



DNREC Division of Watershed Stewardship
285 Beiser Boulevard, Suite 102
Dover, DE 19904
(302) 739-9921

Office Use Only

Date Received: _____ Reviewer: _____
Meeting date/time: _____ DelDOT Attendance Required Y/N: _____

Stormwater Assessment Study (SAS) Checklist

Project Name: Bridgeville PODS Storage Facility

Owner/Developer Name: FED Investments

Contact Person: Gary Krupnick

e-mail: gpk33fly@aol.com Phone: 631-435-1818

Consultant Company: Axiom Engineering, LLC

Contact Person: Ken Christenbury, P.E.

e-mail: ken@axeng.com Phone: 302-855-0810

Check all items that apply; leave check box blank if N/A.

A. Documents

Items should be arranged in the following order:

- This completed Stormwater Assessment Study (SAS) Checklist
- Brief narrative to include the following:
 - Project type/description
 - Description of soil limitations and how they relate to BMP selection
 - Applicable criteria if the site is in an area served by Watershed Master Plan
 - Impacts to tax ditch watershed or ROW
 - Description of existing site conditions and proposed conditions including information on downstream conveyance and Points of Analysis (POAs)
 - Identify and describe existing drainage structures and features
 - Provide photographs of structures / channels / outfalls / POAs
- Feedback from DelDOT Maintenance regarding drainage concerns (if relevant).
Consultant to contact DelDOT to determine if there are any known drainage problems. Provide Parcel ID number and a description of the project location, from the nearest intersection. DelDOT will respond with any known drainage and flooding problems.
 - *New Castle County – (302) 326-4523*
 - *Kent County – (302) 760-2424*
 - *Sussex County – (302) 853-1340*

B. Existing Hydrology Mapping

Submit an existing drainage features map based on **field-run topo or current LIDAR data**:

- On-site subareas
- Off-site subareas
- Site points of analysis

C. Stormwater Assessment Study GIS Mapping

Provide maps from the following SAS GIS Web application link:

<https://firstmap.delaware.gov/sasgis>

(Layers to be overlaid on the most recent aerial imagery basemap)

- Site location
- Parcel Boundary showing parcel and ID
- NHD rivers, streams and water features
- Contours
- Tax Ditch Mapping (watershed boundaries, channel locations, rights-of-way)
- Wellhead protection
- Aquifer recharge areas
- Land Use / Land Cover (LULC)
- Soils
- State Wetland Mapping Project (SWMP)
- Head of Tide Mapping
- Potential Contamination Sources
 - SIRB Sites
 - Leaking Tanks
 - Above Ground Storage Tank Facility
 - Underground Storage Tanks
 - Solid and Hazardous Waste Site
- Flood Data (BFE and FEMA Flood Map)
- Depth to Water WET

D. Supplemental Information

- StreamStats Map and Basin Characteristics Report showing limit of downstream analysis. (The downstream analysis point will be located at the point in the watershed where the site area comprises less than 10% of the watershed area. Alternative downstream limit points may be shown for discussion.)
StreamStats link: <https://streamstats.usgs.gov/ss>
- Adjacent well locational data
Well permit data can be searched by tax parcel ID from the Delaware OpenData portal: <https://data.delaware.gov/Energy-and-Environment/Well-Permits/2655-qn8j>
 - Public wells within 150' of parcel boundary
 - Domestic wells within 100' of parcel boundary
- Adjacent septic system data
 - Drainfields within 50' of parcel boundary
 - System components within 25' of parcel boundary

This checklist is for guidance only. The Delegated Agency reserves the right to request additional information during the review process as it deems necessary. Compliance with the checklist in no way is meant to relieve the design professional of his/her professional responsibilities.



18 Chestnut Street
Georgetown, DE 19947
www.axeng.com

Phone: 302 855-0810
Fax: 302 855-0812
E-mail: axiom@axeng.com

April 22, 2022

Sussex Conservation District
20728 N. DuPont Blvd. - Suite 317
Georgetown, DE 19947

Attn: Donna Colton/John Justice - Sediment and Stormwater Reviewer

RE: 0579-2201 PODS of Bridgeville - Step 1 SAS
Sussex Co. TM

Dear Ms. Colton / Mr. Justice:

Please find attached the Step 1 Stormwater Assessment Study for the above referenced site.

