CONTAMINATION SCREENING EVALUATION REPORT

S.R. 401 Bridge Replacement PD&E Study

Brevard County, Florida

Financial Project Identification (FPID) Number: 444787-1-22-01
ETDM Number: 14397

Prepared For:

Florida Department of Transportation
District Five

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. & 327 and Memorandum of Understanding dated 12/14/2016 and executed by FHWA and FDOT.

January 2022

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Geotechnical and Environmental Consultants, Inc. (GEC) has been retained by Parsons Transportation Group, Inc. (Parsons) on behalf of the Florida Department of Transportation (FDOT) to provide a Level I Contamination Screening Evaluation Report (CSER) for the SR 401 Bridge Replacement PD&E Study. This CSER was performed as part of Financial Project ID No. 444787-1-22-01.

The purpose of this evaluation was to assess the risk of encountering petroleum or hazardous substance contamination of soil, groundwater, surface water, or sediment that could adversely affect this project. The CSER activities included a review of public regulatory files and historical data sources, and a site reconnaissance of the project study area.

As a result of this evaluation, we have assigned Contamination Risk Ratings (CRR) to six sites. The site locations are shown on **Figure 4** and the contamination status of each site is summarized in **Table 1**.

Using the FDOT CRRs presented in **Appendix C**, we have identified **6 Low Risk** sites, as summarized below.

Low Risk Sites (6)

Site No.	Site Name	Site Address	Risk Potential
1	Cape Marina Services	800 Scallop Drive	Low
2	Ocean Club at Port Canaveral	930 Mullet Road	Low
3	New Port Marina	960 Mullet Road	Low
4	Unknown Release	990 Mullet Road	Low
5	Canaveral Port Authority – Cruise Terminal 8 Garage	9155 Charles M Rowland Drive	Low
6	Canaveral Landfill	Mullet Drive	Low

Based on the findings of this CSER, Level II Impact to Construction Assessments (ICAs) are not recommended for this project.

1.0 INTRODUCTION

1.1 Contract Information

Geotechnical and Environmental Consultants, Inc. (GEC) has been retained by Parsons Transportation Group, Inc. (Parsons) on behalf of the Florida Department of Transportation (FDOT) to provide a Level I Contamination Screening Evaluation Report (CSER) for the SR 401 Bridge Replacement PD&E Study. This CSER was performed as part of Financial Project ID No. 444787-1-22-01.

1.2 Purpose

The purpose of this evaluation is the early identification of potential contamination sites that could impact this project…

The presence of contaminated environmental media (soil, groundwater, surface water, and sediment) can have a significant negative impact on the cost and schedule to complete a bridge replacement and roadway improvement project. The purpose of this evaluation was the early identification of potential contamination sites that could impact this project and to provide valuable input for the design, right-of-way acquisition, and construction phases.

2.0 PROJECT DESCRIPTION

The following sections describe the current study area conditions, the project construction plans and elements of the project that could be impacted by soil or groundwater contamination. The definitions for common terms used in this report can be found in **Appendix B**.

The project involves the evaluation of the three existing bascule bridges for replacement with either a mid-level movable bascule bridge, a mid-level movable lift bridge, or a high-level fixed bridge over the canal.

2.1 Site Description

The SR 401 project…begins…100 feet south of…SR 528… and continues… 3,550 feet north…

The SR 401 project is a 3,550-foot segment of SR 401 that begins approximately 100 feet south of the SR 528 overpass bridges over SR 401 and continues approximately 3,550 feet north to the Charles M. Rowland Drive (Cruise Terminal Exit) gore area, which includes 315-foot long barge canal bridges. In addition to SR 401, the project also includes eastbound and northbound ramps from SR 528

gore area to SR 401. The project alignment is shown on an excerpt of the United States Geological Survey (USGS) Courtenay Map (**Figure 1**) in the Appendix.

2.2 Current Land Use

The current land uses within the study area are shown on the St Johns River Water Management District (SJRWMD) Map on **Figure 2** and are summarized as follows:

- Reservoirs
- Bays and Estuaries
- Mangrove Swamp
- Enclosed saltwater ponds within a salt marsh
- Saltwater marshes
- Roads and highways
- Port facilities
- Surface water collection basins

2.3 Project Description

The following project elements are proposed:

- Bridge replacement
- Roadway construction
- Drainage improvements, including pipes and other drainage structures requiring soil excavation
- Excavation dewatering

2.4 Potential Contamination Impacts

The project elements that could be impacted by soil and/or groundwater contamination include the following:

- Bridge construction
- Soil excavation for roadway construction
- Soil excavation for drainage improvements
- Excavation dewatering

