JAMIE WHITEHOUSE, AICP
DIRECTOR OF PLANNING & ZONING
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Sussex County
DELAWARE
sussexcountyde.gov

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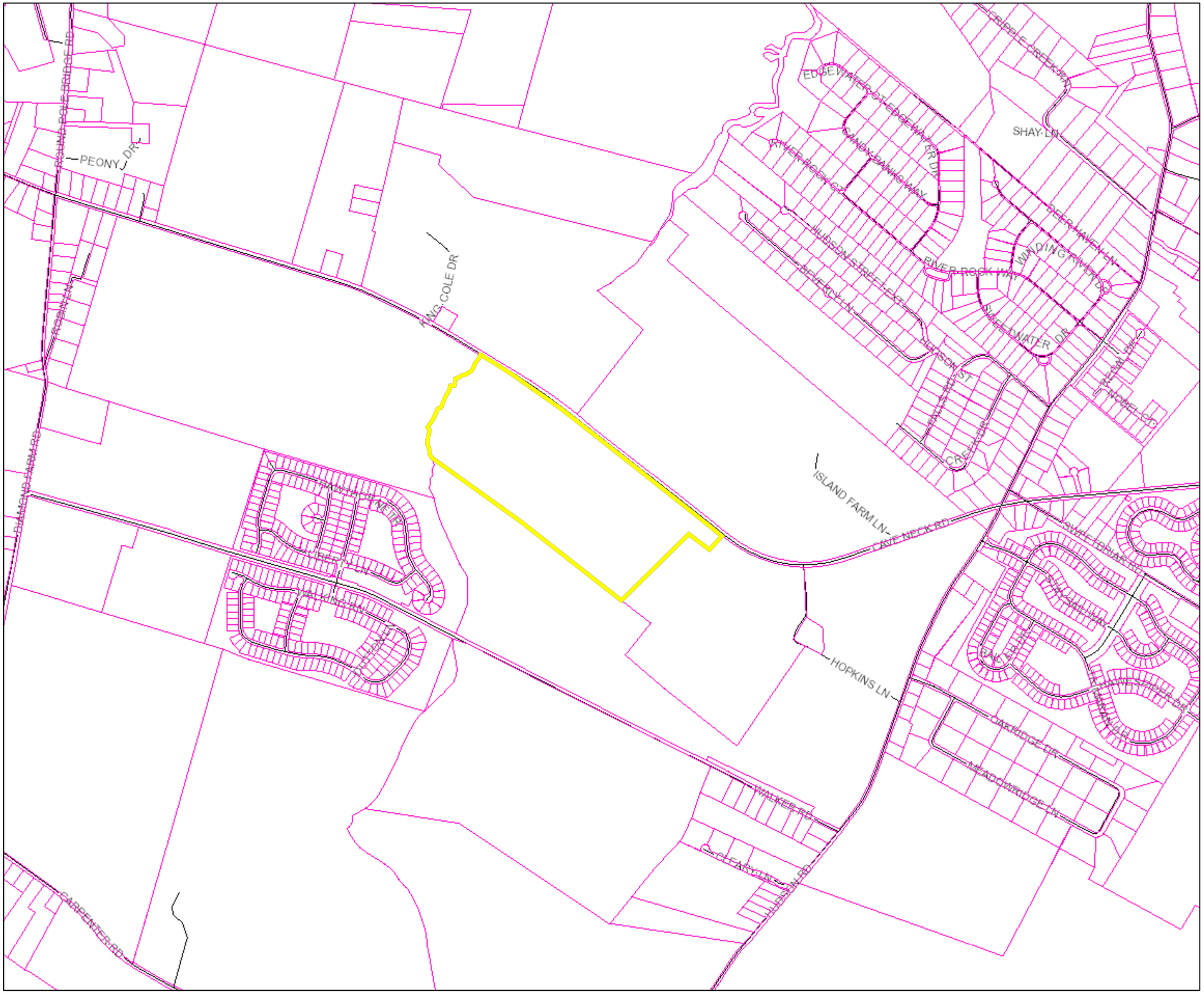
PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET
Planning Commission Public Hearing Date: October 27th, 2022

Application:	2022-03 Paradise Meadows
Applicant:	CNR Land Investment, LLC (Attention: Mr. John Richardson) 260 Hopewell Road Churchville, MD 21028
Owner:	Chance Chase, LLC 16793 Island Farm Lane Milton, DE 19968
Site Location:	The property is lying on the south side of Cave Neck Road (S.C.R. 88), approximately 1.3 mile east of the intersection of Cave Neck Road (S.C.R. 88) and Diamond Farm Road (S.C.R. 257).
Current Zoning:	Agricultural Residential (AR-1) District
Proposed Use:	191 single-family lots as a Cluster Subdivision
Comprehensive Land Use Plan Reference:	Low Density Area
Councilmanic District:	Mr. Rieley
School District:	Cape Henlopen School District
Fire District:	Milton Fire Department
Sewer:	Artesian
Water:	Artesian
Site Area:	95.87 acres +/-
Tax Map ID:	235-21.00-182.00

Sussex County



PIN:	235-21.00-182.00
Owner Name	CHANCE CHASE LLC
Book	4943
Mailing Address	16793 ISLAND FARM LN
City	MILTON
State	DE
Description	S/RT 88
Description 2	E/BEAVER DAM CREEK
Description 3	FX
Land Code	

polygonLayer
Override 1
polygonLayer
Override 1
Tax Parcels
Streets
County Boundaries

1:18,056

0 0.225 0.45 0.9 mi
0 0.35 0.7 1.4 km

September 29, 2022

Sussex County

PIN:	235-21.00-182.00
Owner Name	CHANCE CHASE LLC
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Override 1

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Override 1

Tax Parcels

Streets

County Boundaries

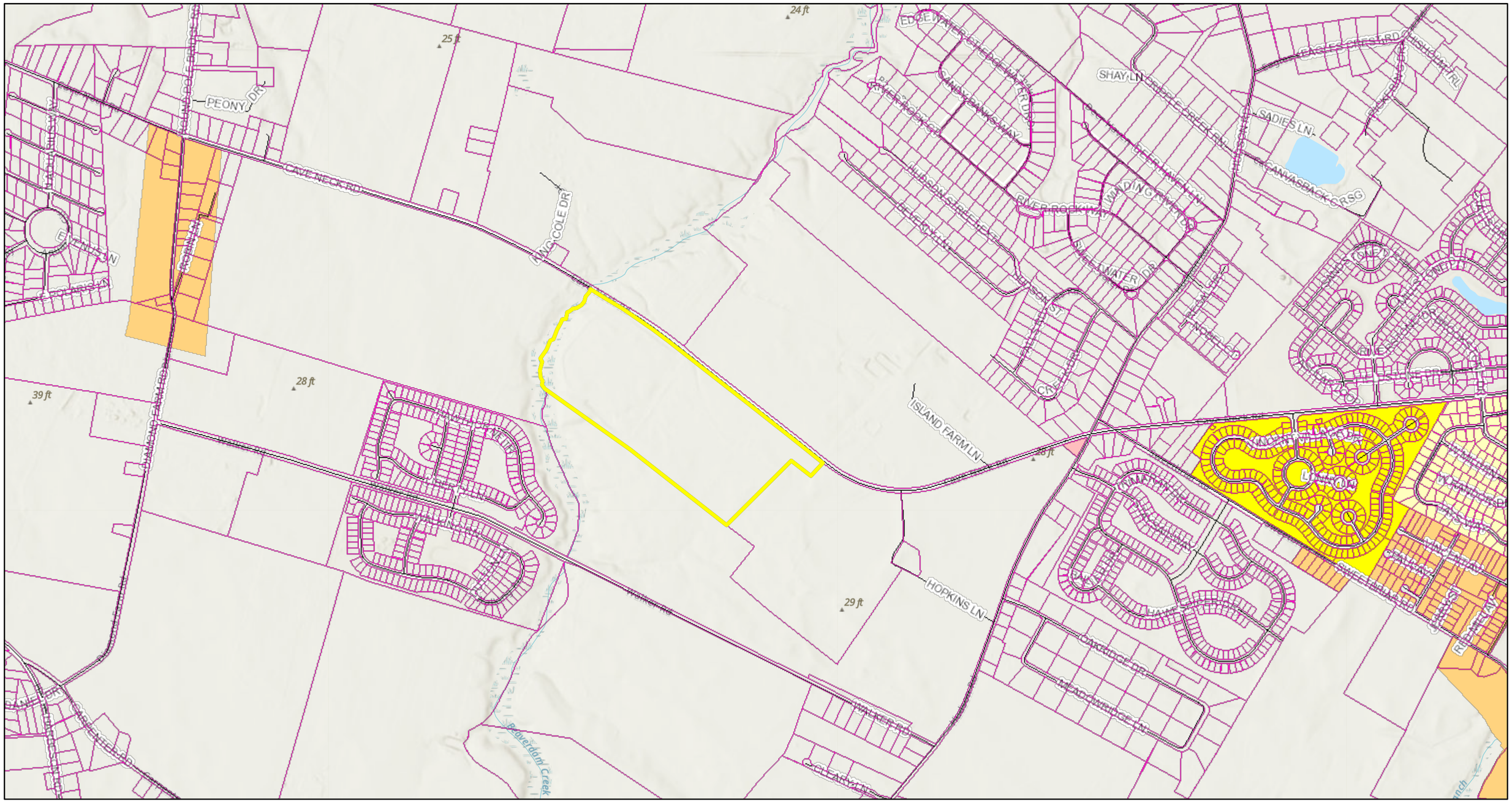
1:9,028

0 0.1 0.2 0.4 mi

0 0.175 0.35 0.7 km

September 29, 2022

Sussex County



September 29, 2022

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Override 1

Override 1

Tax Parcels

Streets

Zoning

Agricultural Residential - AR-1

Agricultural Residential - AR-2

Medium Residential - MR

General Residential - GR

High Density Residential - HR-1

High Density Residential - HR-2

Vacation, Retire, Resident - VRP

Neighborhood Business - B-1

Neighborhood Business - B-2

Business Research - B-3

General Commercial - C-1

General Commercial - C-2

General Commercial - C-3

General Commercial - C-4

General Commercial - C-5

Commercial Residential - CR-1

Institutional - I-1

Marine - M

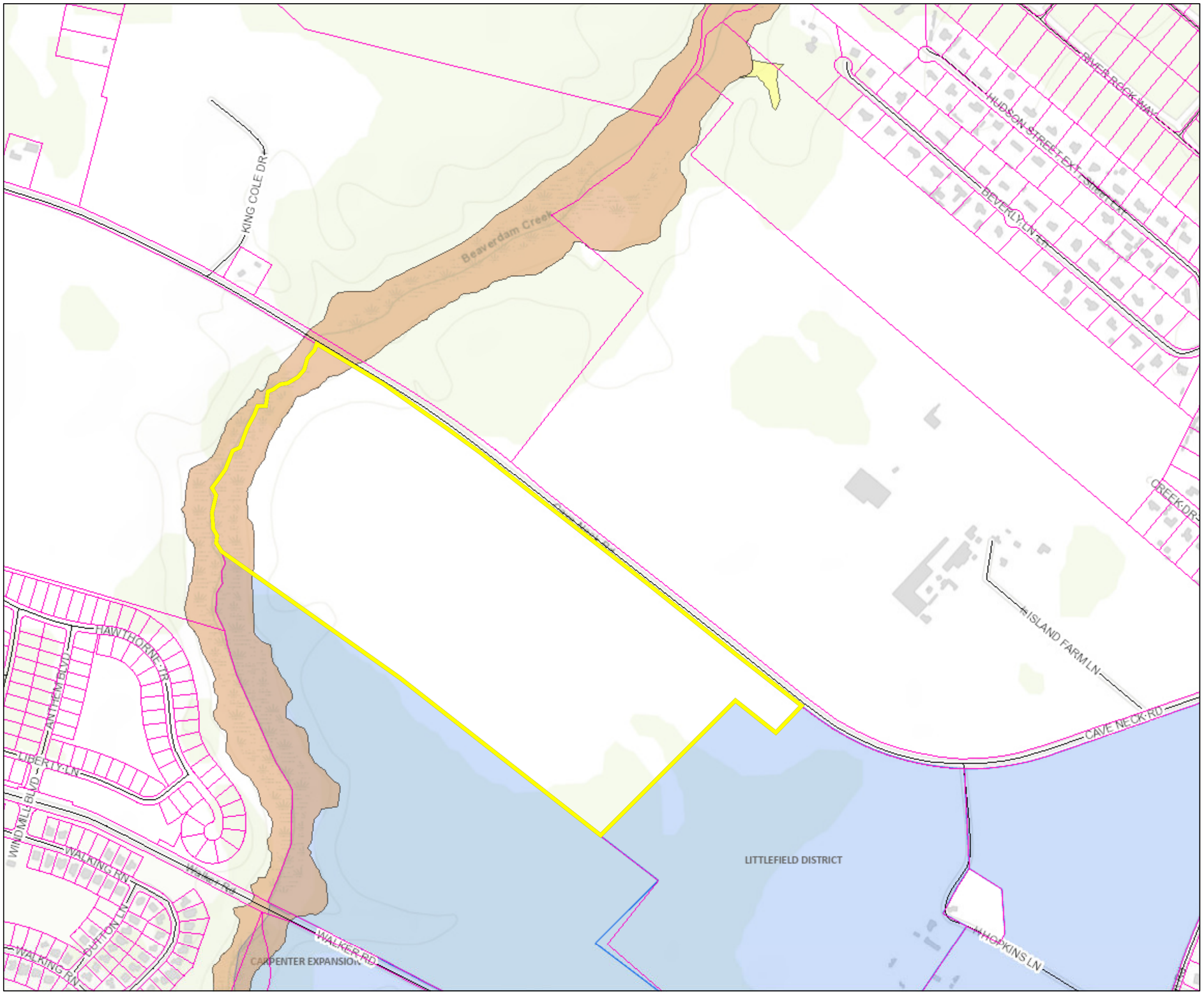
Limited Industrial - LI-1

Light Industrial - LI-2

Heavy Industrial - HI-1

County Boundaries

Sussex County



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polygonLayer
- Override 1

polygonLayer
- Override 1
- Tax Parcels
- Streets
- County Boundaries

Flood Zones 2018
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- A
- AE
- AO
- OPEN WATER
- VE

Aglands Preservation Districts
- Ag Easement
- District
- Expansion
- Forestland Area
- Forestland Easement
- Young Farmer

1:9,028

0 0.1 0.2 0.4 mi

0 0.175 0.35 0.7 km

October 17, 2022

Delaware Flood Planning Tool

Location is **Within** from the FEMA 100-year floodplain in the Effective Map.

1:9,028
0 220 440 880 ft
0 65 130 260 m

October 17, 2022

Effective Flood Hazard Areas

- A
- AE
- AE, FLOODWAY
- AO
- VE
- X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- Base Flood Elevation
- LiMWA
- Cross Sections
- Transect

Preliminary Flood Hazard

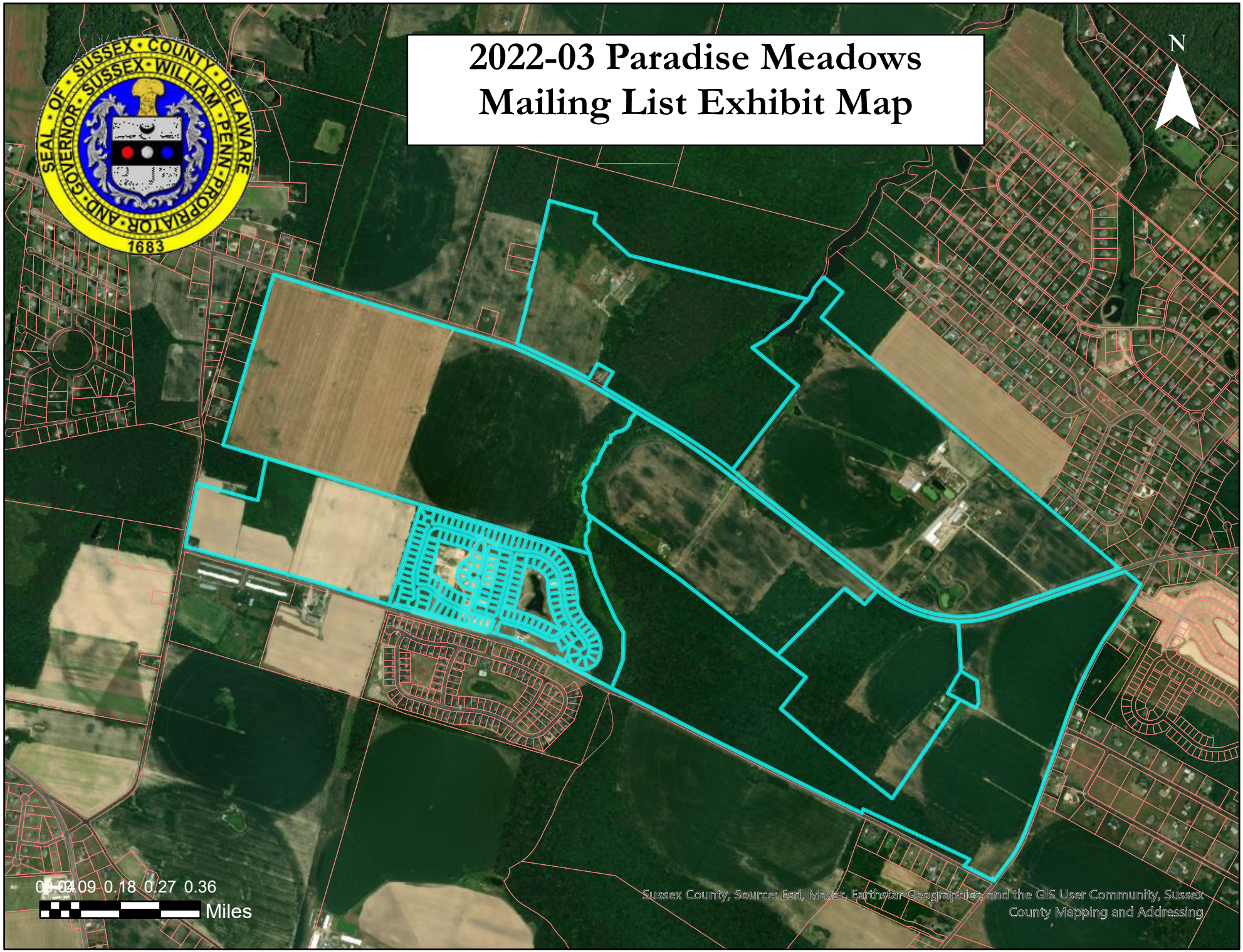
- A
- AE
- AE, FLOODWAY
- X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

Contours

- INDEX
- DEPRESSION
- HIDDEN
- INTERVAL

Flood Zone (at Point): AE
Base Flood Elevation (ft): 8
FEMA Issued Flood Map: 10005C0169K
Map Date: 3/16/2015
Subwatershed (HUC12): Beaverdam Creek-Broadkill River
Tax Parcel: 235-21.00-182.00
Flood zones on Parcel:
AE
X


2022-03 Paradise Meadows
Location Map
(NOTE: Buffer enclosing 210 feet of
Subject Site)
SEAL OF SUSSEX COUNTY DELAWARE
GOVERNOR SUSSEX WILLIAM PENN PROPRIATOR AND
1683
N
88
88
0 0.02 0.04 0.08 0.12 0.16
Miles
Sussex County, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sussex
County Mapping and Addressing


2022-03 Paradise Meadows
Mailing List Exhibit Map
SEAL OF SUSSEX COUNTY DELAWARE
SUSSEX WILLIAM PENN PROPRIATOR AND GOVERNOR
1683
N
0 0.04 0.09 0.18 0.27 0.36
Miles
Sussex County, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sussex County Mapping and Addressing

Owner Name	Second Owner Name	Mailing Address	City	State	Zipcode	PIN
FROST SHARON C	<Null>	28311 LIBERTY LN	MILTON	DE	19968	235-26.00-336.00
HOPKINS- LITTLEFIELD CORPORATION	<Null>	17174 HOPKINS LN	MILTON	DE	19968	235-27.00-1.00
DUVALL MILDRED FAITH	<Null>	28578 HAWTHRONE TRL	MILTON	DE	19968	235-26.00-427.00
CARUSONE NANCY B	<Null>	28467 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-383.00
MUCK LINDA LEE	<Null>	28453 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-386.00
FISCHER DONNA ELAINE TTEE OF REV TR	<Null>	28372 LIBERTY LN	MILTON	DE	19968	235-26.00-485.00
FALLON JOSEPH JOHN	RENEE FALLON	28421 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-392.00
CIAMARICONE CAMILLO T III	<Null>	28361 LIBERTY LN	MILTON	DE	19968	235-26.00-406.00
WHITE KEITH C	JENNIFER L WHITE	28587 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-359.00
DUNLAP FRANCIS REED THE REV TR	<Null>	206 LAKE DR	MILTON	DE	19968	235-21.00-180.00
BOLTON RICHARD W	ELAINE M BOLTON	17034 PATRIOT PT	MILTON	DE	19968	235-26.00-453.00
KAPLAN JEFFREY ADAM	FELICIA NAN KAPLAN	28379 LIBERTY LN	MILTON	DE	19968	235-26.00-401.00
WRIGHT THOMAS L	JAN S WRIGHT	28601 HAWTHRONE TRL	MILTON	DE	19968	235-26.00-356.00
BELL DIANE LAURA TTEE	MICHAEL MYATT BELL TTEE LIV TR	6370 ROWANBERRY DR	ELKRIDGE	MD	21075	235-26.00-339.00
FOUST JOHN W TTEE	CYNTHIA ANNE CARROLL TTEE REV TR	28496 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-469.00
ARMUTLU ONDER	DARYA ARMUTLU	17054 PATRIOT PT	MILTON	DE	19968	235-26.00-450.00
BOERSEMA SUSAN KENNETH M BOERSEMA	KENNETH M BOERSEMA III PERI C BOERSEMA	28490 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-470.00
PRIBULICK GEORGE MARTIN	DEBORAH OUISE PRIBULICK	16051 ANTHEM BLVD	MILTON	DE	19968	235-26.00-443.00
ASCIOLLA JILLIAN MARGARET	<Null>	28517 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-372.00
GAST KENNETH MELVIN	KAREN MARY GAST	28616 HAWTHORNE TR	MILTON	DE	19968	235-26.00-421.00
BOOTHE BYRD W	LORRAINE ANNETTE BOOTHE	28424 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-479.00
DONOVAN FRANCES	<Null>	17108 PATRIOT POINT CT	MILTON	DE	19968	235-26.00-461.00
BOGUSH GREGORY M	MARY LYNN BOGUSH	28584 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-426.00
HOLDSWORTH JOHN D	CATHERINE W HOLDSWORTH	4500 OVERBROOK AVE	PHILADELPHIA	PA	19131	235-26.00-455.00
NYE KATHY J	<Null>	28659 HAWTHORNE TRAIL	MILTON	DE	19968	235-26.00-346.00
MENNA LOUISE D	BEVERLY E SIMS	28388 LIBERTY LN	MILTON	DE	19968	235-26.00-481.00
PACK JOHN E	CAROL J PACK	16064 ANTHEM BLVD	MILTON	DE	19968	235-26.00-431.00
GUILIANTE MELODY A	<Null>	17104 PATRIOT POINT CT	MILTON	DE	19968	235-26.00-463.00
SORRICK PENNY CHERYL	MICHAEL SORRICK	250 CANVASBACK DR	HAVRE DE GRACE	MD	21078	235-26.00-465.00
KASS WHITNEY WALTER III	MELISSA KASS	28385 LIBERTY LN	MILTON	DE	19968	235-26.00-399.00
FERRARO RONALD T	<Null>	28342 LIBERTY LN	MILTON	DE	19968	235-26.00-409.00
WEGE HENRY FRANCIS	<Null>	28664 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-340.00
POWERS KELLY	<Null>	28638 HAWTHORNE TRAIL	MILTON	DE	19968	235-26.00-418.00
FARELLA RONALD	FRANCES M FARELLA	28513 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-373.00
ROZHKOVA IRINA	<Null>	28541 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-368.00
SMITH CHRISTINE J	JOSEPH L SMITH JR	5583 OLIN DR	SYKESVILLE	MD	21784	235-26.00-395.00
ARAUJO EDWARD	PATRICIA ARAUJO	16065 ANTHEM BLVD	MILTON	DE	19968	235-26.00-446.00
MHDC ANTHEM LLC	<Null>	977 E MASTEN CIR	MILFORD	DE	19963	235-26.00-7.00
JENSEN-ALBINO LISA	<Null>	28633 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-351.00
ALLEN RICHARD ALFRED JR	<Null>	17109 PATRIOT POINT CT	MILTON	DE	19968	235-26.00-460.00
KOPLOWITZ BARRY S	CHRISTINE M KOPLOWITZ	28409 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-394.00
ARNOLD NANTHA LOUISE	GLORIA MARIE GRAF	28610 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-422.00
ROSE JEFFREY	JANET ROSE	28600 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-424.00
SHINKO GWENDOLYN SUSANNE	<Null>	17066 PATRIOT POINT	MILTON	DE	19968	235-26.00-448.00
CATLETT ERIN	MARCELUS CATLETT	28373 LIBERTY LN	MILTON	DE	19968	235-26.00-403.00

HOPKINS ROBERT MARK PETER	HOPKINS JOEY HOPKINS	17192 HOPKINS LN	MILTON	DE	19968	235-27.00-1.01
BONNER JOHN JOSEPH	ALISON LOUISE BONNER	28569 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-363.00
LEICH ERIKA	ANTHONY RUBBICO	16050 ANTHEM BLVD	MILTON	DE	19968	235-26.00-434.00
MOSCHITTI LOUIS	SHEILAGH MOSCHITTI	28622 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-420.00
CLAYTON TEL	KELSEY CLAYTON	28531 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-370.00
CONLEY NATALIE D	<Null>	28509 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-374.00
BACKMAN DEBORAH	CLIFFORD H BACKMAN	28322 LIBERTY LN	MILTON	DE	19968	235-26.00-415.00
BENZAIA JOHN	<Null>	28376 LIBERTY LN	MILTON	DE	19968	235-26.00-484.00
BARTA JUSTIN	CHRISTINE BARTA	28436 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-477.00
MULHOLLAND TERESA LYNN	<Null>	28613 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-354.00
DANESE VIRGINIA A	<Null>	16027 ANTHEM BLVD	MILTON	DE	19968	235-26.00-438.00
NEILAN MARTIN	DIANE NEILAN	16068 ANTHEM BLVD	MILTON	DE	19968	235-26.00-430.00
HAWK KAREN	<Null>	28592 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-425.00
MORRIONE JOSEPH M	PATRICIA F DIPRIMIO	28465 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-384.00
MATTHEWS MARK E	ELEANOR MATTHEWS	377 SALY RD	MORRISVILLE	PA	19067	235-26.00-473.00
FISH ALEXANDRA MARIE	<Null>	17042 PATRIOT PT	MILTON	DE	19968	235-26.00-452.00
DRY ACRES LLC	<Null>	16793 ISLAND FARM LN	MILTON	DE	19968	235-21.00-171.00
CILIA SAMANTHA RENEE	<Null>	16058 ANTHEM BLVD	MILTON	DE	19968	235-26.00-432.00
POTTER KIMBERLY ANN	<Null>	28370 LIBERTY LN	MILTON	DE	19968	235-26.00-486.00
DAY PAUL	SEMARY LINDER DAY	17 DEAUVILLE DR	PARSIPPANY	NJ	7054	235-26.00-345.00
JOHNSON DAVID	BARBARA JOHNSON	28559 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-365.00
DUNN JOSEPH R	<Null>	25 E WALNUT AVE	COLLINGSWOOD	NJ	8108	235-26.00-464.00
GREEZICKI WENDY MARIE	<Null>	28443 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-388.00
BRUNK ELIZABETH FIREBAUGH	<Null>	28452 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-474.00
NAGLE KATHLEEN ANN	SUSAN DAVIDSON BLAZEY	28641 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-350.00
RIGGIE WANDA MONICA	<Null>	17010 PATRIOT PT	MILTON	DE	19968	235-26.00-457.00
ROSS KATHY ELIZABETH	JOSEPH BURNS ROSS JR	28625 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-352.00
DAVID MARTHA ELLEN	ERIK DAVID	28493 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-377.00
SMOUSE PATRICIA L	MARY A MILCETIC	17014 PATRIOT PT	MILTON	DE	19968	235-26.00-456.00
NIEVE ROBERTO A	PRISCILLA C SATIRA	28314 LIBERTY LN	MILTON	DE	19968	235-26.00-417.00
WRIGHT JUNE M	<Null>	17106 PATRIOT POINT CT	MILTON	DE	19968	235-26.00-462.00
MCHALE KATHLEEN	<Null>	28573 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-362.00
SHAFFER CHARLES E JR LINDA C TTEE REV TR	<Null>	28597 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-357.00
HARRITY JOHN P	PETER J HECHLER	86 VAN HOUTEN PL	BELLEVILLE	NJ	7109	235-26.00-436.00
YOUNG LANCE DOUGLAS	BRITTANY ELIZABETH YOUNG	28413 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-393.00
KLAUS ERIC M	MARCIA L DUNNE	28565 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-364.00
MEROLA RALPH JOHN	TIMOTHY MICHAEL MEROLA	28430 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-478.00
WEINBERG ELIZABETH	<Null>	28665 HAWTHORNE TR	MILTON	DE	19968	235-26.00-344.00
DINOLFI SCOTT DAVID	KAREN DINOLFI	28593 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-358.00
MEISSINGER JAMES L	LISA MEISSINGER	28535 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-369.00
LUEHMAN JANE RUTH	<Null>	28459 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-385.00
SABOT NEIL	RHEA SABOT	8841 HERONS FLIGHT	LAUREL	MD	20723	235-26.00-433.00
MCDONALD JOSEPH GREGORY	REBECCA A MCDONALD	28607 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-355.00
REED ALAN EDWARD	LESLIE LYNN REED RACHEL LAUREN REED ETAL	7714 SIDEN DR	HANOVER	MD	21076	235-26.00-391.00
STALNAKER MICHAEL DAVID SR	DENISE STALNAKER	28579 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-361.00
WINTERS KENNETH A	CAROL A WINTERS	28525 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-371.00

MAKSYMOWYCH MARIA	<Null>	35 ELLIS RD	WILMINGTON	DE	19810	235-26.00-483.00
MOSCHITTI KRISTINA K	<Null>	28371 LIBERTY LN	MILTON	DE	19968	235-26.00-404.00
GLADWIN JOANN S	<Null>	16044 ANTHEM BLVD	MILTON	DE	19968	235-26.00-435.00
HALTER JAMES JOHN JR	JULIE MARIE HALTER	112 PENNSVILLE PEDRICKTOWN RD	PEDRICKTOWN	NJ	8067	235-26.00-441.00
FLAVILLE MARY THERESA	CLAUDE CHARLES FLAVILLE	28318 LIBERTY LN	MILTON	DE	19968	235-26.00-416.00
CATTS LINDA A	SAMANTHA A CATTS	16061 ANTHEM BLVD	MILTON	DE	19968	235-26.00-445.00
DRYSDALE KAREN L	<Null>	17026 PATRIOT PT	MILTON	DE	19968	235-26.00-454.00
BOSAK DAVID S	ASHLEY N BOSAK	28481 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-379.00
PRATT KAREN SUE	THOMAS JUDSON PRATT	28410 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-398.00
HOWER LINDA ANN	<Null>	1142 ALPHA AVE	LEBANON	PA	17046	235-26.00-337.00
COOPER PATRICIA ANN	JOSEPH F COOPER JR	28390 LIBERTY LN	MILTON	DE	19968	235-26.00-480.00
OSULLIVAN DANIEL K	LISA E OSULLIVAN	47 LARKSPUR CIR	SICKLERVILLE	NJ	8081	235-26.00-437.00
DANIELLO GERALD	ANNA DANIELLO	17048 PATRIOT PT	MILTON	DE	19968	235-26.00-451.00
BARRY STEPHANIE CHRISTINE	<Null>	28338 LIBERTY LN	MILTON	DE	19968	235-26.00-410.00
TRIPLE B FARMS LLC	<Null>	34688 DOE RUN	LEWES	DE	19958	235-21.00-181.00
CHANCE CHASE LLC	<Null>	16793 ISLAND FARM LN	MILTON	DE	19968	235-21.00-182.00
NICHOLS WILLIAM J	JENNIFER E NICHOLS	16031 ANTHEM BLVD	MILTON	DE	19968	235-26.00-439.00
STYLES LAWRENCE	JANICE STYLES	28606 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-423.00
KNODT LEIGH W	LOURDES C KNODT	6600 PELHAMS TRACE	CENTREVILLE	VA	20120	235-26.00-468.00
D'ADDARIO DEENA VANESSA	TAMMY ANN D'ADDARIO	28479 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-380.00
RHODES JAMES T	JENNY T RHODES	28512 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-466.00
MATTHEWS SARAH	JOHN D MATTHEWS	28503 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-375.00
MURPHY AGNES D	<Null>	16071 ANTHEM BLVD	MILTON	DE	19968	235-26.00-447.00
HIRED HAND LLC	<Null>	34688 DOE RUN	LEWES	DE	19958	235-22.00-11.00
FAHRINGER ARTHUR L JR	CAROLYN B FAHRINGER	17060 PATRIOTS PT	MILTON	DE	19968	235-26.00-449.00
MARREN RICHARD E	FLORENCE D MARREN	28357 LIBERTY LN	MILTON	DE	19968	235-26.00-407.00
CAMBRIA LISHA	KATHLEEN HAEFNER	5 WHITE RD	CHESWICK	PA	15024	235-26.00-341.00
KITKA PATRICIA ANN	<Null>	28651 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-348.00
MHDC ANTHEM LLC	<Null>	977 E MASTEN CIRCLE	MILFORD	DE	19963	235-26.00-7.01
OLDANI CHRISTOPHER ALLAN	MILDRED OLDANI	28553 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-366.00
KUBINEC MIROSLAV	<Null>	13821 TARLETON CT	GAINESVILLE	VA	20155	235-26.00-387.00
CRESCENZO JAMES JOSEPH	DONNA M CRESCENZO	28446 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-475.00
POWERS NANCY L	<Null>	28626 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-419.00
MARLEY JOHN MICHAEL	ELIZABETH ANN MARLEY	16055 ANTHEM BLVD	MILTON	DE	19968	235-26.00-444.00
CHORMAN BRITTANY LYNN	BRIAN SAMUEL MCCONLOGUE	28431 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-390.00
HILL KERI	<Null>	264 JASPER LOOP	PONDERAY	ID	83852	235-26.00-471.00
ADORNETTO JOSEPH P	LINDA J ADORNETTO	28545 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-367.00
SMITH TIMOTHY M	SHARON A SMITH	28303 LIBERTY LN	MILTON	DE	19968	235-26.00-338.00
WARD LILLIAN MARGARET GULLEDGE	<Null>	28328 LIBERTY LN	MILTON	DE	19968	235-26.00-413.00
BECKER CORINNE D	<Null>	16045 ANTHEM BLVD	MILTON	DE	19968	235-26.00-442.00
RISTON MARY FRANCES	VICTOR MICHAEL RISTON	28336 LIBERTY LN	MILTON	DE	19968	235-26.00-411.00
KRATZER MARJORIE I	<Null>	28326 LIBERTY LN	MILTON	DE	19968	235-26.00-414.00
OPAVA BONNIE	<Null>	28570 HAWTHORNE TR	MILTON	DE	19968	235-26.00-428.00
DAVIS DEBRA	<Null>	28383 LIBERTY LN	MILTON	DE	19968	235-26.00-400.00
FADERA KEBBA	<Null>	17107 PATRIOT POINT CT	MILTON	DE	19968	235-26.00-459.00
JOSEPH NANCY	WILLIAM J JOSEPH	28497 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-376.00

RESSLER STANLEY MORRIS	LAURA ELIZABETH RESSLER	28384 LIBERTY LN	MILTON	DE	19968	235-26.00-482.00
FALKOWSKI CLAUDIA	AMANDA WILLIS	28671 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-342.00
MCKEEHEN JOLEEN L	<Null>	16037 ANTHEM BLVD	MILTON	DE	19968	235-26.00-440.00
SCILEPPI CAROL J	VALERIE S MCNICKOL	28669 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-343.00
DOWD MAXINE	<Null>	17105 PATRIOT POINT CT	MILTON	DE	19968	235-26.00-458.00
DEMALTO KATHLEEN M	<Null>	28506 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-467.00
BOEHM MICHAEL JOHN	<Null>	28440 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-476.00
ADAMCZYK EDWARD W	ROSEMARY A ADAMCZYK	28476 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-472.00
ARFORD LOIS MICHELLE	<Null>	28655 HAWTHORNE TRAIL	MILTON	DE	19968	235-26.00-347.00
RAMIREZ SUSAN	JOSEPH RAMIREZ	28353 LIBERTY LN	MILTON	DE	19968	235-26.00-408.00
DIGIACINTO GARY MARK	DEBRA DIGIACINTO	28406 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-397.00
RINES KATHERINE ANN	DAVID ALLAN RINES	247 CAPE SAINT JOHN RD	ANNAPOLIS	MD	21401	235-26.00-378.00
MARSHALL MATT WILLIAM	<Null>	28647 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-349.00
ELSON ROSALEE S	MICHELLE C MARTIN	28619 HAWTHORNE TRL	MILTON	DE	19968	235-26.00-353.00
HINES SHARON	<Null>	18009 HAWTHORNE CT	MILTON	DE	19968	235-26.00-382.00
MHDC ANTHEM LLC	<Null>	977 E MASTEN CIRCLE	MILFORD	DE	19963	235-26.00-487.00
HUBLER CAREN A TTEE REV TR	<Null>	28332 LIBERTY LN	MILTON	DE	19968	235-26.00-412.00
CURCIO ALBERT	ROBERT TERMINE	28375 LIBERTY LN	MILTON	DE	19968	235-26.00-402.00

File #: 2022-03
Pre-App Date: 10/29/21

Sussex County Major Subdivision Application 20220149

Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

RECEIVED
FEB 03 2022
SUSSEX COUNTY
PLANNING & ZONING

Type of Application: (please check applicable)
Standard: ___
Cluster: ✓
Coastal Area: ___

Location of Subdivision:
South side of Cave Neck Road, approx. 5,400' west of Cave Neck Road and Hudson Road Intersection

Proposed Name of Subdivision:
Paradise Meadows

Tax Map #: 235-21.00-182.00 Total Acreage: 95.87 +/-

Zoning: AR-1 **Density:** 2.0 **Minimum Lot Size:** 7,500 **Number of Lots:** 191

Open Space Acres: 42.77 +/-

Water Provider: Artesian **Sewer Provider:** Artesian

Applicant Information

Applicant Name: CNR Land Investment, LLC (ATTN: Mr. John Richardson)
Applicant Address: 260 Hopewell Road
City: Churchville State: MD ZipCode: 21028
Phone #: (410) 838-2030 E-mail: jrichardson@dxiconstruction.com

Owner Information

Owner Name: Chance Chase LLC
Owner Address: 16793 Island Farm Lane
City: Milton State: DE Zip Code: 19968
Phone #: ___ E-mail: ___

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: Morris & Ritchie Associates, Inc. (Attn: Mr. Phillip L. Tolliver, P.E.)
Agent/Attorney/Engineer Address: 18 Boulden Circle, Suite 36
City: New Castle State: DE Zip Code: 19720
Phone #: (302) 326-2200 E-mail: ptolliver@mragta.com

EQUAL HOUSING OPPORTUNITY

Check List for Sussex County Major Subdivision Applications

The following shall be submitted with the application

✓ **Completed Application**

✓ **Provide ten (10) copies of the Site Plan or Survey of the property and a PDF (via e-mail)**

- Plan shall show the existing conditions, setbacks, roads, floodplain, wetlands, topography, proposed lots, landscape plan, etc. **Per Subdivision Code 99-22, 99-23 & 99-24**
- Provide compliance with Section 99-9.
- Deed or Legal description, copy of proposed deed restrictions, soil feasibility study

✓ **Provide Fee $500.00**

To be provided under eparate cover in dvance of Planning ommission meeting

✓ **Optional - Additional information for the Commission to consider** (ex. photos, exhibit books, etc.) If provided submit seven (7) copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

✓ **Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.**

✓ **PLUS Response Letter** (if required) ☐ **Environmental Assessment & Public Facility Evaluation Report** (if within Coastal Area) N/A

✓ **51% of property owners consent if applicable**

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on by behalf shall attend all public hearing before the Planning and Zoning Commission and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

_____ Date: 1/28/22

Signature of Owner

_____ Date: 1/28/22

For office use only:

Date Submitted: _____ Fee: $500.00 Check #: _____

Staff accepting application: _____ Application & Case #: _____

Location of property: _____

_____

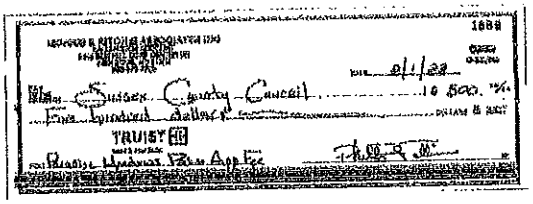
Date of PC Hearing: _____ Recommendation of PC Commission: _____

Sussex County, DE
Treasury
P.O. Box 601
Georgetown, DE 19947
Welcome

33021500-0057 Lindsey S 02/03/2022 12:34PM

PERMITS / INSPECTIONS	
SUBDIVISION - FEE	
2022 Item: 2022014911Z005	500.00
	500.00
Subtotal	500.00
Total	500.00
CHECK	500.00
Check Number00001659	
Change due	0.00

Paid by: MORRIS & RITCHIE ASSOCIATES INC.



Thank you for your payment

Sussex County, DE COPY
DUPLICATE RECEIPT

MORRIS & RITCHIE ASSOCIATES, INC.
Engineers, Architects, Planners,
Surveyors and Landscape Architects

18 Boulden Circle, Suite 36
New Castle, DE 19720
302-326-2200 / FAX 302-326-2399

LETTER OF TRANSMITTAL

DATE:	2/1/2022	JOB NO.:	21482
ATTN:	Jamie Whitehouse		
RE:	Paradise Meadows		

TO: Sussex County Administrative Offices
Planning and Zoning
2 The Circle
Georgetown, DE 19947

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:
☐ Shop drawings ☐ Prints ☑ Plans ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	2/1/2022	2 pgs	Sussex County Major Subdivision Application - Paradise Meadows
1	2/1/2022		Application Fee - $500
10	1/21/2022	8 shts.	Preliminary Plan

THESE ARE TRANSMITTED as checked below:

☐ For approval
☑ For your use
☐ As requested
☐ For review and comment
☐ FOR BIDS

☐ Approved as submitted
☐ Approved as noted
☐ Returned for corrections
☐ Resubmit _____ copies for approval
☐ Submit _____ copies for distribution
☐ Return _____ corrected prints

Delivery Method:

☑ Hand deliver
☐ Fed-Ex O/N
☐ Pick up at MRA Office
☐ Signature Required

REMARKS:

Please find attached application and plans associated with the proposed Paradise Meadows subdivision for your consideration. We will provide project information booklets, including the PLUS response letter and 99-C compliance, prior the the Planning Commission meeting. A PDF of the plans will be forwarded by email. If you should require any additional information at this time to place the project into you review process, please contact me immediately at 302-326-2200.

cc: File

SIGNED: Cory Tiste
Cory Tiste

_____
Received

If enclosures are not as noted, kindly notify us at once.

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

January 25, 2022

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **CNR Land Investment, LLC** proposed land use application, which we received on January 13, 2022. This application is for an approximately 100.77- acre parcel (Tax Parcel: 235-21.00-182.00). The subject land is located on the south side of Cave Neck Road (Sussex Road 88) about 3,500 ft west of the intersection with Hudson Road (Sussex Road 258). The subject land is currently zoned AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval to build 191 single-family detached houses.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volumes along Cave Neck Road from Hudson Road to Paynter Street, is 4,406 vehicles per day.

Based on our review, we estimate that the proposed land use will generate more than 50 vehicle trips per peak hour or 500 vehicle trips per day, and would be considered to have a **Minor** impact to the local area roadways. In this instance, the Department considers a Minor impact to be when a proposed land use would generate more than either 50 vehicle trips per peak hour and / or 500 vehicle trips per day but fewer than 200 vehicle trips per a weekly peak hour and 2,000 vehicle trips per day. Because of this impact, we recommend that the applicant be required to perform a Traffic Impact Study (TIS) for the subject application. However, our Development Coordination Manual provides that where a TIS is required only because the volume warrants are met, and the projected trip generation will be fewer than 200 vehicle trips per a weekly peak hour and fewer than 2,000 vehicle trips per day, DelDOT may permit the developer to pay an Area-Wide Study Fee of $10 per daily trip in lieu of doing a TIS. For this application, if the County were agreeable, we would permit the developer to pay an Area-Wide Study Fee.

DelDOT

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Ms. Annamaria Furmato, at Annamaria.Furmato@delaware.gov, if you have questions concerning this correspondence.

Sincerely,

T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm
cc: John Richardson, Applicant
Cory Tieste, Applicant
Elliot Young, Sussex County Planning & Zoning
David Edgell, Coordinator, Cabinet Committee on State Planning Issues
Todd Sammons, Assistant Director, Development Coordination
Scott Rust, South District Public Works Manager, Maintenance & Operations
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

MEMORANDUM

TO: Kevin Hickman, Acting Sussex County Review Coordinator

FROM: Claudy Joinville, Project Engineer C.J.

DATE: October 14, 2022

SUBJECT: **Paradise Meadows**
(Protocol Tax Parcel # 235-21.00-182.00)
Area Wide Study Fee (AWSF) and Off-site Improvements

The subject development meets DelDOT's volume warrants to pay the Area Wide Study Fee in lieu of doing a Traffic Impact Study (TIS). This memorandum is to address the amount of that fee and the off-site improvements that should be required of the developer in the absence of a TIS. The fee and improvements presented below are an alternative to the developer doing a TIS and the improvements identified through DelDOT's review of that study.

1. The proposed development consists of 191 single-family detached houses. Based on our review, using the 11th edition of the Institute of Transportation Engineers' (ITE) Trip Generation Manual, the proposed development would generate 1,830 average vehicle daily trips and 183 vehicle trips during the p.m. peak hour. The fee is calculated at ten dollars per daily trip. For the proposed development, the fee would be $18,300.00.

2. The developer shall improve the State-maintained road(s) on which they front, within the limits of their frontage, to meet DelDOT's standards for their Functional Classification as found in Section 1.1 of the Development Coordination Manual and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer's lands are on one or both sides of the road. Frontage is defined in Section 1 of the Development Coordination Manual, which states "This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway." Questions on or appeals of this requirement should be directed to the DelDOT Subdivision Review Coordinator in whose area the development is located.

DelDOT

3. Section 2.2.2.2 of the Development Coordination Manual allows DelDOT to accept the AWSF in lieu of a TIS, but only if the local land use agency does not require a TIS. If Sussex County requires a TIS for this development, DelDOT will support that requirement and will not accept the AWSF.

4. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersection of Cave Neck Road and Hudson Road as part of the *Cave Neck Road, Hudson and Sweetbriar Roads Intersection Improvement* project (DelDOT Contract No. T202104304). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of these improvements.

If you have any additional questions or comments, please let me know.

CJ:km
cc: John Richardson, CNR Land Investment, LLC
Cory Tieste, Morris & Ritchie Associates, Inc.
Michael Simmons, Chief of Project Development South, DOTS
Todd Sammons, Assistant Director, Development Coordination
Wendy Polasko, Subdivision Engineer, Development Coordination
Sireen Muhtaseb, TIS Group Manager, Development Coordination
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, DelDOT Traffic
Mark Galipo, Traffic Engineer, DelDOT Traffic, DOTS
James Argo, Sussex County Plan Reviewer, South District
Derek Sapp, Sussex County Subdivision Manager, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

SUSSEX COUNTY ENGINEERING DEPARTMENT
UTILITY PLANNING & DESIGN REVIEW DIVISION
C/U & C/Z COMMENTS

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **10/4/2022**

APPLICATION: **2022-03 Paradise Meadows**

APPLICANT: **CNR Land Investment, LLC (Attn: Mr. Richard Johnson)**

FILE NO: **NCPA-5.03**

TAX MAP & PARCEL(S): **235-21.00-182.00**

LOCATION: **Lying on the south side of Cave Neck Road (SCR88), approximately 1.3 mile east of the intersection of Cave Neck Road and Diamond Farm Road (SCR 257).**

NO. OF UNITS: **191 single-family lots**

GROSS ACREAGE: **95.87 +/-**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

SEWER:

(1). Is the project in a County operated and maintained sanitary sewer and/or water district?

Yes ☐ No ☒

a. If yes, see question (2).
b. If no, see question (7).

(2). Which County Tier Area is project in? **Tier 3**

(3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.

(4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.

(5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A** If yes, the current System Connection Charge Rate is **Unified $6,600.00** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

(6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **No**

☐ Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.

(7). Is project adjacent to the Unified Sewer District? **No**

(8). Comments: **The proposed subdivision is not in an area where the Sussex County Engineering Department has a schedule to provide sanitar sewer service. The County suggests the project be served by a municipality or private wastewater provider.**

(9). Is a Sewer System Concept Evaluation required? **Not at this time**

(10). Is a Use of Existing Infrastructure Agreement Required? **Not at this time**

(11). **All residential roads must meet or exceed Sussex County minimum design standards.**

UTILITY PLANNING & DESIGN REVIEW APPROVAL:

John J. Ashman
Sr. Manager of Utility Planning & Design Review

Xc: Hans M. Medlarz, P.E.
Lisa Walls
No Permit Tech Assigned

JAMIE WHITEHOUSE, AICP, MRTPI
PLANNING & ZONING DIRECTOR
(302) 855-7878 T
(302) 854-5079 F
jamie.whitehouse@sussexcountyde.gov

Sussex County
DELAWARE
sussexcountyde.gov

Memorandum

To: Sussex County Technical Advisory Committee
From: Chase Phillips, Planner II
Date: February 25th, 2022
RE: Three Major Subdivision Applications for TAC Review

PLEASE NOTE: All e-mailed responses shall be directed to PANDZ@SUSSEXCOUNTYDE.GOV. Each application can be directed to the planner assigned.

The Sussex County Planning and Zoning Office has received three (3) applications for Major Subdivision that require review by the Sussex County Technical Advisory Committee. Please review the application and provide any written comments back to the Planning and Zoning Office within **45 business days** of the date of this memorandum (**on or before April 29th, 2022**).

2021-36 Prettyman Residential – This is a Cluster Subdivision application for the creation of one hundred (100) single family lots. The properties are located on the south side of Prettyman Road (S.C.R. 254), approximately 0.75 miles west of Lewes Georgetown Highway (Route9. Tax Parcel: 235-29.00-25.00. Zoning: AR-1 (Agricultural Residential Zoning District). Property Owner: Prettyman Road Development, LLC. Applicant: Prettyman Road Development, LLC.
Planner Assigned: Michael Lowrey, Planner III;
michael.lowrey@sussexcountyde.gov

2022-03 Paradise Meadows – This is a major subdivision application for the creation of 191 lots as a cluster subdivision. The property is located on the southwest side of Cave Neck Road (S.C.R.88), approximately 1 mile west of Hudson Road (S.C.R. 258). Tax Parcel: 235-21.00-182.00. Zoning: AR-1 (Agricultural Residential). Property Owner: Chance Chase, LLC. Applicant: CNR Land Investment, LLC.
Planner Assigned: Chase Phillips, Planner II; chase.phillips@sussexcountyde.gov

2022-04 Twin Masts – This is a major subdivision application for the creation of 249 lots as a cluster subdivision. The property is located on the north side of Round Pole Bridge Road (S.C.R. 257), approximately 0.2-mile west of Hudson Road (S.C.R. 258). Tax Parcels: 235-16.00-68.00 & 69.00. Zoning: AR-1 (Agricultural Residential). Property Owners: Michael and Margaret Chanoux and Spicer, LLC. Applicant: Stonemark Ventures, LLC.
Planner Assigned: Chase Phillips, Planner II; chase.phillips@sussexcountyde.gov

JAMIE WHITEHOUSE, AICP, MRTPI
PLANNING & ZONING DIRECTOR
(302) 855-7878 T
(302) 854-5079 F
jamie.whitehouse@sussexcountyde.gov

Sussex County
DELAWARE
sussexcountyde.gov

Please feel free to contact the office with any questions at (302) 855-7878 during normal business hours 8:30AM. - 4:30PM, Monday through Friday.

DELAWARE DEPARTMENT OF
AGRICULTURE

2320 South DuPont Highway
Dover, Delaware 19901
agriculture.delaware.gov

Telephone: (302) 698-4500
Toll Free: (800) 282-8685
Fax: (302) 697-6287

May 3, 2022

Chase Phillips, Planner II
Planning & Zoning Commission
P.O. Box 417
Georgetown, Delaware 19947

Subject: **Preliminary Plans for Paradise Meadows**

Dear Mr. Phillips,

Thank you for providing preliminary plans for Paradise Meadows submitted by Morris & Ritchie Associates, Inc. The plans submitted to our section dated January 21, 2022 are sufficient to meet the Sussex County Planning and Zoning Forested Buffer Ordinance.

The Delaware Forest Service recommends the plans reflect tree planting specifications and that the ISA ANSI A300 best management practices are followed for newly installed trees. DFS recommends planting a 70/30 mix of hardwood and evergreen tree species. There are several tree species that are not recommended for planting in the state due to their invasive nature or the susceptibility to pests and diseases. These species are listed on our department website.

The Delaware Forest Service has no further comment to Paradise Meadows preliminary subdivision plans dated January 21, 2022 at this time.

If you have any questions please feel free to contact me at taryn.davidson@delaware.gov.

Sincerely,

Taryn Davidson
Urban Forestry Program
Delaware Forest Service

ENGINEERING DEPARTMENT

JOHN J. ASHMAN
SR. MANAGER OF UTILITY PLANNING
& DESIGN REVIEW

(302) 855-7370 T
(302) 854-5391 F
jashman@sussexcountyde.gov

Sussex County
DELAWARE
sussexcountyde.gov

Date: **March 25, 2022**

REF: **T. A. C. COMMENTS**
Paradise Meadows
SUSSEX COUNTY ENGINEERING DEPARTMENT
SUSSEX COUNTY TAX MAP NUMBER
235-21.00-182.00
AGREEMENT NO.1202

The following comments are the result of the Sussex County Engineering Department's review of the preliminary site plan for the above referenced project:

DESIGN REVIEW COMMENTS

1. Proposed developments with private roads or projects required to meet or exceed the County street design requirements shall be regulated by and conform to Sussex County Code and the comments here listed.

2. This project **is not** located within the limits of a Ground Water Management Zone (GMZ). Projects located within a GMZ must be forwarded to the County Engineer for review and comment.

3. Project Construction Drawings shall show, in detail, the proposed improvements. The work required includes preparation and delivery of an AutoCAD 2012 digitized plan showing existing and proposed lines, grades, topography, and features in a given area, which was utilized in preparing plans for construction. The individual sheet types will be in a separate design to show plan views on sheets separate from profile views. In addition, each sheet of the plans shall be submitted in a PDF format.

4. All work shall be geo-referenced to the Delaware State Grid System NAD-83 (HARN) and provided in an AutoCAD 2012 format. North Arrow required to identify northern direction and viewport should be best fit for the project.

5. Topographic contours at one-foot intervals shall be shown and referenced to United States Geological Survey Mean Sea Level Datum NAVD 1988 Datum.

6. The plans shall be provided on 24" x 36" drawing sheets at a scale of 1" = 50' or less.

The plans shall show and address the following items at minimum:

7. The project requires professional land surveying services to accurately delineate, and show the following items but is not limited to the following: all property and right-of-

way lines, established at a minimum, survey monuments, easements, existing and proposed topographic contours at 1-foot vertical intervals and spot elevations as necessary to establish grades, the locations of all existing structures, highway and roadway pavements, shoulders, curbs, driveways, sidewalks, lighting structures, traffic control signs, and all public and private utilities, including, but not limited to, electric power and telephone lines, poles and boxes, underground electric, telephone, and communication lines, potable water lines, fire hydrants and valve boxes, gas lines, wells, sanitary sewers including septic systems, rim and invert elevations of manholes and cleanouts, and the rims and invert elevations and type of storm water structures, drainage ditches, ponds, streams and waterways, flood zones and flood zone boundaries and elevations, and State and Federal wetlands, trees, cemeteries and historic features, and the finished floor elevations of buildings.

