

PATH: K:\TRANSFER\Wetland - Projects\SH\_242\GIS\MAPS\055\SH242\_055\_NDD\_MAP\_1\_112119.mxd  
 SOURCES: NAIP Aerials, 2014; TPWD, 2019

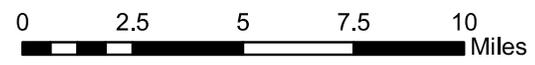
-  10-Mile Buffer
-  Bald Eagle
-  Correll's False Dragonhead
-  Loblolly Pine-white Oak-southern Red Oak Forest
-  Red-cockaded Woodpecker
-  Sandbank Pocketbook - See 1
-  Sabine Shiner - See 2
-  Chub Shiner - See 3
-  Western Creek Chubsucker - See 4

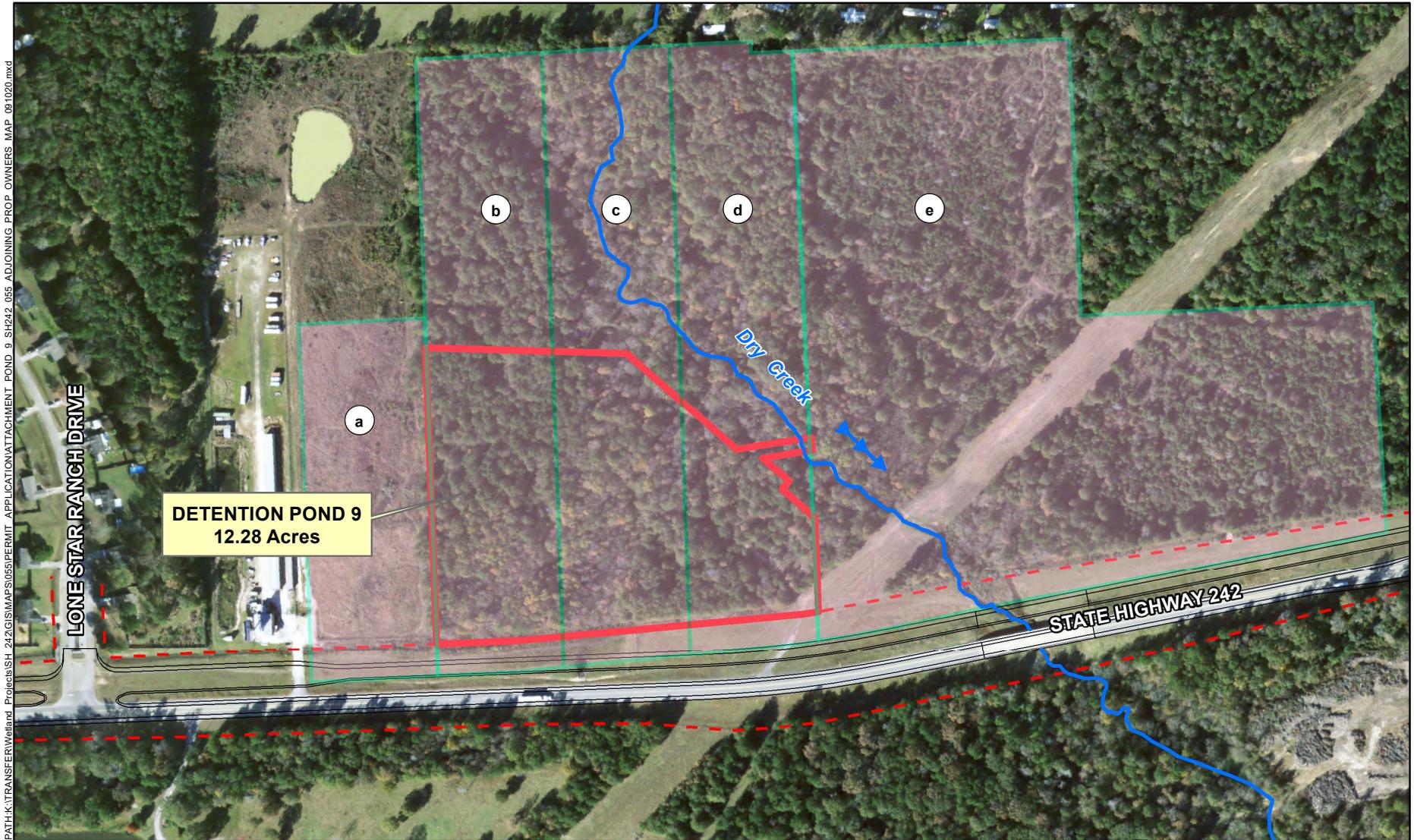
 Proposed Detention Pond  
 Detention Pond 9 (12.28 Acres)



