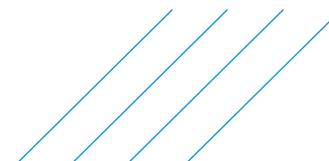


## **Appendix B**

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### AEDT Data Concurrence Memorandum



## Memo

To: Amy Reed

<b>From:</b> Jonathan Hand	<b>Email:</b> Jonathan.D.Hand@atkinsglobal.com
<b>Date:</b> 04 October 2021	<b>Phone:</b> 407-806-4533
<b>Ref:</b>	<b>cc:</b> Peter Green

**Subject:** PNS PHS2 MRO EA - AEDT Data Concurrence

Atkins is conducting the Environmental Assessment (EA) for the proposed MRO Phase II project at Pensacola International Airport (PNS). The purpose of this memo is to glean concurrence from the FAA’s Orlando ADO on the utilization of the proposed aircraft fleet mix and operations forecast as input data for Atkins’ Aviation Environmental Design Tool (AEDT) analyses.

### Background

PNS is owned and operated by the City of Pensacola. The Airport supports commercial air service, air cargo, general aviation (business and recreational flights), and military flight training. The number of annual aircraft operations (take-offs and landings) and annual passenger enplanements for recent and select forecast years, as published in the FAA Terminal Area Forecast (TAF), are presented in **Table 1**.

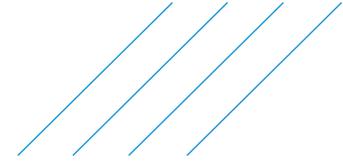
**Table 1: Aircraft Operations and Enplanements**

Fiscal Year (FY)	Annual Aircraft Operations	Annual Passenger Enplanements
<b>Historical</b>		
2004	127,848	726,842
2009	96,515	698,687
2014	105,693	756,102
2019	125,235	1,084,276
<b>Forecast</b>		
2020	106,897	676,001
2024	119,172	1,100,231
2029	126,817	1,321,733

Source: FAA, APO Terminal Area Forecast Quick Data Summary Report (TAF), July 2021

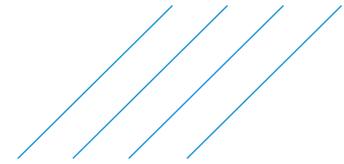
### Forecast Methodology

The FAA’s latest TAF was published in July 2021 (see following page). According to the FAA, the Covid-19 impacts on future airport operations and passenger enplanements have been factored into that TAF. As such, average daily operations input into AEDT will be derived from that TAF’s historical and projected annual aircraft operations in the ‘base year’ (2020), ‘opening year’ (2024), and ‘five years beyond opening year’ (2029).



## APO TERMINAL AREA FORECAST DETAIL REPORT Forecast Issued May 2021

Fiscal Year	Enplanements				AIRCRAFT OPERATIONS							Total Ops	Total Traccon Ops	Based Aircraft
	Air Carrier	Commuter	Total	Air Carrier	Itinerant Operations			Local Operations						
					Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total			
<b>REGION:ASO STATE:FL LOCID:PNS</b>														
<b>CITY:PENSACOLA AIRPORT:Pensacola International</b>														
2019	663,721	420,555	1,084,276	21,696	10,390	31,327	16,738	80,151	44,464	620	45,084	125,235	0	122
2020*	395,503	280,498	676,001	17,632	8,963	26,536	17,954	71,085	35,148	664	35,812	106,897	0	127
2021*	417,043	283,815	700,858	18,021	8,158	23,592	17,954	67,725	35,341	664	36,005	103,730	0	129
2022*	475,679	335,480	811,159	19,363	8,531	26,226	17,954	72,074	35,535	664	36,199	108,273	0	134
2023*	562,562	396,706	959,268	21,161	8,548	29,019	17,954	76,682	35,729	664	36,393	113,075	0	136
2024*	645,071	455,160	1,100,231	23,305	9,046	32,278	17,954	82,583	35,925	664	36,589	119,172	0	141
2025*	696,951	491,970	1,188,921	25,151	9,542	32,440	17,954	85,087	36,122	664	36,786	121,873	0	146
2026*	727,740	513,819	1,241,559	26,214	9,800	32,603	17,954	86,571	36,320	664	36,984	123,555	0	151
2027*	745,359	526,334	1,271,693	26,850	9,970	32,767	17,954	87,541	36,520	664	37,184	124,725	0	156
2028*	759,841	536,562	1,296,403	27,374	10,119	32,931	17,954	88,378	36,720	664	37,384	125,762	0	161
2029*	774,681	547,052	1,321,733	27,911	10,271	33,096	17,954	89,232	36,921	664	37,585	126,817	0	166
2030*	789,517	557,529	1,347,046	28,448	10,423	33,262	17,954	90,087	37,124	664	37,788	127,875	0	171
2031*	805,693	568,956	1,374,649	29,032	10,585	33,429	17,954	91,000	37,327	664	37,991	128,991	0	176
2032*	822,672	580,952	1,403,624	29,645	10,753	33,597	17,954	91,949	37,532	664	38,196	130,145	0	181
2033*	839,498	592,849	1,432,347	30,253	10,921	33,765	17,954	92,893	37,738	664	38,402	131,295	0	186
2034*	854,972	603,791	1,458,763	30,815	11,080	33,934	17,954	93,783	37,945	664	38,609	132,392	0	191
2035*	869,577	614,115	1,483,692	31,347	11,234	34,105	17,954	94,640	38,153	664	38,817	133,457	0	196
2036*	884,442	624,618	1,509,060	31,888	11,390	34,276	17,954	95,508	38,362	664	39,026	134,534	0	201
2037*	898,893	634,835	1,533,728	32,415	11,544	34,448	17,954	96,361	38,572	664	39,236	135,597	0	206
2038*	913,344	645,046	1,558,390	32,943	11,698	34,620	17,954	97,215	38,784	664	39,448	136,663	0	211
2039*	928,016	655,417	1,583,433	33,479	11,854	34,794	17,954	98,081	38,996	664	39,660	137,741	0	219
2040*	942,557	665,693	1,608,250	34,011	12,010	34,968	17,954	98,943	39,210	664	39,874	138,817	0	227
2041*	956,866	675,808	1,632,674	34,536	12,165	35,144	17,954	99,799	39,425	664	40,089	139,888	0	235
2042*	971,698	686,289	1,657,987	35,079	12,324	35,320	17,954	100,677	39,641	664	40,305	140,982	0	243
2043*	986,787	696,953	1,683,740	35,632	12,486	35,497	17,954	101,569	39,859	664	40,523	142,092	0	251
2044*	1,002,324	707,932	1,710,256	36,201	12,651	35,675	17,954	102,481	40,077	664	40,741	143,222	0	262
2045*	1,018,568	719,408	1,737,976	36,795	12,822	35,854	17,954	103,425	40,297	664	40,961	144,386	0	273



The TAF only allocates airport operations into four generic aircraft type groups; 1. Air Carrier, 2. Air Taxi (AT) & Commuter, 3. General Aviation (GA), and 4. Military. AEDT requires the use of specific aircraft types to generate accurate models of noise and/or emissions. An aircraft fleet mix forecast was conducted for this purpose by InterVISTAS Consulting, Inc. (IVC) in August 2020. To do so, IVC queried the Airport's actual scheduled commercial passenger service aircraft departures for calendar year (CY) 2019 as shown in **Table 2**.

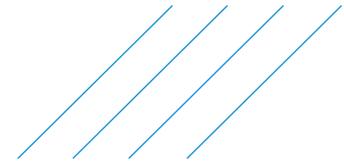
**Table 2: CY 2019 PNS Scheduled Departures by Aircraft Type**

Aircraft Family	Aircraft Type	Code	Flights	% of Total
Canadair CRJ	CRJ-900	CR9	2,480	17.2%
MD-80	MD-88	M88	1,723	11.9%
B737-6/7/8/9	B737-700 Winglets	73W	1,363	9.4%
E-Jet	E-175	E75	1,203	8.3%
Saab 340	Saab 340	SF3	1,085	7.5%
E-Jet	E-175 Enhanced Winglets	E7W	1,063	7.4%
ERJ	ERJ-145	ER4	768	5.3%
ERJ	ERJ135/ ERJ140/ ERJ145	ERJ	751	5.2%
Canadair CRJ	CRJ-700	CR7	724	5.0%
MD-80	MD-80	M80	495	3.4%
MD-90	MD-90	M90	482	3.3%
ATR	ATR-42-300/320	AT4	441	3.1%
Canadair CRJ	CRJ	CRJ	404	2.8%
B737-6/7/8/9	B737-900	739	304	2.1%
A320	A319	319	297	2.1%
B737-6/7/8/9	B737-800	738	270	1.9%
A320	A320	320	209	1.4%
E-Jet	E-170	E70	136	0.9%
B737-6/7/8/9	B737-800 Winglets	73H	98	0.7%
A320	A321	321	66	0.5%
ATR	ATR-72	AT7	46	0.3%
B717	B717-200	717	24	0.2%
ERJ	ERJ-140	ERD	11	0.1%
Total			14,443	100.0%

Source: Innovata Schedules via Diio by Cirium, September 2020

According to IVC and confirmed by the FAA's TAF, the United States' commercial aviation passenger service aircraft fleet mix has been trending toward larger aircraft over the last five years. The TAF depicts a historical increase in 'Air Carrier' aircraft operations and subsequent drop in 'AT & Commuter' in the last five years. The TAF's forecast predict that trend to continue. For example, the following are the TAF's 'Air Carrier' and 'AT & Commuter' aircraft operations and their overall percentage of the Airport's itinerant operations in 2014 and forecasted for 2024 and 2029:

- 2014 – PNS hosted 68,734 total itinerant aircraft operations
  - a. 10,594 'Air Carrier' aircraft operations; 15.41% of the total itinerant operations
  - b. 15,403 'AT & Commuter' aircraft operations; 22.41% of the total itinerant operations



- 2024 ('opening year') – the FAA's TAF predicts that PNS will host 82,583 total itinerant aircraft operations
  - a. 23,305 'Air Carrier' aircraft operations; 28.22% of the total itinerant operations
  - b. 9,046 'AT & Commuter' aircraft operations; 10.95% of the total itinerant operations
  
- 2029 ('five years after opening year') – the FAA's TAF predicts that PNS will host 89,232 total itinerant aircraft operations
  - c. 27,911 'Air Carrier' aircraft operations; 31.28% of the total itinerant operations
  - d. 10,271 'AT & Commuter' aircraft operations; 11.51% of the total itinerant operations

IVC also indicated that the impact of Covid-19 on the demand for air travel in the US has accelerated the retirement of older aircraft and grounded many of the smaller regional aircraft. For example, Delta Airlines operated MD80 and MD90 aircraft at PNS. Before Covid-19 Delta had planned to retire both aircraft types by 2022. However, as of June 2020 those aircraft were no longer part of Delta's fleet, a consequence of Covid-19.

**Tables 3a and 3b** depict IVC's August 2020 PNS Aircraft Fleet Mix Forecast. **Table 4** provides a quick comparison between the data presented in Tables 2 and 3. That comparison clearly shows an expected increase in larger commercial air carrier aircraft such as the B737 and A320 aircraft families as well as the introduction of A300 and B757 operations. It also shows the disappearance of the MD80/90 aircraft family and increases in CRJ-900 operations (the Airport's most prolific air carrier aircraft). The smaller turbo prop (Saab 340) and older regional jet (RJ) aircraft fleet (CRJ and ERJ) are anticipated to dramatically decrease. Conversely, operations of ATR-42/72, and newer larger RJs such as the E-175/175EW are forecast to increase. Such expectations are consistent with those presented in the FAA's TAF.

**Tables 5a** through **7c** provide quick comparisons of the FAA's TAF to IVC's August 2020 Fleet Mix Forecast up to 2030. In each date range IVC's total annual airport operations forecast were higher than the TAF by less than a percent, up to just over six percent. One of the largest discrepancies between the two forecasts were the allocation of itinerant 'Air Carrier' versus 'AT & Commuter' aircraft. **Table 6a** indicates that the IVC forecast of air carrier aircraft operations in 2020 were 9.7 percent higher than those projected in the FAA's TAF. Conversely, IVC's 2020 forecast of 'AT & Commuter' aircraft is 23.5 percent lower than the TAF (see **Table 6b**). As such, the overall difference between the IVC and TAF forecasted combination of 'Air Carrier' and 'AT & Commuter' aircraft in 2020 is -1.5 percent, which is expected to increase to 1.6 percent by 2025 and then retract to just 0.3 percent by 2030 (see **Table 6c**).

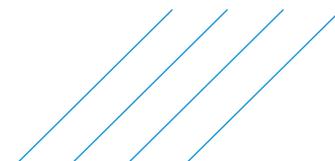
**Table 8** provides excerpts from the FAA's TAF relative to the 'base year' (2020), proposed opening year (2024), and five years after opening (2029). **Table 9** depicts the percentage breakdown of air carrier and air taxi/commuter aircraft provided in the IVC forecast (**Tables 3a** and **3b**) and shows a linear interpolation to derive the forecasted percentages for 2024 and 2029. **Table 10** provides the historical and expected fleet mix operations for the 'base year' (2020), opening year (2024), and five years after opening year (2029). The data in **Table 10** is a conglomeration of the TAF's overall operations (**Table 8**) and IVC's specific aircraft fleet mix projections, interpolated for the associated planning years (**Table 9**). The forecasted operations presented in **Table 10** are proposed to be used to develop the AEDT noise analysis portion of the EA.



**Table 3a: IVC's PNS Itinerant Aircraft Fleet Mix Forecast (August 2020)**

	FY 2020	FY 2025		FY 2030		
<b>Itinerant Aircraft Operations:</b>						
<b>Air Carrier Aircraft Ops.:</b>						
ATR-72 (B-III)	536	2.0%	1,200	3.4%	1,425	3.7%
Bombardier CRJ-700 (C-III)	1,092	4.2%	1,100	3.1%	950	2.5%
Bombardier CRJ-900 (C-III)	5,350	20.4%	7,035	20.0%	7,335	18.9%
Embraer 170 (C-III)	38	0.1%	115	0.3%	100	0.3%
Embraer 175 (C-III)	903	3.4%	3,000	8.5%	3,240	8.4%
Embraer 175 Enhanced Winglets (C-III)	1,337	5.1%	1,745	5.0%	1,885	4.9%
Airbus 319 (C-III)	774	3.0%	550	1.6%	450	1.2%
Airbus 320 (C-III)	380	1.5%	765	2.2%	1,540	4.0%
Airbus 321 (C-III)	2	0.0%	104	0.3%	666	1.7%
Boeing 717 (C-III)	1,693	6.5%	2,400	6.8%	2,525	6.5%
B737-700 Winglets Pax/BBJ1 (C-III)	3,140	12.0%	4,130	11.7%	4,460	11.5%
B737-800 Passenger (D-III)	219	0.8%	325	0.9%	415	1.1%
B737-800 Winglets Pax/BBJ2 (D-III)	288	1.1%	375	1.1%	429	1.1%
B737-900 Passenger (D-III)	1,066	4.1%	3,000	8.5%	3,240	8.4%
Boeing 88 (C-III)	1,051	4.0%	0	0.0%	0	0.0%
Boeing 90 (C-III)	332	1.3%	0	0.0%	0	0.0%
Airbus 300 (D-IV)	622	2.4%	622	1.8%	635	1.6%
Boeing 757 (D-IV)	524	2.0%	524	1.5%	525	1.4%
<b>Total Air Carrier Aircraft Ops.:</b>	<b>19,347</b>	<b>74%</b>	<b>26,990</b>	<b>77%</b>	<b>29,820</b>	<b>77%</b>
<b>Commuter/Air Taxi Aircraft Ops.:</b>						
Bombardier 200 (C-II)	368	1.4%	0	0.0%	0	0.0%
ERJ135/ ERJ140/ ERJ145 (C-II)	2,807	10.7%	2,800	7.9%	1,400	3.6%
ATR-42-300/320 (B-III)	1,265	4.8%	3,000	8.5%	3,650	9.4%
Saab 340 (C-II)	302	1.2%	0	0.0%	0	0.0%
Pilatus PC-12 (A-II)	2,117	8.08%	2,462	6.98%	3876	10.00%
<b>Total Commuter/Air Taxi Aircraft Ops.:</b>	<b>6,859</b>	<b>26%</b>	<b>8,262</b>	<b>23%</b>	<b>8,926</b>	<b>23%</b>
<b>Total Commercial Aircraft Operations:</b>	<b>26,206</b>		<b>35,252</b>		<b>38,746</b>	
<b>Itinerant General Aviation Aircraft Ops.:</b>						
Composite SE piston (CNA182)	20,552	75.00%	22,912	75.00%	24,080	75.00%
Beechcraft Baron	2,740	10.00%	3,055	10.00%	3,211	10.00%
Beechcraft King Air 200	1,302	4.75%	1,451	4.75%	1,525	4.75%
Mitsubishi 200	69	0.25%	76	0.25%	80	0.25%
Lear 24	274	1.00%	305	1.00%	321	1.00%
Lear 31	548	2.00%	611	2.00%	642	2.00%
Lear 35	685	2.50%	764	2.50%	803	2.50%
Cessna Citation	685	2.50%	764	2.50%	803	2.50%
Mitsubishi Diamond	411	1.50%	458	1.50%	482	1.50%
Canadair Challenger	137	0.50%	153	0.50%	161	0.50%
<b>Total Itinerant GA Aircraft Ops.:</b>	<b>27,402</b>	<b>100%</b>	<b>30,549</b>	<b>100%</b>	<b>32,107</b>	<b>100%</b>
<b>Military Aircraft Ops.:</b>						
Raytheon Texan 2	11,717	70%	11,717	70%	11,717	70%
Raytheon T-1 Jayhawk	167	1%	167	1%	167	1%
C-130	167	1%	167	1%	167	1%
UH-60 (Helo)	2,343	14%	2,343	14%	2,343	14%
TH-57 (Helo); Bell 206LR	2,343	14%	2,343	14%	2,343	14%
<b>Total Itinerant Military Aircraft Ops.:</b>	<b>16,738</b>	<b>100%</b>	<b>16,738</b>	<b>100%</b>	<b>16,738</b>	<b>100%</b>
<b>Total Itinerant Aircraft Operations:</b>	<b>70,346</b>		<b>82,539</b>		<b>87,591</b>	

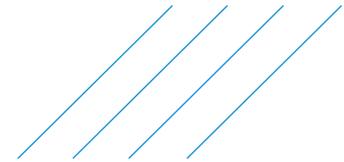
Sources: IVC – PNS Aircraft Fleet Mix Forecast, August 2020, FAA's recorded CY2019 TFMSC and OPSNET data.



**Table 3b: IVC's PNS Local/Total Aircraft Fleet Mix Forecast (August 2020)**

	FY 2020	FY 2025		FY 2030		
<b>Local Aircraft Operations:</b>						
<b>General Aviation Aircraft Ops.:</b>						
Composite SE piston (CNA182)	27,622	75%	33,911	75%	35,640	75%
Beechcraft Baron	3,683	10%	4,521	10%	4,752	10%
Beechcraft King Air 200	1,749	4.75%	2,148	4.75%	2,257	4.75%
Mitsubishi 200	92	0.25%	113	0.25%	119	0.25%
Lear 24	368	1.00%	452	1.00%	475	1.00%
Lear 31	737	2.00%	904	2.00%	950	2.00%
Lear 35	921	2.50%	1,130	2.50%	1,188	2.50%
Cessna Citation	921	2.50%	1,130	2.50%	1,188	2.50%
Mitsubishi Diamond	552	1.50%	678	1.50%	713	1.50%
Canadair Challenger	184	0.50%	226	0.50%	238	0.50%
<b>Total Local General Aviation Ops.:</b>	<b>36,829</b>	<b>100%</b>	<b>45,214</b>	<b>100%</b>	<b>47,520</b>	<b>100%</b>
<b>Military Aircraft Ops.:</b>						
Raytheon Texan 2	434	70%	434	70%	434	70%
Raytheon T-1 Jayhawk	6	1%	6	1%	6	1%
C-130	6	1%	6	1%	6	1%
UH-60 (Helo)	87	14%	87	14%	87	14%
TH-57 (Helo); Bell 206LR	87	14%	87	14%	87	14%
<b>Total Local Military Aircraft Ops.:</b>	<b>620</b>	<b>100%</b>	<b>620</b>	<b>100%</b>	<b>620</b>	<b>100%</b>
<b>Total Local Aircraft Ops.:</b>	<b>37,449</b>		<b>45,834</b>		<b>48,140</b>	
<b>Total Annual Aircraft Operations:</b>	<b>107,795</b>		<b>128,373</b>		<b>135,731</b>	

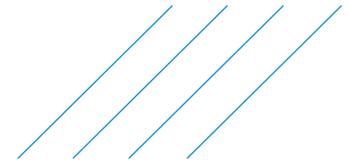
Sources: IVC – PNS Aircraft Fleet Mix Forecast, August 2020, FAA's recorded CY2019 TFMS and OPSNET data.



**Table 4: Comparison of Tables 2 and 3a/3b Data**

Data from Table 2					IVC Fleet Mix Forecast		
Aircraft Family	Aircraft Type	Code	Flights	% of Air Carrier & AT	% of AC & AT Forecast for 2020	% of AC & AT Forecast for 2025	% of AC & AT Forecast for 2030
Canadair CRJ	CRJ-900	CR9	2,480	17.18%	20.42%	19.96%	18.93%
MD-80	MD-88	M88	1,723	11.94%	4.01%	0.00%	0.00%
B737-6/7/8/9	B737-700 Winglets	73W	1,363	9.44%	11.98%	11.72%	11.51%
E-Jet	E-175	E75	1,203	8.34%	3.45%	8.51%	8.36%
Saab 340	Saab 340	SF3	1,085	7.52%	1.15%	0.00%	0.00%
E-Jet	E-175 Enhanced Winglets	E7W	1,063	7.37%	5.10%	4.95%	4.86%
ERJ	ERJ-145	ER4	768	5.32%	0.00%	0.00%	0.00%
ERJ	ERJ135/ ERJ140/ ERJ145	ERJ	751	5.20%	10.71%	7.94%	3.61%
Canadair CRJ	CRJ-700	CR7	724	5.02%	4.17%	3.12%	2.45%
MD-80	MD-80	M80	495	3.43%	0.00%	0.00%	0.00%
MD-90	MD-90	M90	482	3.34%	1.27%	0.00%	0.00%
ATR	ATR-42-300/320	AT4	441	3.06%	4.83%	8.51%	9.42%
Canadair CRJ	CRJ	CRJ	404	2.80%	1.40%	0.00%	0.00%
B737-6/7/8/9	B737-900	739	304	2.11%	4.07%	8.51%	8.36%
A320	A319	319	297	2.06%	2.95%	1.56%	1.16%
B737-6/7/8/9	B737-800	738	270	1.87%	0.84%	0.92%	1.07%
A320	A320	320	209	1.45%	1.45%	2.17%	3.97%
E-Jet	E-170	E70	136	0.94%	0.15%	0.33%	0.26%
B737-6/7/8/9	B737-800 Winglets	73H	98	0.68%	1.10%	1.06%	1.11%
A320	A321	321	66	0.46%	0.01%	0.30%	1.72%
ATR	ATR-72	AT7	46	0.32%	2.05%	3.40%	3.68%
B717	B717-200	717	24	0.17%	6.46%	6.81%	6.52%
A300	A300		0	0.00%	2.37%	1.76%	1.64%
B757	B757		0	0.00%	2.00%	1.49%	1.35%
Pilatus PC-12	Pilatus PC-12		0	0.00%	8.08%	6.98%	10.00%
<b>Total</b>			<b>14,432</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Sources: Innovata Schedules via Diio by Cirium, September 2020 and IVC – PNS ATM and Aircraft Fleet Mix Forecasts, August 2020, FAA's recorded CY2019 TFMSC and OPSNET data.