8. Plans shall show the seal and signature of a registered Delaware land surveyor or registered Delaware professional engineer.

9. The plan requires a Certification Signature and/or a Certification Block for the following:

    a. Delaware Professional Engineer or Delaware Land Surveyor.
    b. Owner or Representative of the Owner.
    c. Professional Wetlands Delineator.

10. The name, address, phone number and contact person's name of the Owner of Record, the Developer and the Engineer or Surveyor preparing the plan.

11. Indicate the location of all wetlands, both state and federal, in order to facilitate compliance with County, State and Federal requirements.

12. Define the courses and distances of the property perimeter and the approximate acreage contained therein. Establish and set in the field two (2) CONCRETE MONUMENT project benchmarks, preferably at property perimeter corners, geo-referenced to the Delaware State Plane Coordinate system NAD 83 and show the location including the North and East coordinates of the marks on the plans.

13. Indicate the development construction phases proposed showing the boundaries of each phase. Phasing boundaries shall include buildings, residential units, amenities, roads, storm water management facilities, wastewater systems and all other improvements and utilities required to service each phase and shall be recorded prior to being issued a notice to proceed.

14. Show the layout, width and names of all streets, alleys, crosswalks and easements proposed to be dedicated for private or public use. Street names shall not duplicate nor closely resemble existing street names in the same hundred or postal district, except for extensions of existing streets. Sussex County Mapping & Addressing will have final say on proposed street names.

15. When on site individual septic tank systems are to be used and the lot topography is to be modified by cuts and fills it is required that the Design Engineer contact the Delaware Department of Natural Resources and Environmental Control, Division of Groundwater Water Discharge Section, 21305 Berlin Road, Suite 2, Georgetown, DE 19947 phone number 302-856-4561 subject to mass grading operations for documented approval.

16. Provide the limits and elevations of the 100-year flood. This may require the design engineer to complete an analysis and provide a report including the depiction of the subject watershed(s), calculations and other technical data necessary to determine the limits and elevations of the base flood.

17. False berms shall not be utilized to create roadside drainage swale back slopes.

18. For parking lots and drives, provide spot elevations at the edge of pavement, right-of-way, or travel way centerline, at changes in grade, and high points and low points, to the nearest drainage facilities. Show the limits of the various surface materials and provide construction sections.

19. Provide and show the locations and details of all ADA pedestrian connections.

20. If the site has a cemetery located on it the Developer shall contact the Delaware State Historic Preservation Office and satisfy the requirements of that Office prior to beginning any construction activity. This area shall not be disturbed by this project. Adequate access to the site and buffers to protect the site, shall be provided.

21. Private rights-of-way adjacent to and abutting parcels not part of the project shall be located and designed to provide adequate buffer so that construction activities do not encroach onto adjacent properties.

22. Provide statements explaining how and when the developer proposes to provide and install the required water supply, sewers or other means of sewage disposal, street pavement, drainage structures and any other required improvements.

23. Provide statements concerning any proposed deed restrictions to be imposed by the owner.

24. Where special physical conditions exist, which may act as constraints on normal development or may preclude development, the developer may be required to submit special technical data, studies or investigations. This information must be prepared by individuals technically qualified to perform such work. Additional information may include but is not limited to the following: on-site sanitary sewage disposal feasibility, water supply surveys, such as test well drilling, storm water runoff computations and identification of areas subject to periodic flooding.

25. If special conditions are found to exist, the Engineering Department may elect to withhold approval of a construction plan until it is determined that it is technically feasible to overcome such conditions. The Engineering Department may then require the developer to incorporate specific improvement design criteria into the plat as a condition to its approval.

26. When special studies or investigations pertain to a regulatory program of another public agency, the developer shall submit the results of these studies or investigations to said public agencies for technical review and approval. Approvals and/or written comments from these agencies shall be supplied to Sussex County by the developer.

SEWER SPECIFIC COMMENTS

LOCATION: **Southwest side of Cave Neck Rd., approximately 1 mile west of Hudson Rd.**

NO. OF UNITS:191

GROSS ACREAGE: 132.90

(1). Is the project in a County operated and maintained sanitary sewer and/or water district?

Yes ☐ No ☒

(2). Which County Tier Area is project in? Tier 3

(3). Is wastewater capacity available for the project? N/A If not, what capacity is available? N/A.

(4). Is a Construction Agreement required? No If yes, contact Utility Engineering at (302) 855-7370 / option 2.

(5). Are there any System Connection Charge (SCC) credits for the project? No If yes, how many? 0. Is it likely that additional SCCs will be required? **No**

If yes, the current System Connection Charge Rate is **Choose an item.** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

(6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **No**

☐ Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.

(7). Is project adjacent to the Unified Sewer District? **No**

(8). Comments: **Click or tap here to enter text.**

(9). Is a Sewer System Concept Evaluation required? **No**

(10). Is a Use of Existing Infrastructure Agreement Required? **No**

If the above items, as applicable, are incorporated into the development plans, then preliminary approval is recommended. However, final plan approval should be withheld pending the approval of the construction plans by the Sussex County Engineering Department.

USDA
United States Department of Agriculture

Natural Resources
Conservation Service

Georgetown
Service Center

21315 Berlin Road
Unit 3
Georgetown, DE
19947

Voice 302.856.3990
Fax 855.306.8272

April 22, 2022

Jamie Whitehouse, Director
Sussex County Planning & Zoning
Sussex County Courthouse
Georgetown, DE 19947

RE: Paradise Meadows
Broadkill Hundred
191 single family lots

Dear Mr. Whitehouse:

Soils within the delineated area on the enclosed map are:

EvD	Evesboro loamy sand, 5 to 15 percent slopes
GoA	Glassboro sandy loam, 0 to 2 percent slopes
HrA	Henlopen-Rosedale complex, 0 to 2 percent slopes
LO	Longmarsh and Indiantown soils, frequently flooded
RkA	Rockawalkin loamy sand, 0 to 2 percent slopes
RoA	Rosedale loamy sand, 0 to 2 percent slopes

Soil Interpretation Guide

Soil Limitation Class

Buildings

Map Symbol	Urbanizing Subclass	With Basement	Without Basement	Septic Filter Fields
EvD	Y3	Somewhat limited	Somewhat limited	Very limited
GoA	R2	Very limited	Very limited	Very limited
HrA	Y2	Not limited	Not limited/Somewhat limited	Not limited/Very limited
LO	R3	Very limited	Very limited	Very limited
RkA	Y2	Very limited	Somewhat limited	Very limited
RoA	Y2	Somewhat limited	Not limited	Very limited

Definition of soil limitation ratings classes:

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development.

"**Not limited**" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

"**Somewhat limited**" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

"**Very limited**" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

R2:
The soils in this classification are nearly or gently sloping, very poorly, poorly, and somewhat poorly drained. Seasonal high water tables, local ponding, and high potential frost action severely limit these soils for residential developments. The principal soil limitations are: 1) soil is highly susceptible to frost action, 2) excavations are likely to fill with water in late winter or early spring, 3) wet foundations or basements probable, and 4) hazard of temporary ponding of water in areas lacking outlets. Loose running sand commonly encountered in deep excavations.

R3:
These soils are alluvial soils that have a history of flooding. The hazard of potential flood damage and seasonal or fluctuating high water tables severely limits these soils for building use. The soil limitations are 1) soil is highly susceptible to frost action, 2) excavations are likely to fill with water in late winter or early spring, 3) delayed construction in spring - slow to dry out, 4) wet foundations or basements probable, and 5) potential flood damage.

Y2:
The soils in this classification are nearly level or gently sloping, moderately well drained or well drained with ground water between four to six feet from the surface, and are subject to seasonal high water tables. Seasonal wetness and seepage around foundations moderately limits these soils for residential use. The principal soil limitations are: 1) lateral seepage in subsoil causes concentration of water around foundations, 2) soil is highly susceptible to frost action, 3) excavations are likely to fill with water in late winter or early spring, and 4) wet basements or foundations are probable.

Y3:
Strongly sloping to steep (5-15% slopes) excessively drained, very sandy, rapidly permeable soils. These are the same kind of soils as in subclass G2 but are more sloping. Slopes moderately limit their use for residential developments, but available moisture for lawns, trees, shrubs, and gardens is severely limited, especially if the soil has been graded.

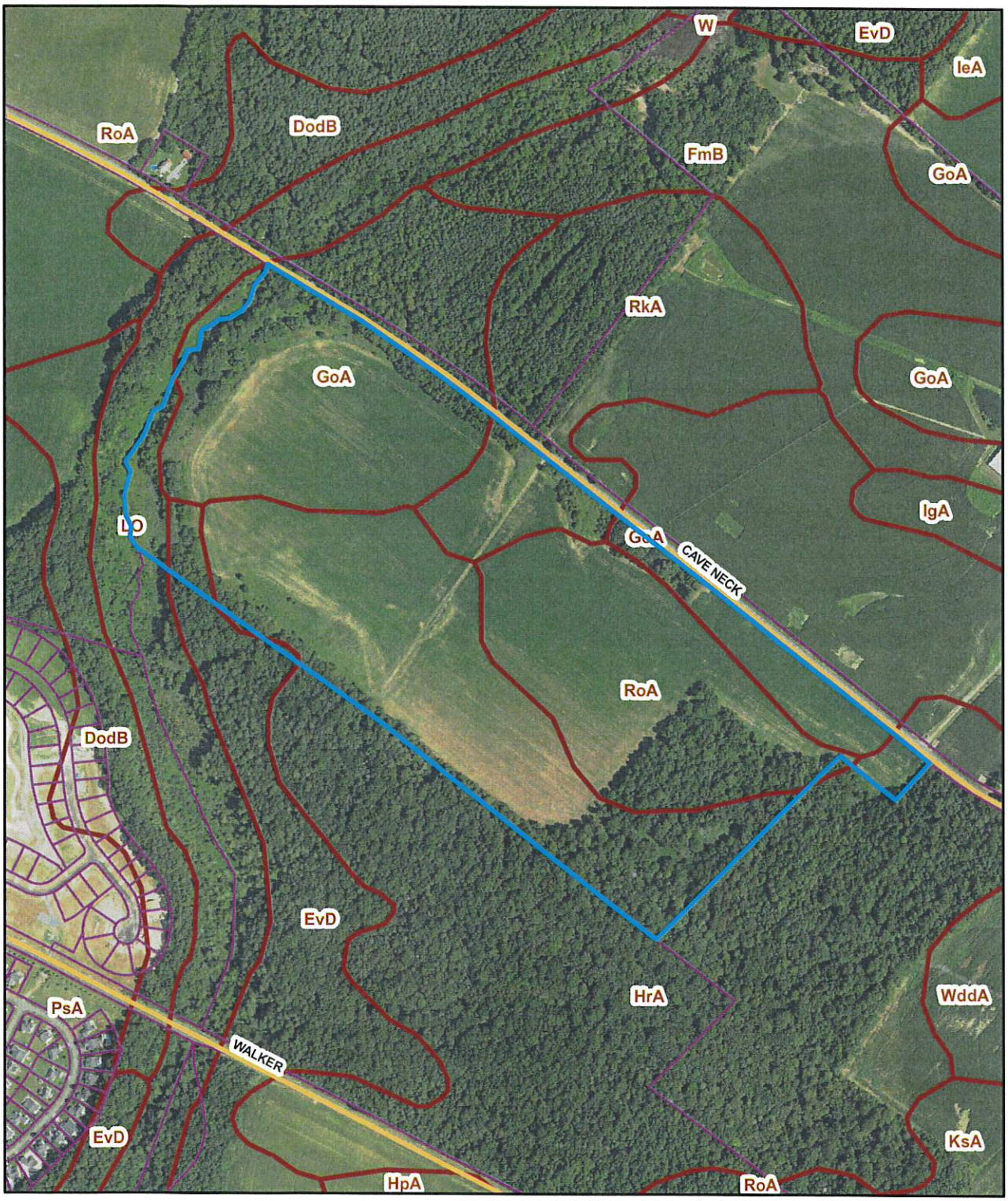
The soil interpretations above do not eliminate the need for detailed investigations at each proposed construction site. However, the interpretations can serve as a guide to planning more detailed investigations. No consideration was given in these interpretations regarding the size and shape of the soil area; nor to the pattern they form with other soils in the landscape. Also, because of the scale of the maps used, small areas of other kinds of soils may be included within some delineations of the soil map. Thus, an individual lot or building site could occupy a small area that would not fit the interpretations given for the soils symbol representing the entire delineation of the map. Interpretations apply to the soils in their natural state and not for areas that may have been altered through grading, compacting, and the like.

Sincerely,

Thelton D. Savage
District Conservationist
USDA, Natural Resources Conservation Service

TDS/bh

2022-03
TM #235-21.00-182.00
Paradise Meadows



2022-03
TM #235-21.00-182.00
Paradise Meadows

STATE OF DELAWARE
DEPARTM ENT OF NATURAL RESOURCES AND ENVIRONM ENTAL CONTROL
DIVISION OF WATERSHED STEWARDSHIP
21309 BERLIN RD
UNIT #6
GEORGETOWN, DE 19947

DRAINAGE PROGRAM

PHONE: (302) 855-1930
FAX: (302) 670-7059

March 9, 2022

Chase Phillips
Sussex County
Planning and Zoning Office
2 The Circle
Georgetown, DE 19947

RE: Parcel # 235-21.00-182.00; Paradise Meadows

The Delaware Department of Natural Resources and Environmental Control (DNREC), Drainage Program has reviewed the preliminary plans submitted by Morris & Ritchie Associates Inc for the above noted property.

The Drainage Program has performed a preliminary review and offers the following guidance:

- The proposed project is not within a Tax Ditch watershed.
- All existing ditches on the property should be evaluated for function and cleaned, if needed, prior to the construction of the project.
- Any proposed riprap shall be installed so that the top of the riprap is at or below existing grade of the channel so as to not obstruct flow.
- All precautions should be taken to ensure the project does not hinder any off-site drainage upstream of the project or create any off-site drainage problems downstream by the release of on-site storm water.

If you have any questions or concerns, please contact the Drainage Program at (302) 855-1930.

Sincerely,

Jordan Watson
Jordan Watson
EPS Tech

cc: Brittany L. Haywood, Tax Ditch Program Manager I

Lauren DeVore

From: Cullen, Kathleen M <kathleen_cullen@fws.gov>
Sent: Thursday, April 21, 2022 12:14 PM
To: Planning and Zoning
Subject: FWS review of 3 subdivisions

Hello-

This email is regarding the following subdivisions: Prettyman Residential, Paradise Meadows, and Twin Masts. There are no federally listed species at any of these locations, so no further Section 7 consultation is needed. You can fill out the Online Certification Letter if further documentation is needed: https://www.fws.gov/sites/default/files/documents/Online%20Certification%20Letter.pdf

Please let me know if you have any questions.

Thank you,
Kathleen

Kathleen Cullen
U.S. Fish & Wildlife Service - Chesapeake Bay Field Office
177 Admiral Cochrane Dr., Annapolis MD, 21401
410-573-4579 - kathleen_cullen@fws.gov

United States Department of the Interior

U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575

Online Certification Letter

Today's date: 04/21/2022

Project: 2022-03 Paradise Meadows

Dear Applicant for online certification:

Thank you for using the U.S. Fish and Wildlife Service (Service) Chesapeake Bay Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA).This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), we certify that except for occasional transient individuals, no federally listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8573. For information in Delaware you should contact the Delaware Division of Fish and Wildlife, Wildlife Species Conservation and Research Program at (302) 735-8658. For information in the District of Columbia, you should contact the National Park Service at (202) 339-8309.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website (www.fws.gov/chesapeakebay)

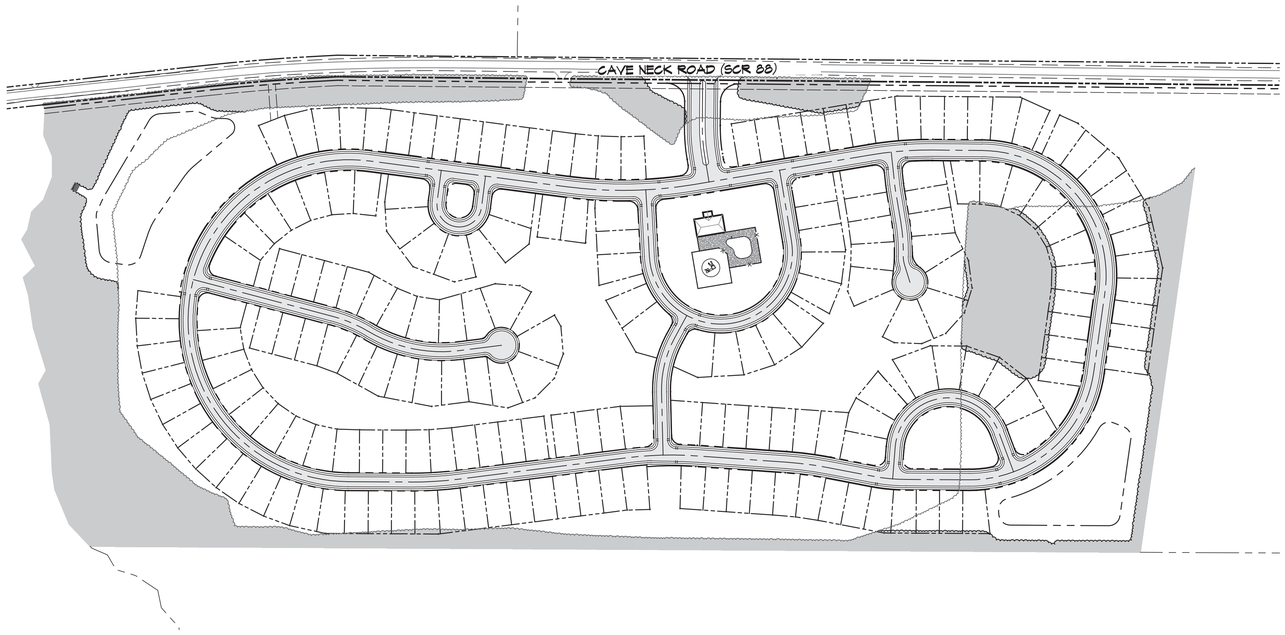
We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species program at (410) 573-4527.

Sincerely,

Genevieve LaRouche
Field Supervisor

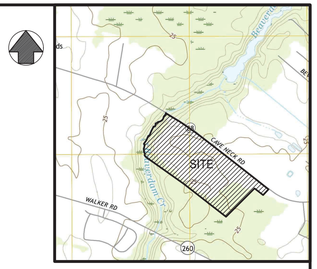
PARADISE MEADOWS

SUSSEX COUNTY, DELAWARE
PRELIMINARY PLANS
AR-1 CLUSTER
SUSSEX COUNTY PLANNING # 2022-03



SITE OVERVIEW
SCALE: 1" = 200'

200 100 0 100 200 400
SCALE: 1" = 200'



LOCATION MAP
SCALE: 1" = 2000'

LEGEND
- EXISTING PROPERTY LINE
- PROPOSED R/W LINE
- PROPOSED LOT LINE
- PROPOSED BUILDING SETBACK LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED LOT NUMBER
- EXISTING WOODLANDS LINE
- WOODLAND PRESERVATION LINE

PROJECT TEAM

DEVELOPER:
CNR LAND INVESTMENT, LLC
MR. JOHN RICHARDSON
260 HOPENELL ROAD
CHURCHVILLE, MD 21028

LAND PLANNERS, CIVIL ENGINEER:
MORRIS & RITCHIE ASSOCIATES, INC.
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DE 19720
ATTN: MR. PHILLIP L. TOLLIVER, P.E.

SURVEYOR:
MORRIS & RITCHIE ASSOCIATES, INC.
8 WEST MARKET STREET
GEORGETOWN, DE 19947
ATTN: MR. GARY POWERS

ENVIRONMENTAL CONSULTANT:
GEO-TECHNOLOGY ASSOCIATES, INC.
3445 BOX HILL CORPORATE CENTER DRIVE, SUITE A
ABINGDON, MD 21009
ATTN: MR. ANDY STANSFIELD

GEOTECHNICAL ENGINEER:
GEO-TECHNOLOGY ASSOCIATES, INC.
21133 STERLING AVENUE, SUITE 7
GEORGETOWN, DE 19947
ATTN: MR. GREG SAUTER

TRAFFIC CONSULTANT:
THE TRAFFIC GROUP
9900 FRANKLIN SQUARE DR. - SUITE H
BALTIMORE, MD 21236
ATTN: MR. JOE CALOGGERO, P.E.

ATTORNEY:
FUQUA, WILLARD, STEVENS & SCHAB, P.A.
20245 BAY VISTA ROAD #203
REHOBOTH BEACH, DE 19971
ATTN: MR. JAMES A. FUQUA, JR.

INDEX OF DRAWINGS

OWNER CERTIFICATION
I, UNDERSIGNED, AS OWNER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

CHANCE CHASE, LLC — DATE

DEVELOPER CERTIFICATION
I, UNDERSIGNED, AS DEVELOPER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

MR. JOHN RICHARDSON — DATE
CNR LAND INVESTMENT, LLC

WETLANDS STATEMENT
GEO-TECHNOLOGY ASSOCIATES, INC. (GTA) HAS CONDUCTED A FIELD REVIEW WITHIN THE BOUNDARIES OF THIS PLAT TO EVALUATE THE PRESENCE OR ABSENCE OF POTENTIAL STATE AND FEDERAL JURISDICTIONAL WETLANDS FOR THE PURPOSES OF DELAWARE WETLAND AND SUBAQUEOUS LAND REGULATIONS AND SECTION 404 OF THE CLEAN WATER ACT. GTA'S REVIEW WAS CONDUCTED IN GENERAL ACCORDANCE WITH THE TECHNIQUES AND CRITERIA PROVIDED IN THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: ATLANTIC AND GULF COSTAL PLAN REGION (VERSION 2.0), DATED NOVEMBER 2010. THE LIMITS OF THE WETLANDS WERE EVALUATED IN THE FIELD BY GTA PERSONNEL USING BEST PROFESSIONAL JUDGEMENT. NO WETLANDS OR WATERWAYS WERE OBSERVED WITHIN THE BOUNDARIES OF THIS PLAT. NO STATE OR FEDERAL JURISDICTIONAL APPROVAL HAS OBTAINED FOR THIS PROPERTY.

MATT JENNETTE — DATE
GEO-TECHNOLOGY ASSOCIATES, INC.

ENGINEER'S CERTIFICATION
I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE AND THAT THE PLAN SHOWN AND DESCRIBED HEREON, IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED STANDARDS AND PRACTICES AND BY THE SUSSEX COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO THE EXTENT THAT IT DESCRIBES THE PROPOSED MANNER AND LAYOUT OF THE SUBDIVISION.

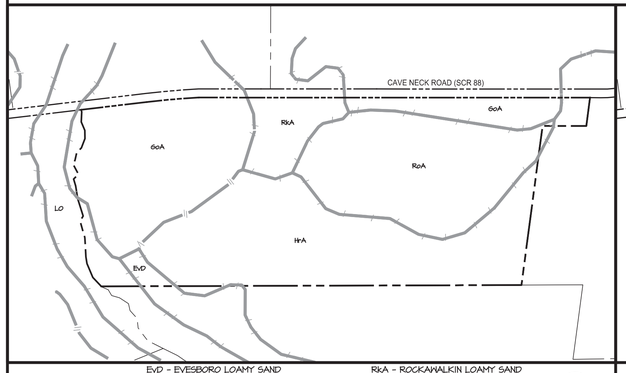
PHILLIP L. TOLLIVER, P.E. — DATE
DE LICENSE NO. #12484

PLAN APPROVALS

APPROVED BY: _____ DATE
CHAIRMAN OR SECRETARY
SUSSEX COUNTY PLANNING AND ZONING COMMISSION

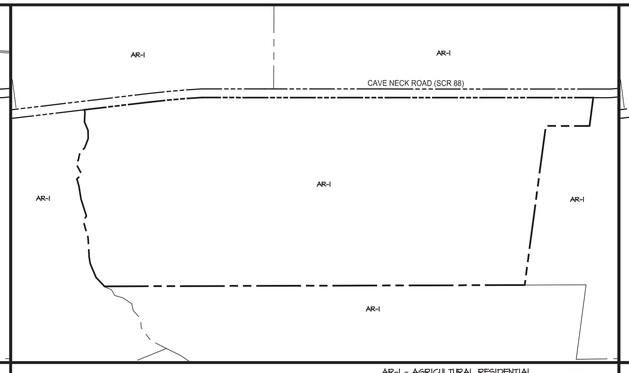
APPROVED BY: _____ DATE
PRESIDENT
SUSSEX COUNTY PLANNING

SOILS MAP
SCALE: 1" = 500'



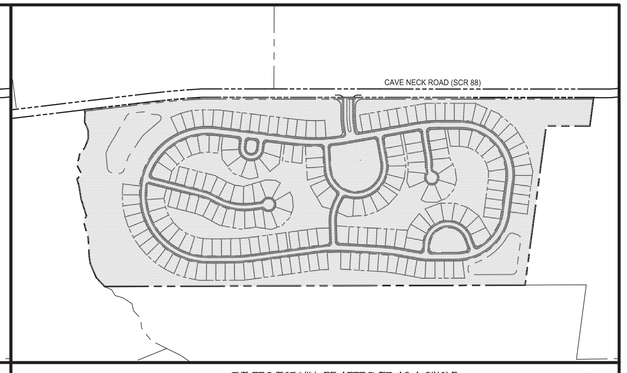
EvD - EVESBORO LOAMY SAND
GoA - GLASSBORO LOAMY SAND
HnA - HENLOPEN-ROSEDALE COMPLEX
LO - LONGMARSH AND INDIANTOWN SOILS
RoA - ROSEDALE LOAMY SAND
RkA - ROCKAWALKIN LOAMY SAND

ZONING MAP
SCALE: 1" = 500'



AR-1 - AGRICULTURAL RESIDENTIAL
AR-2- AGRICULTURAL RESIDENTIAL
MR - MEDIUM RESIDENTIAL

PHASING MAP
SCALE: 1" = 500'



THE PROJECT WILL BE APPROVED AS A SINGLE PHASE PROJECT WITH THREE (3) OPERATIONAL BREAKS FOR PURPOSES OF BONDING, BENEFICIAL OCCUPANCY INSPECTION, RELEASE OF USE AND OCCUPANCY PERMITS.

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DELAWARE 19720
(302) 326-2200
FAX: (302) 326-2399
WWW.MRAGTA.COM

CHRISTOPHER J. FLATTERS — LICENSE — No. 14207 — DELAWARE — PROFESSIONAL ENGINEER — 10/17/22
ENGINEER'S SEAL

TITLE SHEET
PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS

JOB NO.: 21482
SCALE: AS NOTED
DATE: 1/21/22
DRAWN BY: CMT
DESIGN BY: CMT
REVIEW BY: CJF
SHEET: 1 OF 9

CONSTRUCTION NOTES

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT (1-800-282-8555) AT LEAST (3) WORKING DAYS PRIOR TO EXCAVATION, TO HAVE EXISTING UNDERGROUND UTILITIES LOCATED AND MARKED.
2. ALL MATERIALS & WORKMANSHIP SHALL MEET THE STATE OF DELAWARE STANDARDS & SPECIFICATIONS.
3. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND PROJECT SPECIFICATIONS.
4. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:

A.	SCHIFF LAND DEVELOPMENT CO., LLC	302-348-8014
B.	SUSSEX COUNTY ENGINEERING DEPARTMENT	302-855-7718
C.	TIDEWATER UTILITIES	302-945-8880
D.	SUSSEX CONSERVATION DISTRICT	302-856-2105
G.	DNREC	302-856-5488
H.	COMCAST	804-562-3409
I.	DELAWARE ELECTRIC COOPERATIVE	302-344-5841
J.	DELMARVA POWER	678-831-2444
K.	MEDIACOM	804-562-3409
L.	VERIZON	302-422-1464

5. CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL RIGHT-OF-WAY LINES AND PROPERTY LINES TO HIS OWN SATISFACTION. ALL PROPOSED UTILITIES ARE TO BE CONSTRUCTED WITHIN THE ROADWAY OR EASEMENT RIGHT-OF-WAY. DISTURBED AREAS BEYOND THE EASEMENT LINES SHALL BE RESTORED IMMEDIATELY TO THEIR ORIGINAL CONDITION.
6. INFORMATION SHOWN HEREON IS BASED UPON GIS DATA OBTAINED THROUGH THE STATE OF DELAWARE GIS WEBSITE (FIRSTMAP.DELAWARE.GOV\ENDATA.ARCGIS.COM) AND DOES NOT REPRESENT FIELD RUN TOPOGRAPHIC OR BOUNDARY SURVEY. SITE LAYOUT IS SUBJECT TO REVISION PENDING FIELD SURVEY.
7. EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. NO GUARANTEE IS MADE OR IMPLIED REGARDING THE ACCURACY OR COMPLETENESS THEREOF. CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF DEPTH, SIZE AND MATERIAL OF ALL UNDERGROUND UTILITIES TO HIS OWN SATISFACTION BEFORE BEGINNING ANY EXCAVATION OR UTILITY INSTALLATION. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL SHOWN OR NOT SHOWN EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITIES BE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE UTILITY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
8. DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE PERFORMED IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ALL WORK AREAS.
10. ROUGH GRADING SHALL BE COMPLETE PRIOR TO THE CONSTRUCTION OF WATER & SEWER SYSTEMS.
11. USE ONLY SUITABLE AND APPROVED GRANULAR MATERIAL IN ACCORDANCE WITH SECTION 209 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS AND REFERENCED BY SUSSEX COUNTY ORDINANCE 38 SECTION 5-05 EXCAVATION AND BACKFILL FOR PIPE TRENCHES SUBSECTION B MATERIALS
12. CONTRACTOR SHALL ADJUST TO FINISH GRADE AS NECESSARY ANY VALVE BOXES, MANHOLES, CATCH BASINS ETC., PRIOR TO PLACING PAVING.
13. CONTRACTOR SHALL PROVIDE STAKEOUT NECESSARY FOR THE INSTALLATION OF UTILITIES, STORMDRAINS, PAVING AND ALL OTHER SITE WORK INCLUDED IN THESE PLANS. ALL STAKEOUT WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE.
14. CONTRACTOR TO MAINTAIN MINIMUM OF 3.0 FEET OF COVER OVER ALL NEW WATER LINES AS MEASURED FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.
15. SEWER LINES SHALL HAVE MINIMUM VERTICAL CLEARANCE OF 18 INCHES FROM WATER MAINS AT CROSSINGS. MAINTAIN A 10 FOOT MINIMUM PLAN SEPARATION BETWEEN SEWER AND WATER MAINS. SEWER LINES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 12 INCHES FROM OTHER UTILITIES. IF THESE CLEARANCES CANNOT BE MAINTAINED, THEN PROVISIONS FOR PROPERLY ENCASING THE PIPE IN CONCRETE MUST BE PROVIDED.
16. LATERALS SHALL BE 6 INCHES IN DIAMETER, WITH VERTICAL CLEANOUTS OF 6 INCHES IN DIAMETER, AND TO HAVE A MINIMUM OF 3' OF COVER FROM SUSSEX COUNTY CLEANOUT TO MAIN LINE. CLEANOUTS SHALL BE LOCATED AT EDGE OF RIGHT-OF-WAY.
17. ALL GRAVITY SEWER PIPES SHALL BE PVC SDR 35. FOR PIPE SLOPES SEE FINAL CONSTRUCTION DRAWINGS FOR SANITARY SEWER PROFILES.
18. MATERIAL OF CONSTRUCTION FOR SEWER FORCE MAINS SHALL BE AS NOTED ON THE FINAL CONSTRUCTION DRAWINGS. FORCE MAIN SHALL BE INSTALLED AS PROFILED TO PREVENT FORMATION OF UNANTICIPATED HIGH POINTS IN THE INSTALLATION.
19. ALL SEWER LINES MUST BE SUCCESSFULLY TESTED ACCORDING TO SUSSEX COUNTY ORDINANCE 38, SECTION 5.04, E, 1-4, ON PAGE 515 THROUGH 518, ACCEPTANCE TESTING, PRIOR TO FINAL ACCEPTANCE.
20. ALL SANITARY SEWER SYSTEM CONSTRUCTION PERFORMED SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY ORDINANCE 38, THESE PLANS AND ALL APPLICABLE CONSTRUCTION PERMITS.
21. ALL DROP MANHOLES TO BE 5'-0" IN DIAMETER.
22. FITTINGS SHOWN ON THE PLANS ILLUSTRATE ANTICIPATED ANGLE OF DEFLECTION. THIS INFORMATION IS SHOWN FOR GENERAL INFORMATION AND IS NOT GUARANTEED. ACTUAL ANGLE MAY VARY DUE TO FIELD CONDITIONS. USE OF ADDITIONAL FITTINGS SHALL BE AUTHORIZED BY THE ENGINEER.
23. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS UNLESS WRITTEN APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.
24. ALL DISTURBED AREAS IN THE STATED RIGHT OF WAY, BUT NOT IN THE PAVEMENT SECTION MUST BE TOPSOILED (6" MINIMUM), FERTILIZED, MULCHED, AND SEEDED.
25. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE PLACED IN ACCORDANCE WITH THE M.U.T.C.D. MANUAL, MOST CURRENT EDITION.
26. ALL PROPOSED STORM DRAIN DESIGNATED AS "RCCP" IS TO BE REINFORCED CONCRETE CIRCULAR PIPE, MEETING AASHTO M-170 SPECIFICATIONS. SEE FINAL CONSTRUCTION PLAN & PROFILES FOR SPECIFIC PIPE CLASS.
27. ALL LENGTHS OF SANITARY SEWER PIPE ARE MEASURED HORIZONTALLY FROM CENTER LINES OF INLETS, MANHOLES OR FITTINGS. ALL LENGTHS OF STORM DRAIN PIPE ARE MEASURED HORIZONTALLY FROM EDGE OF STRUCTURE TO EDGE OF STRUCTURE. ACTUAL TRUE LENGTHS OF PIPES ARE TO BE DETERMINED IN THE FIELD.
28. WHERE SPECIFIED, HDPE STORM DRAIN PIPE SHALL BE ADS N-12 (SMOOTH INTERIOR) PIPE WITH ADS PRO-LINK MT (BELL/BELL COUPLER) FOR WATER TIGHT CONNECTIONS. REFER TO PLAN AND PROFILES FOR MATERIALS USED.
29. ALL EMBEDMENT MATERIALS USED FOR BEDDING, HAUNCHING, AND INITIAL BACKFILL FOR HDPE PIPE SHALL CONFORM TO AASHTO SECTION 30 AND ASTM D-2321 AS PER MANUFACTURER INSTALLATION REQUIREMENTS. CONTRACTOR SHALL ENSURE THAT PROPER LINE AND GRADE IS ESTABLISHED WITHIN TRENCH BEDDING PRIOR TO PLACEMENT OF PIPE AND THAT PROPER MATERIALS ARE USED AND COMPACTION IS ACHIEVED DURING HAUNCHING AND INITIAL BACKFILL. A GEOTECHNICAL ENGINEER SHALL BE RETAINED TO VERIFY SUITABILITY OF MATERIALS USED AND PROPER COMPACTION. ANY DEVIATION IN LINE AND GRADE OR OBVIOUS JOINT SEPARATION SHALL BE CORRECTED PRIOR TO ESTABLISHMENT OF FINAL SUBGRADE AND PAVEMENT SURFACE. THE CONTRACTOR SHALL TAKE EVERY CARE TO ENSURE CORRECT PIPE INSTALLATION.
30. UNLESS OTHERWISE SPECIFIED ALL ROADWAY INLETS SHALL HAVE A TYPE I INLET GRATE AND TYPE S TOP UNIT PER DELDOT STANDARDS, CURRENT REVISION.
31. IT IS THE CONTRACTORS RESPONSIBILITY TO INSURE THAT PAVING IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE.

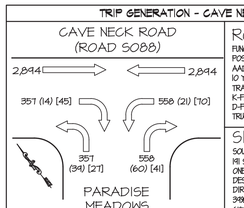
SUSSEX COUNTY CONSTRUCTION NOTES:

1. ROADWAY STAKEOUTS:
   - A. RIGHT-OF-WAY STAKES SHALL BE OFFSET A MINIMUM OF FIVE (5) FEET OUTSIDE THE RIGHT-OF-WAY.
   - B. STATION NUMBERS TO BE INDICATED ON EACH SIDE OF THE STAKE.
   - C. THE CENTERLINE ROADWAY CUT AND CUT-LINE SHALL BE LOCATED ON THE SIDE OF THE STAKE WHICH FACES THE CENTERLINE, ALSO A "CL" DESIGNATION SHALL BE INCLUDED.
   - D. THE SWALE CUT AND CUT-LINE SHALL BE INDICATED ON THE OUTSIDE OF THE STAKE, WHILE ALSO CONTAINING A "SW" DESIGNATION.
2. THE CONTRACTOR SHALL PROVIDE TWO (2) WORKING DAYS NOTICE TO THE COUNTY INSPECTOR PRIOR TO PAVING. AT THIS TIME, THE INSPECTOR MAY REQUIRE THE CONTRACTOR COMPLETE RELATED OR UNRELATED WORK ITEMS BEFORE PAVING MAY BEGIN.
3. SURFACE TREATMENT SHALL NOT BE APPLIED: (SURFACE TREATMENT NOT USED)
   - A. AFTER NOVEMBER 1 OR PRIOR TO APRIL 1; OR
   - B. WHEN THE TEMPERATURE IS BELOW 50° F; OR
   - C. ON ANY WET OR FROZEN SURFACE.
4. HOT MIX SHALL NOT BE APPLIED:
   - A. WHEN THE TEMPERATURE IS BELOW 40° F; OR
   - B. ON ANY WET OR FROZEN SURFACE.
5. FOR ALL WOODED AREAS, A SUFFICIENT AREA BEYOND THE RIGHT-OF-WAY SHALL BE CLEARED AND GRUBBED TO ALLOW PROPER GRADING OF THE ROADWAY SWALE BACKSLOPES.
6. ALL DISTURBED AREAS MUST BE STABILIZED WITH 4 INCHES OF TOPSOIL, SEED, AND MULCH.

DELDOT RECORD PLAN NOTES:

1. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL AND SHALL BE SUBJECT TO ITS APPROVAL.
2. NO LANDSCAPING SHALL BE ALLOWED WITHIN THE RIGHT-OF-WAY UNLESS THE PLANS ARE COMPLIANT WITH SECTION 3.7 OF THE DEVELOPMENT COORDINATION MANUAL.
3. SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
4. UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHARED-USE PATH ACROSS THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRASS. SUCH ACTIONS SHALL BE COMPLETED AT DELDOT'S DISCRETION, AND IN CONFORMANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
5. PRIVATE STREETS CONSTRUCTED WITHIN THIS SUBDIVISION SHALL BE MAINTAINED BY THE DEVELOPER, THE PROPERTY OWNERS WITHIN THIS SUBDIVISION OR BOTH (TITLE 17 §131). DELDOT ASSUMES NO RESPONSIBILITIES FOR THE FUTURE MAINTENANCE OF THESE STREETS.
6. THE SIDEWALK AND SHARED-USE PATH SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, THE PROPERTY OWNERS OR BOTH WITHIN THIS SUBDIVISION. THE STATE OF DELAWARE ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THE SIDEWALK AND/OR SHARED-USE PATH.
7. ALL LOTS SHALL HAVE ACCESS FROM THE INTERNAL SUBDIVISION STREET.
8. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MONUMENTS IN ACCORDANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
9. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MARKERS TO PROVIDE A PERMANENT REFERENCE FOR RE-ESTABLISHING THE RIGHT-OF-WAY AND PROPERTY CORNERS ON LOCAL AND HIGHER ORDER FRONTAGE ROADS. RIGHT-OF-WAY MARKERS SHALL BE SET AND/OR PLACED ALONG THE FRONTAGE ROAD RIGHT-OF-WAY AT PROPERTY CORNERS AND AT EACH CHANGE IN RIGHT-OF-WAY ALIGNMENT IN ACCORDANCE WITH SECTION 3.2.4.2 OF THE DEVELOPMENT COORDINATION MANUAL.

TRIP GENERATION - CAVE NECK ROAD 5088 (FULL MOVEMENT)



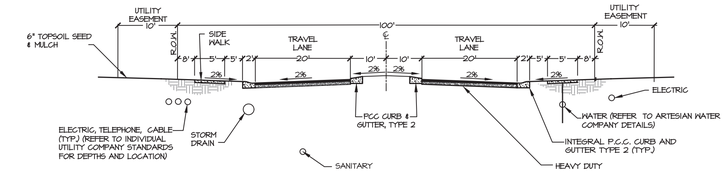
TRAFFIC GENERATION DIAGRAM
TRIPS PER DAY (VEHICLES IN A.M.) [P.M. PEAK HOUR]

ROAD TRAFFIC DATA:
FUNCTIONAL CLASSIFICATION - MINOR COLLECTOR
POSTED SPEED LIMIT - 50 MPH
AADT = 4,884 (FROM 2021 DELDOT TRAFFIC SUMMARY)
10 YEAR PROJECTED AADT = 1.16 X 4,884 TRIPS = 5,686 TRIPS
TRAFFIC PATTERN GROUP - 1 (FROM 2021 DELDOT TRAFFIC SUMMARY)
K-FACTOR = 10.4
D-FACTOR = 60.9
TRUCK % - SINGLE UNIT = 10.8% COMBO UNIT =1.8%

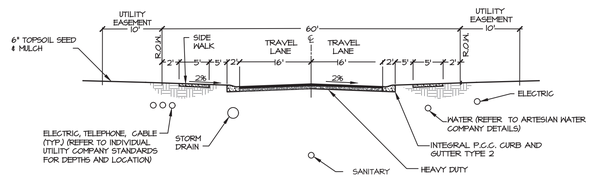
SITE TRIPS GENERATED:
SOURCE: ITE TRIP GENERATION MANUAL 11TH EDITION.
141 SINGLE FAMILY DETACHED HOUSING (210) = 1,330 ADT (OVERALL)
ONE ENTRANCE - FULL MOVEMENT
DESIGN VEHICLE: SU-30, WB-40
DIRECTIONAL DISTRIBUTION:
34% TO AND FROM THE WEST ADT = 714 TRIPS (357 ENTER / 357 EXIT)
66% TO AND FROM THE EAST ADT = 1,116 TRIPS (559 ENTER / 556 EXIT)
141 SINGLE FAMILY DETACHED HOUSING (210) = 134 (AM) (35 ENTER, 99 EXIT)
183 (PM) (115 ENTER, 68 EXIT)
39% TO AND FROM THE WEST AM = 52 TRIPS (14 ENTER / 38 EXIT)
39% TO AND FROM THE WEST PM = 71 TRIPS (45 ENTER / 27 EXIT)
61% TO AND FROM THE EAST AM = 82 TRIPS (21 ENTER / 60 EXIT)
61% TO AND FROM THE EAST PM = 112 TRIPS (70 ENTER / 41 EXIT)

GENERAL NOTES:

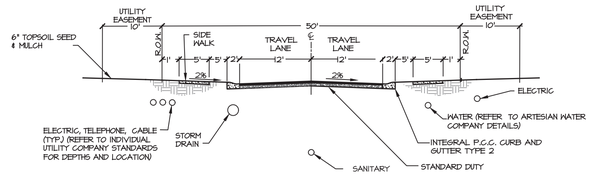
1. SUBDIVISION STREETS ARE TO REMAIN PRIVATE AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH SUSSEX COUNTY REGULATIONS.
2. MAINTENANCE OF THE STREET WITHIN THIS SUBDIVISION WILL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION, THE STATE AND SUSSEX COUNTY ASSUME NO RESPONSIBILITY FOR FUTURE MAINTENANCE OF THE STREETS.
3. ACCESS TO ALL LOTS IS TO BE FROM SUBDIVISION STREETS OR DRIVE ACCESS LOOPS.
4. MAINTENANCE OF THE STORM WATER MANAGEMENT AREAS WILL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION.
5. THE PROPOSED ENTRANCES/EXITS ARE CONCEPTUAL ONLY AND ARE SUBJECT TO REVIEW AND APPROVAL BY THE DELAWARE DEPARTMENT OF TRANSPORTATION BEFORE A CONSTRUCTION PERMIT IS ISSUED.
6. THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANURE, AND OTHER ODORS. THE USE AN ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON THE ACCEPTANCE OF ANY ANNOYING OR INCONVENIENCE WHICH MAY RESULT FROM SUCH NORMAL AGRICULTURAL USES AND ACTIVITIES.
7. MAINTENANCE OF ALL OPEN SPACE AREAS AND ASSOCIATED LANDSCAPING, INCLUDING FORESTED/LANDSCAPE BUFFERS SHALL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION.
8. NO DEED RESTRICTIONS ARE PROPOSED BY THIS PLAN.



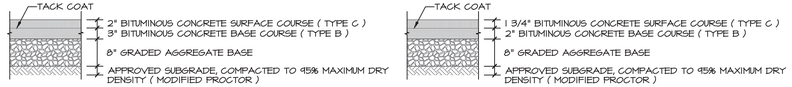
TYPICAL ENTRANCE BOULEVARD - 100' R.O.W.
NOT TO SCALE



TYPICAL ROAD SECTION - 60' R.O.W.
NOT TO SCALE



TYPICAL ROAD SECTION - 50' R.O.W.
NOT TO SCALE



PAVING SECTIONS
NOT TO SCALE

PROJECT PHASING

PHASE I - 5 YEARS

TOTAL PROJECT BUILDOUT - 5 YEARS
ESTIMATED PROJECT COMPLETION DATE - JANUARY 2026

THE PROJECT IS TO BE APPROVED AS A SINGLE PHASE PROJECT, WITH FOUR (4) OPERATIONAL BREAKS FOR PURPOSES OF BONDING, BENEFICIAL OCCUPANCY INSPECTION, AND RELEASE OF USE & OCCUPANCY PERMITS.

SITE DATA

1. PROJECT NAME: CAVE NECK ROAD
2. TAX PARCEL: 235-21.00-182.00
3. SITE ADDRESS: CAVE NECK ROAD LEWES, DE 19958
4. OWNER INFORMATION: CHANCE CHASE LLC 16783 ISLAND FARM LANE MILTON, DE 19968
5. DEVELOPER: CAR LAND INVESTMENT, LLC ATTN: MR. JOHN RICHARDSON 260 HOPEWELL ROAD CHURCHVILLE, MD 21028
6. ZONING:
   EXISTING: AR-1
   PROP. ZONING: AR-1
7. DEVELOPMENT OPTION: AR-1 - CLUSTER DESIGN
8. SITE ACREAGE: 95.87 AC. ±
9. LAND USE:
   EXISTING: AGRICULTURAL
   PROPOSED: RESIDENTIAL - SINGLE FAMILY DETACHED
10. MIN. LOT AREA 7,500 SF
11. BULK AREA STANDARDS (AR-1 CLUSTER DEVELOPMENT OPTION)

MIN. FRONT YARD	25'
MIN. FRONT/SIDE(CORNER LOT)	15'
MIN. SIDE YARD	10'
MIN. REAR YARD	10'
MIN. LOT WIDTH	60'
MIN. LOT AREA	7,500 SF
MAX. BLDG. HT.:	42'
MIN. OPEN SPACE:	30%
MAX. DENSITY:	2 D.U./AC.

12. DEVELOPMENT DENSITY COMPUTATIONS:

GROSS SITE AREA:

BASE SITE AREA:	95.87 AC. ±
TIDAL WETLANDS	0 AC. ±
GROSS SITE AREA:	95.87 AC. ±

ALLOWABLE DWELLING UNITS:
GROSS SITE AREA / 21,870 = ALLOWABLE D.U.
95.87 AC (43,560 SF) / 21,780 D.U. / AC. = 191.74 D.U.

PROPOSED DENSITY:
191 D.U. / 95.87 AC. ± = 1.99 D.U./AC.

13. SITE AREA BREAKDOWN:

RESIDENTIAL LOTS =	37.96 AC. ±
DELDOT R.O.W. =	0.82 AC. ±
PRIVATE R.O.W. =	13.05 AC. ±
PUMP STATION # =	0.14 AC. ±
OPEN SPACE =	43.85 AC. ±
TOTAL SITE ACREAGE =	95.87 AC. ±

14. FOREST COVER

EXISTING FOREST =	23.56 AC. ±
FOREST TO BE CLEARED =	8.48 AC. ±
PROPOSED FOREST REMAINING:	15.08 AC. ± (64.0%)

15. OPEN SPACE AREAS:

REQUIRED [SECTION 115-25B(2)]:
30% X 95.87 AC ± = 28.76 AC.±

PROPOSED:
43.85 AC. ± / 95.87 AC. ± = 43.85 AC. ± / 45.7 %

16. WATER SERVICE: PUBLIC (ARTESIAN)
17. SANITARY SEWER: PUBLIC (ARTESIAN)
18. PROPOSED LOTS: 141 SINGLE FAMILY LOTS
19. PARKING ANALYSIS*:

PARKING REQUIRED: 141 SFD X 2 SP/DU = 282 SP
PARKING PROVIDED: 141 SFD X 2 SP/DU = 282 SP

*NOTE: PARKING ANALYSIS PROVIDED FOR RESIDENTIAL LOT AREAS ONLY; ANALYSIS FOR ACTIVE RECREATION / CLUBHOUSE AREA TO BE INCLUDED AS PART OF SITE PLAN PACKAGE TO BE PROVIDED UNDER SEPARATE COVER.

20. WETLANDS INFORMATION SHOWN HEREON IS BASED UPON THE FIELD DELINEATION PERFORMED BY GEO-TECHNOLOGY ASSOCIATES, INC. (GTA, DATED MAY 25, 2022. BASED UPON THIS INFORMATION, THE SITE CONTAINS JURISDICTIONAL NON-TIDAL WETLANDS AND "WATERS OF THE U.S.". NO TIDAL WETLANDS ARE LOCATED WITHIN THE PROJECT AREA.
21. NO CHURCHES, SCHOOLS, OR COMMERCIAL USE AREAS PROPOSED ON THIS SITE.
22. PROJECT SITE IS NOT LOCATED AN ESTABLISHED TRANSPORTATION IMPROVEMENT DISTRICT (TID)
23. THE PROJECT AREA IS LOCATED WITHIN AREAS OF "FAIR" AND "GOOD" RECHARGE POTENTIAL BASED UPON CURRENT DNREC MAPPING. THE PROJECT ARE DOES NOT CONTAIN ANY WELLHEADS OR WELLHEAD PROTECTION AREAS BASED UPON CURRENT DNREC MAPPING.
24. PROJECT SITE IS LOCATED WITHIN "LOW DENSITY AREA" PER SUSSEX COUNTY'S 2018 COMPREHENSIVE PLAN UPDATE.
25. ALL OPEN SPACE AREAS NOTED ON PLAN ARE TO BE OWNED AND MAINTAINED BY THE PARADISE MEADOWS COMMUNITY ASSOCIATED, AND ARE INTENDED TO REMAIN PRIVATE AREAS FOR COMMON USE BY THE PROPERTY OWNERS WITHIN THE SUBDIVISION.

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DELAWARE 19720
(302) 326-2200
FAX: (302) 326-2399
WWW.MRAGTA.COM

CHRISTOPHER J. FLANNERY LICENSE No. 14291 STATE OF DELAWARE PROFESSIONAL ENGINEER
10/17/22
ENGINEER'S SEAL

GENERAL NOTES & DETAILS PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROAD KILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: AS NOTED
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 2 OF 9

N/F - DRY ACRES LLC
235-21.00-171.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL

N/F - HIRED HAND LLC
235-22.00-11.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL

EX. TREES (TYP.)

CAVE NECK ROAD (SCR 88)

S 52° 12' 54" E 2733.49'

S 58° 00' 08" E 463.20'

CHD = S 57° 08' 09" E 363.77'
R=854.63 A=363.83

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) 0.30± AC.

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) 0.18± AC.

EXIST. EDGE OF WOODS (TYP.)

S 45° 08' 03" W 200.05'

N 52° 02' 09" W 305.61'

EXIST. EDGE OF WOODS (TYP.)

EXIST. EDGE OF WOODS (TYP.)

S 45° 19' 10" W 112.63'

BEAVER DAM CREEK

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) 3.46± AC.

N/F - HOPKINS-LITTLEFIELD CORPORATION
235-21.00-1.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL**

N 52° 24' 13" W 2935.33'

N/F - TRIPLE B FARMS LLC
235-21.00-181.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)

FEMA 100-YR FLOODPLAIN

"ANTHEM SUBDIVISION"
PB 243-50
ZONING -
EXIST. USE: RESIDENTIAL

N/F - ROBERT MARK PETER HOPKINS
235-21.00-1.01
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL**

**NOTE: HOPKINS & LITTLEFIELD PARCELS ARE IN AGLAND PRESERVATION PROGRAM (LITTLEFIELD PRESERVATION DISTRICT).

PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-1	N 06° 09' 07" W	85.97'
L-2	N 14° 48' 39" E	104.84'
L-3	N 28° 54' 38" E	47.72'
L-4	N 34° 40' 10" E	134.43'
L-5	N 21° 42' 52" E	118.35'
L-6	N 66° 47' 51" E	42.77'
L-7	N 20° 14' 47" E	124.49'
L-8	N 28° 55' 44" E	93.61'
L-9	N 20° 41' 46" E	49.72'
L-10	N 83° 53' 17" E	47.14'
L-11	N 09° 50' 13" E	84.00'
L-12	N 69° 10' 44" E	30.35'
L-13	N 50° 04' 28" E	51.62'
L-14	N 81° 41' 14" E	47.15'
L-15	N 58° 32' 19" E	69.74'
L-16	N 37° 14' 02" E	57.25'
L-17	N 14° 47' 59" E	64.26'
L-18	N 40° 26' 14" E	71.34'
L-19	N 17° 38' 07" E	14.44'

120 60 0 60 120 240
SCALE: 1" = 120'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE

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CHRISTOPHER J. FLATERS LICENSE No. 14708 DELAWARE PROFESSIONAL ENGINEER 10/17/22

ENGINEER'S SEAL

OVERALL PRELIMINARY PLAT FOR PARADISE MEADOWS

BROAD KILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1" = 120'
		DATE: 1/21/22
		DRAWN BY: CMT
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		REVIEW BY: CJF
		SHEET: 3 OF 9

N/F - DRY ACRES LLC
235-21.00-171.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL

N/F - HIRED HAND LLC
235-22.00-11.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) 0.30± AC.

30' WIDE NON-TIDAL WETLAND BUFFER (TYP.)

60' WIDE EXISTING R.O.W.

CAVE NECK ROAD (SCR 88)

S 59° 00' 08" E 463.20'

CHD = S 57° 08' 20" E 363.77'
R=5694.63 A=369.83

S 52° 12' 54" E 2733.49'

NORTH

LIMIT OF CLEARING (TYP.)

PUMP STATION

SWM AREA #1

OPEN SPACE '3'

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) 0.18± AC.

PARADISE MEADOWS DRIVE

EMERGENCY ACCESS / FORESTRY LANE

PEDESTRIAN ACCESSWAY CONNECTION (TYP.)

30' WIDE VEGETATED BUFFER (TYP.)

15' WIDE DELDOT EASEMENT (TYP.)

PROPOSED 10' WIDE DELDOT DEDICATION

S 45° 08' 03" W 200.05'

N 52° 02' 09" W 305.61'

30' WIDE VEGETATED BUFFER (TYP.)

OASIS DRIVE

GRACE WAY

OPEN SPACE '5'

OPEN SPACE '1'

OPEN SPACE '2'

COMMUNITY CLUBHOUSE AREA*

TOT LOT

DIVINE DRIVE

ELEGANCE COURT

OPEN SPACE '6'

LIMIT OF CLEARING (TYP.)

UTOPIA COURT

WALKING TRAIL

30' WIDE WETLAND BUFFER (TYP.)

BEAVER DAM CREEK

EXIST. EDGE OF WOODS (TYP.)

PLEASANT DRIVE

BLISS WAY

OPEN SPACE '4'

S 45° 19' 10" W 172.63'

50' WIDE AGRICULTURAL SETBACK (TYP.)

50' WIDE AGRICULTURAL SETBACK (TYP.)

30' WIDE FORESTED BUFFER (TYP.)

N/F - HOPKINS-LITTLEFIELD CORPORATION
235-27.00-1.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL**

LIMIT OF CLEARING (TYP.)

SWM AREA #2

30' WIDE FORESTED BUFFER (TYP.)

