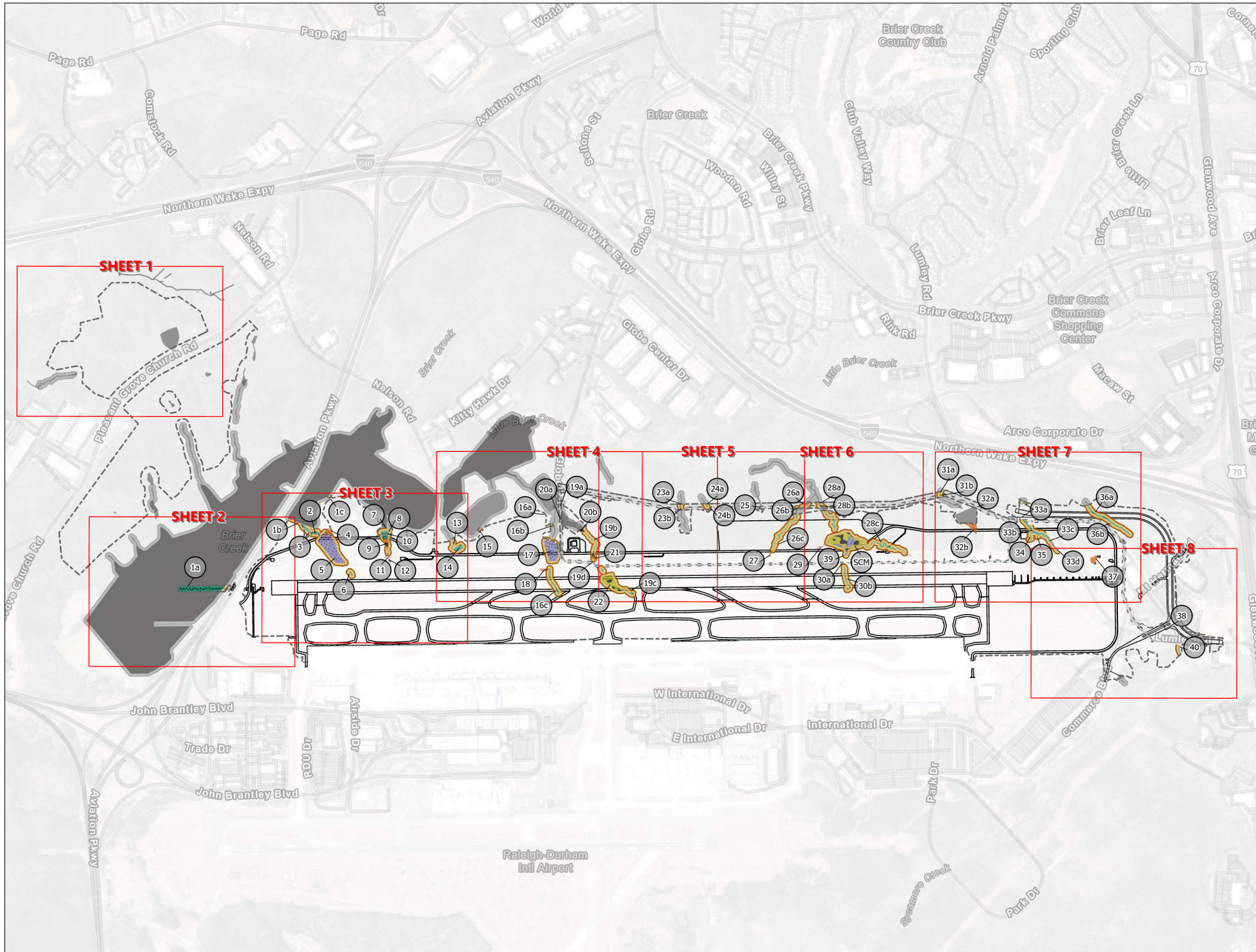


RDU 5L/23R Runway Relocation

Combined 401 & 404 Permit Application

Raleigh-Durham International Airport

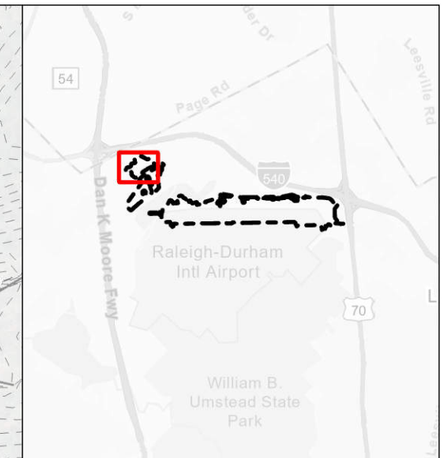
November 2023

Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

Overall Project Area

Credits:Esri Community Maps Contributors, City of Raleigh, Wake County, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NC CGIA, Maxar, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

Feature Impacts													
Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason	Permanent or Temporary (P/T)
-	No Impacts	-	-	-	-	-	-	-	-	-	-	-	-
						Total Non-JD Streams:	-	-	-	-	-		
						Total JD Streams:	-	-	-	-	-		
						Total EO 11990 Wetlands:	-	-	-	-	-		
						Total JD Wetlands:	-	-	-	-	-		
						Total Non-JD Open Water:	-	-	-	-	-		
						Total JD Open Water:	-	-	-	-	-		
						Total:	-	-	-	-	-		



Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

RDU 5L/23R Runway Relocation

Combined 401 & 404 Permit Application

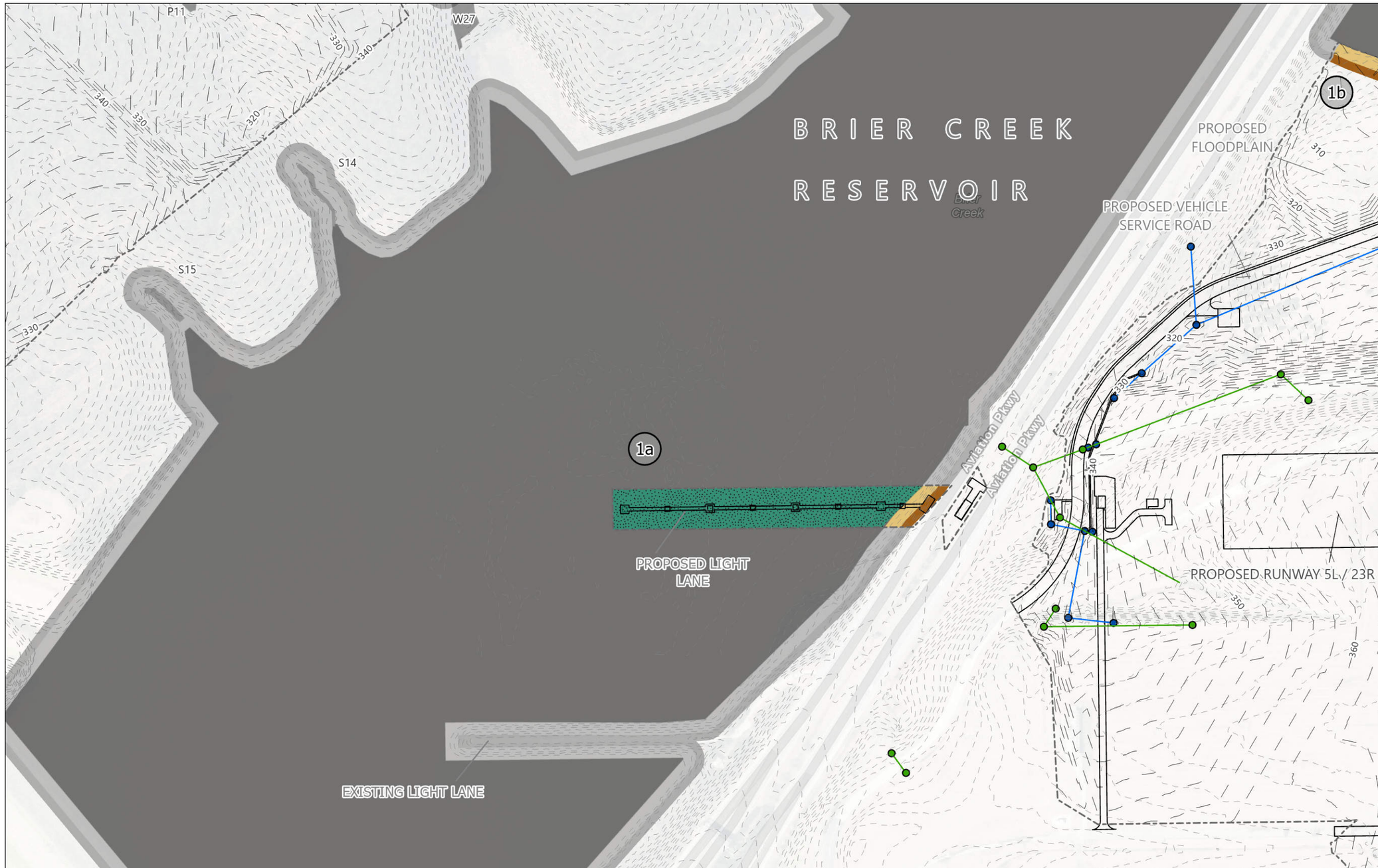
Raleigh-Durham International Airport

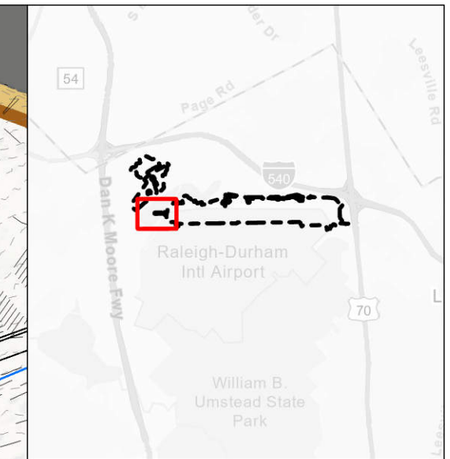
November 2023

Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

SHEET 1

Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA





Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
2	1a	OW	Brier Creek Reservoir	Y	Y	-	-	1.49	3,937.88	2,617.63	6,555.52	Light lane	T
2, 3	1b	OW	Brier Creek Reservoir	Y	Y	-	-	0.00	10,336.74	5,019.64	15,356.38	AF- SW, FPG	P
						Total Non-JD Streams:	-	-	-	-	-		
						Total JD Streams:	-	-	-	-	-		
						Total EO 11990 Wetlands:	-	-	-	-	-		
						Total JD Wetlands:	-	-	-	-	-		
						Total Non-JD Open Water:	-	-	-	-	-		
						Total JD Open Water:	-	1.49	14,274.62	7,637.28	21,911.90		
						Total:	-	1.49	14,274.62	7,637.28	21,911.90		