**TPWD NATURAL DIVERSITY DATABASE MAP**

**CSJ: 3538-01-055**  
**Montgomery County, Texas**

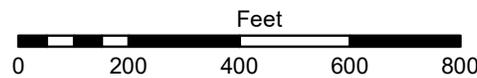




SOURCES: United States Department of Agriculture (USDA). Texas NAIP Imagery, 2018-12-31. Web. 2020-01-16.

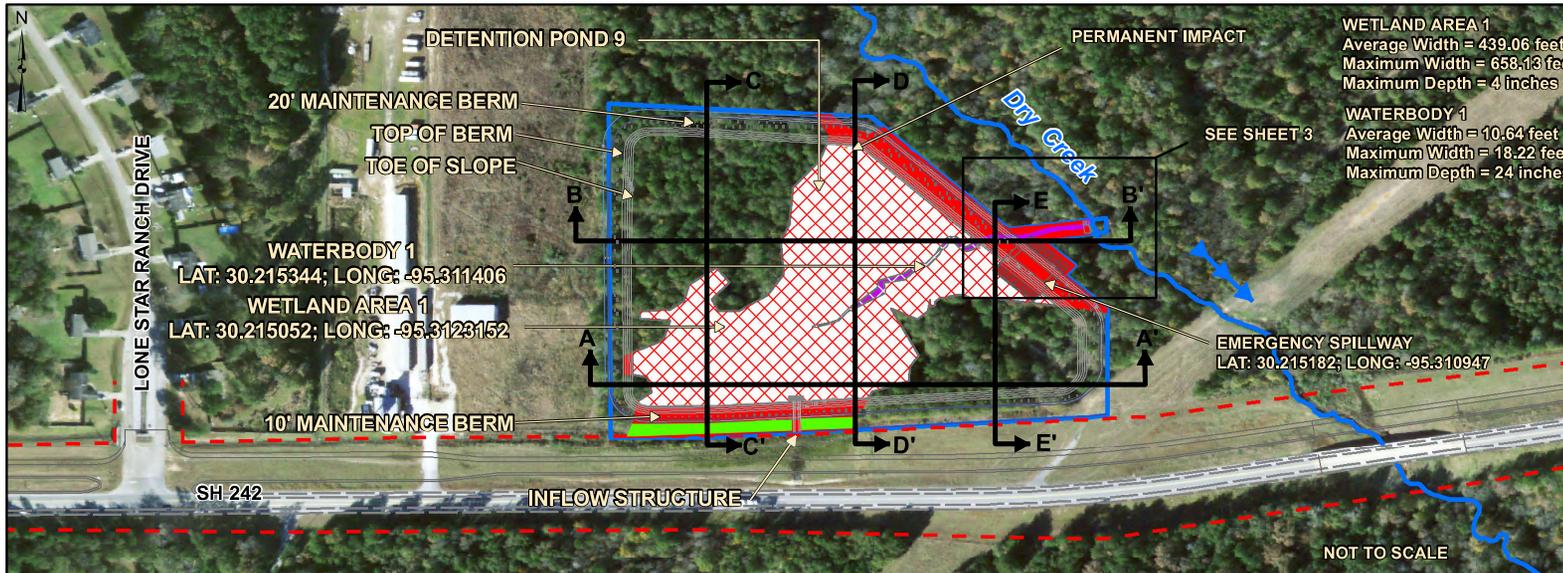
- Proposed Roadway
- Roadway Right of Way
- Proposed Detention Pond
- Property Parcels

Parcel Id	Owner Name
a	JENNEY C & VUONG VAN HA
b	BRANDON ZERMENO
c	KY VAN & NHIEM THI VU
d	YEN HONG LIAW & RYAN CAO
e	DUANE VICKERY & CARLYN A JOHNSON