OPEN SPACE '7'

N 52° 24' 13" W 2935.33'

30' WIDE FORESTED BUFFER (TYP.)

50' WIDE AGRICULTURAL SETBACK (TYP.)

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) 3.46± AC.

N/F - TRIPLE B FARMS LLC
235-21.00-181.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXISTING USE: AGRICULTURAL

FEMA 100-YR FLOODPLAIN

"ANTHEM SUBDIVISION"
PB 249-50
ZONING - AGRICULTURAL / RESIDENTIAL (AR-1)
EXIST. USE: RESIDENTIAL

N/F - ROBERT MARK PETER HOPKINS
235-27.00-1.01
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
EXIST. USE: AGRICULTURAL**

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L-13	N 50° 04' 28" E	51.62'
L-14	N 81° 41' 14" E	47.15'
L-15	N 58° 32' 19" E	69.74'
L-16	N 37° 14' 02" E	57.25'
L-17	N 14° 47' 59" E	64.26'
L-18	N 40° 26' 14" E	71.34'
L-19	N 17° 38' 07" E	14.44'

*NOTE: THE COMMUNITY AMENITY AREAS WILL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.

**NOTE: HOPKINS & LITTLEFIELD PARCELS ARE IN AGLAND PRESERVATION PROGRAM (LITTLEFIELD PRESERVATION DISTRICT).

120 60 0 60 120 240
SCALE: 1" = 120'

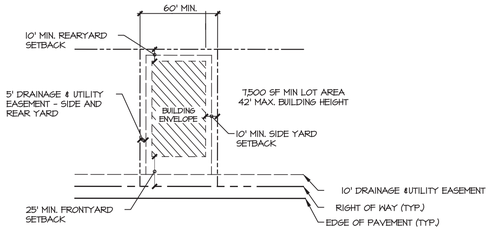
LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE

PROPOSED OPEN SPACE SUMMARY

AREA	TOTAL AREA (AC. ±)	SWM FACILITIES (AC. ±)	ACTIVE OPEN SPACE (AC. ±)	PASSIVE OPEN SPACE* (AC. ±)
1	6.53	0	0.15	6.38
2	2.44	0	2.44	0.00
3	28.57	3.15	0.06	28.51
4	0.85	0	0.85	0.00
5	0.15	0	0.15	0.00
6	5.31	0	0.07	5.24
TOTAL	43.85	3.15	3.72	40.13

*NOTE: PASSIVE OPEN SPACE AREA ACREAGE ARE INCLUSIVE OF SWM FACILITY ACREAGE, WHERE APPLICABLE.



TYPICAL LAYOUT SINGLE FAMILY LOT (VARIABLE WIDTHS)

NOT TO SCALE!

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
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NEW CASTLE, DELAWARE 19720
(302) 326-2200
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WWW.MRAGTA.COM

CHRISTOPHER J. FLAHERTY LICENSE No. 14291 DELAWARE PROFESSIONAL ENGINEER 10/17/22

ENGINEER'S SEAL

OVERALL PRELIMINARY PLAT FOR PARADISE MEADOWS

BROAD KILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1" = 150'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 4 OF 9

CAVE NECK ROAD (SO88)
(EX. 60' PUBLIC R/W)

PEDESTRIAN ACCESSWAY CONNECTION TO FUTURE SHARED USE PATH / SIDEWALK BY OTHERS

FUTURE FORCE MAIN BY OTHERS

ADDITIONAL 10' OF RIGHT-OF-WAY IS HEREBY DEDICATED TO THE STATE OF DELAWARE, AS PER THIS PLAT (WIDTH VARIES)

15'-WIDE PERMANENT EASEMENT IS HEREBY ESTABLISHED TO THE STATE OF DELAWARE, AS PER THIS PLAT

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) (0.130 AC ±)

20' SANITARY SEWER EASEMENT (TYP.)

MATCHLINE SHEET 7

20' D & U EASEMENT (TYP.)

OPEN SPACE 28.571± AC.

30' WIDE WETLAND BUFFER (TYP.)

10' D&U EASEMENT (TYP.)

OASIS DRIVE

50' AGRICULTURAL SETBACK (TYP.) *

30' VEGETATED BUFFER (TYP.)

100-YR FEMA FLOODPLAIN

N/F - TRIPLE B FARMS LLC
235-21.00-181.00
ZONING - AGRICULTURAL/RESIDENTIAL (AR-1)
USE: AGRICULTURAL*

0.19 AC PARCEL TO BE DEDICATED TO ARTESIAN WASTEWATER, INC.

SWM AREA #1
1.79 AC. ±

OPEN SPACE 0.15 ± AC.

PERGOLA

GRACE WAY

25' REAR SETBACK (TYP.)

10' REAR SETBACK (TYP.)

10' SIDE YARD (TYP.)

OPEN SPACE 28.571± AC.

OPEN SPACE 6.534 AC.

5' WIDE WALKING TRAIL

MATCHLINE SHEET 7

UTOPIA COURT

NON-TIDAL WETLANDS (FEDERAL JURISDICTION) (3.46 AC ±)

30' WIDE WETLAND BUFFER (TYP.)

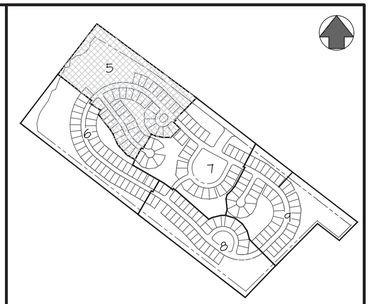
MATCHLINE SHEET 6

MATCHLINE SHEET 6

MATCHLINE SHEET 7

*NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

KEY MAP



SCALE: 1" = 50'

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C35	475.00'	823.45'	724.14'	N 02° 44' 25" W
C36	425.00'	721.63'	638.01'	S 03° 45' 34" E
C37	25.00'	42.40'	37.50'	N 86° 31' 40" W
C38	25.00'	42.44'	37.53'	S 10° 41' 56" W
C39	420.00'	552.50'	513.51'	N 82° 56' 47" W
C40	480.00'	735.41'	665.56'	S 84° 11' 09" E
C41	25.00'	39.27'	35.36'	S 00° 17' 40" E
C42	25.00'	39.27'	35.36'	N 89° 42' 20" E
C43	87.50'	274.84'	175.00'	S 45° 17' 40" E
C45	25.00'	39.27'	35.36'	S 00° 17' 40" E
C46	25.00'	39.27'	35.36'	N 89° 42' 20" E
C64	375.00'	104.53'	104.19'	N 29° 57' 07" W
C65	425.00'	118.47'	118.08'	S 29° 57' 07" E
C66	425.00'	281.84'	276.70'	N 40° 57' 51" W
C67	375.00'	248.68'	244.15'	S 40° 57' 51" E

RIGHT-OF-WAY & LOT LINE TABLE		
LINE	BEARING	DISTANCE
L-101	N 43° 04' 38" W	5.00'
L-102	S 54° 57' 43" E	61.16'
L-103	S 54° 57' 43" E	61.16'

PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-10	N 83° 53' 17" E	47.14'
L-11	N 09° 50' 13" E	84.00'
L-12	N 69° 10' 44" E	30.35'
L-13	N 50° 04' 28" E	51.62'
L-14	N 81° 41' 14" E	47.15'
L-15	N 58° 32' 19" E	69.74'
L-16	N 37° 14' 02" E	57.25'
L-17	N 14° 47' 59" E	64.26'
L-18	N 40° 26' 14" E	71.34'
L-19	N 17° 38' 07" E	14.44'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- LINE OF SIGHT
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

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(302) 326-2200
FAX: (302) 326-2399
MRAGTA.COM

CHRISTOPHER J. FLATTERY LICENSE No. 14207 DELAWARE PROFESSIONAL ENGINEER 10/17/22

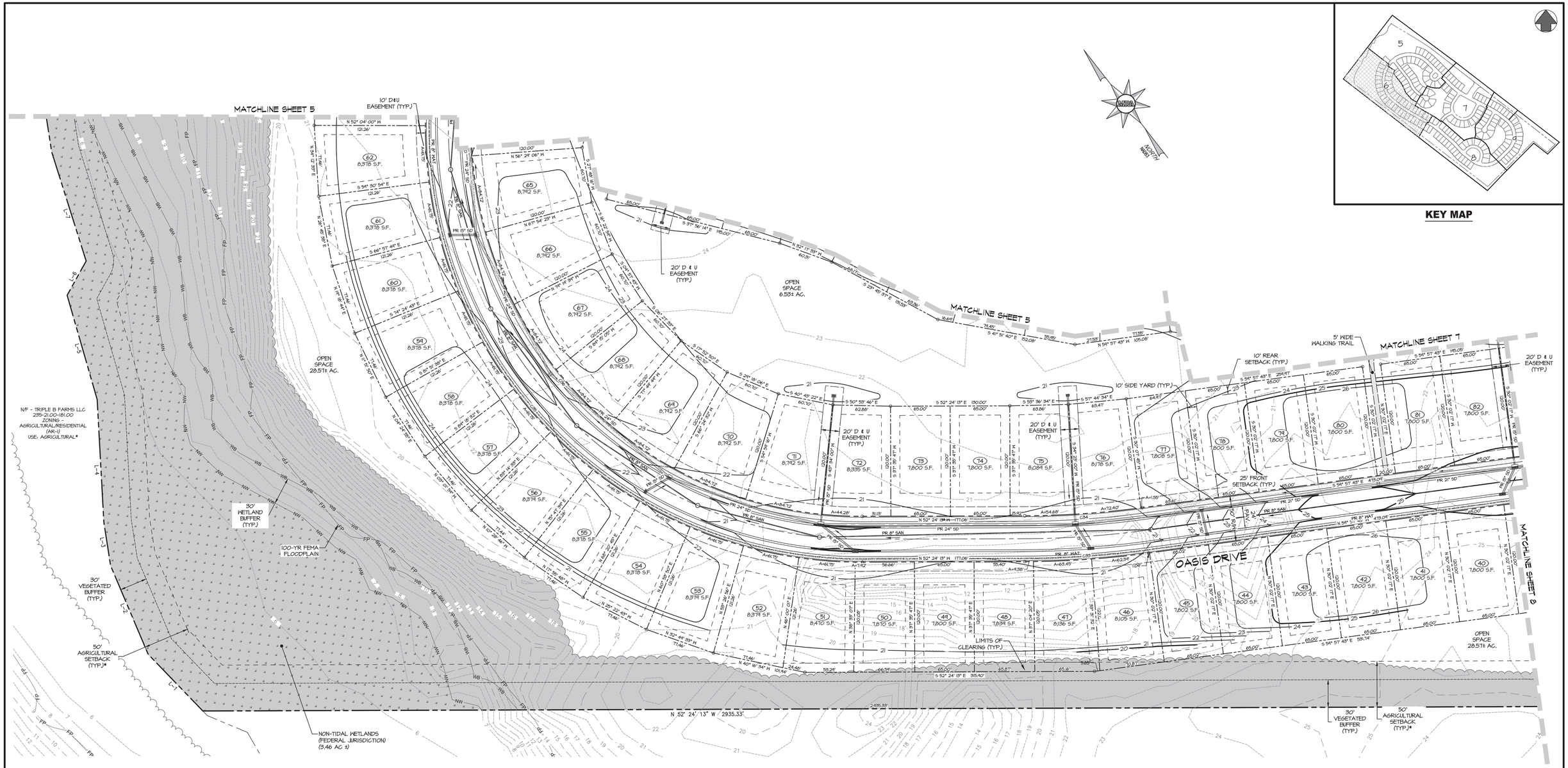
ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 5 OF 9

PLAT



KEY MAP

*NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

50 25 0 25 50 100

SCALE: 1" = 50'

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C33	1,025.00'	135.22'	135.12'	N 56° 10' 58" W
C34	975.00'	128.62'	128.53'	S 56° 10' 58" E
C35	475.00'	823.45'	724.14'	N 02° 44' 25" W
C36	425.00'	721.63'	638.01'	S 03° 45' 34" E

PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-1	N 06° 09' 07" W	85.97'
L-2	N 14° 48' 39" E	104.84'
L-3	N 28° 54' 38" E	47.72'
L-4	N 34° 40' 10" E	134.43'
L-5	N 21° 42' 52" E	118.35'
L-6	N 66° 47' 51" E	42.77'
L-7	N 20° 14' 47" E	124.49'
L-8	N 28° 55' 44" E	93.61'
L-9	N 20° 41' 46" E	49.72'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- LINE OF SIGHT
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

PLAT

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE: 36
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CHRISTOPHER J. FLATHERS LICENSE No. 14708 DELAWARE PROFESSIONAL ENGINEER 10/17/22

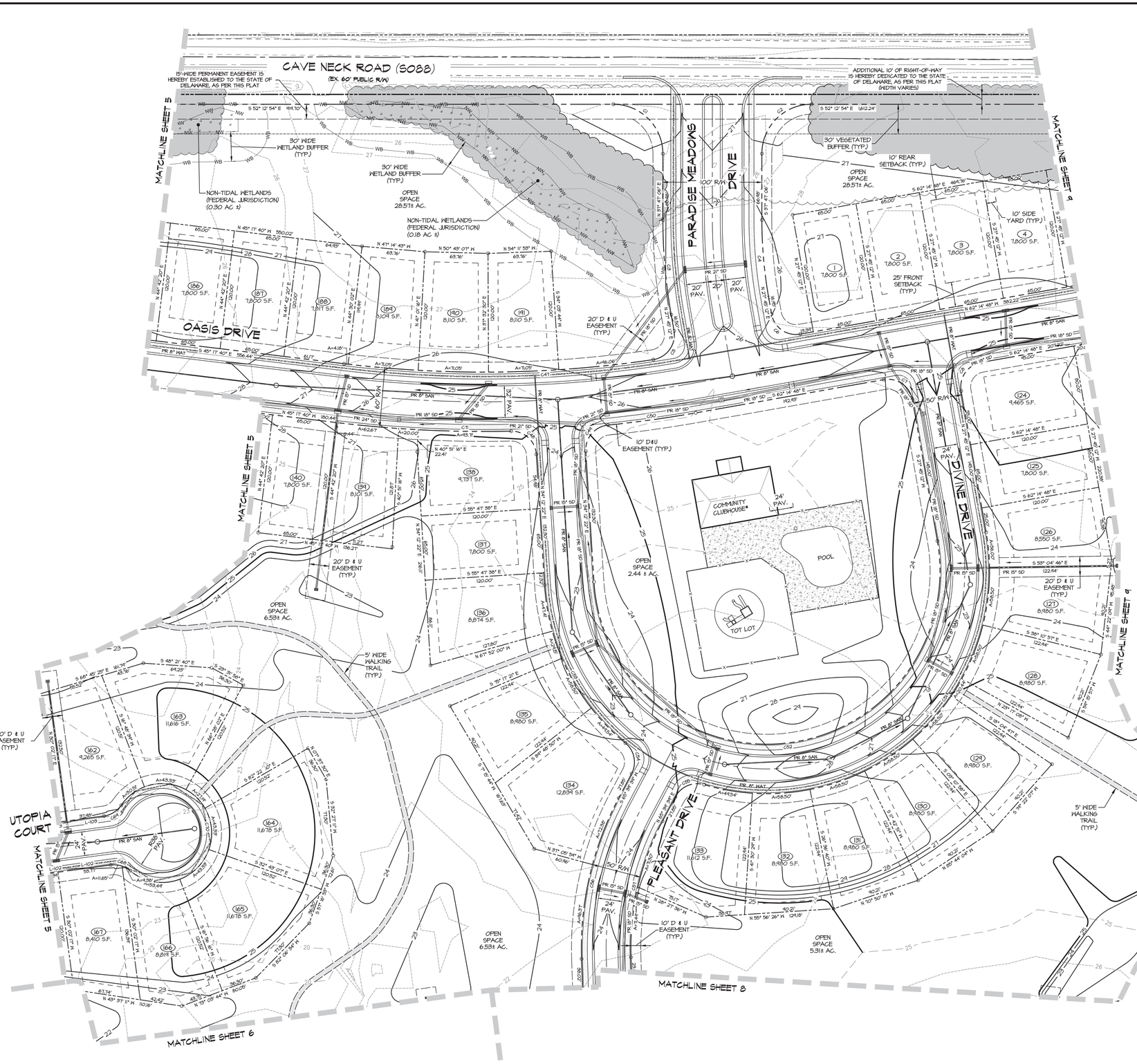
ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS

JOB NO.: 21482
SCALE: 1"= 50'
DATE: 1/21/22
DRAWN BY: CMT
DESIGN BY: CMT
REVIEW BY: CJF
SHEET: 6 OF 9



LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
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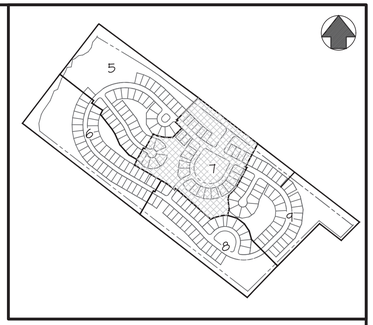
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL



KEY MAP

NORTH
NORTH MAGNETIC

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	50.00'	78.54'	70.71'	N 07° 12' 54" W
C2	50.00'	78.54'	70.71'	S 82° 47' 06" W
C3	550.00'	96.30'	96.17'	S 32° 46' 09" W
C4	450.00'	78.74'	78.64'	N 32° 46' 09" E
C5	25.35'	34.82'	35.85'	N 73° 33' 20" E
C6	25.00'	34.27'	35.36'	N 17° 14' 48" W
C7	25.00'	34.27'	35.36'	S 17° 14' 48" E
C8	25.08'	34.24'	35.36'	N 72° 45' 12" E
C47	1,170.00'	313.40'	312.46'	S 52° 58' 06" E
C48	25.00'	38.27'	34.64'	S 04° 34' 08" E
C49	25.00'	38.27'	34.64'	N 78° 08' 52" E
C50	1,230.00'	84.51'	84.49'	S 60° 09' 43" E
C51	225.00'	456.99'	382.39'	N 85° 56' 14" E
C52	175.00'	564.49'	349.45'	N 54° 01' 13" W
C53	225.00'	184.60'	179.47'	N 10° 42' 07" E
C54	25.00'	34.24'	31.62'	S 26° 25' 46" W
C55	25.00'	34.24'	31.62'	S 75° 06' 27" E
C56	325.00'	168.75'	166.86'	N 50° 47' 10" E
C57	275.00'	142.79'	141.93'	N 50° 47' 10" E
C68	25.00'	21.03'	20.41'	S 35° 52' 01" E
C69	25.00'	21.03'	20.41'	S 84° 09' 24" E
C70	50.00'	241.91'	66.67'	S 30° 02' 17" W
C71	1,230.00'	176.38'	176.23'	S 44° 24' 04" E

RIGHT-OF-WAY & LOT LINE TABLE		
LINE	BEARING	DISTANCE
L-102	S 54° 57' 43" E	61.16'
L-103	S 54° 57' 43" E	61.16'

*NOTE: THE COMMUNITY AMENITY AREA WILL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.

50 25 0 25 50 100
SCALE: 1" = 50'

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE: 36
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FAX: (302) 326-2399
MRAGTA.COM

CHRISTOPHER J. FLATHERS LICENSE No. 14767 DELAWARE PROFESSIONAL ENGINEER 10/31/22

ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

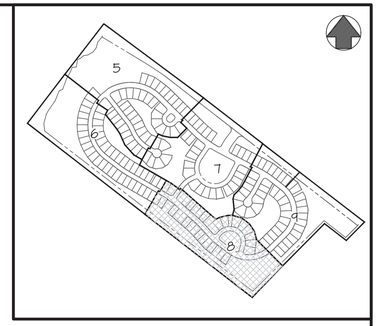
BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS

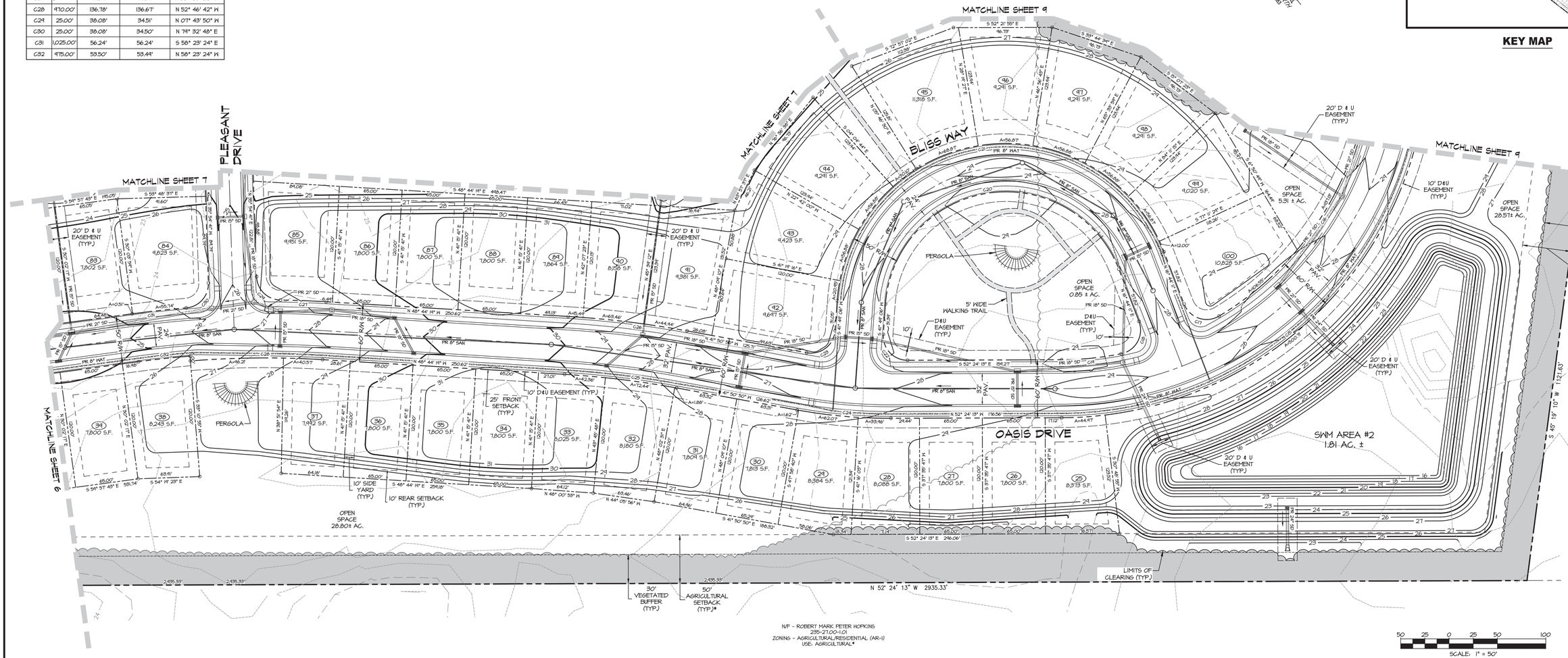
JOB NO.: 21482
SCALE: 1"= 50'
DATE: 1/21/22
DRAWN BY: CMT
DESIGN BY: CMT
REVIEW BY: CJF
SHEET: 7 OF 9

PLAT

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C15	380.00'	545.68'	499.99'	S 86° 27' 29" W
C16	320.00'	288.52'	278.84'	S 71° 08' 56" W
C17	25.00'	43.59'	38.23'	N 33° 08' 33" W
C18	25.00'	43.59'	38.23'	N 66° 36' 56" E
C19	320.00'	62.00'	61.91'	S 57° 57' 16" E
C20	125.00'	337.98'	244.04'	N 60° 43' 21" W
C21	175.00'	473.17'	341.65'	N 60° 43' 21" W
C22	25.00'	41.11'	36.69'	S 05° 17' 33" E
C23	25.00'	42.03'	37.25'	S 84° 54' 08" W
C24	530.00'	97.65'	97.51'	N 47° 07' 31" W
C25	470.00'	116.67'	116.60'	N 45° 17' 35" W
C26	1,030.00'	123.84'	123.81'	N 45° 17' 35" W
C27	1,030.00'	47.34'	47.34'	N 50° 09' 20" W
C28	470.00'	136.78'	136.67'	N 52° 46' 42" W
C29	25.00'	38.08'	34.51'	N 07° 43' 50" W
C30	25.00'	38.08'	34.50'	N 74° 32' 48" E
C31	1,025.00'	56.24'	56.24'	S 58° 23' 24" E
C32	975.00'	53.50'	53.49'	N 58° 23' 24" W



KEY MAP



50 25 0 25 50 100

SCALE: 1" = 50'

*NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- LINE OF SIGHT
- PROPOSED SETBACK LINE
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- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

PLAT

MORRIS & RITCHIE ASSOCIATES, INC.
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FAX: (302) 326-2399
MRAGTA.COM

CHRISTOPHER J. FLATTERS LICENSE No. 14788 DELAWARE PROFESSIONAL ENGINEER 10/31/22

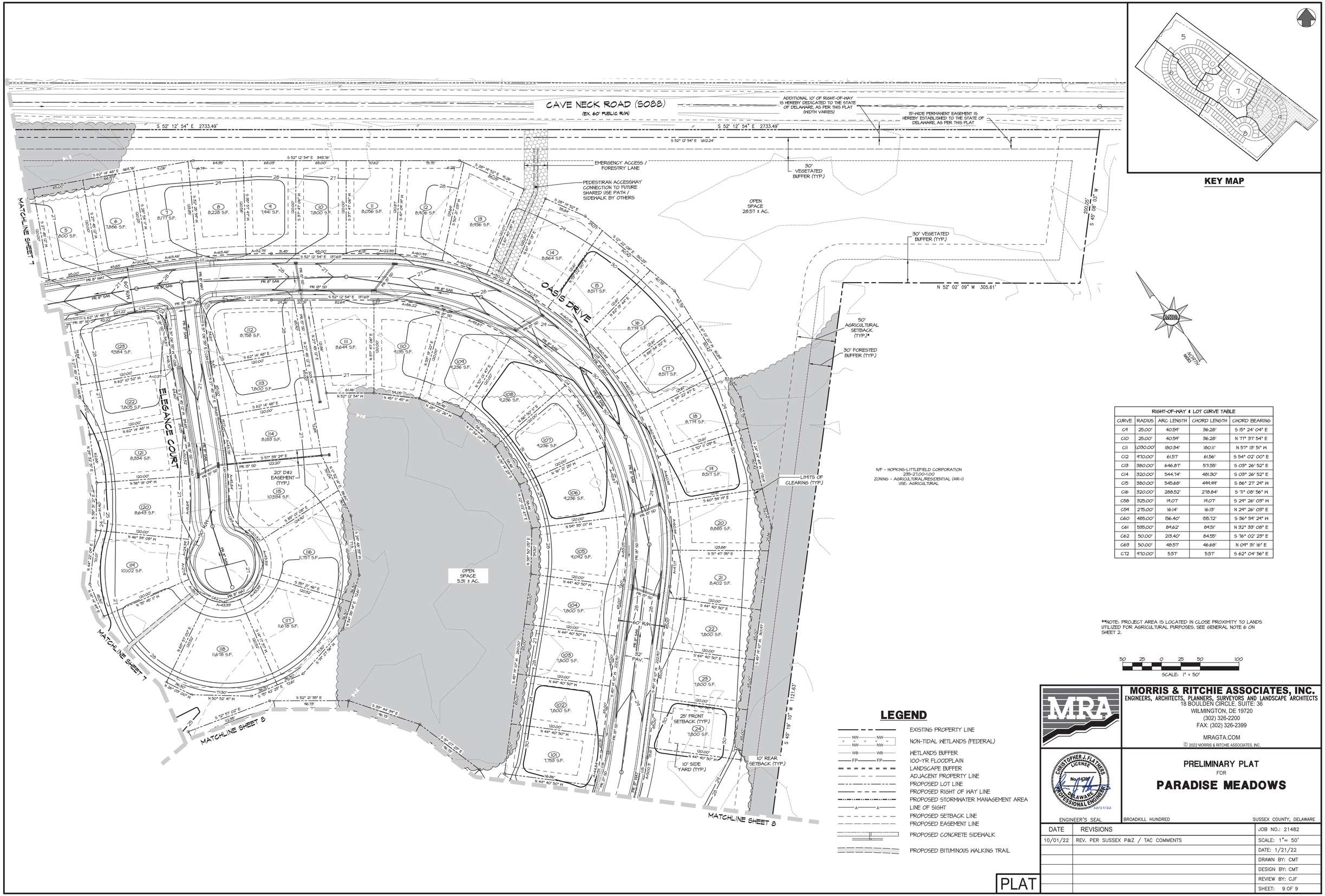
ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS

JOB NO.:	21482
SCALE:	1"= 50'
DATE:	1/21/22
DRAWN BY:	CMT
DESIGN BY:	CMT
REVIEW BY:	CJF
SHEET:	8 OF 9



RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	25.00'	40.59'	36.28'	S 15° 24' 04" E
C10	25.00'	40.59'	36.28'	N 71° 37' 54" E
C11	1,030.00'	180.34'	180.11'	N 57° 13' 51" W
C12	970.00'	61.57'	61.56'	S 54° 02' 00" E
C13	380.00'	646.87'	571.55'	S 03° 26' 52" E
C14	320.00'	544.74'	481.30'	S 03° 26' 52" E
C15	380.00'	545.68'	499.99'	S 86° 27' 24" W
C16	320.00'	288.52'	278.84'	S 71° 08' 56" W
C58	325.00'	19.07'	19.07'	S 24° 26' 03" W
C59	275.00'	16.14'	16.13'	N 24° 26' 03" E
C60	485.00'	156.40'	155.72'	S 36° 59' 24" W
C61	535.00'	84.62'	84.51'	N 32° 33' 08" E
C62	50.00'	213.40'	84.55'	S 76° 02' 23" E
C63	50.00'	48.57'	46.68'	N 04° 31' 16" E
C72	970.00'	5.57'	5.57'	S 62° 04' 56" E

**NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

SCALE: 1" = 50'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
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CHRISTOPHER J. FLATHERS LICENSE No. 14287 DELAWARE PROFESSIONAL ENGINEER 10/27/22

ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 9 OF 9

PLAT

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS

PARADISE MEADOWS

A Residential AR-1 Cluster Community

Broadkill Hundred
Sussex County, Delaware

Developed By:

CNR Land Investment, LLC

Prepared By:
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720
Phone: (302) 326-2200
Attn: Christopher J. Flathers, P.E.

October 2022

21482

PARADISE MEADOWS

SUSSEX COUNTY DELAWARE

NOTE: The blue shading of the SWM facilities shown hereon is for presentational / graphical purposes only.
The design and determination of the type of SWM facilities (wet ,dry, infiltration, etc) shall be made during the final engineering process.
Via this color rendering, MRA makes no representations either explicitly or implicitly that the SWM facilities will be wet ponds.

MRA
302.326.2200
18 BOULDEN CIRCLE, SUITE 36
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P A R A D I S E M E A D O W S

AR-1 CLUSTER COMMUNITY INFORMATION BOOKLET
TABLE OF CONTENTS

P R O J E C T T E A M

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ATTORNEY
FUQUA, WILLARD, STEVENS & SCHAB, P.A.
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REHOBOTH BEACH, DE 19971
MR. JAMES A. FUQUA, ESQ.

L A N D U S E D A T A

Site Data:

Location:	South Side of Cave Neck Road (Road 88) Approx. 5,600' west of intersection with Hudson Road (Road 258) Lewes, DE
Owner:	Chance Chase, LLC
Tax Map Parcel Number:	235-21.00-182.00
Gross Acreage:	95.87 ± acres
Current Zoning:	AR-1
Proposed Zoning:	AR-1 Cluster

Floodplain: Portions of the site area are located within Zone AE (Special Flood Hazard Areas subject to inundation by the 1% annual chance flood with average depths of less than 1 foot).

Land Use Breakdown

Residential Lot Areas:	37.96± Acres 191 Detached Single-Family Lots
Right-of-Way:	
Public R.O.W. (DelDOT Dedication)	0.82 ± Acres
Private R.O.W.	13.05 ± Acres
Open Space:	43.85 ± Acres 43.85 / 95.87 = 45.7%
Dedicated to Artesian Wastewater:	0.19 ± Acres

Lot Compilation

	AR-1 Cluster
<u>Single Family</u>	
Min. Lot Area:	7,500 sf
Lot Width:	60 ft.
Front Yard Setback:	25 ft.
Side Yard Setback:	10 ft
Rear Yard Setback	10 ft.

Project Density

Gross Site Area	95.87 ± ac.
191 d.u / 95.87 ac. =	1.99 d.u./ac.

E X E C U T I V E S U M M A R Y

Paradise Meadows is a proposed AR-1 Cluster residential subdivision located on the south side of Cave Neck Road, approximately 5,600 feet west of the intersection with Hudson Road (Road 258) in an unincorporated portion of Sussex County, Delaware. The 95.87± acre site is located between the Coastal Area and the designated growth zone associated with the Town of Milton as shown on the Sussex County Comprehensive Plan dated March 2019. Design and development concepts for Paradise Meadows focused on creating a pedestrian friendly community of single-family detached dwellings with a community recreation area. The project site includes more than 43 acres of open space, with each of the residential lots connecting directly to open space.

The community recreation area is anticipated to include a community clubhouse building, outdoor pool, and patio area. Sidewalks will be provided throughout the community along both sides of the vehicular thoroughfares to connect the residences to the centrally located clubhouse amenity area.

A majority of the development area was previously cleared and is currently utilized for agricultural purposes. Due to proximity of the Beaver Dam Creek along the westerly boundary, it is anticipated that extended detention wet pond facilities will be implemented to provide runoff management in compliance with the Delaware Sediment and Stormwater Regulations (DSSR). The stormwater BMP's will provide a management of runoff volume, peak rate management, and TMDL reduction from the developed site in accordance with the DSSR.

The Paradise Meadows site is located within the "Coordinated CPCN Area" for sanitary sewer service, with Artesian Wastewater, Inc. (AWI) providing service in this area. An on-site gravity sewer main will be designed in accordance with AWI standards, and discharge to existing off-site infrastructure through a proposed forcemain system. The site is located within the water CPCN service area designated to Artesian Water Company (AWC). Water main will be extended from the existing AWC distribution mains located in the intersection of Cave Neck Road and Hudson Road near the Compass Point subdivision. The proposed water system will be designed and constructed in accordance with AWC standards.

A forested and/or landscaped buffer area will be provided around the perimeter of the community in accordance with Section 99-5 of the Sussex County Code. The internal subdivision street system will be designed and constructed in accordance with Sussex County standards and will be privately owned and maintained upon completion. Consideration for pedestrian safety and convenience through traffic calming design techniques, sidewalks; unified street signage and lighting standards will be incorporated into the final design of the project.

Scenic Manor is anticipated to provide a vibrant community, with social and recreational benefits to the residents, economic benefits to the County and surrounding areas, while minimizing environmental impacts to the existing on-site resources and the neighboring properties.

A P P E N D I C E S

Appendix 1 – 99-9C Compliance

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS

Sussex County Code Chapter 99-9C Compliance

for

Paradise Meadows

Broadkill Hundred
Sussex County, Delaware

Prepared By:
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720
Phone: (302) 326-2200
Attn: Christopher J. Flathers, P.E.

October 2022

SUSSEX COUNTY CODE
CHAPTER 99-9C COMPLIANCE

It is the intent of this submittal to demonstrate how the proposed Paradise Meadows project meets, or exceeds, the regulatory requirements and follows the County growth objectives with regard to the Sussex County Code and Ordinances.

Located within the AR-1 Zoning District, the proposed residential community of Paradise Meadows will include 191 single-family lots. Based upon an overall site area of 96+/- acres, the resulting gross area density of 1.99 dwelling units per acre is within the permitted density for the project. The Paradise Meadows project will utilize the Cluster Development Option in an effort to efficiently utilize the available land areas and promote a greater amount of preserved and usable open space areas within the site.

All infrastructure for the development (both on-site and off-site), will be designed and constructed at the developer's expense. The infrastructure will include roads, sidewalks, lighting within the project, off-site road improvements along road frontage, stormwater management, on-site sewer collection and transmission, on-site water distribution, and on-site community recreation facilities.

Water and sewer will both be centralized public systems. Water service for the community will be provided by Artesian Water Company (AWC). All water distribution will be designed to requirements of the State Fire Marshal's Office and DNREC and constructed in accordance with AWC standards. Sanitary sewer service for the community will be provided by Artesian Wastewater Management, Inc (AWMI). All sanitary sewer systems will be designed in accordance with State and County requirements and constructed in accordance with AWMI standards.

The Scenic Manor residential community is proposed to be developed as market rate single-family dwelling units. The nature of this development type is consistent with the existing development within the project area.

The information below is provided to address the requirements of Chapter 99-9C of the Sussex County Code:

1. Integration of the proposed subdivision into the existing terrain and surrounding landscape.

   The proposed development area is planned primarily within the limits of the parcel currently utilized for agricultural crops and will result in minimal clearing of existing wooded areas. Landscape buffers have been proposed around the entire perimeter of the site to provide buffering to the adjacent residential land uses. Proposed site grading is anticipated to maintain overall drainage patterns of the existing condition.

2. Minimal use of wetlands and floodplains.

   A Wetland Delineation Report was prepared by Geo-Technology Associates, Inc. (GTA) for the project site in May 2022. Based upon this investigation, it was determined that jurisdictional "Waters of the U.S", including non-tidal wetlands were identified within the limits of the subject parcels in the professional opinion of GTA. The location of these resources were primarily limited to the westerly portion of the site along the area of Beaverdam Creek. As shown on the Preliminary Plan, a 30'-wide buffer area has provided adjacent to the non-tidal wetlands that exceeds the requirements of the Sussex County Code related to the AR-1 cluster design. No disturbance is anticipated to these federally regulated non-tidal wetlands as a result of the proposed site improvements. If during the design process it is determined that disturbance to these resources is necessary, coordination with DNREC and/or the Army Corp of Engineers (ACOE) will be made in accordance with the applicable regulations.

   Review of the current FEMA floodplain map (FIRM 10005C0169K, effective date 3/16/2015) reveal that portions of the subject parcel are located within the limits of Zone AE, identified as "areas subject to inundation by the 1% annual chance flood." No residential lots, roadways, or other site improvements area proposed within the limits of this area. Additionally, no areas of fill are anticipated within these areas that would impact this existing delineated floodplain. Therefore, no direct impacts to the existing floodplain are anticipated as a result of the proposed Paradise Meadows project.

3. Preservation of natural and historical features.

   As noted above, there are known natural environmental areas located on the project site; the site layout has been developed to avoid disturbance to these areas (jurisdictional non-tidal wetlands and floodplain). Rare and endangered plants, animals, and natural communities will be investigated during the course of design to better assist the preservation process in accordance with regulatory requirements. Based on correspondence from the U.S. Fish & Wildlife Service, there are no federally listed species known to be present at the surject site. There are no existing structures within the property boundary, and no known historic resources were identified within the property boundary by the State Historic Preservation Office during the PLUS review.

4. Preservation of open space and scenic views.

   The implementation of cluster design option in the creation of the proposed Paradise Meadows layout is anticipated to result in approximately 44 acres (44% of project area) to be utilized for passive and active open space purposes. Throughout much of the community, open space areas have been provided adjacent to almost all of the proposed residential lots, in addition to the perimeter buffers required by the Sussex County Zoning Code. The open space areas will

be enhanced with new landscape plantings and perimeter landscape buffer plantings. A centralized community amenity area will be provided for the enjoyment and active recreation of the community residents.

The site is bordered along the west by Beaver Dam Creek. Preservation of the non-tidal wetlands, and establishment of buffer areas in accordance with the County requirements in effect at the time of the project application will maintain scenic views throughout much of the community. Where the Paradise Meadows borders existing agricultural areas to the south and east, expanded agricultural setback areas have been provided in accordance with the Sussex County Code.

5. Minimization of tree, vegetation and soil removal and grade changes.

   As noted above, much of the existing site has been previously cleared and has been previously utilized for agricultural purposes. Of the approximately 23 acres of wooded areas currently on site, more than 14 acres are anticipated to remain undisturbed. Clearing of the wooded areas of the site is only proposed for those areas necessary for the construction of the residential lots, roadway improvements, stormwater management areas, utilities, and associated grading.

   The proposed design will follow the natural grade of the existing site as practicable while maintaining proper drainage and stormwater conveyance within the project. Only those areas that are proposed for development are planned to be disturbed. Erosion and Sediment control BMPs will be employed in accordance with Sussex Conservation District (SCD) and Delaware Department of Natural Resources and Environmental Control (DNREC) guidelines in order to minimize erosion and loss of soil throughout the construction process.

6. Screening of objectionable features from neighboring properties and roadways.

   A 30'-wide landscaped buffer strip will be provided around the perimeter of the site in accordance with Section 99-6 of the County Subdivision Code. Where wooded areas are currently present within these areas, they will be preserved to the maximum extent practical to establish a forested buffer strip. Additionally, a 50' minimum building setback for residential use will be provided where the site abuts an existing agricultural use in accordance with Section 99-6G of the County Subdivision Code. A site landscape plan will be incorporated into the design documents with consideration given to the utilization of native Delaware plants and trees where practicable.

   Any proposed on-site sewer and water facilities, including the anticipated sanitary sewer pump station, will be screened with landscaping so that they are congruent with the surrounding areas.

7. Provision for water supply.

   Artesian Water Company, Inc. (AWC) will provide central water service for the project. Plans will be submitted concurrently to both Sussex County and the State Department of Health and Human Services to obtain an Approval to Construct and an Approval to Operate with regard to all of the proposed water facilities.

   As part of the water supply design, Fire Marshal requirements will be adhered to with regard to the water distribution system.

   It is our understanding that public water facilities will likely need to be extended to the project site along Cave Neck Road from existing offsite AWC infrastructure near the intersection of Cave Neck Road and Hudson Road. All facilities will be designed and constructed in accordance with AWC Standards.

8. Provision for sewage disposal.

   The Paradise Meadows site is located within the Artesian Wastewater, Inc (AWI) service area as assigned through the Certificate of Public Convenience and Necessity (CPCN) issued by Delaware Public Service Commission. A gravity sewer main will be installed throughout out the community to provide for central sewer service and will utilize a pump station and forcemain to convey the sewer flows to the existing AWI infrastructure for treatment and disposal at the AWI facilities. All facilities will be designed and constructed in accordance with AWI standards. Plans will be reviewed by AWI, Sussex County Engineering, and DNREC for approval related to the operation of the proposed wastewater collection, transmission, treatment, and disposal facilities.

9. Prevention of pollution of surface and groundwater.

   Erosion and sediment control will be designed and implemented in accordance with DNREC standards to ensure compliance with the Delaware Sediment and Stormwater Regulations (DSSR) to minimize the discharge of sediment laden runoff during site construction. Permanent stormwater facilities will be designed to control the runoff from the completed site in accordance with DNREC and SCD standards. Designs are anticipated to include the use of natural looking and functioning features including bio-swales, bio-retention, infiltration facilities, and/or extended detention wet pond facilities to allow the stormwater to receive pollutant removal prior to infiltration and/or discharge from the developed site.

10. Minimization of erosion and sedimentation, minimization of changes in groundwater levels, minimization of increased rates of runoff, minimization of potential for flooding and design of drainage so that the groundwater is maximized.

    Erosion and sediment control plans will be developed in accordance with regulatory requirements. Careful planning and construction phasing will allow the

contractor to minimize the area of disturbance at any given time in order to limit the potential for sediment issues on-site and the discharge of sediment laden runoff.

On-site stormwater facilities will be designed to filter and infiltrate or slowly release stormwater runoff to mimic pre-development conditions in order to minimize the impact to the receiving water bodies. Infiltration and/or slow release facilities will be employed in accordance with DNREC guidelines will help mimic recharge / discharge from the developed site for the Resource Protection Event Volume (RPv). Peak rate discharge from the developed site will be reduced to pre-development rates for the conveyance event (Cv) and flood event (Fv) rainfall events in accordance with the requirements of the DSSR.

11. Provision for safe vehicular and pedestrian movement within the site and to adjacent roadways.

Construction plans for the proposed site entrance will be designed in accordance with DelDOT requirements as established by DelDOT's Development Coordination Manual (DCM). The developer is anticipated to improve the portion of Cave Neck Road along the site frontage to establish the travel lane and shoulder widths in accordance roadway to current standards for the Minor Collector classification. Easement areas have been provided along the Cave Neck Road frontage for the installation of a sidewalk / shared use path in accordance with requirements of the DCM. All entrance plans and construction plans associated with the Cave Neck Road improvements will be designed in accordance with DelDOT requirements and approved by DelDOT prior to construction.

Construction plans for the interior private roads will be developed in accordance with the current requirements of the Sussex County Code and Sussex County Engineering. As both of the adjacent parcels located to the east and south are within the Agland Preservation Program, no interconnections are proposed by the Paradise Meadows project to either of these areas. Sidewalks are to be provided on both sides of all internal streets for enhanced pedestrian accessibility. Street lighting will also be provided along all private roads to promote safety within the development.

All private roads and community parking lot areas will be designed in accordance with Fire Marshal requirements to ensure adequate lane widths, emergency access, and any additional safety features for fire / rescue vehicular movement.

12. Effect on area property values.

The Paradise Meadows residential project has been designed as a cluster subdivision under the provisions allocated by the Sussex County Zoning Code. The proposed market rate single-family community should blend in well with the surrounding land uses surrounding the project site as the nearby areas include a

mixture of residential and residential uses, with surrounding properties comprised entirely of AR-1 Zoning classifications. The cluster development configuration and proposed lot sizes within the proposed Paradise Meadows community is similar in nature to the nearby Scenic Manor and Vincent Overlook projects to the northeast, and the Anthem and Holland Mills projects to the southwest.

The extension of water and sanitary sewer along Cave Neck Road is anticipated to have a positive impact on surrounding property values by providing direct access to public utilities.

13. Preservation and conservation of farmland.

The Paradise Meadows site is located between of the westerly boundary of the Coastal Area and the easterly boundary of the Municipal Boundary / Developing Area associated with the Town of Milton as shown in the Sussex County Zoning Map and Comprehensive Development Plan. Utilization of a cluster type development configuration at the Paradise Meadows site will allow for the efficient utilization of land adjacent to targeted growth areas, and reduce the development of agricultural areas outside of the growth areas.

14. Effect on schools, public buildings and community facilities.

The Paradise Meadows site is located within the Cape Henlopen School District (CHSD). Based on similar projects within the area, an estimate of one student per six dwelling units may be anticipated as a result of this project. The proposed 191 single-family lots would therefore result in an increase of approximately 32 students being introduced to the CHSD across all grade levels. It is anticipated that the children of Paradise Meadows would attend Milton Elementary School, Mariner Middle School, and Cape Henlopen High School based on current distribution patterns within the district. Coordination with the school district will occur throughout the plan approval process to determine necessary school bus stop location(s) to serve the residents of Paradise Meadows.

It is anticipated that additional local property taxes and the state contribution from income tax receipts will continue to support the school system to offset the impacts created by the additional student demand associated with this project.

15. Effect on area roadways and public transportation.

As noted in the PLUS review comments from DelDOT, the Paradise Meadows site qualifies for participation in the Area Wide Study fee program in lieu of performing a stand-alone Traffic Impact Study. Based on the proposed 191 single-family homes, an estimated 1,886 average daily trips will be added to the existing road network surrounding the project site site. Through the design review process with DelDOT, requirements for the developer to construct and/or make financial contributions to offsite projects will be determined.

The project area is not located along a current DART bus route. As such, there is no anticipated impact on public transportation at this time.

16. Compatibility with other area land uses.

The Paradise Meadows residential project has been designed as a AR-1 cluster subdivision under the provisions allocated by the Sussex County Zoning Code. The proposed single-family lots should blend in well with the surrounding land uses surrounding the project site as the area is comprised of a mixture of residential and agricultural uses, with surrounding properties comprised entirely of AR-1 Zoning classifications. The cluster development configuration and proposed lot sizes within the proposed Paradise Meadows project is similar in nature to the nearby Compass Point, Vincent Overlook, Anthem, and Holland Mills communities.

17. Effect on area waterways.

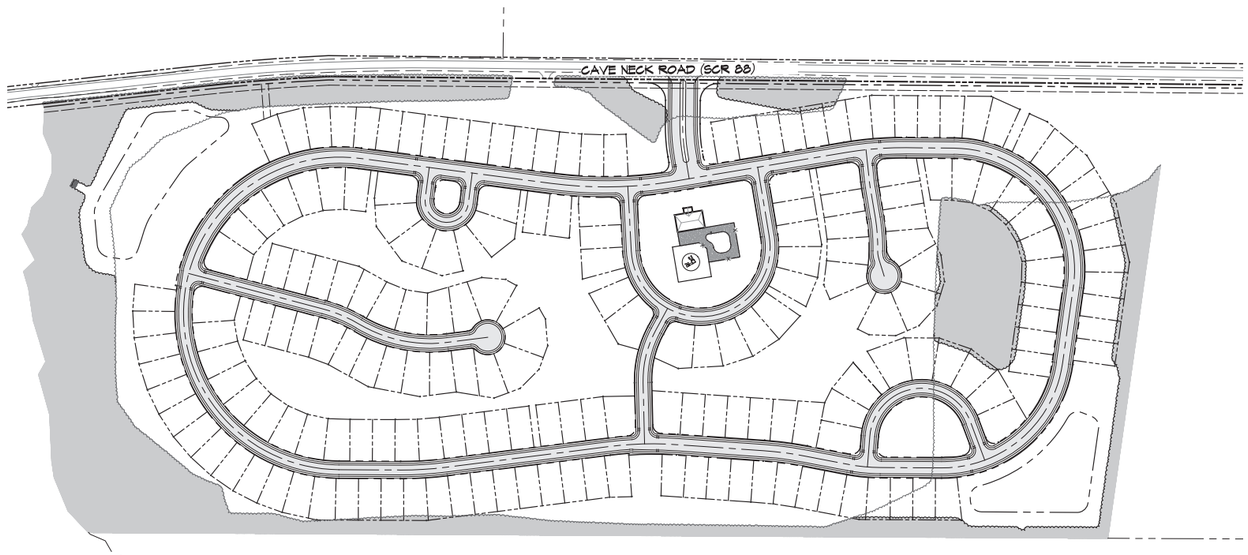
Erosion and sediment control measures will be implemented during construction in accordance with DNREC requirements to minimize impact to surrounding waterways during the construction process. It is anticipated that permanent stormwater management facilities will utilize extended detention to provide slow release of the runoff to mimic pre-development hydrology in accordance with the Delaware Sediment and Stormwater Regulations.

Runoff from uncontrolled agricultural uses is often heavily loaded with sediment, nitrogen, and phosphorus. The reduced loads as a result of the change in land use from agriculture to residential, coupled with the nutrient removal to be provided through the implementation of on-site stormwater facilities, will likely lead to improved quality of runoff from the developed site. As such, no negative impact to the area water ways is anticipated as a result of the proposed project.

Appendix 2 – Preliminary Plan

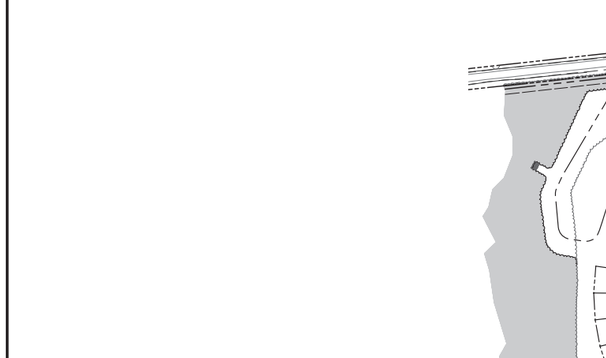
PARADISE MEADOWS

SUSSEX COUNTY, DELAWARE
PRELIMINARY PLANS
AR-1 CLUSTER
SUSSEX COUNTY PLANNING # 2022-03



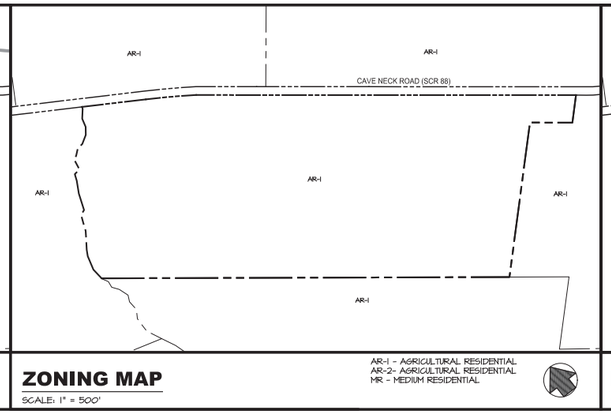
SITE OVERVIEW
SCALE: 1" = 200'

200 100 0 100 200 400
SCALE: 1" = 200'



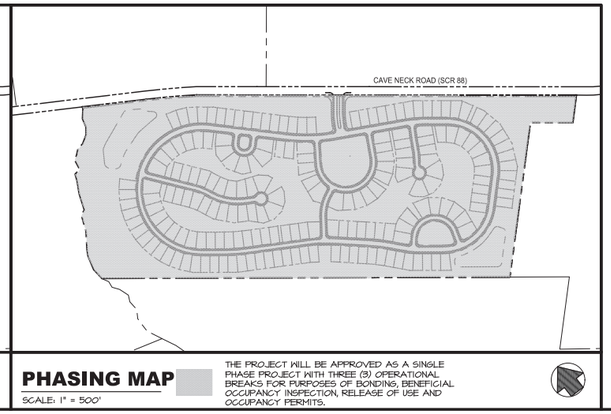
SOILS MAP
SCALE: 1" = 500'

EvD - EVESBORO LOAMY SAND
GoA - GLASSBORO LOAMY SAND
HrA - HENLOPEN-ROSEDALE COMPLEX
LO - LONSMARSH AND INDIANTOWN SOILS
RoA - ROSEDALE LOAMY SAND
RkA - ROCKAWALKIN LOAMY SAND



ZONING MAP
SCALE: 1" = 500'

AR-1 - AGRICULTURAL RESIDENTIAL
AR-2- AGRICULTURAL RESIDENTIAL
MR - MEDIUM RESIDENTIAL



PHASING MAP
SCALE: 1" = 500'

THE PROJECT WILL BE APPROVED AS A SINGLE PHASE PROJECT WITH THREE (3) OPERATIONAL BREAKS FOR PURPOSES OF BONDING, BENEFICIAL OCCUPANCY INSPECTION, RELEASE OF USE AND OCCUPANCY PERMITS.

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED R/W LINE
- PROPOSED LOT LINE
- PROPOSED BUILDING SETBACK LINE
- 44 EXISTING CONTOURS
- 44 PROPOSED CONTOURS
- PROPOSED LOT NUMBER
- EXISTING WOODLANDS LINE
- WOODLAND PRESERVATION LINE

PROJECT TEAM

DEVELOPER:
CNR LAND INVESTMENT, LLC
MR. JOHN RICHARDSON
260 HOPENELL ROAD
CHURCHVILLE, MD 21028

LAND PLANNERS, CIVIL ENGINEER:
MORRIS & RITCHIE ASSOCIATES, INC.
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DE 19720
ATTN: MR. PHILLIP L. TOLLIVER, P.E.

SURVEYOR:
MORRIS & RITCHIE ASSOCIATES, INC.
8 WEST MARKET STREET
GEORGETOWN, DE 19947
ATTN: MR. GARY POWERS

ENVIRONMENTAL CONSULTANT:
GEO-TECHNOLOGY ASSOCIATES, INC.
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ABINGDON, MD 21009
ATTN: MR. ANDY STANSFIELD

GEOTECHNICAL ENGINEER:
GEO-TECHNOLOGY ASSOCIATES, INC.
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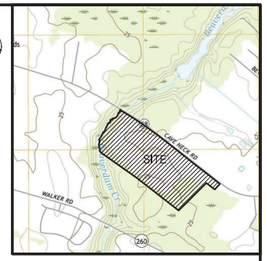
GEORGETOWN, DE 19947
ATTN: MR. GREG SAUTER

TRAFFIC CONSULTANT:
THE TRAFFIC GROUP
9900 FRANKLIN SQUARE DR. - SUITE H
BALTIMORE, MD 21236
ATTN: MR. JOE CALOGEERO, P.E.

ATTORNEY:
FUGUA, WILLARD, STEVENS & SCHAB, P.A.
20245 BAY VISTA ROAD #203
REHOBOTH BEACH, DE 19971
ATTN: MR. JAMES A. FUGUA, JR.