INTRODUCTION

This report is prepared to support the design of the development of a PODS Storage Facility in the town of Bridgeville. The developer proposes the construction of a 60,300 s.f. warehouse. The narrative is prepared to support the general approach for controlling stormwater runoff generated by proposed additions.

GENERAL SITE INFORMATION

Existing Site

The subject site is located on the northbound side of South Mainstreet and is bordered with the Lands of Anice Lynn Kulp and David Doane. The property is bounded by US Route 13, Rifle Range Road, South Main Street. Currently the parcel is used for agricultural cultivation. The entire property is 13.72 ± acres, the developer is proposing subdividing approximately 5-6 acres from the S. Main Street frontage for the project. The subject parcel will not have frontage on Route 13 or Rifle Range Road. The overall LOD for the project, including DelDOT right of way improvements, is 6± acres.

Based on the USDA - Natural Resources Conservation Service - Web Soil Survey, the site (area of development) consists of Hambrook sandy loam (HbA), 2-5% slopes, Mid-Atlantic Coastal Plain.

Drainage area 1 encompasses the west side of the parcel. Drainage from this area drains towards an existing ditch that drains towards the south and offsite. This drainage area contains slopes from 12%, based on the existing topographic data. Drainage area 1 is ± 3.65 acres, including the Main Street R.O.W. and portions of the adjacent parcel to the north.





Drainage area 3 drains towards the swale along U.S. Route 13 and then moves south off site. This drainage area contains slopes from 1-2%, based on the existing topographic and lidar contour data. Drainage area 3 is 15.97 acres. Drainage area 2 makes up the portion of Drainage area 3 that is located on-site. Drainage area 2 is ± 4.23 acres. Drainage area 2 will be routed to the site's infiltration basin and will be removed from outfall.

Developed Site

The improvements proposed on site include the construction of a 60,300 s.f. POD Storage facility, parking area, landscaped berm, utility, and other site improvements. The overall site will be collected via a closed pipe storm sewer system discharging to an infiltration facility designed to infiltrate the CV event. FV storm flows will have an overflow pipe discharging into the Main Steet road-side swale, managed to pre-developed peak discharges. Remaining areas outside of the site development will discharge offsite, overland and uncontrolled as it currently does.

Soil Conditions

GTA has obtained soil borings and run infiltration test in the location of the proposed infiltration basin. The site is marginally suited for infiltration. Infiltration will be used for the RPV and perhaps the CV storm events. The FV will be designed to overflow into the Main Street road-side ditch. A copy of the GTA report is included in this submittal.