**Table 5a: Annual Itinerant Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	% of TAF Total	IVC	% of IVC Total	% Dif. Between TAF & IVC
2020	71,085	66.5%	70,346	65.3%	-1.0%
2025	85,087	69.8%	82,539	64.3%	-3.0%
2030	90,087	70.4%	87,591	64.5%	-2.8%

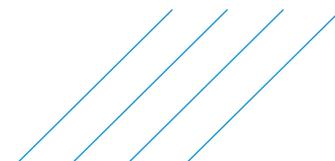
**Table 5b: Annual Local Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	% of TAF Total	IVC	% of IVC Total	% Dif. Between TAF & IVC
2020	35,812	33.5%	37,449	34.7%	4.6%
2025	36,786	30.2%	45,834	35.7%	24.6%
2030	37,788	29.6%	48,140	35.5%	27.4%

**Table 5c: Total Annual Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	IVC	% Dif.
2020	106,897	107,795	0.85%
2025	121,873	128,373	5.3%
2030	127,875	135,731	6.1%

Sources of Tables 5a/b/c: FAA, APO Terminal Area Forecast Quick Data Summary Report (TAF), published by the FAA in July 2021, and IVC – PNS ATM and Aircraft Fleet Mix Forecasts, August 2020



**Table 6a: Annual Air Carrier Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	% of TAF Total	IVC	% of IVC Total	% Dif. Between TAF & IVC
2020	17,632	16.5%	19,347	17.9%	9.7%
2025	25,151	20.6%	26,990	21.0%	7.3%
2030	28,448	22.2%	29,820	22.0%	4.8%

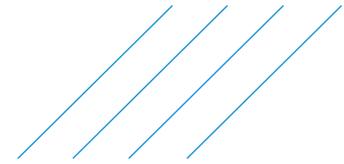
**Table 6b: Annual Air Taxi & Commuter Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	% of TAF Total	IVC	% of IVC Total	% Dif. Between TAF & IVC
2020	8,963	8.4%	6,859	6.4%	-23.5%
2025	9,542	7.8%	8,262	6.4%	-13.4%
2030	10,423	8.2%	8,926	6.6%	-14.4%

**Table 6c: Total Annual Air Carrier & AT/Commuter Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	IVC	% Dif.
2020	26,595	26,206	-1.5%
2025	34,693	35,252	1.6%
2030	38,871	38,746	0.3%

Sources of Tables 6a/b/c: FAA, APO Terminal Area Forecast Quick Data Summary Report (TAF), published by the FAA in July 2021, and IVC – PNS ATM and Aircraft Fleet Mix Forecasts, August 2020



**Table 7a: Annual General Aviation Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	% of TAF Total	IVC	% of IVC Total	% Dif. Between TAF & IVC
2020	61,684	57.7%	64,231	59.6%	4.1%
2025	68,562	56.3%	75,763	59.0%	10.5%
2030	70,386	55.0%	79,627	58.7%	13.1%

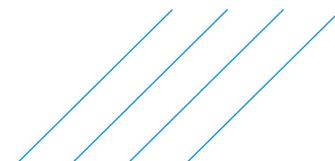
**Table 7b: Annual Military Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	% of TAF Total	IVC	% of IVC Total	% Dif. Between TAF & IVC
2020	18,618	17.4%	17,358	16.1%	-6.8%
2025	18,618	15.3%	17,358	13.5%	-6.8%
2030	18,618	14.6%	17,358	12.8%	-6.8%

**Table 7c: Total Annual GA & Military Aircraft Operations Forecast Comparison – FAA’s TAF vs. IVC Forecast**

Year	TAF	IVC	% Dif.
2020	80,302	81,589	1.6%
2025	87,180	93,121	6.8%
2030	89,004	96,985	9.0%

Sources of Tables 7a/b/c: FAA, APO Terminal Area Forecast Quick Data Summary Report (TAF), published by the FAA in July 2021, and IVC – PNS ATM and Aircraft Fleet Mix Forecasts, August 2020



**Table 8: Excerpts from the FAA's TAF (July 2021)**

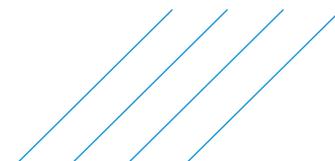
Fiscal Year (FY)	Airport Operations								
	Itinerant Operations					Local Operations			Total Operations
	Air Carrier	AT & Commuter	GA	Military	Total	Civil	Military	Total	
2020	17,632	8,963	26,536	17,954	71,085	35,148	664	35,812	106,897
2024*	23,305	9,046	32,278	17,954	82,583	35,925	664	36,589	119,172
2029*	27,911	10,271	33,096	17,954	89,232	36,921	664	37,585	126,817

Source: FAA, APO Terminal Area Forecast Quick Data Summary Report (TAF), published by the FAA in July 2021

**Table 9: IVC's Commercial Aircraft Fleet Mix Forecast Interpolated for FYs 2024 and 2029**

Aircraft Type	% of AC & AT Forecast for 2020	Linear Interpolation to 2024	% of AC & AT Forecast for 2025	Linear Interpolation to 2029	% of AC & AT Forecast for 2030
CRJ-900	20.42%	20.05%	19.96%	19.14%	18.93%
MD-88	4.01%	0.80%	0.00%	0.00%	0.00%
B737-700 Winglets	11.98%	11.77%	11.72%	11.55%	11.51%
E-175	3.45%	7.50%	8.51%	8.39%	8.36%
Saab 340	1.15%	0.23%	0.00%	0.00%	0.00%
E-175 Enhanced Winglets	5.10%	4.98%	4.95%	4.88%	4.86%
ERJ-145	0.00%	0.00%	0.00%	0.00%	0.00%
ERJ135/ ERJ140/ ERJ145	10.71%	8.50%	7.94%	4.48%	3.61%
CRJ-700	4.17%	3.33%	3.12%	2.59%	2.45%
MD-80	0.00%	0.00%	0.00%	0.00%	0.00%
MD-90	1.27%	0.25%	0.00%	0.00%	0.00%
ATR-42-300/320	4.83%	7.77%	8.51%	9.24%	9.42%
CRJ	1.40%	0.28%	0.00%	0.00%	0.00%
B737-900	4.07%	7.62%	8.51%	8.39%	8.36%
A319	2.95%	1.84%	1.56%	1.24%	1.16%
B737-800	0.84%	0.90%	0.92%	1.04%	1.07%
A320	1.45%	2.03%	2.17%	3.61%	3.97%
E-170	0.15%	0.29%	0.33%	0.27%	0.26%
B737-800 Winglets	1.10%	1.07%	1.06%	1.10%	1.11%
A321	0.01%	0.24%	0.30%	1.43%	1.72%
ATR-72	2.05%	3.13%	3.40%	3.62%	3.68%
B717-200	6.46%	6.74%	6.81%	6.58%	6.52%
A300	2.37%	1.89%	1.76%	1.66%	1.64%
B757	2.00%	1.59%	1.49%	1.38%	1.35%
Other Commuter / Air Taxi	8.08%	7.20%	6.98%	9.40%	10.00%
Total Commercial Aircraft	100%	100%	100%	100%	100%

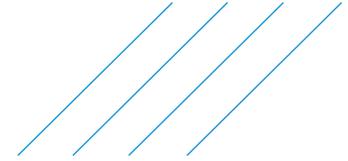
Sources: IVC – PNS ATM and Aircraft Fleet Mix Forecasts, August 2020; Atkins analysis, December 2020



**Table 10: Conglomerate Aircraft Fleet Mix Forecast for AEDT Modeling Purposes**

	2024 (Opening Year)		2029 (5 Years After)	
<b>Commercial Aircraft Operations:</b>				
ATR-72 (B-III)	1,013	3.13%	1,383	3.62%
Bombardier CRJ-700 (C-III)	1,077	3.33%	987	2.59%
Bombardier CRJ-900 (C-III)	6,486	20.05%	7,307	19.14%
Embraer 170 (C-III)	94	0.29%	104	0.27%
Embraer 175 (C-III)	2,425	7.50%	3,204	8.39%
Embraer 175 Enhanced Winglets (C-III)	1,611	4.98%	1,864	4.88%
Airbus 319 (C-III)	595	1.84%	474	1.24%
Airbus 320 (C-III)	655	2.03%	1,380	3.61%
Airbus 321 (C-III)	77	0.24%	548	1.43%
Boeing 717 (C-III)	2,180	6.74%	2,510	6.58%
B737-700 Winglets Pax/BBJ1 (C-III)	3,807	11.77%	4,411	11.55%
B737-800 Passenger (D-III)	293	0.90%	398	1.04%
B737-800 Winglets Pax/BBJ2 (D-III)	346	1.07%	419	1.10%
B737-900 Passenger (D-III)	2,466	7.62%	3,204	8.39%
Boeing 88 (C-III)	259	0.80%	0	0.00%
Boeing 90 (C-III)	82	0.25%	0	0.00%
Airbus 300 (D-IV)	610	1.89%	635	1.66%
Boeing 757 (D-IV)	514	1.59%	527	1.38%
Bombardier 200 (C-II)	91	0.28%	0	0.00%
ERJ135/ ERJ140/ ERJ145 (C-II)	2,749	8.50%	1,710	4.48%
ATR-42-300/320 (B-III)	2,515	7.77%	3,527	9.24%
Saab 340 (C-II)	75	0.23%	0	0.00%
Pilatus PC-12 (A-II)	2,330	7.20%	3,589	9.40%
<b>Total Commercial Aircraft Operations:</b>	<b>32,351</b>	<b>100%</b>	<b>38,182</b>	<b>100%</b>
<b>General Aviation Operations:</b>				
Composite SE piston (CNA182)	51,152	75%	52,513	75%
Beechcraft Baron	6,820	10%	7,002	10%
Beechcraft King Air 200	3,240	4.75%	3,326	4.75%
Mitsubishi 200	171	0.25%	175	0.25%
Lear 24	682	1.00%	700	1.00%
Lear 31	1,364	2.00%	1,400	2.00%
Lear 35	1,705	2.50%	1,750	2.50%
Cessna Citation	1,705	2.50%	1,750	2.50%
Mitsubishi Diamond	1,023	1.50%	1,050	1.50%
Canadair Challenger	341	0.50%	350	0.50%
<b>Total General Aviation Operations:</b>	<b>68,203</b>	<b>100%</b>	<b>70,017</b>	<b>100%</b>
<b>Military Aircraft Operations:</b>				
Raytheon Texan 2	13,033	70%	13,033	70%
Raytheon T-1 Jayhawk	186	1%	186	1%
C-130	186	1%	186	1%
UH-60 (Helo)	2,607	14%	2,607	14%
TH-57 (Helo); Bell 206LR	2,607	14%	2,607	14%
<b>Total Military Operations:</b>	<b>18,618</b>	<b>100%</b>	<b>18,618</b>	<b>100%</b>
<b>Total Annual Aircraft Operations:</b>	<b>119,172</b>		<b>126,817</b>	

Sources: FAA, APO Terminal Area Forecast Quick Data Summary Report (TAF), published by the FAA in July 2021, IVC – PNS ATM and Aircraft Fleet Mix Forecasts, August 2020, and Atkins analysis December 2020



## Basic Project Components

The following elements are envisioned to be part of the Proposed Project:

- A 75-foot-wide aircraft taxiway used to connect new aprons to Taxiway A
- Aircraft aprons required for accessing and supporting the aircraft hangars
- Aircraft wash-rack apron to support proposed aircraft hangar functions
- Hangar 3 - 200,000-square-foot aircraft hangar
- Hangar 4 - 200,000-square-foot aircraft hangar
- Support Services Center (SSC) - 50,000-square-foot distribution facility
- Office Building - 3-story, 120,000-square-foot administrative offices (or similar)
- Automobile ingress and egress roadways, including intersection improvements, and auto parking areas used for supporting facility operations
- Install exterior lighting for the roadways, parking lot, hangars, and aprons
- Relocate/install new airport perimeter fence and gates
- Extend utilities to the site (i.e., electric, natural gas, water, sewer, and communications)
- Site preparation including removal of existing pavement, clearing and grubbing, and grading
- Construct/improve stormwater management systems

## Proposed Project’s Anticipated Induced Activity

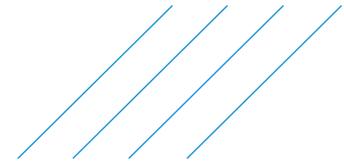
The opening year (2024) of the Proposed Project is anticipated to increase the number of large commercial aircraft serviced at the MRO facility by 10 per year; 20 additional large aircraft operations. Five years after that (2029), it is anticipated that 20 more large commercial aircraft will be served at the MRO facility; 40 additional large aircraft operations. **Tables 11a and 11b** summarize the numbers of additional aircraft operations that are expected to be generated at PNS if the Proposed Project is implemented.

**Table 11a: PNS Proposed Project’s Impact on Annual Aircraft Operations**

Study Year	Alternatives	Annual Aircraft Operations	Change
2020	Baseline Condition	106,897 <sup>a</sup>	--
2024	No-Action Alternative	119,172 <sup>a</sup>	20
	Proposed Project	119,192 <sup>b</sup>	
2029	No-Action Alternative	126,817 <sup>a</sup>	40
	Proposed Project	126,857 <sup>b</sup>	

Source: FAA, APO Terminal Area Forecast Detail Report, Issued July 2021<sup>a</sup>; Atkins 2021<sup>b</sup>

The proposed development is currently planning to staff 1,000 hangar employees and 325 office employees. This distinction is important because of the commuting patterns and shift schedules of the different employee groups. Hangar buildings are operated with shift work occurring from 7:00 a.m. to 12:00 a.m., therefore it is expected that at most half (500) of the total hangar employees would be accessing the site in either period. The office support staff is expected to work a traditional Monday through Friday, 8:00 a.m. to 5:00 p.m. scheduled shift. The Proposed Project is expected to result in 3,793 daily vehicle and delivery truck trips.



**Table 11b: PNS Proposed Project’s Aircraft Operations**

Aircraft Type	Operations (2024)	Operations (2029)
A310-131	1.0	1.0
A320	1.0	4.0
B757	1.0	1.0
B767-300	1.0	1.0
CNA208	5.0	10.0
CL600	5.0	10.0
CNA500	5.0	10.0
G-IV	1.0	3.0
Total:	20.0	40.0

Source: ST Aerospace via City of Pensacola, 2020

### AEDT Flight Tracks, Utilization Rates, Day/Night Percentages, and Run-Ups

The Airport’s flight tracks were provided as part of an information request to PNS FAA ATCT and TRACON representatives in 2015. Those tracks were used to model the Airport’s noise at the time in association with the EA for the Phase I and II MRO Facilities. A similar request was made to verify the current usage of those flight tracks. The PNS ATCT Air Traffic Manager verified that the flight tracks from the previous EA were still valid and can be used to assess noise in current and future conditions. All the Airport’s current instrument approach and departure procedures are represented by those flight tracks. **Figures 1** through **4** depict those flight tracks. **Tables 12** and **13** detail the flight track utilization rates for each aircraft category. **Table 14** provides each aircraft category’s percentage breakdown of ‘daytime’ (7 a.m. to 10 p.m.) versus ‘nighttime’ (10 p.m. to 7 a.m.) operations.

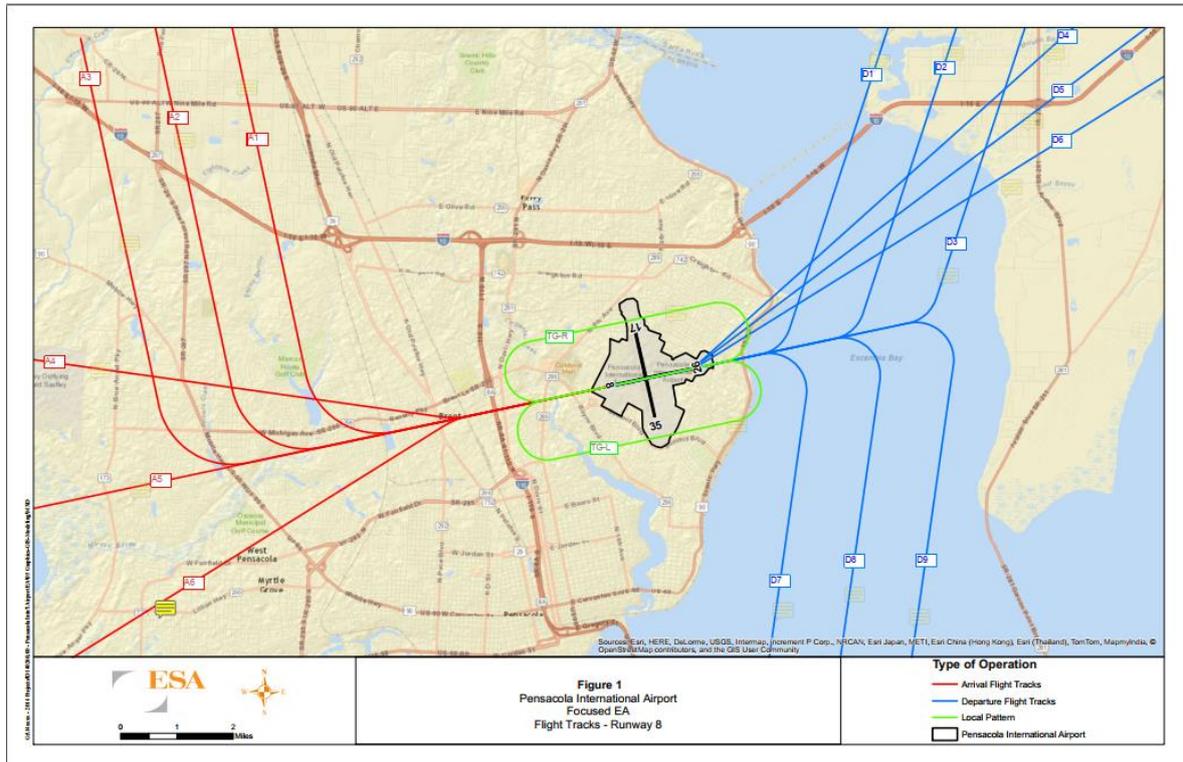
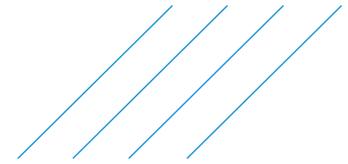
Engine run-ups are necessary after certain types of aircraft maintenance are performed. MRO run-up operations are to be conducted at the intersection of Taxiways B and C, and the following assumptions are made for noise modeling purposes:

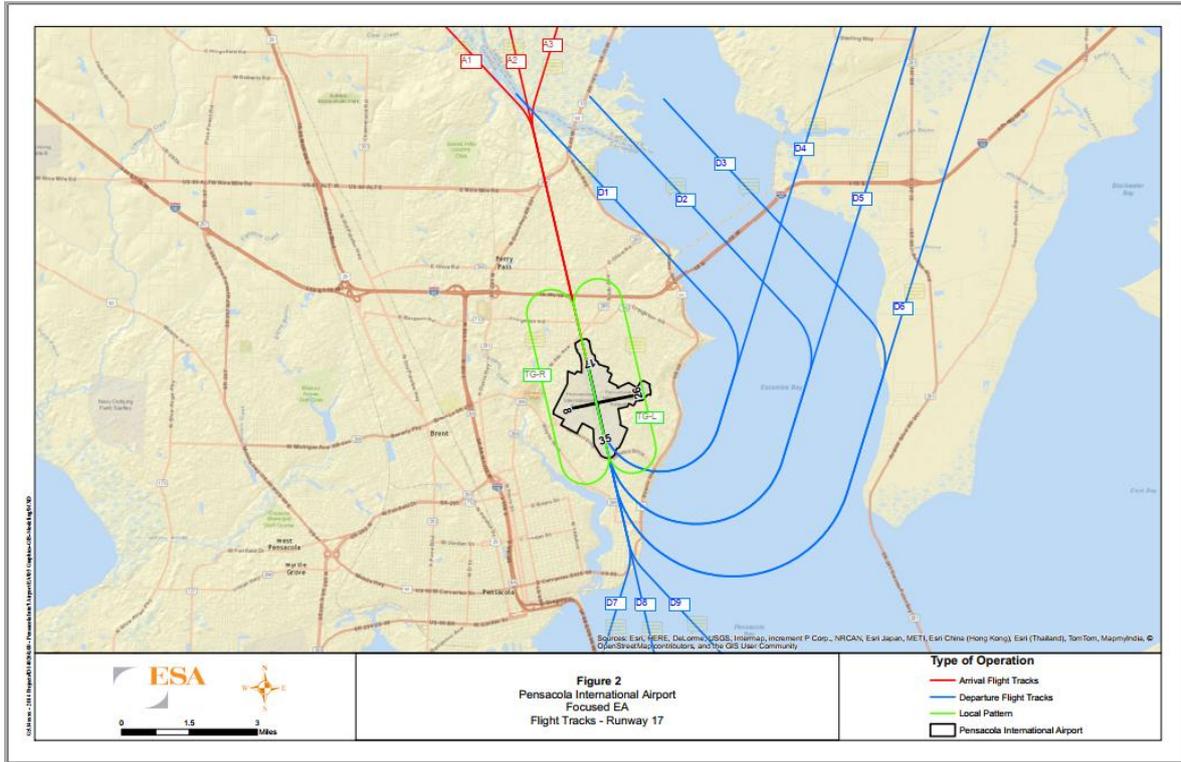
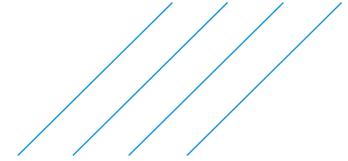
1. All aircraft will conduct one run-up per visit
2. The heading of the aircraft is due east
3. All aircraft will conduct 120 seconds with the static thrust setting, and 180 seconds of idling.