INDEX OF DRAWINGS



LOCATION MAP
SCALE: 1" = 2000'

OWNER CERTIFICATION

I, UNDERSIGNED, AS OWNER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

CHANCE CHASE, LLC — DATE

DEVELOPER CERTIFICATION

I, UNDERSIGNED, AS DEVELOPER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

MR. JOHN RICHARDSON — DATE
CNR LAND INVESTMENT, LLC

WETLANDS STATEMENT

GEO-TECHNOLOGY ASSOCIATES, INC. (GTA) HAS CONDUCTED A FIELD REVIEW WITHIN THE BOUNDARIES OF THIS PLAT TO EVALUATE THE PRESENCE OR ABSENCE OF POTENTIAL STATE AND FEDERAL JURISDICTIONAL WETLANDS FOR THE PURPOSES OF DELAWARE WETLAND AND SUBAQUEOUS LAND REGULATIONS AND SECTION 404 OF THE CLEAN WATER ACT. GTA'S REVIEW WAS CONDUCTED IN GENERAL ACCORDANCE WITH THE TECHNIQUES AND CRITERIA PROVIDED IN THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: ATLANTIC AND GULF COSTAL PLAIN REGION (VERSION 2.0), DATED NOVEMBER 2010. THE LIMITS OF THE WETLANDS WERE EVALUATED IN THE FIELD BY GTA PERSONNEL USING BEST PROFESSIONAL JUDGEMENT. NO WETLANDS OR WATERWAYS WERE OBSERVED WITHIN THE BOUNDARIES OF THIS PLAT. NO STATE OR FEDERAL JURISDICTIONAL APPROVAL WAS OBTAINED FOR THIS PROPERTY.

MATT JENNETTE — DATE
GEO-TECHNOLOGY ASSOCIATES, INC.

ENGINEER'S CERTIFICATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE AND THAT THE PLAN SHOWN AND DESCRIBED HEREON, IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED STANDARDS AND PRACTICES AND BY THE SUSSEX COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO THE EXTENT THAT IT DESCRIBES THE PROPOSED MANNER AND LAYOUT OF THE SUBDIVISION.

PHILLIP L. TOLLIVER, P.E. — DATE
DE LICENSE NO. #12484

PLAN APPROVALS

APPROVED BY: _____ DATE
CHAIRMAN OR SECRETARY
SUSSEX COUNTY PLANNING AND ZONING COMMISSION

APPROVED BY: _____ DATE
PRESIDENT
SUSSEX COUNTY PLANNING

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DELAWARE 19720
(302) 326-2200
FAX: (302) 326-2399
WWW.MRAGTA.COM

CHRISTOPHER J. FLATHERS — LICENSE — No. 14297 — DELAWARE — PROFESSIONAL ENGINEER
10/17/22
ENGINEER'S SEAL

TITLE SHEET
PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	JOB NO.: 21482
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	SCALE: AS NOTED
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 1 OF 9

CONSTRUCTION NOTES

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT (1-800-282-8555) AT LEAST (3) WORKING DAYS PRIOR TO EXCAVATION, TO HAVE EXISTING UNDERGROUND UTILITIES LOCATED AND MARKED.
2. ALL MATERIALS & WORKMANSHIP SHALL MEET THE STATE OF DELAWARE STANDARDS & SPECIFICATIONS.
3. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND PROJECT SPECIFICATIONS.
4. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:

A.	SCHIFF LAND DEVELOPMENT CO., LLC	302-398-8014
B.	SUSSEX COUNTY ENGINEERING DEPARTMENT	302-855-7718
C.	TIDEWATER UTILITIES	302-445-8880
D.	SUSSEX CONSERVATION DISTRICT	302-856-2105
G.	DNREC	302-856-5408
H.	COMCAST	804-562-3409
I.	DELAWARE ELECTRIC COOPERATIVE	302-344-5841
J.	DELMARVA POWER	678-831-2444
K.	MEDIACOM	804-562-3409
L.	VERIZON	302-422-1464

5. CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL RIGHT-OF-WAY LINES AND PROPERTY LINES TO HIS OWN SATISFACTION. ALL PROPOSED UTILITIES ARE TO BE CONSTRUCTED WITHIN THE ROADWAY OR EASEMENT RIGHT-OF-WAY. DISTURBED AREAS BEYOND THE EASEMENT LINES SHALL BE RESTORED IMMEDIATELY TO THEIR ORIGINAL CONDITION.
6. INFORMATION SHOWN HEREON IS BASED UPON GIS DATA OBTAINED THROUGH THE STATE OF DELAWARE GIS WEBSITE (FIRSTMAP-DELAWARE.OPENDATA.ARCGIS.COM) AND DOES NOT REPRESENT FIELD RUN TOPOGRAPHIC OR BOUNDARY SURVEY. SITE LAYOUT IS SUBJECT TO REVISION PENDING FIELD SURVEY.
7. EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. NO GUARANTEE IS MADE OR IMPLIED REGARDING THE ACCURACY OR COMPLETENESS THEREOF. CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF DEPTH, SIZE AND MATERIAL OF ALL UNDERGROUND UTILITIES TO HIS OWN SATISFACTION BEFORE BEGINNING ANY EXCAVATION OR UTILITY INSTALLATION. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL SHOWN OR NOT SHOWN EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITIES BE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE UTILITY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
8. DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE PERFORMED IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ALL WORK AREAS.
10. ROUGH GRADING SHALL BE COMPLETE PRIOR TO THE CONSTRUCTION OF WATER & SEWER SYSTEMS.
11. USE ONLY SUITABLE AND APPROVED GRANULAR MATERIAL IN ACCORDANCE WITH SECTION 209 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS AND REFERENCED BY SUSSEX COUNTY ORDINANCE 38 SECTION 5-05 EXCAVATION AND BACKFILL FOR PIPE TRENCHES SUBSECTION B MATERIALS
12. CONTRACTOR SHALL ADJUST TO FINISH GRADE AS NECESSARY ANY VALVE BOXES, MANHOLES, CATCH BASINS ETC., PRIOR TO PLACING PAVING.
13. CONTRACTOR SHALL PROVIDE STAKEOUT NECESSARY FOR THE INSTALLATION OF UTILITIES, STORMDRAINS, PAVING AND ALL OTHER SITE WORK INCLUDED IN THESE PLANS. ALL STAKEOUT WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE.
14. CONTRACTOR TO MAINTAIN MINIMUM OF 3.0 FEET OF COVER OVER ALL NEW WATER LINES AS MEASURED FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.
15. SEWER LINES SHALL HAVE MINIMUM VERTICAL CLEARANCE OF 18 INCHES FROM WATER MAINS AT CROSSINGS. MAINTAIN A 10 FOOT MINIMUM PLAN SEPARATION BETWEEN SEWER AND WATER MAINS. SEWER LINES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 12 INCHES FROM OTHER UTILITIES. IF THESE CLEARANCES CANNOT BE MAINTAINED, THEN PROVISIONS FOR PROPERLY ENCASING THE PIPE IN CONCRETE MUST BE PROVIDED.
16. LATERALS SHALL BE 6 INCHES IN DIAMETER, WITH VERTICAL CLEANOUTS OF 6 INCHES IN DIAMETER, AND TO HAVE A MINIMUM OF 3' OF COVER FROM SUSSEX COUNTY CLEANOUT TO MAIN LINE. CLEANOUTS SHALL BE LOCATED AT EDGE OF RIGHT-OF-WAY.
17. ALL GRAVITY SEWER PIPES SHALL BE PVC SDR 35. FOR PIPE SLOPES SEE FINAL CONSTRUCTION DRAWINGS FOR SANITARY SEWER PROFILES.
18. MATERIAL OF CONSTRUCTION FOR SEWER FORCE MAINS SHALL BE AS NOTED ON THE FINAL CONSTRUCTION DRAWINGS. FORCE MAIN SHALL BE INSTALLED AS PROFILED TO PREVENT FORMATION OF UNANTICIPATED HIGH POINTS IN THE INSTALLATION.
19. ALL SEWER LINES MUST BE SUCCESSFULLY TESTED ACCORDING TO SUSSEX COUNTY ORDINANCE 38, SECTION 5.04, E, 1-4, ON PAGE 515 THROUGH 518, ACCEPTANCE TESTING, PRIOR TO FINAL ACCEPTANCE.
20. ALL SANITARY SEWER SYSTEM CONSTRUCTION PERFORMED SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY ORDINANCE 38, THESE PLANS AND ALL APPLICABLE CONSTRUCTION PERMITS.
21. ALL DROP MANHOLES TO BE 5'-0" IN DIAMETER.
22. FITTINGS SHOWN ON THE PLANS ILLUSTRATE ANTICIPATED ANGLE OF DEFLECTION. THIS INFORMATION IS GIVEN FOR GENERAL INFORMATION AND IS NOT GUARANTEED. ACTUAL ANGLE MAY VARY DUE TO FIELD CONDITIONS. USE OF ADDITIONAL FITTINGS SHALL BE AUTHORIZED BY THE ENGINEER.
23. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS UNLESS WRITTEN APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.
24. ALL DISTURBED AREAS IN THE STATED RIGHT OF WAY, BUT NOT IN THE PAVEMENT SECTION MUST BE TOPSOILED (6" MINIMUM), FERTILIZED, MULCHED, AND SEEDED.
25. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE PLACED IN ACCORDANCE WITH THE M.U.T.C.D. MANUAL, MOST CURRENT EDITION.
26. ALL PROPOSED STORM DRAIN DESIGNATED AS "RCCP" IS TO BE REINFORCED CONCRETE CIRCULAR PIPE, MEETING AASHTO M-170 SPECIFICATIONS. SEE FINAL CONSTRUCTION PLAN & PROFILES FOR SPECIFIC PIPE CLASS.
27. ALL LENGTHS OF SANITARY SEWER PIPE ARE MEASURED HORIZONTALLY FROM CENTER LINES OF INLETS, MANHOLES OR FITTINGS. ALL LENGTHS OF STORM DRAIN PIPE ARE MEASURED HORIZONTALLY FROM EDGE OF STRUCTURE TO EDGE OF STRUCTURE. ACTUAL TRUE LENGTHS OF PIPES ARE TO BE DETERMINED IN THE FIELD.
28. WHERE SPECIFIED, HDPE STORM DRAIN PIPE SHALL BE ADS N-12 (SMOOTH INTERIOR) PIPE WITH ADS PRO-LINK KIT (BELL/BELL COUPLER) FOR WATER TIGHT CONNECTIONS. REFER TO PLAN AND PROFILES FOR MATERIALS USED.
29. ALL EMBEDMENT MATERIALS USED FOR BEDDING, HAUNCHING, AND INITIAL BACKFILL FOR HDPE PIPE SHALL CONFORM TO AASHTO SECTION 30 AND ASTM D-2321 AS PER MANUFACTURER INSTALLATION REQUIREMENTS. CONTRACTOR SHALL ENSURE THAT PROPER LINE AND GRADE IS ESTABLISHED WITHIN TRENCH BEDDING PRIOR TO PLACEMENT OF PIPE AND THAT PROPER MATERIALS ARE USED AND COMPACTION IS ACHIEVED DURING HAUNCHING AND INITIAL BACKFILL. A GEOTECHNICAL ENGINEER SHALL BE RETAINED TO VERIFY SUITABILITY OF MATERIALS USED AND PROPER COMPACTION. ANY DEVIATION IN LINE AND GRADE OR OBVIOUS JOINT SEPARATION SHALL BE CORRECTED PRIOR TO ESTABLISHMENT OF FINAL SUBGRADE AND PAVEMENT SURFACE. THE CONTRACTOR SHALL TAKE EVERY CARE TO ENSURE CORRECT PIPE INSTALLATION.
30. UNLESS OTHERWISE SPECIFIED ALL ROADWAY INLETS SHALL HAVE A TYPE 1 INLET GRATE AND TYPE S TOP UNIT PER DELDOT STANDARDS, CURRENT REVISION.
31. IT IS THE CONTRACTORS RESPONSIBILITY TO INSURE THAT PAVING IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE.

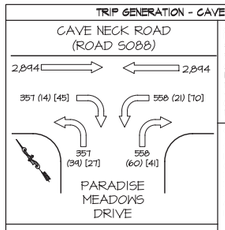
SUSSEX COUNTY CONSTRUCTION NOTES:

1. ROADWAY STAKEOUTS:
   - A. RIGHT-OF-WAY STAKES SHALL BE OFFSET A MINIMUM OF FIVE (5) FEET OUTSIDE THE RIGHT-OF-WAY.
   - B. STATION NUMBERS TO BE INDICATED ON EACH SIDE OF THE STAKE.
   - C. THE CENTERLINE ROADWAY CUT AND CUT-LINE SHALL BE LOCATED ON THE SIDE OF THE STAKE WHICH FACES THE CENTERLINE, ALSO A "CL" DESIGNATION SHALL BE INCLUDED.
   - D. THE SHALE CUT AND CUT-LINE SHALL BE INDICATED ON THE OUTSIDE OF THE STAKE, WHILE ALSO CONTAINING A "SH" DESIGNATION.
2. THE CONTRACTOR SHALL PROVIDE TWO (2) WORKING DAYS NOTICE TO THE COUNTY INSPECTOR PRIOR TO PAVING. AT THIS TIME, THE INSPECTOR MAY REQUIRE THE CONTRACTOR COMPLETE RELATED OR UNRELATED WORK ITEMS BEFORE PAVING MAY BEGIN.
3. SURFACE TREATMENT SHALL NOT BE APPLIED: (SURFACE TREATMENT NOT USED)
   - A. AFTER NOVEMBER 1 OR PRIOR TO APRIL 1; OR
   - B. WHEN THE TEMPERATURE IS BELOW 50° F; OR
   - C. ON ANY WET OR FROZEN SURFACE.
4. HOT MIX SHALL NOT BE APPLIED:
   - A. WHEN THE TEMPERATURE IS BELOW 40° F; OR
   - B. ON ANY WET OR FROZEN SURFACE.
5. FOR ALL WOODED AREAS, A SUFFICIENT AREA BEYOND THE RIGHT-OF-WAY SHALL BE CLEARED AND GRUBBED TO ALLOW PROPER GRADING OF THE ROADWAY SHALE BACKSLOPES.
6. ALL DISTURBED AREAS MUST BE STABILIZED WITH 4 INCHES OF TOPSOIL, SEED, AND MULCH.

DELDOT RECORD PLAN NOTES:

1. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL AND SHALL BE SUBJECT TO ITS APPROVAL.
2. NO LANDSCAPING SHALL BE ALLOWED WITHIN THE RIGHT-OF-WAY UNLESS THE PLANS ARE COMPLIANT WITH SECTION 3.7 OF THE DEVELOPMENT COORDINATION MANUAL.
3. SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
4. UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHARED-USE PATH ACROSS THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS, OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRASS. SUCH ACTIONS SHALL BE COMPLETED AT DELDOT'S DISCRETION, AND IN CONFORMANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
5. PRIVATE STREETS CONSTRUCTED WITHIN THIS SUBDIVISION SHALL BE MAINTAINED BY THE DEVELOPER, THE PROPERTY OWNERS WITHIN THIS SUBDIVISION OR BOTH (TITLE 17 §131). DELDOT ASSUMES NO RESPONSIBILITIES FOR THE FUTURE MAINTENANCE OF THESE STREETS.
6. THE SIDEWALK AND SHARED-USE PATH SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, THE PROPERTY OWNERS OR BOTH WITHIN THIS SUBDIVISION. THE STATE OF DELAWARE ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THE SIDEWALK AND/OR SHARED-USE PATH.
7. ALL LOTS SHALL HAVE ACCESS FROM THE INTERNAL SUBDIVISION STREET.
8. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MONUMENTS IN ACCORDANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
9. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MARKERS TO PROVIDE A PERMANENT REFERENCE FOR RE-ESTABLISHING THE RIGHT-OF-WAY AND PROPERTY CORNERS ON LOCAL AND HIGHER ORDER FRONTAGE ROADS. RIGHT-OF-WAY MARKERS SHALL BE SET AND/OR PLACED ALONG THE FRONTAGE ROAD RIGHT-OF-WAY AT PROPERTY CORNERS AND AT EACH CHANGE IN RIGHT-OF-WAY ALIGNMENT IN ACCORDANCE WITH SECTION 3.2.4.2 OF THE DEVELOPMENT COORDINATION MANUAL.

TRIP GENERATION - CAVE NECK ROAD SO88 (FULL MOVEMENT)



TRAFFIC GENERATION DIAGRAM
TRIPS PER DAY (VEHICLES IN A.M.) [P.M. PEAK HOUR]

ROAD TRAFFIC DATA:

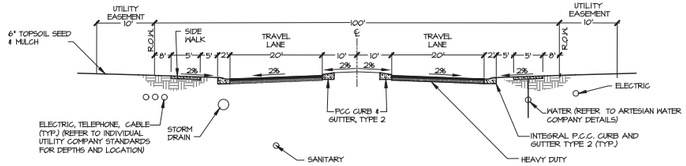
FUNCTIONAL CLASSIFICATION - MINOR COLLECTOR
POSTED SPEED LIMIT - 50 MPH
AADT = 4,894 (FROM 2021 DELDOT TRAFFIC SUMMARY)
10 YEAR PROJECTED AADT = 1.18 X 4,894 TRIPS = 5,386 TRIPS
TRAFFIC PATTERN GROUP - 7 (FROM 2021 DELDOT TRAFFIC SUMMARY)
K-FACTOR = 16.4
D-FACTOR = 60.9
TRUCK & - SINGLE UNIT = 10.8% COMBO UNIT =1.8%

SITE TRIPS GENERATED:

SOURCE: ITE TRIP GENERATION MANUAL 11TH EDITION.
141 SINGLE FAMILY DETACHED HOUSING (210) = 1,830 ADT (OVERALL)
ONE ENTRANCE - FULL MOVEMENT
DESIGN VEHICLE: SU-30, WB-40
DIRECTIONAL DISTRIBUTION:
39% TO AND FROM THE WEST ADT = 714 TRIPS (357 ENTER / 357 EXIT)
61% TO AND FROM THE EAST ADT = 1,116 TRIPS (558 ENTER / 558 EXIT)
141 SINGLE FAMILY DETACHED HOUSING (210) = 134 (AM) (35 ENTER, 99 EXIT)
183 (PM) (115 ENTER, 68 EXIT)
39% TO AND FROM THE WEST AM = 52 TRIPS (14 ENTER / 39 EXIT)
39% TO AND FROM THE WEST PM = 71 TRIPS (45 ENTER / 27 EXIT)
61% TO AND FROM THE EAST AM = 82 TRIPS (21 ENTER / 60 EXIT)
61% TO AND FROM THE EAST PM = 112 TRIPS (70 ENTER / 41 EXIT)

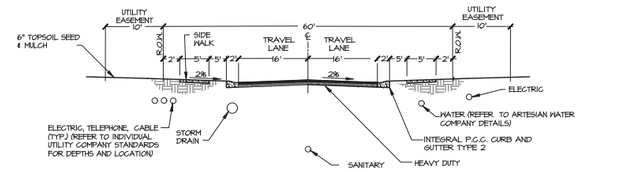
GENERAL NOTES:

1. SUBDIVISION STREETS ARE TO REMAIN PRIVATE AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH SUSSEX COUNTY REGULATIONS.
2. MAINTENANCE OF THE STREET WITHIN THIS SUBDIVISION WILL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION, THE STATE AND SUSSEX COUNTY ASSUME NO RESPONSIBILITY FOR FUTURE MAINTENANCE OF THE STREETS.
3. ACCESS TO ALL LOTS IS TO BE FROM SUBDIVISION STREETS OR DRIVE ACCESS LOOPS.
4. MAINTENANCE OF THE STORM WATER MANAGEMENT AREAS WILL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION.
5. THE PROPOSED ENTRANCES/EXITS ARE CONCEPTUAL ONLY AND ARE SUBJECT TO REVIEW AND APPROVAL BY THE DELAWARE DEPARTMENT OF TRANSPORTATION BEFORE A CONSTRUCTION PERMIT IS ISSUED.
6. THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANHOLE, AND OTHER ODORS, THE USE AN ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON THE ACCEPTANCE OF ANY ANNOYING OR INCONVENIENCE WHICH MAY RESULT FROM SUCH NORMAL AGRICULTURAL USES AND ACTIVITIES.
7. MAINTENANCE OF ALL OPEN SPACE AREAS AND ASSOCIATED LANDSCAPING, INCLUDING FORESTED/LANDSCAPE BUFFERS SHALL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION.
8. NO DEED RESTRICTIONS ARE PROPOSED BY THIS PLAN.



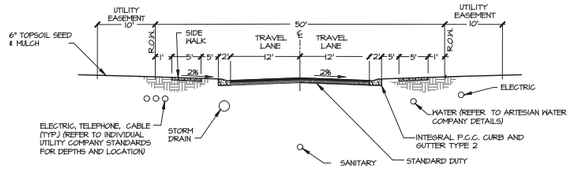
TYPICAL ENTRANCE BOULEVARD - 100' R.O.W.

NOT TO SCALE



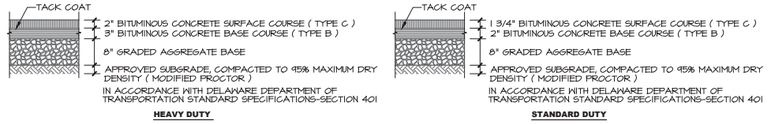
TYPICAL ROAD SECTION - 60' R.O.W.

NOT TO SCALE



TYPICAL ROAD SECTION - 50' R.O.W.

NOT TO SCALE



PAVING SECTIONS

NOT TO SCALE

PROJECT PHASING

PHASE I - 5 YEARS

TOTAL PROJECT BUILDOUT - 5 YEARS
ESTIMATED PROJECT COMPLETION DATE - JANUARY 2026

THE PROJECT IS TO BE APPROVED AS A SINGLE PHASE PROJECT, WITH FOUR (4) OPERATIONAL BREAKS FOR PURPOSES OF BONDING, BENEFICIAL OCCUPANCY INSPECTION, AND RELEASE OF USE & OCCUPANCY PERMITS.

SITE DATA

1. PROJECT NAME: CAVE NECK ROAD
2. TAX PARCEL: 235-21.00-182.00
3. SITE ADDRESS: CAVE NECK ROAD
   LEWES, DE 19968
4. OWNER INFORMATION: CHANCE CHASE LLC
   16743 ISLAND FARM LANE
   MILTON, DE 19968
5. DEVELOPER: CNR LAND INVESTMENT, LLC
   ATTN: MR. JOHN RICHARDSON
   260 HOPEWELL ROAD
   CHURCHVILLE, MD 21028
6. ZONING:
   EXISTING: AR-1
   PROP. ZONING: AR-1
7. DEVELOPMENT OPTION: AR-1 - CLUSTER DESIGN
8. SITE ACREAGE: 45.87 AC. ±
9. LAND USE:
   EXISTING: AGRICULTURAL
   PROPOSED: RESIDENTIAL - SINGLE FAMILY DETACHED
10. MIN. LOT AREA 7,500 SF
11. BULK AREA STANDARDS (AR-1 CLUSTER DEVELOPMENT OPTION)

MIN. FRONT YARD	25'
MIN. FRONT/SIDE(CORNER LOT)	15'
MIN. SIDE YARD	10'
MIN. REAR YARD	10'
MIN. LOT WIDTH	60'
MIN. LOT AREA	7,500 SF
MAX. BLDG. HT.:	42'
MIN. OPEN SPACE:	30%
MAX. DENSITY:	2 D.U./AC.

12. DEVELOPMENT DENSITY COMPUTATIONS:

GROSS SITE AREA:

BASE SITE AREA:	45.87 AC. ±
TIDAL WETLANDS	0 AC. ±
GROSS SITE AREA:	45.87 AC. ±

ALLOWABLE DWELLING UNITS:
GROSS SITE AREA / 21,870 = ALLOWABLE D.U.
45.87 AC (43,560 SF) / 21,780 D.U. / AC. = 191.74 D.U.

PROPOSED DENSITY:
141 D.U. / 45.87 AC. ± = 1.99 D.U./AC.

13. SITE AREA BREAKDOWN:

RESIDENTIAL LOTS =	37.96 AC. ±
DELDOT R.O.W. =	0.82 AC. ±
PRIVATE R.O.W. =	13.05 AC. ±
PUMP STATION * =	0.19 AC. ±
OPEN SPACE =	43.85 AC. ±
TOTAL SITE ACREAGE =	45.87 AC. ±

14. FOREST COVER:

EXISTING FOREST =	23.56 AC. ±
FOREST TO BE CLEARED =	8.48 AC. ±
PROPOSED FOREST REMAINING:	15.08 AC. ± (64.0%)

15. OPEN SPACE AREAS:

REQUIRED (SECTION 115-25B.(2)):
30% X 45.87 AC ± = 28.76 AC.±

PROPOSED: 43.85 AC. ±
43.85 AC. ± / 45.87 AC. ± = 45.7 %

16. WATER SERVICE: PUBLIC (ARTESIAN)
17. SANITARY SEWER: PUBLIC (ARTESIAN)
18. PROPOSED LOTS: 141 SINGLE FAMILY LOTS
19. PARKING ANALYSIS*:

PARKING REQUIRED:	141 SFD X 2 SP/DU = 282 SP
PARKING PROVIDED:	141 SFD X 2 SP/DU = 282 SP

*NOTE: PARKING ANALYSIS PROVIDED FOR RESIDENTIAL LOT AREAS ONLY; ANALYSIS FOR ACTIVE RECREATION / CLUBHOUSE AREA TO BE INCLUDED AS PART OF SITE PLAN PACKAGE TO BE PROVIDED UNDER SEPARATE COVER.

20. WETLANDS INFORMATION SHOWN HEREON IS BASED UPON THE FIELD DELINEATION PERFORMED BY GEO-TECHNOLOGY ASSOCIATES, INC. (GTA, DATED MAY 25, 2022. BASED UPON THIS INFORMATION, THE SITE CONTAINS JURISDICTIONAL NON-TIDAL WETLANDS AND "WATERS OF THE U.S.". NO TIDAL WETLANDS ARE LOCATED WITHIN THE PROJECT AREA.
21. NO CHURCHES, SCHOOLS, OR COMMERCIAL USE AREAS PROPOSED ON THIS SITE.
22. PROJECT SITE IS NOT LOCATED AN ESTABLISHED TRANSPORTATION IMPROVEMENT DISTRICT (TID)
23. THE PROJECT AREA IS LOCATED WITHIN AREAS OF "FAIR" AND "GOOD" RECHARGE POTENTIAL BASED UPON CURRENT DNREC MAPPING. THE PROJECT ARE DOES NOT CONTAIN ANY WELLHEADS OR WELLHEAD PROTECTION AREAS BASED UPON CURRENT DNREC MAPPING.
24. PROJECT SITE IS LOCATED WITHIN "LOW DENSITY AREA" PER SUSSEX COUNTY'S 2018 COMPREHENSIVE PLAN UPDATE.
25. ALL OPEN SPACE AREAS NOTED ON PLAN ARE TO BE OWNED AND MAINTAINED BY THE PARADISE MEADOWS COMMUNITY ASSOCIATED, AND ARE INTENDED TO REMAIN PRIVATE AREAS FOR COMMON USE BY THE PROPERTY OWNERS WITHIN THE SUBDIVISION.

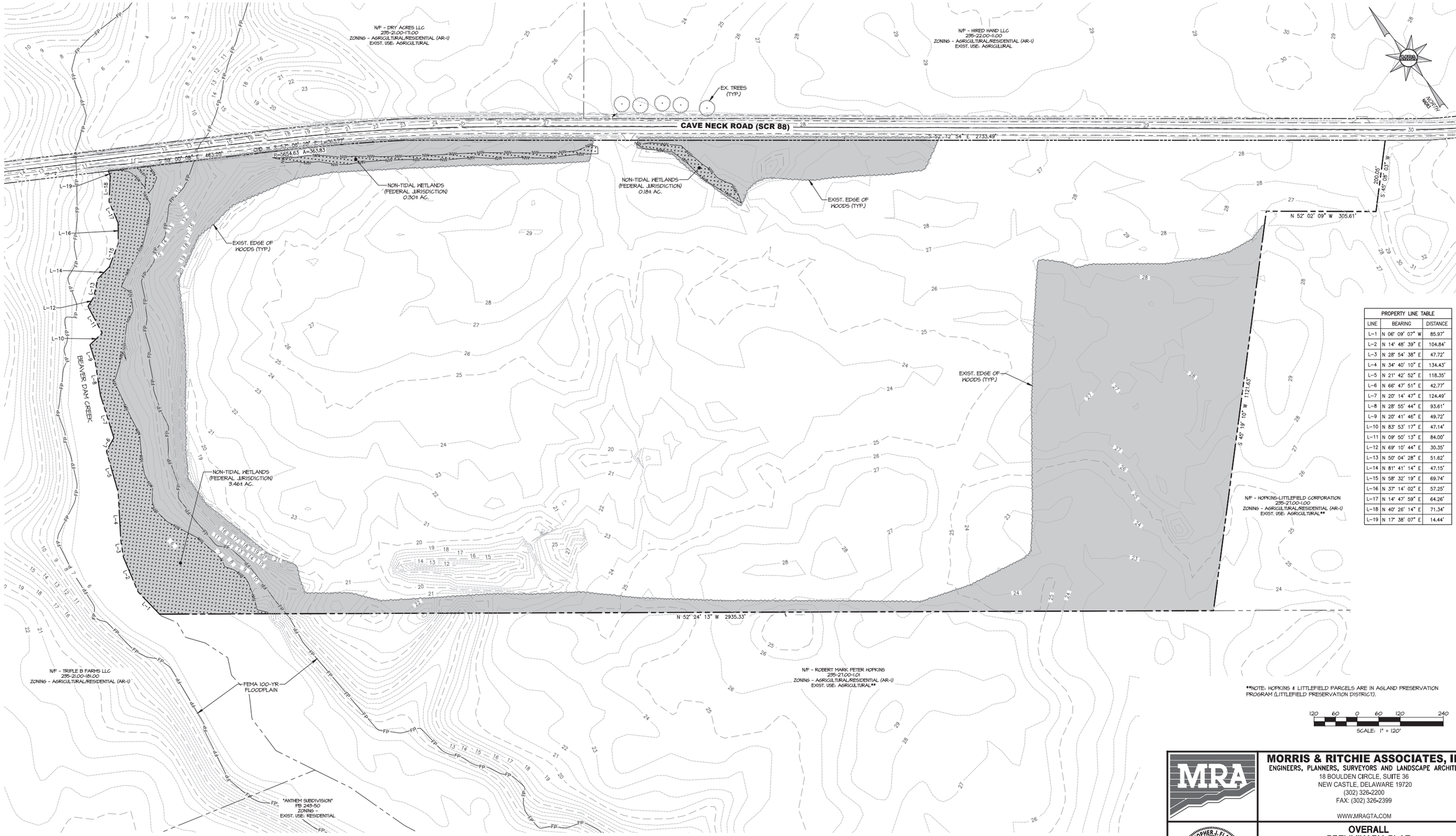
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DELAWARE 19720
(302) 326-2200
FAX: (302) 326-2399
WWW.MRAGTA.COM

CHRISTOPHER J. FLATLEY LICENSE No. 14707 DELAWARE PROFESSIONAL ENGINEER 10/17/22
ENGINEER'S SEAL

GENERAL NOTES & DETAILS
PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROAD KILL HUNDRED SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	JOB NO.: 21482
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	SCALE: AS NOTED
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 2 OF 9



PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-1	N 06° 09' 07" W	85.97'
L-2	N 14° 48' 39" E	104.84'
L-3	N 28° 54' 38" E	47.72'
L-4	N 34° 40' 10" E	134.43'
L-5	N 21° 42' 52" E	118.35'
L-6	N 66° 47' 51" E	42.77'
L-7	N 20° 14' 47" E	124.49'
L-8	N 28° 55' 44" E	93.61'
L-9	N 20° 41' 46" E	49.72'
L-10	N 83° 53' 17" E	47.14'
L-11	N 09° 50' 13" E	84.00'
L-12	N 69° 10' 44" E	30.35'
L-13	N 50° 04' 28" E	51.62'
L-14	N 81° 41' 14" E	47.15'
L-15	N 58° 32' 19" E	69.74'
L-16	N 37° 14' 02" E	57.25'
L-17	N 14° 47' 59" E	64.26'
L-18	N 40° 26' 14" E	71.34'
L-19	N 17° 38' 07" E	14.44'

**NOTE: HOPKINS & LITTLEFIELD PARCELS ARE IN AGLAND PRESERVATION PROGRAM (LITTLEFIELD PRESERVATION DISTRICT).

120 60 0 60 120 240
SCALE: 1" = 120'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE

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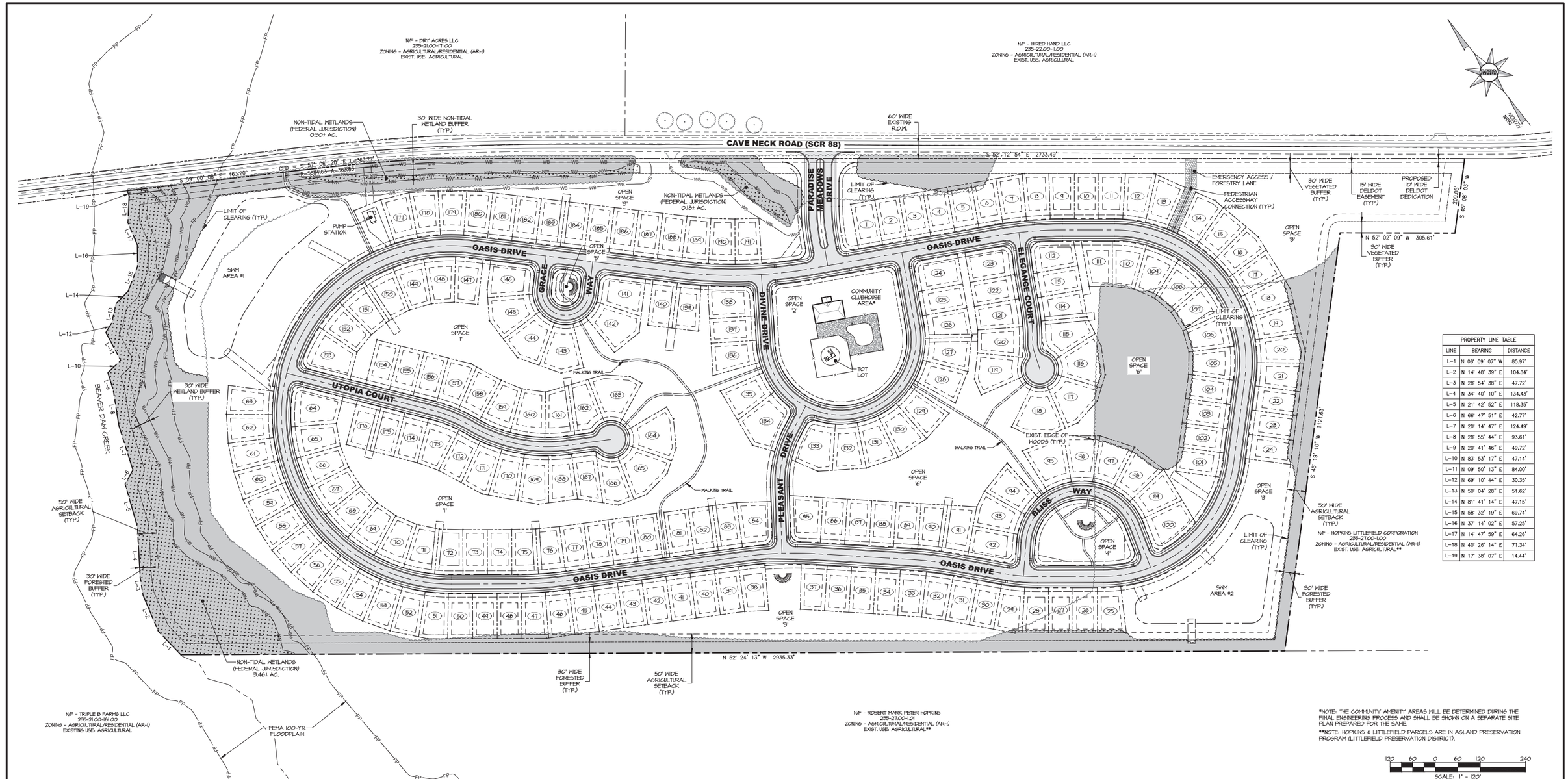
CHRISTOPHER J. FLAHERTY LICENSED No. 14707 DELAWARE PROFESSIONAL ENGINEER 10/17/22
ENGINEER'S SEAL

OVERALL PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROAD KILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	JOB NO.: 21482
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	SCALE: 1" = 120'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 3 OF 9



PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-1	N 06° 09' 07" W	85.97'
L-2	N 14° 48' 39" E	104.84'
L-3	N 28° 54' 38" E	47.72'
L-4	N 34° 40' 10" E	134.43'
L-5	N 21° 42' 52" E	118.35'
L-6	N 66° 47' 51" E	42.77'
L-7	N 20° 14' 47" E	124.49'
L-8	N 28° 55' 44" E	93.61'
L-9	N 20° 41' 46" E	49.72'
L-10	N 83° 53' 17" E	47.14'
L-11	N 09° 50' 13" E	84.00'
L-12	N 69° 10' 44" E	30.35'
L-13	N 50° 04' 28" E	51.62'
L-14	N 81° 41' 14" E	47.15'
L-15	N 58° 32' 19" E	69.74'
L-16	N 37° 14' 02" E	57.25'
L-17	N 14° 47' 59" E	64.26'
L-18	N 40° 26' 14" E	71.34'
L-19	N 17° 38' 07" E	14.44'

*NOTE: THE COMMUNITY AMENITY AREAS WILL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.

**NOTE, HOPKINS & LITTLEFIELD PARCELS ARE IN AGLAND PRESERVATION PROGRAM (LITTLEFIELD PRESERVATION DISTRICT).

120 60 0 60 120 240

SCALE: 1" = 120'

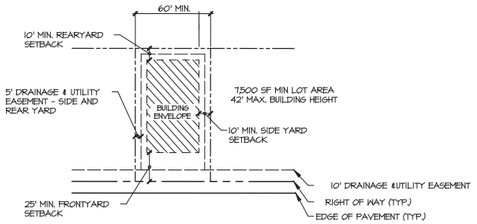
LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE

PROPOSED OPEN SPACE SUMMARY

AREA	TOTAL AREA (AC. ±)	SWM FACILITIES (AC. ±)	ACTIVE OPEN SPACE (AC. ±)	PASSIVE OPEN SPACE* (AC. ±)
1	6.53	0	0.15	6.38
2	2.44	0	2.44	0.00
3	28.57	3.15	0.06	28.51
4	0.85	0	0.85	0.00
5	0.15	0	0.15	0.00
6	5.31	0	0.07	5.24
TOTAL	43.85	3.15	3.72	40.13

*NOTE, PASSIVE OPEN SPACE AREA ACREAGE ARE INCLUSIVE OF SWM FACILITY ACREAGE, WHERE APPLICABLE.



TYPICAL LAYOUT SINGLE FAMILY LOT (VARIABLE WIDTHS)

NOT TO SCALE

MORRIS & RITCHIE ASSOCIATES, INC.
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NEW CASTLE, DELAWARE 19720
(302) 326-2200
FAX: (302) 326-2399
WWW.MRAGTA.COM

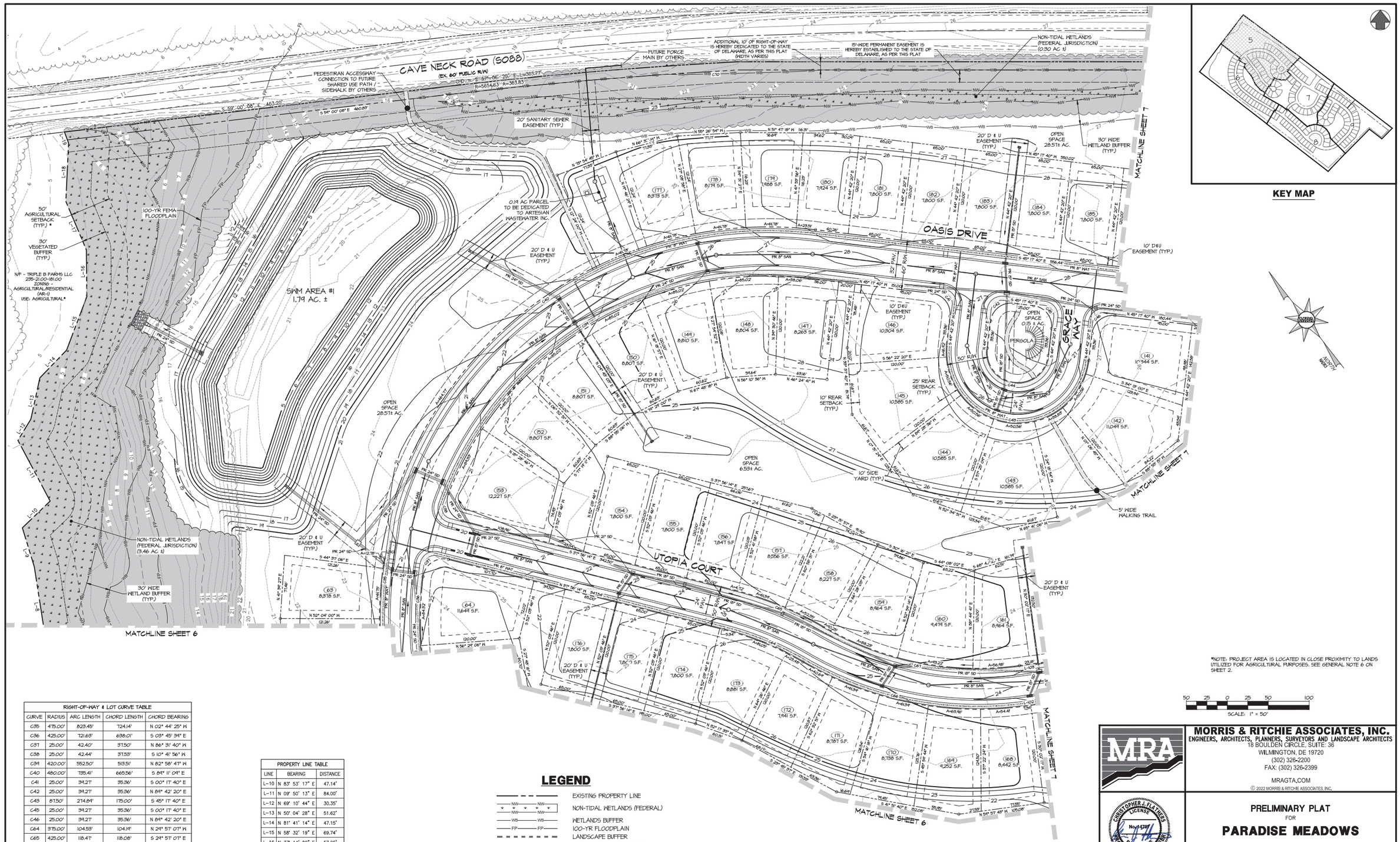
CHRISTOPHER J. FLYNN LICENSE No. 14787 DELAWARE PROFESSIONAL ENGINEER 10/27/22

ENGINEER'S SEAL

OVERALL PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROAD KILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1" = 150'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 4 OF 9



*NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

SCALE: 1" = 50'

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C35	475.00'	823.45'	724.14'	N 02° 44' 25" W
C36	425.00'	721.63'	638.01'	S 03° 45' 34" E
C37	25.00'	42.40'	37.50'	N 86° 31' 40" W
C38	25.00'	42.44'	37.53'	S 10° 41' 56" W
C39	420.00'	552.50'	513.51'	N 82° 58' 47" W
C40	480.00'	735.41'	665.56'	S 84° 11' 09" E
C41	25.00'	39.27'	35.36'	S 00° 17' 40" E
C42	25.00'	39.27'	35.36'	N 84° 42' 20" E
C43	87.50'	274.84'	175.00'	S 45° 17' 40" E
C45	25.00'	39.27'	35.36'	S 00° 17' 40" E
C46	25.00'	39.27'	35.36'	N 84° 42' 20" E
C64	375.00'	104.58'	104.18'	N 24° 57' 07" W
C65	425.00'	118.41'	118.08'	S 24° 57' 07" E
C66	425.00'	281.84'	276.70'	N 40° 57' 51" W
C67	375.00'	248.68'	244.15'	S 40° 57' 51" E

RIGHT-OF-WAY & LOT LINE TABLE		
LINE	BEARING	DISTANCE
L-101	N 43° 04' 38" W	5.00'
L-102	S 54° 57' 43" E	61.16'
L-103	S 54° 57' 43" E	61.16'

PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-10	N 83° 53' 17" E	47.14'
L-11	N 09° 50' 13" E	84.00'
L-12	N 69° 10' 44" E	30.35'
L-13	N 50° 04' 28" E	51.62'
L-14	N 81° 41' 14" E	47.15'
L-15	N 58° 32' 19" E	69.74'
L-16	N 37° 14' 02" E	57.25'
L-17	N 14° 47' 59" E	64.26'
L-18	N 40° 26' 14" E	71.34'
L-19	N 17° 38' 07" E	14.44'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- LINE OF SIGHT
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

MORRIS & RITCHIE ASSOCIATES, INC.
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18 BOULDEN CIRCLE, SUITE: 36
WILMINGTON, DE 19720
(302) 326-2200
FAX: (302) 326-2399
MRAGTA.COM

CHRISTOPHER J. FLATTERS LICENSE No. 14787 DELAWARE PROFESSIONAL ENGINEER 10/31/22

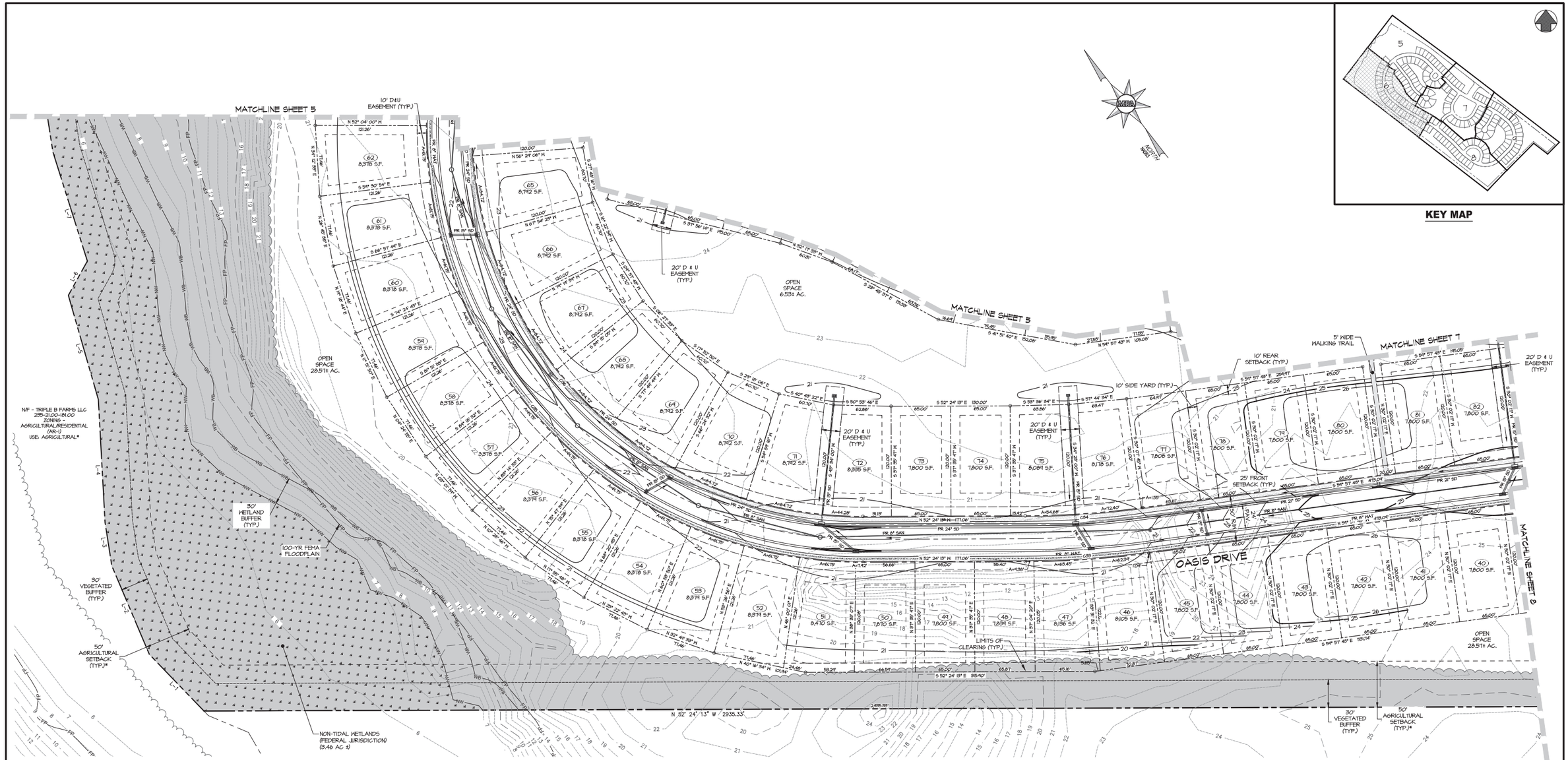
ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 5 OF 9

PLAT



*NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C33	1025.00'	135.22'	135.12'	N 56° 10' 58" W
C34	975.00'	128.62'	128.53'	S 56° 10' 58" E
C35	475.00'	823.45'	724.14'	N 02° 44' 25" W
C36	425.00'	721.63'	636.01'	S 03° 45' 34" E

PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L-1	N 06° 09' 07" W	85.97'
L-2	N 14° 48' 39" E	104.84'
L-3	N 28° 54' 38" E	47.72'
L-4	N 34° 40' 10" E	134.43'
L-5	N 21° 42' 52" E	118.35'
L-6	N 66° 47' 51" E	42.77'
L-7	N 20° 14' 47" E	124.49'
L-8	N 28° 55' 44" E	93.61'
L-9	N 20° 41' 46" E	49.72'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED STORMWATER MANAGEMENT AREA
- LINE OF SIGHT
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

PLAT

MORRIS & RITCHIE ASSOCIATES, INC.
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MRAGTA.COM

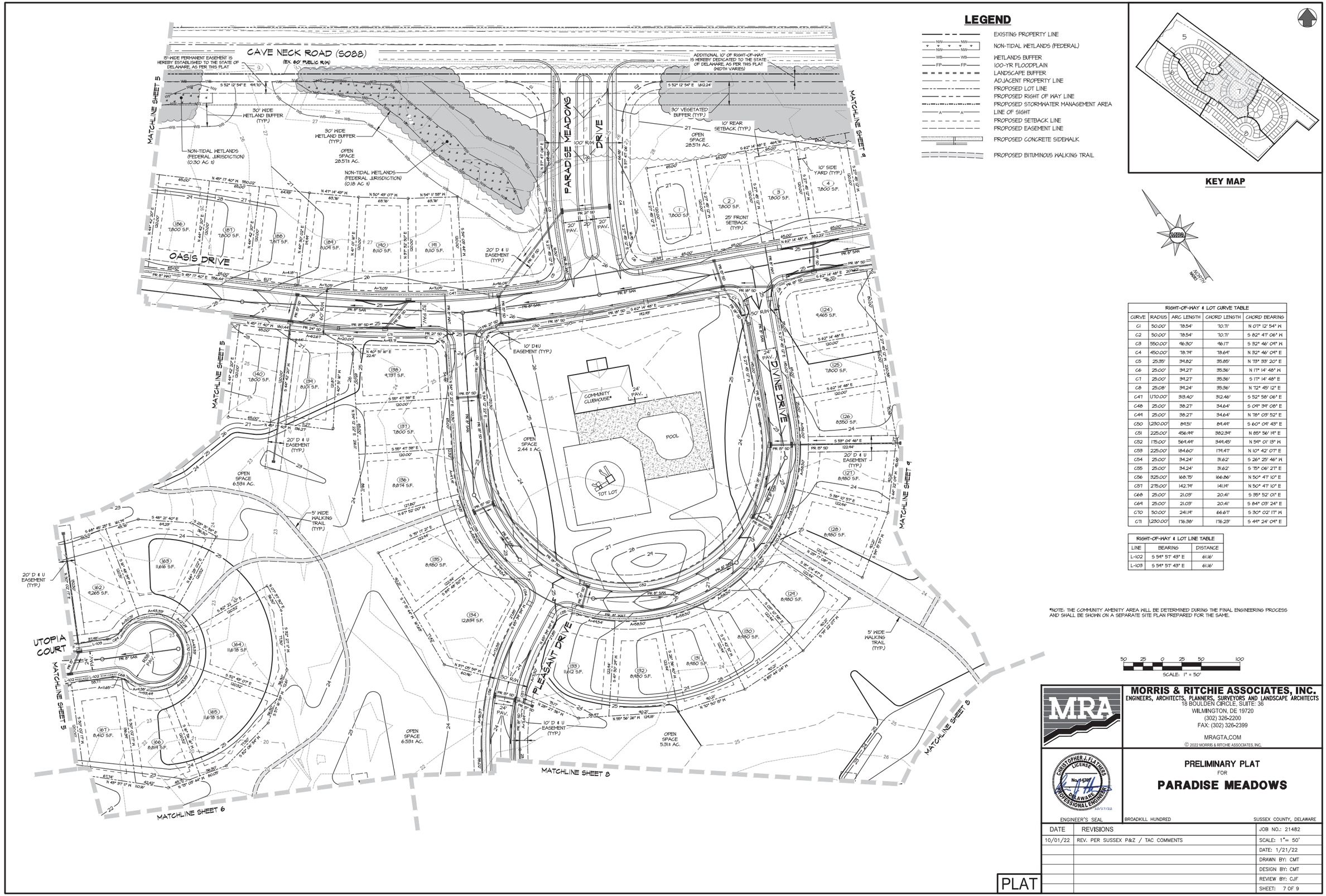
CHRISTOPHER J. FLANNERY LICENSE No. 14787 DELAWARE PROFESSIONAL ENGINEER 10/17/22

ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 6 OF 9



LEGEND

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- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
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- LINE OF SIGHT
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

KEY MAP

NORTH NAD83

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	50.00'	78.54'	70.71'	N 07° 12' 54" W
C2	50.00'	78.54'	70.71'	S 82° 47' 06" W
C3	550.00'	96.30'	96.17'	S 32° 46' 09" W
C4	450.00'	78.78'	78.68'	N 32° 46' 09" E
C5	25.35'	34.82'	35.85'	N 73° 33' 20" E
C6	25.00'	39.27'	35.36'	N 17° 14' 48" W
C7	25.00'	39.27'	35.36'	S 17° 14' 48" E
C8	25.08'	39.24'	35.36'	N 72° 45' 12" E
C47	1,170.00'	313.40'	312.46'	S 52° 58' 06" E
C48	25.00'	38.27'	34.64'	S 09° 39' 08" E
C49	25.00'	38.27'	34.64'	N 78° 09' 52" E
C50	1,230.00'	84.51'	84.44'	S 60° 09' 43" E
C51	225.00'	456.98'	382.39'	N 85° 56' 19" E
C52	175.00'	569.49'	344.45'	N 59° 01' 13" W
C53	225.00'	184.60'	179.47'	N 10° 42' 07" E
C54	25.00'	34.24'	31.62'	S 26° 25' 46" W
C55	25.00'	34.24'	31.62'	S 75° 06' 27" E
C56	325.00'	168.75'	166.86'	N 50° 47' 10" E
C57	275.00'	142.78'	141.19'	N 50° 47' 10" E
C68	25.00'	21.03'	20.41'	S 35° 52' 01" E
C69	25.00'	21.03'	20.41'	S 84° 03' 24" E
C70	50.00'	241.19'	66.67'	S 30° 02' 17" W
C71	1,230.00'	176.38'	176.23'	S 48° 24' 09" E

RIGHT-OF-WAY & LOT LINE TABLE		
LINE	BEARING	DISTANCE
L-102	S 54° 57' 43" E	61.16'
L-103	S 54° 57' 43" E	61.16'

*NOTE: THE COMMUNITY AMENITY AREA WILL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.