3.0 CONTAMINATION SCREENING METHODOLOGY

GEC conducted this evaluation in general accordance with Chapter 20 of the FDOT PD&E Manual dated July 1, 2020. The study area is defined by the following distances from the right-of-way:

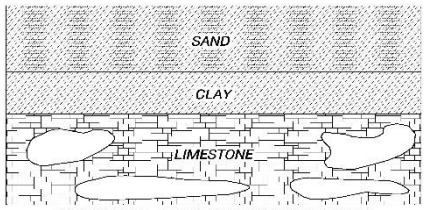
- **All sites within 500 feet**
- **Non-landfill solid waste sites within 1,000 feet**
- **Solid waste landfills, CERCLA, or National Priorities List (NPL) sites within ½ mile**

GEC reviewed relevant information from the FDEP, USEPA, and local agencies in Brevard County to identify known or potential contamination sites within the study area. Historical aerial photographs and other published historical sources were reviewed as part of this CSER. GEC performed a site reconnaissance of the properties within the study area and attempted to interview individuals with knowledge of the study area's environmental status.

Based on the results of the contamination screening activities, GEC assigned Contamination Risk Ratings (CRRs) to sites. The contamination risk rating system was developed by FDOT and incorporates four levels of risk: **No, Low, Medium and High**. For a description of the four risk levels please refer to **Appendix C.**

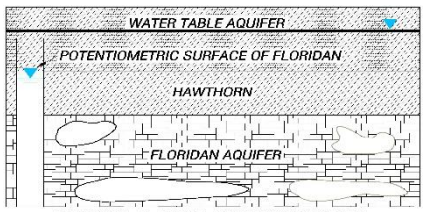
4.0 GEOLOGIC AND GEOGRAPHIC CONDITIONS

4.1 Central Florida Geology



KARST GEOLOGY OF CENTRAL FLORIDA

Due to its prevalent geology, referred to as karst, Central Florida is prone to the formation of sinkholes, or large, circular depressions created by local subsidence of the ground surface. The nature and relationship of the three sedimentary layers typical of Central Florida geology cause sinkholes. The deepest, or basement, layer is a massive cavernous limestone formation known as the Floridan aquifer.

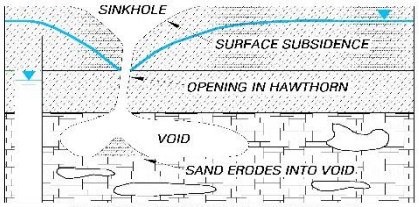


CENTRAL FLORIDA AQUIFER SYSTEMS

The Floridan aquifer limestone is overlain by a silty or clayey sand, clay, phosphate, and limestone aquitard (or flow-retarding layer) ranging in thickness from nearly absent to greater than 100 feet and locally referred to as the Hawthorn Group (Hawthorn). The Hawthorn is in turn overlain by a 40-foot to 70-foot thick surficial layer of sand, bearing the water table aquifer. The likelihood of sinkhole occurrence at a given site within the region is determined by the relationship among these three layers, specifically by the water (and soil)-transmitting capacity of the Hawthorn at that location.

The water table aquifer is comprised of Recent and Pleistocene sands and is separated from the Eocene limestone of the Floridan aquifer by the Miocene sands, clays and limestone of the Hawthorn. Since the thickness and consistency of the Hawthorn is variable across Central Florida, the likelihood of groundwater flow from the upper to the lower aquifer (known as aquifer recharge) will also vary by geographical location.

In areas where the Hawthorn is absent, water table groundwater (and associated sands) can flow downward to cavities within the limestone aquifer, like sand through an hourglass, recharging the Floridan aquifer, and sometimes causing the formation of surface sinkholes. This process of subsurface erosion associated with recharging the Floridan aquifer is known as raveling. Thus, in Central Florida, areas of effective groundwater recharge to the Floridan aquifer have a higher potential for the formation of surface sinkholes.



SINKHOLE FORMATION MECHANISM

Based on the U.S. Geological Survey Map entitled "Recharge and Discharge Areas of the Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida," 1984, the study area lies in an area of generally no recharge. Therefore, we can conclude, based solely on this data that the relative risk of sinkhole formation is low compared to the overall risk across Central Florida.

4.2 USGS Quadrangle Map

The study area has been transposed onto the United States Geological Survey (USGS) Courtenay, Florida Quadrangle Map, as shown on **Figure 1**. The USGS Quadrangle maps indicate that the natural topography of the study ranges between +0 and +5 feet above the National Geodetic Vertical Datum (NGVD). The study area includes, and slopes gently towards, Port Canaveral and the Banana River.

No landfills, borrow pits, quarries, or other conditions are depicted that would represent potential contamination concerns on, or in the immediate vicinity of, the study area.