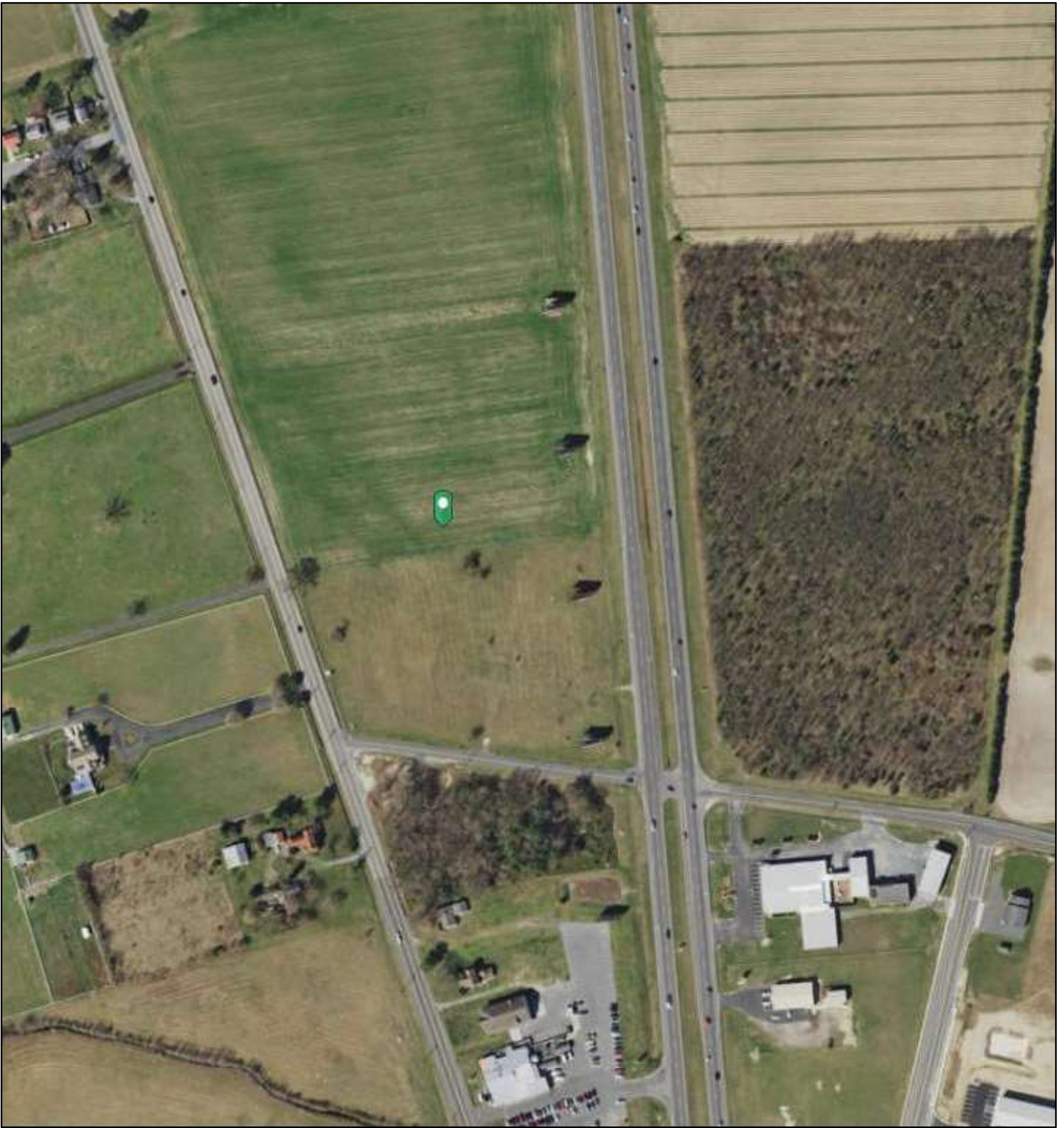
Please do not hesitate to contact me if you have any further questions or comments.

Sincerely,

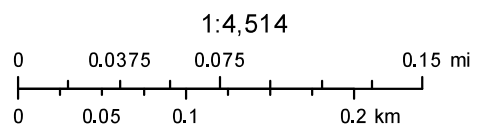
Kenneth R. Christenbury, P.E.
President, Axiom Engineering, LLC



1.0-SITE



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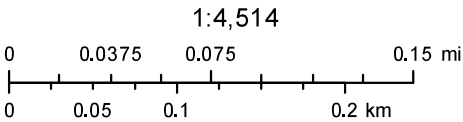


2.0 - PARCEL BOUNDARY



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 State Parcels



REV	DESCRIPTION OF REVISION	DATE	BY

SITE LOCATION
PODS OF BRIDGEVILLE
STORMWATER ASSESSMENT STUDY
 TOWN OF BRIDGEVILLE, SUSSEX COUNTY, DELAWARE
 SOUTH MAIN STREET

AXIOM
 ENGINEERING LLC
 18 CHESTNUT STREET
 DOVER, DE 19901
 TEL: 302.456.1234
 FAX: 302.456.1234
 WWW.AXIOM.COM

DATE	4/22/2022
PROJECT	PODS OF BRIDGEVILLE
SCALE	1" = 100'
DATE	4/22/2022
PROJECT	PODS OF BRIDGEVILLE
SCALE	1" = 100'