SCALE: 1" = 50'

MORRIS & RITCHIE ASSOCIATES, INC.
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CHRISTOPHER J. FLATER LICENSE No. 17287 DELAWARE PROFESSIONAL ENGINEER 10/17/22

ENGINEER'S SEAL

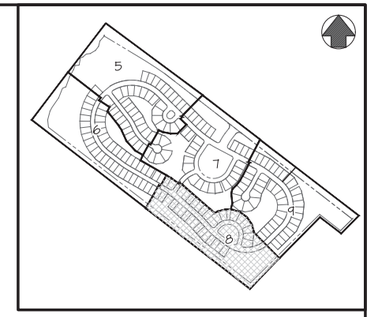
PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

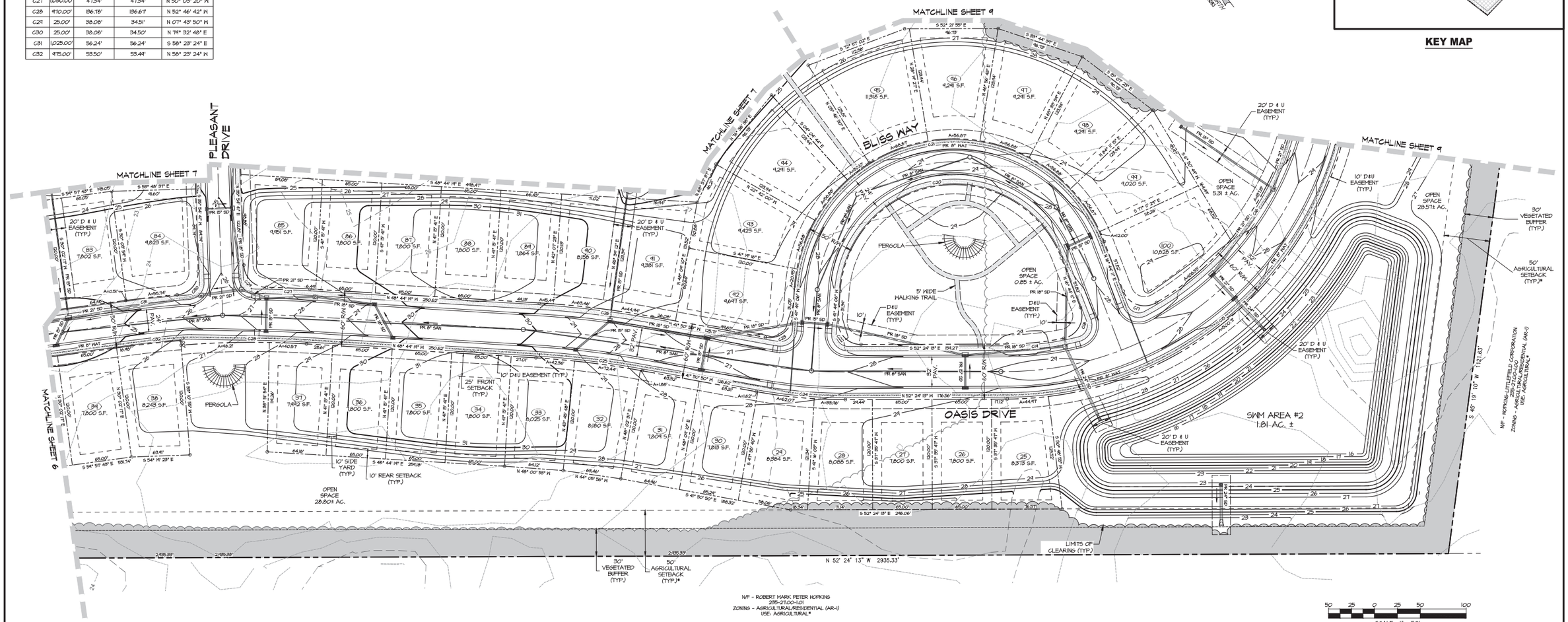
DATE	REVISIONS	
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	JOB NO.: 21482
		SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 7 OF 9

PLAT

RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C15	380.00'	545.68'	499.94'	S 86° 27' 24" W
C16	320.00'	288.52'	278.84'	S 71° 08' 56" W
C17	25.00'	43.53'	38.23'	N 33° 08' 33" W
C18	25.00'	43.53'	38.23'	N 66° 36' 56" E
C19	320.00'	62.00'	61.91'	S 57° 57' 16" E
C20	125.00'	337.48'	244.04'	N 60° 43' 21" W
C21	175.00'	473.17'	341.65'	N 60° 43' 21" W
C22	25.00'	41.11'	36.63'	S 05° 17' 33" E
C23	25.00'	42.03'	37.25'	S 84° 54' 08" W
C24	530.00'	471.65'	471.51'	N 47° 07' 31" W
C25	970.00'	116.67'	116.60'	N 45° 17' 35" W
C26	1,030.00'	123.84'	123.81'	N 45° 17' 35" W
C27	1,030.00'	47.34'	47.34'	N 50° 03' 20" W
C28	970.00'	136.78'	136.67'	N 52° 46' 42" W
C29	25.00'	38.08'	34.51'	N 07° 43' 50" W
C30	25.00'	38.08'	34.50'	N 74° 32' 48" E
C31	1,025.00'	56.24'	56.24'	S 58° 23' 24" E
C32	975.00'	53.50'	53.49'	N 58° 23' 24" W



KEY MAP



50 25 0 25 50 100
SCALE: 1" = 50'

*NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
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PLAT

MORRIS & RITCHIE ASSOCIATES, INC.
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WILMINGTON, DE 19720
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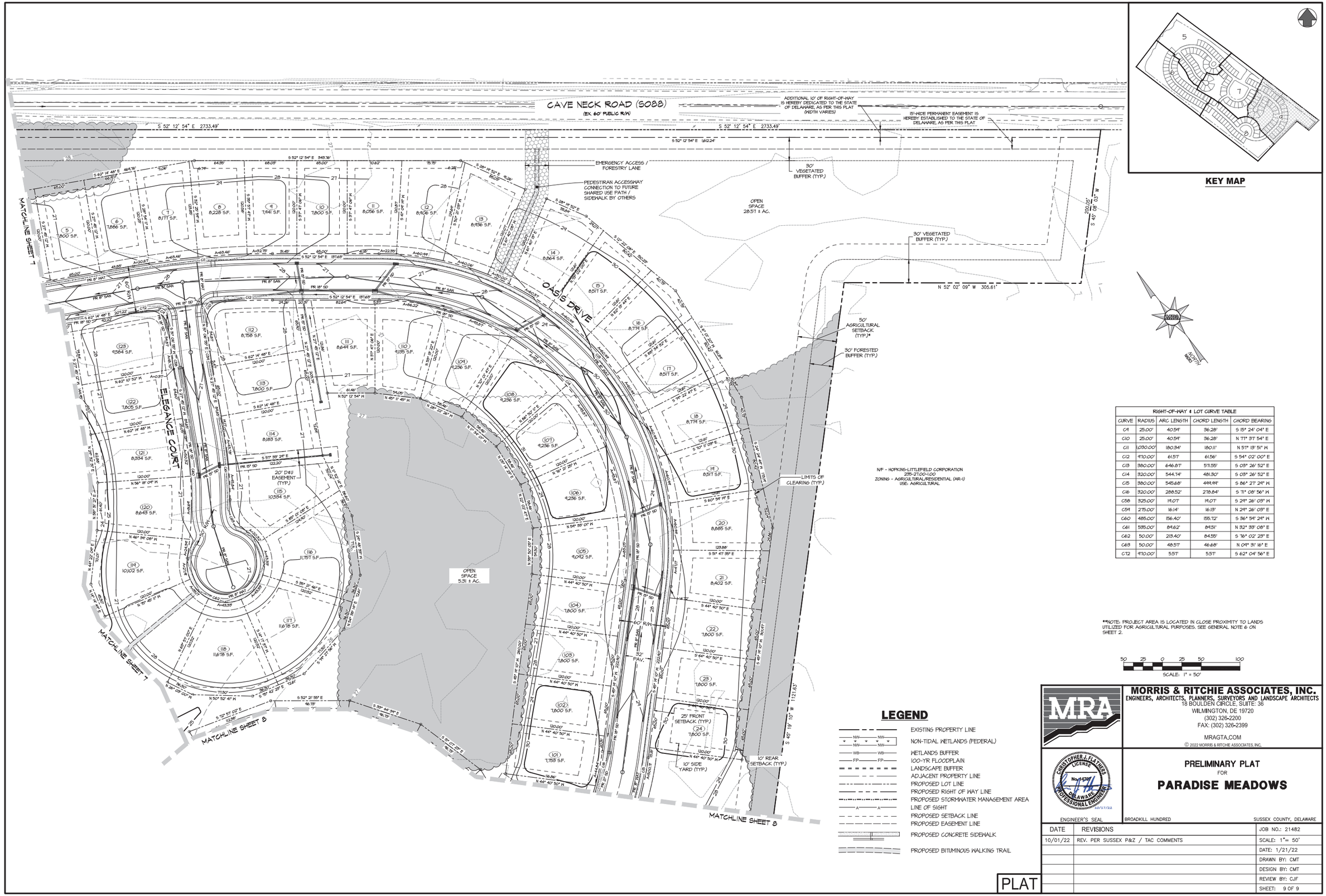
CHRISTOPHER J. FLATTERY LICENSE No. 14781 DELAWARE PROFESSIONAL ENGINEER 10/27/22
ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	JOB NO.: 21482
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 8 OF 9



RIGHT-OF-WAY & LOT CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	25.00'	40.54'	36.28'	S 15° 24' 04" E
C10	25.00'	40.54'	36.28'	N 77° 37' 54" E
C11	1,030.00'	180.34'	180.11'	N 57° 13' 51" W
C12	970.00'	61.57'	61.56'	S 54° 02' 00" E
C13	380.00'	646.87'	571.55'	S 03° 26' 52" E
C14	320.00'	544.74'	481.30'	S 03° 26' 52" E
C15	380.00'	545.68'	499.94'	S 86° 27' 24" W
C16	320.00'	288.52'	278.84'	S 71° 08' 56" W
C58	325.00'	19.07'	19.07'	S 24° 26' 03" W
C59	275.00'	16.14'	16.13'	N 24° 26' 03" E
C60	485.00'	156.40'	155.72'	S 36° 59' 24" W
C61	535.00'	84.62'	84.51'	N 32° 33' 08" E
C62	50.00'	213.40'	84.55'	S 76° 02' 23" E
C63	50.00'	48.57'	46.68'	N 04° 31' 16" E
C72	970.00'	5.57'	5.57'	S 62° 04' 56" E

**NOTE: PROJECT AREA IS LOCATED IN CLOSE PROXIMITY TO LANDS UTILIZED FOR AGRICULTURAL PURPOSES. SEE GENERAL NOTE 6 ON SHEET 2.

50 25 0 25 50 100
SCALE: 1" = 50'

LEGEND

- EXISTING PROPERTY LINE
- NON-TIDAL WETLANDS (FEDERAL)
- WETLANDS BUFFER
- 100-YR FLOODPLAIN
- LANDSCAPE BUFFER
- ADJACENT PROPERTY LINE
- PROPOSED LOT LINE
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- LINE OF SIGHT
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BITUMINOUS WALKING TRAIL

PLAT

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18 BOULDEN CIRCLE, SUITE: 36
WILMINGTON, DE 19720
(302) 326-2200
FAX: (302) 326-2399
MRAGTA.COM

CHRISTOPHER J. FLATHERS LICENSE No. 14280 DELAWARE PROFESSIONAL ENGINEER 10/17/22

ENGINEER'S SEAL

PRELIMINARY PLAT
FOR
PARADISE MEADOWS

BROADKILL HUNDRED — SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	
		JOB NO.: 21482
10/01/22	REV. PER SUSSEX P&Z / TAC COMMENTS	SCALE: 1"= 50'
		DATE: 1/21/22
		DRAWN BY: CMT
		DESIGN BY: CMT
		REVIEW BY: CJF
		SHEET: 9 OF 9

Appendix 3 – PLUS Review Response Letter

MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS

Date: October 17, 2022

Office of State Planning Coordination
122 Martin Luther King Jr. Blvd. South
Dover, DE 19901

Attention: Mr. David L. Edgell, Director

Subject: Paradise Meadows
(Formerly Cave Neck Road)
PLUS Review 2021-11-03

Dear Mr. Edgell:

We are in receipt of your comment letter dated December 17, 2021 with regard to Concept Plan associated with the proposed Paradise Meadows (formerly known as Cave Neck Road) residential subdivision proposed in Sussex County and respond as follows:

Strategies for State Policies and Spending

Comment 1: This project represents a major land development that will result in 202 residential units in an Investment Level 4 area according to the 2020 Strategies for State Policies and Spending. This project is also located in a low density area according to the Sussex County comprehensive plan.

Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

In addition, the development of this site may be environmentally inappropriate due to the following:

- The proposed project is adjacent to a property protected through the State's Agricultural Lands Preservation Program (Littlefield District 5-96-03-071-2 Parcels 235-27.00-1.00 and 235-27.00-1.01). Therefore, the activities conducted on this preserved property are protected by the agricultural use protections outlined in Title 3, Del. C., Chapter 9. (additional information below)
- The southwestern and northwestern boundaries of the parcel lie within lands designated within the Delaware Ecological Network, a statewide network of interconnected lands of

significant ecological value. This GIS data layer is based on principles of landscape ecology and conservation biology, providing a consistent framework to identify and prioritize areas for natural resource protection. Forest disturbances on this site will jeopardize habitat on the parcel and likely beyond the parcel's boundary.

Removing forested areas within the Delaware Ecological Network should be avoided to the greatest extent possible. These areas provide wildlife habitat, uptake nutrients, infiltrate stormwater, and improve water quality. Forests also provide shading and cooling, while also reducing carbon that contributes to climate change.

- The preliminary plan proposes the elimination of approximately 14 of 25 acres of forest on the site. An analysis of historical data indicates that the forest area located along the southwestern and western portions of the site has likely maintained some degree of forest cover since 1937 and could be considered mature forest. Mature forests possess the potential for rare, threatened, or endangered species that rely on this type of habitat.

  Removing forested areas for development, especially mature forests, should be avoided to the greatest extent possible. Forests filter water for improved water quality, provide habitat for wildlife, absorb nutrients, infiltrate stormwater, moderate temperatures, and store atmospheric carbon which would otherwise contribute to climate change.

- The northwestern portion of this site is vulnerable to permanent inundation from sea level rise. By 2050, mean sea levels are projected to rise by 0.7 - 1.9 feet; by end of century sea levels are projected to increase by 1 .7 - 5.0 feet. In addition to permanent inundation, as mean sea levels rise, the frequency and severity of tidal flooding events is expected to increase.

  Because the development is inconsistent with the Strategies for State Policies and Spending, the Office of State Planning is opposed to this proposed subdivision at this time. We look forward to working with the County on the proposed overlay zone and subsequent amendment needed for this site.

Response: *Comments acknowledged. The project is located between the Sussex County Coastal Area growth zone to the east and the municipal boundary / "Growth Area" associated with the Town of Milton to the west as shown by the Sussex County Comprehensive Plan. With the site frontage located along a DelDOT Collector Road, and access to public utilities provided by Artesian Water & Artesian Wastewater, the framework for infrastructure to support development on the subject parcel appears to be in place. The site design and construction, including preservation and protection of existing natural resources, will be performed in accordance with requirements of the Sussex County Code in effect at the time of the Preliminary Plan application.*

Department of Transportation - Contact Bill Brockenbrough 760-2109

Comment 2: The site access on Cave Neck Road (Sussex Road 88) must be designed in accordance with DelDOT's Development Coordination Manual, which is available at https://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes

Response: *Comment acknowledged; the site access will be designed in accordance with the Development Coordination Manual.*

Comment 3: Pursuant to Section 1.3 of the Manual, a Pre-Submittal Meeting is required before plans are submitted for review. The form needed to request the meeting and guidance on what

will be covered there and how to prepare for it is located at https://deldot.gov/Business/subdivisions/pdfs/Meeting_Request_Form.pdf?08022017

Response: *Comment acknowledged; a Pre-Submittal Meeting has been scheduled with the DelDOT Subdivision Section.*

Comment 4: Section 1.7 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.

Response: *Comment acknowledged; review fees are anticipated to be provided in accordance with current DelDOT policy.*

Comment 5: Per Section 2.2.2.1of the Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. From the PLUS application, the total daily trips are estimated at 1986 vehicle trip ends per day. Using the 10th edition of the institute of Transportation Engineer's Trip Generation Manual, DelDOT confirms this number and estimates the weekday morning and evening peak hour trip ends at 148 and 200, respectively. Therefore, a TIS would normally be required.

Section 2.2.2.2 of the Development Coordination Manual provides that for developments generating less than 2,000 vehicle trip ends per day and less than 200 vehicle trip ends per hour in any hour of the day, DelDOT may accept an Area Wide Study (AWS) Fee in lieu of the TIS if the local government does not require a TIS. The AWS Fee is calculated as $10 per daily trip. AWS Fees are used to fund traffic studies, not to build improvements. In this instance, the daily warrant for a mandatory TIS is not met and the peak hour warrant is met by only one trip. DelDOT mentions the AWS Fee on the chance that the development might lose one lot as plans are further developed.

Regardless of whether the developer does a TIS or pays the AWS fee, DelDOT anticipates requiring the developer to improve Cave Neck Road, within the limits of their projected frontage, to meet DelDOT's Collector Road standards, which include 12-foot lanes and 8-foot shoulders. This would include, if needed, replacement of the guardrails on the bridge at Beaver Dam Creek. Google Street View from 2012 shows substandard guardrails there but they may have been replaced by DelDOT forces already.

DelDOT presently has a project under development for the triangle formed by the intersections of Cave Neck Road, Hudson Road (Sussex Road 258) and Sweetbriar Road (Sussex Road 261) and may require a contribution toward the construction of that project

Questions regarding the site's trip generation and improvements beyond the site frontage should be directed to the County Coordinator, Mr. T. William Brockenbrough. Mr. Brockenbrough may be reached at Thomas.Brockenbrough@delaware.gov or (302)760-2109. Questions regarding the requirement to improve the site frontage should be directed to the Sussex County Review Coordinator, Mr. R. Stephen McCabe. Mr. McCabe may be reached at Richard.McCabe@delaware.gov or (302) 760-2276.

Response: *Comment acknowledged; the Preliminary Plan as submitted to Sussex County proposes a total of 191 single-family dwelling units for the project, as opposed to the 202 dwelling units shown by the original concept plan as reviewed by PLUS. The reduction in dwelling units will result in a decrease in the peak hour trips below the 200 vehicle trips per hour and should qualify for the AWS program per the DelDOT Memo from Mr.*

Claudy Joinville, dated October 14, 2022. As noted in this memo, frontage improvements are anticipated to be required along the site frontage. Additionally, it is anticipated that the developer will enter into an agreement with DelDOT for equitable cost sharing for offsite improvements at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection (DelDOT Contract No. T202104304).

Comment 6: As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way along the site's frontage on Cave Neck Road. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the physical centerline. The following right-of-way dedication note is required, "An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat."

Response: *Comment addressed; as shown on the Preliminary Plan, additional right-of- way along the Cave Neck Road frontage has been shown for the Minor Collector Road Classification. Dedication of additional right-of-way will be noted on the final Record Plans utilizing DelDOT standard language requirements.*

Comment 7: In accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Mulberry Knoll Road. The location of the easement shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, "A 15-foot wide permanent easement is hereby established for the State of Delaware, as per this plat."

Response: *Comment addressed; the requested easement area has been shown on the plan. The Record Plan will include the requested easement note in accordance with DelDOT requirements.*

Comment 8: Referring to Section 3.4.2.1of the Manual, the following items, among other things, are required on the Record Plan:

- A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
- Depiction of all existing entrances within 600 feet of the entrances on Mulberry Knoll Road.
- Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

Response: *Comment acknowledged; Record Plans will be prepared in and submitted for DelDOT review in accordance with current DelDOT requirements.*

Comment 9: Section 3.5 of the Manual provides DelDOT's requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT maintained public streets for subdivisions. DelDOT appreciates the proposed stub to Tax Parcel No. 235-27.00-1.01 but anticipates recommending that the County require a second stub street for a future interconnection to Tax Parcel No. 235-27.00-1.00 near Lot 20.

Response: *Comment acknowledged; based upon correspondence with the State of Delaware, Department of Agriculture, both of the adjacent parcels referenced above are in the Aglands Preservation Program (Littlefield Preservation District) and therefore will not*

be available for development in the future. As such, the proposed interconnections / stub roads have been removed from the plan.

Comment 10: Section 3.5.4.2 of the Manual addresses requirements for Shared Use Path (SUP) and sidewalks. For projects in Level 3 and 4 Investment Areas, installation of paths or sidewalks along the frontage on State-maintained roads is required where there is an existing path with which to connect. There are no paths or sidewalks immediately adjoining the subject land, and DelDOT does not presently anticipate requiring SUP along the road frontage.

Response: *Comment addressed; the easement area for a potential future Shared Use Path has been shown on the plan as noted above. No shared use path will be proposed by the developer at this time.*

Comment 11: Section 3.5.4.4 of the Manual addresses access-ways, paved pathways connecting a sidewalk or path along a road frontage to an internal sidewalk or path. DelDOT anticipates requiring two accessways, one near the proposed pump station and one between Lots 10 and 20.

Response: *Comment addressed; two pedestrian linkages from the internal subdivision streets / sidewalks to the future location of a shared use path along Cave Neck Road have been shown on the revised Preliminary Plan.*

Comment 12: In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bio swales, shall be located a minimum of 20 feet from the ultimate State right-of-way along Cave Neck Road.

Response: *Comment addressed; all SWM areas are shown a minimum of 20' beyond the area of DelDOT Right-of-Way dedication.*

Comment 13: In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances and how long those lanes should be. The worksheet can be found at https://deldot.gov/Business/subdivisions/index.shtml.

Response: *Comment acknowledged; site entrance will be designed in accordance with current DelDOT requirements. Supporting design calculations will be provided as part of the plan review package. Design deviation requests will be submitted for DelDOT consideration in accordance with current DelDOT policy.*

Comment 14: In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at http:/www.deldot.gov/Business/subdivisions/index.shtml

Response: *Comment acknowledged; sight triangle calculations will be provided with the Plan Submittal to DelDOT for review. Required sight triangles will be shown on the Record Plan in accordance with current DelDOT requirements.*

Comment 15: In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.

Response: *Comment acknowledged; plans will be developed and submitted for DelDOT review in accordance with current DelDOT requirements.*

Department of Natural Resources and Environmental Control - Beth Krumrine 735-3480

Wetlands

Maps from the Statewide Wetlands Mapping Project indicate the presence of non-tidal wetlands on the site. The application indicates that wetlands have not been delineated. The application does not propose direct impacts to the wetlands.

Response: *Comment addressed; since the time of the Concept Plan submittal to PLUS, a wetland delineation was performed by Geo-Technology Associates, Inc. (GTA) in May 2022. A Jurisdictional Determination Application was filed with the U.S. Army Corps of Engineers (USACE) on August 1, 2022 to confirm the limits of the regulated wetlands on the project site. No direct impacts to the delineated wetlands are anticipated as result of the proposed plan. If it is determined that impacts to the jurisdictional wetlands are required due to the construction of the proposed site, permits will be obtained through the USACE and/ or DNREC as applicable.*

Comment 16: If the site design changes and dredge or fill of wetlands or subaqueous lands becomes necessary, permitting and/or authorization requirements apply as described below.

Response: *Comment acknowledged; no disturbance to wetlands or subaqueous lands is proposed at this time. If this should change, appropriate permit applications with be submitted to DNREC and/or USACE.*

Comment 17: A delineation of waterways and wetlands may be required, to be completed by a qualified professional hired by the landowner. For a list of consultants and engineers who can conduct wetland delineations, please visit the DNREC Wetlands and Subaqueous Lands Section link:
http://www.dnrec.delaware.gov/wr/Documents/WSLS/Consultant%20List.pdf

Response: *Comment addressed; as noted above, a wetland delineation was completed by GTA in May 2022.*

Comment 18: Federal permits from the U.S. Army Corps of Engineers may be necessary if dredge or fill is proposed in non-tidal wetlands or streams. A delineation of waterways and wetlands may be required, to be completed by a qualified professional hired by the landowner. In certain cases, permits from the US Army Corps of Engineers may trigger additional certifications from DNREC (Coastal Zone Federal Consistency Certification and 401 Water Quality Certification). Work with the U.S. Army Corps of Engineers to determine the appropriate permitting requirements if federal permits are required.

Federal Contact: U.S. Army Corps of Engineers (Dover Office) at (267) 240-5278.
Website: https://www.nap.usace.army.mil/Missions/Regulatory/Contacts/

State Contact: DNREC Wetlands and Subaqueous Lands Section at (302) 739-9943
Website: https://dnrec.alpha.delaware.gov/water/wetlands-subaqueous/

Response: *Comment acknowledged; no disturbance to the wetlands or streams are proposed at this time.*

Vegetated Buffer Zones

Site plans show a 25-foot vegetated buffer along non-tidal wetlands. Vegetated buffer zones placed adjacent to waterways and wetlands help improve water quality by reducing sediment and pollutants loads. They also provide valuable habitat and can help prevent encroachment of human activities into ecologically sensitive areas. Vegetated buffers are not equivalent to setbacks, as residential lots, walkways, and stormwater management facilities should not be contained within the vegetated buffer zone.

Response: *Comment acknowledged.*

Comment 19: The applicant must comply with minimum vegetated buffer widths as identified within county and municipal codes.

Contact: DNREC Wildlife Species Conservation & Research Program at (302) 735-3600 Website: https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/

Response: *Comment addressed; a 30-wide buffer area to the non-tidal wetlands have been provided, exceeding the minimum 25' wide buffer requirement of the Sussex County Code in effect at the time of application submittal.*

Natural Areas/Nature Preserves

The northwestern and southern portions of the parcel are located within Broadkill River Natural Area. Natural Areas contain lands of statewide significance identified by the Governor's Natural Areas Advisory Council as containing a high quality of natural features unique to Delaware.

Response: *Comment acknowledged.*

Comment 20: Local codes and ordinances may apply to protect areas designated as Natural Areas. Please consult with local planning agencies to see how local codes and ordinances may impact the proposed development of this site.

Contact: DNREC Division of Parks and Recreation, Office of Nature Preserves at (302) 739-9039. Website: https://dnrec.alpha.delaware.gov/parks/natural-areas/

Response: *Comment addressed; the site plan has been developed in accordance with the requirements of the Sussex County Code in effect at the time of application submittal for this project.*

Special Flood Hazard Area

According to the newest Flood Insurance Rate Maps (FIRM), the northwestern portion of this parcel is situated within a Special Flood Hazard Area, specifically within the mapped 100-year floodplain (l% annual chance of flooding). The Special Flood Hazard Area identified on the site lies within zone(s) AE. In lands contained within the 100-year floodplain, the National Flood Insurance Program's floodplain management regulations must be enforced through the local floodplain ordinance, which can have higher standards. Homeowners with mortgages may be required to purchase flood insurance.

Response: *Comment acknowledged; the project layout has been configured such that all lot areas are located outside of the current limits of the 100-YR floodplain.*

Comment 21: The applicant must comply with the local floodplain ordinance and regulations applicable to development or construction within the 100-year floodplain. In determining the boundary of the floodplain, use the most recent FIRM maps available, which can be found at https://floodplanning.dnrec.delaware.gov

Contact: DNREC Shoreline and Waterway Management Section at (302) 739-9921 Website: https://dnrec.alpha.delaware.gov/watershed-stewardship/waterways/floodplains/

Response: *Comment addressed; the Preliminary Plan reflects the current FIRM information in effect at the time of plan preparation. No site improvements or areas of fill are proposed within the delineated floodplain area.*

Wildlife Displacement

Development of this site is anticipated to displace local wildlife. Wildlife displaced by encroaching development may become a nuisance for homeowners.

Response: *Comment acknowledged.*

Comment 22: Future residents are not permitted to discharge firearms within 100 yards (300 feet) of any occupied dwelling or building to hunt or remove nuisance wildlife.

Contact: DNREC Division of Fish and Wildlife at(302)739-9912.

Website: https://dnrec.alpha.delaware.gov/fish-wildlife/wildlife/

Response: *Comment acknowledged.*

Stormwater Management

This application proposes greater than 5000 square feet of land disturbing activities, therefore, this project will be subject to Delaware's Sediment and Stormwater Regulations.

Response: *Comment acknowledged.*

Comment 23: A Sediment and Stormwater Plan must be developed, then approved by the appropriate plan review agency prior to any land disturbing activity taking place on the site. For this project, the plan review agency is the Sussex Conservation District.

Response: *Comment acknowledged; we will coordination with Sussex Conservation District (SCD) for review and approval of Sediment and Stormwater Plan. We will reach out to SCD to conduct a pre-submittal meeting in advance of plan submittals for their review.*

Comment 24: Additionally, to address federal requirements, construction activities that exceed 1.0 acre of land disturbance require Construction General Permit coverage through submittal of an electronic Notice of Intent for Stormwater Discharges Associated with Construction Activity. This form must be submitted electronically (https://apps.dnrec.delaware.gov/enoi/ , select Construction Stormwater General Permit) to the DNREC Division of Watershed Stewardship, along with the $195 fee.

Response: *Comment acknowledged, NOI will be requested from DNREC during the plan approval process with SCD.*

Comment 25: Schedule a project application meeting with the appropriate plan review agency prior to moving forward with the stormwater and site design. As part of this process, you must submit a Stormwater Assessment Study.

Plan review agency contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219.
Website: https://www.sussexconservation.org/

General stormwater contact: DNREC Sediment and Stormwater Program at (302) 739-9921.
E-mail: DNREC.Stormwater@delaware.gov .
Website: https://dnrec.alpha.delaware.gov/watershed-stewardship/sediment-stormwater/

Wastewater permits - Large Systems

Artesian hold existing permits with the DNREC Groundwater Discharges Section's Large Systems Branch for wastewater disposal.

Response: *Comment acknowledged.*

Comment 26: If additional flows to Sussex County's system will require capacity updates, it is the responsibility of the permittee (Artesian) to notify the Large Systems Branch.

Contact: DNREC Large Systems Branch at (302) 739-9948.
Website: https://dnrec.alpha.delaware.gov/water/groundwater/

Response: *Comment acknowledged; we will work with Artesian Wastewater Inc. (AWWI) to provide information as needed to supply to the Large System Branch as needed.*

Nutrient Management Plan

This project proposes open space of 44 acres.

Response: *Comment acknowledged; based on final boundary determination and adjustments to the layout configuration completed during the development of the Preliminary Plan, the open space is anticipated to comprise a total of approximately 44 acres, including more than 14 acres that are anticipated to remain in wooded cover.*

Comment 27: A nutrient management plan is required for all persons or entities who apply nutrients to lands or areas of open space of 10 acres or more.

Contact: Delaware Department of Agriculture's Nutrient Management Program at (302) 698-4558. Website: https://agriculture.delaware.gov/nutrient-management/

Response: *Comment acknowledged; requirements for a nutrient management plan will be incorporated into the Landscape Plan to be developed for Sussex County.*

State Historic Preservation Office - Contact Carlton Hall 736-7400

Comment 28: The Delaware State Historic Preservation Office does not recommend or support development in Level 4 areas.

Response: *Comment acknowledged; as noted above, the project is located between the Sussex County Coastal Area growth zone to the east and the municipal boundary / "Growth Area" associated with the Town of Milton to the west as shown by the Sussex County Comprehensive Plan.*

Comment 29: There are no known archaeological sites on or within a half-mile radius of the parcel. However, there is high potential for prehistoric archaeological resources. The western edge of the parcel is bounded by Beaverdam Creek. Soil conditions are a mix of somewhat poorly drained and well drained soils. Due to favorable environmental conditions, this Office recommends a Phase I archaeological survey on the western half of the parcel where there is high potential for prehistoric archaeological resources.

Response: *Comment acknowledged; all studies required by the Sussex County Code and the Delaware Code as part of the land development process will be prepared and submitted to the delegated agencies for review as appropriate.*

Comment 30: There is moderate potential for historic archaeological resources. Historic aerials and topographic maps show a house towards the middle of the parcel along Cave Neck Road. The building was demolished between 1944 and 1954. Aerials show the parcel has

remained a combination of agricultural fields and wooded areas, with agricultural fields expanding between 1968 and 1992. "Due to the known historic structure on the parcel and moderate potential for historic archaeological resources, this Office recommends a Phase I survey prior to any ground disturbance. As historic farms can contain family cemeteries in Delaware, the Delaware State Historic Preservation Office would remind the developer of the newly amended Unmarked Human Burials and Human Skeletal Remains Act.

Response: *Comment acknowledged; the developer and contractor will be reminded of the requirements related to the amended Unmarked Human Burials and Human Skeletal Remains Act prior to start of construction.*

Delaware State Fire Marshall's Office - Contact Duane Fox 259-7037

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

Fire Protection Water Requirements:

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
- Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 800 feet spacing on centers are required (one & Two-Family Dwelling).
- One-and Two-Family dwellings are required by law to offer the homeowner an automatic sprinkler system, therefore infrastructure should accommodate water needs.
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

Fire Protection Features :

- All structures over 10,000 sq. ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq. ft. 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

Accessibility:

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Cave Neck Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door. Streets designed without

parking need to develop a plan for enforcement once HOA takes charge. Fire apparatus still need to negotiate the streets.

- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The use of open bridge or covered bridge shall be designed to DEDOT standards and accessible by all fire department apparatus.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property

Gas Piping and System Information:

- Provide type of fuel proposed, and show locations of bulk containers on plan.

Required Notes:

- Provide a note on the final plans submitted for review to read " All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
- Proposed Use
- Alpha or Numerical Labels for each building /unit for sites with multiple buildings / units.
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered.
- Provide Road Names, even for County Roads

Response: *Comments acknowledged; plans will be prepared and submitted to the SFMO in accordance with the current DSFPR.*

Department of Agriculture - Contact: Milton Melendez 698-4534

Comment 31: The proposed project is adjacent to a property protected through the State's Agricultural Lands Preservation Program (Littlefield District 5-96-03-071-2 Parcels 235-27.00-1.00 and235-27.00-1.01). Therefore, the activities conducted on this preserved property are protected by the agricultural use protections outlined in Title 3, Del. C., Chapter 9. These protections effect adjoining developing properties. The 300 foot notification requirement affects all new deeds in a subdivision located in whole or part within 300 feet of an Agricultural District/Easement. Please take note of these restrictions as follows:

§ 910. Agricultural use protections

(a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation

Districts. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:

(1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

"This property is located in the vicinity of an established Agricultural Preservation District in which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities."

(2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.

(b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees (68 Del. Laws, c. I 18, $ 2.).

Response: *Comments acknowledged; the project has been configured to provide a 50' setback around the perimeter of the site. A note has been provided on the Preliminary Plan and will be included on the Record Plan regarding the agricultural nature of the adjacent properties.*

Comment 32: In addition, if any wells are to be installed, Section 4.01(A)(2) of the Delaware Regulations Governing the Construction and Use of Wells will apply. This regulation states:

(2) For any parcel, lot, or subdivision created or recorded within fifty (50) feet of, or within the boundaries of, an Agricultural Lands Preservation District (as defined in Title 3, Del. C., Chapter 9); all wells constructed on such parcels shall be located a minimum of fifty (50) feet from any boundary of the Agricultural Lands Preservation District. This requirement does not apply to parcels recorded prior to the implementation date of these Regulations. However, it is recommended that all wells be placed the maximum distance possible from lands

which are or have been used for the production of crops which have been subjected to the application of land applied federally regulated chemicals.

Response: *Comments addressed; no water supply wells are proposed as part of the Paradise Meadows project. Water service to the community will be provided by Artesian Water Company.*

A Preliminary Plan application has been submitted to Sussex County Department of Planning and Zoning review and approval. If you should require additional information regarding this PLUS application, please contact me to discuss at 302-326-2200.

Very Truly Yours,
MORRIS & RITCHIE ASSOCIATES, INC.

Christopher J. Flathers, P.E.
Senior Project Manager

cc: J. Whitehouse, Sussex County
J. Richardson, CNR Land Investment, LLC
J. Fuqua, Esq.
P. Tolliver, MRA
File

Appendix 4 – Soils Report

"Report of SWM Pond Subsurface Exploration"

Geo-Technology Associates, Inc. (GTA), March 18, 2022

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm

March 18, 2022

CNR Land Investment, LLC
260 Hopewell Road
Churchville, Maryland 21028

Attn: Mr. John Richardson

RE: Report of SWM Pond Subsurface Exploration
Cave Neck Road
Sussex County, Delaware

Ladies & Gentlemen:

In accordance with our agreement dated October 20, 2021, Geo-Technology Associates, Inc. (GTA) has performed a subsurface exploration for the above referenced project. The purpose of the subsurface exploration was to evaluate the estimated normal seasonal high groundwater elevation; present the subsoil conditions encountered at selected borings and provide recommendations regarding stormwater management (SWM) pond construction. Plans titled *Paradise Meadows* prepared by Morris & Ritchie Associates, Inc. (MRA) and revision dated January 21, 2021, was referenced for this report. The results of our subsurface exploration are summarized below.

Referring to the attached Site Location Plan, the site consists of a generally rectangular shaped parcel located along the southwest side of Cave Neck Road approximately one mile northwest of Hudson Road in Sussex County, Delaware. The approximately 96-acre property primarily consists of agricultural fields with mature woods at the southeastern quarter of the site and along the northwestern edge of the site. Topographically, the property gently slopes downward in a northwestern direction towards Beaverdam Creek with the existing ground surface at the exploration locations ranging between approximate Elevation 6 and 34 Mean Sea Level (MSL), as determined by MRA.

According to the Geologic Map of the Ellendale and Milton Quadrangles, Delaware (2001) published by the Delaware Geological Survey, the site is within the Coastal Plain Physiographic Province. Coastal Plain sediments below the surficial deposits exposed in the site area were generally deposited in commonly estuarine environments of the Quaternary geologic age. The Late Pleistocene deposits are designated as the Lynch Heights Formation of the Delaware Bay Group and typically consist of "Heterogeneous unit of light gray to brown to light yellowish brown, medium to fine sand with discontinuous beds of coarse sand, gravel, silt, fine to very fine sand, and organic-rich clayey silt to silty sand." Underlying the Lynch Height Formation are Late Pliocene deposits designated as the Beaverdam Formation and typically consist of "…silty, fine to medium

quartzose to moderately feldspathic (<20%) sand, sandy silt, clayey sandy silt, and clayey silt with a white to light yellow silt or clay matrix, with beds of dark gray to brown pollen-bearing organic-rich clayey silt…" Please refer to the publication for additional information.

From review of the USDA Soil Survey, the soils generally conform to Henlopen-Rosedale complex (0 to 2 percent slopes), Glassboro sandy loam (0 to 2 percent slopes) and Rosedale loamy sand (0 to 2 percent slopes). Also present are soils that generally conform to Rockawalkin loamy sand (0 to 2 percent slopes), Longmarsh and Indiantown soils (frequently flooded) and Evesboro loamy sand (5 to 15 precent slopes). The soils map information is attached.

From review of the attached Monthly Groundwater Depth for Pe54-51, Columbia Aquifer, taken from the Delaware Geological Survey website, the groundwater depth at Well Pe54-51 (west of Millsboro, Delaware), was above normal when the borings were performed during February 2022.

GTA performed 19 Standard Penetration Test (SPT) Borings, designated as SWM-1 through SWM-19, to depths of 16 to 20 feet below the ground surface. Temporary piezometers were placed in each test hole and longer-term water readings were taken one to two days after completion. The piezometers were removed after the long-term readings. The exploration locations were selected by GTA and staked with elevations determined by MRA. Relative locations are shown on the attached Exploration Location Plan. The exploration locations indicated on the plan should be considered approximate.

The soils were visually classified in accordance with the Unified Soil Classification System (USCS) and the United States Department of Agriculture (USDA) classification system. Beneath an approximately 3 to 6-inch-thick surface topsoil layer, the explorations generally encountered native subsoils visually classified as consisting of Poorly-graded SANDs with Silt (USCS: SP-SM; USDA: Loamy Sand), Silty SAND (SM; Sandy Loam) and Clayey SAND (SC; Sandy Clay Loam). The relative densities of the granular soils were very loose to medium dense based upon SPT N-values of Weight of Hammer (WOH) to 18 blows per foot (bpf).

Fine-grained materials were encountered at Borings SWM-2 through SWM-6 and SWM-11. The fine-grained materials consisted of Lean CLAY (USCS: CL; USDA: Clay Loam) and SILT (ML; Silt Loam). The consistencies of the fine-grained materials were very soft to stiff based upon SPT N-values of 1 to 13 bpf.

GTA's estimate of the seasonal high groundwater level at the borings is based upon soil coloring, saturation and/or mottling. The results of the groundwater level readings and GTA's opinion of the estimated seasonal high groundwater depth are summarized as follows:

GROUNDWATER DATA SUMMARY

Exploration No.	Existing Ground Surface Elevation (MSL)	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Groundwater at Completion	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Groundwater At One to Two Days After Completion	*Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Estimated Seasonal High Groundwater	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Estimated Normal Groundwater
SWM-1	EL 8.6	1.8 / EL 6.8	1.7 / EL 6.9	2 / EL 7	5 / EL 4
SWM-2	EL 15.3	11.5 / EL 3.8	10.9 / EL 4.4	8 / EL 7	11 / EL 4
SWM-3	EL 23.2	Dry to 20.0 / Dry to EL 3.2	18.1 / EL 5.1	15 / EL 8	19 / EL 4
SWM-4	EL 22.7	Dry to 22.0 / Dry to EL 0.7	19.4 / EL 3.3	15 / EL 8	19 / EL 4
SWM-5	EL 22.3	14.5 / EL 7.8	14.0 / EL 8.3	13 / EL 9	16 / EL 6
SWM-6	EL 21.7	15.6 / EL 6.1	15.0 / EL 6.7	14 / EL 8	17 / EL 5
SWM-7	EL 20.8	14.0 / EL 6.8	14.1 / EL 6.7	13 / EL 8	16 / EL 5
SWM-8	EL 20.3	14.9 / EL 5.4	14.5 / EL 5.8	13 / EL 7	15 / EL 5
SWM-9	EL 14.7	8.3 / EL 6.4	8.2 / EL 6.5	8 / EL 7	10 / EL 5
SWM-10	EL 14.5	11.7 / EL 2.8	11.0 / EL 3.5	10 / EL 5	11 / EL 4
SWM-11	EL 11.8	3.0 / EL 8.8 (Perched)	2.5 / EL 9.3 (Perched)	2 / EL 10 (Perched)	4 / EL 8
SWM-12	EL 33.9	Dry to 22.0 / Dry to EL 11.9	Dry to 22.0 / Dry to EL 11.9	21 / EL 13	Deeper than 22.0 / Deeper than EL 11.9
SWM-13	EL 31.2	19.1 / EL 12.1	18.7 / EL 12.5	18 / EL 13	20 / EL 11
SWM-14	EL 22.8	12.3 / EL 10.5	12.1 / EL 10.7	11 / EL 12	13 / EL 10
SWM-15	EL 22.9	17.6 / EL 5.3	17.2 / EL 5.7	11 / EL 12	17 / EL 6
SWM-16	EL 21.8	12.5 / EL 9.3	11.8 / EL 10.0	11 / EL 11	13 / EL 9
SWM-17	EL 24.4	16.2 / EL 8.2	14.8 / EL 9.6	14 / EL 10	16 / EL 8
SWM-18	EL 22.8	12.0 / EL 10.8	11.9 / EL 10.9	12 / EL 11	14 / EL 9
SWM-19	EL 26.6	Dry to 20.0 / Dry to EL 6.6	16.1 / EL 10.5	15 / EL 12	17 / EL 10

*Seasonal high groundwater estimate based upon observed soil mottling, saturation and color and should be considered approximate.

Selected samples obtained from the borings were tested for grain-size analysis, Atterberg Limits and/or natural moisture contents. The grain-size analysis and Atterberg Limits testing were performed to designate the Unified Soil Classification System (USCS) and United States Department of Agriculture (USDA) soil classification systems for the soil. The results of testing are as follows:

SUMMARY OF LABORATORY TESTING

EXPLORATION NO.	DEPTH (FT.)	USCS CLASSIFICATION	LL (%)	PI (%)	NMC (%)
SWM-3	1 – 4	Clayey SAND (SC)	23	10	13.3
SWM-8	10 – 12	Silty SAND (SM)	NP	NP	13.3
SWM-12	12 – 14	Silty SAND (SM)	NP	NP	15.0

Note: LL=Liquid Limit PI=Plastic Index NP=Non-plastic NMC=Natural Moisture Content

A near-surface, composite bulk sample was also tested for moisture-density relationship in accordance with the Standard Proctor (ASTM D-698) method for use in evaluating the

suitability of these soils for reuse as fill. Results of these tests are summarized in the following table.

SUMMARY OF COMPACTION
(ASTM D 698, the Standard Proctor)

EXPLORATION NO.	DEPTH (FT)	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	NATURAL MOISTURE (%)
SWM-3	1 – 4	122.0	11.2	13.3

Please refer to the attached laboratory test results for additional information.

Based upon the boring data, it is our opinion that the estimated seasonal high groundwater ranges from approximate Elevation 5 to 13 MSL and normal groundwater ranges from approximate Elevation 4 to 11 at the exploration locations. The groundwater levels can be expected to fluctuate with seasonal changes, precipitation, and other factors such as development activity. Additionally, perched water conditions develop in granular soils overlying fine-grained soils during the "wet season" as well as during periods of precipitation. The estimated average seasonal high groundwater elevation at each pond is summarized below:

SWM Area	Pond Boring Range	Elevation (MSL) of Estimated Average Seasonal High Groundwater	Elevation (MSL) of Estimated Normal Groundwater	Proposed Pond Bottom Elevation (MSL)
1	SWM-1 through SWM-11	8	5	5
2	SWM-12 through SWM-19	12	9	16

Based upon the proposed pond bottoms, it is our opinion that pond liners will be necessary to maintain a wet pond condition. It appears that a sufficient quantity of USCS CL or SC materials may be available on site for a pond liner. If enough USCS SC and CL material is not available, GTA recommends a Geosynthetic Clay Liner (GCL; Bentonite matrix) or an appropriate PVC liner with relief valves. Both types of liners will need to be provided with a 1-foot-thick granular soil cover. The GCL or PVC liners should be installed in accordance with manufacturer's recommendations. On-site granular soils are considered suitable for use as a pond liner cover material if they are dried to near optimum. Pond liner cover materials should meet AASHTO classification designation A-2-4 or more granular and be approved by GTA. Normal seasonal groundwater variation may result in several feet of pool level fluctuation with changing seasons. An artificial water source (e.g., agricultural well) should be considered to maintain the permanent pool during extended dry periods.

If pond fill embankment construction will be required, GTA recommends that prior to construction of pond fill embankment and after stripping the surface topsoil, construct a four-foot deep (below stripped ground surface and stepped below the spillway invert) cutoff trench along the pond embankment length and extending to the 10-year event elevation at each end of the fill embankment alignment. Also, upon completion of the cutoff trench, an embankment core should extend to the top elevation of the 10-year event. The side slopes of the cutoff trench and embankment core should be at 1H:1V inclination or flatter. The bottom of the cutoff trench and

the top of embankment core should be at least 4 feet wide. The cutoff and embankment core should be formed of USCS CL and/or SC materials. The balance of embankment may be constructed of onsite materials conforming to USCS SC, SM, SP-SM or SP.

Structural fill should be constructed in maximum 8-inch loose lifts and compacted to 95 percent of the maximum dry density as determined by ASTM D-698 (AASHTO T-99). If practical, GTA recommends reinforced concrete pipe be used as the principal spillway pipe. Also, a concrete cradle and anti-seep collar should be provided for the spillway pipe.

For wet pond construction, water levels will be above at least a portion of the pond bottom level during construction. The contractor should be prepared to stabilize and dewater pond excavations. Subgrades excavated below the water table will be prone to instability and softening.

All SWM pond construction should conform to *Delaware Conservation Practice Standard Pond Code 378* and *Code 521*, latest editions and *Delaware Sediment and Stormwater Regulations*, latest edition, as applicable.

Limitations

This report, including all supporting exploration logs, field data, field notes, estimates, and other documents prepared by GTA in connection with this project, has been prepared for the exclusive use of CNR Land Investment, LLC pursuant to the agreement between GTA and CNR Land Investment, LLC dated October 20, 2021, and in accordance with generally accepted engineering practice. All terms and conditions set forth in the Agreement are incorporated herein by reference. No warranty, express or implied, is given herein. Use and reproduction of this report by any other person without the expressed written permission of GTA and CNR Land Investment, LLC is unauthorized and such use is at the sole risk of the user.

The analysis and recommendations contained in this report are based on the data obtained from limited observation and testing of the encountered materials. Explorations indicate soil and groundwater conditions only at specific locations and times and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between the exploration locations. Consequently, the analysis and recommendations must be considered preliminary until the subsurface conditions can be verified by direct observation at the time of construction. If variations in subsurface conditions from those described are noted during construction, recommendations in this report may need to be re-evaluated.

In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report are verified in writing. Geo-Technology Associates, Inc. is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analysis without the expressed written authorization of Geo-Technology Associates, Inc.

The scope of our services for this geotechnical exploration did not include any environmental assessment or investigation for the presence or absence of wetlands, or hazardous or toxic materials in the soil, surface water, groundwater or air, on or below or around this site. Any statements in this report or on the logs regarding odors or unusual or suspicious items or conditions observed are strictly for the information of our Client. The subject matter of this report is limited to the facts and matters stated herein. Absence of a reference to any other conditions or subject matter shall not be constructed by the reader to imply approval by the writer.

We appreciate the opportunity to be of assistance on this project. Should you have any questions or require additional information, please contact our office at (302) 855-9761

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

Travis P. Caraway, P.E.
Project Engineer

Gregory R. Sauter, P.E.
Vice President

GRS/TPC/llh

31212171
S:\1 Job File\2021 Projects\31212171-Cave Neck Road\Report\Cave Neck Road - GTA Report of Suburface Exploration.doc

cc: Mr. Phillip Tolliver, P.E. Morris & Ritchie Associates, Inc.

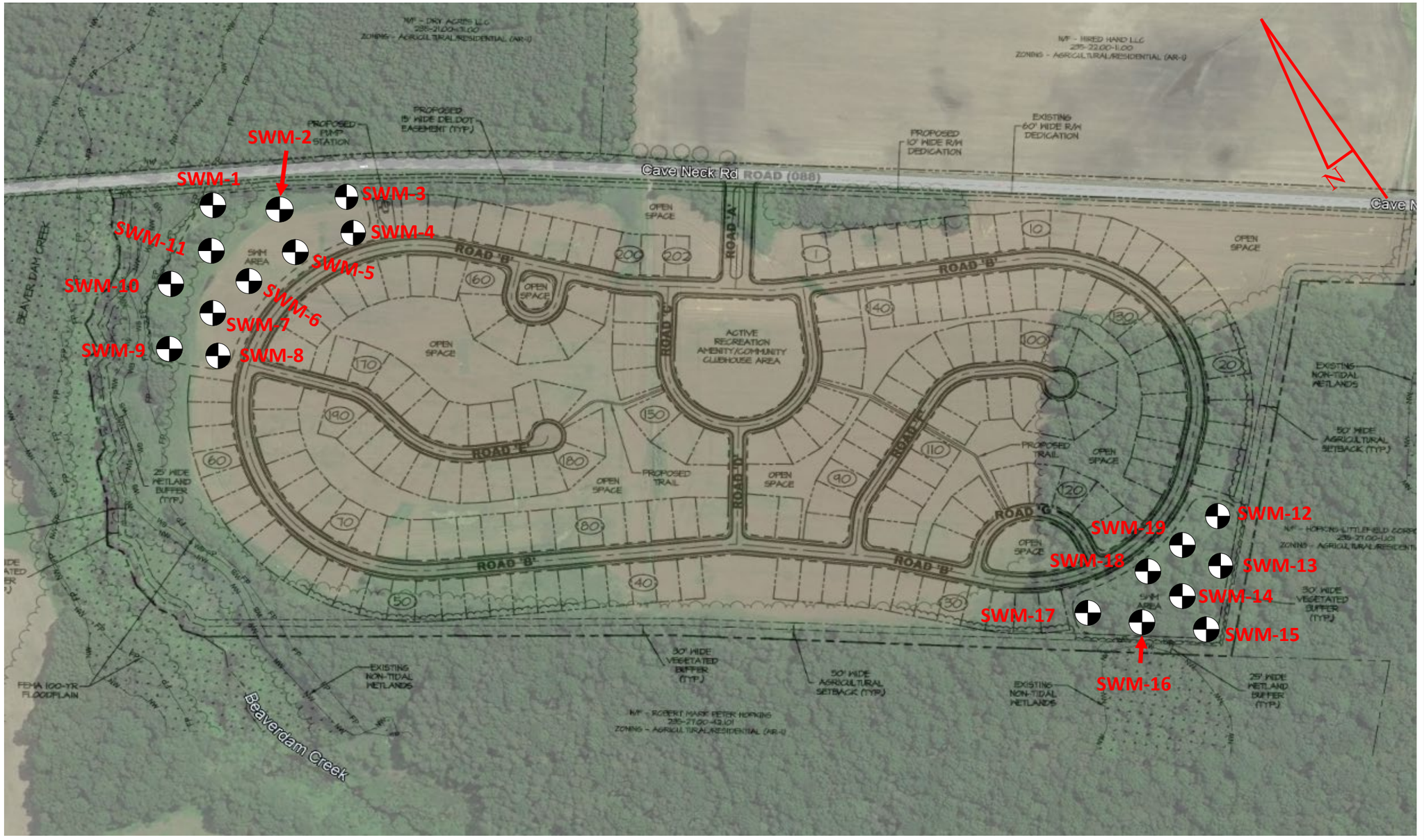
Attachments: Site Location Plan (1 page)
Exploration Location Plan (1 page)
USDA Soil Survey Map (3 pages)
Water Conditions Summary Page (1 page)
Subsurface Profiles (2 pages)
Notes for Exploration Logs (1 page)
Exploration Logs (19 pages)
Particle Size Distribution Report (3 pages)
Moisture Density Relationship Test Report (1 page)
GBA – Important Information about your Geotechnical Engineering Report (2 pages)

Site Location Plan taken from Google Maps

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
21133 Sterling Avenue, Suite 7
Georgetown, Delaware 19947
(302) 855-9761 Fax (302) 856-3388

Site Location Plan
Cave Neck Road
Sussex County, Delaware

SCALE	DATE	DRAWN BY	DESIGN BY	REVIEW BY	JOB NO.
NTS	March 2022	GTA	Google Maps	GRS	31212171



Exploration Location Plan taken from Google Earth and a plan titled *Cave Neck Road* prepared by Morris & Ritchie Associates, Inc. and dated October 13, 2021.

Boring Location

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
21133 Sterling Avenue, Suite 7
Georgetown, Delaware 19947
(302) 855-9761 Fax (302) 856-3388

Exploration Location Plan
Cave Neck Road
Sussex County, Delaware

SCALE 11x17	DATE	DRAWN BY	DESIGN BY	REVIEW BY	JOB NO.	Figure
1" ~ 265'	March 2022	GTA	MRA	GRS	31212171	2

Soil Map—Sussex County, Delaware
(Cave Neck)

Map Scale: 1:7,650 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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 1:24,000.