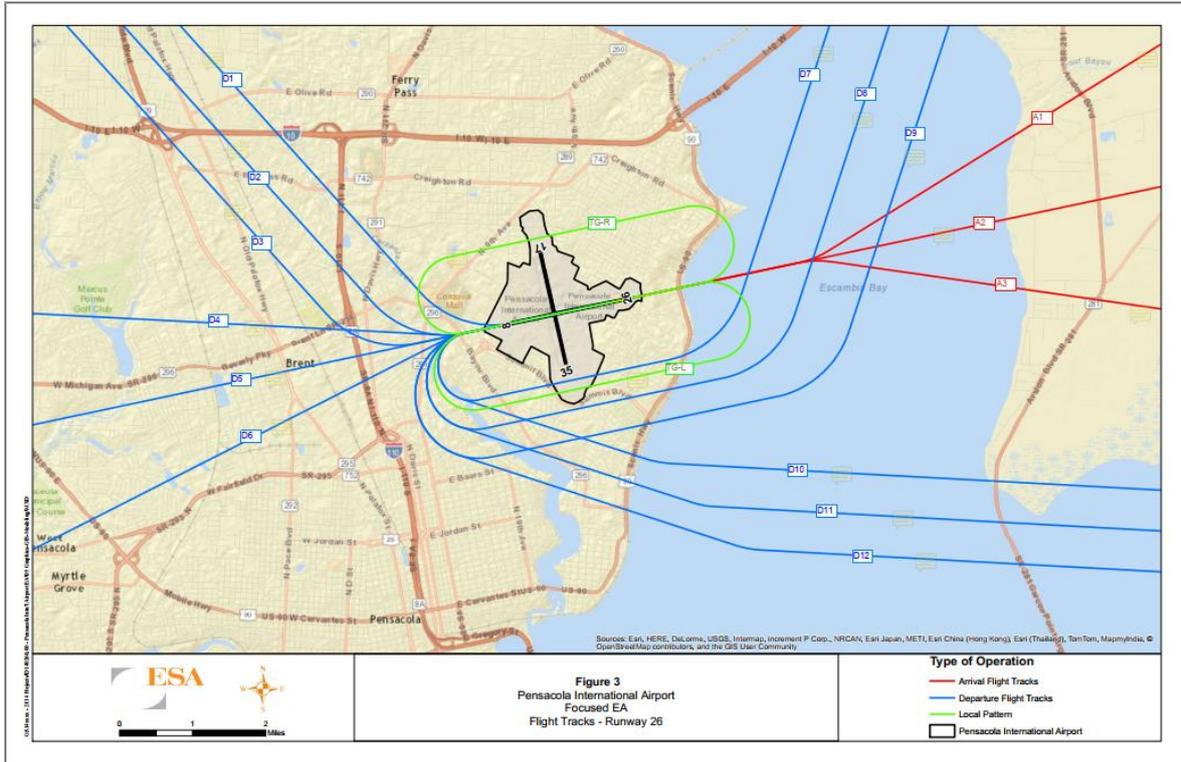
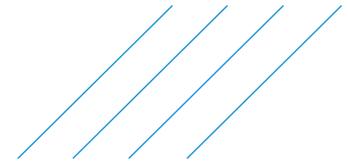
Two designated areas for run-up operations were identified for General Aviation (GA) aircraft run-up operations according to the Airport’s Master Plan Update (AMPU) published in December 2018, which states the following:

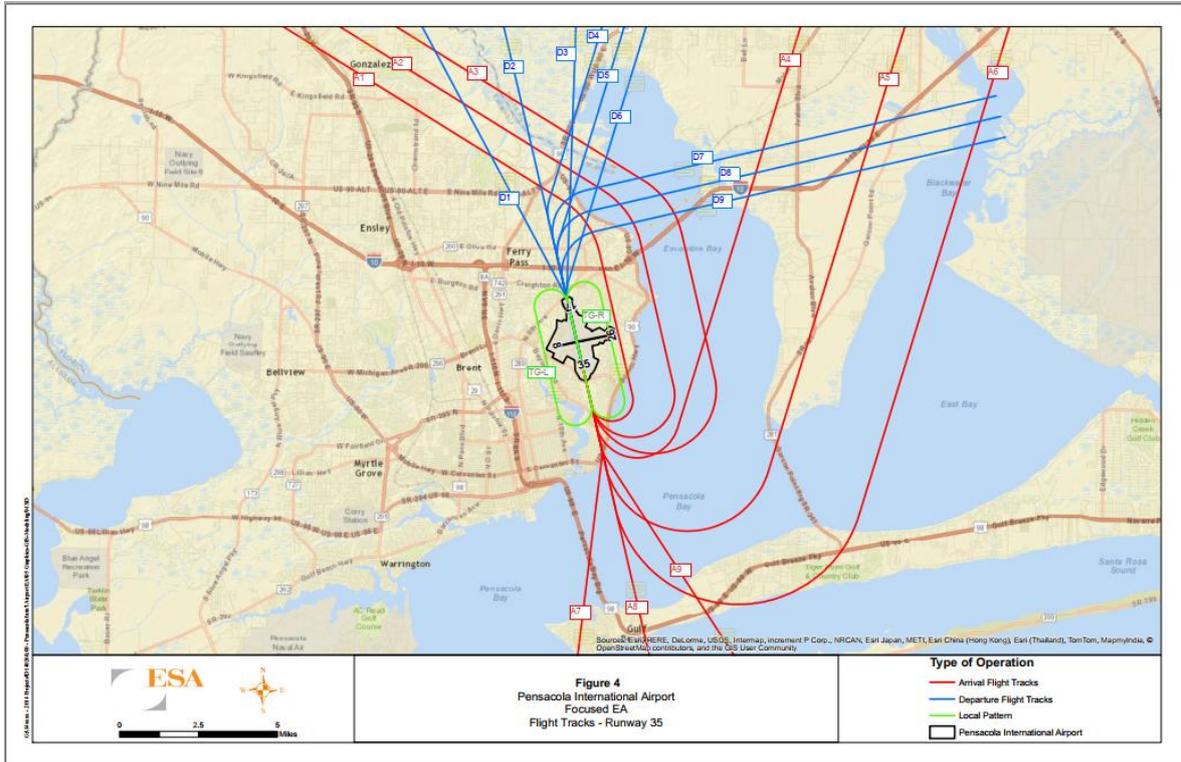
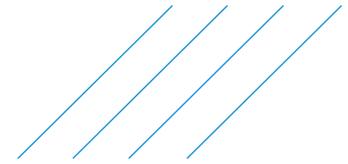
*‘A general aviation run-up pad is located north of Taxiway D, near the Taxiway C intersection. Piston engine aircraft use this prior to departure. General aviation pilots generally use the run-up area on Taxiway D prior to departures on all runways except Runway 35 departures as reported by ATC. General aviation aircraft typically run-up on the south portion of the general aviation apron area (near Taxiway C2) when departing Runway 35... Piston aircraft may perform run-ups on the Taxiway D run-up pad while facing south during run-up to minimize noise impacts to nearby residential areas. All other aircraft operators are responsible for coordinating run-up operations with Airport Operations.’*

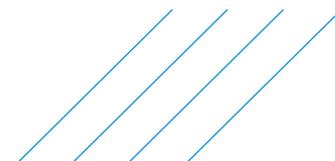
*Note: Run-up operations were crashing the AEDT 3c modeling platform. A support ticket was submitted to VOLPE to resolve this issue. AEDT 3d was released on March 29, 2021, which may resolve this issue.*







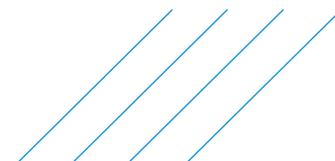




**Table 12: Runway 8/26 Flight Track Utilization Rates Per Aircraft Category**

Runway	Flight Tracks	Aircraft Type				
		Air Carrier	Commuter / Air Taxi	GA	Military	MRO
8	A1	0.00%	1.00%	17.50%	0.00%	0.00%
	A2	0.00%	1.00%	17.50%	0.00%	0.00%
	A3	5.00%	3.00%	17.50%	5.00%	0.00%
	A4	10.00%	10.00%	10.00%	10.00%	0.00%
	A5	75.00%	70.00%	15.00%	75.00%	0.00%
	A6	10.00%	10.00%	10.00%	10.00%	0.00%
	D1	0.00%	5.00%	12.00%	5.00%	0.00%
	D2	0.00%	5.00%	12.00%	5.00%	0.00%
	D3	45.00%	25.00%	12.00%	30.00%	25.00%
	D4	15.00%	15.00%	2.50%	10.00%	25.00%
	D5	15.00%	15.00%	10.50%	10.00%	0.00%
	D6	15.00%	15.00%	2.50%	10.00%	25.00%
	D7	0.00%	5.00%	12.00%	10.00%	0.00%
	D8	0.00%	5.00%	12.00%	10.00%	0.00%
	D9	10.00%	5.00%	12.00%	10.00%	25.00%
	T&G Left	0.00%	9.00%	22.50%	0.00%	0.00%
T&G Right	0.00%	1.00%	2.50%	0.00%	0.00%	
26	A1	5.00%	15.00%	15.00%	15.00%	0.00%
	A2	90.00%	65.00%	57.50%	65.00%	0.00%
	A3	5.00%	15.00%	15.00%	15.00%	0.00%
	D1	0.00%	0.00%	6.00%	0.00%	0.00%
	D2	0.00%	0.00%	6.00%	0.00%	0.00%
	D3	0.00%	20.00%	6.00%	20.00%	0.00%
	D4	10.00%	0.00%	6.00%	0.00%	12.50%
	D5	80.00%	20.00%	21.50%	20.00%	75.00%
	D6	10.00%	15.00%	6.00%	15.00%	12.50%
	D7	0.00%	0.00%	6.00%	0.00%	0.00%
	D8	0.00%	0.00%	6.00%	0.00%	0.00%
	D9	0.00%	20.00%	6.00%	20.00%	0.00%
	D10	0.00%	0.00%	6.00%	0.00%	0.00%
	D11	0.00%	0.00%	6.00%	0.00%	0.00%
	D12	0.00%	20.00%	6.00%	20.00%	0.00%
	T&G Left	0.00%	9.00%	22.50%	9.00%	0.00%
T&G Right	0.00%	1.00%	2.50%	1.00%	0.00%	

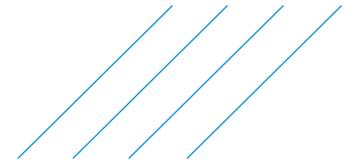
Source: PNS FAA ATCT Air Traffic Management, December 2020



**Table 13: Runway 17/35 Flight Track Utilization Rates Per Aircraft Category**

Runway	Flight Tracks	Aircraft Type				
		Air Carrier	Commuter / Air Taxi	GA	Military	MRO
17	A1	5.00%	15.00%	15.00%	15.00%	5.00%
	A2	90.00%	65.00%	57.50%	65.00%	90.00%
	A3	5.00%	15.00%	15.00%	15.00%	5.00%
	D1	0.00%	10.00%	23.75%	10.00%	0.00%
	D2	0.00%	10.00%	0.00%	10.00%	0.00%
	D3	30.00%	10.00%	0.00%	10.00%	30.00%
	D4	0.00%	10.00%	23.75%	10.00%	0.00%
	D5	0.00%	10.00%	0.00%	10.00%	0.00%
	D6	30.00%	10.00%	0.00%	10.00%	30.00%
	D7	5.00%	10.00%	10.00%	10.00%	5.00%
	D8	30.00%	15.00%	20.00%	15.00%	30.00%
	D9	5.00%	10.00%	10.00%	10.00%	5.00%
	T&G Left	0.00%	9.00%	22.50%	9.00%	0.00%
	T&G Right	0.00%	1.00%	2.50%	1.00%	0.00%
35	A1	0.00%	0.00%	19.00%	0.00%	0.00%
	A2	0.00%	0.00%	5.00%	0.00%	0.00%
	A3	0.00%	0.00%	5.00%	0.00%	0.00%
	A4	0.00%	0.00%	19.00%	0.00%	0.00%
	A5	0.00%	0.00%	5.00%	0.00%	0.00%
	A6	0.00%	0.00%	5.00%	0.00%	0.00%
	A7	5.00%	4.00%	5.00%	4.00%	5.00%
	A8	90.00%	87.00%	19.50%	87.00%	90.00%
	A9	5.00%	4.00%	5.00%	4.00%	5.00%
	D1	20.00%	19.00%	10.00%	19.00%	20.00%
	D2	60.00%	57.00%	30.00%	57.00%	60.00%
	D3	20.00%	19.00%	0.00%	19.00%	20.00%
	D4	0.00%	0.00%	10.00%	0.00%	0.00%
	D5	0.00%	0.00%	0.00%	0.00%	0.00%
	D6	0.00%	0.00%	0.00%	0.00%	0.00%
	D7	0.00%	0.00%	10.00%	0.00%	0.00%
	D8	0.00%	0.00%	17.50%	0.00%	0.00%
	D9	0.00%	0.00%	10.00%	0.00%	0.00%
	T&G Left	0.00%	9.00%	22.50%	9.00%	0.00%
	T&G Right	0.00%	1.00%	2.50%	1.00%	0.00%

Source: PNS FAA ATCT Air Traffic Management, December 2020



**Table 14: ‘Daytime’ and ‘Nighttime’ Operational Percentages by Aircraft Category**

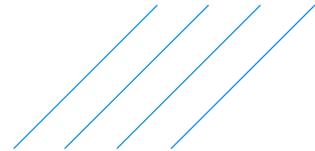
Time	Type of Operations	Aircraft Category				
		Air Carrier	Commuter / Air Taxi	GA	Military	MRO
Daytime (7 a.m. to 10 p.m.)	Arrivals	89.83%	81.82%	92.50%	100.00%	100.00%
	Departures	93.22%	77.27%	91.25%	100.00%	100.00%
Nighttime (10 p.m. to 7 a.m.)	Arrivals	10.17%	18.18%	7.50%	0.00%	0.00%
	Departures	6.78%	22.73%	8.75%	0.00%	0.00%

Source: PNS FAA ATCT Air Traffic Management, December 2020

## **Appendix C**

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Field Memo



# PNS Proposed MRO Facility - Phase Two Environmental Assessment Memo

To: Tom Roda

From:	Joshua L. Bell	Email: Josh.Bell@atkinglobal.com
Date:	16 July 2020	Phone: 850-273-7411
Ref: 100070938	cc: Jason Hignite, Rebecca Berzinis	

Subject: PNS Proposed MRO Facility - Phase Two Environmental Assessment Memo

A field assessment was conducted June 22-23, 2020 on the approximate 76.67-acre study area (Figure 1) within the PNS Proposed MRO Facility - Phase Two site in Pensacola, Florida to characterize and assess the habitat types and to specifically identify wetlands and threatened and endangered species. See the included project Location Map for the study area boundary. The study area is primarily comprised of inactive land with street patterns and two remaining structures onsite. The project study area was previously a commercial and residential mixed-use neighborhood within an urban setting positioned adjacent to the Pensacola International Airport, Tippin Avenue, and Langley Avenue. No visible historic structures were observed onsite during the site investigation. Typical invasive-exotic plant species associated with a residential setting were observed and are described below. Additionally, an exposed sewer line/septic tank and an opened grease container were observed. The locations and photos of these likely non-hazardous items have been provided on the Current Land Use Map (Attachment C) and photo page (Attachment A) included with this memo.

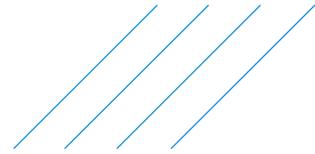
## **Fish, Wildlife, and Plants**

### **Wildlife**

Wildlife species and sign observed within the project study area included those mammals, reptiles, and birds that have adapted to live within or adjacent to an urbanized habitat. Species directly observed were eastern gray squirrel (*Sciurus carolinensis*), downy woodpecker (*Picoides pubescens*), various songbirds, gopher tortoise (*Gopherus polyphemus*), feral cat (*Felis catus*), green anole (*Anolis carolinensis*), and brown anole (*Anolis sagrei*). Sign of various other mammals were observed and included that of raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), armadillo (*Dasypus novemcinctus*), and rabbit (*Sylvilagus floridanus*).

### **Land Use Types**

The current land uses within the project study area were assessed using the Florida Land Use, Cover and Forms Classification Systems (FLUCFCS) manual and verified in the field. These land uses have been outlined on the attached Current Land Use Map (Attachment C) and are described below. The table below provides the current land uses and their associated acreages within the project study area. No federal or state-listed floral species were observed during the site assessment.



## Current Land Use Table

Florida Land Use, Cover and Forms Classification System (FLUCFCS)		
Code	Description	Acres
1422	Mini-Warehouses	2.69
190	Open Land	8.68
192/420	Inactive Land with street patterns but without structures/Upland Hardwood Forests	38.29
194	Other Open Land	1.01
420	Upland Hardwood Forests	13.29
530	Reservoirs (Stormwater Ponds)	3.09
811	Airports	9.62
<b>Total Acres</b>		<b>76.67</b>

### Mini-Warehouses (FLUCFCS-1422)

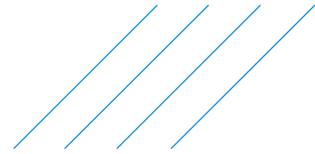
There are two mini-warehouse businesses remaining within the project study area. These businesses were still active at the time of the site assessment and are comprised of storage facilities typical for small-scale residential and commercial storage. Both warehouses are comprised of little to no vegetation and both have an associated stormwater pond that captures stormwater runoff from the impervious features typical of this land use type.

### Open Land (FLUCFCS-190)

There are four areas of undeveloped open land within the project study area. These areas are adjacent to Tippin Avenue on the west side of the study area boundary and along the border of the existing airport on the northeast side. These areas are fields that contain bahia grass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylum*). There are some remnant asphalt pieces from a pre-existing parking lot on that portion of open land on the southwestern corner of the study area boundary.

### Inactive Land with street patterns but without structures/Upland Hardwood Forests (FLUCFCS- 192/420)

Of the 76.67 acres that total the project study area, 38.29 acres is comprised of inactive land with street patterns and no structures with having remnant, fragmented, upland hardwood forest interspersed within it. This land use totals approximately 49.94% of the entire site and is comprised of native, ornamental, and invasive-exotic vegetative species that are typical of a medium density residential neighborhood in this region. It was noted in the field that there are several large live oaks (*Quercus virginiana*) within this community type that are of significant age with impressive canopies (Attachment A). The primary canopy species includes those species mentioned below in the Upland Hardwood Forests description in addition to intermittent observations of pecan (*Carya illinoensis*), slash pine (*Pinus elliotii*), longleaf pine (*Pinus palustris*), cedar (*Juniperus virginiana*), ash (*Fraxinus americana*), and cabbage palm (*Sabal palmetto*). Subcanopy trees and shrubs included dogwood (*Cornus florida*), crape myrtle (*Lagerstroemia indica*), common fig (*Ficus carica*), pear (*Pyrus* sp.), mulberry (*Morus* sp.), yaupon holly (*Ilex vomitoria*), sago palm (*Cycas revoluta*), and blackberry (*Rubus* spp.). Herbaceous species included Spanish daisy (*Helenium amarum*), soft greeneyes (*Berlandiera pumilla*), heartwing dock (*Rumex hastatulus*), St. John's wort (*Hypericum* spp.), goldenrod (*Solidago* spp.), dog fennel (*Eupatorium capillifolium*), cast iron plant (*Aspidistra elatior*), Periwinkle (*Vinca* spp.), ticktrefoil (*Desmodium* sp.). Other grasses and vines included bahia grass, Bermuda grass, monkey grass (*Liriope spicata*), Virginia creeper (*Parthenocissus quinquefolia*), poison ivy/oak (*Toxicodendron radicans/pubescens*), trumpet creeper (*Campsis radicans*), and grape (*Vitis* spp.).



Invasive-exotic species associated with this land use include camphor (*Cinnamomum camphora*), Chinese tallow (*Triadica sebifera*), mimosa (*Albizia julibrissin*), silverthorn (*Elaeagnus pungens*), chinaberry (*Melia azedarach*), oleander (*Nerium oleander*), bottlebrush (*Melaleuca viminalis*), golden bamboo (*Phyllostachys aurea*), lantana (*Lantana strigocamara*), spiderwort (*Tradescantia* spp.), and Mexican bluebell (*Ruellia simplex*).

### **Other Open Land (FLUCFCS-194)**

A small portion adjacent to the eastern boundary of the study area is in the process of being cleared. This area was previously upland hardwoods that have been cleared and stumps removed. The intended future purpose of this land use is unknown and no remaining vegetation was present at the time of the survey.

### **Upland Hardwood Forests (FLUCFCS-420)**

An upland hardwood forest community is an upland forest that has a crown canopy with at least a 66% dominance by hardwood tree species. All of the forested areas of the project study area fall within this land use and are dominated by live oak. There are several large live oaks within this community type that are of significant age with impressive canopies. Additional species that occur to a lesser extent within this community type are laurel oak (*Quercus laurifolia*), black cherry (*Prunus serotina*), cherry laurel (*Prunus caroliniana*), southern magnolia (*Magnolia grandiflora*), and American beautybush (*Callicarpa americana*).

### **Reservoirs (FLUCFCS-530; Stormwater Ponds)**

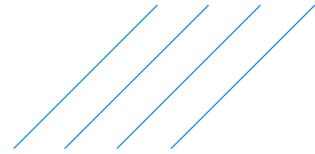
Reservoirs are defined in the FLUCFCS manual as artificial impoundments of water. There were 8 stormwater ponds observed within the project study area that are designed to collect stormwater. These stormwater ponds are generally comprised of various grasses (such as bahia and Bermuda grass) and include concrete spillways, mitred concrete drains, or corrugated culverts that convey stormwater from associated structures and impervious features. Due to the nature of their design, some of these stormwater ponds have held water for long enough periods of time to develop emergent wetland plant species such as rushes (*Juncus* spp.), sedges (*Carex* spp.), and cattails (*Typha* spp.).

### **Transportation (Airport) (FLUCFCS-811)**

This land use includes all airport facilities including runways, intervening land, terminals, service buildings, navigational aids, fuel storage, parking lots, and a limited buffer zone. A portion on the southeast corner of the project area falls within this category. This area includes the vegetated areas located between the runways and taxiways which are dominated by grasses such as bahia grass and Bermuda grass. Other herbaceous vegetation in these areas include blackberry and panic grasses (*Panicum* spp.).

### **Waters of the U.S. and Other Surface Waters (OSWs)**

The entire project study area was assessed for wetlands or other surface waters by a qualified wetland scientist. No natural wetlands were observed during the site assessment however 8 manmade stormwater ponds were observed and have been designated as FLUCFCS 530 Reservoirs. Of the 8 stormwater ponds onsite, 3 are remnant conveyance systems with concrete spillways, drains, or corrugated culverts designed to capture sheet flow from the pre-existing structures and impervious parking lots that were recently removed. There are 2 other stormwater ponds that are associated with the only two remaining structures on the entire 76.67-acre study area. These two remaining structures are the two mini-warehouse facilities (FLUCFCS 1422). The remaining 3 stormwater ponds are associated with the existing adjacent Pensacola International Airport. The locations of the 8 stormwater ponds can be found on the attached Current Land Use Map (Attachment C). In addition to ground truthing, a desktop review of historical imagery resources including Google Earth and the University of Florida Digital Collections (UFDC) was used to determine that 4 of the 8 stormwater ponds were created between 1990 and 2004. The remaining stormwater



ponds were created post-2004 and all 8 stormwater ponds were determined to have been created from upland soils. As found evident via ground truthing and historical aerial imagery analysis, it is determined that the 8 stormwater ponds within the project study area are considered Other Surface Waters (OSWs) and are thereby exempt from mitigation pursuant to 62.340.700 F.A.C.