4.3 NRCS Soil Survey Review

The National Resources Conservation Service (NRCS) Soil Survey for Brevard County, Florida was reviewed for information regarding near-surface soil conditions within the project limits, as shown on **Figure 3**. The following soil types were identified within the study area:

Brevard County

Unit No.	Soil Name	Unit No.	Soil Name
9	Canaveral-Anclote complex, gently undulating	10	Canaveral-Urban land complex
52	Quartzipsamments, smoothed	58	Turnbull & Riomar soils, tidal
99	Water	100	Waters of the Atlantic Ocean

Quartzipsamments, smoothed (Soil Type No. 52) are nearly level to steep sands that have been reworked and shaped by earthmoving equipment. These soils are commonly found near urban areas, highways and in ponds and sloughs that have been filled to the surrounding ground level.

No landfills, borrow pits, quarries, or other conditions are depicted that would represent potential contamination concerns on, or in the immediate vicinity of, the study area which were not already identified by other sources.

Information contained in the NRCS Soil Survey is very general and may be outdated. It may not therefore be reflective of actual soil and groundwater conditions, particularly if recent development in the site vicinity has modified soil conditions or surface/subsurface drainage.

5.0 HISTORICAL DATA REVIEW

5.1 Historical Aerial Photographs

Historical aerial photographs of the study area were reviewed to evaluate past land use and to identify features that may indicate hazardous material or petroleum contamination. Available historical aerial photographs of the study area were provided by EDR or viewed on Google Earth. Aerial photographs for the following years were reviewed: 1943, 1951, 1958, 1969, 1979, 1980, 1986, 1993, 1994, 1999, 2007, 2010, 2013, 2017, and 2021.

1943 – The study area is shown as being part of the Banana River.

1951 and 1958 – Fill activities have started and are extending from the east along the future SR 528 alignment.

1969 – The SR 401 and SR 528 interchange is under construction. The SR 401 bridge is visible.

1979 and 1980 – The SR 528 and SR 401 interchange is visible. Port Canaveral is visible. The turn basin extends up to SR 401 on the north side of the SR 401 bridge. Boat docks are visible at the marinas to the southeast of the SR 401 bridge.

1986–1994 – The filling and construction of the port features north and east of the bridge is visible.

1999 – Many of the port features north and east of the bridge have been constructed, including parking areas and cruise ship docks.

2007 – Additional filling and construction was completed to the northeast of the SR 401 bridge. A flyover ramp is visible adjacent to the north end of the SR 401 study area.

2010-2021 – The port is shown in its current configuration between 2010 and 2021.

Table 2 summarizes our aerial photograph review of the potential contamination sites identified within the study area. The historical aerial photographs are provided in **Appendix A**.

5.2 City Directories

City Directories are historical listings of businesses and residences in a given area, similar to a standard telephone book. The site occupant and addresses listed for previous years can identify past land uses. GEC contracted with Environmental Data Resources (EDR) to provide a city directory review for the study area. EDR researched city directories from 1955 through 2017 at approximately 5-year intervals.

The city directory review confirmed the marina and boat repair land uses and timeframes at **Site Nos. 1** (1995-2017) and **2**. **Site No. 4** (1985-2017). **Site No. 4** is listed as Disney Cruise lines in 2014 and 2017. The EDR City Directory Report is included in **Appendix D.**

5.3 Fire Insurance Maps

Fire insurance maps are used by insurance companies in assessing fire risk. These maps contain details about building construction, business type, building contents, fuel storage tanks, and other factors affecting fire risk.

Fire insurance maps were not available for the study area. The fire insurance map search confirmation is included in **Appendix D**.

5.4 Historical Quadrangle Maps

GEC reviewed historical quadrangle maps provided by EDR. The maps for 1949, 1951, 1970, 1976, 2012, 2015, and 2018 were reviewed.

Our historical quadrangle map review revealed the following observations:

- The 1949 and 1951 maps show the study area as being part of the Banana River.
- The 1970 and 1976 maps show the constructed port. SR 410 and SR 528 are visible. The west turning basin extends all the way to SR 401.
- The 2012-2018 maps show additional land and development on the east side of SR 401, north of the bridge.

No obvious contamination concerns are visible on the historical quadrangle maps. The EDR historical quadrangle map report is included in **Appendix D**.