* AF: Airfield
SW: Stormwater
FPG: Floodplain Grading

RDU 5L/23R Runway Relocation

Combined 401 & 404 Permit Application

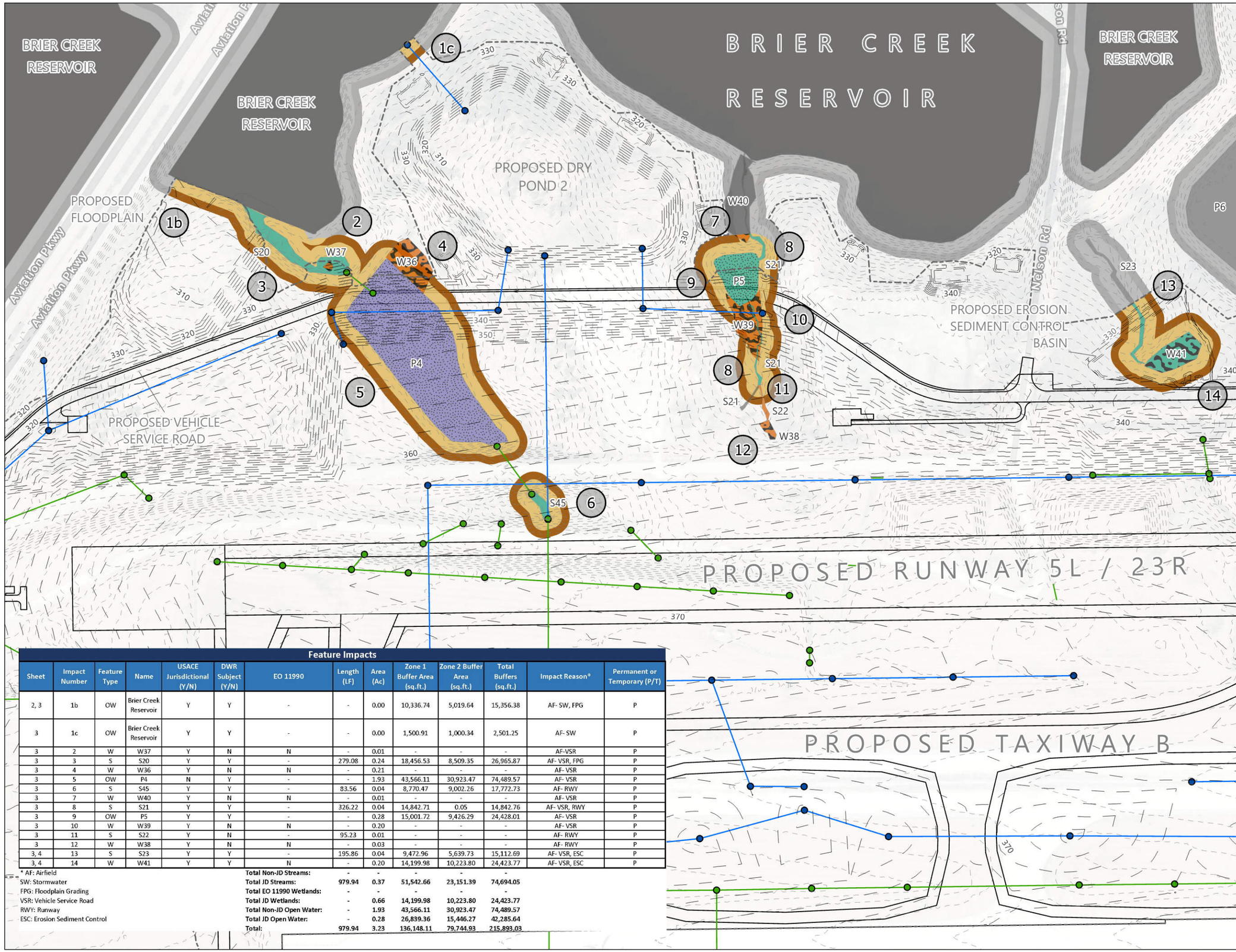
Raleigh-Durham International Airport

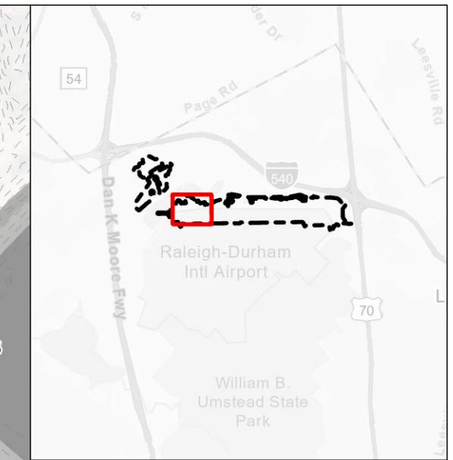
November 2023

Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

SHEET 2

Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA





Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
2, 3	1b	OW	Brier Creek Reservoir	Y	Y	-	-	0.00	10,336.74	5,019.64	15,356.38	AF- SW, FPG	P
3	1c	OW	Brier Creek Reservoir	Y	Y	-	-	0.00	1,500.91	1,000.34	2,501.25	AF- SW	P
3	2	W	W37	Y	N	N	-	0.01	-	-	-	AF-VSR	P
3	3	S	S20	Y	Y	-	279.08	0.24	18,456.53	8,509.35	26,965.87	AF- VSR, FPG	P
3	4	W	W36	Y	N	N	-	0.21	-	-	-	AF- VSR	P
3	5	OW	P4	N	Y	-	-	1.93	43,566.11	30,923.47	74,489.57	AF- VSR	P
3	6	S	S45	Y	Y	-	83.56	0.04	8,770.47	9,002.26	17,772.73	AF- RWY	P
3	7	W	W40	Y	N	N	-	0.01	-	-	-	AF- VSR	P
3	8	S	S21	Y	Y	-	326.22	0.04	14,842.71	0.05	14,842.76	AF- VSR, RWY	P
3	9	OW	P5	Y	Y	-	-	0.28	15,001.72	9,426.29	24,428.01	AF- VSR	P
3	10	W	W39	Y	N	N	-	0.20	-	-	-	AF- VSR	P
3	11	S	S22	Y	N	-	95.23	0.01	-	-	-	AF- RWY	P
3	12	W	W38	Y	N	N	-	0.03	-	-	-	AF- RWY	P
3, 4	13	S	S23	Y	Y	-	195.86	0.04	9,472.96	5,639.73	15,112.69	AF- VSR, ESC	P
3, 4	14	W	W41	Y	Y	N	-	0.20	14,199.98	10,223.80	24,423.77	AF- VSR, ESC	P
						Total Non-JD Streams:	-	-	-	-	-		
						Total JD Streams:	**979.94**	**0.37**	**51,542.66**	**23,151.39**	**74,694.05**		
						Total EO 11990 Wetlands:	-	-	-	-	-		
						Total JD Wetlands:	-	**0.66**	**14,199.98**	**10,223.80**	**24,423.77**		
						Total Non-JD Open Water:	-	**1.93**	**43,566.11**	**30,923.47**	**74,489.57**		
						Total JD Open Water:	-	**0.28**	**26,839.36**	**15,446.27**	**42,285.64**		
						Total:	**979.94**	**3.23**	**136,148.11**	**79,744.93**	**215,893.03**		

* AF: Airfield
SW: Stormwater
FPG: Floodplain Grading
VSR: Vehicle Service Road
RWY: Runway
ESC: Erosion Sediment Control