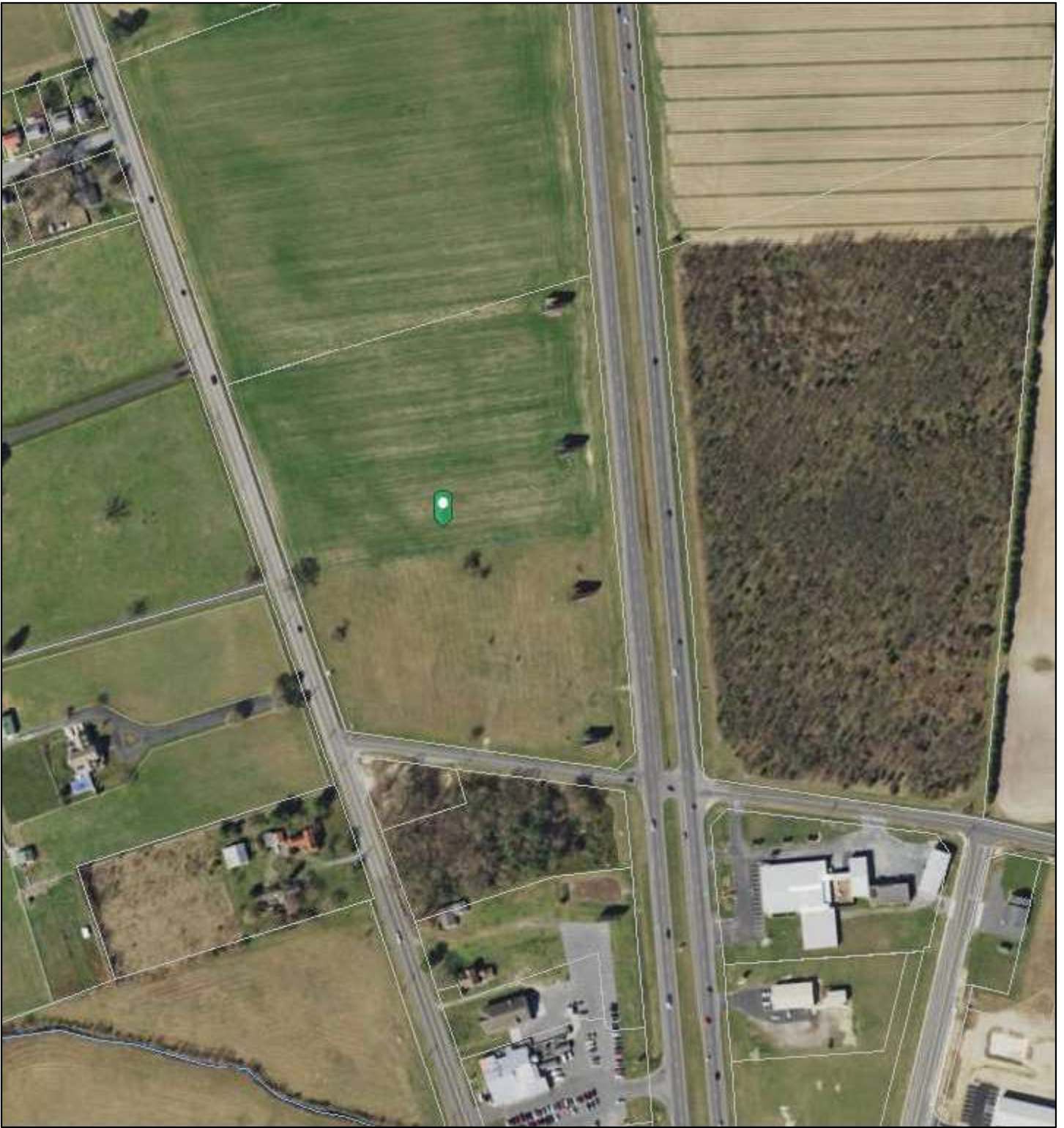
SEAL
 05792201

SAS-1
 05792201



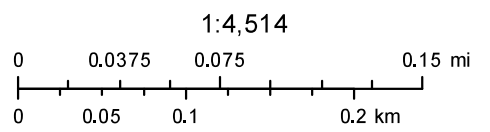
NOTE: SCALE INDICATED IS APPROXIMATE. NO FIELD SURVEY WAS PERFORMED OR IS IMPLIED BY THIS DRAWING. TAX PARCEL GEOMETRY DATA SHOWN WAS PRODUCED FROM AN LRSI SHAPFILE RECEIVED FROM SUSSEX COUNTY. FIELD SURVEYING DATA WAS OBTAINED FROM AERIAL PHOTOGRAPHS THAT OCCURRED AFTER THE DATA WAS COMPILED. IMAGE OBTAINED FROM GOOGLE EARTH PRO.