5.5 Historical Contamination Screening Evaluation Report

GEC previously prepared two historical Contamination Screening Evaluation Reports which include portions of the current study area, as discussed here:

- GEC prepared a CSER for SR 528 from SR 520 to Terminal B Interchange in April 2005 (FIN No. 407402). A total of 33 sites were identified in the report, which spanned approximately 23 miles from the intersection of SR 528 and SR 520 at the west to Terminal B at Port Canaveral to the east. These sites were assigned Contamination Risk Rankings (CRRs). Of these, three are included in the Study Area defined in this report. The three sites were assigned a Low Risk rating. No Level II Impact to Construction Assessments (ICAs) were conducted relative to these sites.
- GEC prepared a CSER Update for SR 528 from East of SR 3 (Courtenay Parkway) to Port Canaveral Interchange in April 2017 (FIN No. 407402-4). The report included an approximate 5.11-mile portion of SR 528, where 33 sites were identified. Three of these sites are included in the Study Area defined in this report. The three sites were assigned a Low Risk rating. No Level II ICAs were recommended for these three sites.

The text and figures from these two reports are in **Appendix E**.

6.0 PUBLIC RECORD REVIEW

GEC conducted a review of the public record for the study area including information obtained from the USEPA and the FDEP. As a part of our review, GEC subcontracted with EDR for a regulatory database search. The EDR Corridor Report is included in **Appendix F**.

6.1 Florida Department of Environmental Protection (FDEP) Databases

The FDEP has compiled several databases that are useful in identifying potential sources of hazardous material or petroleum product contamination. The FDEP databases reviewed for this study and their common abbreviations are provided in **Appendix G.**

6.2 United States Environmental Protection Agency (USEPA) Databases

The federal government has compiled several databases that are useful in identifying potential sources of hazardous material or petroleum product contamination. The federal databases reviewed for this study and their common abbreviations are provided in **Appendix H**.

6.3 FDEP OCULUS Document Management System, Map Direct Website, and Nexus Portal

The FDEP uses the OCULUS Document Management System, Map Direct Website, and Nexus Portal to provide public record information for petroleum or hazardous material releases to the environment, generators of hazardous waste, and solid waste facilities. Information contained in this data management system includes the status of active and abandoned storage tanks, tank inspection reports, tank closure reports, environmental assessment reports, remedial action reports, hazardous waste generator compliance details, and solid waste facility compliance details.

GEC reviewed the OCULUS Document Management System, Map Direct Website, and Nexus Portal within the search distances provided in Section 3.0. The results of our review have been incorporated in our Potential Contamination Site Descriptions in **Table 1**. The FDEP OCULUS, Map Direct and Nexus Portal Information can be found in **Appendix I**.

6.4 EDB Delineated Areas

The Florida Legislature had the FDEP implement the Groundwater Contamination Areas Program in 1988 under Chapter 62-524, FAC. The purpose of the program was to protect public health and groundwater resources by regulating potable water well construction and testing standards for areas of known groundwater contamination. During the period 1962 to 1980, the Florida Department of Agriculture and Consumer Services (FDACS) conducted widespread applications of ethylene dibromide (EDB), an agricultural pesticide, to control nematodes in citrus groves. In 1983, the FDEP began testing groundwater in potable wells throughout Florida due to the discovery of EDB in wells in other states. The delineated areas of EDB groundwater contamination are shown on the FDEP Map Direct website. The potable wells, agricultural or residential, with confirmed impacts were shown on this website with a 1,000-foot buffer zone in an attempt to project future migration of contaminants. However, this does not mean that there is not EDB contamination outside of that 1,000-foot zone.

After reviewing these EDB-delineated areas on the FDEP Map Direct website, no EDB-delineated areas exist within the study area.

6.5 Agricultural Land Use

The study area was created by filling in a portion of the Banana River. No agricultural land use was identified within the study area.

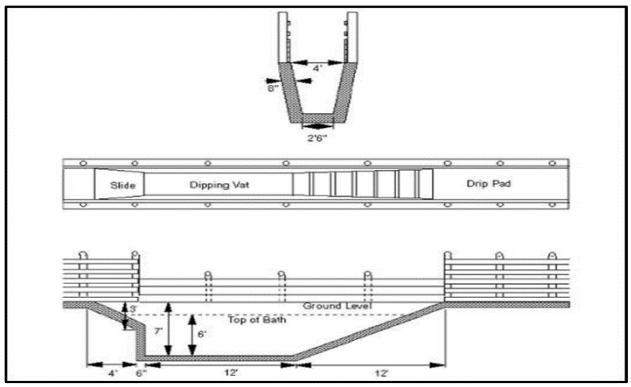
6.6 Railroad Corridors

No railroad corridors were identified within the study area.

6.7 Cattle Dip Vats

Cattle dip vats were a response to cattle tick fever in the 1890s. The USDA initiated the cattle dip vat program in 1906 and approximately 3,200 cattle dip vats had been constructed by 1940.

Cattle dip vats were used until the 1960s and many vats have not been located or documented.