RDU 5L/23R Runway Relocation

Combined 401 & 404 Permit Application

Raleigh-Durham International Airport

RDU RS&H

November 2023

Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

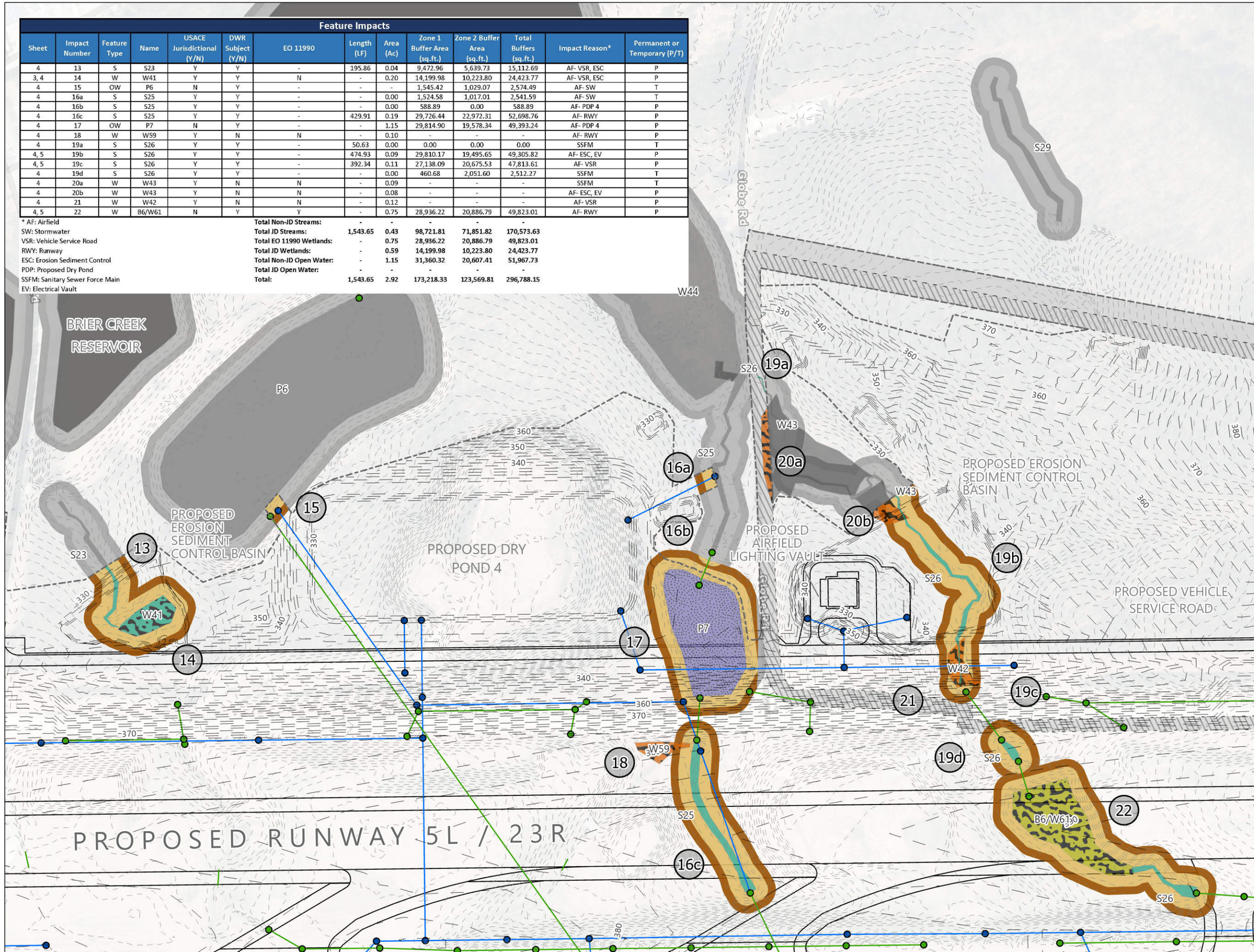
SHEET 3

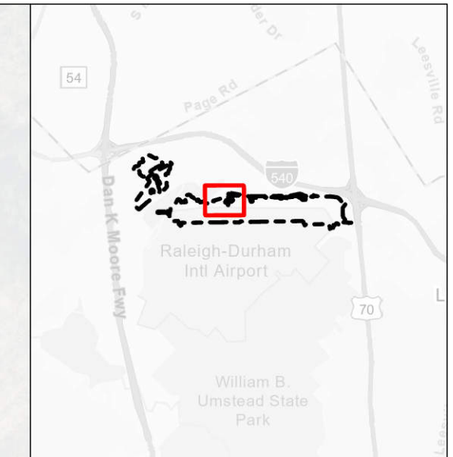
Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
4	13	S	S23	Y	Y	-	195.86	0.04	9,472.96	5,639.73	15,112.69	AF- VSR, ESC	P
3, 4	14	W	W41	Y	Y	N	-	0.20	14,199.98	10,223.80	24,423.77	AF- VSR, ESC	P
4	15	OW	P6	N	Y	-	-	-	1,545.42	1,029.07	2,574.49	AF- SW	T
4	16a	S	S25	Y	Y	-	-	0.00	1,524.58	1,017.01	2,541.59	AF- SW	T
4	16b	S	S25	Y	Y	-	-	0.00	588.89	0.00	588.89	AF- PDP 4	P
4	16c	S	S25	Y	Y	-	429.91	0.19	29,726.44	22,972.31	52,698.76	AF- RWY	P
4	17	OW	P7	N	Y	-	-	1.15	29,814.90	19,578.34	49,393.24	AF- PDP 4	P
4	18	W	W59	Y	N	N	-	0.10	-	-	-	AF- RWY	P
4	19a	S	S26	Y	Y	-	50.63	0.00	0.00	0.00	0.00	SSFM	T
4, 5	19b	S	S26	Y	Y	-	474.93	0.09	29,810.17	19,495.65	49,305.82	AF- ESC, EV	P
4, 5	19c	S	S26	Y	Y	-	392.34	0.11	27,138.09	20,675.53	47,813.61	AF- VSR	P
4	19d	S	S26	Y	Y	-	-	0.00	460.68	2,051.60	2,512.27	SSFM	T
4	20a	W	W43	Y	N	N	-	0.09	-	-	-	SSFM	T
4	20b	W	W43	Y	N	N	-	0.08	-	-	-	AF- ESC, EV	P
4	21	W	W42	Y	N	N	-	0.12	-	-	-	AF- VSR	P
4, 5	22	W	B6/W61	N	Y	Y	-	0.75	28,936.22	20,886.79	49,823.01	AF- RWY	P
						Total Non-JD Streams:	**-**	**-**	**-**	**-**	**-**		
						Total JD Streams:	**1,543.65**	**0.43**	**98,721.81**	**71,851.82**	**170,573.63**		
						Total EO 11990 Wetlands:	**-**	**0.75**	**28,936.22**	**20,886.79**	**49,823.01**		
						Total JD Wetlands:	**-**	**0.59**	**14,199.98**	**10,223.80**	**24,423.77**		
						Total Non-JD Open Water:	**-**	**1.15**	**31,360.32**	**20,607.41**	**51,967.73**		
						Total JD Open Water:	**-**	**-**	**-**	**-**	**-**		
						Total:	**1,543.65**	**2.92**	**173,218.33**	**123,569.81**	**296,788.15**		

* AF: Airfield
SW: Stormwater
VSR: Vehicle Service Road
RWY: Runway
ESC: Erosion Sediment Control
PDP: Proposed Dry Pond
SSFM: Sanitary Sewer Force Main
EV: Electrical Vault





Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

RDU 5L/23R Runway Relocation
Combined 401 & 404 Permit Application
Raleigh-Durham International Airport