## Listed Species

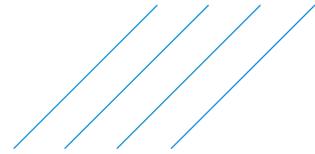
On-site assessments were conducted by a qualified biologist on June 23-24, 2020 to determine the potential presence of threatened and/or endangered plant and animal species. Prior to conducting the survey, an in-depth desktop analysis was conducted of threatened and endangered species databases, as well as those considered species of special concern by state and federal agencies that could potentially occur within or near the project study area. The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Report, Florida Fish and Wildlife Conservation Commission (FWC) wildlife observation data, and Florida Natural Areas Inventory (FNAI) data were also reviewed. These reports have been included within the memo as Attachment F. These data identify the potential for four federally listed species to occur in the vicinity of Proposed Project site: the eastern indigo snake (*Drymarchon couperi*), reticulated flatwoods salamander (*Ambystoma bishopi*), wood stork (*Mycteria americana*), and Atlantic sturgeon (*Acipenser oxyrinchus*). Desktop analysis and field observation verified that there is no habitat for the Atlantic sturgeon within the project study area. Due to the lack of habitat within the project study area, the project is expected to have “**no effect**” on the Atlantic sturgeon and therefore this species will not be mentioned further in the memo.

Evidence of the state-threatened gopher tortoise (*Gopherus polyphemus*), was observed within the project study area. The environmental assessment survey resulted in the observation of one individual, 15 potentially occupied gopher tortoise burrows, and 1 abandoned gopher tortoise burrow. Most of these burrows appeared to be occupied as evidenced by tracks observed at the burrow entrances. The burrow locations found on the site are depicted in the attached Gopher Tortoise Burrow Location Map (Attachment D). The environmental assessment was performed by an FWC-approved Authorized Agent for surveying gopher tortoise burrows. No other state-listed floral or faunal species were observed and there are no critical habitats within the project study area.

## **Eastern Indigo Snake (*Drymarchon corais couperi*)**

Eastern indigo snakes are large, black, non-venomous snakes which are distributed throughout the southeastern United States. This species is listed as a threatened species by the USFWS due to loss and degradation of habitat and human intervention. The species is found in a variety of habitats including swamps, wet prairies, xeric pinelands, and scrub areas. It may utilize gopher tortoise burrows for shelter during the winter and to escape the heat during the summer. This species feeds on other snakes, frogs, salamanders, toads, small mammals, birds, and young turtles. No individuals of this species were observed during the field surveys and the FNAI Biodiversity Matrix Report did not include documented occurrence of the species; however, because of the presence of gopher tortoise burrows within the project study area there is a slight potential for this species to occur. Due to this slight potential for the eastern indigo to occur, the probability of occurrence for this species within the project study area is considered low. Using the *Eastern Indigo Snake Programmatic Effect Determination Key* (Attachment G), it is anticipated that this project “**not likely to adversely affect**” the eastern indigo snake. See below for the steps to reach the resulting determination:

- A. Project is not located in open water or salt marsh···go to B
  
- B. Permit will be conditioned for use of the Service’s *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction···go to C
  
- C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities···go to D
  
- D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows···go to E



·E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work...“NLAA”

### **Reticulated Flatwoods Salamander (*Ambystoma bishopi*)**

The reticulated flatwoods salamander is listed as endangered by the USFWS. This species is found in pine flatwoods with a wiregrass groundcover and uses isolated ephemeral wetlands for breeding in late autumn to early winter. This species spends most of its adult life underground, making its way to wetland areas only when breeding. Larvae complete metamorphosis in roughly 90 days and begin to travel to upland flatwood habitats. Critical habitat for this species has been designated by the USFWS in the Florida panhandle and southern Georgia. However, it was determined within the IPaC report that the project study area is not within the reticulated flatwoods salamander’s critical habitat.

Potential breeding sites are underlain by hydric soils as designated by the NRCS and must be characterized as an ephemeral, depressional swamp that is hydrologically isolated from other wetlands on a perennial or seasonal basis. The site must also be dominated by pond cypress, swamp blackgum, and/or slash pine or a shrub swamp dominated by Chapman’s St. John’s-wort or myrtle-leaved holly. Additionally, non-breeding habitat must be fire-maintained, flatwoods habitat. There are no apparent breeding or non-breeding sites within the project study area.

Due to the lack of breeding and non-breeding habitat within the project study area and the conclusion that the project study area is not within critical habitat for this species, the project is expected to have “**no effect**” on the flatwoods salamander.

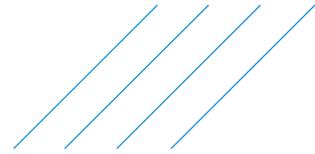
### **Wood Stork (*Mycteria americana*)**

The wood stork is protected by the Migratory Bird Treaty Act (MBTA) and listed as threatened by the USFWS. Wood storks nest colonially in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs, and mangroves. Wood storks forage in shallow, freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches. No wood storks or wood stork nests were observed during the project study area site assessment. In addition, the project study area is not within the USFWS 2009-2018 Florida Active Nesting Colonies and Core Foraging Areas. The *Effect Determination Key for the Wood Stork in North Florida* (Attachment G) was utilized to determine the project effect on the wood stork. Utilizing the key, it is anticipated that the project “**not likely to adversely affect**” the wood stork. See below for the steps to reach the resulting determination:

- A. Project more than 2,500 feet from a colony site...go to B
- B. Project impacts suitable foraging habitat (SFH)...go to C
- C. Project impact to SFH are less than or equal to 0.5 acre...“NLAA”

### **Gopher Tortoise (*Gopherus polyphemus*)**

The gopher tortoise is currently listed as a candidate species with the USFWS and listed as state threatened by the FWC. This species requires well-drained and loose sandy soils for burrowing and low-growing herbs and grasses for foraging. These habitat conditions are best found in sandhill communities, although tortoises are known to use a wide variety of habitats including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods as well as ruderal sites such as pastures and roadside easements. Gopher tortoises are a keystone species as their burrows are frequently used



by over 350 vertebrate and invertebrate commensal species including the Florida pine snake.

A 100% gopher tortoise survey was conducted within the study area on June 23-24, 2020 by an FWC Authorized Gopher Tortoise Agent. Suitable habitat for this species is present within the project area and one individual and 15 potentially occupied gopher tortoise burrows were located. One additional abandoned gopher tortoise borrow was observed also. All 16 features were flagged and GPS'd and their locations can be found on the attached Gopher Tortoise Burrow Location Map (Attachment D).

In accordance with state rules, a gopher tortoise relocation permit will need to be obtained for all gopher tortoise burrows occurring on, and within 25 feet of, the areas intended to be disturbed by any construction or site-prep activities. Additionally, a gopher tortoise survey is only valid for 90 days and an additional 100% survey is required before gopher tortoise relocation efforts commence. With the implementation of surveys in accordance with the FWC Gopher Tortoise Permitting Guidelines and associated agency coordination and permitting prior to construction activities, there is “**no adverse effect**” anticipated for the gopher tortoise.

### **Bald Eagle (*Haliaeetus leucocephalus*)**

Although no longer listed under the Endangered Species Act (ESA), the bald eagle is still afforded protection under the Bald Eagle Environmental Protection Act (BGEPA) [16 United States Code (U.S.C.) § 668 et seq.] and the MBTA (16 U.S.C. § 703 et seq.). Using the FWC Bald Eagle Nest Locator Map (2016-2017 Nesting Season), a desktop survey showed that the nearest documented nest is approximately 4.0 miles away from the project location. Additionally, no eagles or nests were observed during field surveys (Attachment E). If active nests are found within 660 feet of the construction buffer zone of the project area prior or during construction, the USFWS would need to be contacted to coordinate any further actions. Considering these determinations, it is concluded that construction within the proposed study area will have “**no effect**” on the bald eagle.

### **The Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) of 1918 implements four international conservation treaties that the U.S. entered with Canada, Mexico, Japan, and Russia. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service.

In addition to the federally species listed in the IPaC report, five migratory bird species were listed to potentially occur within the project study area. These species include the clapper rail (*Rallus crepitans*), dunlin (*Calidris alpina arctica*), king rail (*Rallus elegans*), red-headed woodpecker (*Melanerpes erythrocephalus*), and wood thrush (*Hylocichla mustelina*). An IPaC Resource List contained a summarized probability of presence for these migratory species (Attachment F). Although these species were not observed at the time of the site visit, this does not preclude the potential for these species to occur in the future due to their migratory nature. If these migratory bird species are observed nesting during construction, further consultation with the USFWS would need to occur.

# **Attachment A**

## **Site Visit Photo Page**

06/22-23/2020 Site Visit Photos



Mini Warehouses (FLUCFCS-1422)



Open Land (FLUCFCS-190)



Inactive Land with street patterns/Upland Hardwood Forests (FLUCFCS-192/420)



Other Open Land (FLUCFCS-194)



Upland Hardwood Forests (FLUCFCS-420)



Reservoirs (FLUCFCS-530) (Stormwater pond, OSW).

06/22-23/2020 Site Visit Photos



Reservoirs (FLUCFCS-530) (Stormwater pond, OSW).



Reservoirs (FLUCFCS-530) (Remnant Stormwater Pond, OSW) .



Reservoirs (FLUCFCS-530) (Remnant Stormwater Pond, OSW) .



Transportation (Airport) (FLUCFCS-811)



Representative of juvenile gopher tortoise burrows.



Adult gopher tortoise in its burrow.

06/22-23/2020 Site Visit Photos



Representative of additional adult gopher tortoise burrows.



Representative photo of exceptional live oaks within the study area.



Open grease container.

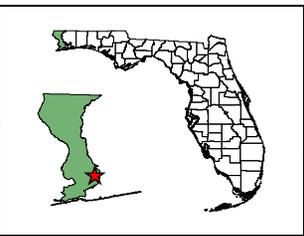
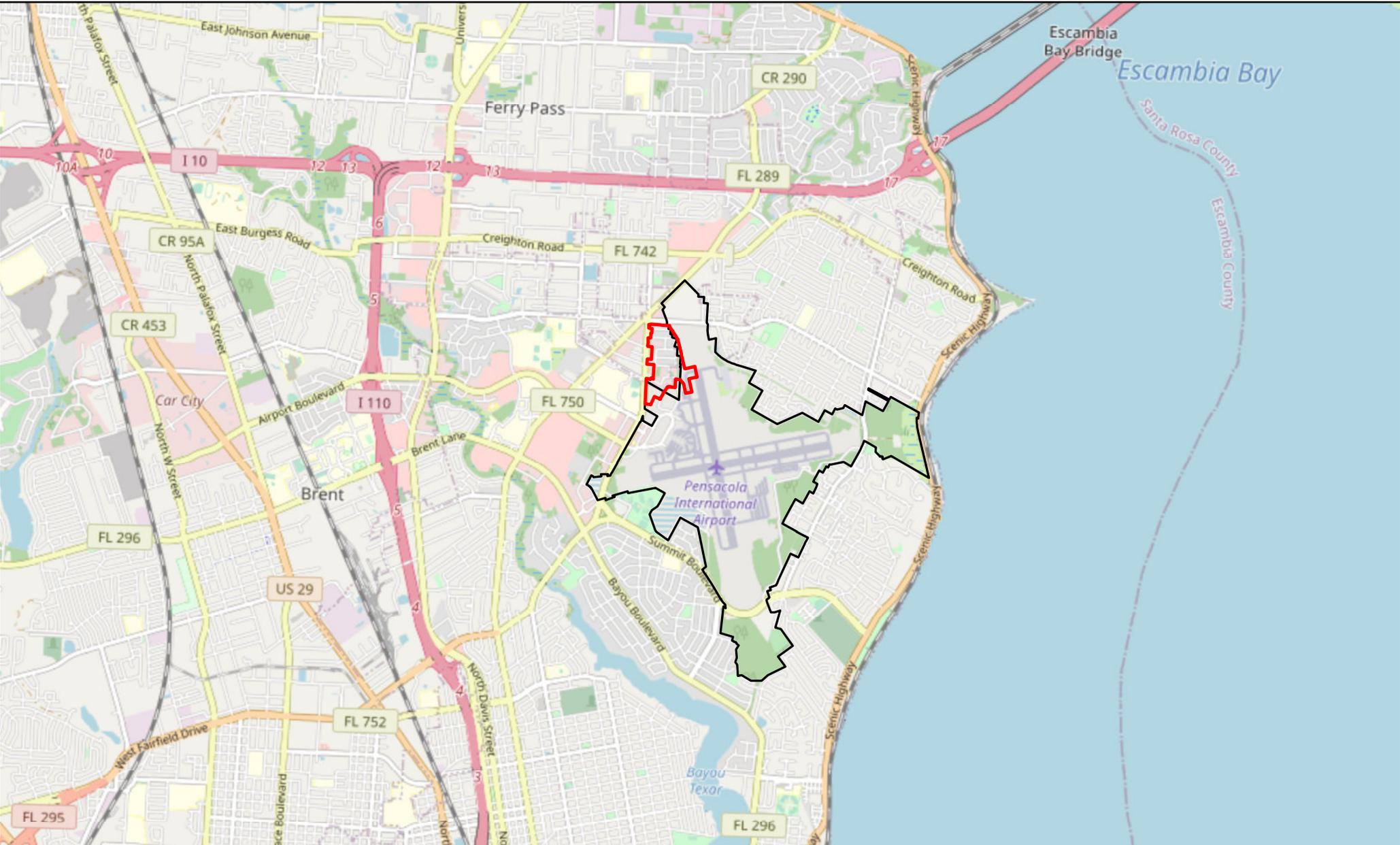


Open grease container.



Exposed sewer/septic.

## **Attachment B Project Location Map**



Location Map  
Escambia County, Florida

Proposed MRO Facility  
Phase Two

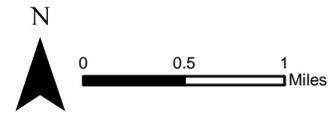


- Study Area (+/- 76.67 Acres)
- Airport Boundary

Date: 8/3/2020 Author: JER

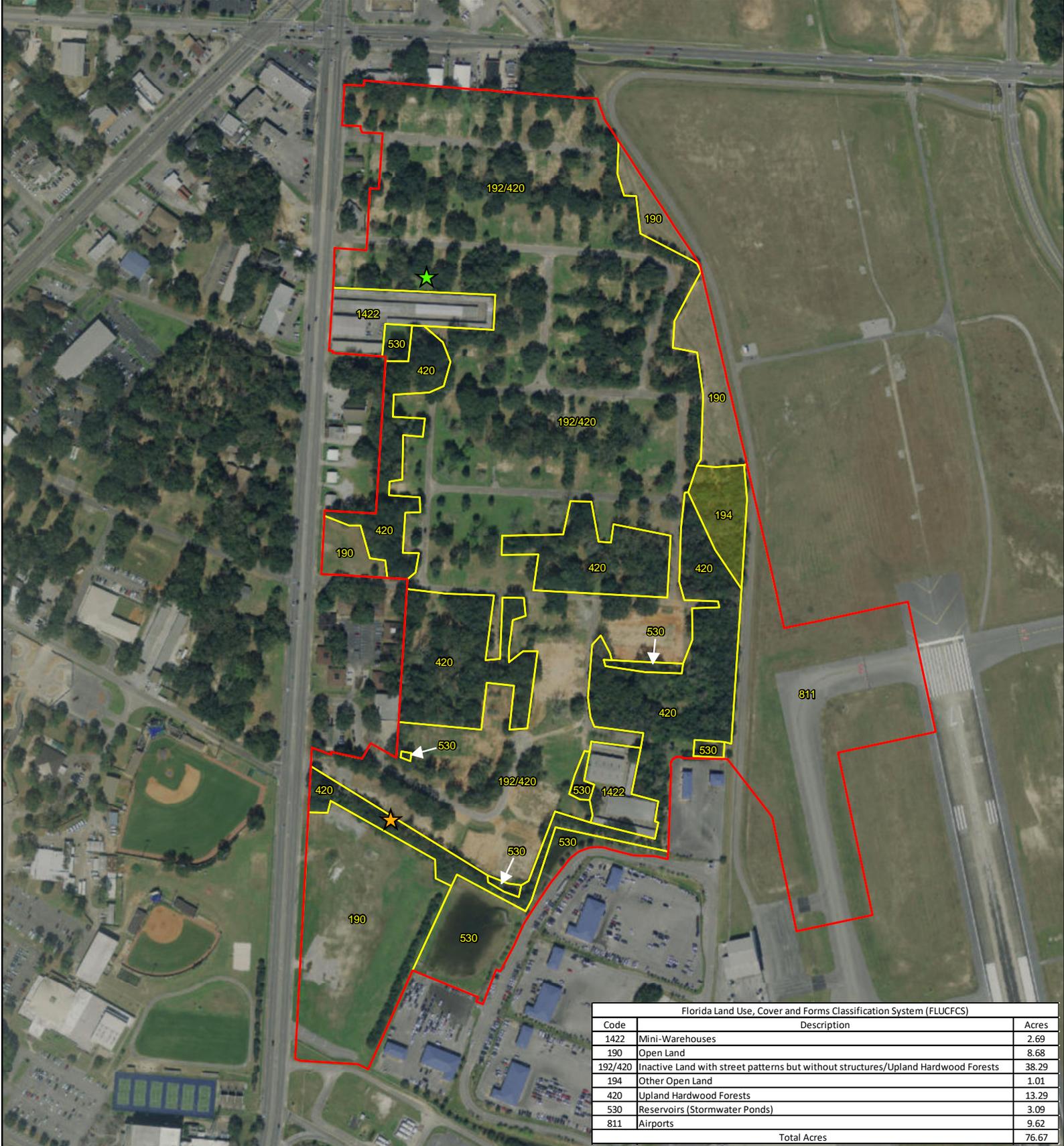
Section: 14  
Township: 1S  
Range: 29W

1 inch = 5,000 feet



ESRI BASEMAP AERIALS, 2020

# **Attachment C Current Land Use Map**



**Current Land Use Map**  
  
**PNS Proposed  
MRO Facility - Phase Two  
Environmental Assessment**

- Project Area (+/- 76.67 Acres)
- FLUCFCS
- Recently Cleared Hardwoods
- ★ Exposed Septic Tank/Sewer
- ★ Open Used Grease Drum

Date: 7/16/2020	Author: JLB
Section: 14 Township: 1S Ranges: 29W	
1 inch = 400 feet	
ESRI BASEMAP AERIALS, 2020	

**Attachment D**  
**Gopher Tortoise Burrow Location Map**  
**and Soils**



Soils		
Key	Description	Hydric Rating
13	Lakeland Sand, 0-5% Slopes	N
32	Troup Sand, 0-5% Slopes	N

**ATKINS**  
Member of the SNC-Lavalin Group

Gopher Tortoise Burrow Location Map

PNS Proposed MRO Facility - Phase Two Environmental Assessment

Project Area (+/- 76.67 Acres)  
 Soils

**Gopher Tortoise Burrows (16)**

- ▲ Potentially Occupied (15)
- ▲ Abandoned (1)

Date: 7/16/2020 | Author: JLB

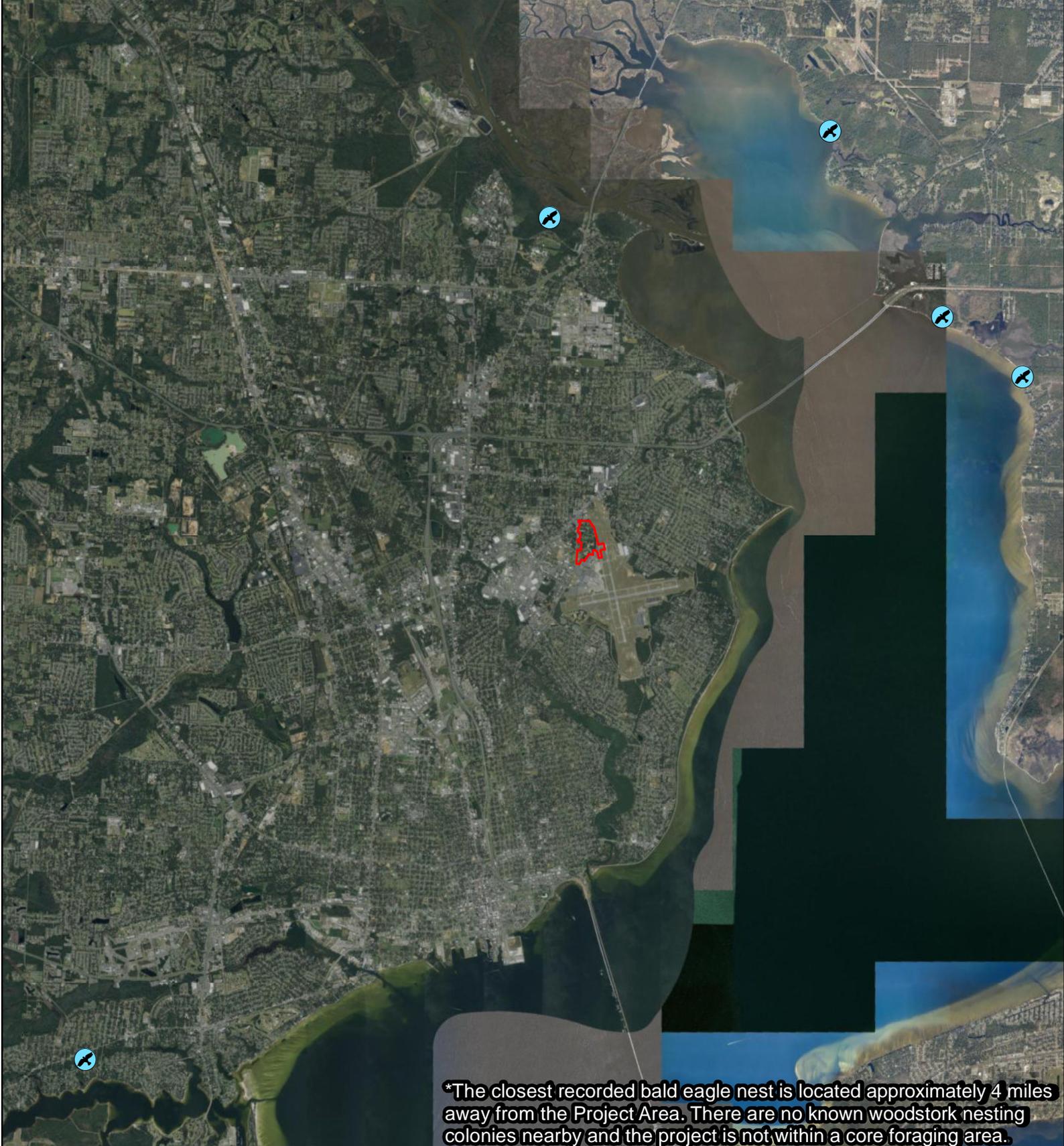
Section: 14  
Township: 1S  
Ranges: 29W

1 inch = 400 feet

ESRI BASEMAP AERIALS, 2020

# **Attachment E**

## **Bald Eagle Nest Location Map**



**SNC-LAVALIN**  
Member of the SNC-Lavalin Group

**ATKINS**  
Member of the SNC-Lavalin Group

**Bald Eagle Nest Location Map**

**PNS Proposed MRO Facility - Phase Two Environmental Assessment**

Project Area (+/- 76.67 Acres)

Bald Eagles Nests (FWC, 2015)\*

Date: 7/16/2020 | Author: JLB

Section: 14  
Township: 1S  
Ranges: 29W

1 inch = 9,000 feet

N  
0 0.75 1.5 Miles

ESRI BASEMAP AERIALS, 2020

**Attachment F  
USFWS IPaC Report  
and FNAI Biodiversity Matrix**



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Panama City Ecological Services Field Office  
1601 Balboa Avenue  
Panama City, FL 32405-3792  
Phone: (850) 769-0552 Fax: (850) 763-2177  
<http://www.fws.gov/panamacity/specieslist.html>  
<http://www.fws.gov/panamacity/pcdata.html>

In Reply Refer To:

July 16, 2020

Consultation Code: 04EF3000-2020-SLI-0459

Event Code: 04EF3000-2020-E-00798

Project Name: Pensacola

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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 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>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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 Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. All correspondence should be submitted to [panamacityregs@fws.gov](mailto:panamacityregs@fws.gov).