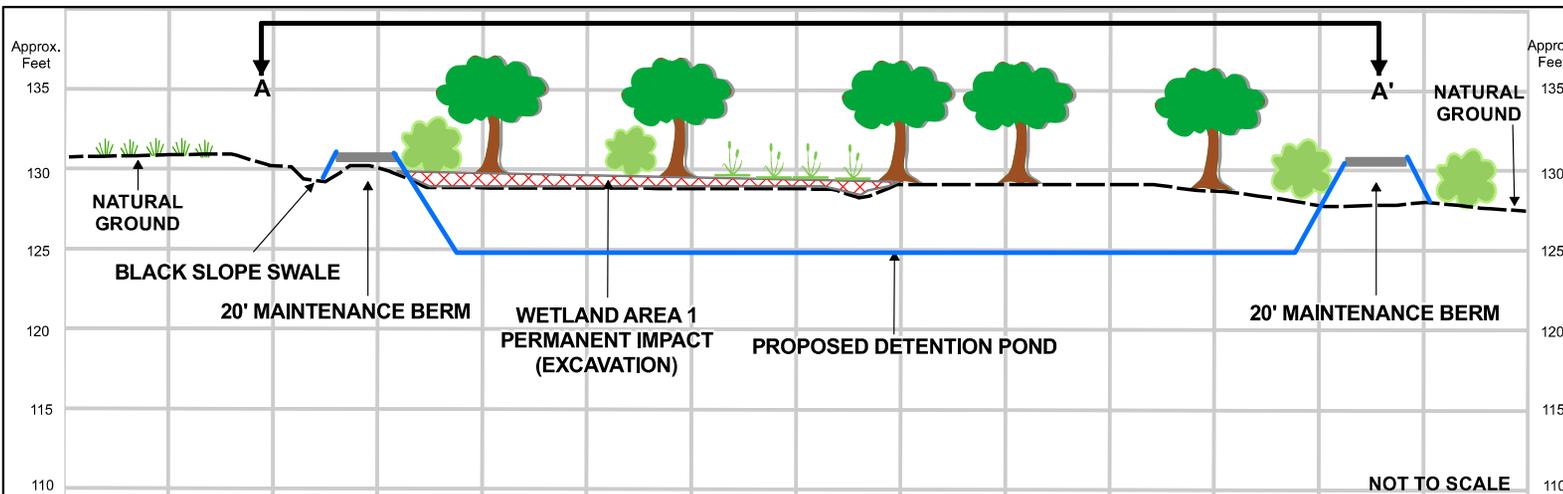
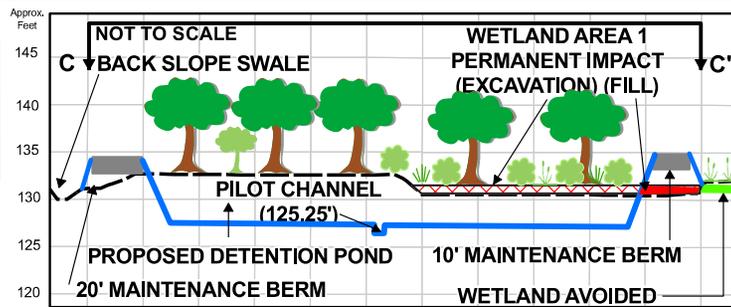
**ATTACHMENT A  
ADJOINING PROPERTY OWNERS**

**CSJ: 3538-01-055  
Montgomery County, Texas**



AREA	ACREAGE	PERMANENT IMPACT	TEMPORARY IMPACT
WETLAND AREA 1	6.179 AC	5.963 AC NOTE 1	0.0000 AC
WATERBODY 1	0.103 AC	0.103 AC NOTE 1	0.0000 AC