November 2023
Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

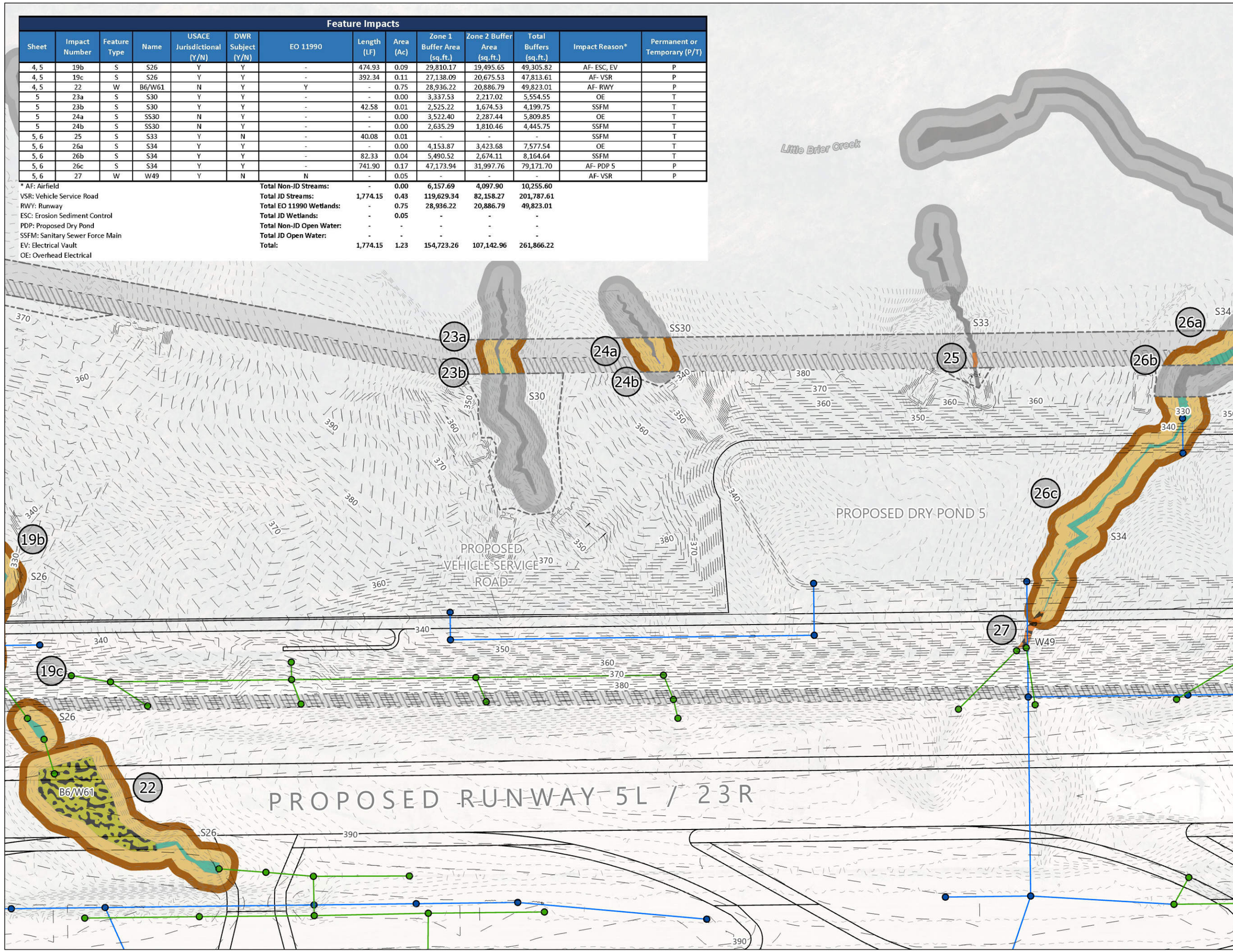
SHEET 4

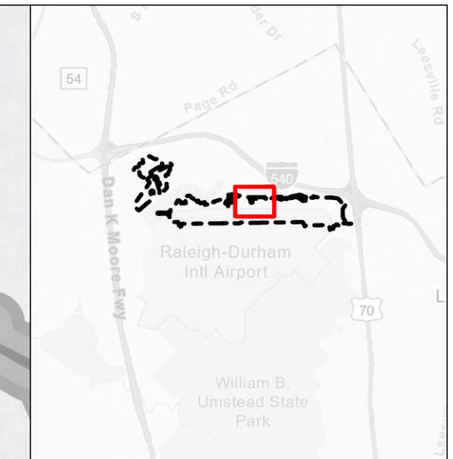
Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
4, 5	19b	S	S26	Y	Y	-	474.93	0.09	29,810.17	19,495.65	49,305.82	AF- ESC, EV	P
4, 5	19c	S	S26	Y	Y	-	392.34	0.11	27,138.09	20,675.53	47,813.61	AF- VSR	P
4, 5	22	W	B6/W61	N	Y	Y	-	0.75	28,936.22	20,886.79	49,823.01	AF- RWY	P
5	23a	S	S30	Y	Y	-	-	0.00	3,337.53	2,217.02	5,554.55	OE	T
5	23b	S	S30	Y	Y	-	42.58	0.01	2,525.22	1,674.53	4,199.75	SSFM	T
5	24a	S	SS30	N	Y	-	-	0.00	3,522.40	2,287.44	5,809.85	OE	T
5	24b	S	SS30	N	Y	-	-	0.00	2,635.29	1,810.46	4,445.75	SSFM	T
5, 6	25	S	S33	Y	N	-	40.08	0.01	-	-	-	SSFM	T
5, 6	26a	S	S34	Y	Y	-	-	0.00	4,153.87	3,423.68	7,577.54	OE	T
5, 6	26b	S	S34	Y	Y	-	82.33	0.04	5,490.52	2,674.11	8,164.64	SSFM	T
5, 6	26c	S	S34	Y	Y	-	741.90	0.17	47,173.94	31,997.76	79,171.70	AF- PDP 5	P
5, 6	27	W	W49	Y	N	N	-	0.05	-	-	-	AF- VSR	P
						Total Non-JD Streams:	-	**0.00**	**6,157.69**	**4,097.90**	**10,255.60**		
						Total JD Streams:	**1,774.15**	**0.43**	**119,629.34**	**82,158.27**	**201,787.61**		
						Total EO 11990 Wetlands:	-	**0.75**	**28,936.22**	**20,886.79**	**49,823.01**		
						Total JD Wetlands:	-	**0.05**	-	-	-		
						Total Non-JD Open Water:	-	-	-	-	-		
						Total JD Open Water:	-	-	-	-	-		
						Total:	**1,774.15**	**1.23**	**154,723.26**	**107,142.96**	**261,866.22**		

* AF: Airfield
VSR: Vehicle Service Road
RWY: Runway
ESC: Erosion Sediment Control
PDP: Proposed Dry Pond
SSFM: Sanitary Sewer Force Main
EV: Electrical Vault
OE: Overhead Electrical





Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

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Raleigh-Durham International Airport