Attachment(s):

- Official Species List

## 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:

**Panama City Ecological Services Field Office**

1601 Balboa Avenue

Panama City, FL 32405-3792

(850) 769-0552

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## Project Summary

Consultation Code: 04EF3000-2020-SLI-0459

Event Code: 04EF3000-2020-E-00798

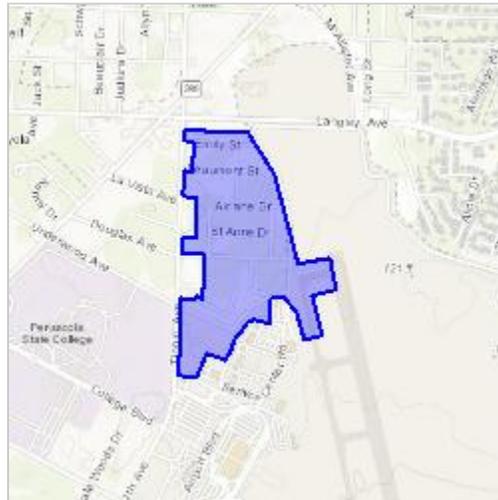
Project Name: Pensacola

Project Type: DEVELOPMENT

Project Description: Pensacola

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/30.483356794476258N87.19456609953713W>



Counties: Escambia, FL

## Endangered Species Act Species

There is a total of 4 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, 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.

### Birds

NAME	STATUS
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a>	Threatened

### Reptiles

NAME	STATUS
Eastern Indigo Snake <i>Drymarchon corais couperi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/646">https://ecos.fws.gov/ecp/species/646</a>	Threatened
Gopher Tortoise <i>Gopherus polyphemus</i> Population: eastern No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6994">https://ecos.fws.gov/ecp/species/6994</a>	Candidate

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## Fishes

NAME	STATUS
Atlantic Sturgeon (gulf Subspecies) <i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i>	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.  
Species profile: <https://ecos.fws.gov/ecp/species/651>

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

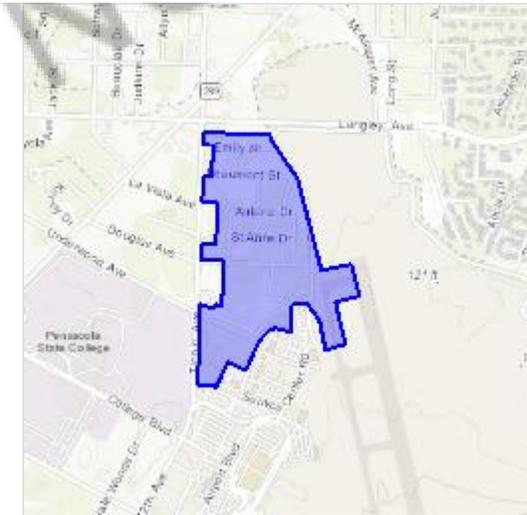
## Project information

### NAME

Pensacola

### LOCATION

Escambia County, Florida



## DESCRIPTION

Pensacola

## Local office

Panama City Ecological Services Field Office

☎ (850) 769-0552

📅 (850) 763-2177

1601 Balboa Avenue

Panama City, FL 32405-3792

<http://www.fws.gov/panamacity/specieslist.html>

<http://www.fws.gov/panamacity/pdata.html>

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

- 
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

2. [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.

The following species are potentially affected by activities in this location:

## Birds

NAME	STATUS
Wood Stork <i>Mycteria americana</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a>	Threatened

## Reptiles

NAME	STATUS
Eastern Indigo Snake <i>Drymarchon corais couperi</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/646">https://ecos.fws.gov/ecp/species/646</a>	Threatened
Gopher Tortoise <i>Gopherus polyphemus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6994">https://ecos.fws.gov/ecp/species/6994</a>	Candidate

## Fishes

NAME	STATUS
Atlantic Sturgeon (gulf Subspecies) <i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/651">https://ecos.fws.gov/ecp/species/651</a>	Threatened

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative

occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
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**Clapper Rail** *Rallus crepitans*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Apr 10 to Oct 31

**Dunlin** *Calidris alpina arctica*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

**King Rail** *Rallus elegans*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8936>

Breeds May 1 to Sep 5

**Red-headed Woodpecker** *Melanerpes erythrocephalus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

**Wood Thrush** *Hyllocichla mustelina*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

**Breeding Season (■)**

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort (|)**

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

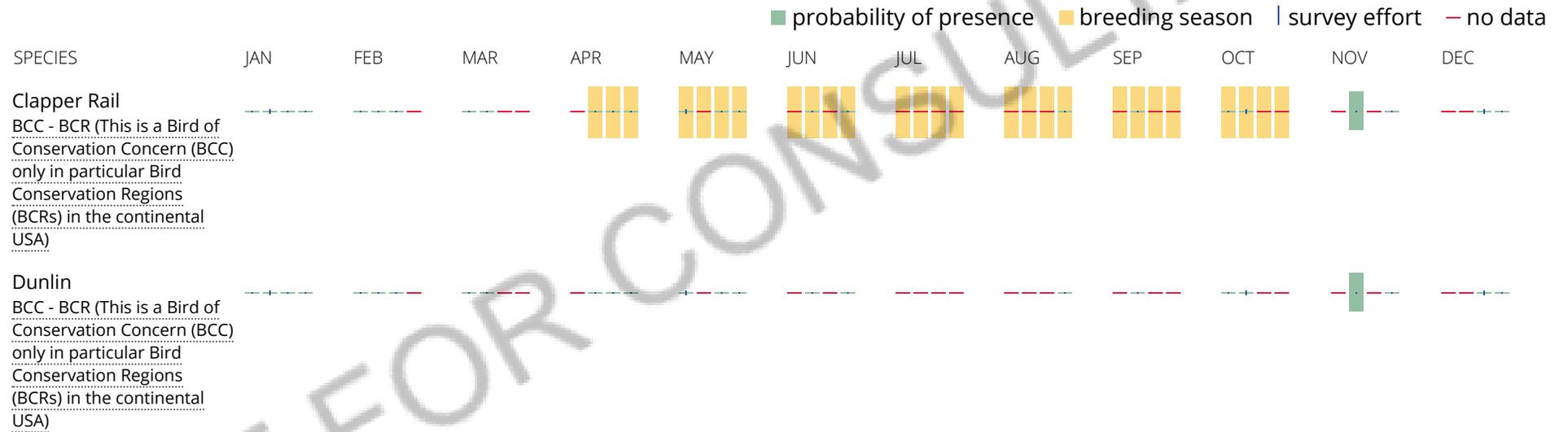
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

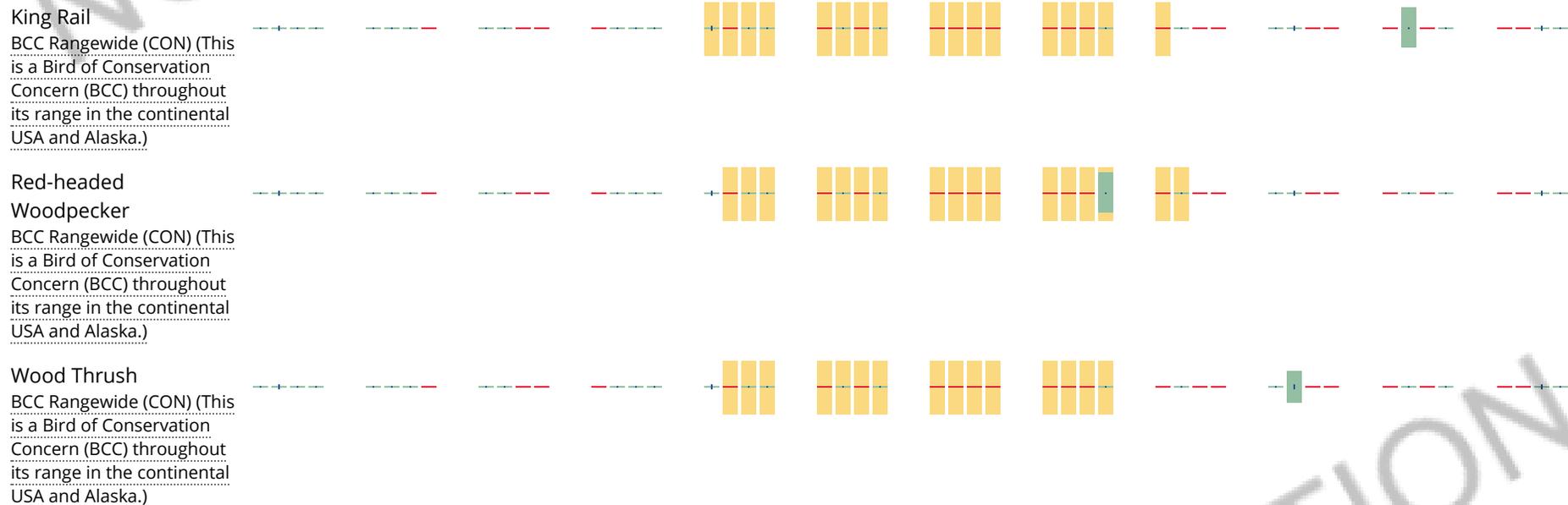
**No Data (-)**

A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

## What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

## How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

## What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

## Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

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 AT THIS LOCATION.

# Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

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](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



## Florida Natural Areas Inventory

### Biodiversity Matrix Query Results

#### UNOFFICIAL REPORT

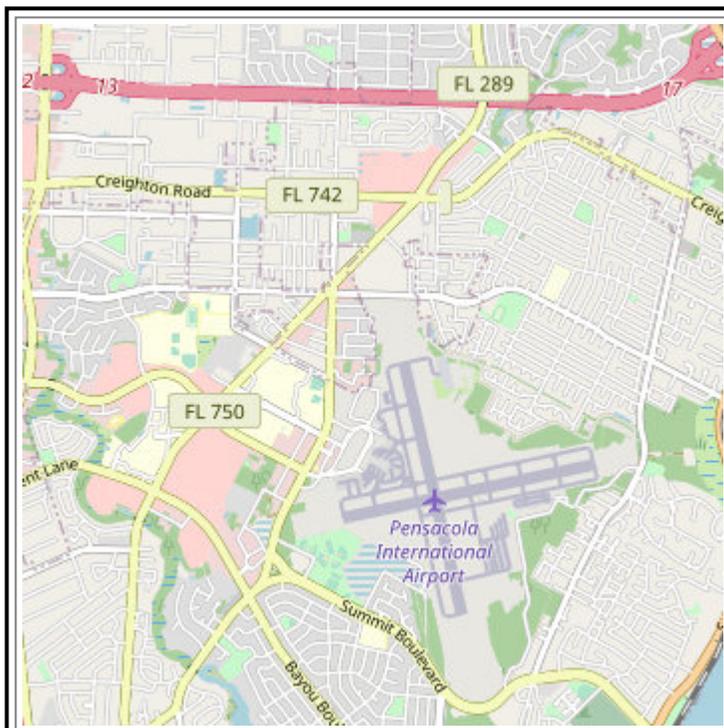
Created 6/22/2020

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

for information on an official

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

#### Report for 1 Matrix Unit: 1092



#### Descriptions

**DOCUMENTED** - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

**DOCUMENTED-HISTORIC** - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

**LIKELY** - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

**POTENTIAL** - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

#### Matrix Unit ID: 1092

0 Documented Elements Found

## 0 Documented-Historic Elements Found

## 1 Likely Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Mesic flatwoods</i>	G4	S4	N	N

## Matrix Unit ID: 1092

## 21 Potential Elements for Matrix Unit 1092

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Agrimonia incisa</i> Incised Groove-bur	G3	S2	N	T
<a href="#">Athene cunicularia floridana</a> Florida Burrowing Owl	G4T3	S3	N	SSC
<a href="#">Drymarchon couperi</a> Eastern Indigo Snake	G3	S3	LT	FT
<a href="#">Gopherus polyphemus</a> Gopher Tortoise	G3	S3	C	ST
<a href="#">Heterodon simus</a> Southern Hognose Snake	G2	S2	N	N
<i>Lachnocaulon digynum</i> Bog Button	G3	S3	N	T
<a href="#">Lilium iridollae</a> Panhandle Lily	G2	S2	N	E
<a href="#">Linum westii</a> West's Flax	G1	S1	N	E
<a href="#">Macranthera flammea</a> Hummingbird Flower	G3	S2	N	E
<a href="#">Myotis austroriparius</a> Southeastern Bat	G3G4	S3	N	N
<i>Nuphar advena ssp. ulvacea</i> West Florida Cowlily	G5T2	S2	N	N
<i>Peucaea aestivalis</i> Bachman's Sparrow	G3	S3	N	N
<i>Pinguicula primuliflora</i> Primrose-flowered Butterwort	G3G4	S3	N	E
<i>Platanthera integra</i> Yellow Fringeless Orchid	G3G4	S3	N	E
<i>Quercus arkansana</i> Arkansas Oak	G3	S3	N	T
<a href="#">Rhexia parviflora</a> Small-flowered Meadowbeauty	G2	S2	N	E
<a href="#">Rhexia salicifolia</a> Panhandle Meadowbeauty	G2	S2	N	T
<i>Sarracenia leucophylla</i> White-top Pitcherplant	G3	S3	N	E

<i>Selonodon santarosae</i> Santa Rosa Cebionid Beetle	G1	S1	N	N
<i>Tephrosia mohrii</i> Pineland Hoary-pea	G3	S3	N	T
<i>Xyris stricta</i> var. <i>obscura</i> Kral's Yellow-eyed Grass	G3T3	S1	N	N

**Disclaimer**

The data maintained by the Florida Natural Areas Inventory represent the single most comprehensive source of information available on the locations of rare species and other significant ecological resources statewide. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. FNAI shall not be held liable for the accuracy and completeness of these data, or opinions or conclusions drawn from these data. FNAI is not inviting reliance on these data. Inventory data are designed for the purposes of conservation planning and scientific research and are not intended for use as the primary criteria for regulatory decisions.

**Unofficial Report**

These results are considered unofficial. FNAI offers a [Standard Data Request](#) option for those needing certifiable data.

# **Attachment G**

## **Federally Listed Species Effect Determination Keys**



# United States Department of the Interior

## U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

August 13, 2013

Colonel Alan M. Dodd, District Engineer  
Department of the Army  
Jacksonville District Corps of Engineers  
P.O Box 4970  
Jacksonville, Florida 32232-0019  
(Attn: Mr. David S. Hobbie)

RE: Update Addendum to USFWS Concurrence Letter to U.S. Army Corps of Engineers  
Regarding Use of the Attached Eastern Indigo Snake Programmatic Effect Determination Key

Dear Colonel Dodd:

This letter is to amend the January 25, 2010, letter to the U.S. Army Corps of Engineers regarding the use of the attached eastern indigo snake programmatic effect determination key (key). It supersedes the update addendum issued January 5, 2012.

We have evaluated the original programmatic concurrence and find it suitable and appropriate to extend its use to the remainder of Florida covered by the Panama City Ecological Services Office.

### **On Page 2**

The following replaces the last paragraph above the signatures:

“Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to Annie Dziergowski (North Florida ESO) at 904-731-3089, Harold Mitchell (Panama City ESO) at 850-769-0552, or Victoria Foster (South Florida ESO) at 772-469-4269.”

### **On Page 3**

The following replaces both paragraphs under “Scope of the key”:

“This key should be used only in the review of permit applications for effects determinations for the eastern indigo snake within the State of Florida, and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH).”

### **On Page 4**

The following replaces the first paragraph under Conservation Measures:

“The Service routinely concurs with the Corps’ “not likely to adversely affect” (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that

our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes.htm> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.”

**On Page 4 and Page 5 (Couplet D)**

The following replaces D. under Conservation Measures:

D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested<sup>2</sup>..... ”may affect”

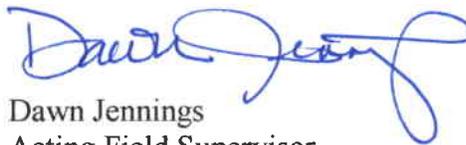
**On Page 5**

The following replaces footnote #3:

“<sup>3</sup>If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a FWC Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at <http://myfwc.com/gophertortoise> .”

Thank you for making these amendments concerning the Eastern Indigo Snake Key. If you have any questions, please contact Jodie Smithem of my staff at the address on the letterhead, by email at [jodie\\_smithem@fws.gov](mailto:jodie_smithem@fws.gov), or by calling (904)731-3134.

Sincerely,

  
Dawn Jennings  
Acting Field Supervisor

cc:

Panama City Ecological Services Field Office, Panama City, FL  
South Florida Ecological Services Field Office, Vero Beach, FL



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Office  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960

January 25, 2010

David S. Hobbie  
Chief, Regulatory Division  
U.S. Army Corps of Engineers  
Post Office Box 4970  
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2009-FA-0642

Service Consultation Code: 41420-2009-I-0467

41910-2010-I-0045

Subject: North and South Florida  
Ecological Services Field Offices  
Programmatic Concurrence for Use  
of Original Eastern Indigo Snake  
Key(s) Until Further Notice

Dear Mr. Hobbie:

The U.S. Fish and Wildlife Service's (Service) South and North Florida Ecological Services Field Offices (FO), through consultation with the U.S. Army Corps of Engineers Jacksonville District (Corps), propose revision to both Programmatic concurrence letters/keys for the federally threatened Eastern Indigo Snake (*Drymarchon corais couperi*), (indigo snake), and now provide one key for both FO's. The original programmatic key was issued by the South Florida FO on November 9, 2007. The North Florida FO issued a revised version of the original key on September 18, 2008. Both keys were similar in content, but reflected differences in geographic work areas between the two Field Offices. The enclosed key satisfies each office's responsibilities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*).

Footnote number 3 in the original keys indicated "A member of the excavation team should be authorized for Incidental Take during excavation through either a section 10(a)(1)(A) permit issued by the Service or an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission (FWC)." We have removed this reference to a Service issued Section 10(a)(1)(A) permit, as one is not necessary for this activity. We also referenced the FWC's revised April 2009 Gopher Tortoise Permitting Guidelines with a link to their website for updated excavation guidance, and have provided a website link to our Standard Protection Measures. All other conditions and criteria apply.

We believe the implementation of the attached key achieves our mutual goal for all users to make consistent effect determinations regarding this species. The use of this key for review of projects

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**IN AMERICA** 

located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced documents and is submitted in accordance with section 7 of the Act.

Should circumstances change or new information become available regarding the eastern indigo snake or implementation of the key, the determinations may be reconsidered as deemed necessary.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to either Allen Webb (Vero Beach) at 772-562-3909, extension 246, or Jay Herrington (Jacksonville) at 904-731-3326.

Sincerely,



Paul Souza  
Field Supervisor  
South Florida Ecological Services Office



David L. Hankla  
Field Supervisor  
North Florida Ecological Services Office

Enclosure

cc: electronic only  
FWC, Tallahassee, Florida (Dr. Elsa Haubold)  
Service, Jacksonville, Florida (Jay Herrington)  
Service, Vero Beach, Florida (Sandra Sneckenberger)

## Eastern Indigo Snake Programmatic Effect Determination Key

### Scope of the key

This key should be used only in the review of permit applications for effects determinations within the North and South Florida Ecological Services Field Offices Geographic Areas of Responsibility (GAR), and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH). Counties within the **North** Florida GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

Counties in the **South** Florida GAR include Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, St. Lucie.

### Habitat

Over most of its range, the eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Eastern indigo snakes appear to need a mosaic of habitats to complete their life cycle. Wherever the eastern indigo snake occurs in xeric habitats, it is closely associated with the gopher tortoise (*Gopherus polyphemus*), the burrows of which provide shelter from winter cold and summer desiccation (Speake et al. 1978; Layne and Steiner 1996). Interspersion of tortoise-inhabited uplands and wetlands improves habitat quality for this species (Landers and Speake 1980; Auffenberg and Franz 1982).

In south Florida, agricultural sites, such as sugar cane fields, created in former wetland areas are occupied by eastern indigo snakes (Enge pers. comm. 2007). Formerly, indigo snakes would have only occupied higher elevation sites within the wetlands. The introduction of agriculture and its associated canal systems has resulted in an increase in rodents and other species of snakes that are prey for eastern indigo snakes. The result is that indigos occur at higher densities in these areas than they did historically.

Even though thermal stress may not be a limiting factor throughout the year in south Florida, indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigos use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumii*) burrows in coastal areas (Service 2006). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges. In extreme south Florida (the Everglades and Florida Keys), indigo snakes are found in tropical

hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is suspected that they prefer hammocks and pine forests, because most observations occur in these habitats disproportionately to their presence in the landscape (Steiner et al. 1983). Hammocks may be important breeding areas as juveniles are typically found there. The eastern indigo snake is a snake-eater so the presence of other snake species may be a good indicator of habitat quality.

**Conservation Measures**

The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. If the use of this key results in a Corps' determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary<sup>1</sup>. This key is subject to revisitation as the Corps and Service deem necessary.

A. Project is not located in open water or salt marsh.....go to B

Project is located solely in open water or salt marsh..... "no effect"

B. Permit will be conditioned for use of the Service's *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction.....go to C

Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested<sup>2</sup> ..... "may affect"

C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities .....go to D

There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities ..... "NLAA"

D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested<sup>2</sup>..... “may affect”

- E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow<sup>3</sup>. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... “NLAA”

Permit will not be conditioned as outlined above and consultation with the Service is requested<sup>2</sup> ..... ”may affect”

<sup>1</sup>With an outcome of “no effect” or “NLAA” as outlined in this key, the requirements of section 7 of the Act are fulfilled for the eastern indigo snake and no further action is required.