Cattle dip vats were used to apply pesticides to cattle and other livestock, kill ticks, and thereby eliminate tick-borne diseases. The vats were typically constructed of concrete. They consisted of four sections; the entrance slide, dipping vat, exit stairs and drip pad. Cattle were funneled into a chute leading to the entrance slide, slid down into the pesticide-filled vat, swam or walked across the vat and walked up the exit stairs to the drip pad. The vats were roughly four feet wide, seven feet deep, and 40 feet long as shown on the associated diagram.

Due to the relatively small size of the vat and the narrow profile, it is difficult to identify a cattle dip vat from aerial photographs or in a wooded area. Cattle dip vats are typically identified when the landowner reveals the location, when they are located near historical cattle pens and chutes, and by happening upon them. To add to the difficulty in identifying historical cattle dip vats, many landowners removed the vats when the program was closed. They either dug up the vat or broke up the concrete and covered it with soil.

No cattle dip vats were identified within the study area through public record and database review, historical aerial photograph review, or site reconnaissance. Based on available

information, we found no evidence that cattle dip vats within the study area contribute to contamination risk for this project.

7.0 INTERVIEWS

GEC interviewed Ms. Maryann Civil, P.G., of the Brevard County Natural Resources Management Department on December 20, 2021 regarding the Canaveral Landfill location shown on the Map Direct website. The landfill is shown on the northwest quadrant of the SR 401 and SR 528 interchange. Ms. Civil was not aware of a landfill at that location and referred GEC to Mr. Bob Musser with the Canaveral Port Authority.

GEC spoke with Mr. Bob Musser, Canaveral Port Authority Director of Environmental Plans & Programs on December 20, 2021. Mr. Musser was not aware of a landfill having been located on the northwest quadrant of the SR 401 and SR 528 interchange. He indicated that to his knowledge, that location has been a mangrove wetland for roughly the past 30 years. He also indicated that he was not aware of any contamination impacts that would affect the bridge construction.

No additional interviews were performed in the preparation of this assessment. The interview documentation is included in **Appendix J**.

8.0 SITE RECONNAISSANCE

GEC representatives performed a reconnaissance of the study area on December 21, 2021. The purpose of the reconnaissance was to document current conditions and evaluate whether current land uses could result in hazardous material or petroleum product contamination of environmental media.

The properties within the project study area were visually inspected for evidence of contamination such as stressed vegetation, underground tank vent and fill pipes, dumping, accumulated areas of debris, evidence of buried materials, and ground staining.

Details of the site reconnaissance are incorporated in the Potential Contamination Site Descriptions in **Table 1**. Photographs obtained of each potential contamination site during our site reconnaissance are also included in **Table 1.**

9.0 CONCLUSIONS AND RECOMMENDATIONS

This CSER has identified six sites that, in GEC's opinion, have some risk of contamination impacts to this project. The site locations are shown on **Figure 4**. **Table 1** summarizes the findings for each **Low** rated site.

9.1 Potential Contamination Sites

Using the FDOT CRRs presented in **Appendix C**, we have identified **6 Low Risk** sites, as summarized below.

Low Risk Sites (6)

Site No.	Site Name	Site Address	Risk Potential
1	Cape Marina Services	800 Scallop Drive	Low
2	Ocean Club at Port Canaveral	930 Mullet Road	Low
3	New Port Marina	960 Mullet Road	Low
4	Unknown Release	990 Mullet Road	Low
5	Canaveral Port Authority – Cruise Terminal 8 Garage	9155 Charles M Rowland Drive	Low
6	Canaveral Landfill	Mullet Drive	Low

9.2 Level II Impact to Construction Assessments (ICA) Recommendations

Based on the findings of this CSER, Level II Impact to Construction Assessments (ICAs) are not recommended for this project.

9.3 CSER Update

This CSER should be updated if construction will occur more than **one year** from the date of this report to determine if additional assessment is warranted due to significant changes in site conditions or project design.

10.0 LIMITATIONS

The findings, opinions, conclusions and recommendations presented herein are based in part on reasonably ascertainable information contained in the public record. GEC does not warrant or guarantee the accuracy or completeness of this information. Some of this public record information may be dated and not representative of conditions at the time of this report was prepared (December 2021), or in the future. Additional limitations are as follows:

- Not discussed in this report are properties that have been historically undeveloped land, are associated with residential use and do not appear to pose a contamination risk, or are professional/commercial establishments that are not associated with hazardous materials or petroleum products.

- This study also does not include surveys of wetlands, endangered species, asbestos containing materials, lead-based paints, or other potential hazardous building materials.

11.0 USE OF THIS REPORT

GEC has prepared this report for the exclusive use of our client, Parsons, and FDOT, and for application to our client's project. GEC will not be held responsible for any other party's interpretation or use of this report's data or recommendations without our written authorization.