3.0 - NHD WATER FEATURES

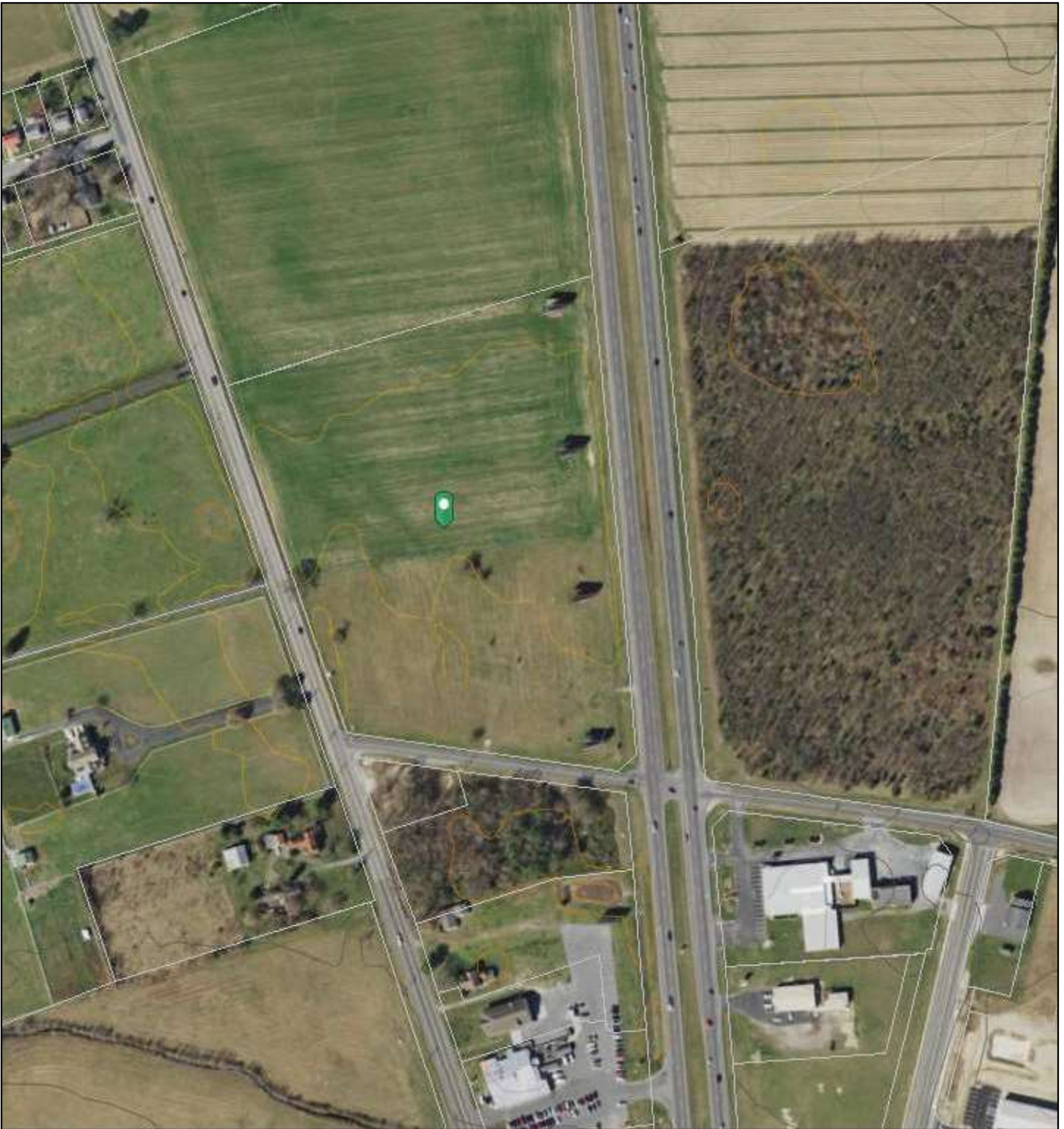


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- Watersheds
- FlowLine
- State Parcels














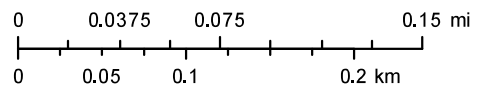
4.0 - CONTOUR



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1:4,514

- | | |
|---|---|
|  State Parcels | NCC_Lower |
| NCC_Upper |  Depression Index |
|  Depression Index |  Depression Intermediate |
|  Depression Intermediate |  Normal Index |
|  Normal Index |  Normal Intermediate |
|  Normal Intermediate |  <all other values> |
|  <all other values> | |



Delaware Geological Survey

SAS-4
05792201

DATE	11/13/17
SCALE	1" = 100'
PROJECT	PODS OF BRIDGEVILLE
CLIENT	TOWN OF BRIDGEVILLE
DATE	4/22/2022
PROJECT	PODS OF BRIDGEVILLE
CLIENT	TOWN OF BRIDGEVILLE