<sup>2</sup>Consultation may be concluded informally or formally depending on project impacts.

<sup>3</sup> If burrow excavation is utilized, it should be performed by experienced personnel. The method used should minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the Florida Fish and Wildlife Conservation Commission’s revised April 2009 Gopher Tortoise Permitting Guidelines located at [http://myfwc.com/License/Permits\\_ProtectedWildlife.htm#gophertortoise](http://myfwc.com/License/Permits_ProtectedWildlife.htm#gophertortoise). A member of the excavation team should be authorized for Incidental Take during excavation through an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission.

**THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, U. S. FISH AND  
WILDLIFE SERVICE, JACKSONVILLE ECOLOGICAL SERVICES FIELD  
OFFICE AND STATE OF FLORIDA EFFECT DETERMINATION KEY FOR  
THE WOOD STORK IN CENTRAL AND NORTH PENINSULAR FLORIDA  
September 2008**

**Purpose and Background**

The purpose of this document is to provide a tool to improve the timing and consistency of review of Federal and State permit applications and Federal civil works projects, for potential effects of these projects on the endangered wood stork (*Mycteria americana*) within the Jacksonville Ecological Services Field Office (JAFL) geographic area of responsibility (GAR see below). The key is designed primarily for Corps Project Managers in the Regulatory and Planning Divisions and the Florida Department of Environmental Protection or its authorized designee, or Water Management Districts. The tool consists of the following dichotomous key and reference material. The key is intended to be used to evaluate permit applications and Corps' civil works projects for impacts potentially affecting wood storks or their wetland habitats. At certain steps in the key, the user is referred to graphics depicting known wood stork nesting colonies and their core foraging areas (CFA), footnotes, and other support documents. The graphics and supporting documents may be downloaded from the Corps' web page at <http://www.saj.usace.army.mil/permit> or at the JAFL web site at <http://www.fws.gov/northflorida/WoodStorks>. We intend to utilize the most recent information for both the graphics and supporting information; so should this information be updated, we will modify it accordingly. **Note: This information is provided as an aid to project review and analysis, and is not intended to substitute for a comprehensive biological assessment of potential project impacts. Such assessments are site-specific and usually generated by the project applicant or, in the case of civil works projects, by the Corps or project co-sponsor.**

**Explanatory footnotes provided in the key must be closely followed whenever encountered.**

**Scope of the key**

This key should only be used in the review of permit applications for effects determinations on wood storks within the JAFL GAR, and not for other listed species. Counties within the JAFL GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

The final effect determination will be based on project location and description, the potential effects to wood storks, and any measures (for example project components, special permit conditions) that avoid or minimize direct, indirect, and/or cumulative

impacts to wood storks and/or suitable wood stork foraging habitat. Projects that key to a “no effect” determination do not require additional consultation or coordination with the JAFL. Projects that key to “NLAA” also do not need further consultation; however, the JAFL staff will assist the Corps if requested, to answer questions regarding the appropriateness of mitigation options. Projects that key to a “may affect” determination equate to “likely to adversely affect” situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For all “may affect” determinations, Corps Project Managers should request the JAFL to initiate formal consultation on the Wood stork.

### **Summary of General Wood Stork Nesting and Foraging Habitat Information**

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). Successful breeding sites are those that have limited human disturbance and low exposure to land based predators. Nesting sites protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. These colonies have water depths between 0.9 and 1.5 meters (3 and 5 feet) during the breeding season.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. Such habitat generally results from a combination of average or above-average rainfall during the summer rainy season, and an absence of unusually rainy or cold weather during the winter-spring breeding season (Kahl 1964; Rodgers et al. 1987). This pattern produces widespread and prolonged flooding of summer marshes that tends to maximize production of freshwater fishes, followed by steady drying that concentrate fish during the season when storks nest (Kahl 1964). Successful nesting colonies are those that have a large number of foraging sites. To maintain a wide range of foraging opportunities, a variety of wetland habitats exhibiting short and long hydroperiods should be present. In terms of wood stork foraging, the Service (1999) describes a short hydroperiod as one where a wetland fluctuates between wet and dry in 1 to 5-month cycles, and a long hydroperiod where the wet period is greater than five consecutive months. Wood storks during the wet season generally feed in the shallow water of short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (though usually retaining some surface water throughout the dry season).

Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the wood stork include freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Good foraging conditions are characterized by water that is relatively calm, open, and having water depths between 5 and 15 inches (5 and 38 cm). Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydrologic

regimes ranging from dry to wet. The vegetative component provides nursery habitat for small fish, frogs, and other aquatic prey, and the shallow, open-water areas provide sites for concentration of the prey during daily or seasonal low water periods.

## WOOD STORK KEY

Although designed primarily for use by Corps Project Managers in the Regulatory and Planning Divisions, and State Regulatory agencies or their designees, project permit applicants and co-sponsors of civil works projects may find this key and its supporting documents useful in identifying potential project impacts to wood storks, and planning how best to avoid, minimize, or compensate for any identified adverse effects.

A. Project within 2,500 feet of an active colony site<sup>1</sup>.....*May affect*

Project more than 2,500 feet from a colony site.....go to B

B. Project does not affect suitable foraging habitat<sup>2</sup> (SFH).....*no effect*

Project impacts SFH<sup>2</sup>.....go to C

C. Project impacts to SFH are less than or equal to 0.5 acre<sup>3</sup>.....*NLAA*<sup>4</sup>

Project impacts to SFH are greater than or equal to 0.5 acre.....go to D

D. Project impacts to SFH not within a Core Foraging Area<sup>5</sup> (see attached map) of a colony site, and no wood storks have been documented foraging on site.....*NLAA*<sup>4</sup>

Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFA .....go to E

E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see *Wood Stork Foraging Habitat Assessment Procedure*<sup>6</sup> for guidance), is not contrary to the Service's *Habitat Management Guidelines For The Wood Stork In The Southeast Region* and in accordance with the CWA section 404(b)(1) guidelines.....*NLAA*<sup>4</sup>

Project does not satisfy these elements.....*May affect*

<sup>1</sup> An active nesting site is defined as a site currently supporting breeding pairs of wood storks, or has supported breeding wood storks at least once during the preceding 10-year period.

<sup>2</sup> Suitable foraging habitat (SFH) is described as any area containing patches of relatively open (< 25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm). SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to, freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. See above *Summary of General Wood Stork Nesting and Foraging Habitat Information*.

<sup>3</sup> On an individual basis, projects that impact less than 0.5 acre of SFH generally will not have a measurable effect on wood storks, although we request the Corps to require mitigation for these losses when appropriate. Wood Storks are a wide ranging species, and individually, habitat change from impacts to less than 0.5 acre of SFH is not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

<sup>4</sup> Upon Corps receipt of a general concurrence issued by the JAFL through the Programmatic Concurrence on this key, "NLAA" determinations for projects made pursuant to this key require no further consultation with the JAFL.

<sup>5</sup> The U.S. Fish and Wildlife Service (Service) has identified core foraging area (CFA) around all known wood stork nesting colonies that is important for reproductive success. In Central Florida, CFAs include suitable foraging habitat (SFH) within a 15-mile radius of the nest colony; CFAs in North Florida include SFH within a 13-mile radius of a colony. The referenced map provides locations of known colonies and their CFAs throughout Florida documented as active within the last 10 years. The Service believes loss of suitable foraging wetlands within these CFAs may reduce foraging opportunities for the wood stork.

<sup>6</sup>This draft document, *Wood Stork Foraging Habitat Assessment Procedure*, by Passarella and Associates, Incorporated, may serve as further guidance in ascertaining wetland foraging value to wood storks and compensating for impacts to wood stork foraging habitat.

## **Monitoring and Reporting Effects**

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued that were determined "may affect, not likely to adversely affect." It is requested that information on date, Corps identification number, project acreage, project wetland acreage, and latitude and longitude in decimal degrees be sent to the Service quarterly.

## **Literature Cited**

Kahl, M.P., Jr. 1964. Food ecology of the wood stork (*Mycteria americana*) in Florida. *Ecological Monographs* 34:97-117.

Ogden, J.C. 1991. Nesting by wood storks in natural, altered, and artificial wetlands in central and northern Florida. *Colonial Waterbirds* 14:39-45.

Rodgers, J.A. Jr., A.S. Wenner, and S.T. Schwikert. 1987. Population dynamics of wood storks in northern and central Florida, USA. *Colonial Waterbirds* 10:151-156.

Rodgers, J.A., Jr., S.T. Schwikert, and A. Shapiro-Wenner. 1996. Nesting habitat of wood storks in north and central Florida, USA. *Colonial Waterbirds* 19:1-21.

U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Fish and Wildlife Service; Atlanta, Georgia. Available from:  
<http://verobeach.fws.gov/Programs/Recovery/vbms5.html>.

## **Appendix D**

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### Phase I Environmental Site Assessment\*

\*This Appendix is maintained in the project files located at Pensacola International Airport:2430 Airport Blvd, Pensacola, FL 32504, (850) 436-5000, and can be made available upon request.

**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
59.1-ACRE PROJECT TITAN LEASE TRACT  
PENSACOLA INTERNATIONAL AIRPORT  
PENSACOLA, FLORIDA 32504**

**PREPARED FOR:**

**Atkins North America, Inc.  
On Behalf Of  
Pensacola International Airport  
2430 Airport Boulevard, Suite 225  
Pensacola, Florida 32504**

**PREPARED BY:**



200 E. Government Street, Suite 100  
Pensacola, Florida 32502

August 31, 2020

## I.0 SUMMARY

Cameron-Cole, LLC (Cameron-Cole) has completed a Phase I Environmental Site Assessment (ESA) for an approximately 59.1-acre tract of land located at the Pensacola International Airport, Pensacola, Escambia County, Florida, hereinafter referred to as the “property” or “subject property”. The assessment was performed in accordance with the scope of services specified in Cameron-Cole’s Proposal Number 482-2980R3 dated April 24, 2020 and authorized by Mr. Thomas Roda with Atkins North America, Inc. on June 22, 2020. The scope of services generally conforms to the scope and limitations of the American Society for Testing and Materials International (ASTM International) Standard Practice for Environmental Site Assessments, Designation: E1527-13. The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the ASTM International Standard E1527-13, recognized environmental conditions (RECs) in connection with the property.

According to records maintained by the Escambia County Property Appraiser, the subject property is comprised of 123 discrete parcels of land and associated roadways, in addition to a portion of one additional parcel. The property is generally located south of Langley Avenue, east of Tippin Avenue, and north of the current airport rental car facilities within the northwest portion of Pensacola International Airport (PNS). The subject property is currently owned by the City of Pensacola and is located entirely outside the secure, perimeter fence of the PNS Airport Operations Area (AOA). With the exception of two commercial parcels currently developed with mini-warehouse storage facilities, the remainder of the property is currently undeveloped, wooded land that is transected at various points with asphalt paved street rights-of-way associated with a former residential development that comprises the majority of the subject property. Land use in the vicinity of the subject property is predominately commercial with some residential development west of Tippin Avenue.

The objective of this Phase I ESA is to identify the presence or likely presence of hazardous substances or petroleum products on the subject property under conditions that indicate an existing release, a past release, or a material threat of a future release of any hazardous substances or petroleum products in, on or, at a property. The findings of this report are summarized below and may include known or suspect RECs, controlled RECs (CRECs), historical RECs (HRECs), or *de minimis* conditions identified during the performance of this Phase I ESA.

- Records reviewed indicate several of the parcels that comprise the subject property were previously developed for commercial purposes and were identified in various regulatory databases including the Resource Conservation and Recovery Act-NonGenerator/No Longer Registered (RCRA-NonGen/NLR), Enforcement and Compliance History Online (ECHO), Facility Index System (FINDS), Underground Storage Tank (UST), Aboveground Storage Tank (AST), and United States Brownfields (US BROWNFIELDS) databases.

- Evidence of former in ground hydraulic lift, floor drain, and dispenser island were observed on the parcel located at 5800 Tippin Avenue. Based on records reviewed, this parcel was previously occupied by a Budget Rent-A-Car facility.
- Records reviewed indicate an adjoining property to the south and east (Airport Rental Car Facility, 5796 Tippin Avenue) was formerly used for solid waste disposal between approximately 1942 and 1956. The property was identified in the regulatory database search report as a closed Waste Cleanup Site (COM\_232894) with the Florida Department of Environmental Protection (FDEP).
- Records reviewed indicate the FDEP's Site Investigation (SIS) conducted an investigation to evaluate potential sources of per- and polyfluoroalkyl substances (PFAS) impacting portions of the Sand and Gravel aquifer on, and adjacent to, PNS. A January 2020 SIS Report (SIS Site Number 772-1; ERIC\_6496) documents the presence of PFAS in the soil and groundwater at the City of Pensacola's Fire Station No 6, which is located approximately 0.26 miles north (inferred upgradient) of the subject property at 6550 North 9<sup>th</sup> Avenue.
- According to the regulatory database search report furnished by Environmental Data Resources, Inc. (EDR), there are two Resource Conservation Recovery Act-Very Small Quantity Generator (RCRA-VSQG) sites located within the approximate minimum search distance (AMSD) of the subject property.
- According to the EDR Report, there is one State Hazardous Waste Site (SHWS) located within the AMSD of the subject property.
- According to the EDR Report, there is one Solid Waste Facilities/Landfill (SWF/LF) site located within the AMSD of the subject property.
- The records reviewed indicate there are 24 Leaking Underground Storage Tank (LUST) sites located within AMSD of the subject property.
- According to the EDR Report, 11 UST sites are located within the AMSD of the subject property, including the subject property.
- According to the EDR Report, seven AST sites are located within the AMSD of the subject property, including the subject property.
- The records reviewed indicate there are 10 RCRA-NonGen/NLR sites located within the AMSD of the subject property, including three listings for the subject property.

- According to the EDR Report, two DRYCLEANERS sites are located within the AMSD of the subject property.
- The records reviewed indicate four EDR Historical Cleaner (EDR HIST CLEANER) sites are located within the AMSD of the subject property.

With reference to these findings, the following Opinions are provided in connection with this assessment.

- Records reviewed indicate several of the parcels that comprise the subject property were previously developed for commercial uses and were identified in various regulatory databases including the RCRA-NonGen/NLR, ECHO, FINDS, UST, AST, and US BROWNFIELDS databases. Additional details regarding the specific parcels and associated regulatory database listings are provided as follows:
  - Budget Rent-A-Car, 5800 Tippin Avenue, was identified in the UST and AST databases. Records indicate the facility formerly maintained a 1,000-gallon unleaded gasoline UST from approximately 1980 until 1995. In addition, a 2,000-gallon gasoline AST was installed on the property in 2000 and was removed in 2005. FDEP records indicate both of the petroleum storage tanks were properly closed in accordance with FDEP requirements with no evidence of releases or other indications of contamination identified. Based on this information, in the opinion of Cameron-Cole, the former presence of petroleum storage tanks on the 5800 Tippin Avenue parcel does not constitute a REC in connection with the subject property as defined by the applicable standard.
  - Engineered Cooling Services, formerly known as Licon, Inc., 2442 Executive Plaza, was identified in the RCRA-NonGen/NLR, FINDS, and ECHO databases. Records indicate the facility formerly generated or handled ignitable and corrosive wastes in addition to various non-halogenated solvents from at least 1990 to about 2006. According to the regulatory database search report, no violations were identified in a connection with the waste management and handling practices at the facility. Based on this information, in the opinion of Cameron-Cole, the former generation of hazardous waste by a previous occupant of the 2442 Executive Plaza Drive parcel does not constitute a REC in connection with the subject property as defined by the applicable standard.
  - Panhandle Printing, 6102 Tippin Avenue, was identified in the RCRA-NonGen/NLR, FINDS, and ECHO databases. No violations were associated with the listing. Based on this information, in the opinion of Cameron-Cole, the site does not constitute a REC in connection with the subject property as defined by the applicable standard.

- Pensacola Aerotech, 5401 Sherrill Avenue, is listed in the RCRA-NonGen/NLR, FINDS, and ECHO databases. No violations were associated with the listing. Based on this information, in the opinion of Cameron-Cole, the site does not constitute a REC in connection with the subject property as defined by the applicable standard.
- Area B-Pensacola Airport, 5700 Tippin Avenue, is listed in the US BROWNFIELDS and FINDS databases. Records indicate a Phase II ESA was conducted in 2016 for a 4.2-acre area located on the southwest portion of the subject property. The Phase II ESA was conducted to evaluate potential impacts associated with a historical dump located at the adjoining airport rental car facility to the east, and the former Eastern Airlines LUST site, which adjoins the subject property to the south (inferred downgradient). The Phase II ESA Report was prepared using funding from a United States Environmental Protection Agency (U.S. EPA) Brownfield Assessment Grant. Analysis of soil and groundwater samples collected during the Phase II ESA did not indicate the subject property had been impacted by the adjacent properties of concern. Based on this information, in the opinion of Cameron-Cole, the identified US BROWNFIELDS site does not constitute a REC in connection with the subject property as defined by the applicable standard.
- Evidence of a former in ground hydraulic lift, floor drain, and former dispenser island were observed on the parcel located at 5800 Tippin Avenue. Based on the records reviewed, this parcel was previously occupied by a Budget Rent-A-Car facility. Petroleum storage tanks formerly located on the subject property were properly closed in accordance with applicable regulatory requirements. No visual evidence of contamination such as stained or discolored soil was observed in the vicinity of the in ground hydraulic lift and floor drain and the lift cylinder appeared to have been previously removed. No documentation regarding the previous closure of the hydraulic lift or of any soil or groundwater testing to determine if releases of hydraulic fluid to the environment may have occurred in connection with the structure were identified as part of this Phase I assessment. Concurrent with the development of this Phase I ESA, Cameron-Cole conducted a Phase II ESA for the subject property. The Phase II ESA included collection and analysis of a soil sample from the vicinity of the former hydraulic lift and floor drain. In addition, organic vapor analyzer (OVA) field screening was performed on soil samples collected near the dispenser island and underground piping associated with fueling system formerly located on the subject property. The results of the soil analyses and OVA field screening did not reveal any evidence of historical releases associated these structures. Based on this information, in the opinion of Cameron-Cole, the former presence of the in ground hydraulic lift, floor drain, and dispenser island on the property does not constitute a REC in connection with the subject property as defined by the applicable standard.

- Records reviewed indicate an adjoining property to the south and east (Airport Rental Car Facility, 5796 Tippin Avenue) was formerly used for solid waste disposal between approximately 1942 and 1956. The property was identified as a closed Waste Cleanup Site (COM\_232894) with the FDEP. Assessment activities conducted at the site in 2008 identified the presence of arsenic in the sites soils and dieldrin in the groundwater beneath the property at concentrations exceeding applicable Cleanup Target Levels (CTLs). Remedial actions were implemented in 2009 and a Site Rehabilitation Completion Order with Conditions (SRCOC) was issued for the property on May 1, 2013. Restrictions placed on the property included limiting future land uses to commercial activities and prohibiting extraction or use of groundwater from the site. Based on the closed regulatory status and inferred crossgradient position from the subject property, in the opinion of Cameron-Cole, the Airport Rental Car waste cleanup site does not constitute a REC in connection with the subject property as defined by the applicable standard.
- Records reviewed indicate the FDEP's SIS conducted an investigation to evaluate potential sources of PFAS impacting portions of the Sand and Gravel aquifer on, and adjacent to, PNS. A January 2020 SIS Report (SIS Site Number 772-1; ERIC\_6496) documents the presence of PFAS in the soil and groundwater at the City of Pensacola's Fire Station No 6, which is located approximately 0.26 miles north (inferred upgradient) of the subject property. PFAS are a group of chemicals that have been used in industry and consumer products such as food packaging, stain repellent fabrics, non-stick coatings, and some aqueous film forming foams (AFFF) used to extinguish hydrocarbon fires. PFAS are known to be highly persistent and mobile when released into the environment. According to the SIS Report, the concentrations of PFAS in the groundwater at Fire Station No. 6 exceeded "provisional" CTLs for certain PFAS constituents developed for the FDEP by the University of Florida, Center for Environmental and Human Toxicology. However, enforceable CTLs for PFAS have not yet been formally promulgated in the state of Florida and they are not considered a hazardous substance or petroleum product as defined by the ASTM E1527-13 Standard Practice. Based on this information, in the opinion of Cameron-Cole, the potential presence of PFAS at the site due to releases or historical use of AFFF at PNS and/or Fire Station No. 6 are considered a Business Environmental Risk (BER) in connection with the subject property as defined by the applicable standard.
- According to the regulatory database search report furnished by EDR, there are two RCRA-VSQG sites located within the AMSD of the subject property. The records reviewed indicate there are no reported violations associated with one of the listings. The remaining site, Walgreens Store #5581, 6314 North 9<sup>th</sup> Avenue, is located approximately 0.058 miles north-northwest (inferred upgradient) of the subject property. The site has previously received compliance violations but subsequently achieved regulatory compliance. Based on this information, in the opinion of Cameron-Cole, the identified RCRA-VSQG sites do

not constitute RECs in connection with the subject property as defined by the applicable standard.

- According to the EDR Report, there is one SHWS located within the AMSD of the subject property. According to the records reviewed, the former Fashion Drycleaner, 6159 North 9<sup>th</sup> Avenue, is located approximately 0.175 miles west (inferred crossgradient) from the subject property. According to a 2018 Groundwater Monitoring Report for the site, groundwater flow at the site is to the southwest, away from the subject property. Based on this information, in the opinion of Cameron-Cole, the identified SHWS does not constitute a REC in connection with the subject property as defined by the applicable standard.
- According to the EDR Report, there is one SWF/LF located within the AMSD of the subject property. Vannoy's Tires, 6113 North 9<sup>th</sup> Avenue, is located approximately 0.20 miles west (inferred crossgradient) of the subject property and is identified as a waste tire recycling facility. Based on this information, in the opinion of Cameron-Cole, the identified SWF/LF site does not constitute a REC in connection with the subject property as defined by the applicable standard.
- According to the EDR Report, there are 24 LUST sites located within AMSD of the subject property. The records reviewed indicate that 20 of these facilities have received regulatory closure from the FDEP or did not require cleanup for the reported releases. Three of the remaining sites are associated with the ongoing cleanup activities at the airport fuel farm, which adjoins the subject property to the south, and are documented to be downgradient of the subject property. The remaining LUST site, G-Bar Service Mart # 301, is located approximately 0.34 miles southwest (inferred crossgradient) of the subject property. Based on this information, in the opinion of Cameron-Cole, the identified LUST sites do not constitute RECs in connection with the subject property as defined by the applicable standard.
- According to the EDR Report, 11 UST sites are located within the AMSD of the subject property, including the subject property. The records reviewed indicate that all of the facilities, including the listing for the subject property, have had USTs removed or permanently closed. Based on this information, in the opinion of Cameron-Cole, the identified UST sites do not constitute RECs in connection with the subject property as defined by the applicable standard.
- According to the EDR Report, seven AST sites are located within the AMSD of the subject property, including the subject property. The records reviewed indicate five of the seven facilities have had the ASTs removed or permanently closed, including the AST formerly

located on one of the parcels that comprise the subject property. One of the remaining two sites, Master Tune and Lube, Inc., 6222 North 9<sup>th</sup> Avenue, is located approximately 0.061 miles west (inferred crossgradient) of the subject property. No violations are associated with the listing. The remaining AST site is the airport fuel farm (Pensacola Aviation), located on an adjoining property to the south and which is documented to be located downgradient from the subject property. Based on this information, in the opinion of Cameron-Cole, the identified AST sites do not constitute RECs in connection with the subject property as defined by the applicable standard.