GEC performed the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

The conclusions and recommendations should be disregarded if the final project design differs from the project description in this report. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

FIGURES

FIGURE 1

USGS Courtenay, FL. Quadrangle Map	N 0 1,000 2,000 Feet	RICHARD P. McCORMICK, P.G. P.G. LICENSE NUMBER 2096 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC. 919 LAKE BALDWIN LANE ORLANDO, FL 32814	*STATE OF FLORIDA DEPARTMENT OF TRANSPORATATION* ROAD NO.: SR 401 / COUNTY: BREVARD / FINANCIAL PROJECT ID: 444787-1-22-01	*USGS QUADRANGLE MAP*	SHEET NO.

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FIGURE 2

N 0 250 500 Feet

RICHARD P. McCORMICK, P.G.
P.G. LICENSE NUMBER 2096
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 401	BREVARD	444787-1-22-01

LAND USE MAP

SHEET NO.

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FIGURE 3

N

0 250 500
Feet

RICHARD P. McCORMICK, P.G.
P.G. LICENSE NUMBER 2096
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 401	BREVARD	444787-1-22-01

NRCS SOIL SURVEY MAP

SHEET NO.

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FIGURE 4

- SITE WITH HIGH RISK RATING
- SITE WITH MEDIUM RISK RATING
- SITE WITH LOW RISK RATING
- SITE WITH NO RISK RATING

N

0 250 500
Feet

RICHARD P. McCORMICK, P.G.
P.G. LICENSE NUMBER 2096
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 401	BREVARD	444787-1-22-01

POTENTIAL CONTAMINATION SITE MAP

SHEET NO.

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TABLES

Table 1
Potential Contamination Site Summary
GEC Project No. 4808E

SR 401 BRIDGE REPLACEMENT PD&E STUDY
Parsons Transportation Group
Financial Management No: 444787-1-22-01

Site No:	1	Risk Potential:	LOW
Site Name	**Cape Marina Services**		
Site Address	800 Scallop Drive		
Site Location	Northeast corner of the SR 528 and SR 401 interchange		
Distance/Direction	>450 feet north and northeast of the SR 528 westbound to SR 401 northbound offramp		
Facility ID Nos:	FLR000005850, 8500921		
Database Listings/Sources:	AST, NPDES, RCRA SQG		
Historical Land Use	Marina		
Current Land Use	Marina, Fueling Dock and Boat Repair		
Contaminants	Petroleum Products and Hazardous Materials		

TANKS	U/A	Capacity (gal)	Content	Installed	Removed
1	A	10,000	Unleaded Gas	3/2005	In Use
1	A	20,000	Vehicular Diesel	3/2005	In Use
1	A	20,000	Unleaded Gas	6/1976	2004/2005

Discharge Date	N/A	Cleanup Date:	N/A
	Soil	Groundwater	
Documented/ Known Impacts:	NO	NO	

PUBLIC RECORDS: The public records document a 10,000-gallon aboveground gasoline tank that was present from 1976 through about 2005 when it was replaced with aboveground 10,000-gallon gasoline and 20,000-gallon diesel tanks. The 1976 tank was about 900 feet from the SR 401 northbound onramp and the newer tanks are about 1,250 feet from the onramp. No spills, discharges or contamination impacts are documented relative to these tanks.

The only hazardous waste information was relative to a citizen complaint regarding improperly disposed sand blasting media. No contamination is documented relative to the site's hazardous waste status.

INTERVIEW INFORMATION: N/A

SITE OBSERVATIONS: The site is currently occupied by Cape Marina (north of Scallop Drive) and the Cape Marina boat yard (south of Scallop Drive).

CONCLUSIONS: This site is a boat yard and marina that fuels boats and generates some hazardous material from boat painting and repairs. No contamination impacts are documented for this location.

Based on the lack of documented contamination impacts, and the distance from the proposed SR 401 improvements, this site has been assigned a Contamination Risk Rating (CRR) of **Low**.

Looking east towards Cape Marina Services. Site is on both sides of photograph/road.

Site No:	2	Risk Potential:	LOW
Site Name	**Ocean Club at Port Canaveral**		
Site Address	930 Mullet Road		
Site Location	Northeast corner of the SR 528 and SR 401 interchange		
Distance/Direction	375 feet north of the SR 528 westbound to SR 401 northbound offramp		
Facility ID Nos:	9810255		
Database Listings/Sources:	UST		
Historical Land Use	Marina		
Current Land Use	Marina		
Contaminants	Petroleum Products		

TANKS	U/A	Capacity (gal)	Content	Installed	Removed
1	U	16,000	Vehicular Diesel	12/2007	In Use
1	U	10,000	Unleaded Gas	12/2007	In Use

Discharge Date	N/A	Cleanup Date:	N/A
	Soil	Groundwater	
Documented/ Known Impacts:	NO	NO	

PUBLIC RECORDS: The diesel and unleaded gas underground tanks were installed in 2007 and were inspected under the New Port Marina address at 760 Mullet Road, **Site No. 3**. The latest June 2021 inspection indicated that the gasoline fill sump was damaged by a truck parking on it and needed repair. No contamination impacts were reported relative to the damaged sump.