November 2023
Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

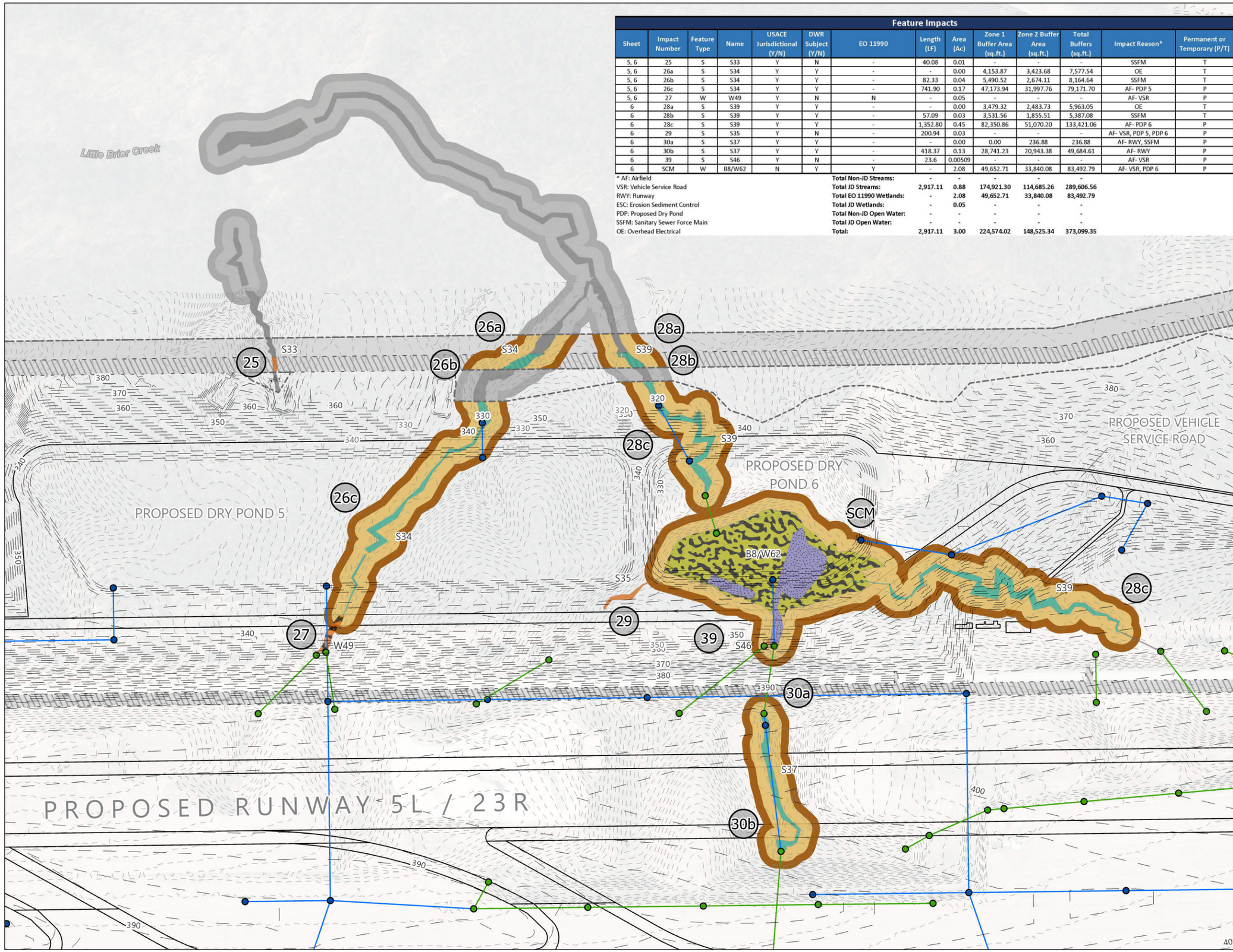
SHEET 5

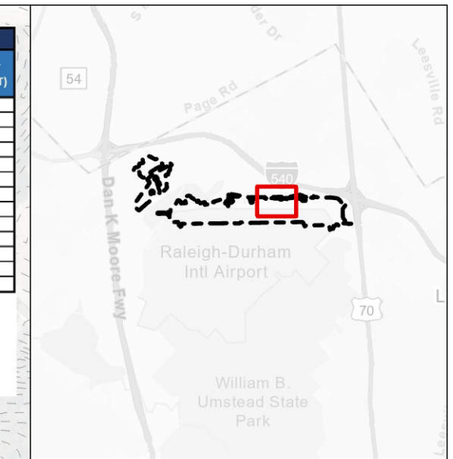
Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
5, 6	25	S	S33	Y	N	-	40.08	0.01	-	-	-	SSFM	T
5, 6	26a	S	S34	Y	Y	-	-	0.00	4,153.87	3,423.68	7,577.54	OE	T
5, 6	26b	S	S34	Y	Y	-	82.33	0.04	5,490.52	2,674.11	8,164.64	SSFM	T
5, 6	26c	S	S34	Y	Y	-	741.90	0.17	47,173.94	31,997.76	79,171.70	AF- PDP 5	P
5, 6	27	W	W49	Y	N	N	-	0.05	-	-	-	AF- VSR	P
6	28a	S	S39	Y	Y	-	-	0.00	3,479.32	2,483.73	5,963.05	OE	T
6	28b	S	S39	Y	Y	-	57.09	0.03	3,531.56	1,855.51	5,387.08	SSFM	T
6	28c	S	S39	Y	Y	-	1,352.80	0.45	82,350.86	51,070.20	133,421.06	AF- PDP 6	P
6	29	S	S35	Y	N	-	200.94	0.03	-	-	-	AF- VSR, PDP 5, PDP 6	P
6	30a	S	S37	Y	Y	-	-	0.00	0.00	236.88	236.88	AF- RWY, SSFM	P
6	30b	S	S37	Y	Y	-	418.37	0.13	28,741.23	20,943.38	49,684.61	AF- RWY	P
6	39	S	S46	Y	N	-	23.6	0.00509	-	-	-	AF- VSR	P
6	SCM	W	B8/W62	N	Y	Y	-	2.08	49,652.71	33,840.08	83,492.79	AF- VSR, PDP 6	P
						Total Non-JD Streams:	-	-	-	-	-		
						Total JD Streams:	**2,917.11**	**0.88**	**174,921.30**	**114,685.26**	**289,606.56**		
						Total EO 11990 Wetlands:	-	**2.08**	**49,652.71**	**33,840.08**	**83,492.79**		
						Total JD Wetlands:	-	**0.05**	-	-	-		
						Total Non-JD Open Water:	-	-	-	-	-		
						Total JD Open Water:	-	-	-	-	-		
						Total:	**2,917.11**	**3.00**	**224,574.02**	**148,525.34**	**373,099.35**		

* AF: Airfield
VSR: Vehicle Service Road
RWY: Runway
ESC: Erosion Sediment Control
PDP: Proposed Dry Pond
SSFM: Sanitary Sewer Force Main
OE: Overhead Electrical





Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

RDU 5L/23R Runway Relocation
Combined 401 & 404 Permit Application
Raleigh-Durham International Airport

November 2023
Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

SHEET 6

Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

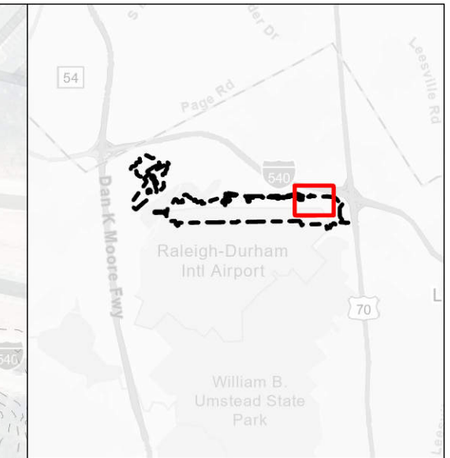
Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
7	31a	S	SS45	N	Y	-	-	0.00	3,774.57	2,277.66	6,052.22	OE	T
7	31b	S	SS45	N	Y	-	42.77	0.00	2,562.02	1,890.34	4,452.37	SSFM	T
7	32a	OW	P10	Y	N	-	-	0.01	-	-	-	SSFM	T
7	32b	OW	P10	Y	N	-	-	0.39	-	-	-	AF- VSR	P
7	33a	S	S41	Y	Y	-	47.13	0.03	3,381.96	2,371.42	5,753.38	LRR	P
7	33b	S	S41	Y	Y	-	53.30	0.03	2,370.85	834.90	3,205.75	AF- VSR, LRR, RPZ, SSFM	P
7	33c	S	S41	Y	Y	-	554.09	0.31	30,631.63	14,969.89	45,601.51	AF- VSR, RPZ	P
7, 8	33d	S	S41	N	Y	-	177.81	0.08	5,897.10	4,335.17	10,232.27	AF- RPZ	P
7	34	S	S40	Y	Y	-	168.76	0.04	9,006.00	6,626.05	15,632.05	AF- VSR, RPZ	P
7	35	S	SS49	N	Y	-	34.98	0.01	2,081.19	2,439.27	4,520.47	AF- VSR, RPZ	P
7	36a	S	S42	Y	Y	-	378.16	0.16	22,434.68	13,970.15	36,404.83	LRR	P
7	36b	S	S42	Y	Y	-	452.21	0.18	28,842.82	21,788.76	50,631.58	AF- VSR, RPZ, SSFM	P
7, 8	37	W	W57	Y	N	N	-	0.28	-	-	-	AF- RPZ	P
						Total Non-JD Streams:	**255.56**	**0.10**	**14,314.89**	**10,942.44**	**25,257.33**		
						Total JD Streams:	**1,653.64**	**0.75**	**96,667.94**	**60,561.17**	**157,229.11**		
						Total EO 11990 Wetlands:	-	-	-	-	-		
						Total JD Wetlands:	-	**0.28**	-	-	-		
						Total Non-JD Open Water:	-	-	-	-	-		
						Total JD Open Water:	-	**0.40**	-	-	-		
						Total:	**1,909.20**	**1.54**	**110,982.83**	**71,503.60**	**182,486.43**		

* AF: Airfield

VSR: Vehicle Service Road
SSFM: Sanitary Sewer Force Main
OE: Overhead Electrical