DATE	11/13/17
SCALE	1" = 100'

Axiom ENGINEERING LLC
 18 CHESTNUT STREET
 GEORGETOWN, DE 19647
 PHONE: 302.858.0810
 FAX: 302.858.0812
 WWW.AXIOMENR.COM

STATE LIDAR TOPOGRAPHY
 STORMWATER ASSESSMENT STUDY
 PODS OF BRIDGEVILLE
 SOUTH MAIN STREET
 TOWN OF BRIDGEVILLE, SUSSEX COUNTY, DELAWARE

REV	DESCRIPTION OF REVISION



NOTE: 1" INTERVAL TOPOGRAPHIC CONTOURS SHOWN WERE PRODUCED FROM AN ERII SHAPE FILE RECEIVED FROM THE STATE OF DELAWARE BASED ON 2014 LIDAR MAPPING, AND MAY NOT REFLECT GRADING, EXCAVATION OR OTHER TOPOGRAPHIC CHANGES THAT OCCURRED AFTER THE DATA WAS OBTAINED. THIS DATA IS NOT A FIELD SURVEY AND IS NOT TO BE USED FOR ANY ORIGINAL STUDY PURPOSES ONLY. NO FIELD SURVEY WAS PERFORMED OR IS IMPLIED BY THIS DRAWING. IMAGE OBTAINED FROM GOOGLE EARTH PRO.