INTERVIEW INFORMATION: N/A

SITE OBSERVATIONS: The site is occupied by the Ocean Club at Port Canaveral marina.

CONCLUSIONS: This site is a marina that fuels boats. No contamination impacts are documented for this location.

Based on the lack of documented contamination impacts, and the distance from the proposed SR 401 improvements, this site has been assigned a CRR of **Low**.

Looking north at Ocean Club Port Canaveral.

Site No:	3	Risk Potential:	LOW
Site Name	**New Port Marina**		
Site Address	960 Mullet Road		
Site Location	Northeast corner of the SR 528 and SR 401 interchange		
Distance/Direction	180 feet north of the SR 528 westbound to SR 401 northbound offramp		
Facility ID Nos:	8501220		
Database Listings/Sources:	AST		
Historical Land Use	Marina		
Current Land Use	Marina		
Contaminants	Petroleum Products		

TANKS	U/A	Capacity (gal)	Content	Installed	Removed
1	A	21,000	Vehicular Diesel	7/1982	2008
1	A	8,500	Leaded Gas	7/1983	2008

Discharge Date	N/A	Cleanup Date:	N/A
	Soil	Groundwater	
Documented/ Known Impacts:	NO	NO	

PUBLIC RECORDS: Two aboveground fuel tanks and associated piping were removed from this site in 2008. Site inspection records document the installation of the two underground fuel tanks at the adjacent Ocean Club at Port Canaveral facility, **Site No. 2**. No spills, discharges or contamination impacts are documented relative to the aboveground tank removal or the underground tank installation.

INTERVIEW INFORMATION: N/A

SITE OBSERVATIONS: The site is occupied by the Scorpion Marine/Port Canaveral Marine facility that includes sales, repair, and sea wall services.

CONCLUSIONS: This is a boat sales and repair marina. No contamination impacts are documented for this location.

Based on the lack of documented contamination impacts, and the distance from the proposed SR 401 improvements, this site has been assigned a CRR of **Low**.

Looking southeast towards the former New Port Marina.

Site No:	4	Risk Potential:	LOW
Site Name	**Unknown Release**		
Site Address	990 Mullet Road		
Site Location	Northeast corner of the SR 528 and SR 401 interchange		
Distance/Direction	180 feet east of the SR 528 westbound to SR 401 northbound offramp		
Facility ID Nos:	N/A		
Database Listings/Sources:	2005 CSER		
Historical Land Use	Marina, Boat Repair		
Current Land Use	Marina, Boat Repair		
Contaminants	Petroleum Products		

TANKS	U/A	Capacity (gal)	Content	Installed	Removed
N/A	N/A	N/A	N/A	N/A	N/A

Discharge Date	N/A	Cleanup Date:	N/A
	Soil	Groundwater	
Documented/ Known Impacts:	NO	NO	

PUBLIC RECORDS: This listing was found in the CSER for the 2005 SR 528 PD&E Study. This location was listed as having a spill or release. There are no available public records and our conversation with Mr. Bob Musser, Canaveral Port Authority Director of Environmental Plans & Programs, did not reveal any known contamination impacts in the vicinity of the SR 401 bridge.

INTERVIEW INFORMATION: N/A

SITE OBSERVATIONS: This address contains a boat yard. The large building visible on the 2021 aerial photograph was removed prior to December 21, 2021.

CONCLUSIONS: This is a boat yard. No contamination impacts are documented for this location.

Based on the lack of documented contamination impacts, and the distance from the proposed SR 401 improvements, this site has been assigned a CRR of **Low**.

Looking southeast towards the former building location at 990 Mullet Road.

Site No:	5	Risk Potential:	LOW
Site Name	**Canaveral Port Authority – Cruise Term 8 Garage**		
Site Address	9155 Charles M Rowland Drive		
Site Location	North of SR 401 Bridge on east side of SR 401		
Distance/Direction	350 feet east of SR 401, 1,250 feet north of SR 401 Bridge		
Facility ID Nos:	9813210		
Database Listings/Sources:	AST		
Historical Land Use	Parking Lot		
Current Land Use	Parking Garage		
Contaminants	Petroleum Products		

TANKS	U/A	Capacity (gal)	Content	Installed	Removed
1	A	1,800	Emergency Generator Diesel	2/1/2006	In-Use

Discharge Date	N/A	Cleanup Date:	N/A
	Soil	Groundwater	
Documented/ Known Impacts:	NO	NO	

PUBLIC RECORDS: This tank is an emergency generator belly tank. The latest January 2021 tank inspection did not find any releases or contamination impacts.