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: Sussex County, Delaware
Survey Area Data: Version 22, Aug 26, 2021

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

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

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
EvD	Evesboro loamy sand, 5 to 15 percent slopes	0.6	0.7%
GoA	Glassboro sandy loam, 0 to 2 percent slopes	29.2	29.9%
HrA	Henlopen-Rosedale complex, 0 to 2 percent slopes	35.4	36.2%
LO	Longmarsh and Indiantown soils, frequently flooded	1.0	1.0%
RkA	Rockawalkin loamy sand, 0 to 2 percent slopes	6.6	6.8%
RoA	Rosedale loamy sand, 0 to 2 percent slopes	24.9	25.5%
Totals for Area of Interest		**97.8**	**100.0%**

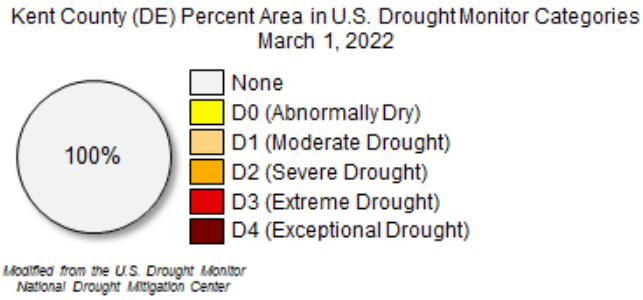
Delaware Geological Survey
State of Delaware
University of Delaware • Delaware Geological Survey Building
Newark, Delaware 19716-7501

Kent County Hydrologic Conditions – February 28, 2022

PRECIPITATION
Dover - running surplus/deficit
12-month: -1.90" 6-month: -5.16" 5-month: -6.15"

STREAMFLOW
St. Jones at Dover – 30-day moving average (Jan. 30 - Feb. 28)
23 mgd
Status: below normal

GROUNDWATER
Well Mc51-01a
13.1 fbls
Status: normal
(normal for February is between 10.5 fbls and 13.3 fbls

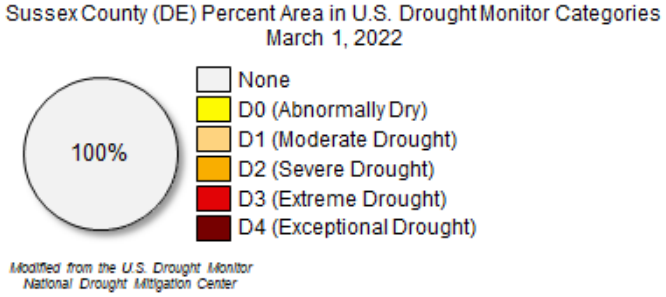


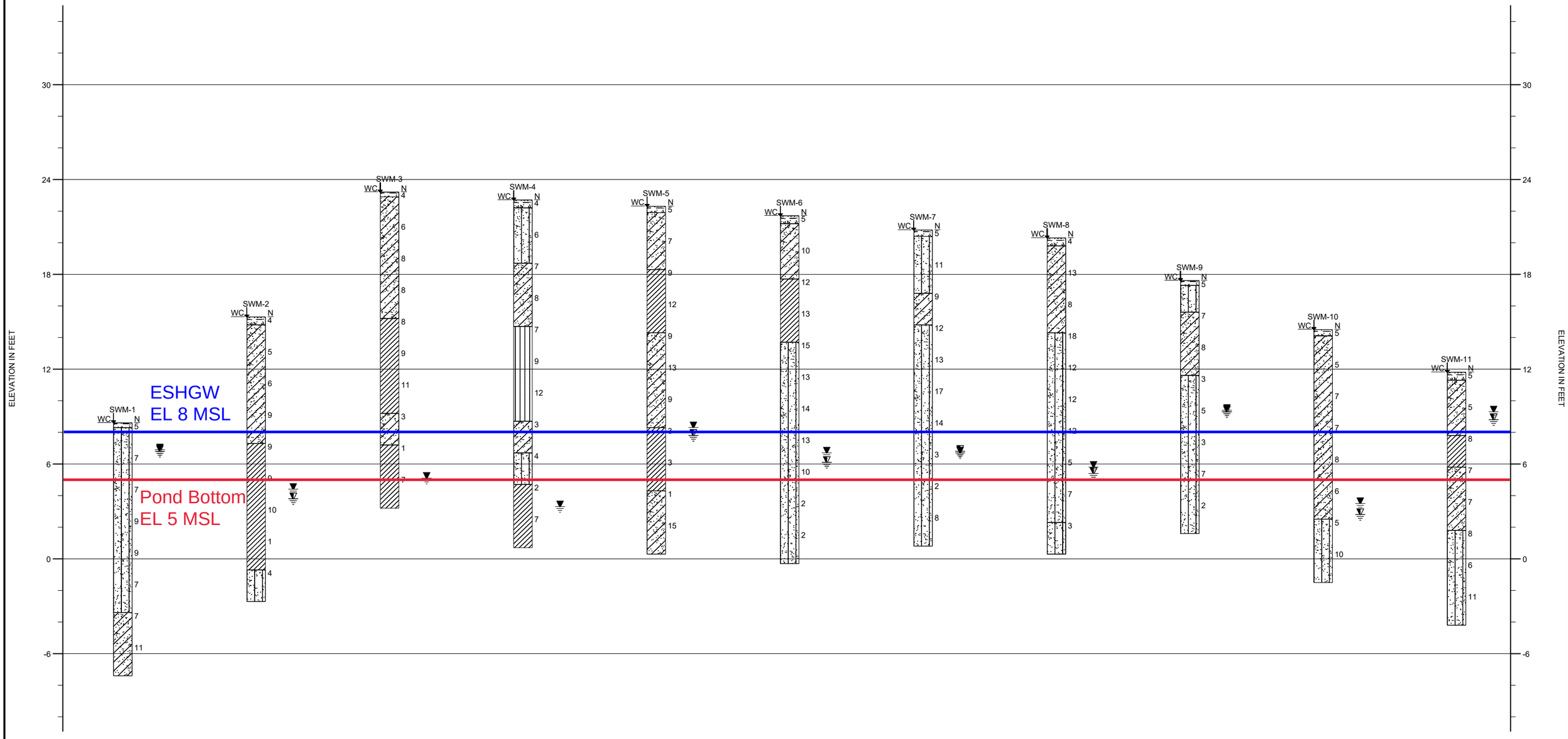
Sussex County Hydrologic Conditions – February 28, 2022

PRECIPITATION
Georgetown - running surplus/deficit
12-month: -4.33" 6-month: -5.53" 5-month: -5.48"

STREAMFLOW
Nanticoke River at Bridgeville – 30-day moving average (Jan. 30 - Feb. 28)
60 mgd
Status: normal

GROUNDWATER
Pe54-51 (Jones Crossroads)
2.61 fbls
Status: above normal
(normal for February is between 5.9 fbls and 7.0 fbls





Symbol Description

- Topsoil
- SM - Silty Sand
- SC - Clayey Sand
- CL - Lean Clay
- ML - Silt
- SP-SM - Poorly Graded Sand with Silt
- Approximate horizontal location of exploration
- Water table during drilling
- Water table at completion
- Water table at 3rd check

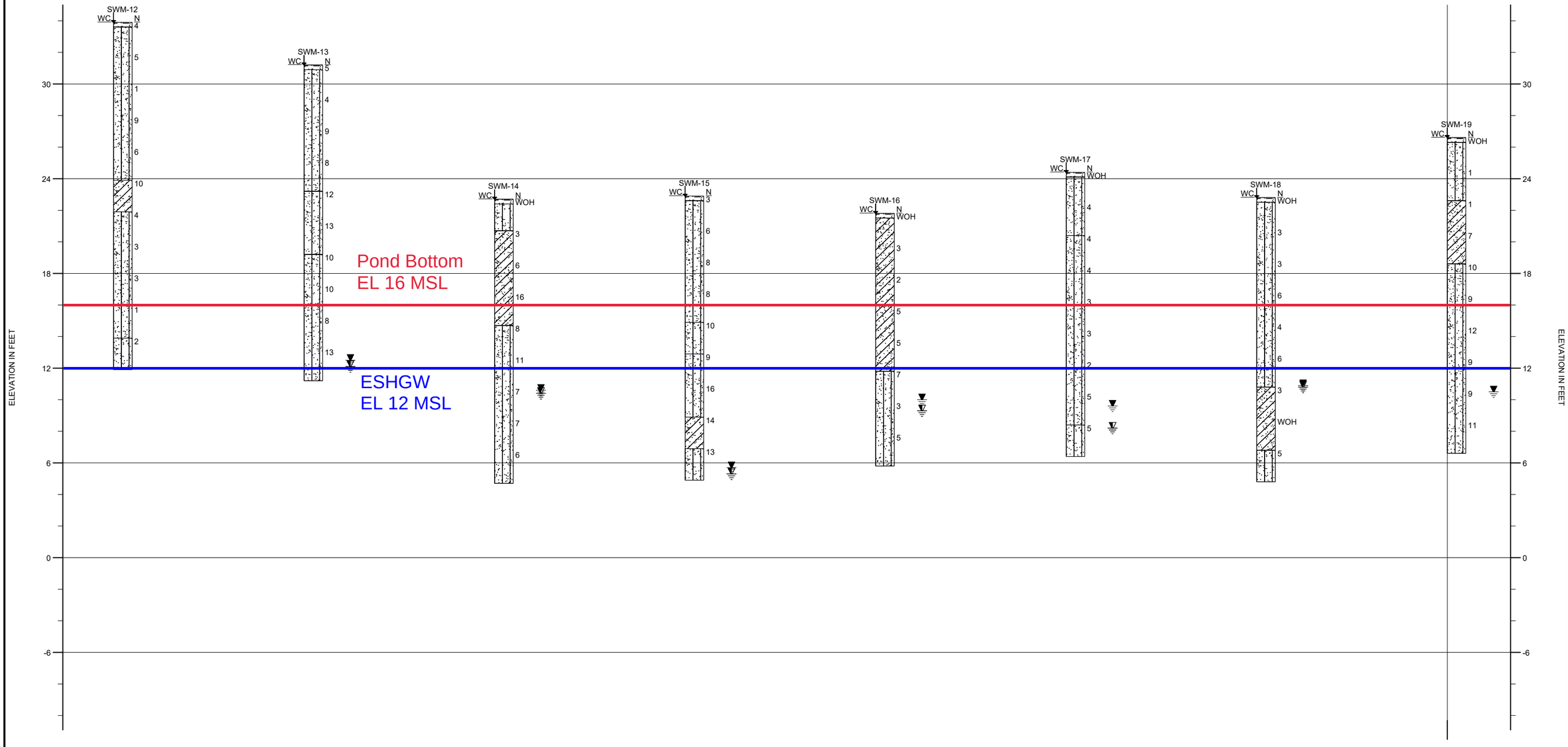
Geo-Technology Associates, Inc.

SUBSURFACE PROFILE

VERTICAL SCALE: 1"=6'	DRAWN BY TPC	APPROVED BY GRS	DATE: 3/18/2022

Cave Neck Road
Sussex County, Delaware

PROJECT NO. 31212171 | FIGURE 3



Symbol Description

- Topsoil
- SM - Silty Sand
- SC - Clayey Sand
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- Approximate horizontal location of exploration
- Water table during drilling
- Water table at completion
- Water table at 3rd check

Geo-Technology Associates, Inc.			
SUBSURFACE PROFILE			
VERTICAL SCALE: 1"=6'	DRAWN BY TPC	APPROVED BY GRS	DATE: 3/18/2022
Cave Neck Road Sussex County, Delaware			
PROJECT NO. 31212171		FIGURE 4	

NOTES FOR EXPLORATION LOGS

KEY TO USCS TERMINOLOGY AND GRAPHIC SYMBOLS

MAJOR DIVISIONS (BASED UPON ASTM D 2488)				SYMBOLS GRAPHIC	SYMBOLS LETTER
COARSE-GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 15% PASSING THE NO. 200 SIEVE)			GW
					GP
		GRAVELS WITH FINES (MORE THAN 15% PASSING THE NO. 200 SIEVE)			GM
					GC
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LESS THAN 15% PASSING THE NO. 200 SIEVE)			SW
					SP
		SANDS WITH FINES (MORE THAN 15% PASSING THE NO. 200 SIEVE)			SM
					SC
FINE-GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILT OR CLAY (<15% RETAINED ON THE NO. 200 SIEVE) SILT OR CLAY WITH SAND OR GRAVEL (15% TO 30% RETAINED ON THE NO. 200 SIEVE) SANDY OR GRAVELLY SILT OR CLAY (>30% RETAINED ON THE NO. 200 SIEVE)	SILTS AND LEAN CLAYS LIQUID LIMIT LESS THAN 50			ML
					CL
					OL
		ELASTIC SILTS AND FAT CLAYS LIQUID LIMIT GREATER THAN 50			MH
					CH
					OH
HIGHLY ORGANIC SOILS					PT

NOTE: DUAL SYMBOLS ARE USED TO INDICATE COARSE-GRAINED SOILS WHICH CONTAIN AN ESTIMATED 5 TO 15% FINES BASED ON VISUAL CLASSIFICATION OR BETWEEN 5 AND 12% FINES BASED ON LABORATORY TESTING; AND FINE-GRAINED SOILS WHEN THE PLOT OF LIQUID LIMIT & PLASTICITY INDEX VALUES FALLS IN THE PLASTICITY CHART'S CROSS-HATCHED AREA. FINE-GRAINED SOILS ARE CLASSIFIED AS ORGANIC (OL OR OH) WHEN ENOUGH ORGANIC PARTICLES ARE PRESENT TO INFLUENCE ITS PROPERTIES. LABORATORY TEST RESULTS ARE USED TO SUPPLEMENT SOIL CLASSIFICATION BY THE VISUAL-MANUAL PROCEDURES OF ASTM D 2488.

ADDITIONAL TERMINOLOGY AND GRAPHIC SYMBOLS

	DESCRIPTION		GRAPHIC SYMBOLS
ADDITIONAL DESIGNATIONS	TOPSOIL		
	MAN MADE FILL		
	GLACIAL TILL		
	COBBLES AND BOULDERS		
RESIDUAL SOIL DESIGNATIONS	DESCRIPTION	"N" VALUE	
	HIGHLY WEATHERED ROCK	50 TO 50/1"	
	PARTIALLY WEATHERED ROCK	MORE THAN 50 BLOWS FOR 1" OF PENETRATION OR LESS, AUGER PENETRABLE	

COARSE-GRAINED SOILS
(GRAVEL AND SAND)

DESIGNATION	BLOWS PER FOOT (BPF) "N"
VERY LOOSE	0 - 4
LOOSE	5 - 10
MEDIUM DENSE	11 - 30
DENSE	31 - 50
VERY DENSE	>50

NOTE: "N" VALUE DETERMINED AS PER ASTM D 1586

FINE-GRAINED SOILS
(SILT AND CLAY)

CONSISTENCY	BPF "N"
VERY SOFT	<2
SOFT	2 - 4
MEDIUM STIFF	5 - 8
STIFF	9 - 15
VERY STIFF	16 - 30
HARD	>30

NOTE: ADDITIONAL DESIGNATIONS TO ADVANCE SAMPLER INDICATED IN BLOW COUNT COLUMN:
WOH = WEIGHT OF HAMMER
WOR = WEIGHT OF ROD(S)

SAMPLE TYPE

DESIGNATION	SYMBOL
SOIL SAMPLE	S-
SHELBY TUBE	U-
ROCK CORE	R-

WATER DESIGNATION

DESCRIPTION	SYMBOL
ENCOUNTERED DURING DRILLING	▽
UPON COMPLETION OF DRILLING	▼
24 HOURS AFTER COMPLETION	▼

NOTE: WATER OBSERVATIONS WERE MADE AT THE TIME INDICATED. POROSITY OF SOIL STRATA, WEATHER CONDITIONS, SITE TOPOGRAPHY, ETC. MAY CAUSE WATER LEVEL CHANGES.

LOG OF BORING NO. SWM-1

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	1.8		1.7
DATE:	2/16/22		2/17/22
CAVED (ft):	-		-

DATE STARTED: **2/16/2022**
DATE COMPLETED: **2/16/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **1.8**
GROUND SURFACE ELEVATION: **8.6**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	20	1-3-2-2	5	8.6 8.3	0	TS SM		Topsoil: 4 inches Brown-gray, moist to wet, loose, Silty SAND USDA: Sandy Loam	▽
2	2.0	24	2-4-3-3	7						
3	4.0	24	3-4-3-3	7		5				
4	6.0	24	3-5-4-6	9						
5	8.0	20	4-4-5-6	9						
6	10.0	24	2-4-3-5	7		10				
7	12.0	24	3-3-4-5	7	-3.4		SC		Brown, wet, loose to medium dense, Clayey SAND USDA: Sandy Clay Loam	
8	14.0	20	6-6-5-6	11		15				
					-7.4				Bottom of hole 16 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 55, 48 Hr. Precip.: 0.1 in., Coords: 38 45'39.48"N, 75 15'58.87"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-1

LOG OF BORING NO. SWM-2

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	11.5		10.9
DATE:	2/16/22		2/17/22
CAVED (ft):	-		-

DATE STARTED: **2/16/2022**
DATE COMPLETED: **2/16/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft): **11.5**
GROUND SURFACE ELEVATION: **15.3**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	24	1-2-2-3	4	15.3 14.8	0	TS SC		Topsoil: 6 inches Brown, moist, very loose to loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	24	2-2-3-3	5						
3	4.0	20	4-3-3-4	6		5				
4	6.0	24	1-4-5-6	9						
5	8.0	24	5-4-5-6	9	7.3		CL		Orange-gray, moist to wet, very soft to stiff, Lean CLAY USDA: Clay Loam	
6	10.0	20	3-5-4-6	9		10				▼
7	12.0	24	4-5-5-6	10						
8	14.0	20	WOH/12-1-1	1		15				
9	16.0	24	2-2-2-3	4	-0.7		SM		Orange-gray, wet, very loose, Silty SAND USDA: Sandy Loam	
					-2.7				Bottom of hole 18 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 55, 48 Hr. Precip.: 0.1 in., Coords: 38 45'38.21"N 75 15'57.01"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-2

LOG OF BORING NO. SWM-3

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	Dry 20		18.1
DATE:	2/16/22		2/17/22
CAVED (ft):	-		-

DATE STARTED: **2/16/2022**
DATE COMPLETED: **2/16/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **NE**
GROUND SURFACE ELEVATION: **23.2**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					23.2	0	TS		Topsoil: 3 inches	
1	0.0	24	1-1-3-3	4	22.9		SC		Gray-brown, moist, very loose to loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	24	2-3-3-4	6						
3	4.0	24	2-4-4-4	8		5				
	6.0	20	3-3-5-5	8						
5	8.0	24	2-3-5-5	8	15.2		CL		Gray, moist, medium stiff to stiff, Lean CLAY USDA: Clay Loam	
6	10.0	20	3-4-5-7	9		10				
7	12.0	24	3-5-6-6	11						
8	14.0	20	2-2-1-2	3	9.2	15	SC		Brown, moist, very loose, Clayey SAND USDA: Sandy Clay Loam	
9	16.0	20	WOH/12-1-1	1	7.2		CL		Gray-orange, moist, very soft to medium stiff, Lean CLAY USDA: Clay Loam	▽
10	18.0	24	2-3-4-4	7		20				
					3.2				Bottom of hole 20 feet	
						25				
						30				

NOTES: **Air Temp.: 55, 48 Hr. Precip.: 0.1 in., Coords: 38 45'37.58"N, 75 15'55.10"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-3

LOG OF BORING NO. SWM-4

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	Dry 22		19.4
DATE:	2/15/22		2/16/22
CAVED (ft):	-		-

DATE STARTED: **2/15/2022**
DATE COMPLETED: **2/15/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽: **NE**
GROUND SURFACE ELEVATION: **22.7**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					22.7	0	TS		Topsoil: 6 inches	
1	0.0	20	1-2-2-3	4	22.2		SM		Brown, moist, very loose to loose, Silty SAND USDA: Sandy Loam	
2	2.0	20	2-3-3-4	6						
					18.7		SC		Gray-orange, moist, loose, Clayey SAND USDA: Sandy Clay Loam	
3	4.0	18	1-3-4-5	7		5				
4	6.0	20	2-4-4-3	8						
					14.7		ML		Gray, moist, medium stiff to stiff, SILT USDA: Silt Loam	
5	8.0	20	2-3-4-5	7						
6	10.0	24	2-5-4-5	9		10				
7	12.0	20	4-6-6-7	12						
					8.7		SC		Brown, moist, very loose, Clayey SAND USDA: Sandy Clay Loam	
8	14.0	16	1-2-1-2	3		15				
					6.7		SM		Brown, moist, very loose, Silty SAND USDA: Sandy Loam	
9	16.0	18	1-2-2-3	4						
					4.7		CL		Brown, moist, soft to medium stiff, Lean CLAY USDA: Clay Loam	▽
10	18.0	24	WOH/12-2-2	2		20				
11	20.0	24	3-4-3-3	7						
					0.7				Bottom of hole 22 feet	
						25				
						30				

NOTES: **Air Temp.: 32, 48 Hr. Precip.: 0.1 in., Coords: 38 45'36.55"N, 75 15'55.51"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-4

LOG OF BORING NO. SWM-5

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	14.5		14.0
DATE:	2/15/22		2/16/22
CAVED (ft):	-		-

DATE STARTED: **2/15/2022**
DATE COMPLETED: **2/15/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **14.5**
GROUND SURFACE ELEVATION: **22.3**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					22.3	0	TS		Topsoil: 5 inches	
1	0.0	20	1-2-3-2	5	21.9		SC		Brown, moist, loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	20	2-3-4-4	7						
					18.3					
3	4.0	24	3-4-5-7	9		5	CL		Gray-orange, moist, stiff, Lean CLAY USDA: Clay Loam	
4	6.0	20	4-5-7-8	12						
					14.3					
5	8.0	20	2-4-5-5	9			SC		Brown, moist, loose to medium dense, Clayey SAND USDA: Sandy Clay Loam	
6	10.0	20	4-6-7-8	13		10				
7	12.0	20	4-5-4-3	9						
					8.3					
8	14.0	24	1-2-1-2	3			CL		Gray-orange, moist to wet, soft, Lean CLAY USDA: Clay Loam	▽
9	16.0	20	2-2-1-2	3		15				
					4.3					
10	18.0	24	WOH/12-1-10	1			SC		Brown, wet, very loose to medium dense, Clayey SAND USDA: Sandy Clay Loam	
11	20.0	24	7-7-8-7	15		20				
					0.3				Bottom of hole 22 feet	
						25				
						30				

NOTES: **Air Temp.: 32, 48 Hr. Precip.: 0.1 in., Coords: 38 45'36.97"N, 75 15'57.64"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-5

LOG OF BORING NO. SWM-6

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	15.6		15.0
DATE:	2/14/22		2/15/22
CAVED (ft):	-		-

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **15.6**
GROUND SURFACE ELEVATION: **21.7**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					21.7	0	TS		Topsoil: 6 inches	
1	0.0	20	1-3-2-3	5	21.2		SC		Brown, moist, loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	20	2-4-6-6	10						
					17.7		CL		Gray-orange, moist, stiff, Lean CLAY USDA: Clay Loam	
3	4.0	24	3-5-7-8	12		5				
4	6.0	20	4-6-7-7	13						
					13.7		SM		Brown-tan, moist to wet, very loose to medium dense, Silty SAND USDA: Sandy Loam	
5	8.0	18	5-7-8-8	15		10				
6	10.0	18	4-6-7-8	13						
7	12.0	20	5-7-7-9	14						
8	14.0	24	4-6-7-8	13		15				▽
9	16.0	20	3-5-5-6	10						
10	18.0	24	1-1-1-1	2		20				
11	20.0	24	1-1-1-2	2						
					-0.3				Bottom of hole 22 feet	
						25				
						30				

NOTES: **Air Temp.: 29, 48 Hr. Precip.: 0.1 in., Coords: 38 45'37.31"N, 75 15'59.35"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-6

LOG OF BORING NO. SWM-7

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): 14.0 | | 14.1
DATE: 2/16/22 | | 2/17/22
CAVED (ft): - | | -

DATE STARTED: **2/16/2022**
DATE COMPLETED: **2/16/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **14.0**
GROUND SURFACE ELEVATION: **20.8**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					20.8	0	TS		Topsoil: 5 inches	
1	0.0	20	1-2-3-3	5	20.4		SM		Brown, moist, loose to medium dense, Silty SAND USDA: Sandy Loam	
2	2.0	20	3-5-6-5	11						
					16.8					
3	4.0	24	3-5-4-5	9		5	SC		Brown, moist, loose, Clayey SAND USDA: Sandy Clay Loam	
					14.8					
4	6.0	24	5-6-6-7	12			SM		Brown-orange, moist to wet, very loose to medium dense, Silty SAND with Gravel USDA: Sandy Loam	
5	8.0	20	4-7-6-6	13						
						10				
6	10.0	16	5-8-9-7	17						
7	12.0	20	6-7-7-9	14						▽
8	14.0	24	1-2-1-2	3		15				
9	16.0	24	1-1-1-1	2						
10	18.0	24	3-4-4-3	8						
					0.8	20			Bottom of hole 20 feet	
						25				
						30				

NOTES: **Air Temp.: 55, 48 Hr. Precip.: 0.1 in., Coords: 38 45'36.88"N, 75 16'1.32"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-7

LOG OF BORING NO. SWM-8

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): 14.9 | | 14.5
DATE: 2/14/22 | | 2/15/22
CAVED (ft): - | | -

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **14.9**
GROUND SURFACE ELEVATION: **20.3**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					20.3	0	TS		Topsoil: 6 inches	
1	0.0	18	1-2-2-3	4	19.8		SC		Tan-brown, moist, very loose to medium dense, Silty SAND USDA: Sandy Clay Loam	
2	2.0	18	3-6-7-7	13						
3	4.0	20	3-5-3-10	8		5				
4	6.0	24	9-9-9-10	18	14.3		SM		Brown-tan, moist to wet, loose to medium dense, Silty SAND USDA: Sandy Loam	
5	8.0	20	3-5-7-8	12						
6	10.0	20	3-6-6-7	12		10				
7	12.0	22	5-6-6-5	12						
8	14.0	20	3-2-3-2	5		15				▽
9	16.0	20	2-3-4-3	7						
10	18.0	24	1-1-2-2	3	2.3		SP-SM		Brown, wet, very loose, Poorly-graded SAND with Silt USDA: Loamy Sand	
					0.3	20			Bottom of hole 20 feet	
						25				
						30				

NOTES: **Air Temp.: 29, 48 Hr. Precip.: 0.1 in., Coords: 38 45'35.63"N, 75 16'1.93"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-8

LOG OF BORING NO. SWM-9

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	8.3		8.2
DATE:	2/16/22		2/17/22
CAVED (ft):	-		-

DATE STARTED: **2/16/2022**
DATE COMPLETED: **2/16/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **8.3**
GROUND SURFACE ELEVATION: **17.6**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					17.6	0	TS		Topsoil: 4 inches	
1	0.0	24	2-3-2	5	17.3		SM		Brown, moist, loose, Silty SAND USDA: Sandy Loam	
					15.6		SC		Brown, moist, loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	24	2-3-4-3	7						
3	4.0	20	4-3-5-4	8		5				
					11.6		SM		Brown-orange, moist to wet, very loose to loose, Silty SAND with Gravel USDA: Sandy Loam	▽
4	6.0	24	1-1-2-1	3						
5	8.0	24	2-2-3-3	5		10				
6	10.0	24	1-1-2-3	3						
7	12.0	20	4-4-3-3	7						
8	14.0	24	1-1-1-1	2		15				
					1.6				Bottom of hole 16 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 55, 48 Hr. Precip.: 0.1 in., Coords: 38 45'36.68"N, 75 16'3.48"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-9

LOG OF BORING NO. SWM-10

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	11.7		11.0
DATE:	2/16/22		2/17/22
CAVED (ft):	-		-

DATE STARTED: **2/16/2022**
DATE COMPLETED: **2/16/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft): **11.7**
GROUND SURFACE ELEVATION: **14.5**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	24	1-2-3-4	5	14.5 14.1	0	TS SC		Topsoil: 5 inches Brown, moist to wet, loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	24	2-2-3-3	5						
3	4.0	20	2-4-3-4	7		5				
4	6.0	24	2-4-3-4	7						
5	8.0	24	4-4-4-4	8						
6	10.0	24	1-3-3-5	6		10				
7	12.0	24	2-2-3-4	5	2.5		SM		Brown, wet, loose, Silty SAND USDA: Sandy Loam	
8	14.0	24	5-6-4-5	10		15				
					-1.5				Bottom of hole 16 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 55, 48 Hr. Precip.: 0.1 in., Coords: 38 45'38.34"NN, 75 16'1.84"W**
ASTM 1586

GEO-TECHNOLOGY
ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-10

LOG OF BORING NO. SWM-11

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): 3.0 | | 2.5
DATE: 2/15/22 | | 2/16/22
CAVED (ft): - | | -

DATE STARTED: **2/15/2022**
DATE COMPLETED: **2/15/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **3.0**
GROUND SURFACE ELEVATION: **11.8**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					11.8	0	TS		Topsoil: 6 inches	
1	0.0	20	1-3-2-2	5	11.3		SC		Brown, moist to wet, loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	24	2-2-3-2	5						▽
3	4.0	24	2-4-4-4	8	7.8	5	CL		Gray-orange, wet, medium stiff, Lean CLAY USDA: Clay Loam	
4	6.0	20	2-3-4-4	7	5.8		SC		Brown-gray-orange, wet, loose, Clayey SAND USDA: Sandy Clay Loam	
5	8.0	18	3-3-4-3	7						
6	10.0	20	1-3-5-4	8	1.8	10	SM		Brown, wet, loose to medium dense, Silty SAND USDA: Sandy Loam	
7	12.0	24	2-2-4-5	6						
8	14.0	24	4-5-6-5	11		15				
					-4.2				Bottom of hole 16 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 32, 48 Hr. Precip.: 0.1 in., Coords: 38 45'38.48"N, 75 15'59.86"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-11

LOG OF BORING NO. SWM-12

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): Dry 22 | | Dry 22
DATE: 2/14/22 | | 2/15/22
CAVED (ft): - | | -

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **NE**
GROUND SURFACE ELEVATION: **33.9**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					33.9	0	TS		Topsoil: 3 inches	
1	0.0	20	2-2-2-1	4	33.6		SM		Brown-orange-white, moist, very loose to loose, Silty SAND USDA: Sandy Loam	
2	2.0	14	1-2-3-3	5						
3	4.0	20	WOH/12-1-1	1		5				
4	6.0	10	4-4-5-4	9						
5	8.0	16	1-3-3-5	6						
					23.9	10	SC		Orange-gray, moist, loose, Clayey SAND USDA: Sandy Clay Loam	
6	10.0	20	1-6-4-4	10	21.9		SM		Tan, moist to wet, very loose, Silty SAND USDA: Sandy Loam	
7	12.0	18	1-1-3-3	4						
8	14.0	24	1-2-1-2	3		15				
9	16.0	10	1-2-1-1	3						
10	18.0	20	WOH/18-1	1						
					13.9	20	SP-SM		Gray, wet, very loose, Poorly-graded SAND with Silt USDA: Loamy Sand	
11	20.0	20	1-1-1-1	2	11.9				Bottom of hole 22 feet	
						25				
						30				

NOTES: **Air Temp.: 29, 48 Hr. Precip.: 0.1 in., Coords: 38 45'16.62"N, 75 15'37.34"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-12

LOG OF BORING NO. SWM-13

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	19.1		18.7
DATE:	2/14/22		2/15/22
CAVED (ft):	-		-

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **19.1**
GROUND SURFACE ELEVATION: **31.2**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					31.2	0	TS		Topsoil: 3 inches	
1	0.0	14	2-2-3-3	5	30.9		SM		Tan, moist, very loose to loose, Silty SAND USDA: Sandy Loam	
2	2.0	24	2-2-2-2	4						
3	4.0	24	4-4-5-6	9		5				
4	6.0	24	3-4-4-5	8						
5	8.0	24	4-6-6-6	12	23.2		SP-SM		Orange-tan, moist, medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand	
6	10.0	24	7-7-6-7	13		10				
7	12.0	24	4-5-5-4	10	19.2		SM		Gray, moist to wet, loose to medium dense, Silty SAND USDA: Sandy Loam	▽
8	14.0	24	4-4-6-5	10		15				
9	16.0	24	5-4-4-6	8						
10	18.0	24	4-6-7-7	13						
					11.2	20			Bottom of hole 20 feet	
						25				
						30				

NOTES: **Air Temp.: 29, 48 Hr. Precip.: 0.1 in., Coords: 38 45'15.40"N, 75 15'38.20"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-13

LOG OF BORING NO. SWM-14

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	12.3		12.1
DATE:	2/14/22		2/15/22
CAVED (ft):	-		-

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **12.3**
GROUND SURFACE ELEVATION: **22.7**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	10	WOH/18-1	WOH	22.7	0	TS		Topsoil: 3 inches	
					22.4		SM		Brown, moist, very loose, Silty SAND USDA: Sandy Loam	
2	2.0	24	1-1-2-2	3	20.7		SC		Tan-orange, moist, very loose to medium dense, Clayey SAND USDA: Sandy Clay Loam	
3	4.0	20	1-2-4-4	6		5				
4	6.0	24	5-8-8-8	16	14.7					
5	8.0	24	3-4-4-4	8			SM		Brown-gray, moist, loose to medium dense, Silty SAND USDA: Sandy Loam	
6	10.0	18	3-5-6-7	11		10				▽
7	12.0	18	2-3-4-5	7						
8	14.0	18	3-3-4-5	7		15				
9	16.0	20	2-4-2-2	6						
					4.7				Bottom of hole 18 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 29, 48 Hr. Precip.: 0.1 in., Coords: 38 45'15.30"N, 75 15'39.84"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-14

LOG OF BORING NO. SWM-15

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): 17.6 | | 17.2
DATE: 2/14/22 | | 2/15/22
CAVED (ft): - | | -

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **17.6**
GROUND SURFACE ELEVATION: **22.9**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					22.9	0	TS		Topsoil: 3 inches	
1	0.0	16	1-1-2-2	3	22.6		SM		Gray, moist, very loose to loose, Silty SAND with Gravel USDA: Sandy Loam	
2	2.0	20	2-2-4-2	6						
3	4.0	20	4-4-4-5	8		5				
4	6.0	24	3-4-4-3	8						
					14.9		SP-SM		Gray-orange, moist, loose, Poorly-graded SAND with Silt USDA: Loamy Sand	
5	8.0	24	4-5-5-6	10	12.9	10	SM		Gray, moist, loose to medium dense, Silty SAND USDA: Sandy Loam	
6	10.0	24	3-4-5-6	9						
7	12.0	24	7-7-9-9	16						
					8.9		SC		Tan-gray, moist, medium dense, Clayey SAND USDA: Sandy Clay Loam	
8	14.0	24	6-7-7-8	14		15				
					6.9		SP-SM		Gray, moist to wet, medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand ▽	
9	16.0	24	6-7-6-6	13	4.9				Bottom of hole 18 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 32, 48 Hr. Precip.: 0.1 in., Coords: 38 45'13.82"N, 75 15'40.22"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-15

LOG OF BORING NO. SWM-16

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	12.5		11.8
DATE:	2/11/22		2/13/22
CAVED (ft):	-		-

DATE STARTED: **2/11/2022**
DATE COMPLETED: **2/11/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft): **12.5**
GROUND SURFACE ELEVATION: **21.8**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	12	WOH/18-1	WOH	21.8 21.5	0	TS SC		Topsoil: 3 inches Brown-gray, moist, very loose to loose, Clayey SAND USDA: Sandy Clay Loam	
2	2.0	18	1-1-2-1	3						
3	4.0	20	1-1-1-2	2		5				
4	6.0	24	3-3-2-4	5						
5	8.0	20	3-3-2-2	5						
6	10.0	22	1-4-3-4	7	11.8	10	SM		Gray-brown-orange, moist to wet, very loose to loose, Silty SAND USDA: Sandy Loam	
7	12.0	20	3-2-1-2	3						
8	14.0	18	1-3-2-1	5		15				
					5.8				Bottom of hole 16 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 60, 48 Hr. Precip.: 0.0 in., Coords: 38 45'15.13"N, 75 15'41.96"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-16

LOG OF BORING NO. SWM-17

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): 16.2 | | 14.8
DATE: 2/14/22 | | 2/15/22
CAVED (ft): - | | -

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **16.2**
GROUND SURFACE ELEVATION: **24.4**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					24.4	0	TS		Topsoil: 4 inches	
1	0.0	20	WOH/18-1	WOH	24.1		SM		Brown, moist, very loose, Silty SAND USDA: Sandy Loam	
2	2.0	18	2-2-2-2	4						
					20.4		SP-SM		Brown-tan-orange, moist, very loose to loose, Poorly-graded SAND with Silt USDA: Loamy Sand	
3	4.0	18	5-2-2-2	4		5				
4	6.0	24	2-2-2-2	4						
5	8.0	24	2-1-2-2	3						
						10				
6	10.0	20	2-1-2-2	3						
7	12.0	20	2-1-1-2	2						
8	14.0	20	1-1-4-5	5		15				▽
					8.4		SM		Tan, moist to wet, loose, Silty SAND USDA: Sandy Loam	▽
9	16.0	24	2-2-3-2	5						
					6.4				Bottom of hole 18 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 32, 48 Hr. Precip.: 0.1 in., Coords: 38 45'16.21"N, 75 15'43.46"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-17

Sheet 1 of 1

LOG OF BORING NO. SWM-18

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	12.0		11.9
DATE:	2/15/22		2/16/22
CAVED (ft):	-		-

DATE STARTED: **2/15/2022**
DATE COMPLETED: **2/15/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ▽ **12.0**
GROUND SURFACE ELEVATION: **22.8**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	20	WOH/18-1	WOH	22.8	0	TS		Topsoil: 3 inches	
					22.5		SM		Brown, moist, very loose to loose, Silty SAND USDA: Sandy Loam	
2	2.0	20	1-1-2-3	3						
3	4.0	20	1-1-2-2	3		5				
4	6.0	24	2-2-4-4	6						
5	8.0	24	2-2-2-3	4						
6	10.0	24	3-3-3-4	6		10				
					10.8		SC		Gray, moist, very loose, Clayey SAND USDA: Sandy Clay Loam	
7	12.0	24	1-1-2-2	3						
8	14.0	10	WOH/18-1	WOH		15				
					6.8		SM		Gray-orange, moist, loose, Silty SAND USDA: Sandy Loam	
9	16.0	16	1-3-2-1	5	4.8				Bottom of hole 18 feet	
						20				
						25				
						30				

NOTES: **Air Temp.: 32, 48 Hr. Precip.: 0.1 in., Coords: 38 45'16.30"N, 75 15'40.57"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-18

LOG OF BORING NO. SWM-19

PROJECT: **Cave Neck Road**
PROJECT NO.: **31212171**
PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft):	Dry 20		16.1
DATE:	2/14/22		2/15/22
CAVED (ft):	-		-

DATE STARTED: **2/14/2022**
DATE COMPLETED: **2/14/2022**
DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
DRILLER: **P. Foley**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft): **NE**
GROUND SURFACE ELEVATION: **26.6**
DATUM: **Survey**
EQUIPMENT: **Geoprobe 7822DT**
LOGGED BY: **AMW**
CHECKED BY: **TPC**

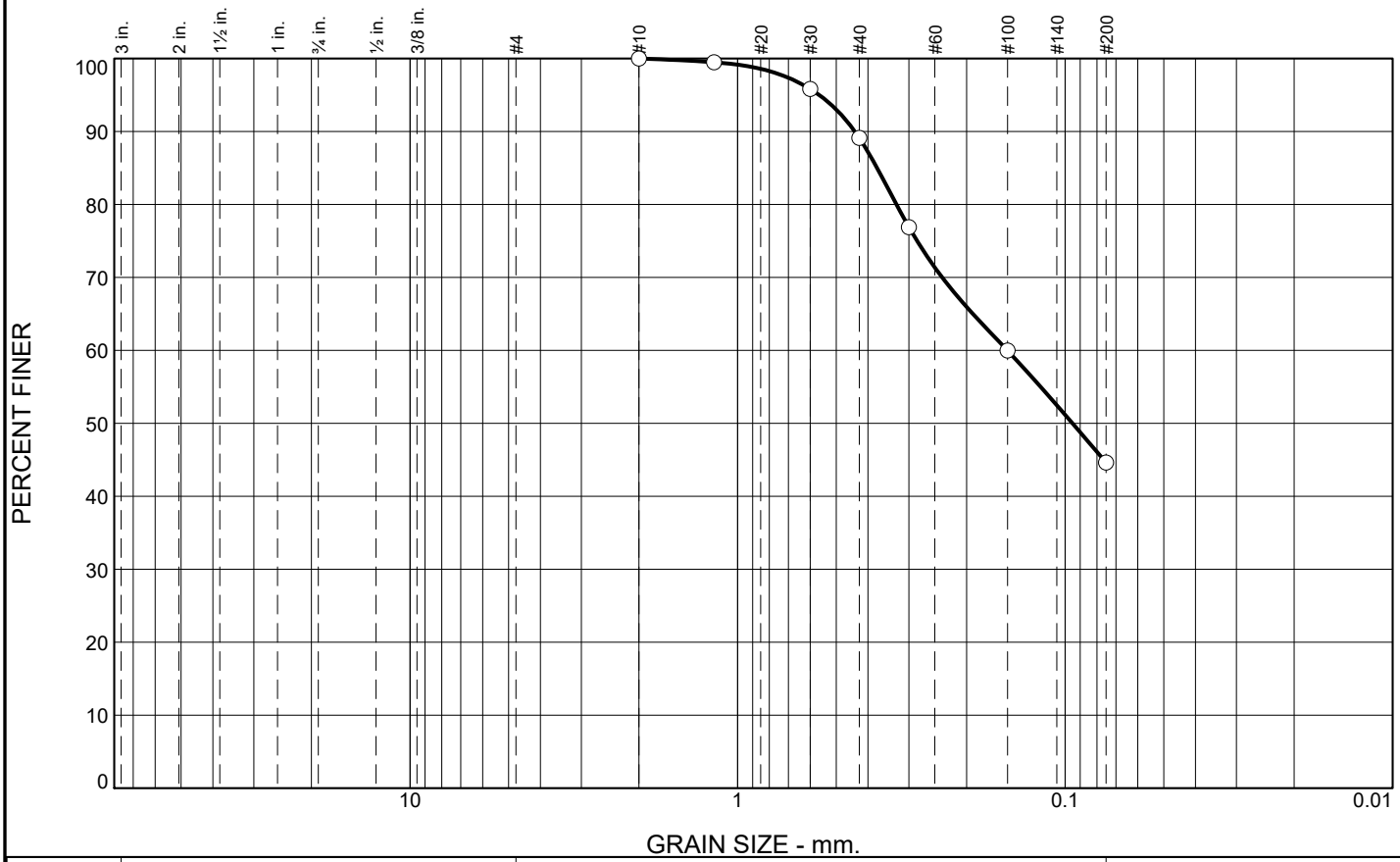
SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	16	WOH/18-1	WOH	26.6	0	TS		Topsoil: 4 inches	
					26.3		SM		Brown, moist, very loose, Silty SAND USDA: Sandy Loam	
2	2.0	10	WOH/12-1-3	1						
					22.6		SC		Tan-orange, moist, very loose to loose, Clayey SAND USDA: Sandy Clay Loam	
3	4.0	10	WOH/12-1-3	1		5				
4	6.0	24	4-3-4-3	7						
					18.6		SM		Brown-white-orange, moist, loose to medium dense, Silty SAND USDA: Sandy Loam	
5	8.0	16	7-5-5-6	10		10				
6	10.0	24	5-5-4-5	9						
7	12.0	10	4-7-5-5	12						
8	14.0	24	1-4-5-4	9		15				
9	16.0	18	2-4-5-6	9						
10	18.0	16	3-2-9-9	11						
					6.6	20			Bottom of hole 20 feet	
						25				
						30				

NOTES: **Air Temp.: 29, 48 Hr. Precip.: 0.1 in., Coords: 38 45'16.47"N, 75 15'39.15"W**
ASTM 1586

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

LOG OF BORING NO. SWM-19

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.0	10.9	44.5	44.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	99.5		
#30	95.8		
#40	89.1		
#50	76.9		
#100	60.0		
#200	44.6		

* (no specification provided)

Soil Description

Gray-brown, Clayey SAND

Atterberg Limits

PL= 13 LL= 23 PI= 10 NM= 13.3

Coefficients

D_{90}= 0.4385 D_{85}= 0.3751 D_{60}= 0.1502
D_{50}= 0.0949 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SC AASHTO= A-4(1)

Remarks

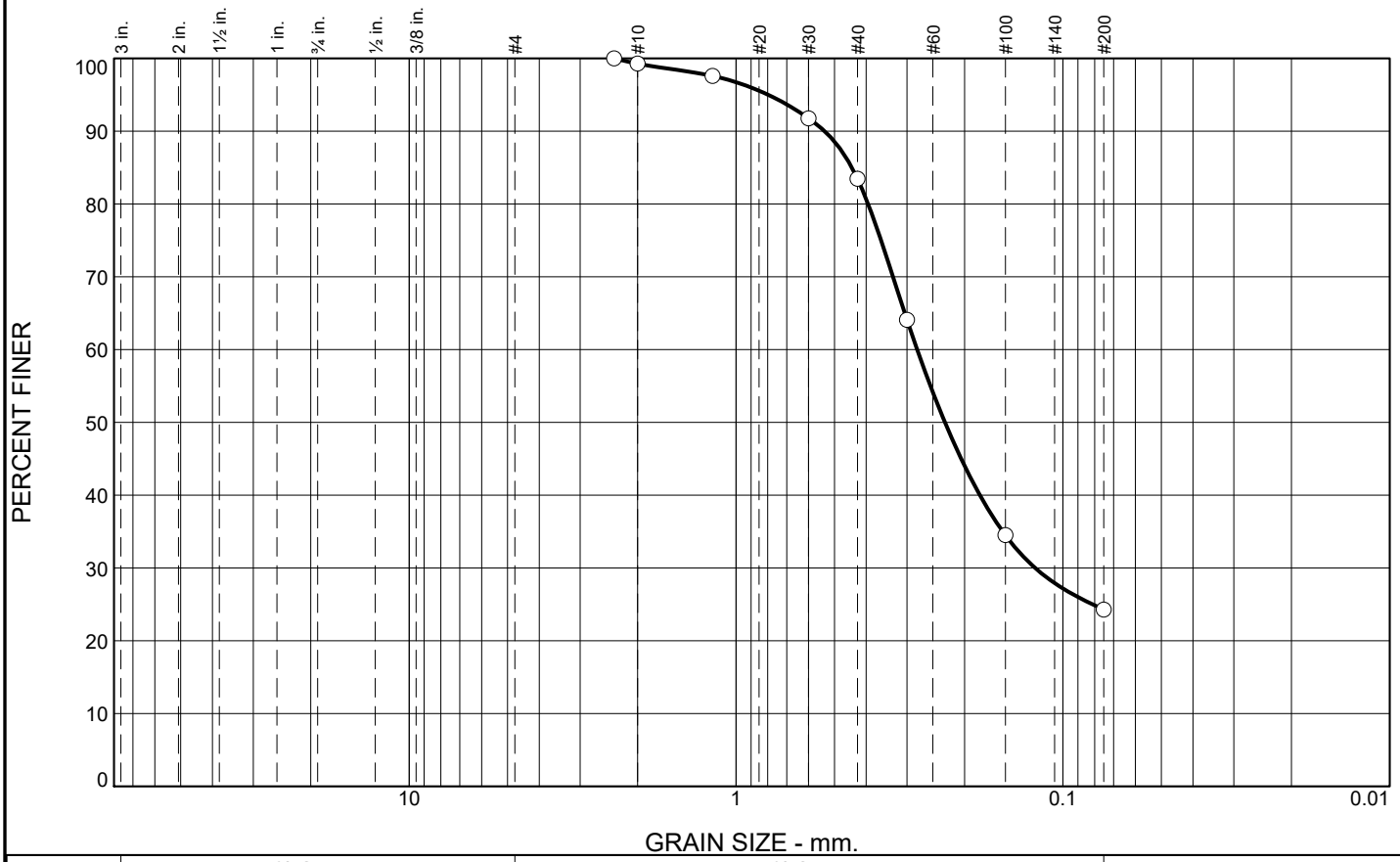
Source of Sample: SWM-3 **Depth:** 1.0-4.0 feet
Sample Number: S-02162022 **Date:** 2/16/2022

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

Client: CNR Land Investment, LLC
Project: Cave Neck Road
Project No: 31212171 **Figure**

Tested By: J. Barrett **Checked By:** T. Caraway

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.7	15.8	59.2	24.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#8	100.0		
#10	99.3		
#16	97.6		
#30	91.8		
#40	83.5		
#50	64.1		
#100	34.5		
#200	24.3		

* (no specification provided)

Soil Description

Tan, Silty SAND

Atterberg Limits

PL= NP LL= NP PI= NP NM= 13.3

Coefficients

D_{90}= 0.5357 D_{85}= 0.4421 D_{60}= 0.2793
D_{50}= 0.2296 D_{30}= 0.1216 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

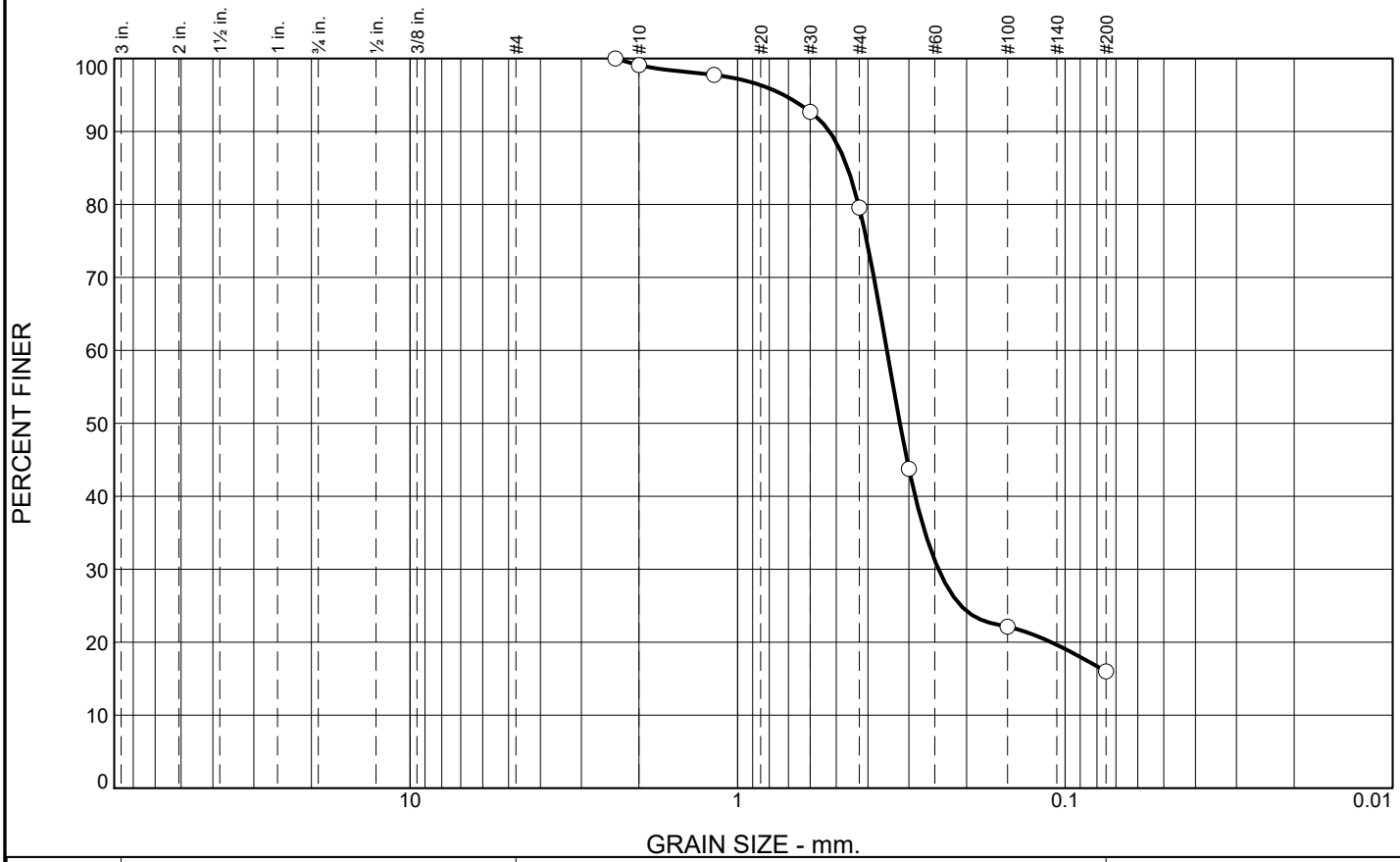
Source of Sample: SWM-8 **Depth:** 10.0-12.0 feet
Sample Number: S-6 **Date:** 2/14/2022

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

Client: CNR Land Investment, LLC
Project: Cave Neck Road
Project No: 31212171 **Figure**

Tested By: J. Barrett **Checked By:** T. Caraway

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.9	19.5	63.6	16.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#8	100.0		
#10	99.1		
#16	97.8		
#30	92.7		
#40	79.6		
#50	43.8		
#100	22.1		
#200	16.0		

* (no specification provided)

Soil Description

Tan, Silty SAND

Atterberg Limits

PL= NP LL= NP PI= NP NM= 15.0

Coefficients

D_{90}= 0.5237 D_{85}= 0.4614 D_{60}= 0.3501
D_{50}= 0.3196 D_{30}= 0.2438 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Source of Sample: SWM-12 **Depth:** 12.0-14.0 feet
Sample Number: S-7 **Date:** 2/14/2022

GEO-TECHNOLOGY ASSOCIATES, INC.
21133 Sterling Avenue, Suite 7
Georgetown, DE 19947

Client: CNR Land Investment, LLC
Project: Cave Neck Road
Project No: 31212171 **Figure**

Tested By: J. Barrett **Checked By:** T. Caraway

MOISTURE-DENSITY RELATIONSHIP TEST REPORT
ASTM D 698 Method B Standard

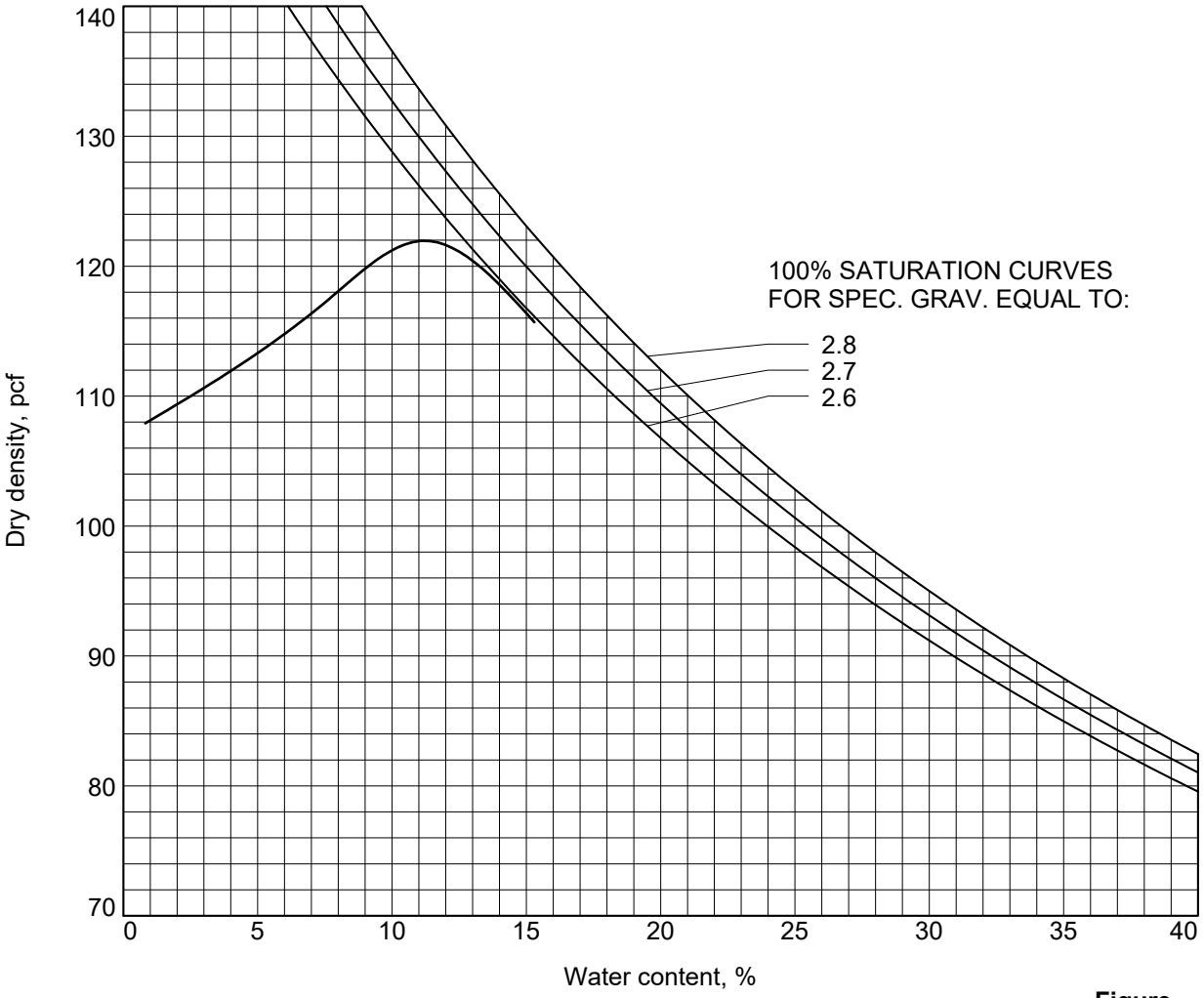
Project No.: 31212171 **Date:** 2/16/2022
Project: Cave Neck Road
Client: CNR Land Investment, LLC
Source of Sample: SWM-3 **Depth:** 1.0-4.0 feet
Sample Number: S-02162022
Remarks:

MATERIAL DESCRIPTION

Description: Gray-brown, Clayey SAND

Classifications - **USCS:** SC **AASHTO:** A-4(1)
Nat. Moist. = 13.3 % **Sp.G. =** 2.6A
Liquid Limit = 23 **Plasticity Index =** 10
% < No.200 = 44.6 %

TEST RESULTS
Maximum dry density = 122.0 pcf
Optimum moisture = 11.2 %



Figure

Geo-Technology Associates, Inc.