**NOTE 1**  
Fill and Excavation to Construct a Storm Water Detention Pond.



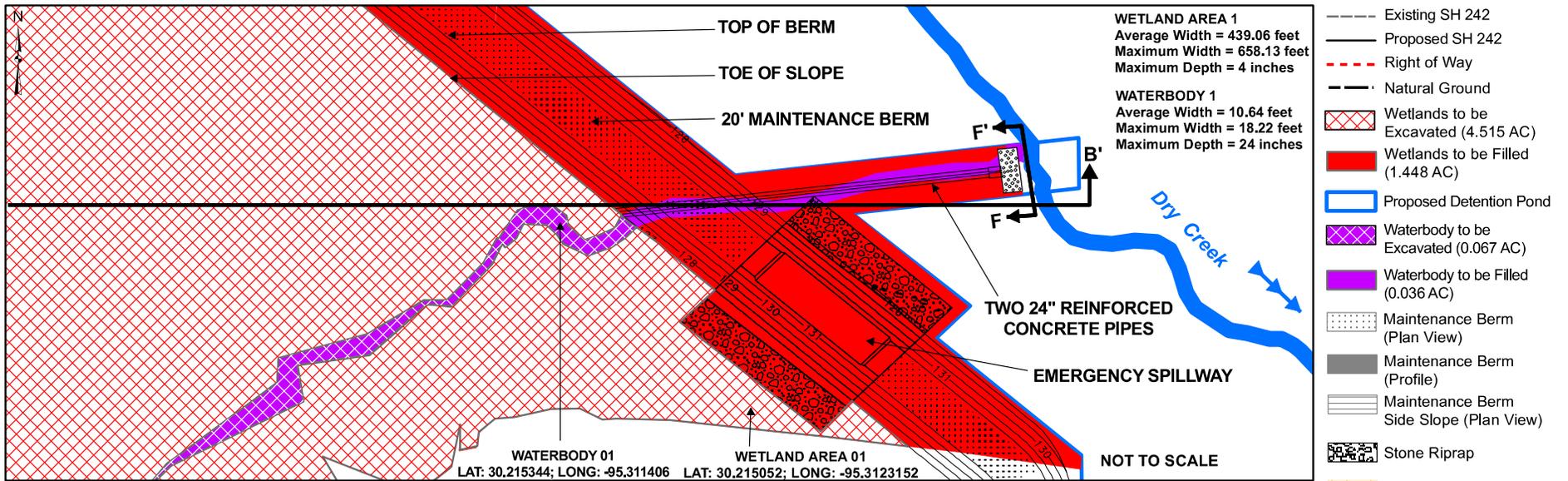
SH 242  
DETENTION POND 9  
CSJ: 3538-01-055  
MONTGOMERY COUNTY, TX

IMPACTS TO WATERS OF THE US,  
INCLUDING WETLANDS

PLAN AND PROFILE

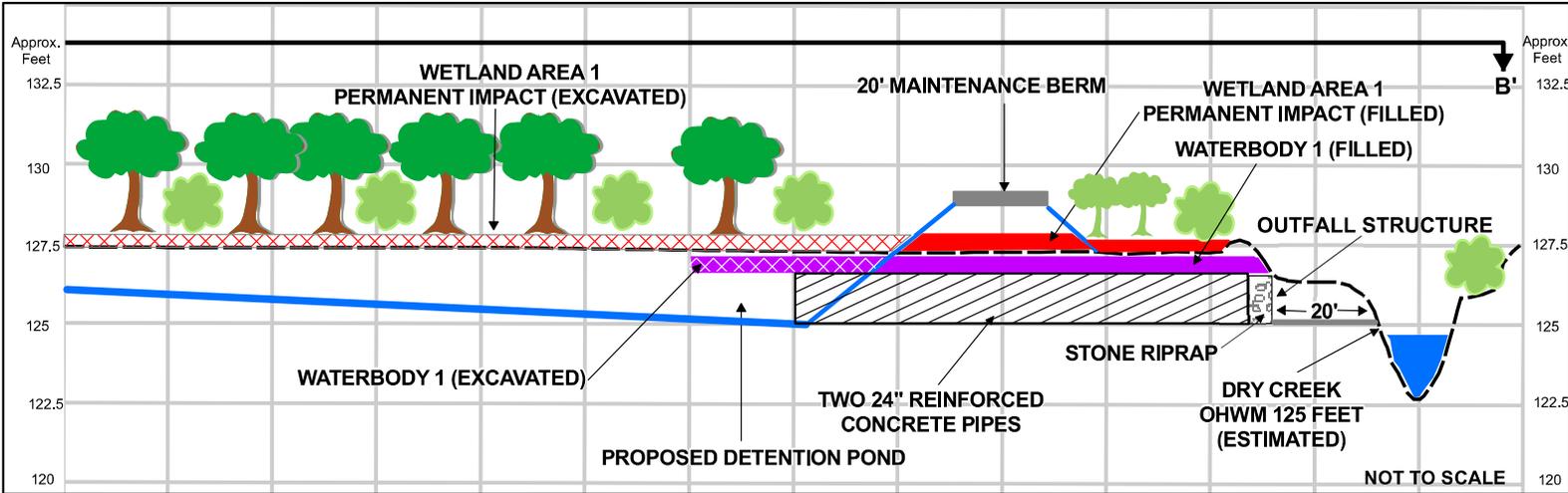
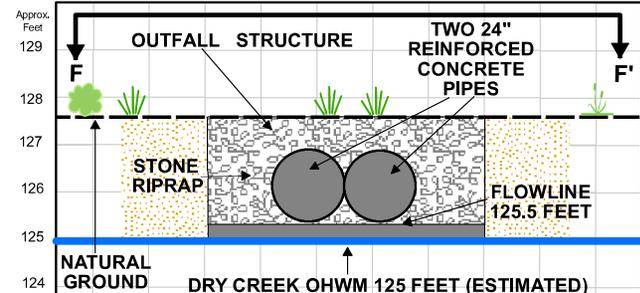
SHEET 1 OF 3