TOPOGRAPHIC CONTOUR LEGEND

1'	CONTOUR
2'	CONTOUR
3'	CONTOUR
4'	CONTOUR
5'	CONTOUR
6'	CONTOUR
7'	CONTOUR
8'	CONTOUR
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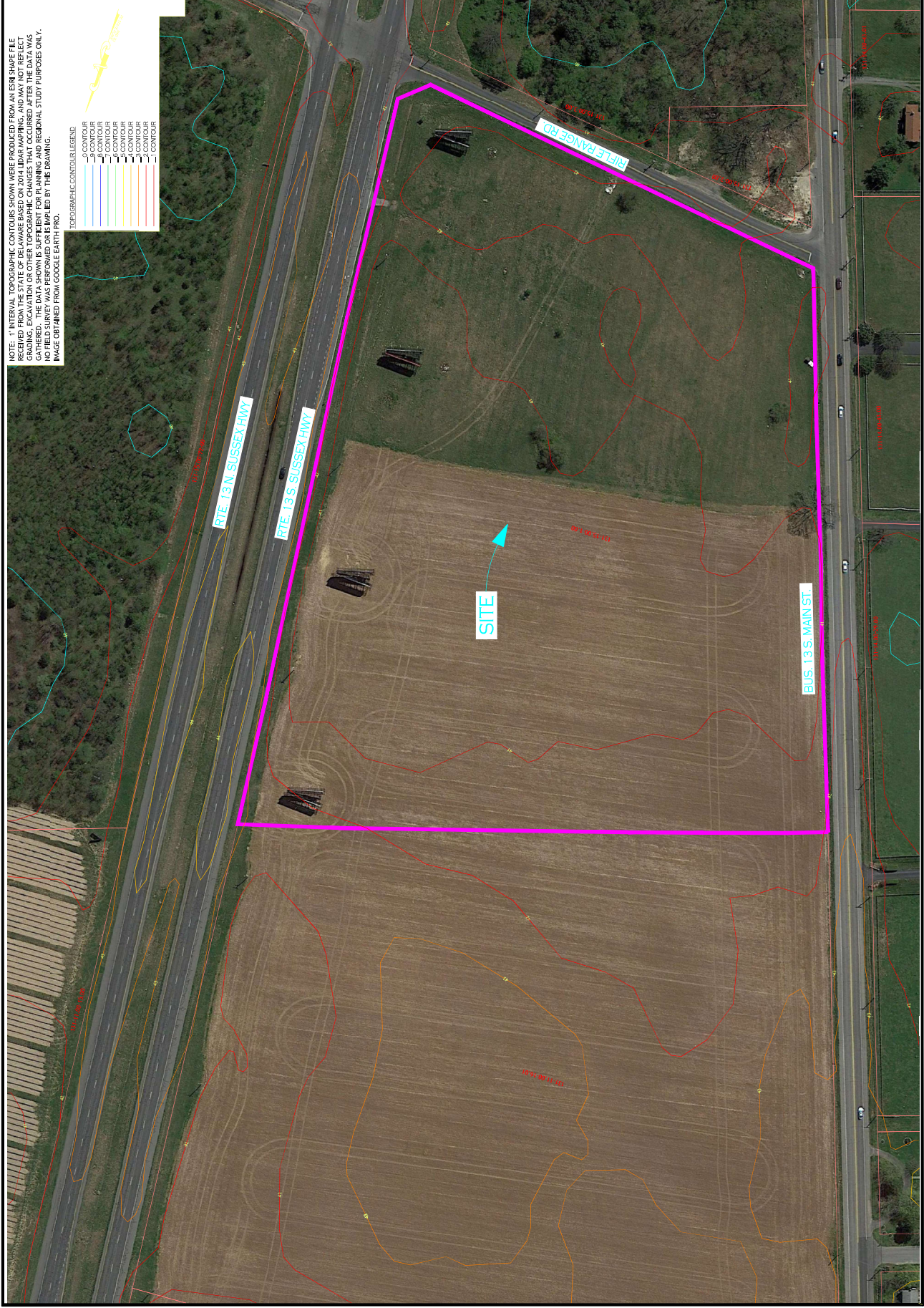


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PROJECT:	131-1000-100
SCALE:	1" = 100'
DATE:	11/20/2021
PROJECT:	131-1000-100
SCALE:	1" = 100'

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SITE DETAIL
 STORMWATER ASSESSMENT STUDY
 PODS OF BRIDGEVILLE
 TOWN OF BRIDGEVILLE, SUSSEX COUNTY, DELAWARE
 SOUTH MAIN STREET

REV	DESCRIPTION OF REVISION



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TOPOGRAPHIC CONTOUR LEGEND

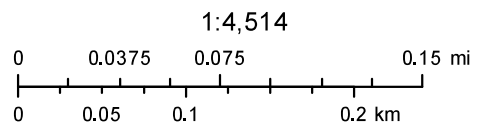
6' CONTOUR	Blue
4' CONTOUR	Green
2' CONTOUR	Yellow
0' CONTOUR	Orange
-2' CONTOUR	Red
-4' CONTOUR	Purple
-6' CONTOUR	Pink