Tested By: J. Barrett **Checked By:** T. Caraway

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Appendix 5 –Wetlands Exhibits

Jurisdictional Determination Application – GTA, August 1, 2022

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm

August 1, 2022

U.S. Army Corps of Engineers
Philadelphia District/Dover Field Office
1203 College Park Drive, Suite 103
Dover, Delaware 19904

Re: Approved Jurisdictional Determination Application
Cave Neck Road Property
Sussex County, Delaware

Dover Field Office:

On behalf of CNR Land Investment LLC (Applicant), Geo-Technology Associates, Inc. (GTA) is submitting two sets of the following information for review and processing:

1. Appendix 1 – Request for Corps Jurisdictional Determination (JD);
2. Approved Jurisdictional Determination Form (*Rapanos Form*);
3. FEMA FIRMette for Map # 10005C0169K, revised March 16, 2015; and,
4. *Wetland Delineation Report for Cave Neck Road Property*, prepared by GTA and dated May 25, 2022.

The Applicant respectfully requests an Approved Jurisdictional Determination (AJD) of the project site known as Cave Neck Road Property ("subject site"). The subject site encompasses approximately 100.77 acres and is located southwest of Cave Neck Road and east of Beaverdam Creek in the Milton area of Sussex County, Delaware. Within the subject site, GTA observed one wetland (Wetland 1) adjacent to Beaverdam Creek, which in GTA's professional opinion, should be considered waters of the U.S. GTA observed two wetlands (Wetland 3 and Wetland 4) which appear to be geographically isolated and lack significant nexus to waters of the U.S. In GTA's professional opinion, Wetlands 3 and 4 should not be considered waters of the U.S.

Please contact Matthew Jennette at (410) 515-9446 or mjennette@gtaeng.com should you need additional information.

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

Matthew Jennette
Associate

T. Andy Stansfield, Jr.
Vice President

JSR/MAJ/TAS
31212171
L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\Reports - Permitting\Permitting\Corps AJD\31212171 - Corps AJD App Cover letter.doc

Appendix 1: Request for Corps Jurisdictional Determination (JD)

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: Parcel: 235-21.00-182.00 (southwest of Cave Neck Road and east of Beaverdam Creek)
  (Street Address)
  City/Township/Parish: Milton County: Sussex State: Delaware
  Acreage of Parcel/Review Area for JD: 100.77±
  Section: _____ Township: _____ Range: _____
  Latitude (decimal degrees): 38.75745° Longitude (decimal degrees): -75.26362°
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ☐ I currently own this property. ☒ I plan to purchase this property.
  ☐ I am an agent/consultant acting on behalf of the requestor.
  ☐ Other (please explain): _____.
- Reason for request: (check as many as applicable)
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ☑ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ☐ A Corps JD is required in order to obtain my local/state authorization.
  ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ☐ I believe that the site may be comprised entirely of dry land.
  ☐ Other: _____
- Type of determination being requested:
  ☑ I am requesting an approved JD.
  ☐ I am requesting a preliminary JD.
  ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: _____ Date: 8/2/22

- Typed or printed name: Mr. John Richardson
  Company name: CNR Land Investment, LLC
  Address: 260 Hopewell Road
  Churchville, MD 21028
  Daytime phone no.: _____
  Email address: _____

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Approved Jurisdictional Determination Form (Rapanos Form)

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:Delaware County/parish/borough: Sussex City: Milton
Center coordinates of site (lat/long in degree decimal format): Lat. 38.75745° **N**, Long. 75.26362° **E**.
Universal Transverse Mercator:
Name of nearest waterbody: Beaverdam Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Broadkill River
Name of watershed or Hydrologic Unit Code (HUC): Beaverdam Creek-Broadkill River (020402070603)

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Appear to be no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: 3.44 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Wetland 3 and Wetland 4 appear to be geographically isolated and do not have significant nexus to waters of the U.S.**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: .
- ☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
- Average width: feet
- Average depth: feet
- Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
- ☐ Silts
- ☐ Sands
- ☐ Concrete
- ☐ Cobbles
- ☐ Gravel
- ☐ Muck
- ☐ Bedrock
- ☐ Vegetation. Type/% cover:
- ☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
- ☐ Dye (or other) test performed: .

Tributary has (check all that apply):
- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):
  - ☐ clear, natural line impressed on the bank
  - ☐ changes in the character of soil
  - ☐ shelving
  - ☐ vegetation matted down, bent, or absent
  - ☐ leaf litter disturbed or washed away
  - ☐ sediment deposition
  - ☐ water staining
  - ☐ other (list):
  - ☐ the presence of litter and debris
  - ☐ destruction of terrestrial vegetation
  - ☐ the presence of wrack line
  - ☐ sediment sorting
  - ☐ scour
  - ☐ multiple observed or predicted flow events
  - ☐ abrupt change in plant community
- ☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
- ☐ High Tide Line indicated by:
  - ☐ oil or scum line along shore objects
  - ☐ fine shell or debris deposits (foreshore)
  - ☐ physical markings/characteristics
  - ☐ tidal gauges
  - ☐ other (list):
- ☐ Mean High Water Mark indicated by:
  - ☐ survey to available datum;
  - ☐ physical markings;
  - ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 3.44 acres

Wetland type. Explain: PFO/PEM Wetland.

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial flow**. Explain: .

Surface flow is**: Discrete and confined**

Characteristics: Wetland 1 directly abuts Beaverdam Creek.

Subsurface flow: **Unknown**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☒ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: Wetland 1 directly abuts Beaverdam Creek, which flows directly in to The Broadkill River.
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **50 - 100-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Wetland is located adjacent to a fallow field within the 100 year floodplain.

Identify specific pollutants, if known: Unknown.

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☒ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☒ Aquatic/wildlife diversity. Explain findings:Wetland contains emergent and forested areas.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **1**

Approximately (3.44) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Wetland 1 (Y)	3.44		

Summarize overall biological, chemical and physical functions being performed: Wetland 1 contributes to the biological, chemical, and physical functions of the waters of the United States.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Beaverdam Creek is depicted as a perennial blue line stream on USGS Fairmount Harbeson, Lewes, and Milton, Delaware Topographic Map Quadrangles, all dated 2019.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **3.44**acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**Wetland 3 and Wetland 4 appear to be geographically isolated and lack significant nexus to waters of the U.S.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.44 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:Fairmount, Harbeson, Lewes, and Milton, DE Quadrangles, 7.5 Minute Series.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:GSSURGO for Delaware.
☒ National wetlands inventory map(s). Cite name:NWI, dated May 3, 2021.
☐ State/Local wetland inventory map(s): .
☒ FEMA/FIRM maps:10005C0169, effective March 16, 2015.
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):2018 Aerial Imagery.
or ☒ Other (Name & Date):Site photographs from December 2021.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

FEMA FIRMette for Map # 10005C0169K, revised March 16, 2015

National Flood Hazard Layer FIRMette

FEMA

75°16'11"W 38°45'43"N

75°15'34"W 38°45'15"N

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

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

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

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — 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

N

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 8/1/2022 at 3:45 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.

Wetland Delineation Report for Cave Neck Road Property, prepared by GTA and dated May 25, 2022.

WETLAND DELINEATION REPORT

CAVE NECK ROAD PROPERTY
SUSSEX COUNTY, DELAWARE

May 25, 2022

Prepared For:

CNR LAND INVESTMENT, LLC
260 Hopewell Road
Churchville, Maryland 21028
Attn: Mr. John Richardson

Prepared By:

GEO-TECHNOLOGY ASSOCIATES, INC.
Geotechnical and Environmental Consultants
3445-A Box Hill Corporate Center Drive
Abingdon, Maryland 21009
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Fax: (410) 515-4895
www.gtaeng.com

GTA Project No: 31212171

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm

May 25, 2022

CNR Land Investment, LLC
260 Hopewell Road
Churchville, Maryland 21028

Attn: Mr. John Richardson

Re: Wetland Delineation Report
Cave Neck Road Property
Sussex County, Delaware

Dear Mr. Richardson:

Pursuant to your request, Geo-Technology Associates, Inc. (GTA) has performed a wetland delineation of the above referenced property ("subject site"). The subject site encompasses approximately 100.77 acres and is located southwest of Cave Neck Road and east of Beaverdam Creek in the Milton area of Sussex County, Delaware. The subject site is identified as Sussex County Parcel Number 235-21.00-182.00. The purpose of the review was to evaluate the presence and extent of wetlands and/or waterways within the subject site with respect to Federal and State regulatory authority.

This Report and the accompanying *Wetland Delineation Plan* summarize GTA's findings. We appreciate the opportunity to have been of service to you. If you have questions or require additional information, please contact this office at (410) 515-9446.

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

Matthew Jennette
Associate

T. Andy Stansfield Jr.
Vice President

JSR/CEL/MAJ/TAS/cds
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TABLE OF CONTENTS

TABLES

APPENDICES

WETLAND DELINEATION REPORT
CAVE NECK ROAD PROPERTY
SUSSEX COUNTY, DELAWARE
MAY 25, 2022

1.0 INTRODUCTION

The subject site encompasses approximately 100.77 acres and is located southwest of Cave Neck Road and east of Beaverdam Creek in the Milton area of Sussex County, Delaware (*Figure 1*). The subject site is identified as Sussex County Parcel Number 235-21.00-182.00.

At the time of GTA's environmental review, the subject site consisted primarily of open agricultural land and wooded areas. The topography of the subject site ranges from flat to moderately sloped. The approximate latitude and longitude coordinates of the center of the subject site is 38.75745 and -75.26362°, respectively.

2.0 DOCUMENT REVIEW

2.1 Site Plans

GTA personnel utilized a base plan provided by Morris & Ritchie Associates, Inc. (MRA). The base plan identifies existing structures, roads, tree lines, and contours.

2.2 United States Geological Survey Topographic Maps

The United States Geological Survey (USGS), Fairmount, Harbeson, Lewes, and Milton, DE Quadrangles, 7.5-minute Topographic Map Series for the area (*Figure 2*), all dated 2019, were used as a reference to identify possible waterways within the subject site. USGS topographic maps identify elevations, streams, ponds, wetlands, and roads. The USGS Topographic Map depicts Cave Neck Road along the northern boundary of the subject site. The USGS Topographic Map depicts a perennial stream, identified as Beaverdam Creek, along the northeast boundary of the subject site. The topography depicted on the USGS Topographic Map indicates that the subject site generally drains towards Beaverdam Creek. Wetlands are depicted along Beaverdam Creek.

2.3 Soil Survey Information

GTA consulted the U.S. Department of Agriculture, Natural Resources Conservation Service's (NRCS) *Web Soil Survey*[1] to identify the presence of possible hydric soils within the subject site. The *Soil Survey Map* (*Figure 3*) depicts six soil units (*Table 1*) within the subject site. According to the NRCS National Hydric Soils List[2], one of the soil units located within the subject site contain hydric components (*Table 1*).

Table 1: Mapped Soil Units

SYMBOL[1]	NAME/DESCRIPTION[1]	HYDRIC SOIL[2]	HYDRIC COMPONENT[2]	PERCENTAGE OF MAPPING UNIT[2]	POSITION IN LANDSCAPE[2]
EvD	Evesboro loamy sand, 5 to 15 percent slopes	No	-	-	-
GoA	Glassboro sandy loam, 0 to 2 percent slopes	No	-	-	-
HrA	Henlopen-Rosedale complex, 0 to 2 percent slopes	No	-	-	-
LO	Longmarsh and Indiantown soils, frequently flooded	Yes	Longmarsh	43	Flood Plains
			Indiantown	37	Flood Plains
			Zekiah	10	Flood Plains
			Manahawkin	5	Flood Plains, Swamps
RkA	Rockawalkin loamy sand, 0 to 2 percent slopes	No	-	-	-
RoA	Rosedale loamy sand, 0 to 2 percent slopes	No	-	-	-

2.4 Wetland Indicator Maps

GTA's environmental scientists also consulted digital wetlands data available from the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory[3] (NWI; *Figure 4*). The NWI Wetland Map depicts a Lower Perennial Riverine system (R2UBF) within the northwestern corner of the subject. The NWI map also depicts four Palustrine Emergent Wetlands (three PEM1E and one PEM1F), and a Palustrine Scrub-Shrub/Emergent Wetland (PSS1/EM1F) along the western and northwestern boundaries within the subject site. The

[1] United States Department of Agriculture, Natural Resource Conservation Service, Kent County Area, Delaware. Survey Data Version 22, dated August 26, 2021.
[2] United States Department of Agriculture, Natural Resource Conservation Service. State Soil Data Access (SDA) Hydric Soils List. Available online at <https://www.nrcs.usda.gov/Internet/FSE_ DOCUMENTS/nrcseprd1316619.html#reportref>
[3] United States Fish and Wildlife Service, National Wetlands Inventory. Last updated May 3, 2021.

features depicted on the NWI Wetland Map are classified by USFWS using the Cowardin system, as detailed in *Table 2*.

Table 2: USFWS NWI Cowardin Designations

SYMBOL[3]	SYSTEM[3]	SUBSYSTEM[3]	CLASS[3]	SUBCLASS[3]	WATER REGIME[3]
PEM1E	Palustrine (P)		Emergent (EM)	Persistent (1)	Seasonally Flooded/Saturated (E)
PEM1F	Palustrine (P)		Emergent (EM)	Persistent (1)	Semipermanently Flooded (F)
PSS1/EM1F	Palustrine (P)		Scrub-Shrub/Emergent (SS)(EM)	Broad-Leaved Deciduous/Persistent (1)	Semipermanently Flooded (F)
R2UBF	Riverine (R)	Lower Perennial (2)	Unconsolidated Bottom (UB)		Semipermanently Flooded (F)

2.5 Aerial Imagery

GTA reviewed aerial imagery dated 1937, 1953, 1954, 1973, 1981, 1982, 1992, 1998, 2002, 2006, 2007, 2009, 2011 through 2013, 2015, 2017, and 2018 (*Figure 5*), available from the Delaware Environmental Monitoring and Analysis Center[4], Environmental Title Research[5] and the National Agricultural Imagery Program[6]. Based on aerial imagery reviewed by GTA, subject site appears to be predominantly agricultural land from 1937 through 2018. The southern portion of the subject site appears to contain wooded areas, which are contiguous with areas of off-site forest to the south and southwest. Between 1982 and 1992, there appears to be apparent berms constructed along the north, western, and southwestern portions of the subject site. Beaverdam Creek and the adjacent wetland are discernable in aerial imagery from 1953 to 2018.

3.0 METHODOLOGY

3.1 General Methodology

The purpose of GTA's review was to evaluate the presence and extent of wetlands and waterways with respect to Federal and State jurisdictional authority. GTA based its evaluation on the United States Army Corps of Engineers' (Corps) definition of "waters of the U.S." and "navigable waters of the U.S.," which are defined in Title 33 Code of Federal Regulations

[4] Delaware Environmental Monitoring and Analysis Center. Available online at <http://demac.udel.edu/>
[5] Environmental Title Research, LLC. NETR Online. Available online at <https://www.historicaerials.com>
[6] United States Department of Agricultural (USDA) Farm Service Agency, National Agricultural Imagery Program.

(CFR), Parts 328 and 329. GTA employed the three-parameter approach set forth in the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-01*, dated 1987 (*1987 Manual*) and the Corps *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0),* dated November, 2010 (*Supplement*) as a reference for delineating wetlands. The methodology of wetland delineation included identifying hydric soil, wetland hydrology, and dominant hydrophytic vegetation. GTA also considered other regulated waters of the United States, such as ponds, lakes, streams, and rivers. If these waters were observed on the property, GTA incorporated them into the nontidal wetland delineation and labeled them accordingly.

3.2 Hydrology

The *1987 Manual* defines wetland hydrology as the sum of the total wetness characteristics in areas that are inundated or have saturated soils for a sufficient duration to support hydrophytic vegetation. *The 1987 Manual* further defines areas with evident characteristics of wetland hydrology as those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions. Wetland hydrology exists when a minimum of one primary indicator or two secondary indicators are present. Indicators of wetland hydrology are generally derived from observations of surface water or saturated soils, evidence of recent inundation, evidence of current or recent soil saturation, and evidence from other site conditions or data. Additional evidence of wetland hydrology can also be used with appropriate documentation.

3.3 Vegetation

Hydrophytic vegetation can be defined as plant life growing in water or on a substrate that is at least periodically inundated by water. The USFWS has assigned an indicator status to plants that occur in and around wetlands, describing how often that species is found in a wetland:

Obligate Wetland (OBL): Occur in wetlands with an estimated 99% probability.

Facultative Wetland (FACW): Usually occur in wetlands, with an estimated 67%-99% probability.

Facultative (FAC): Equally likely to occur in wetlands and uplands, with an estimated 34%-66% probability of occurring in wetlands.

Facultative Upland (FACU): Usually occur in uplands, with an estimated 67%-99% probability of occurring in uplands.

Obligate Upland (UPL): Occur in uplands with an estimated 99% probability.

For vegetation within a community to be determined hydrophytic in accordance with the *Supplement*, it must pass the Dominance Test, where more than 50% of the dominant plant species observed must have the indicator statuses OBL, FACW, and FAC. If the vegetation observed in the community fails the Dominance Test and indicators of wetland hydrology and hydric soils are present, the Prevalence Index should be applied. Hydrophytic vegetation is present if a Prevalence Index of 3.0 or less is determined.

3.4 Soils

A hydric soil is defined as a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (*Supplement*). According to the *Supplement*, indicators of hydric soils form mostly from the loss or accumulation of iron, manganese, sulfur, or carbon compounds during saturated and anaerobic conditions.

3.5 On-Site Data Collection

Data Collection Points (DCPs) were established on-site at locations to evaluate the presence of jurisdictional wetlands and waterways, and to demonstrate the typical characteristics of uplands and wetlands. In areas where hydrologic indicators were observed with hydrophytic vegetation, GTA personnel excavated or augured test pits in the ground to a depth of 20 inches or more to observe features of the soil column. GTA personnel reviewed soil samples from test pits at numbered DCPs in order to describe and classify the soil as either hydric or non-hydric. At these DCPs, GTA personnel also evaluated the surrounding vegetative species and hydrologic indicators. Data Forms were prepared to record observations of the conditions within the wetland and upland areas. Data Forms were also prepared to record data from adjacent upland areas to further support the delineation in the field. The DCPs have been labeled on the *Wetland Delineation Plan* as DCP-1 through DCP-8. Data Forms with reference photographs are included

in Appendix B to support the determination depicted on the accompanying *Wetland Delineation Plan* (Appendix D).

3.6 Delineation

In December 2021, GTA's wetland scientists conducted an on-site review to evaluate whether jurisdictional wetlands and/or waterways are present within the subject site. GTA's field delineation of jurisdictional "waters of the U.S." consisted of identifying the limits of the wetlands and waterways with pink and black striped flags, numbered sequentially. Wetland flags were hung at the time of GTA's field visits. GTA used the base plan described in *Section 2.1* to navigate the site. Wetland and waterway flag locations were survey located by MRA in September 2021 and are shown on the accompanying *Wetland Delineation Plan* (Appendix D).

4.0 SYSTEMS IDENTIFIED

GTA's wetland scientists identified two systems within the subject site. These systems are described in the following section:

4.1 System 1: Palustrine Forested/Emergent Wetland

System 1 consists of a palustrine forested/emergent wetland (Wetland 1). Wetland 1 is adjacent to Beaverdam Creek along the northwestern boundary of the subject site.

Evidence of primary indicators of wetland hydrology included Indicators A1 (Surface Water), A2 (High Water Table), A3 (Saturation), B7 (Inundation Visible on Aerial Imagery), B9 (Water-Stained Leaves) and C1 (Hydrogen Sulfide Oder). Evidence of secondary indicators of wetland hydrology included D5 (FAC-Neutral Test). Within Wetland 1, GTA's wetland scientists observed predominantly hydrophytic vegetation species including red maple (*Acer rubrum*, FAC), black willow (*Salix nigra*, OBL), sweet-bay (*Magnolia virginiana*, FACW), American holly (*Ilex opaca*, FAC), common reed (*Phragmites australis*, FACW), and horsebrier (*Smilax rotundifolia*, FAC). GTA personnel excavated test pits to depths of 20 inches or greater within the limits of the wetland boundaries and observed the NRCS and Corps hydric soils field indicators A4 (Hydrogen Sulfide) and F3 (Depleted Matrix).

4.2 System 2: Isolated Palustrine Forested Wetlands

System 2 consists of two isolated palustrine forested Wetlands (Wetland 3 and 4). Wetland 3 and Wetland 4 are located along the northeast property boundary southwest of Cave Neck Road along an access road into the subject site. The culvert beneath the access road connects Wetland 3 and Wetland 4.

Evidence of primary indicators of wetland hydrology included Indicators A1 (Surface Water), A2 (High Water Table), A3 (Saturation), B7 (Inundation Visible on Aerial Imagery), and B9 (Water Stained Leaves). Evidence of secondary indicators of wetland hydrology included D5 (FAC-Neutral Test). Within these wetlands, GTA's wetland scientists observed predominantly hydrophytic vegetation species including red maple, black willow, Sweet-gum (*Liquidambar styraciflua,* FAC), common reed, cottongrass bulrush (*Scirpus cyperinus*, OBL), and horsebrier. GTA personnel excavated test pits to depths of 20 inches or greater within the limits of the wetland boundaries and observed the NRCS and Corps hydric soils field indicator F3 (Depleted Matrix).

5.0 CONCLUSION

In GTA's professional opinion, Wetland 1 is adjacent to Beaverdam Creek therefore this wetland should be considered federally jurisdictional. Wetland 3 and 4 appear to be isolated, and in GTA's professional opinion should not be considered federally jurisdictional. These areas were flagged in the field and are identified on the *Wetland Delineation Plan*.

As a result of the environmental review of the subject site, it is GTA's professional opinion that there are jurisdictional wetlands and waterways present within the subject site. Our conclusions regarding this subject site have been based on observations of existing conditions, professional experience in the area with similar projects, and generally accepted professional environmental practice under similar circumstances. Seasonal fluctuations in precipitation or weather conditions can result in differences in the perception of hydrologic conditions, which can alter GTA's evaluation of wetlands/waterways. It is important to note that this delineation is GTA's professional opinion, only. Decisions regarding the official jurisdictional status of wetlands/waterways are made by federal, state and/or local regulatory agencies.

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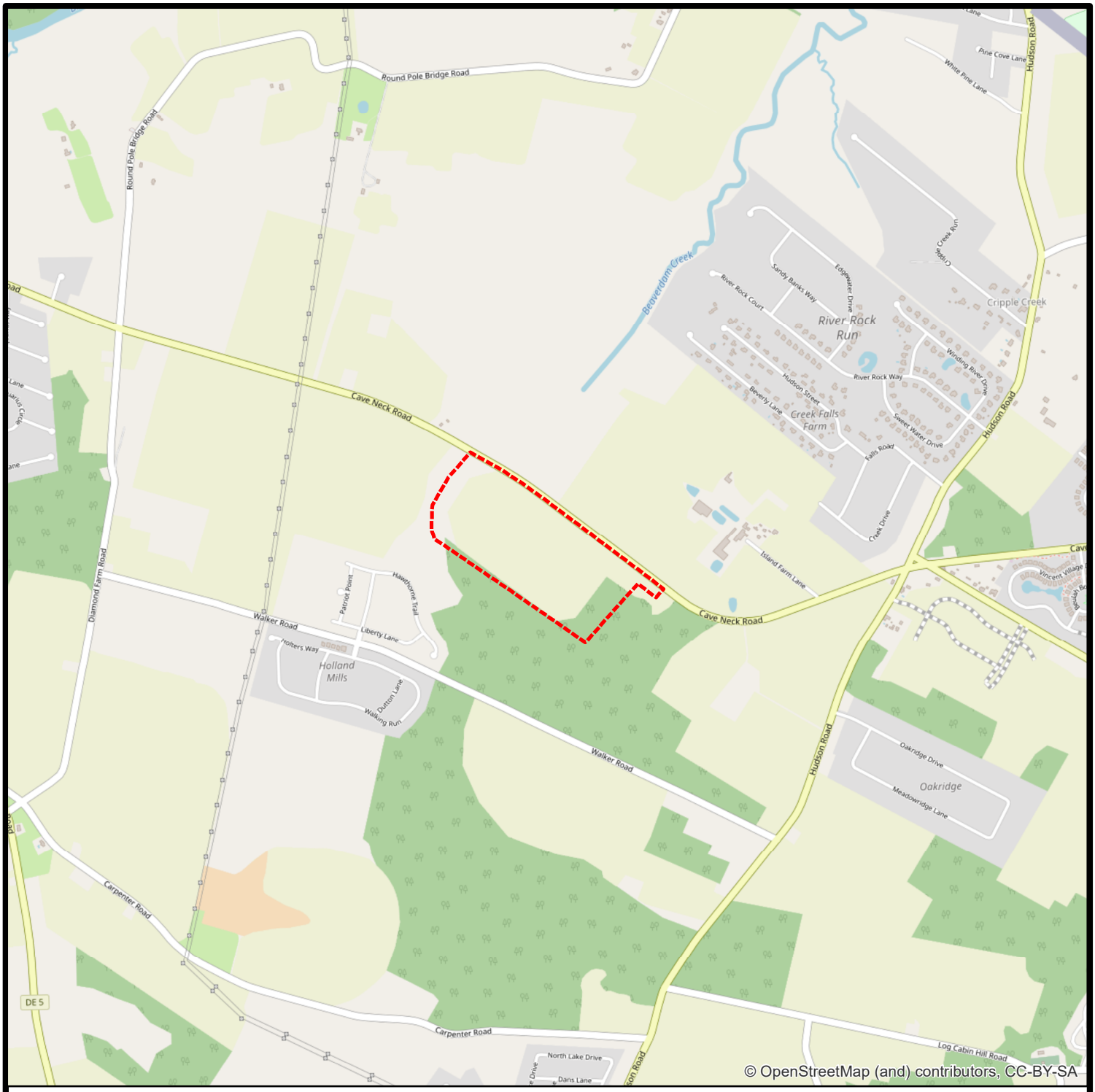
******* END OF REPORT *******

APPENDIX A

Figures



LEGEND

SUBJECT SITE

NORTH

0 2,000

APPROXIMATE SCALE
1 INCH = 2,000 FEET

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

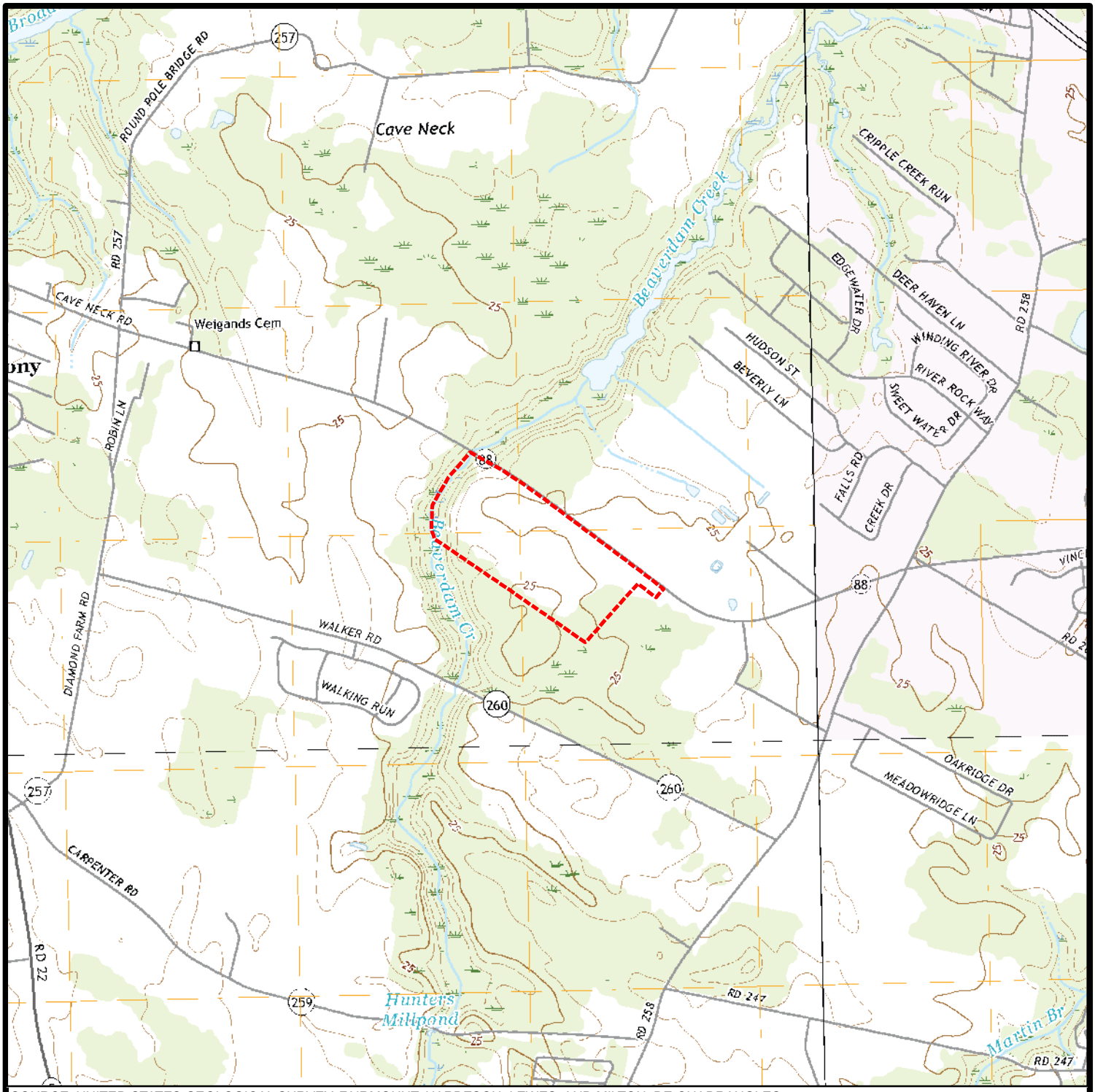
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

SITE LOCATION MAP
CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 2,000'	DECEMBER 16, 2021	CEL	TAS	1

L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\CAD\GIS\31212171 SLM.mxd



SOURCE: UNITED STATES GEOLOGICAL SURVEY, FAIRMOUNT, HARBESON, LEWES, AND MILTON, DE QUADRANGLES, 7.5 MINUTE SERIES TOPOGRAPHIC MAPS, ALL DATED 2019.

NORTH

0 2,000

APPROXIMATE SCALE
1 INCH = 2,000 FEET

LEGEND

SUBJECT SITE

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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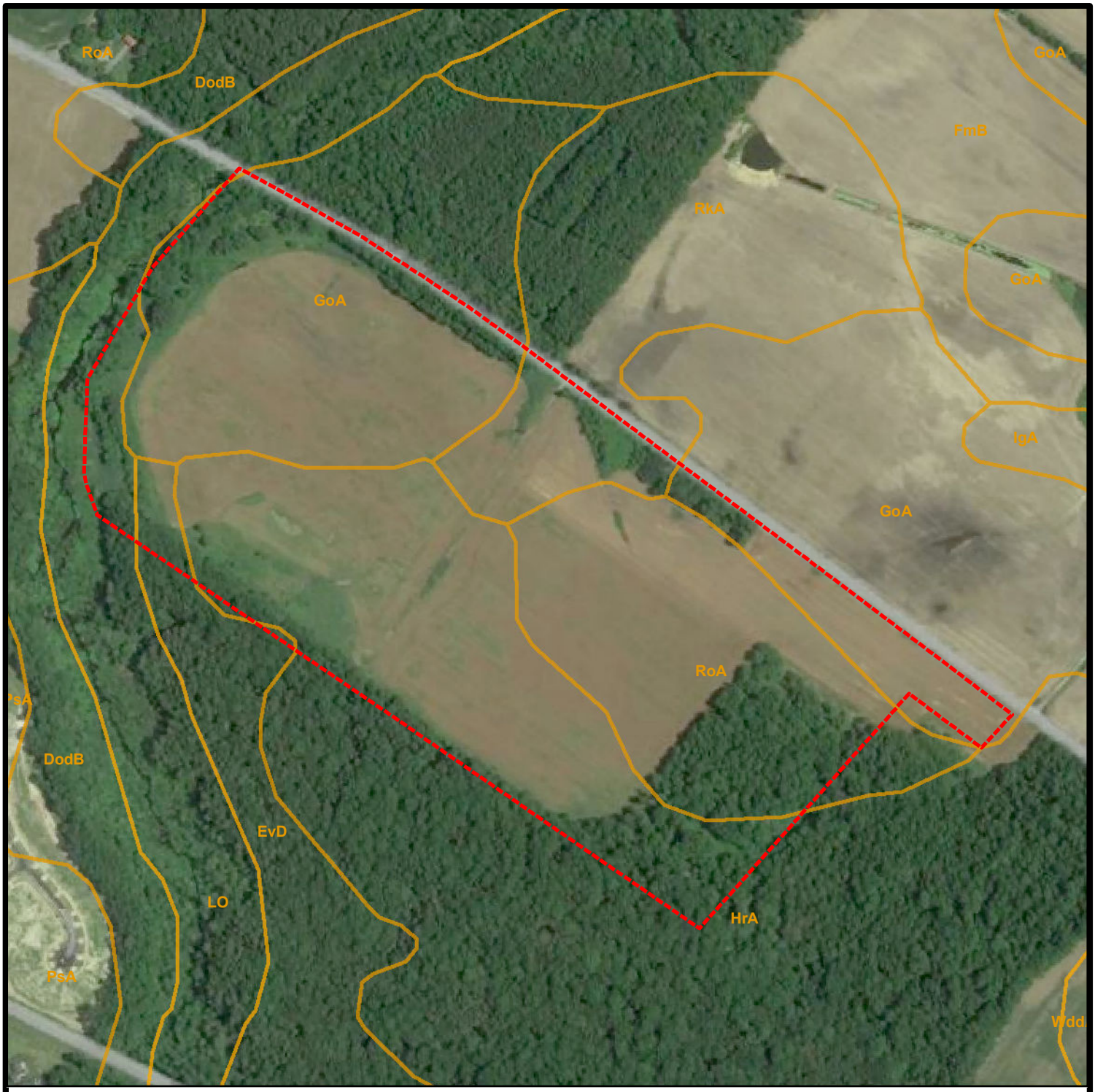
USGS TOPOGRAPHIC MAP
CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	31212171	SCALE:	1" = 2,000'	DATE:	DECEMBER 16, 2021	DRAWN BY:	CEL	REVIEW BY:	TAS	FIGURE:	2

L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\CAD\GIS\31212171 USGS TOPO.mxd



SOURCE: UNITED STATES DEPARTMENT OF AGRICULTURE (USDA), NATURAL RESOURCES CONSERVATION SERVICE (NRCS), GRIDDED SOIL SURVEY GEOGRAPHIC (GSSURGO) DATABASE FOR DELAWARE, DATED 2018. 2018 BASE AERIAL IMAGERY PROVIDED BY GOOGLE EARTH.

NORTH

0 500

APPROXIMATE SCALE
1 INCH = 500 FEET

LEGEND

SUBJECT SITE

GEO-TECHNOLOGY ASSOCIATES, INC.
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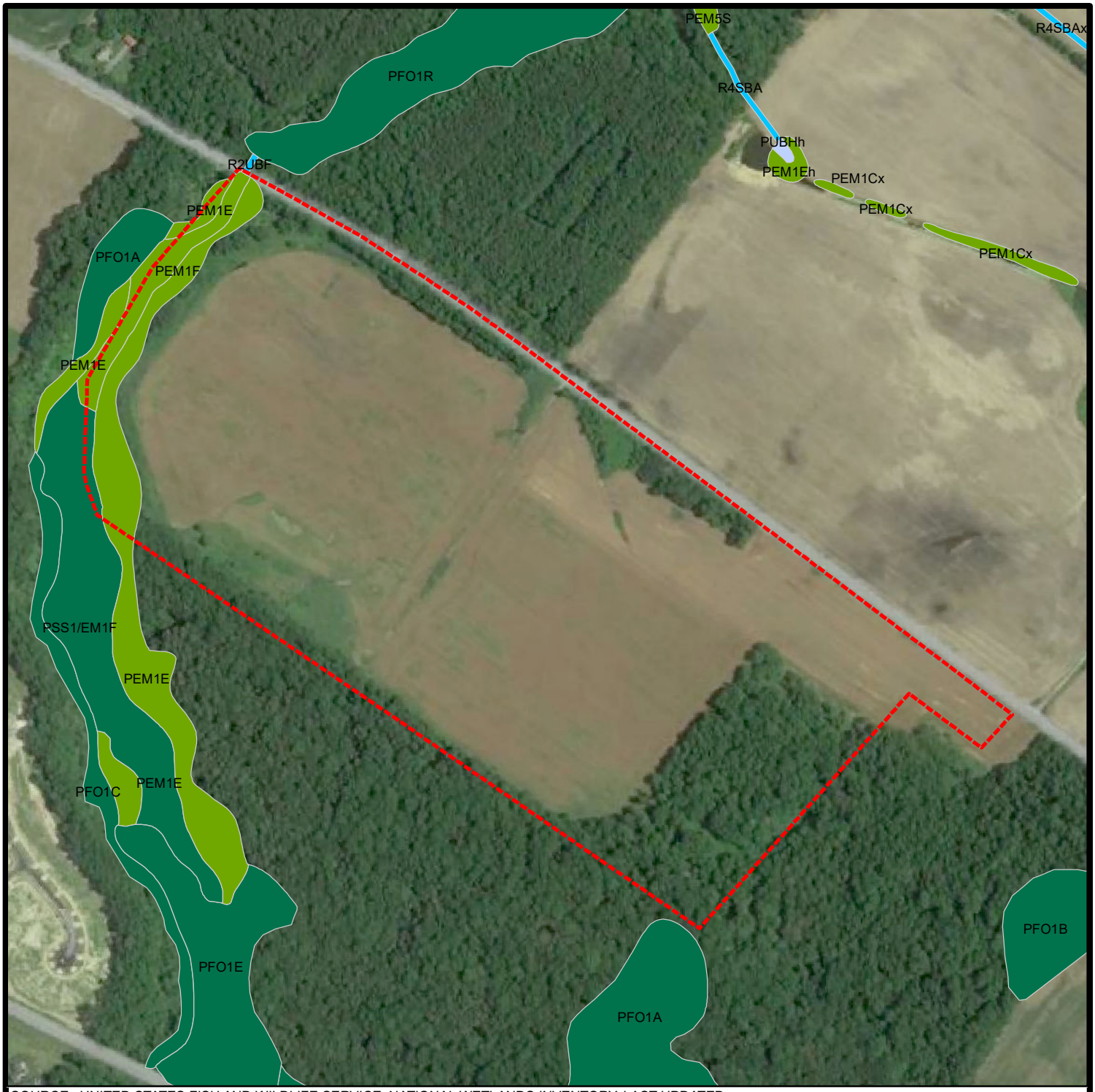
SOIL SURVEY MAP
CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 500'	DECEMBER 16, 2021	CEL	TAS	3

L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\CAD\GIS\31212171 SOIL.mxd



SOURCE: UNITED STATES FISH AND WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY. LAST UPDATED MAY 3, 2021. 2018 BASE AERIAL IMAGERY PROVIDED BY GOOGLE EARTH.

LEGEND

- SUBJECT SITE
- FRESHWATER FORESTED/SHRUB WETLAND
- RIVERINE
- FRESHWATER EMERGENT WETLAND
- FRESHWATER POND

NORTH

0 500

APPROXIMATE SCALE
1 INCH = 500 FEET

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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NWI WETLANDS MAP
CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 500'	DECEMBER 16, 2021	CEL	TAS	4

L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\CAD\GIS\31212171 NWI.mxd

SOURCE: 2018 BASE AERIAL IMAGERY PROVIDED BY GOOGLE EARTH.

NORTH

0 520

APPROXIMATE SCALE
1 INCH = 500 FEET

LEGEND

SUBJECT SITE

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

3445-A BOX HILL CORPORATE CENTER DRIVE
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2018 AERIAL IMAGERY

CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 500'	DECEMBER 16, 2021	CEL	TAS	5

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APPENDIX B

Data Forms

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-1
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.75412° Long: -75.26166° Datum: NAD83
Soil Map Unit Name: Henlopen-Rosedale complex, 0 to 2 percent slopes (HrA) NWI classification: N/A
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____		
Hydric Soil Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes ____ No X
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:	

Remarks:
This DCP was established within the southeast corner of the subject site.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) (LRR U)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)
- ____ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes ____	No X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-1

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ilex opaca*	30	Y	FAC
3. *Quercus alba*	20	Y	FACU
2. *Quercus rubra*	15	Y	FACU
4.			
5.			
6.			
7.			
	65 = Total Cover		
50% of total cover: 32.5		20% of total cover: 13	
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Ilex opaca*	30	Y	FAC
2. *Quercus rubra*	15	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	15 = Total Cover		
50% of total cover: 7.5		20% of total cover: 3	
Herb Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover: 0	
Woody Vine Stratum (Plot size: 30' Radius)			
1. *Toxicodendron radicans*	5	Y	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5		20% of total cover: 1	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes _____ No **X**

Remarks: (Include photo numbers here or on a separate sheet).

SOIL

Sampling Point: DCP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					SiL	
4-16	10YR 3/3	100					SiL	
16-20	10YR 5/4	100					SaSiL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-2
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.75412° Long: -75.26166° Datum: NAD83
Soil Map Unit Name: Rockawalkin loamy sand, 0 to 2 percent slopes (RkA) NWI classification:
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes **X** No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ____
Are Vegetation ____, Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No ____		
Hydric Soil Present?	Yes **X** No ____	Is the Sampled Area within a Wetland?	Yes ____ No **X**
Wetland Hydrology Present?	Yes ____ No **X**	If yes, optonal Wetland Site ID:	

Remarks:
This DCP was established east of Wetland 3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) (LRR U)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)
- ____ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No **X**	Depth (inches):	____
Water Table Present?	Yes ____	No **X**	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes ____	No **X**	Depth (inches):	____

Wetland Hydrology Present? Yes ____ No **X**

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-2

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	Y	FAC
2. *Liquidambar styraciflua*	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		
50% of total cover: 15		20% of total cover: 6	
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Acer rubrum*	10	Y	FAC
2. *Liquidambar styraciflua*	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	10 = Total Cover		
50% of total cover: 5		20% of total cover: 2	
Herb Stratum (Plot size: 30' Radius)			
1. *Lonicera japonica*	20	Y	FACU
2. *Liquidambar styraciflua*	5	N	FAC
3. *Scirpus cyperinus*	5	N	OBL
4. Grass Sp.*	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35 = Total Cover		
50% of total cover: 17.5		20% of total cover: 7	
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover: 0	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X - 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet).

*The Grass Sp. within this plot lacked identifiable characteristics and was therefore assigned an indicator status of FAC.

SOIL

Sampling Point: DCP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	95	10YR 5/8	5	C	M	SiCL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-3
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.75885° Long: -075.26248° Datum: NAD83
Soil Map Unit Name: Rockawalkin loamy sand, 0 to 2 percent slopes (RkA) NWI classification: PFO
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____		
Hydric Soil Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes X No ____
Wetland Hydrology Present?	Yes X No ____	If yes, optonal Wetland Site ID:	Wetland 3

Remarks:
This DCP was established within Wetland 3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

____	Surface Water (A1)	____	Aquatic Fauna (B13)
X	High Water Table (A2)	____	Marl Deposits (B15) (LRR U)
X	Saturation (A3)	____	Hydrogen Sulfide Odor (C1)
____	Water Marks (B1)	____	Oxidized Rhizospheres on Living Roots (C3)
____	Sediment Deposits (B2)	____	Presence of Reduced Iron (C4)
____	Drift Deposits (B3)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Algal Mat or Crust (B4)	____	Thin Muck Surface (C7)
____	Iron Deposits (B5)	____	Other (Explain in Remarks)
____	Inundation Visible on Aerial Imagery (B7)		
X	Water Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Sparsely Vegetated Concave Surface (B8)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
X	FAC-Neutral Test (D5)
____	Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):		
Water Table Present?	Yes X	No ____	Depth (inches):	1	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0	Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-3

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	40	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		
50% of total cover: 20		20% of total cover:	8
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Salix nigra*	10	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0
Herb Stratum (Plot size: 30' Radius)			
1. *Phragmites australis*	80	Y	FACW
2. *Lonicera japonica*	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
50% of total cover: 42.5		20% of total cover:	17
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X - 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet).

SOIL

Sampling Point: DCP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					SiL	
4-12	10YR 4/2	80	10YR 4/6	20	C	M	SiCL	
12-20	10YR 5/1	95	10YR 4/6	5	C	M	SiL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** **X** **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-4
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.75992° Long: -075.26427° Datum: NAD83
Soil Map Unit Name: Glassboro sandy loam, 0 to 2 percent slopes (GoA) NWI classification: PFO
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____		
Hydric Soil Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes X No ____
Wetland Hydrology Present?	Yes X No ____	If yes, optonal Wetland Site ID:	Wetland 4

Remarks:
This DCP was established within Wetland 4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

X	Surface Water (A1)	____	Aquatic Fauna (B13)
X	High Water Table (A2)	____	Marl Deposits (B15) (LRR U)
X	Saturation (A3)	____	Hydrogen Sulfide Odor (C1)
____	Water Marks (B1)	____	Oxidized Rhizospheres on Living Roots (C3)
____	Sediment Deposits (B2)	____	Presence of Reduced Iron (C4)
____	Drift Deposits (B3)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Algal Mat or Crust (B4)	____	Thin Muck Surface (C7)
____	Iron Deposits (B5)	____	Other (Explain in Remarks)
____	Inundation Visible on Aerial Imagery (B7)		
X	Water Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Sparsely Vegetated Concave Surface (B8)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	FAC-Neutral Test (D5)
____	Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1	
Water Table Present?	Yes X	No ____	Depth (inches):	1	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0	Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-4

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	50	Y	FAC
2. *Liquidambar styraciflua*	15	Y	FAC
3. *Prunus serotina*	5	N	FACU
4.			
5.			
6.			
7.			
	70 = Total Cover		
50% of total cover: 35		20% of total cover:	14
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Acer rubrum*	20	Y	FAC
2. *Liquidambar styraciflua*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	20 = Total Cover		
50% of total cover: 10		20% of total cover:	4
Herb Stratum (Plot size: 30' Radius)			
1. *Lonicera japonica*	5	Y	FACU
2. *Scirpus cyperinus*	5	Y	OBL
3. *Smilax rotundifolia*	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		
50% of total cover: 7.5		20% of total cover:	3
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X - 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet).

SOIL

Sampling Point: DCP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	100						
8-17	10YR 7/1	90	7.5YR 5/8	10	C	M		
17-20	10YR 7/8	80	10YR 7/1	20	D	M		

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**

___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** **X** **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-5
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.75895° Long: -75.26871° Datum: NAD83
Soil Map Unit Name: Longmarsh and Indiantown soils, frequently flooded (LO) NWI classification: PFO/PEM
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____		
Hydric Soil Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes X No ____
Wetland Hydrology Present?	Yes X No ____	If yes, optonal Wetland Site ID:	Wetland 1

Remarks:
This DCP was established within Wetland 1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

				Secondary Indicators (minimum of two required)	
X	Surface Water (A1)		Aquatic Fauna (B13)		Surface Soil Cracks (B6)
X	High Water Table (A2)		Marl Deposits (B15) (LRR U)		Sparsely Vegetated Concave Surface (B8)
X	Saturation (A3)	X	Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Water Marks (B1)		Oxidized Rhizospheres on Living Roots (C3)		Moss Trim Lines (B16)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Dry-Season Water Table (C2)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)		Crayfish Burrows (C8)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Iron Deposits (B5)		Other (Explain in Remarks)		Geomorphic Position (D2)
X	Inundation Visible on Aerial Imagery (B7)				Shallow Aquitard (D3)
X	Water Stained Leaves (B9)			X	FAC-Neutral Test (D5)
					Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2	
Water Table Present?	Yes X	No ____	Depth (inches):	1	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0	Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-5

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Y	FAC
2. *Salix nigra*	20	Y	OBL
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		
50% of total cover: 20		20% of total cover:	8
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Acer rubrum*	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0
Herb Stratum (Plot size: 30' Radius)			
1. *Phragmites australis*	70	Y	FACW
2. *Lonicera japonica*	5	N	FACU
3. *Rosa multiflora*	2	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	77 = Total Cover		
50% of total cover: 38.5		20% of total cover:	15.4
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X - 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet).

SOIL Sampling Point: DCP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					SiL	
1-20	10YR 6/1	100					SaL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-6
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.75917° Long: -075.26855° Datum: NAD83
Soil Map Unit Name: Longmarsh and Indiantown soils, frequently flooded (LO) NWI classification: N/A
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X		
Hydric Soil Present?	Yes ____ No X	Is the Sampled Area within a Wetland?	Yes ____ No X
Wetland Hydrology Present?	Yes ____ No X	If yes, optonal Wetland Site ID:	

Remarks:
This DCP was established west of Wetland 1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) (LRR U)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)
- ____ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	Wetland Hydrology Present?	Yes ____ No X

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-6

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	20	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		
50% of total cover: 10		20% of total cover:	4
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0
Herb Stratum (Plot size: 30' Radius)			
1. *Lonicera japonica*	30	Y	FACU
2. *Phragmites australis*	30	Y	FACW
3. *Glechoma hederacea*	20	Y	FACU
4. *Rosa multiflora*	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
50% of total cover: 42.5		20% of total cover:	17
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes _____ No **X**

Remarks: (Include photo numbers here or on a separate sheet).

SOIL

Sampling Point: DCP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/3	100					SiCL	
9-20	10YR 6/4	95	10YR 6/8	5	C	M	SiCL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-7
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5±
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.76105° Long: -075.26663° Datum: NAD83
Soil Map Unit Name: Glassboro sandy loam, 0 to 2 percent slopes (GoA) NWI classification: N/A
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes **X** No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ____
Are Vegetation ____, Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No **X**		
Hydric Soil Present?	Yes ____ No **X**	Is the Sampled Area within a Wetland?	Yes ____ No **X**
Wetland Hydrology Present?	Yes ____ No **X**	If yes, optonal Wetland Site ID:	

Remarks:
This DCP was established between Wetland 1 and Wetland 4, southwest of Cave Neck Road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) (LRR U)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- **X** Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)
- ____ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No **X**	Depth (inches): ____	
Water Table Present?	Yes ____	No **X**	Depth (inches): ____	
Saturation Present? (includes capillary fringe)	Yes ____	No **X**	Depth (inches): ____	Wetland Hydrology Present? Yes ____ No **X**

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-7

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Y	FAC
2. *Elaeagnus umbellata*	20	Y	UPL
3. *Celtis occidentalis*	10	Y	FACU
4.			
5.			
6.			
7.			
	50 = Total Cover		
50% of total cover: 25		20% of total cover:	10
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Elaeagnus umbellata*	30	Y	UPL
2. *Acer rubrum*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	20 = Total Cover		
50% of total cover: 10		20% of total cover:	4
Herb Stratum (Plot size: 30' Radius)			
1. *Glechoma hederacea*	90	Y	FACU
2. *Boehmeria cylindrica*	2	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	92 = Total Cover		
50% of total cover: 46		20% of total cover:	18.4
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes _____ No **X**

Remarks: (Include photo numbers here or on a separate sheet).

SOIL Sampling Point: DCP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					SiL	
8-20	10YR 6/4	100					SaL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

WETLAND DETERMINATION DATA FORM-Atlantic and Gulf Coastal Plain Region

Project/Site: Cave Neck Road Property City/County: Sussex Sampling Date: 2-Dec-21
Applicant/Owner: CNR Land Investment, LLC State: DE Sampling Point: DCP-8
Investigator(s): C. Linger Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): MLRA 153D, LRR T Lat: 38.76121° Long: -075.26674° Datum: NAD83
Soil Map Unit Name: Glassboro sandy loam, 0 to 2 percent slopes (GoA) NWI classification:
Are climatic/hydrologic conditions on the site are typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No		
Hydric Soil Present?	Yes X No	Is the Sampled Area within a Wetland?	Yes X No
Wetland Hydrology Present?	Yes X No	If yes, optonal Wetland Site ID:	Wetland 1

Remarks:
This DCP was established within Wetland 1, southeast of Beaverdam Creek.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required, check all that apply)

Surface Water (A1)	Aquatic Fauna (B13)	
X High Water Table (A2)	Marl Deposits (B15) (LRR U)	
X Saturation (A3)	Hydrogen Sulfide Odor (C1)	
Water Marks (B1)	Oxidized Rhizospheres on Living Roots (C3)	
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	
Iron Deposits (B5)	Other (Explain in Remarks)	
Inundation Visible on Aerial Imagery (B7)		
X Water Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):		
Water Table Present?	Yes X	No	Depth (inches):	8	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	5	Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DCP-8

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		
50% of total cover: 15		20% of total cover:	6
Sapling / Shrub Stratum (Plot size: 30' Radius)			
1. *Acer rubrum*	25	Y	FAC
2. *Ilex opaca*	15	Y	FAC
3. *Magnolia virginiana*	15	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
	30 = Total Cover		
50% of total cover: 15		20% of total cover:	6
Herb Stratum (Plot size: 30' Radius)			
1. *Smilax rotundifolia*	10	Y	FAC
2. *Acer rubrum*	5	Y	FAC
3. *Glechoma hederacea*	5	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20 = Total Cover		
50% of total cover: 10		20% of total cover:	4
Woody Vine Stratum (Plot size: 30' Radius)			
1. Stratum not present.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X - 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling/Shrub - Woody plants, excluding woody vines, a less than 3in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall

Woody vine - All woody vines, greater than 3.28 ft. in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet).

SOIL

Sampling Point: DCP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 5/1	85	10YR 4/6	15	C	M	SiCL	
12-20	10YR 6/2	85	10YR 4/6	15	C	M	SiSaL	

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils[3]:

___	Histosol (A1)	___	Polyvalue Below Surface (S8) **(LRR S, T, U)**	___	1 cm Muck (A9) **(LRR O)**
___	Histic Epipedon (A2)	___	Thin Dark Surface (S9) **(LRR S, T, U)**	___	2 cm Muck (A10) **(LRR S)**
___	Black Histic (A3)	___	Loamy Mucky Mineral (F1) **(LRR O)**	___	Reduced Vertic (F18) **(outside MLRA 150A,B)**
___	Hydrogen Sulfide (A4)	___	Loamy Gleyed Matrix (F2)	___	Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___	Stratified Layers (A5)	X	Depleted Matrix (F3)	___	Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___	Organic Bodies (A6) **(LRR P, T, U)**	___	Redox Dark Surface (F6)	___	Red Parent Material (TF2)
___	5 cm Mucky Mineral (A7) **(LRR P, T, U)**	___	Depleted Dark Surface (F7)	___	Very Shallow Dark Surface (TF12) **(LRR T, U)**
___	Muck Presence (A8) **(LRR U)**	___	Redox Depressions (F8)	___	Other (Explain in Remarks)
___	1 cm Muck (A9) **(LRR P, T)**	___	Marl (F10) **(LRR U)**		
___	Depleted Below Dark Surface (A11)	___	Depleted Ochric (F11) **(MLRA 151)**		
___	Thick Dark Surface (A12)	___	Iron-Manganese Masses (F12) **(LRR O, P, T)**		
___	Coast Prairie Redox (A16) **(MLRA 150A)**	___	Umbric Surface (F13) **(LRR P, T, U)**		
___	Sandy Mucky Mineral (S1) **(LRR O, S)**	___	Delta Ochric (F17) **(MLRA 151)**		
___	Sandy Gleyed Matrix (S4)	___	Reduced Vertic (F18) **(MLRA 150A, 150B)**		
___	Sandy Redox (S5)	___	Piedmont Floodplain Soils (F19) **(MLRA 149A)**		
___	Stripped Matrix (S6)	___	Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**		
___	Dark Surface (S7) **(LRR P, S, T, U)**				

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

APPENDIX C

Photographs

Photograph 1: View of Wetland 1, facing east.