LRR: Lumley Road Relocation
RPZ: Runway Protection Zone



Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

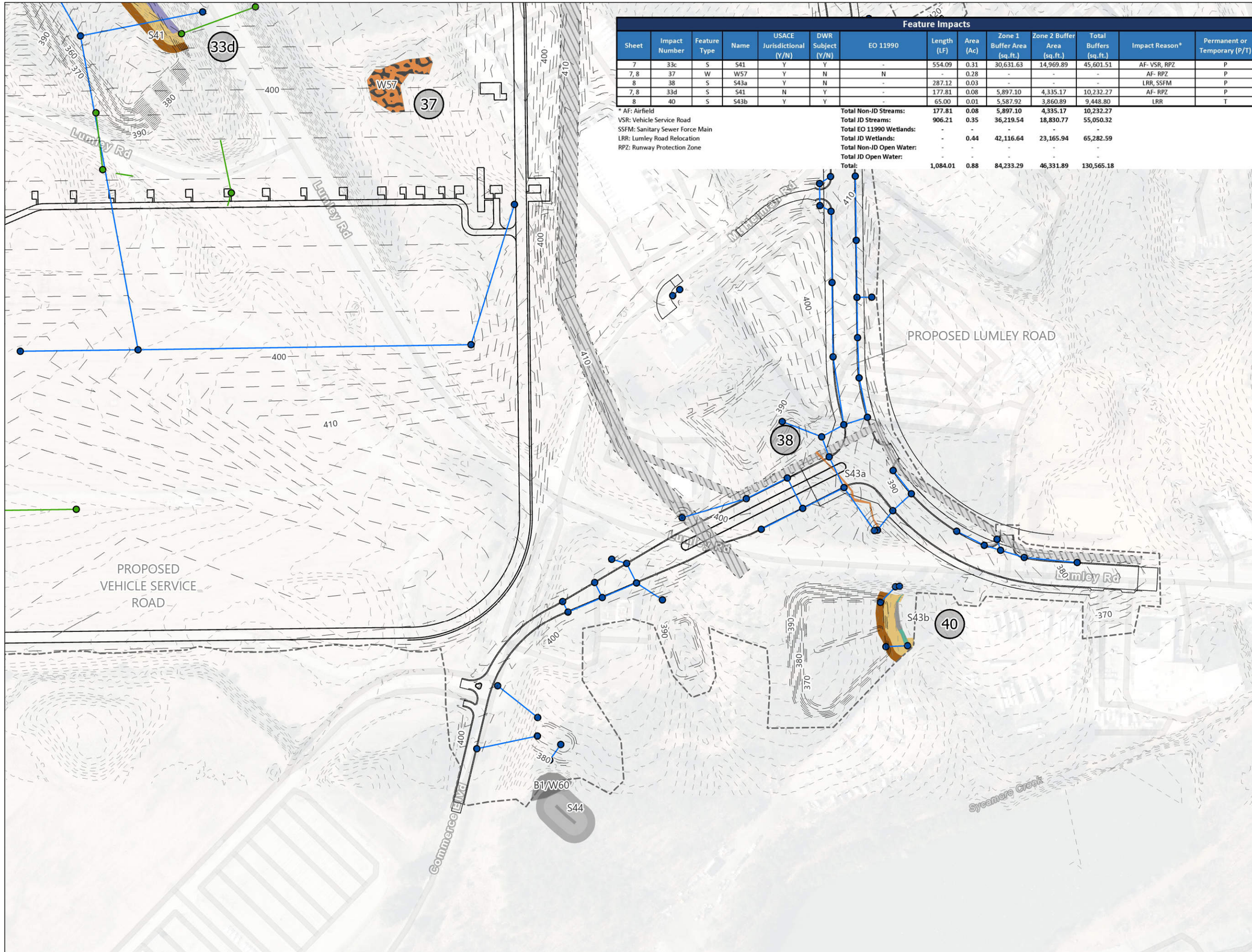
N

RDU 5L/23R Runway Relocation
Combined 401 & 404 Permit Application
Raleigh-Durham International Airport

November 2023
Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

SHEET 7

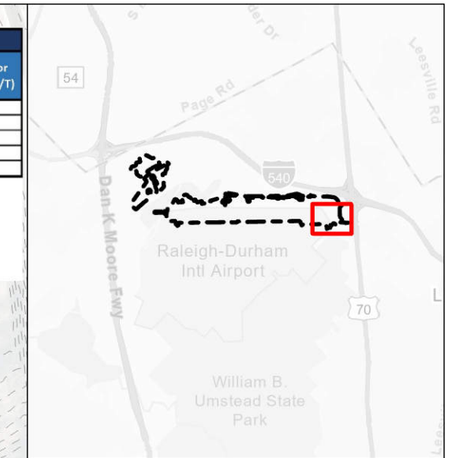
Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



Feature Impacts

Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
7	33c	S	S41	Y	Y	-	554.09	0.31	30,631.63	14,969.89	45,601.51	AF- VSR, RPZ	P
7, 8	37	W	W57	Y	N	N	-	0.28	-	-	-	AF- RPZ	P
8	38	S	S43a	Y	N	-	287.12	0.03	-	-	-	LRR, SSFM	P
7, 8	33d	S	S41	N	Y	-	177.81	0.08	5,897.10	4,335.17	10,232.27	AF- RPZ	P
8	40	S	S43b	Y	Y	-	65.00	0.01	5,587.92	3,860.89	9,448.80	LRR	T
						Total Non-JD Streams:	**177.81**	**0.08**	**5,897.10**	**4,335.17**	**10,232.27**		
						Total JD Streams:	**906.21**	**0.35**	**36,219.54**	**18,830.77**	**55,050.32**		
						Total EO 11990 Wetlands:	**-**	**-**	**-**	**-**	**-**		
						Total JD Wetlands:	**-**	**0.44**	**42,116.64**	**23,165.94**	**65,282.59**		
						Total Non-JD Open Water:	-	-	-	-	-		
						Total JD Open Water:	-	-	-	-	-		
						Total:	**1,084.01**	**0.88**	**84,233.29**	**46,331.89**	**130,565.18**		

* AF: Airfield
VSR: Vehicle Service Road
SSFM: Sanitary Sewer Force Main
LRR: Lumley Road Relocation
RPZ: Runway Protection Zone



Legend

- Impact Area
- Existing Grade
- Proposed Grade

Stream
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional DWR Subject

Wetland
- USACE Jurisdictional, Not DWR Subject or FAA EO 11990 Mitigable
- USACE Jurisdictional and DWR Subject, Not FAA EO 11990 Mitigable
- DWR Subject and FAA EO 11990 Mitigable, Not USACE Jurisdictional

Open Water
- USACE Jurisdictional, Not DWR Subject
- DWR Subject, Not USACE Jurisdictional
- USACE Jurisdictional and DWR Subject

Buffer Impacts
- Zone 1
- Zone 2

Utilities
- Proposed Overhead Electric
- Proposed Sanitary Sewer Force Main

Infrastructure
- Existing Stormwater Pipe
- Proposed Stormwater Pipe
- Existing Stormwater Structure
- Proposed Stormwater Structure

0 100 200 400 Feet

N

RDU 5L/23R Runway Relocation
Combined 401 & 404 Permit Application
Raleigh-Durham International Airport

November 2023
Drawn by: HEB (RS&H), Reviewed by: BZ (S&EC)

SHEET 8

Credits:NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, City of Raleigh, Town of Cary, County of Durham, Wake County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Wake County, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