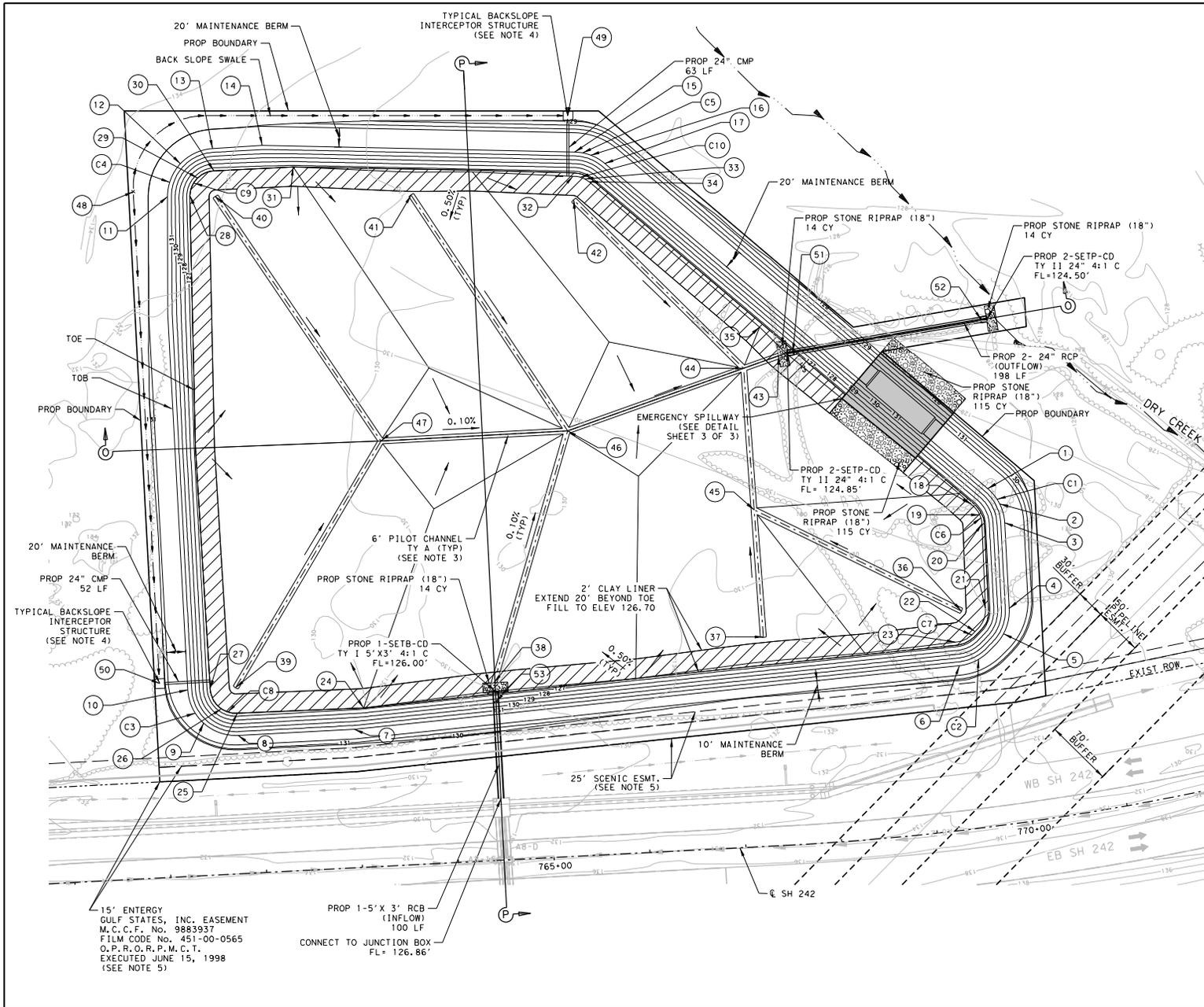


AREA	ACREAGE	PERMANENT IMPACT	TEMPORARY IMPACT
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**NOTE 1**  
Fill and Excavation to Construct a Storm Water Detention Pond.



SH 242  
DETENTION POND 9  
CSJ: 3538-01-055  
MONTGOMERY COUNTY, TX  
IMPACTS TO WATERS OF THE US,  
INCLUDING WETLANDS  
PLAN AND PROFILE  
SHEET 3 OF 3

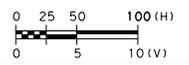


Clay Liner Material Requirements	
Property	Criteria
Coefficient of Permeability	< 4 x 10 <sup>-7</sup> cm/sec
Soil Fines	> 65% passing No. 200 sieve
Liquid Limit	> 35 and < 60
Moisture/Density Relationship	> 95% of maximum dry density at or above optimum
Thickness	Minimum 24 inches over granular/cohesionless soils

**SEE CORRESPONDING SWP3 SHEET FOR AREAS NOT TO BE DISTURBED.**

**LEGEND**  
 LIMITS OF CLAY LINER

- NOTES:**
1. SEE ROADWAY DRAINAGE PLAN AND PROFILE & DETAIL SHEETS FOR DETAILS OF ROADWAY DRAINAGE COMPONENTS.