Photograph 2: View of Wetland 1 facing north.

Photograph 3: View of Wetland 3 facing south.

Photograph 4: View of Wetland 4 facing northeast.

Photograph 5: Overview of DCP-1.

Photograph 6: DCP-1, soil sample.

Photograph 7: Overview of DCP-2.

Photograph 8: DCP-2, soil sample.

Photograph 9: Overview of DCP-3.

Photograph 10: DCP-3, soil sample.

Photograph 11: Overview of DCP-4.

Photograph 12: DCP-4, soil sample.

Photograph 13: Overview of DCP-5.

Photograph 14: DCP-5, soil sample.

Photograph 15: Overview of DCP-6.

Photograph 16: DCP-6, soil sample.

Photograph 17: Overview of DCP-7.

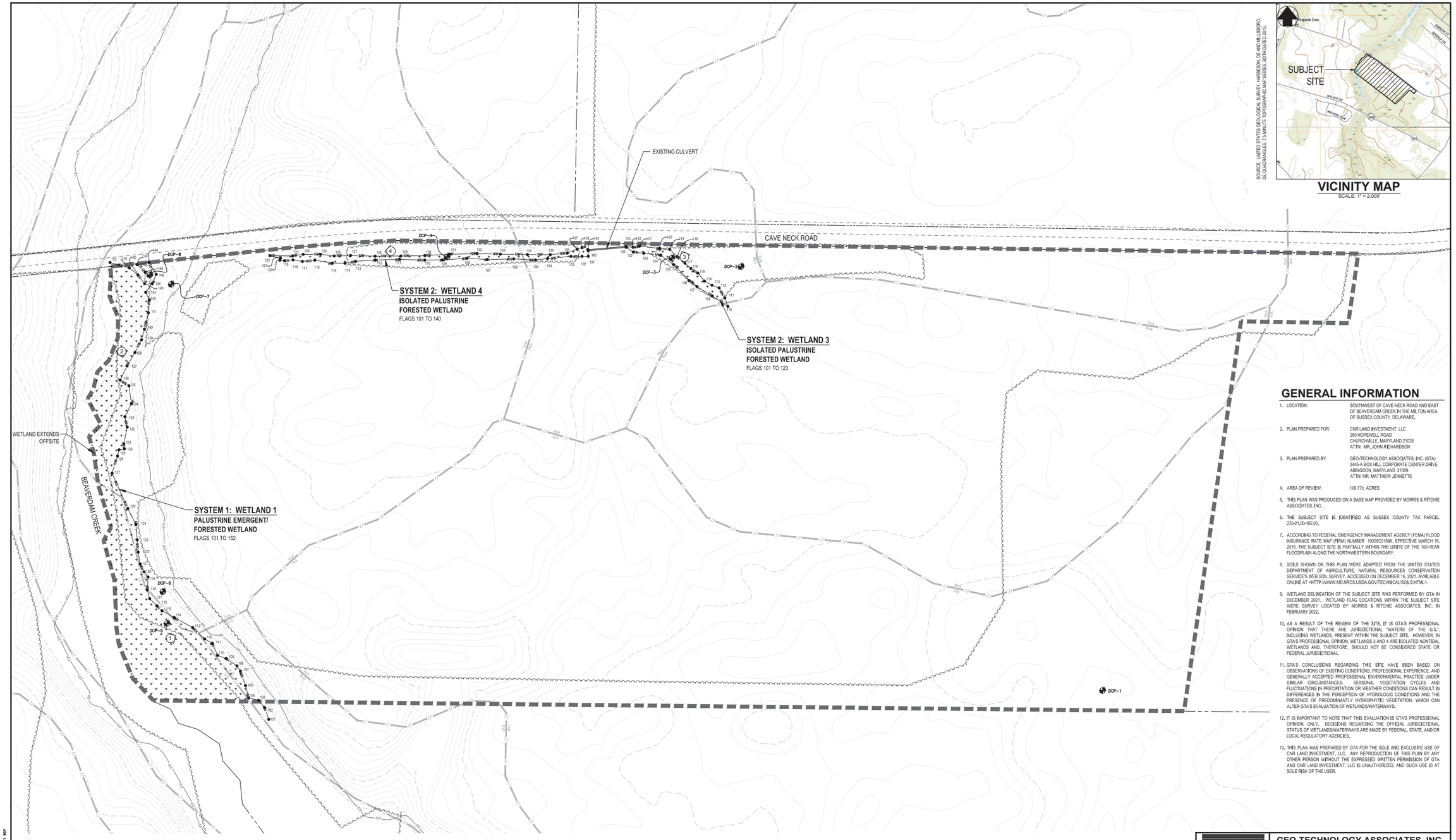
Photograph 18: DCP-7, soil sample.

Photograph 19: Overview of DCP-8.

Photograph 20: DCP-8, soil sample.

APPENDIX D

Wetland Delineation Plan



VICINITY MAP

SCALE: 1" = 2,000'

GENERAL INFORMATION

1. LOCATION: SOUTHWEST OF CAVE NECK ROAD AND EAST OF BEAVERDAM CREEK IN THE MILTON AREA OF SUSSEX COUNTY, DELAWARE.
2. PLAN PREPARED FOR: CNR LAND INVESTMENT, LLC
   260 HOPEWELL ROAD
   CHURCHVILLE, MARYLAND 21028
   ATTN: MR. JOHN RICHARDSON
3. PLAN PREPARED BY: GEO-TECHNOLOGY ASSOCIATES, INC. (GTA)
   3445-A BOX HILL CORPORATE CENTER DRIVE
   ABINGDON, MARYLAND 21009
   ATTN: MR. MATTHEW JENNETTE
4. AREA OF REVIEW: 100.77± ACRES
5. THIS PLAN WAS PRODUCED ON A BASE MAP PROVIDED BY MORRIS & RITCHIE ASSOCIATES, INC.
6. THE SUBJECT SITE IS IDENTIFIED AS SUSSEX COUNTY TAX PARCEL 235-21.00-182.00.
7. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) NUMBER 10005C0169K, EFFECTIVE MARCH 16, 2015, THE SUBJECT SITE IS PARTIALLY WITHIN THE LIMITS OF THE 100-YEAR FLOODPLAIN ALONG THE NORTHWESTERN BOUNDARY.
8. SOILS SHOWN ON THIS PLAN WERE ADAPTED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY, ACCESSED ON DECEMBER 16, 2021. AVAILABLE ONLINE AT <HTTP://WWW.MD.NRCS.USDA.GOV/TECHNICAL/SOILS.HTML>.
9. WETLAND DELINEATION OF THE SUBJECT SITE WAS PERFORMED BY GTA IN DECEMBER 2021. WETLAND FLAG LOCATIONS WITHIN THE SUBJECT SITE WERE SURVEY LOCATED BY MORRIS & RITCHIE ASSOCIATES, INC. IN FEBRUARY 2022.
10. AS A RESULT OF THE REVIEW OF THE SITE, IT IS GTA'S PROFESSIONAL OPINION THAT THERE ARE JURISDICTIONAL "WATERS OF THE U.S.", INCLUDING WETLANDS, PRESENT WITHIN THE SUBJECT SITE. HOWEVER, IN GTA'S PROFESSIONAL OPINION, WETLANDS 3 AND 4 ARE ISOLATED NONTIDAL WETLANDS AND, THEREFORE, SHOULD NOT BE CONSIDERED STATE OR FEDERAL JURISDICTIONAL.
11. GTA'S CONCLUSIONS REGARDING THIS SITE HAVE BEEN BASED ON OBSERVATIONS OF EXISTING CONDITIONS, PROFESSIONAL EXPERIENCE, AND GENERALLY ACCEPTED PROFESSIONAL ENVIRONMENTAL PRACTICE UNDER SIMILAR CIRCUMSTANCES. SEASONAL VEGETATION CYCLES AND FLUCTUATIONS IN PRECIPITATION OR WEATHER CONDITIONS CAN RESULT IN DIFFERENCES IN THE PERCEPTION OF HYDROLOGIC CONDITIONS AND THE PRESENCE OF PREDOMINANTLY HYDROPHYTIC VEGETATION, WHICH CAN ALTER GTA'S EVALUATION OF WETLANDS/WATERWAYS.
12. IT IS IMPORTANT TO NOTE THAT THIS EVALUATION IS GTA'S PROFESSIONAL OPINION. ONLY, DECISIONS REGARDING THE OFFICIAL JURISDICTIONAL STATUS OF WETLANDS/WATERWAYS ARE MADE BY FEDERAL, STATE, AND/OR LOCAL REGULATORY AGENCIES.
13. THIS PLAN WAS PREPARED BY GTA FOR THE SOLE AND EXCLUSIVE USE OF CNR LAND INVESTMENT, LLC. ANY REPRODUCTION OF THIS PLAN BY ANY OTHER PERSON WITHOUT THE EXPRESSED WRITTEN PERMISSION OF GTA AND CNR LAND INVESTMENT, LLC IS UNAUTHORIZED, AND SUCH USE IS AT SOLE RISK OF THE USER.

LEGEND

- SUBJECT SITE
- EX. ADJACENT PROPERTY BOUNDARY
- EX. PAVING
- EX. 1-FOOT CONTOURS
- EX. 5-FOOT CONTOURS
- EX. 100 YEAR FEMA FLOODPLAIN
- APPROXIMATE TREELINE
- EX. SOIL BOUNDARY
- APPROXIMATED NONTIDAL WETLAND BOUNDARY
- WETLAND DELINEATION DATA COLLECTION POINT (DCP)
- NUMBERED PHOTOGRAPH LOCATION

SOILS CHART

SYMBOL[1]	NAME/DESCRIPTION[1]	HYDRIC SOIL[2]	HYDRIC COMPONENT[2]	PERCENTAGE OF MAPPING UNIT[2]	POSITION IN LANDSCAPE[2]
EvD	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES	NO	-	-	-
GoA	GLASSBORO SANDY LOAM, 0 TO 2 PERCENT SLOPES	NO	-	-	-
HrA	HENLOPEN-ROSEDALE COMPLEX, 0 TO 2 PERCENT SLOPES	NO	-	-	-
LO	LONGMARSH AND INDIANTOWN SOILS, FREQUENTLY FLOODED	YES	LONGMARSH	43	FLOOD PLAINS
			INDIANTOWN	37	FLOOD PLAINS
			ZEKIAH	10	FLOOD PLAINS
			MANAHAWKIN	5	FLOOD PLAINS, SWAMPS
RkA	ROCKAWALKIN LOAMY SAND, 0 TO 2 PERCENT SLOPES	NO	-	-	-
RoA	ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES	NO	-	-	-

1. UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, SUSSEX COUNTY, DELAWARE, SOIL SURVEY DATA VERSION 22, DATED AUGUST 26, 2021.
2. HYDRIC SOILS INFORMATION AVAILABLE FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE SOIL DATA ACCESS HYDRIC SOILS LIST. ACCESSED DECEMBER 16, 2021.

AREA OF WETLANDS WITHIN THE SUBJECT SITE:

WETLAND	APPROXIMATE AREA
WETLAND 1	149,965 SF (3.44 AC)
WETLAND 3	12,869 SF (0.26 AC)
WETLAND 4	7,697 SF (0.18 AC)
TOTAL WETLAND AREA	170,531 SF (3.88 AC)

SCALE: 1"=100'

GEO-TECHNOLOGY ASSOCIATES, INC.
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

WETLAND DELINEATION PLAN

CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

REVISIONS:
-

JOB NO:	31212171
SCALE:	1"=100'
DATE:	MAY 16, 2022
DRAWN BY:	JSR
DESIGN BY:	
REVIEW BY:	TAS
SHEET:	1 OF 1

G:\GTA\1_SHARED\PROJECT FILES\2021\31212171 - CAVE NECK ROAD PROPERTY\MTT\CAD\PLOT\31212171 MDP

Appendix 6 – Endangered Species Review

U.S. Fish & Wildlife Service, August 1, 2022

DNREC Division of Fish & Wildlife, August 4, 2022

United States Department of the Interior
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575

Online Certification Letter

Today's date: August 1, 2022

Project: Cave Neck Road Property

Dear Applicant for online certification:

Thank you for using the U.S. Fish and Wildlife Service (Service) Chesapeake Bay Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA).This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), we certify that except for occasional transient individuals, no federally listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8573. For information in Delaware you should contact the Delaware Division of Fish and Wildlife, Wildlife Species Conservation and Research Program at (302) 735-8658. For information in the District of Columbia, you should contact the National Park Service at (202) 339-8309.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website (www.fws.gov/chesapeakebay)

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species program at (410) 573-4527.

Sincerely,

Genevieve LaRouche
Field Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To:
Project Code: 2022-0069521
Project Name: Cave Neck Road Property

August 01, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Project Code: 2022-0069521
Project Name: Cave Neck Road Property
Project Type: Residential Construction
Project Description: The Applicant proposes to construct a 91± acre residential development and associated infrastructure.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.75777655,-75.26434428625561,14z

Counties: Sussex County, Delaware

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.

This species only needs to be considered under the following conditions:

- The monarch is a candidate species and not yet listed or proposed for listing. There are generally no section 7 requirements for candidate species (FAQ found here: https://www.fws.gov/savethemonarch/FAQ-Section7.html).

Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

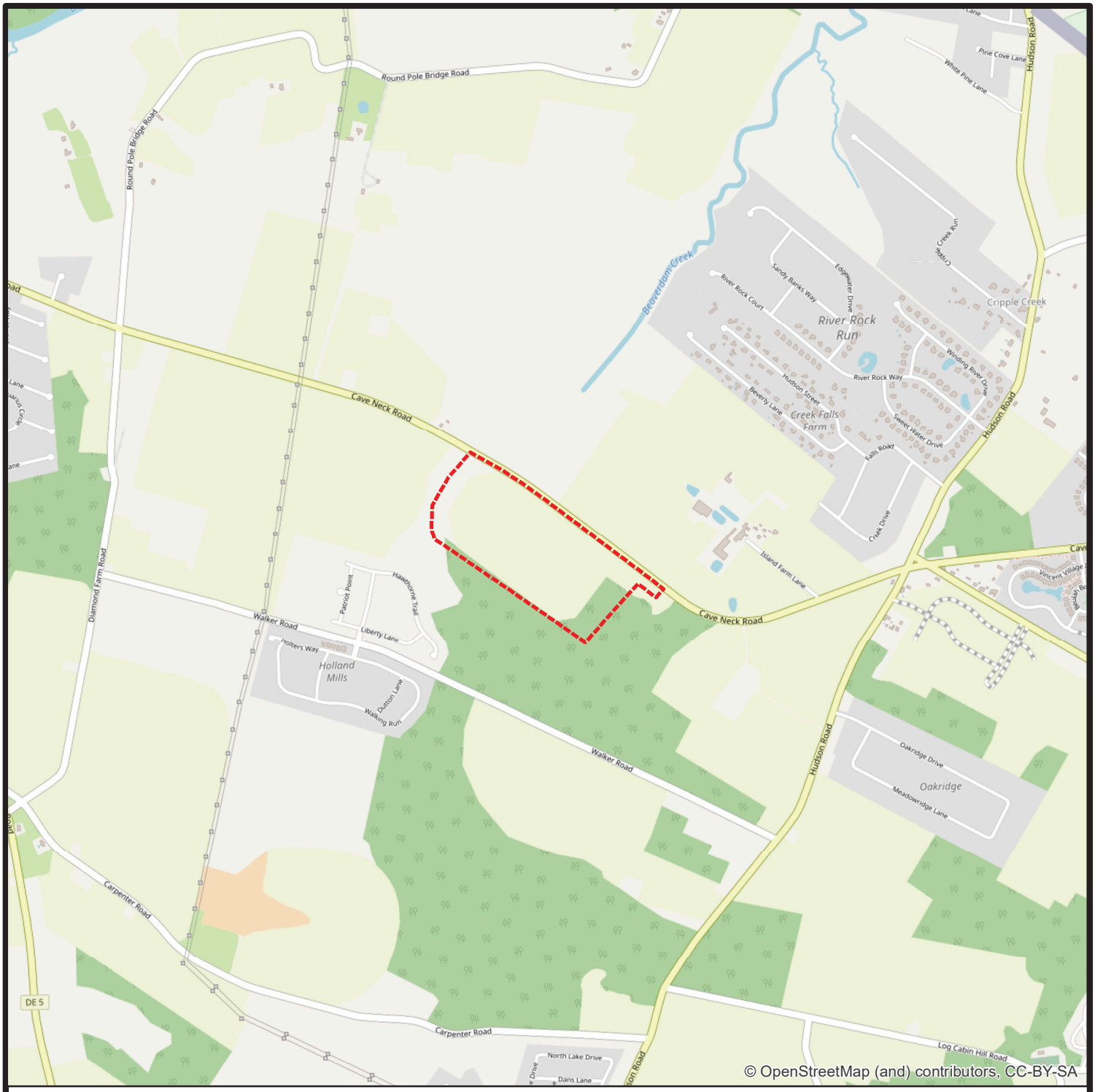
- Palustrine

RIVERINE

- Riverine

IPaC User Contact Information

Agency: Geo-Technology Associates, Inc.
Name: Joshua Riding
Address: 3445 Box Hill Corporate Center Dr, Ste. A
City: Abingdon
State: MD
Zip: 21009
Email jriding@gtaeng.com
Phone: 4105159446



LEGEND

SUBJECT SITE

NORTH

0 2,000

APPROXIMATE SCALE
1 INCH = 2,000 FEET

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

SITE LOCATION MAP
CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 2,000'	DECEMBER 16, 2021	CEL	TAS	1

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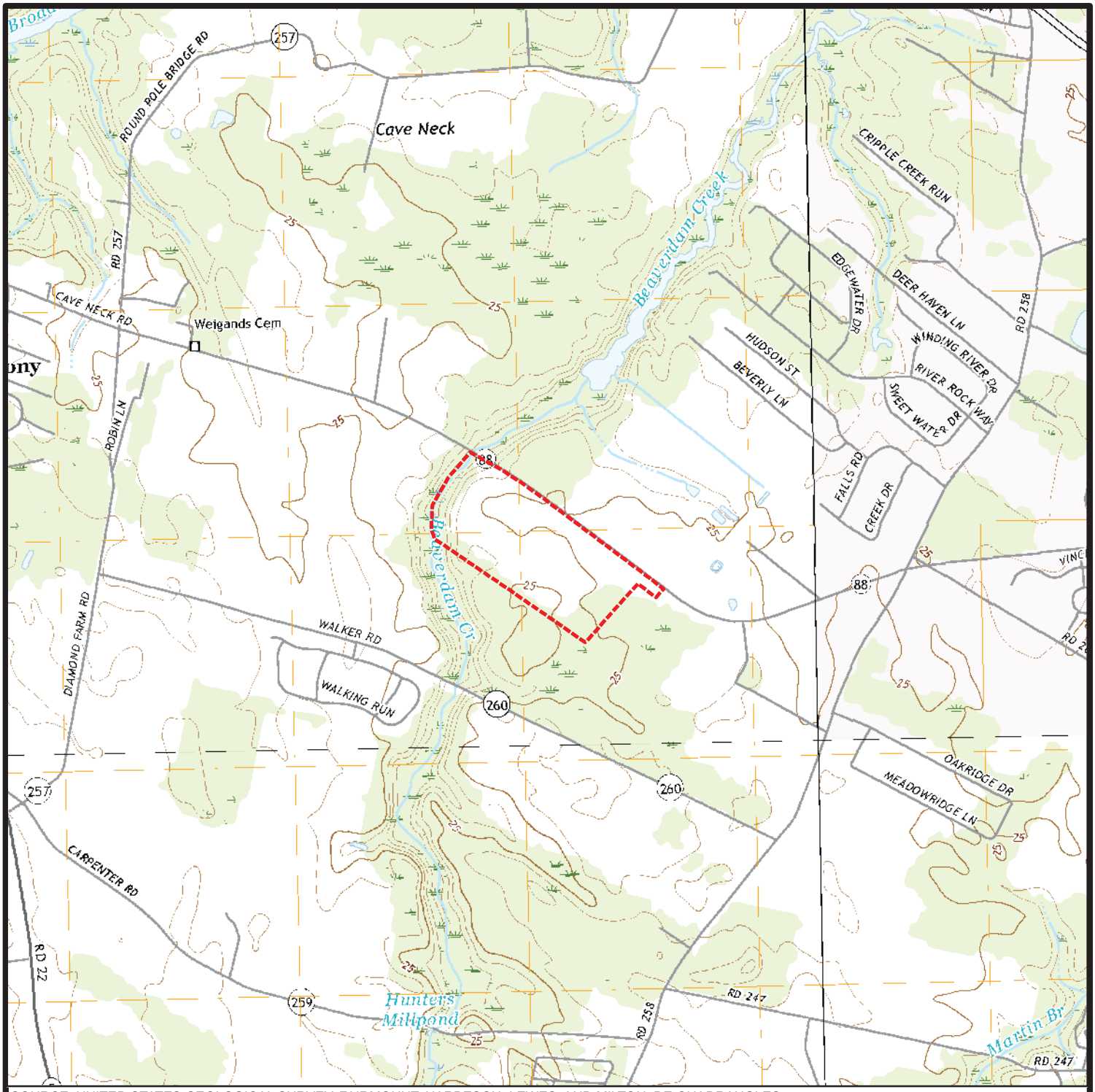

SOURCE: UNITED STATES GEOLOGICAL SURVEY, FAIRMOUNT, HARBESON, LEWES, AND MILTON, DE QUADRANGLES, 7.5 MINUTE SERIES TOPOGRAPHIC MAPS, ALL DATED 2019.

NORTH

0 2,000

APPROXIMATE SCALE
1 INCH = 2,000 FEET

LEGEND

SUBJECT SITE

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

USGS TOPOGRAPHIC MAP
CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 2,000'	DECEMBER 16, 2021	CEL	TAS	2

L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\CAD\GIS\31212171 USGS TOPO.mxd

SOURCE: 2018 BASE AERIAL IMAGERY PROVIDED BY GOOGLE EARTH.

NORTH

0 520

APPROXIMATE SCALE
1 INCH = 500 FEET

LEGEND

SUBJECT SITE

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

2018 AERIAL IMAGERY

CAVE NECK ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31212171	1" = 500'	DECEMBER 16, 2021	CEL	TAS	5

L:\Shared\Project Files\2021\31212171 - Cave Neck Road Property\WET\CAD\GIS\31212171 AERIAL.mxd

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
RICHARDSON & ROBBINS BUILDING
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

DIRECTOR'S OFFICE

PHONE
(302) 739-9910

August 4, 2022

Josh Riding
Geo-Technology Associates, Inc.
3445-A Box Hill Corporate Center Drive
Abingdon, MD 21009

Re: GTA 2022 Cave Neck Road Residential, Tax Parcel # 235-21.00-182.00

Dear Josh:

Thank you for contacting the Species Conservation and Research Program (SCRP) about information on rare, threatened and endangered species, unique natural communities, and other significant natural resources as they relate to the above referenced project.

Please note that these are general comments provided in response to a general information request – they do not include recommended time of year restrictions, guidance in regards regulatory procedures related to federally protected species, or suggestions to reduce impacts to other important species and habitats. Therefore, it is not appropriate to utilize these comments as a review for a specific project. When you have a specific project for the site, please contact us again with the full description/scope of work of the proposed project and maps that clearly delineate the boundaries and limits of disturbance where the work is to occur.

State Natural Heritage Site
A review of our database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. As a result, at present, this project does not lie within a State Natural Heritage Site, nor does it lie within a Delaware National Estuarine Research Reserve which are two criteria used to identify "Designated Critical Resource Waters" in the Army Corps of Engineers (ACOE) Nationwide Permit General Condition No. 22. A copy of this letter shall be included in any permit application or pre-construction notification submitted to the Army Corps of Engineers for activities on this property.

Mature Forest
A visual analysis of our historical database indicates that a portion of the forest block proposed to be developed has likely maintained some degree of forest cover since 1937. This constitutes the potential for a mature forest and, as such, the potential for rare, threatened, or endangered

species that rely on this type of habitat. We recommend that a full ecological assessment be implemented to document any sensitive habitats and/or species at the proposed project location.

Key Wildlife Habitat
The Non-tidal Coastal Plain Stream on this property is mapped as Key Wildlife Habitat (KWH) in the Delaware Wildlife Action Plan (DEWAP) it is part of a large wetland complex that can support an array of plant and animal species across the landscape. Although designation as KWH is non-regulatory, these maps are intended to help guide site-specific conservation planning efforts. Impacts to KWH should be minimized to the greatest extent practicable.

The DEWAP is a comprehensive strategy for conserving the full array of native wildlife and habitats, common and uncommon, as vital components of the state's natural resources. This document can be viewed via the Division of Fish and Wildlife's website at https://dnrec.alpha.delaware.gov/fish-wildlife/conservation/wildlife-action-plan/.

Delaware Ecological Network
Habitat on this parcel has been identified as ecologically important by the Delaware Ecological Network (DEN). The DEN, although non-regulatory, is a statewide conservation network developed using GIS and field collected datasets that help to identify and prioritize ecologically important areas for natural resource protection. The DEN includes ecologically important areas such as forests, wetlands, streams, habitat that supports rare species and areas of especially high quality. The DEN includes the following key elements: 1) core areas – contain relatively intact natural ecosystems, and provide high-quality habitat for native plants and animals, 2) hubs – slightly fragmented aggregations of core areas, plus contiguous natural cover and 3) corridors – link core areas together, allowing wildlife movement and seed and pollen transfer between them.

State Natural Area
The proposed project area occurs within Delaware's Natural Areas Inventory. State Natural Areas are composed of areas of land and/or water, whether in public or private ownership, which have retained or reestablished its natural character (although it need not be undisturbed), has unusual flora or fauna, or has biotic, geological, scenic, or archaeological features of scientific or educational value. If you require further information about this area for your planning, please contact Melanie Cucunato at 302-739-9039 or Melanie.Cucunato@delaware.gov.

Fisheries
After reviewing the project description, it does not appear that any waterways will be impacted; therefore, there are no fisheries concerns at present.

We are continually updating our records on Delaware's rare, threatened and endangered species, unique natural communities and other significant natural resources. If the start of the project is delayed more than a year past the date of this letter, please contact us again for the latest information.

Please feel free to contact me with any questions or if you require additional information.

Sincerely,

Danielle Ellis
Environmental Review Coordinator
Phone: (302) 223-2446
6180 Hay Point Landing Road
Smyrna, DE 19977

(See invoice on next page)

INVOICE - PAYMENT DUE

It is our policy to charge a fee for this environmental review service. This letter constitutes an invoice for $35.00 ($35.00/hour for a minimum of one hour). Please make your check payable to "Delaware Division of Fish and Wildlife" and submit to:

DE Division of Fish and Wildlife
97 Commerce Way
Suite 106
Dover, DE 19901
ATTN: DFW Fiscal

In order for us to properly process your payment, you must reference "GTA 2022 Cave Neck Road Residential**" on your check.**

cc: Division of Fish and Wildlife Fiscal (dnrec_dfw_payroll@delaware.gov); Code to 72900

Appendix 7 – Traffic Impact / Area Wide Study Fee

DelDOT – Service Level Evaluation Request Response, January 25, 2022

DelDOT – Area Wide Study Fee Memo, October 14, 2022

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

January 25, 2022

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **CNR Land Investment, LLC** proposed land use application, which we received on January 13, 2022. This application is for an approximately 100.77- acre parcel (Tax Parcel: 235-21.00-182.00). The subject land is located on the south side of Cave Neck Road (Sussex Road 88) about 3,500 ft west of the intersection with Hudson Road (Sussex Road 258). The subject land is currently zoned AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval to build 191 single-family detached houses.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volumes along Cave Neck Road from Hudson Road to Paynter Street, is 4,406 vehicles per day.

Based on our review, we estimate that the proposed land use will generate more than 50 vehicle trips per peak hour or 500 vehicle trips per day, and would be considered to have a **Minor** impact to the local area roadways. In this instance, the Department considers a Minor impact to be when a proposed land use would generate more than either 50 vehicle trips per peak hour and / or 500 vehicle trips per day but fewer than 200 vehicle trips per a weekly peak hour and 2,000 vehicle trips per day. Because of this impact, we recommend that the applicant be required to perform a Traffic Impact Study (TIS) for the subject application. However, our Development Coordination Manual provides that where a TIS is required only because the volume warrants are met, and the projected trip generation will be fewer than 200 vehicle trips per a weekly peak hour and fewer than 2,000 vehicle trips per day, DelDOT may permit the developer to pay an Area-Wide Study Fee of $10 per daily trip in lieu of doing a TIS. For this application, if the County were agreeable, we would permit the developer to pay an Area-Wide Study Fee.

DelDOT

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Ms. Annamaria Furmato, at Annamaria.Furmato@delaware.gov, if you have questions concerning this correspondence.

Sincerely,

T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm
cc: John Richardson, Applicant
Cory Tieste, Applicant
Elliot Young, Sussex County Planning & Zoning
David Edgell, Coordinator, Cabinet Committee on State Planning Issues
Todd Sammons, Assistant Director, Development Coordination
Scott Rust, South District Public Works Manager, Maintenance & Operations
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

MEMORANDUM

TO: Kevin Hickman, Acting Sussex County Review Coordinator

FROM: Claudy Joinville, Project Engineer C.J.

DATE: October 14, 2022

SUBJECT: **Paradise Meadows**
(Protocol Tax Parcel # 235-21.00-182.00)
Area Wide Study Fee (AWSF) and Off-site Improvements

The subject development meets DelDOT's volume warrants to pay the Area Wide Study Fee in lieu of doing a Traffic Impact Study (TIS). This memorandum is to address the amount of that fee and the off-site improvements that should be required of the developer in the absence of a TIS. The fee and improvements presented below are an alternative to the developer doing a TIS and the improvements identified through DelDOT's review of that study.

1. The proposed development consists of 191 single-family detached houses. Based on our review, using the 11th edition of the Institute of Transportation Engineers' (ITE) Trip Generation Manual, the proposed development would generate 1,830 average vehicle daily trips and 183 vehicle trips during the p.m. peak hour. The fee is calculated at ten dollars per daily trip. For the proposed development, the fee would be $18,300.00.

2. The developer shall improve the State-maintained road(s) on which they front, within the limits of their frontage, to meet DelDOT's standards for their Functional Classification as found in Section 1.1 of the Development Coordination Manual and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer's lands are on one or both sides of the road. Frontage is defined in Section 1 of the Development Coordination Manual, which states "This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway." Questions on or appeals of this requirement should be directed to the DelDOT Subdivision Review Coordinator in whose area the development is located.

DelDOT

3. Section 2.2.2.2 of the Development Coordination Manual allows DelDOT to accept the AWSF in lieu of a TIS, but only if the local land use agency does not require a TIS. If Sussex County requires a TIS for this development, DelDOT will support that requirement and will not accept the AWSF.

4. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersection of Cave Neck Road and Hudson Road as part of the *Cave Neck Road, Hudson and Sweetbriar Roads Intersection Improvement* project (DelDOT Contract No. T202104304). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of these improvements.

If you have any additional questions or comments, please let me know.

CJ:km
cc: John Richardson, CNR Land Investment, LLC
Cory Tieste, Morris & Ritchie Associates, Inc.
Michael Simmons, Chief of Project Development South, DOTS
Todd Sammons, Assistant Director, Development Coordination
Wendy Polasko, Subdivision Engineer, Development Coordination
Sireen Muhtaseb, TIS Group Manager, Development Coordination
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, DelDOT Traffic
Mark Galipo, Traffic Engineer, DelDOT Traffic, DOTS
James Argo, Sussex County Plan Reviewer, South District
Derek Sapp, Sussex County Subdivision Manager, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

Sussex County
DELAWARE
sussexcountyde.gov
302-855-7878
302-854-5079 F
JAMIE WHITEHOUSE, AICP MRTPI
PLANNING & ZONING DIRECTOR

August 12, 2022

Mr. Phillip L. Tolliver, P.E.
Principal
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720

By email to: ptolliver@mragta.com

RE: Staff Review of the Preliminary Subdivision Plan for Paradise Meadows for the establishment of a cluster subdivision to consist of 191 single-family lots, private roads, open space, and proposed amenities to include pergolas, a clubhouse, inground pool and tot lot to be located on the south sided of Cave Neck Road (S.C.R. 88)
Tax Parcel: 235-21.00-182.00

Dear Mr. Tolliver,

Further to your submission of February 3rd, 2022, the Planning and Zoning Department has reviewed the submitted Preliminary Subdivision Plan for Paradise Meadows (2022-03) for the establishment of a cluster subdivision to consist of one-hundred and ninety-one (191) single-family lots, private roads, open space and proposed amenities to include pergolas, a clubhouse, inground pool and tot lot. The subject property is located on the south side of Cave Neck Road (S.C.R. 88), approximately 1.3 miles east of the intersection of Cave Neck Road (S.C.R. 88) and Diamond Farm Road (S.C.R. 257). The property lies within the Low Density Area per Sussex County's 2018 Comprehensive Plan. The parcel is also not located within the Henlopen Transportation Improvement District (TID). The parcel is zoned Agricultural Residential (AR-1) Zoning District. Staff have reviewed the proposed subdivision plan for compliance with the Sussex County Zoning and Subdivision Code and have the following comments:

Revised Preliminary Subdivision Plan

1. **Staff would encourage the removal of Utopia Court and Elegance Court and their associated lots from the plan. Staff would be amenable to the extension of Grace Way and Bliss Way into the areas currently occupied by Utopia and Elegance Court on the plans. Staff appreciate endeavors to maintain as much Open Space as possible to contribute to a design that is superior to a traditional plan. This would also provide additional privacy for the future residents along Oasis Drive, which would have the Lots off of Elegance Court very close to**

their property lines. Particularly Lots 94 through 97. Staff would suggest the inclusion of larger Open Space areas and tree plantings in these areas.

2. **Please show the required 30-ft forested/landscaped buffer along Cave Neck Road (S.C.R. 88) with the exception of those areas that DelDOT have deemed to be within the Site Departure Triangle, restricting site lines for motorists or in such a manner as to create a potential safety hazard (§99-5 "Forested and/or Landscaped Buffer Strip" (J)).**
3. **Please ensure that no stormwater management ponds are located within the Landscape Buffer as required under §99-5 of the Sussex County Code. Stormwater management outfalls are permitted for purposes of draining surface or stormwater outside the perimeter of the subdivision (§99-5 "Forested and/or Landscaped Buffer Strip" (I)).**
4. **The Site Data Column indicates that the property consists of 95.87 acres +/-, but the County's Online Mapping System indicates that the property consists of 100.77 acres +/-. Please confirm which measurement is accurate. If the site contains 95.87 acres, the density is accurate as supplied within the Site Data Column (1.99 du/acre). However, if 100.77 acres, the density would be approximately 1.90 du/acre.**
5. **The Cover Sheet indicates that the Owner of the property is CNR Land Investment, LLC. However, available County records state the owner of record is Chance Chase, LLC. If the property has been deeded over to a new party, please ensure that this information is updated within the County's Office of the Recorder of Deeds. If not, please amend the plans to show the current owner of the property (§99-23(C)).**
6. **Please ensure that at least 30% of the required Open Space be located adjacent to existing woodlands (such as those on the southwest portion of the site) (§115-25(F)(3)(a)[3][c][iii]).**
7. **Please ensure that a minimum of 25-ft of permanent setback is maintained around the outer boundaries of all wetlands, except for tidal waters, tributary streams and tidal wetlands, of which a 50-ft setback from the mean high-water line and the ordinary high-water line of perennial non-tidal rivers and streams shall apply. Please add text annotation which shows this clearly on the plans (§115-25(F)(3)(a)[4]).**
8. **Please ensure that the homes are clustered on the environmentally suitable portions of the tract, specifically those portions of the tract least encumbered by sensitive environmental features, including but not limited to wetlands, mature woodlands, waterways and water bodies (§115-25(F)(3)(a)[1]). Please ensure that the removal of healthy, mature trees is limited (§115-25(F)(3)(a)[6]). For example, it appears that the wooded area on the southeastern portion of the property will be clear cut.**

9. **It is noted that there is proposed interconnectivity to the parcel to the south. However, this parcel is currently part of the Littlefield Agricultural Preservation Easement. With consideration to this easement, please confirm with the Delaware Department of Agriculture and per any recorded deed for the property if development would be allowed on this property in the future as this may contradict any plans for future interconnectivity.**
10. **Please clarify that the 10-ft front setback shown on Sheet 8 is shown for purposes of delineating the required 10-ft utility easement for the property and that this is not the front yard setback being proposed for the subdivision (as this should be a minimum of 25-ft.)**
11. Please add to the Cover Sheet of the plans, the County Project Reference Number (2022-03) for this proposal.
12. Note #16 within the Site Data Column contains placeholder language with regard to the Preliminary Wetlands Evaluation for the site. Please update this language to reflect the month and year of this delineation.
13. Please amend the minor typographical error in the Project Phasing Notes on Sheet #2 from "The project is be approved…" to "The project is **to** be approved…"
14. Please amend the minor typographic error in the Site Data Column Note #9 "Propose" to "Proposed."
15. Please clarify on the plans that Cave Neck Road is also Sussex County Road ("S.C.R." 88).
16. Please include in the Site Data Column that the property is located within the Low Density Area per Sussex County's 2018 Comprehensive Plan update.
17. Please include within the Site Data Column that the project area is not located within a Wellhead Protection Area in order to comply with Chapter 89 "Source Water Protection" of the Sussex County Code (§89-6).
18. Please ensure that an Existing Site Conditions Plan is provided (§99-22(B)).
19. Please include the soils classification and the location and nature of existing site conditions including wooded areas on the plans (§99-23(H)).
20. Please include on the plans, any easements proposed to be dedicated for public use (§99-23(J)).
21. Please include the designation of parcels of land to be dedicated for public use or for the common use of property owners within the subdivision (§99-23(L)).
22. Please add to the plans, the designation of land used primarily for agricultural purposes within 300 feet of the boundary of the proposed subdivision (§99-23(O)). Please also include that the adjacent lands are currently in active agriculture and within an Agricultural Easement. Specifically, these lands are included within the Littlefield Agricultural Preservation District.
23. Please include the location of all wetlands (both state and federal) in order to facilitate compliance with state and federal wetlands requirements. Please also include the

acreage of wetlands by type (ie: tidal, non-tidal, ephemeral), agency having jurisdiction over those wetlands (ie: State (Delaware Department of Natural Resources & Environmental Control (DNREC)), Federal (Army Corps of Engineers), non-jurisdictional) (§99-23(Q)).

24. Please include the location of the one-hundred-year floodplains on the plans. The site appears to be within Flood Zone "X" – Areas determined to be outside of the 0.2 percent annual chance Flood Zone and Flood Zone "AE" – Areas subject to inundation by the one-percent annual chance flood. Please also include related symbology within the Legend on the plans (§99-23(R)).
25. Please include supportive statements concerning any proposed deed restrictions to be imposed by the owner on the plans (§99-24(B)).
26. Please include supportive statements explaining how and when the subdivider proposed to provide for the perpetual maintenance of forested buffer strips, if required (§99-24(F)).

Final Subdivision Plan

1. **Please ensure that a 30-ft forested/landscape buffer that meets the provisions of §99-5 of the Sussex County Code is shown around the entire perimeter of the site to be developed. Please note that the 30-ft width shall be exclusive of any proposed stormwater management areas or facilities, open space, etc. A Landscape Plan for the buffer shall be designed and certified by a licensed landscape forester or architect designated by the Society of American Foresters as a "certified forester" and shall include a mix of 70% deciduous shade trees and 30% evergreen trees. The certification should be included on any Final Subdivision Plan**.
2. **Please ensure that the Limit of Disturbance is clearly shown on the Final Subdivision Plan as well as hatching or a gradient which clarifies the forested areas to remain on site, forested areas to be preserved and any forested areas to be removed**.
3. **Please note if a landscape or vegetated buffer will be planted to shield the proposed clubhouse from nearby Lots for added privacy for these Lots. If any additional landscaping is proposed in these areas, this should be included within any overall Landscaping Plan for the development.**
4. Please include a General Note on the plans that all signage will require a separate permit from the County.
5. Please include the location of all proposed streetlights on the plans. All street lighting shall be downward screened to minimize glare on adjacent residential areas.
6. Please clarify whether a covered bus stop will be provided for use of the property owners within the subdivision.

7. Please include the location and descriptions of all permanent survey monuments (§99-26(A)(5)).
8. Please note that the proposed Subdivision name and all proposed street names shall be approved by the Sussex County Geographic Information Office prior to final approval of the project (§99-26(A)(7)).
9. Please include the locations, dimensions and purposes of any other property offered for dedication or to be reserved for acquisition for public use or to be reserved by deed covenant for the common use of property owners in the subdivision (§99-26(A)(11)).
10. Please include the location of all wetlands (both (both state and federal) shall be indicated by legal description with bearings and distances with each flag point numbered. A signed and dated statement by an experienced qualified professional shall be provided verifying the accuracy of the delineation. If the site contains no wetlands, then the plan must contain the appropriate statement from the same professional. Building lots containing wetlands shall be identified by a notation stating that "construction activities within these sites may require a permit from the United States Army Corps. of Engineers or the State of Delaware" (§99-26(A)(17)).
11. Please include a breakdown of the open space on the plans (Open Space "A," "B," "C," etc.) and the purpose of all open space areas. Please also add the percentage of impervious surface cover area in the Site Data Column (§99-26(A)(19)).
12. Please include a summary of deed restrictions applicable within the subdivision, including agreements for the operation and maintenance by the property owners or agency in the subdivision of street and road improvements, surface drainage facilities, erosion and sedimentation control facilities, water supply facilities, sanitary sewer facilities, forested buffer strips, all areas approved as open space and other improvements" (§99-27(A)).
13. Please include on the Final Subdivision Plan evidence that all conditions related to the preliminary plat (the Conditions of Approval) have been satisfied (§99-27(B)).
14. If the subdivision receives Final Subdivision Plan approval, a separate Amenities Plan for the subdivision will be required to be submitted to the Department of Planning and Zoning for review. Please add text to the plans which indicates that a separate Amenities Plan will be provided to the Office of Planning and Zoning.
15. Staff encourage the use of the following elements within the proposed Final Site Plan where practicable:
    a. Provision of a bike rack to encourage multimodal travel within the Subdivision (near the front of the clubhouse).
    b. Provision of an electric vehicle charging station near the proposed Amenities area (clubhouse). The Delaware Department of Natural Resources and Environmental Control provides an Electric Vehicle Charging Equipment Rebate Program for public areas. The rebate amounts are $3,500 for single

port and $7,000 for dual port. Please contact DNREC's Division of Climate, Coastal and Energy for further information if interested (302)735-3480.

c. Provision of further aesthetic improvements such as Complete Streets which foster a shared sense of place and community to include items such as pavers, walking trails, pocket parks, fountains, further outdoor seating, pavilions, gardens, or communal gathering areas.

16. Prior to approval of the Final Subdivision Plan, approval letters or letters of no objection from the following agencies shall be submitted to the Sussex County Planning and Zoning Office (Items which appear in **bold** still require submittal to the Department. Items in which a check mark appears next to them have been received by the Department):

    a. **Sussex Conservation District**
    b. **Office of State Fire Marshal**
    c. **Delaware Department of Transportation (DelDOT)**
    d. **Sussex County Engineering Department**
    e. **Sussex County Geographic Information Office (formerly known as the Sussex County Department of Mapping and Addressing)**
        i. **Approval for the proposed Subdivision Name.**
        ii. **Approval for all proposed street names.**
    f. **Office of Drinking Water (Public Health)**
    g. **The local school district regarding bus stop provisions.**
    h. **Copies of any proposed HOA bylaws or deed restrictions to be imposed on property owners within the subdivision.**

Please provide **one (1) full-size copy** and **one (1) electronic copy** of a Revised Preliminary Subdivision Plan, copies of your Chapter §99-9(C) responses at least ten (10) days prior to your scheduled Planning and Zoning Commission public hearing. A public hearing has tentatively been scheduled for this application for **Thursday, September 22, 2022.** Therefore, please submit all required materials no later than close of business on **Monday, September 12, 2022.**

The Department is in receipt of comments from the Sussex County Technical Advisory Committee (TAC), copies of which have been enclosed with this letter.

Please feel free to contact me with any questions during business hours 8:30 A.M. – 4:30 P.M., Monday through Friday at 302-855-7878.

Sincerely,

Lauren DeVore

Ms. Lauren DeVore, AICP

Planner III

Enclosure: Technical Advisory Committee (TAC) Comments

MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS

Date: October 17, 2022

Sussex County
Planning & Zoning Office
2 The Circle
Georgetown, DE 19947

Attention: Ms. Lauren DeVore, AICP

Subject: Paradise Meadows
(Formerly Cave Neck Road)
2022-03

Dear Ms. DeVore:

We are in receipt of your Staff Review letter dated August 12, 2022 with regard to Preliminary Subdivision Plan associated with the proposed Paradise Meadows (formerly known as Cave Neck Road) residential subdivision proposed in Sussex County and respond as follows:

Preliminary Plan

Comment 1: Staff would encourage the removal of Utopia Court and Elegance Court and their associated lots from the plan. Staff would be amenable to the extension of Grace Way and Bliss Way into the areas currently occupied by Utopia and Elegance Court on the plans. Staff appreciate endeavors to maintain as much Open Space as possible to contribute to a design that is superior to a traditional plan. This would also provide additional privacy for the future residents along Oasis Drive, which would have the Lots off of Elegance Court very close to their property lines. Particularly Lots 94 through 97. Staff would suggest the inclusion of larger Open Space areas and tree plantings in these areas.

Response: Comments acknowledged. Site layout has incorporated open space throughout the subdivision to provide for separation of year yard areas and avoid lots backing directly to one another. Open space plantings to provide additional screening of these areas will be incorporated in the Landscape Plan to be developed and provided during the preparation of the Final Engineering and Record Plans for the Project.

Comment 2: Please show the required 30-ft forested/landscaped buffer along Cave Neck Road (S.C.R. 88) with the exception of those areas that DelDOT have deemed to be within the Site Departure Triangle, restricting site lines for motorists or in such a manner as to create a potential safety hazard (§99-5 "Forested and/or Landscaped Buffer Strip" (J)).

Response: Comment addressed; site layout has been revised to provide 30' forested / landscaped buffer along Cave Neck Road. Limits of landscaping areas will be

finalized in coordination with DelDOT approval of site entrance and incorporated into the final Record Plan for the project.

Comment 3: Please ensure that no stormwater management ponds are located within the Landscape Buffer as required under §99-5 of the Sussex County Code. Stormwater management outfalls are permitted for purposes of draining surface or stormwater outside the perimeter of the subdivision (§99-5 "Forested and/or Landscaped Buffer Strip" (I)).

Response: Comment addressed; all stormwater management areas are located outside of the perimeter landscape buffer. The stormwater area located in the southeasterly corner of the site may encroach into the 50' agricultural setback as this restriction only precludes the placement of buildings within this buffer to lands used for agricultural purpose.

Comment 4: The Site Data Column indicates that the property consists of 95.87 acres +/-, but the County's Online Mapping System indicates that the property consists of 100.77 acres +/-. Please confirm which measurement is accurate. If the site contains 95.87 acres, the density is accurate as supplied within the Site Data Column (1.99 du/acre). However, if 100.77 acres, the density would be approximately 1.90 du/acre.

Response: Comment addressed; site area identified on plan is consistent with boundary survey performed by MRA.

Comment 5: The Cover Sheet indicates that the Owner of the property is CNR Land Investment, LLC. However, available County records state the owner of record is Chance Chase, LLC. If the property has been deeded over to a new party, please ensure that this information is updated within the County's Office of the Recorder of Deeds. If not, please amend the plans to show the current owner of the property (§99-23(C)).

Response: Comment addressed; Chance Chase, LLC is still the owner of record for the subject parcel area as identified on Sheet 2. A separate signature area has been provided on the title sheet for the Owner, with the Developer Signature area remaining as CNR Land Investment, LLC.

Comment 6: Please ensure that at least 30% of the required Open Space be located adjacent to existing woodlands (such as those on the southwest portion of the site) (§115-25(F)(3)(a)[3][c][iii]).

Response: Comment addressed. In accordance with Section 115-25B.(2) a total of 28.76 acres of open space is required for the overall project. The current layout provides more than 12 acres of open space adjacent to the forested area along the southwesterly portion of the site, far exceeding the 8.67 acres that would be required by Section 115-25(F)(3)(a)[3][c]. Additional open space areas not included in the calculation above that are provided along the south and east portions of the site would also qualify for satisfying the requirements of Section 115-25(F)(3)(a)[3][c]].

Comment 7: Please ensure that a minimum of 25-ft of permanent setback is maintained around the outer boundaries of all wetlands, except for tidal waters, tributary streams and tidal wetlands, of which a 50-ft setback from the mean high-water line and the ordinary high-water line of perennial non-tidal rivers and streams shall apply. Please add text annotation which shows this clearly on the plans (§115-25(F)(3)(a)[4]).

Response: Comment addressed; a 30-ft buffer has been provided to all non-tidal wetlands on the subject parcel. No tidal streams or tidal wetlands are located within the boundary of the subject parcel.

Comment 8: Please ensure that the homes are clustered on the environmentally suitable portions of the tract, specifically those portions of the tract least encumbered by sensitive environmental features, including but not limited to wetlands, mature woodlands, waterways and water bodies (§115-25(F)(3)(a)[1]). Please ensure that the removal of healthy, mature trees is limited (§115-25(F)(3)(a)[6]). For example, it appears that the wooded area on the southeastern portion of the property will be clear cut.

Response: Comment addressed; the site configuration has been revised to eliminate the impact to delineated wetlands located within the subject parcel area. Clearing has been noted to be limited to only those areas necessary for the construction of the lot areas, roads, utilities, stormwater management, and associated grading. The area in the southeasterly corner of the site is proposed to be cleared for the construction of a SWM facility to serve the easterly portion of the site. Note that an attempt to limit clearing has been made with the retention of the wooded area of the site to be located behind lots 101-111.

Comment 9: It is noted that there is proposed interconnectivity to the parcel to the south. However, this parcel is currently part of the Littlefield Agricultural Preservation Easement. With consideration to this easement, please confirm with the Delaware Department of Agriculture and per any recorded deed for the property if development would be allowed on this property in the future as this may contradict any plans for future interconnectivity.

Response: Comment addressed; based on correspondence with the Department of Agriculture, both of the parcels located along the south and easterly boundary of the development area are in the Aglands program and located within the Littlefield Preservation District. As such, the future development of these parcel areas is limited and therefore, stubs for interconnectivity have been eliminated for the proposed plan.

Comment 10: Please clarify that the 10-ft front setback shown on Sheet 8 is shown for purposes of delineating the required 10-ft utility easement for the property and that this is not the front yard setback being proposed for the subdivision (as this should be a minimum of 25-ft.)

Response: Comment addressed; the call out regarding the front setback has been revised.

Comment 11: Please add to the Cover Sheet of the plans, the County Project Reference Number (2022-03) for this proposal.

Response: Comment addressed; County Project Reference Number has been added to the sheet title.

Comment 12: Note #16 within the Site Data Column contains placeholder language with regard to the Preliminary Wetlands Evaluation for the site. Please update this language to reflect the month and year of this delineation.

Response: Comment addressed; Note 20 has been revised to address to reference GTA delineation. A Jurisdictional Determination (JD) with the U.S. Army Corps of Engineers is currently pending; the JD information will be provided upon receipt and will be noted on the final Record Plan.

Comment 13: Please amend the minor typographical error in the Project Phasing Notes on Sheet #2 from "The project is be approved…" to "The project is to be approved…"

Response: Comment addressed; typo in Project Phasing has been corrected.

Comment 14: Please amend the minor typographic error in the Site Data Column Note #9 "Propose" to "Proposed."

Response: Comment addressed; typo in Note #9 has been corrected.

Comment 15: Please clarify on the plans that Cave Neck Road is also Sussex County Road ("S.C.R." 88).

Response: Comment addressed; reference to Cave Neck Road to include road number has been included where applicable on Sheets 1, 3, 4, 5, 7, and 9.

Comment 16: Please include in the Site Data Column that the property is located within the Low Density Area per Sussex County's 2018 Comprehensive Plan update.

Response: Comment addressed; requested information has been added as Note 24.

Comment 17: Please include within the Site Data Column that the project area is not located within a Wellhead Protection Area in order to comply with Chapter 89 "Source Water Protection" of the Sussex County Code (§89-6).

Response: Comment addressed; requested information has been incorporated into Note 23.

Comment 18: Please ensure that an Existing Site Conditions Plan is provided (§99-22(B)).

Response: Comment addressed; an Existing Conditions Plan has been added to the plan set as Sheet 3.

Comment 19: Please include the soils classification and the location and nature of existing site conditions including wooded areas on the plans (§99-23(H)).

Response: Comment addressed; soils information is provided as inset on Sheet 1. Limits of existing wooded portions of the site area included on the Existing Conditions Plan (Sheet 3).

Comment 20: Please include on the plans, any easements proposed to be dedicated for public use (§99-23(J)).

Response: Comment addressed; all easement areas are identified on the plans. No easements are anticipated to be dedicated to public use at this time.

Comment 21: Please include the designation of parcels of land to be dedicated for public use or for the common use of property owners within the subdivision (§99-23(L)).

Response: Comment addressed; all open space areas proposed within the community are anticipated to remain as private areas available for the common use of the property owners. Site Data Note 26 has been added to reflect as such.

Comment 22: Please add to the plans, the designation of land used primarily for agricultural purposes within 300 feet of the boundary of the proposed subdivision (§99-23(O)). Please also include that the adjacent lands are currently in active agriculture and within an Agricultural Easement. Specifically, these lands are included within the Littlefield Agricultural Preservation District.

Response: Comment addressed; current land use of the surrounding parcels and reference to the parcels within the Aglands program have been identified on Sheets 3 & 4.

Comment 23: Please include the location of all wetlands (both state and federal) in order to facilitate compliance with state and federal wetlands requirements. Please also include the acreage of wetlands by type (ie: tidal, non-tidal, ephemeral), agency having jurisdiction over those wetlands (ie: State (Delaware Department of Natural Resources & Environmental Control (DNREC)), Federal (Army Corps of Engineers), non-jurisdictional) (§99-23(Q)).

Response: Comment addressed; wetland information has been shown on the plans in accordance with the GTA delineation. All wetlands on site are non-tidal in nature and subject to federal (USACE) jurisdiction; wetland area information has been noted on the applicable sheets.

Comment 24: Please include the location of the one-hundred-year floodplains on the plans. The site appears to be within Flood Zone "X" – Areas determined to be outside of the 0.2 percent annual chance Flood Zone and Flood Zone "AE" – Areas subject to inundation by the one-percent annual chance flood. Please also include related symbology within the Legend on the plans (§99-23(R)).

Response: Comment addressed; plan sheets have been updated to show location of the 100-yr floodplain based upon current FEMA mapping. Plan sheet legends have been updated to include appropriate line type for this information as well.

Comment 25: Please include supportive statements concerning any proposed deed restrictions to be imposed by the owner on the plans (§99-24(B)).

Response: Comment addressed; no deed restrictions are anticipated at this time. General Note #8 has been added to Sheet 2 reflecting this condition.

Comment 26: *Please include supportive statements explaining how and when the subdivider proposed to provide for the perpetual maintenance of forested buffer strips, if required (§99-24(F)).*

Response: Comment addressed; forested buffer strip areas are located within the community open space areas. As a common facility, these areas are to be maintained by the community association. General Note 7 on Sheet 2 has been revised to note this requirement.

Final Subdivision Plan

Response: All comments related to the requirements for the Final Subdivision Plan will be addressed through the final engineering design process and preparation of the Final Record Plan. Detailed response to these individual comments will be provided upon submittal of the Record Plan for your review.

As requested, one revised plan has been included with this response letter for your file. Access to download an electronic copy of this response letter and the revised Preliminary Plan has been provided to you through email. If you should require additional information regarding this application, please contact me to discuss at 302-326-2200.

Very Truly Yours,
MORRIS & RITCHIE ASSOCIATES, INC.

Christopher J. Flathers, P.E.
Senior Project Manager

cc: J. Whitehouse, Sussex County
J. Richardson, CNR Land Investment, LLC
J. Fuqua, Esq.
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