- The records reviewed indicate there are 10 RCRA-NonGen/NLR sites located within the AMSD of the subject property, including three listings on the subject property which are discussed above. The records reviewed indicate that six of remaining seven facilities have no violations associated with the listings. The remaining facility is located approximately 0.239 miles north at an inferred upgradient position from the subject property and is discussed under the DRYCLEANERS database listing below. Based on the absence of reported violations, distances, and/or inferred downgradient positions, in the opinion of Cameron-Cole, the remaining RCRA-NonGen/NLR sites do not constitute RECs in connection with the subject property as defined by the applicable standard.
- According to the EDR Report, two DRYCLEANERS sites are located within the AMSD of the subject property. The Fashion Cleaners listing is described above under the SHWS listing. The remaining site is the Vick's/Vogue Cleaners #1 Drycleaning Solvent Cleanup Program (DSCP) site discussed as follows:
  - Vick's/Vogue Cleaners #1, 6425 North 9<sup>th</sup> Avenue, is located approximately 0.239 miles north of the subject property. Records indicate a dry cleaning facility operated at the site dating back to at least 1973. The facility registered with the FDEP as a non-handler of hazardous waste indicating the business ceased using dry cleaning solvents on-site in October 1999. The facility has documented soil and groundwater contamination associated with a release of drycleaning solvents tetrachloroethene (PCE) or trichloroethene (TCE) that was reported in January 1993. Interim soil source removal activities were completed in March 1993 and included removal and off-site disposal of 14 yards of impacted soil. A 1993 Contamination Assessment Report documented off-site impacts to the east and southeast of the subject property. Groundwater flow direction was also documented to be to the south and southeast, toward the subject property. The facility applied for, and was determined eligible for, the state of Florida's DCSP and is currently awaiting funding for assessment and cleanup under the program (FDEP Facility ID No. 179502228). Based on the distance, documented presence of groundwater impacts, and direction of groundwater flow, in the opinion of

Cameron-Cole, the Vick's/Vogue Cleaner's #1 DRYCLEANERS site constitutes a REC in connection with the subject property as defined by the applicable standard.

- The records reviewed indicate four EDR HIST CLEANER sites are located within the AMSD of the subject property. Three of the facilities are located west of the subject property at inferred crossgradient positions. The remaining site is the former Vick's/Vogue Cleaners #1 site discussed above. In addition, based upon a review of the City Directory Image Report provided by EDR, Tippin Full Service Laundry and Cleaner, 6008 Tippin Avenue, was formerly located on an adjoining parcel to the west of the subject property. According to the EDR City Directory Image Report, the facility operated at the property from 2005 to 2010. This facility was not identified in any other regulatory databases queried as part of this assessment, including the RCRA generators list or other lists for sites with reported or documented contamination. In addition, 2004 documentation from the owner identified in other FDEP records indicates the facility did not use dry cleaning solvents on or before October 1998. Based on this information, in the opinion of Cameron-Cole, the Tippin Full Service Laundry and Cleaners site does not constitute a REC in connection with the subject property. Based on the distances and inferred crossgradient or downgradient positions, in the opinion of Cameron-Cole, the remaining EDR HIST CLEANER sites also do not constitute RECs in connection with the subject property.

In summary, Cameron-Cole has performed a Phase I Environmental Site Assessment, in general conformance with the scope and limitations of ASTM International Standard E1527-13, for the 59.1-acre tract of land located to the west of Pensacola International Airport in Pensacola, Escambia County, Florida. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of RECs in connection with the subject property except for the following:

- Vick's/Vogue Cleaners #1, 6425 North 9<sup>th</sup> Avenue, is located approximately 0.239 miles north of the subject property. Records indicate a dry cleaning facility operated at the site dating back to at least 1973. The facility registered with the FDEP as a non-handler of hazardous waste indicating the business ceased using dry cleaning solvents on-site in October 1999. The facility has documented soil and groundwater contamination associated with a release of drycleaning solvent (PCE/TCE) that was reported in January 1993. Interim soil source removal activities were completed in March 1993 and included removal and off-site disposal of 14 yards of impacted soil. A 1993 Contamination Assessment Report documented off-site impacts to the east and southeast of the subject property. Groundwater flow direction was also documented to be to the south and southeast and toward the subject property. The facility applied for, and was determined eligible for, the state of Florida's DCSP and is currently awaiting funding for assessment and cleanup under the program (FDEP Facility ID No. 179502228). Based on the distance, documented presence of off-site groundwater impacts, and direction of groundwater flow, in the opinion of Cameron-Cole, the

Vick's/Vogue Cleaner's #1 DRYCLEANERS site constitutes a REC in connection with the subject property as defined by the applicable standard.

This summary does not contain all the information that is found in the full report. The report should be read in its entirety to obtain a more complete understanding of the information provided and to aid in any decisions made or actions taken based on this information.

## **Appendix E**

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### Phase II Environmental Site Assessment\*

\*This Appendix is maintained in the project files located at Pensacola International Airport:2430 Airport Blvd, Pensacola, FL 32504, (850) 436-5000, and can be made available upon request.

**Phase II Environmental Site Assessment Report  
Project Titan  
59.1-Acre Tract of Land  
Pensacola International Airport  
Pensacola, Florida**

Prepared for:

**Atkins North America, Inc.  
On Behalf Of  
Pensacola International Airport  
2430 Airport Boulevard, Suite 225  
Pensacola, Florida 32504**

Date: 10.05.20



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**Phase II Environmental Site Assessment Report  
Project Titan  
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**Prepared for:**

**Atkins North America, Inc.  
On Behalf Of  
Pensacola International Airport  
2430 Airport Boulevard, Suite 225  
Pensacola, Florida 32504**

**October 5, 2020**

**Benjamin W. Fortson, P.G.**

\_\_\_\_\_  
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## **I.0 INTRODUCTION**

### **I.1 Purpose**

Cameron-Cole, LLC (Cameron-Cole) has completed a Phase II Environmental Site Assessment (ESA) for an approximately 59.1-acre tract of land located at the Pensacola International Airport (PNS), 2430 Airport Boulevard, Pensacola, Escambia County, Florida (hereafter the site or subject property). The site is located within the northwest quadrant of the PNS property, north and west of the airport's primary runways. Cameron-Cole also prepared a Phase I ESA concurrent with the development of this Phase II investigation. The purpose of this Phase II ESA was to establish environmental conditions on the property, including current groundwater quality, prior to redevelopment and leasing of the tract.

This assessment was performed in accordance with Cameron-Cole's scope of services dated April 24, 2020 and authorized by Mr. Thomas Roda with Atkins North America, Inc. All field assessment activities completed by Cameron-Cole as part of this investigation, including monitoring well installation, soil boring advancement, and soil and groundwater sample collection and handling, were conducted in accordance with the Florida Department of Environmental Protection's (FDEP's) Standard Operating Procedures (DEP-SOP-001/01). A Site Location Map showing the approximate location of the subject property in relation to the surrounding area is provided as Figure 1.

### **I.2 Site Description and Location**

According to records maintained by the Escambia County Property Appraiser, the subject property is comprised of 123 discrete parcels of land and associated roadways, and a portion of one additional parcel. The property is generally located south of Langley Avenue, east of Tippin Avenue, and north of the current airport rental car facilities within the northwest portion of PNS. The subject property is currently owned by the City of Pensacola and is located entirely outside the secure perimeter fence of the PNS Airport Operations Area (AOA). With the exception of two commercial parcels currently developed with mini-warehouse storage facilities, a majority of the subject property is currently wooded acreage that was previously developed with single-family residences that have been razed. The property is transected at various points with asphalt paved street rights-of-way associated with the former residential development. Land use in the vicinity of the subject property is predominately commercial with some residential development west of Tippin Avenue. Figure 2 is a Site Vicinity Map detailing the approximate property and parcel boundaries as well as nearby properties of interest that were identified in the regulatory database search conducted as part of the Phase I ESA.

## 2.0 LIMITED SUBSURFACE INVESTIGATION

### 2.1 Soil Assessment

Cameron-Cole personnel were on-site from July 13 through July 21, 2020 to conduct the approved limited assessment activities which included installation and sampling of 10 shallow groundwater monitoring wells in addition to field screening of soil samples collected during the installation of the wells. Soil samples were collected at each well location using stainless steel hand auger equipment at 1 foot (ft) intervals to a depth of 5 ft below land surface (bls) and at 5 ft intervals thereafter to a depth of 25 ft bls using a split spoon sampler. Additional soil samples were also collected and field screened at select boring/well locations to verify depth to groundwater at the time of well installation. All soil samples collected were field screened for the presence of volatile organic compounds (VOCs) using an organic vapor analyzer equipped with a photoionization detector (OVA).

Based on the initial site reconnaissance and regulatory records review conducted as part of a Phase I ESA prepared concurrent with this investigation, nine additional shallow soil borings were advanced on two of the parcels to evaluate soil quality in the vicinity of a former dump, in ground hydraulic lift, floor drain, and dispenser island. The locations of the soil borings advanced in the vicinity of the former in ground hydraulic lift, floor drain, and fuel dispenser island are shown on Figure 3. The remaining well/soil boring locations are shown on Figure 4.

Cameron-Cole personnel utilized the OVA jar headspace method for field soil screening. From each soil sample collected, a representative sample aliquot was sealed in a 16-ounce, wide-mouth jar with a foil cap. The sample was allowed to warm to ambient air temperature and the readings were taken approximately five minutes later. No positive OVA headspace readings were recorded at any of the soil sample locations with screening results being <1 part per million (ppm). A summary of the OVA soil screening results is provided in Table I. Soil boring logs, including lithologic descriptions for each sample location, are provided in Appendix A.

In addition to the OVA field screening, one soil sample was collected and submitted for laboratory analysis. To evaluate soil quality at the location of a former in ground hydraulic lift identified during the Phase I ESA site inspection, one soil sample was collected at a depth of approximately 7 ft bls next to this structure (soil boring SB-15). This soil sample was submitted to a state-certified laboratory for analysis of VOCs by EPA Method 8260, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270, total recoverable petroleum hydrocarbons (TRPH) by the FL-PRO Method, and polychlorinated biphenyls (PCBs) by EPA Method 8082. Due to the absence of any positive OVA field screening results, no other soil samples were submitted for laboratory analysis.

## **2.2 Monitoring Well Installation**

From July 13 through 21, 2020, Cameron-Cole personnel supervised the installation of 10 groundwater monitoring wells at the site, MW-1 through MW-10, in the locations shown on the attached Figure 4. The monitoring wells were installed by a Florida-licensed water well contractor using hollow stem augers. The wells were constructed of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) threaded to 15 ft of 0.010-inch machine-slotted Schedule 40 PVC well screen. The depth to groundwater across the site ranged from approximately 27 to 73 ft bls at the time the wells were installed. All monitoring wells were constructed with the screened intervals intersecting the water table. However, based on the significant variation in water table elevation across the study site, the total well depths ranged from 41 ft to 75 ft bls. A 20/30 grade silica sand pack was placed within the annular space from the well terminus to approximately 2 ft above the screened interval, which was then sealed with approximately 2 ft of 30/70 fine sand. Neat cement grout was then placed atop the fine sand seal to the land surface using a tremie pipe and the wells were secured with watertight well caps. The wells were developed by over-pumping with a submersible pump to remove fine-grained materials and improve hydraulic flow within the casing. The monitoring well construction details are summarized in Table 2. Copies of the well permits, well completion reports, and construction and development logs are provided in Appendix B.

## **2.3 Groundwater Sampling and Analysis**

On August 5 and 6, 2020, Cameron-Cole personnel returned to the site to collect groundwater samples from the newly installed monitoring wells. The groundwater samples were collected and preserved in accordance with the FDEP's Standard Operation Procedures (DEP-SOP-001/01), labeled, and placed in a cooler on ice for shipment to the laboratory. All groundwater samples collected were submitted to a state certified laboratory for analysis of VOCs by EPA Method 8260, PAHs by EPA Method 8270, TRPH by the FL-PRO Method, organochlorine pesticides by EPA Method 8081, PCBs by EPA Method 8082, 13 priority pollutant metals by EPA Methods 6010, 6020, and 7470, and per and polyfluoroalkyl substances (PFAS) using a Modified EPA Method 357. Copies of the laboratory analytical reports and associated chain-of-custody records are provided in Appendix C and copies of the groundwater sampling logs are included in Appendix D.

## 3.0 LABORATORY ANALYTICAL RESULTS

### 3.1 Soil Quality

Laboratory analysis of the single soil sample collected on July 20, 2020 at the location of the former in ground hydraulic lift was below detection limits (BDL) for all constituents analyzed. The soil analytical results are summarized in Tables 3 and 4. Soil analytical results for select VOCs are presented in Figure 5. A copy of the laboratory analytical report and associated chain-of-custody record is provided in Appendix C.

### 3.2 Groundwater Quality

Laboratory analysis of groundwater samples collected on August 5 and 6, 2020 identified the presence of two metals constituents, chromium and nickel, at concentrations above the default Cleanup Target Levels (CTLs) established in Chapter 62-777, Florida Administrative Code (F.A.C.) in monitoring well MW-9. Monitoring well MW-9 was one of two wells installed at the south end of the subject property in the vicinity of a former 1940s era dump.

The organochlorine pesticide dieldrin was also reported above the CTL in six of the ten monitoring wells installed (MW-3, MW-4, MW-5, MW-7, MW-8, and MW-10). Five of the six wells exhibiting dieldrin concentrations above the CTL were "I" qualified on the laboratory report, indicating the value reported was between the method detection limit (MDL) and practical quantitation limit (PQL). The highest dieldrin concentration of 0.048 micrograms/liter (ug/L) was reported in monitoring well MW-4, located along the west property boundary north of St Anne Drive. The CTL for this constituent is 0.002 ug/L.

The laboratory analysis of the groundwater samples also revealed the presence of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in all 10 wells installed at the site. Although the Florida Department of Environmental (FDEP) has not formally established CTLs for PFOA and PFOS, they are currently using the federal Health Advisory Level (HAL) of 0.07 (ug/L) as a non-promulgated, provisional, cleanup criterion in the state of Florida. None of the reported values exceed the provisional cleanup criteria for combined PFOA + PFOS.

In addition, a low concentration of tetrachloroethene (PCE), a common drycleaning solvent was reported in one of the ten monitoring wells. PCE was reported at a concentration of 0.45 ug/L in monitoring well MW-6. This well is located within the northeast portion of the subject property at an inferred downgradient position from a known Drycleaning Solvent Cleanup Program (DSCP) site located approximately 0.23 miles to the north-northwest (former Vicks Cleaners /Vogue Cleaner # 1).

The laboratory analytical results for all remaining groundwater samples collected were either BDL or below CTLs for the constituents analyzed. Summaries of the groundwater laboratory analytical results are provided in Tables 5 through 10. Groundwater analytical results are presented in Figures 6 through 9. Copies of the laboratory analytical reports and associated chain-of-custody records are provided in Appendix C and copies of the groundwater sampling logs are attached as Appendix D.

## 4.0 CONCLUSIONS

The assessment did not reveal any indications of soil impacts on the subject property. OVA field screening of soil samples collected at 10 monitoring well locations throughout the subject property were all less than 1 ppm. Additional soil borings advanced to investigate potential areas of environmental concern identified in the Phase I ESA, including a former 1940s era dump located to the south and east of the subject property, a former in ground hydraulic lift and associated floor drain, and a former fuel dispenser island located on one of the parcels that comprises the subject property, were also non-detect. The soil borings advanced in the vicinity of the former 1940s era dump, identified on an adjoining property to the south and east, did not reveal any evidence of historical dumping on the subject property such as trash or other debris. Laboratory confirmation analyses performed on a soil sample collected at the location of the former in ground hydraulic lift were below applicable CTLs for all constituents tested.

Analysis of groundwater samples collected from the subject property identified the presence of dieldrin and PFAS constituents throughout the study site. Some of the reported concentrations of dieldrin exceed the established CTL for this constituent. Concentrations of two metals (nickel and chromium) were reported in one well above the established CTL. This well is located at the extreme south end of the subject property at an inferred crossgradient position from an adjoining property that is the known location of a former 1940s era dump. Additionally, low concentrations of PCE, below the CTL, were reported in one well located within the northeast portion of the subject property. Although the reported concentration was below the CTL, all of the monitoring wells installed during this assessment were constructed as water table wells with the screened intervals intersecting the surface of the shallow groundwater beneath the site.

Determination of groundwater flow direction and gradient were not performed as part of the approved scope of services for this project. Depending on the site-specific direction of groundwater flow, potential off-site sources of some, if not all, of the identified groundwater impacts may be present.

## **Appendix F**

### Cultural Resources Technical Review

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**CULTURAL RESOURCES  
TECHNICAL REVIEW**

**PENSACOLA INTERNATIONAL AIRPORT  
MRO FACILITY – PHASE 2  
ENVIRONMENTAL ASSESSMENT**

**PENSACOLA, ESCAMBIA COUNTY, FLORIDA**

Prepared by:

**ATKINS**

3522 Thomasville Road, 5<sup>th</sup> Floor  
Tallahassee, FL 32309

**January 20, 2021**

**CULTURAL RESOURCES  
TECHNICAL REVIEW**

**PENSACOLA INTERNATIONAL AIRPORT  
MRO FACILITY – PHASE 2  
ENVIRONMENTAL ASSESSMENT**

**PENSACOLA, ESCAMBIA COUNTY, FLORIDA**

Frank J. Keel, Senior Archaeologist/Principal Investigator  
Atkins, Tallahassee  
January 20, 2021

**Project Location:** Sections 14 and 17, Township 1 South, Range 29 West (USGS Pensacola 7.5 min. quadrangle)

**Project Description:** The Pensacola International Airport (PNS) is a commercial service airport located in Pensacola owned and operated by the City of Pensacola. The proposed MRO Facility – Phase 2 generally includes: two approx. 200,000 SF maintenance repair and overhaul hangars; an approx. 100,000 SF support services center; an approx. 120,000 SF multi-story office headquarters building; vehicle parking and access roadways; aircraft parking aprons and access taxiways; and associated infrastructure. The development is anticipated to occur on the northwest quadrant of the airport as shown conceptually in **Figure 1**. Note that the layout as shown considers consolidating some of the above listed spaces and is subject to change based on the basis of design document but is anticipated to include essentially the same facilities.

**Introduction**

Atkins has conducted a cultural resources technical review for the approximately 74.60-acre direct Area of Potential Effects (APE) (**Figure 2**) for the proposed Project Titan Element 2 at the Pensacola International Airport. The majority of the project will occur within parcels acquired by the Airport between 1994-2018. The Airport subsequently demolished any structures/buildings on these parcels. This assessment was designed to comply with Section 106 of the *National Historic Preservation Act (NHPA) of 1966* (Public Law 89-665, 2004, as amended), Section 267.061, *Florida Statutes*, Chapter 1A-46, *Florida Administrative Code* and reporting standards outlined in the Cultural Resources Management Standards & Operational Manual, Module Three - Guidelines for Use by Historic Preservation Professionals - Section 2.0.

### **Previous Recorded Historic Properties**

Two APEs have been identified for this project. The direct APE consists of the footprint of the Project Titan EA study area. The indirect APE includes the direct APE plus the adjacent parcels. The indirect APE took into account the current 65 DNL noise contour (2104) and included a 200-foot buffer to account any increase in noise due to added aviation operations assumed by the project. The 65 DNL (and associated buffer) exist within the airport boundary with two exceptions. A small area exceeds the airport boundary into the direct APE, while another area is located at Roger Scott Athletic Complex (**Figure 2**). A review of information contained in the Florida Master Site File (FMSF) indicates that four historic buildings have been recorded within three-quarters of a mile of the project APEs (**Figure 3**). These buildings were recorded and evaluated during a 2012 Project Development & Environment (PD&E) study for SR 298 (ACI 2012). These resources are not on airport property and the State Historic Preservation Officer (SHPO) determined these resources not eligible for listing in the *National Register of Historic Places* (NRHP). The table below presents the relevant information for these resources. The airport property was included in three regional assessments (Bense 1987, 1988; McKenzie and Phillips 1997) but the extent of fieldwork conducted on airport property in 1987 and 1988 is unclear. A review of the Escambia County Property Appraiser’s database was conducted to identify historic buildings or structures adjacent to or within the indirect APE which are 50 years old or older. The property appraiser’s database identifies four buildings on Tippin Avenue built in 1961 (**Figure 3**). The property appraiser also indicates they have been altered since 1961. Probably built as single-family homes in 1961, the buildings are currently identified as one-story offices. The areas adjacent to the indirect APE is a of mixed use industrial and commercial area. These buildings are not 50 years or older.

<b>Site Number</b>	<b>Address</b>	<b>Year Built</b>	<b>SHPO Evaluation</b>
8ES3658	6521 N. 9 <sup>th</sup> Avenue	1955	Not NRHP Eligible
8ES3659	6218 N. 9 <sup>th</sup> Avenue	1958	Not NRHP Eligible
8ES3660	6211 N. 9 <sup>th</sup> Avenue	1954	Not NRHP Eligible
8ES3661	6209 N. 9 <sup>th</sup> Avenue	1960	Not NRHP Eligible

### **Assessment Results and Conclusions**

The City of Pensacola is implementing a long-term plan aimed at meeting the demand for aviation maintenance facilities at PNS. In an effort to meet this long-term plan and subsequent expansion, the City of Pensacola has proactively acquired land, dating back to the 1980’s. The land uses within the APEs are mainly comprised of cleared land, airport infrastructure, and upland hardwood forests. This includes the mixed use residential/commercial setting that previously occupied this area. Currently, a majority of the structures have been removed with roads maintained by the airport. The airport property has not been subjected to a formal cultural resources assessment, but its boundaries have been included in two regional/citywide archaeological surveys. The extent of fieldwork conducted on airport property is unclear from the reports. However,

in 1997, the University of West Florida completed an archaeological site probability model for Pensacola (McKenzie and Phillips 1997). In addition to physiographic variables, such as soil types and proximity to a water source, historic maps and modern landscapes and streetscapes were employed to further refine the probability areas (**Figure 4**). In general, the moderate to high areas are those areas along the bay and along the interior drainages. The site probability model developed by UWF indicates the proposed Project Titan Element 2 is within a low probability zone for the occurrence of archaeological sites. Coupled with the lack of a potable water source in the area, the APEs for this project have been significantly altered by airport construction and maintenance, road construction and maintenance and the construction of the residential area. Therefore, based on our evaluation, we are of the opinion that the proposed project will have no effect on historic resources listed or eligible for listing in the *National Register of Historic Places*.