  2. DETAILS OF HYDRAULIC COMPUTATIONS CAN BE OBTAINED FROM THE DRAINAGE REPORT APPROVED BY TxDOT IN 2020.
  3. FOR ADDITIONAL DETAIL ON PILOT CHANNEL SEE POCHN PILOT CHANNEL DETAILS.
  4. FOR ADDITIONAL DETAIL ON BACKSLOPE INTERCEPTOR STRUCTURE, SEE HCFCD-1SD (1 & 2) HCFCD INTERCEPTOR STRUCTURE DETAILS.
  5. SEE CORRESPONDING SWP3 SHEETS FOR AREAS NOT TO BE DISTURBED.



REV. NO.	DATE	DESCRIPTION	BY



**Texas Department of Transportation**

**DANNENBAUM**  
 ENGINEERING CORPORATION  
 T.B.P.E. FIRM REGISTRATION #392  
 3108 WEST ALABAMA BOULEVARD, FORT WORTH, TEXAS 76102-3549

SH 242

**DETENTION POND 9**

SHEET 1 OF 3									
DSN	XXX	FED. NO.	STATE	FEDERAL AID PROJECT NO.	ROUTE				
CRK	XXX	6	TEXAS		SH 242				
DSN	XXX	STATE	COUNTY	CONTROL	SECTION				
CRK	XXX	HOU	MONT	3538	01				
					JOB				
					NO.				
					SHEET				
					NO.				

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15' ENTRY GULF STATES, INC. EASEMENT  
 M.C.C.F. No. 9883937  
 FILM CODE No. 451-00-0565  
 O.P.R. O.R. P.M.C.T.  
 EXECUTED JUNE 15, 1998  
 (SEE NOTE 5)