5.0 - TAX DITCH MAPPING

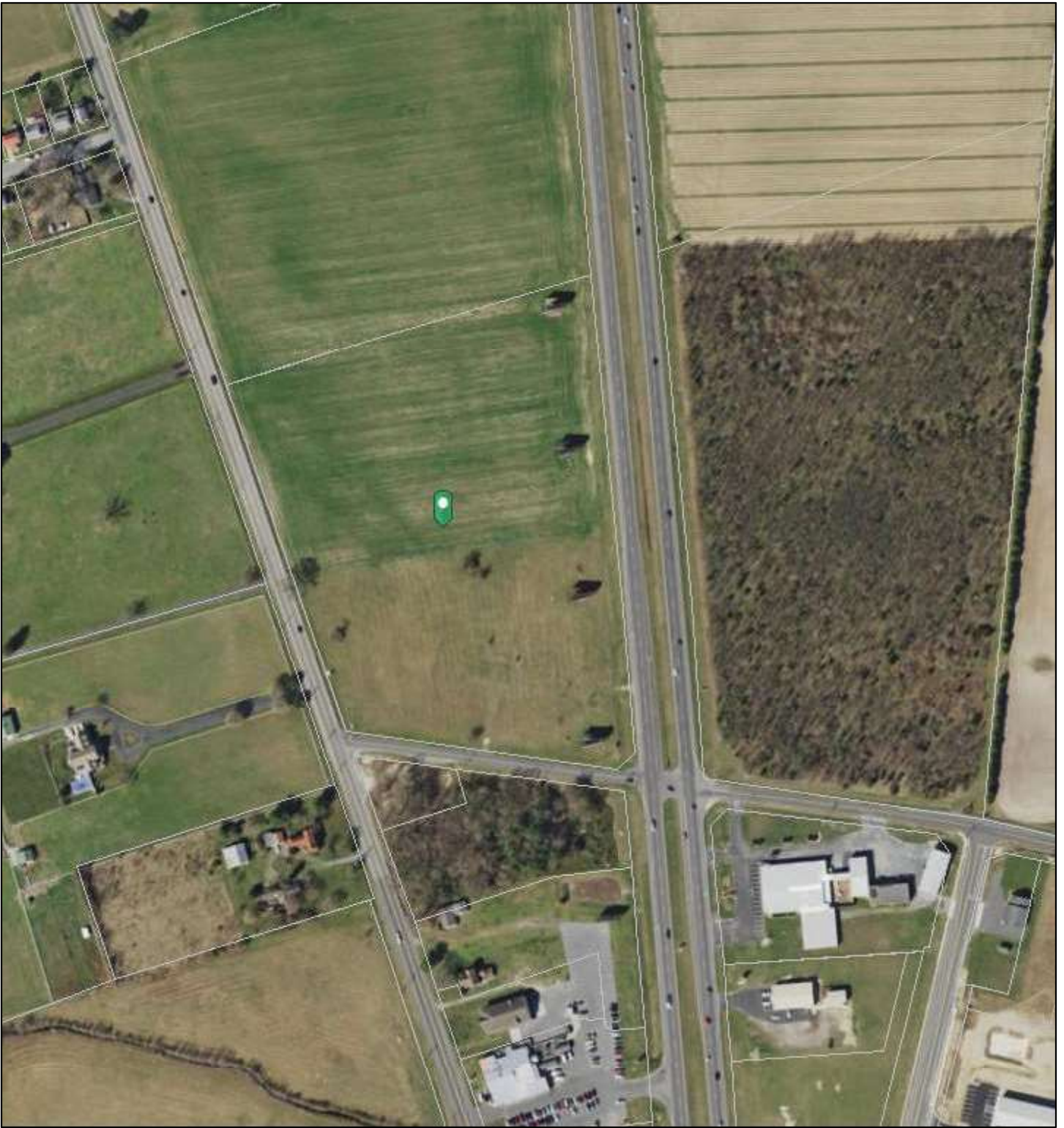


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 State Parcels



6.0 - WELL HEAD PROTECTION



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State Parcels