### **Inadvertent/Unanticipated Discovery of Cultural Remains**

Occasionally, archaeological deposits, subsurface features or unmarked human remains are encountered during the course of development, *even though the project area may have previously received a thorough and professionally adequate cultural resources assessment*. Such events are rare, but they do occur. In the event that human remains are encountered during the course of development, the procedures outlined in Chapter 872, *Florida Statutes* must be followed.

In the event such discoveries are made during the development process, all activities in the immediate vicinity of the discovery will be suspended, and a professional archaeologist will be contacted to evaluate the importance of the discovery. The area will be examined by the archaeologist, who, in consultation with staff of the Florida SHPO will determine if the discovery is significant or potentially significant.

In the event the discovery is found to be not significant, the work may immediately resume. If, on the other hand, the discovery is found to be significant or potentially significant, then development activities in the immediate vicinity of the discovery will continue to be suspended until such time as a mitigation plan, acceptable to SHPO, is developed and implemented. Development activities may then resume within the discovery area, but only when conducted in accordance with the guidelines and conditions of the approved mitigation plan.

### **Figures**

Figure 1: Conceptual Development Plan

Figure 2: Direct and Indirect APE

Figure 3. Previously Recorded Historic Resources and Unrecorded Buildings Adjacent to the Study Area

Figure 4: Archaeological Site Probability Areas (from McKenzie and Phillips 1997:66)

**References Cited**

ACI

- 2012 Cultural Resource Assessment Survey, State Road (SR) 289 (Ninth Avenue) Project Development and Environment (PD&E) Study from Underwood Avenue to Creighton Road, Escambia County, Florida. Ms. on file, Florida Division of Historical Resources, Florida Master Site File, Tallahassee.

Bense, Judith A.

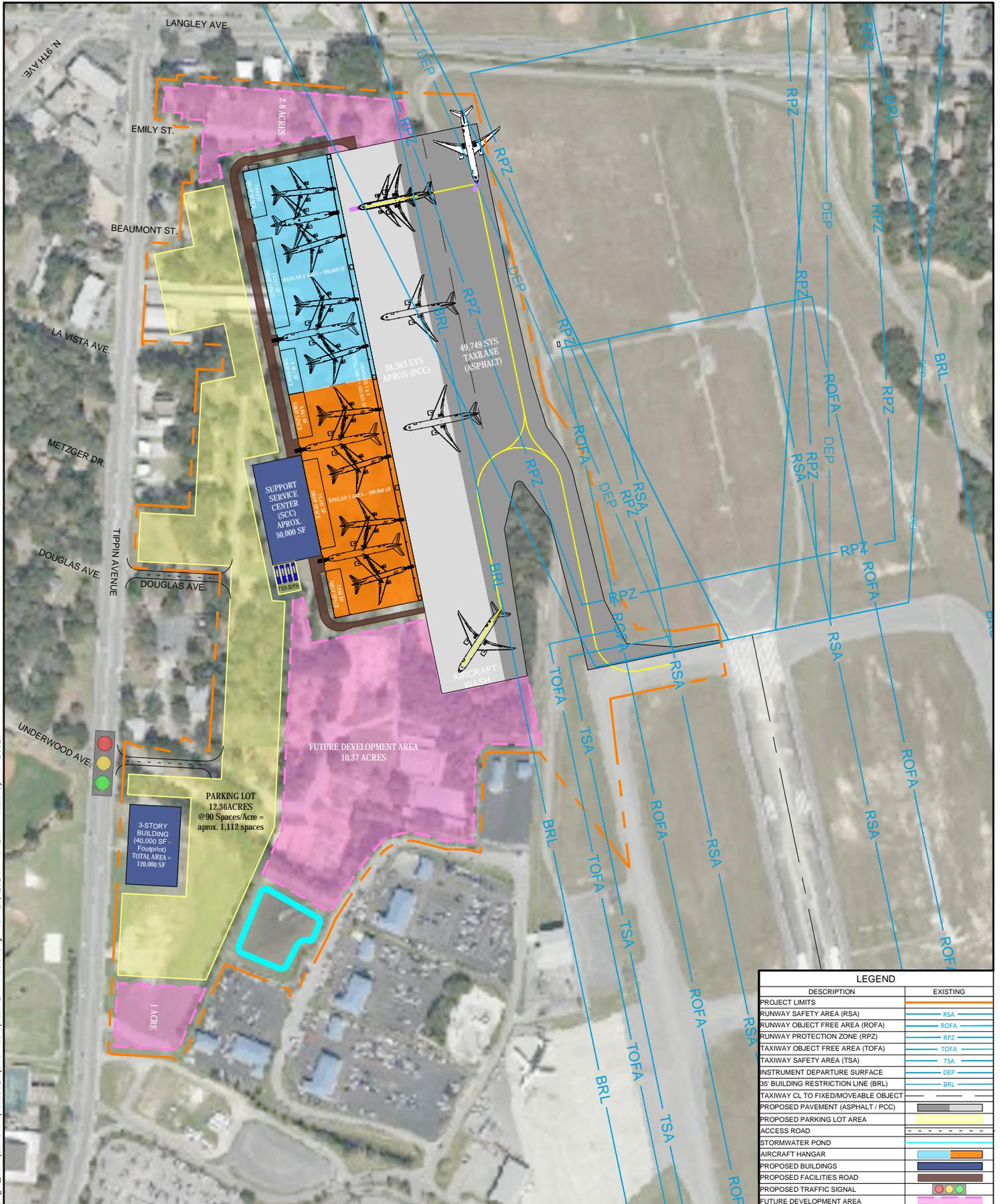
- 1987 Report of the Pensacola Archaeological Survey, 1986 Season. Ms. on file, Florida Division of Historical Resources, Florida Master Site File, Tallahassee.
- 1988 The Pensacola Archaeological Survey and Summary of Archaeological Information in Pensacola to 1988. Ms. on file, Florida Division of Historical Resources, Florida Master Site File, Tallahassee.

Environmental Services, Inc.

- 2000 A Cultural Resources Assessment Survey of the Pensacola Regional Airport Runway Extension Tract, Escambia County, Florida. Ms. on file, Florida Division of Historical Resources, Florida Master Site File, Tallahassee.

McKenzie, Lee and John C. Phillips

- 1997 Geographical Information Systems and Cultural Resource Management in Pensacola. Ms. on file, Florida Division of Historical Resources, Florida Master Site File, Tallahassee.



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FIGURE 1 - CONCEPTUAL DEVELOPMENT PLAN

Figure 2: Direct and Indirect APE

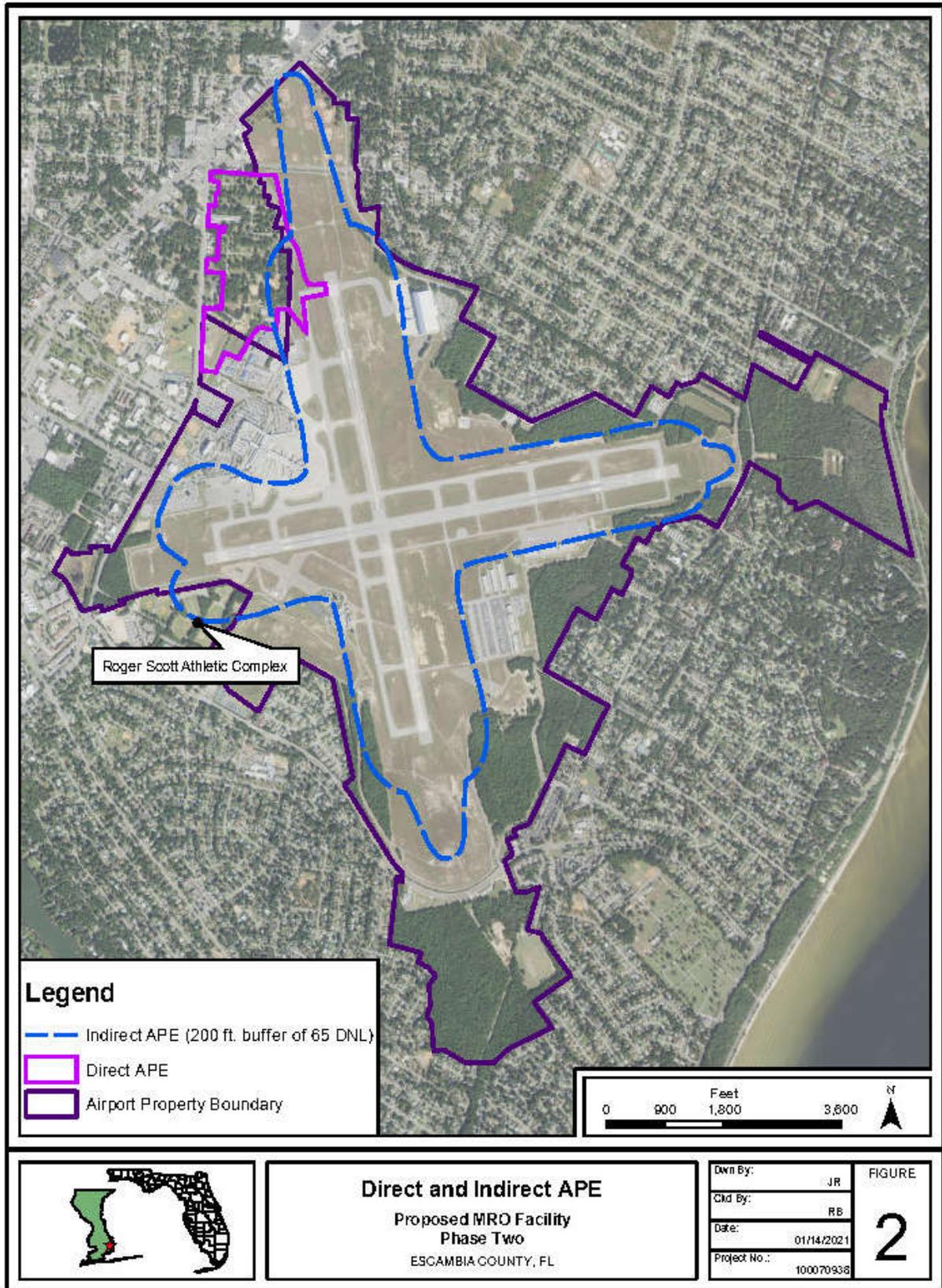


Figure 3: Previously Recorded Historic Resources and Unrecorded Buildings Adjacent the Study Area

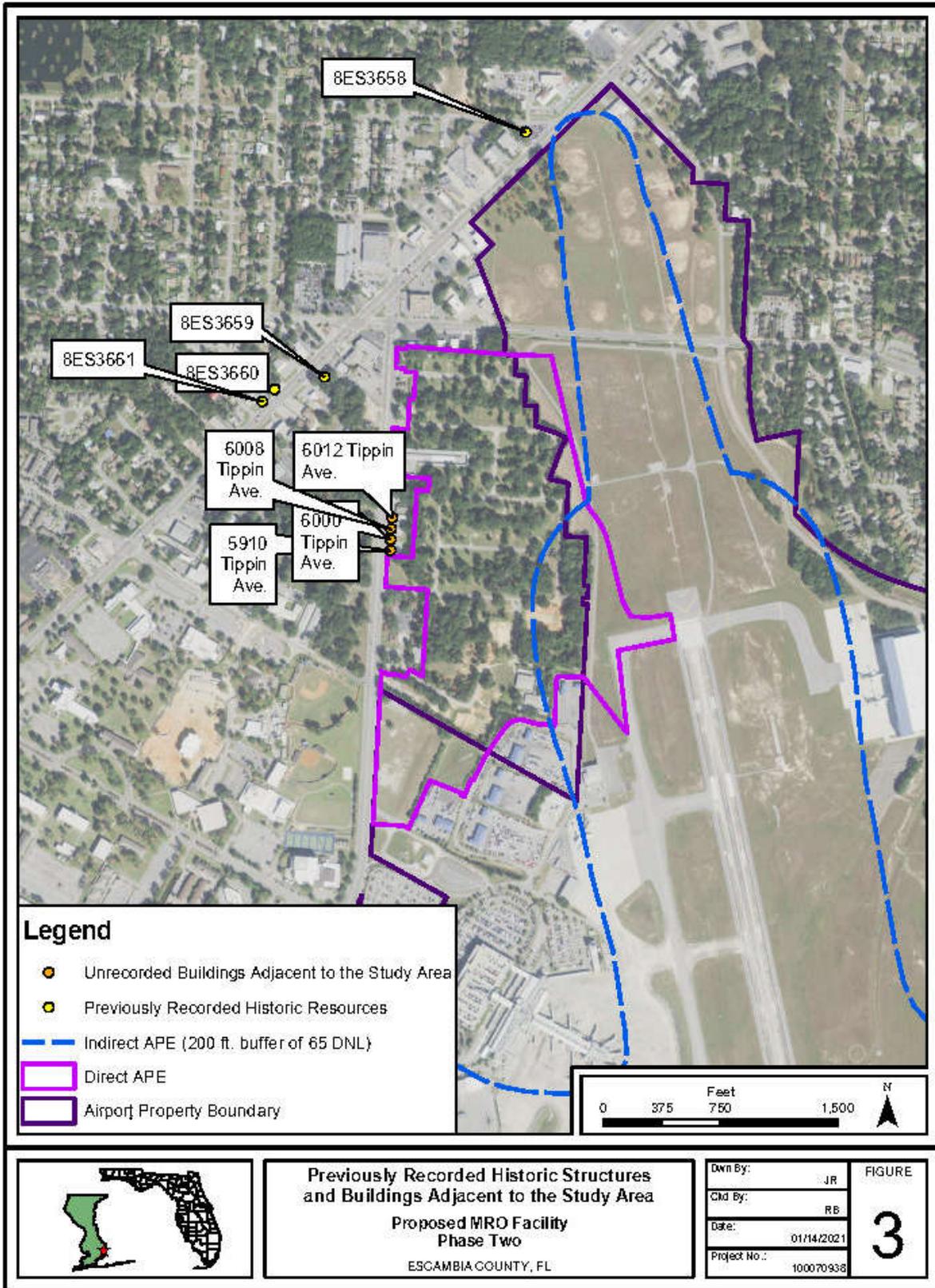
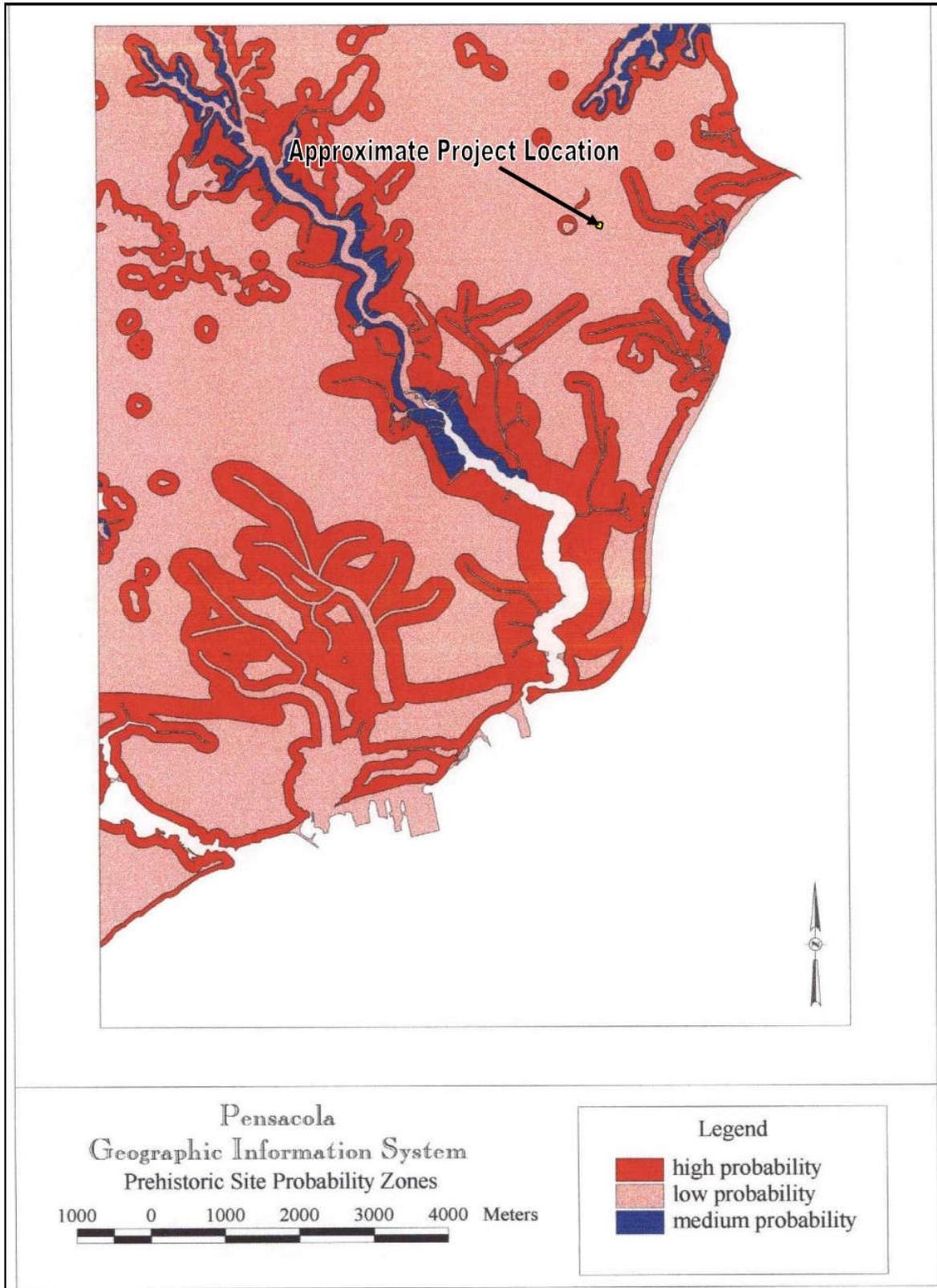
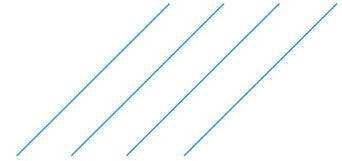


Figure 4: Archaeological Site Probability Areas  
(from McKenzie and Phillips 1997:66)





## Memo

To: Amy Reed, Federal Aviation Administration

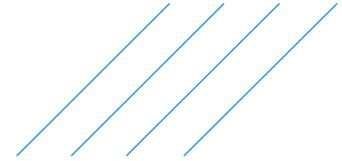
<b>From:</b> Frank Keel, Atkins Senior Archaeologist, Register of Professional Archaeologists	<b>Email:</b> Frank.Keel@atkinsglobal.com
<b>Date:</b> 04 October 2021	<b>Phone:</b> 850-580-7855
<b>Ref:</b>	<b>cc:</b> Rebecca Berzinis

**Subject:** Muscogee Nation of Oklahoma Cultural Resources Request – Draft Environmental Assessment Maintenance, Repair, and Overhaul Facility Phase Two—Pensacola International Airport (PNS)

Ms. Reed,

I am a senior archaeologist with Atkins, a member of the Register of Professional Archaeologists, meet the *Secretary of Interior's Professional Qualifications for Archaeology* as outlined in Appendix A, 36 CFR Part 61, and have over 30 years of experience in Florida archaeology. Much of my career has been spent in the north Florida area. It is my understanding that the Muscogee Nation in Oklahoma has requested additional information regarding the past cultural resource assessments at the Airport under Section 110 of the *National Historic Preservation Act (NHPA) of 1966, as amended*; and is interested in the potential that sacred sites, burial grounds, or other significant cultural resources may be located in the Proposed Development Project Site. To date there have been no formal assessments of the Pensacola International Airport or the Proposed Development Project Site identified in the attached figures. I have also completed a historic map search to determine if any cultural features may be visible and document how land use has changed over time. I have also examined original plat maps and surveyors notes as cultural features are sometimes noted.

There have been three assessments that included the airport ownership and Proposed Development Project Site. These assessments were not in response to Section 106 or Section 110 actions, but region-wide surveys of Pensacola and Escambia County completed in 1987, 1988 and 1997. As noted in the January 2021 technical review, the extent of testing, if any, on airport property is unclear. Of particular interest is the University of West Florida (UWF) Archaeological Institute's 1997 archaeological site probability analysis for the City of Pensacola. The analysis employed a variety of physiographic variables and determined the distribution of prehistoric archaeological sites were confined to narrow zones adjacent to wetlands, bluffs overlooking wetlands, and uplands adjacent to bayou mouths. In fact, the 1997 study determined most of the interior of Escambia County was marginally occupied during the prehistoric period. Accordingly, the Proposed Development Project Site is determined to be a zone of low site potential. There has been one formal Phase I cultural resource assessment in the vicinity of the Proposed Development Project Site. In 2012, a Phase I assessment for improvements to SR 289 (Ninth Avenue) west and north of the Proposed Development Project Site failed to encounter any archaeological sites. The report for the SR 289 improvement project also noted the low archaeological site probability of the project corridor.



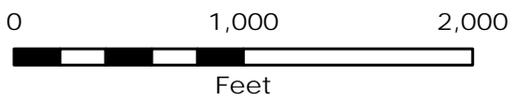
Several trails are noted on the 1852 plat map but there is no reference to other cultural features in the surveyor's notes. Aerials from 1940 indicate there is an airfield south of the Proposed Development Project Site. The Proposed Development Project Site at this time appears to be in agriculture and/or pasture. Several structures are clearly visible in the 1940 aerial, but by 1958, land use has changed. The beginnings of the road system for the residential development once present in the northern half of the Proposed Development Project Site is clearly visible. Reviewing additional aerial photos of the area showed that the development appears to be firmly established by the early 1970s. Development of this area would have included grading, road construction and maintenance, installation of underground utilities, and the excavation of house footers. All of which would significantly disturb the natural stratigraphy of the area.

As noted above, the 1997 UWF study concluded that the interior of the county was largely uninhabited during prehistoric times and development in area would have significantly disturbed the natural stratigraphy. Archaeological sites, if any, in the area would likely to be short term resource extraction sites and not extended habitation areas. Based on my years of experience, it is my professional opinion there is very low probability that intact, significant archaeological sites or deposits will be present in the Proposed Development Project Site.

FJK



## Project Location Map

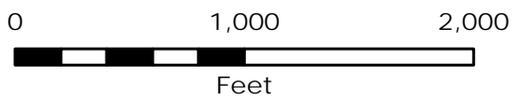


 Proposed Development Project Site



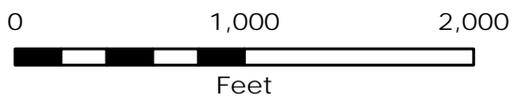
**1940 Georeferenced Aerial**

 **Proposed Development Project Site**





**1958 Georeferenced Aerial**



 **Proposed Development Project Site**