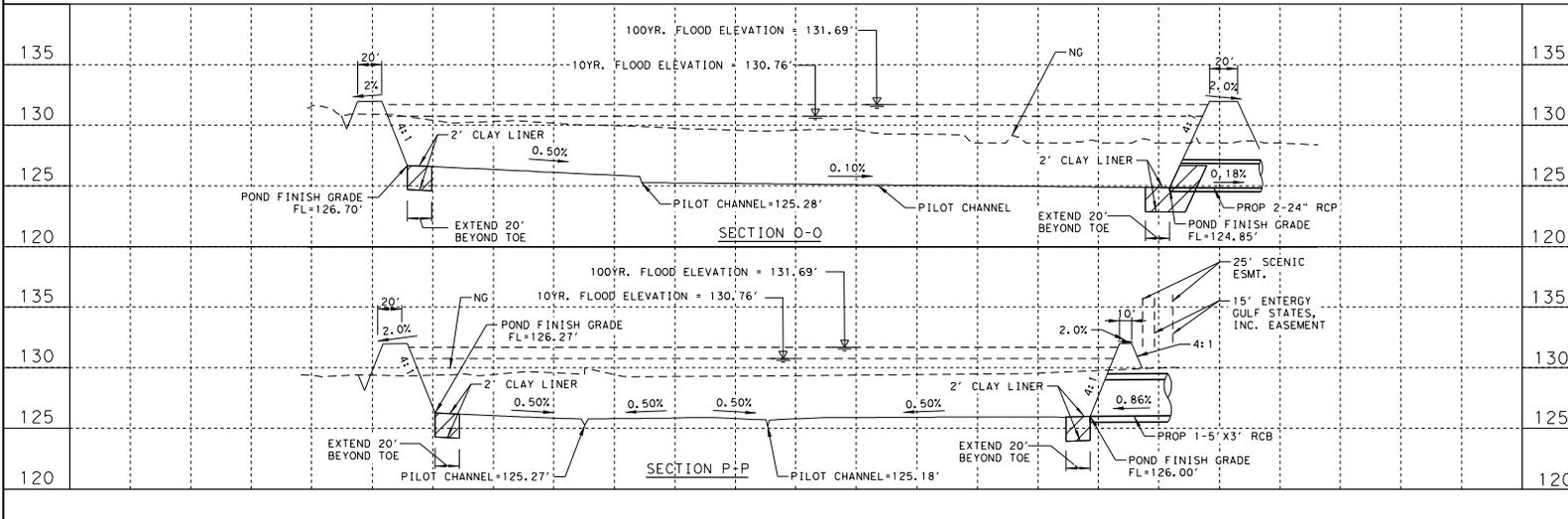
PROP 1-5' X 3' RCB (INFLOW)  
 100 LF  
 CONNECT TO JUNCTION BOX  
 FL = 126.86'

Stage Area Pond 9		
Elevation (ft)	Area (ac)	Cumulative Volume (ac-ft)
124.85	0.00	0.00
125.00	0.00	0.00
125.20	0.02	0.00
125.40	0.20	0.03
125.60	0.86	0.13
125.80	2.54	0.47
126.00	4.77	1.20
127.00	8.41	8.76
128.00	8.64	17.28
129.00	8.87	26.04
130.00	9.10	35.02
131.00	9.34	44.24
132.00	9.58	53.70

POND 9 DETENTION SUMMARY	
DRAINAGE SYSTEM ID SERVED	SYSTEM-5
CONTRIBUTING ROADWAY	from Sta 650+85 to 770+00
RECEIVING CHANNEL	DRY CREEK
	100-YR
MAX SYSTEM Q (ALLOWED) (CFS)	292.70
MAX SYSTEM Q (OUT) (CFS)	290.70
MAX WSEL (FT)	131.69
BASIN VOLUME AVAILABLE (AC-FT)	50.75
ROUTED VOLUME (AC-FT)	44.13
ROUTED FLOW (CFS)	151.43
BASIN INLET CULVERTS	1-5'X 3' RCB
BASIN OUTLET CULVERTS	2- 24" RCP

LEGEND  
 LIMITS OF CLAY LINER

- NOTES:
- SEE ROADWAY DRAINAGE PLAN AND PROFILE & DETAIL SHEETS FOR DETAILS OF ROADWAY DRAINAGE COMPONENTS.
  - DETAILS OF HYDRAULIC COMPUTATIONS CAN BE OBTAINED FROM THE DRAINAGE REPORT APPROVED BY TXDOT IN 2020.
  - FOR ADDITIONAL DETAIL ON PILOT CHANNEL SEE PCHN PILOT CHANNEL DETAILS.