INTERVIEW INFORMATION: N/A

SITE OBSERVATIONS: The site is currently a parking garage.

CONCLUSIONS: This is an emergency fuel tank for a parking garage generator. No contamination impacts are documented for this location.

Based on the lack of documented contamination impacts, and the distance from the proposed SR 401 improvements, this site has been assigned a CRR of **Low**.

Looking east at the parking garage.

Table 1
Potential Contamination Site Summary
GEC Project No. 4808E

SR 401 BRIDGE REPLACEMENT PD&E STUDY
Parsons Transportation Group
Financial Management No: 444787-1-22-01

Site No:	6	Risk Potential:	LOW
Site Name	**Canaveral Landfill**		
Site Address	Mullet Drive		
Site Location	Northwest corner of the SR 528 and SR 401 interchange		
Distance/Direction	180 feet west of the SR 401 southbound to 528 westbound on ramp		
Facility ID Nos:	8840376		
Database Listings/Sources:	Landfill, Tanks		
Historical Land Use	Banana River		
Current Land Use	Salt Marsh		
Contaminants	Petroleum Products and Hazardous Materials		

TANKS	U/A	Capacity (gal)	Content	Installed	Removed
4	A	150	Lube Oil	Unk.	Unk.
1	A	150	Other Non-Regulated	Unk.	Unk.

Discharge Date	N/A	Cleanup Date:	N/A
	Soil	Groundwater	
Documented/ Known Impacts:	NO	NO	

PUBLIC RECORDS: The FDEP Map Direct website shows this location as a tank facility that is listed as the Canaveral landfill. The tank site contains a listing of several 150-gallon aboveground oil and lube tanks. The landfill has no available files and no contamination impacts are documented at this location. The 2005 and 2017 CSER reports did not identify this facility as being located at this location.

The area in the NW quadrant identified as Site 6 in the CSER appears, based on the historical aerial photographs, to have been created by "landfilling" of spoil material from the creation of the Canaveral Barge Canal and the Canaveral Lock back in the 1960's. The lubricant tanks listed by FDEP on this site were most likely associated with the heavy equipment used to fill, contour, and develop the Canaveral Port features in the NW quadrant. This would better describe the location than that of a typical refuse landfill one associates with the Landfill descriptor.

INTERVIEW INFORMATION: Ms. Maryann Civil of the Brevard County Department of Natural Resources and Mr. Bob Musser, Canaveral Port Authority Director of Environmental Plans & Programs, were not aware of a landfill at this location. Mr. Musser indicated that he believes this location has been a salt marsh for at least 30 years.

SITE OBSERVATIONS: This is an undeveloped parcel containing a salt marsh.

CONCLUSIONS: This location is a salt marsh. A mitigating factor is that the former location of the tanks is outside the Bridge Right-of-Way and is downslope of the project area. Migration of any spills or releases from the tanks would have been toward the northwest and the interior of Site 6, away from the Project. Based on the lack of documented contamination impacts, the distance from the proposed SR 401 improvements, and the migration path of any historical discharges being to the west, away from the Bridge Right-of-Way, this site has been assigned a CRR of **Low**.

Looking southwest at the salt marsh area on the northwest corner of the SR 528 and SR 401 interchange.

Table 2
Aerial Photograph Review Summary
SR 401 Bridge Replacement PD&E Study
FPID No. 444787-1-22-01
GEC Project No. 4808E

Site No.	Site Name	Site Address	Year First Observed in Aerial Photographs	Comments
1	Cape Marina Services	800 Scallop Drive	1979	The Scallop Plant area is first developed in 1979.
2	Ocean Club at Port Canaveral	930 Mullet Road	2010	This marina was first visible in 2010.
3	New Port Marina	960 Mullet Road	1980	The first marina is visible in 1980 with the current buildings visible in 1993.
4	Unknown Release	990 Mullet Road	1993	The building is first visible in 1993.
5	Cruise Terminal B Garage	9155 Charles M. Rowland Drive	2010	A sea wall outline is visible in 1986 and subsequently filled and developed. A large parking area is visible 1999-2021. This parking garage was constructed prior to 2010.
6	Canaveral Landfill	Mullet Drive	1969	This area of salt marsh is visible from 1969-2021. No obvious land uses, driveway access, buildings, or "landfill activity" are visible at this location.