters, and original ideas reproduced in this drainage plan are under my domain and control and they were prepared by me and/or my employees.

ASHTON L. FRITZ

Name (Printed)



Signature

7/10/2019

Date

14020 MISSISSINEWA DRIVE

Business Address

CARMEL

City

IN

State

46033

Zip

☐ Surveyor: Indiana Registration No.

☒ Engineer: Indiana Registration No.

PE10707583

☐ Architect: Indiana Registration No.