REV. NO.	DATE	DESCRIPTION	BY

**Texas Department of Transportation**

**DANNENBAUM**  
 ENGINEERING CORPORATION  
 T.B.P.E. FIRM REGISTRATION #392  
 3708 WEST ALABAMA HIGHWAY, TX FIRM #10-058-9750

SH 242

**DETENTION POND 9**

SHEET 2 OF 3	
DSN: xxx	FED. NO. 6
STATE TEXAS	FEDERAL AID PROJECT NO.
CR: xxx	SH 242
STATE TEXAS	COUNTY
DISTRICT HOU	MONT
CONTROL NO. 3538	SECTION NO. 01
JOB NO. 055	SHEET NO.

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**Section 404/10 Impacts Table**  
**Version 3, July 2021**  
**State Highway 242, Detention Pond 9**  
**CSJ: 3538-01-055**  
**USACE Permit No. Not Yet Assigned**  
**August 25, 2021**

Waterbody or Wetland Characteristics							Potentially Jurisdictional?		Total Section 404 Impacts for WATERBODY OR WETLAND					
Crossing Number	Waterbody or Wetland Number	Name	Type	Latitude, Longitude	Acres Within Project Area (All Waterbodies and Wetlands)	Linear Feet/Acres Within Project Area (streams only)	Section 404 (waters of the U.S.)	Section 10 (navigable waters)	Temporary			Permanent		
									Temporary Waterbody or Wetland Impacts (acres)	Temporary Stream Impacts (linear feet/acres)	Cubic Yards (CY) of Fill Material to be Temporarily Discharged	Permanent Waterbody or Wetland Impacts (acres)	Permanent Stream Impacts (linear feet/acres)	Cubic Yards (CY) of Fill Material to be Permanently Discharged
1	1	Wetland Area 1	Palustrine Forested	30.2154, -95.3118	6.179	N/A	Yes	No	-	-	-	5.963	-	780
1	2	Waterbody 1	Intermittent Stream	30.2153, -95.3115	0.103	617	Yes	No	-	-	-	0.103	617	61

Waterbody or Wetland Characteristics					Total Section 404 Impacts for CROSSING						Authorization			
Crossing Number	Name	Type	Acres Within Project Area (All Waterbodies and Wetlands)	Linear Feet Within Project Area (streams only)	Temporary			Permanent			Authorization Type	Number (NWP and RGP only)	Reason (PCN only)	Mitigation Required?
					Temporary Waterbody or Wetland Impacts (acres)	Temporary Stream Impacts (linear feet/acres)	Cubic Yards (CY) of Fill Material to be Temporarily Discharged	Permanent waterbody or wetland impacts (acres)	Permanent Stream Impacts (linear feet/acres)	Cubic Yards (CY) of Fill Material to be Permanently Discharged				
1	Wetland Area 1	Palustrine Forested	6.179	-	-	N/A	-	5.963	-	780	IP	N/A	N/A	Yes
1	Waterbody 1	Intermittent Stream	0.103	617	-	0	-	0.103	617	61	IP	N/A	N/A	Yes

Impacts to both Wetland Area 1 and Waterbody 1 would result from the construction of a new storm water management facility (e.g., Detention Pond 9). Impacts to Wetland Area 1 would involve excavation (4.515 acres) and fill (1.448 acres, approximately 780 cubic yards); impacts to Waterbody 1 would also involve excavation (0.067 acre) and fill (0.036 acre, approximately 61 cubic yards). Detention Pond 9 is designed to support the adjacent State Highway 242 roadway improvement project (USACE Permit No. SWG-1992-00054, dated December 8, 2020) by managing storm water which collects within the State Highway 242 roadway right-of-way during and following rainfall and storm events.

Detention Pond 9 is located on three (3) adjacent parcels of land of equal size. The eastern parcel of land was not accessible as right-of-entry for environmental investigations was not granted by the property owner. Wetland Area 1 and Waterbody 1 were therefore not fully accessible in the field. The acreages and linear feet of the wetland and waterbody features associated with the inaccessible areas of the Detention Pond 9 project area were estimated using aerial photography, LIDAR data, etc., as well as data from field investigations and wetland delineation sample points that were collected within accessible areas of the project area. A total of 5.064 acres of Wetland Area 1 were delineated in the field while a total of 1.115 acres of Wetland Area 1 are estimated to occur within the inaccessible parcel of the Detention Pond 9 project area. A total of 0.043 acre (312 linear feet) of Waterbody 1 were delineated in the field while a total of 0.060 acre (305 linear feet) of Waterbody 1 are estimated to occur within the inaccessible parcel of the Detention Pond 9 project area.