Feature Impacts													
Sheet	Impact Number	Feature Type	Name	USACE Jurisdictional (Y/N)	DWR Subject (Y/N)	EO 11990	Length (LF)	Area (Ac)	Zone 1 Buffer Area (sq.ft.)	Zone 2 Buffer Area (sq.ft.)	Total Buffers (sq.ft.)	Impact Reason*	Permanent or Temporary (P/T)
2	1a	OW	Brier Creek Reservoir	Y	Y	-	-	1.49	3,937.88	2,617.63	6,555.52	Light lane	T
2, 3	1b	OW	Brier Creek Reservoir	Y	Y	-	-	0.00	10,336.74	5,019.64	15,356.38	AF- SW, FPG	P
3	1c	OW	Brier Creek Reservoir	Y	Y	-	-	0.00	1,500.91	1,000.34	2,501.25	AF- SW	P
3	2	W	W37	Y	N	N	-	0.01	-	-	-	AF-VSR	P
3	3	S	S20	Y	Y	-	279.08	0.24	18,456.53	8,509.35	26,965.87	AF- VSR, FPG	P
3	4	W	W36	Y	N	N	-	0.21	-	-	-	AF- VSR	P
3	5	OW	P4	N	Y	-	-	1.93	43,566.11	30,923.47	74,489.57	AF- VSR	P
3	6	S	S45	Y	Y	-	83.56	0.04	8,770.47	9,002.26	17,772.73	AF- RWY	P
3	7	W	W40	Y	N	N	-	0.01	-	-	-	AF- VSR	P
3	8	S	S21	Y	Y	-	326.22	0.04	14,842.71	0.05	14,842.76	AF- VSR, RWY	P
3	9	OW	P5	Y	Y	-	-	0.28	15,001.72	9,426.29	24,428.01	AF- VSR	P
3	10	W	W39	Y	N	N	-	0.20	-	-	-	AF- VSR	P
3	11	S	S22	Y	N	-	95.23	0.01	-	-	-	AF- RWY	P
3	12	W	W38	Y	N	N	-	0.03	-	-	-	AF- RWY	P
3, 4	13	S	S23	Y	Y	-	195.86	0.04	9,472.96	5,639.73	15,112.69	AF- VSR, ESC	P
3, 4	14	W	W41	Y	Y	N	-	0.20	14,199.98	10,223.80	24,423.77	AF- VSR, ESC	P
4	15	OW	P6	N	Y	-	-	-	1,545.42	1,029.07	2,574.49	AF- SW	T
4	16a	S	S25	Y	Y	-	-	0.00	1,524.58	1,017.01	2,541.59	AF- SW	T
4	16b	S	S25	Y	Y	-	-	0.00	588.89	0.00	588.89	AF- PDP 4	P
4	16c	S	S25	Y	Y	-	429.91	0.19	29,726.44	22,972.31	52,698.76	AF- RWY	P
4	17	OW	P7	N	Y	-	-	1.15	29,814.90	19,578.34	49,393.24	AF- PDP 4	P
4	18	W	W59	Y	N	N	-	0.10	-	-	-	AF- RWY	P
4	19a	S	S26	Y	Y	-	50.63	0.00	0.00	0.00	0.00	SSFM	T
4	19d	S	S26	Y	Y	-	-	0.00	460.68	2,051.60	2,512.27	SSFM	T
4	20a	W	W43	Y	N	N	-	0.09	-	-	-	SSFM	T
4	20b	W	W43	Y	N	N	-	0.08	-	-	-	AF- ESC, EV	P
4	21	W	W42	Y	N	N	-	0.12	-	-	-	AF- VSR	P
4, 5	19b	S	S26	Y	Y	-	474.93	0.09	29,810.17	19,495.65	49,305.82	AF- ESC, EV	P
4, 5	19c	S	S26	Y	Y	-	392.34	0.11	27,138.09	20,675.53	47,813.61	AF- VSR	P
4, 5	22	W	B6/W61	N	Y	Y	-	0.75	28,936.22	20,886.79	49,823.01	AF- RWY	P
5	23a	S	S30	Y	Y	-	-	0.00	3,337.53	2,217.02	5,554.55	OE	T
5	23b	S	S30	Y	Y	-	42.58	0.01	2,525.22	1,674.53	4,199.75	SSFM	T
5	24a	S	SS30	N	Y	-	-	0.00	3,522.40	2,287.44	5,809.85	OE	T
5	24b	S	SS30	N	Y	-	-	0.00	2,635.29	1,810.46	4,445.75	SSFM	T
5, 6	25	S	S33	Y	N	-	40.08	0.01	-	-	-	SSFM	T
5, 6	26a	S	S34	Y	Y	-	-	0.00	4,153.87	3,423.68	7,577.54	OE	T
5, 6	26b	S	S34	Y	Y	-	82.33	0.04	5,490.52	2,674.11	8,164.64	SSFM	T
5, 6	26c	S	S34	Y	Y	-	741.90	0.17	47,173.94	31,997.76	79,171.70	AF- PDP 5	P
5, 6	27	W	W49	Y	N	N	-	0.05	-	-	-	AF- VSR	P
6	28a	S	S39	Y	Y	-	-	0.00	3,479.32	2,483.73	5,963.05	OE	T
6	28b	S	S39	Y	Y	-	57.09	0.03	3,531.56	1,855.51	5,387.08	SSFM	T
6	28c	S	S39	Y	Y	-	1,352.80	0.45	82,350.86	51,070.20	133,421.06	AF- PDP 6	P
6	29	S	S35	Y	N	-	200.94	0.03	-	-	-	AF- VSR, PDP 5, PDP 6	P
6	30a	S	S37	Y	Y	-	-	0.00	0.00	236.88	236.88	AF- RWY, SSFM	P
6	30b	S	S37	Y	Y	-	418.37	0.13	28,741.23	20,943.38	49,684.61	AF- RWY	P
6	SCM	W	B8/W62	N	Y	Y	-	2.08	49,652.71	33,840.08	83,492.79	AF- VSR, PDP 6	P
7	31a	S	SS45	N	Y	-	-	0.00	3,774.57	2,277.66	6,052.22	OE	T
7	31b	S	SS45	N	Y	-	42.77	0.00	2,562.02	1,890.34	4,452.37	SSFM	T
7	32a	OW	P10	Y	N	-	-	0.01	-	-	-	SSFM	T
7	32b	OW	P10	Y	N	-	-	0.39	-	-	-	AF- VSR	P
7	33a	S	S41	Y	Y	-	47.13	0.03	3,381.96	2,371.42	5,753.38	LRR	P
7	33b	S	S41	Y	Y	-	53.30	0.03	2,370.85	834.90	3,205.75	AF- VSR, LRR, RPZ, SSFM	P
7	33c	S	S41	Y	Y	-	554.09	0.31	30,631.63	14,969.89	45,601.51	AF- VSR, RPZ	P
7, 8	33d	S	S41	N	Y	-	177.81	0.08	5,897.10	4,335.17	10,232.27	AF- RPZ	P
7	34	S	S40	Y	Y	-	168.76	0.04	9,006.00	6,626.05	15,632.05	AF- VSR, RPZ	P
7	35	S	SS49	N	Y	-	34.98	0.01	2,081.19	2,439.27	4,520.47	AF- VSR, RPZ	P
7	36a	S	S42	Y	Y	-	378.16	0.16	22,434.68	13,970.15	36,404.83	LRR	P
7	36b	S	S42	Y	Y	-	452.21	0.18	28,842.82	21,788.76	50,631.58	AF- VSR, RPZ, SSFM	P
7, 8	37	W	W57	Y	N	N	-	0.28	-	-	-	AF- RPZ	P
8	38	S	S43a	Y	N	-	287.12	0.03	-	-	-	LRR, SSFM	P
6	39	S	S46	Y	N	-	23.60	0.01	-	-	-	AF- VSR	P
8	40	S	S43b	Y	Y	-	65.00	0.01	5,587.92	3,860.89	9,448.80	LRR	T
						Total Non-JD Streams:	**255.56**	**0.10**	**20,472.59**	**15,040.34**	**35,512.92**		
						Total JD Streams:	**7,293.19**	**2.45**	**423,831.43**	**272,362.34**	**696,193.77**		
						Total EO 11990 Wetlands:	**-**	**2.83**	**78,588.94**	**54,726.87**	**133,315.81**		
						Total JD Wetlands:	**-**	**1.38**	**14,199.98**	**10,223.80**	**24,423.77**		
						Total Non-JD Open Water:	**-**	**3.07**	**74,926.43**	**51,530.87**	**126,457.30**		
						Total JD Open Water:	**-**	**2.17**	**30,777.25**	**18,063.91**	**48,841.16**		
						Total:	**7,548.75**	**12.01**	**642,796.60**	**421,948.12**	**1,064,744.73**		

* AF: Airfield
SW: Stormwater
FPG: Floodplain Grading
VSR: Vehicle Service Road
RWY: Runway
ESC: Erosion Sediment Control
PDP: Proposed Dry Pond
SSFM: Sanitary Sewer Force Main
EV: Electrical Vault
OE: Overhead Electrical
LRR: Lumley Road Relocation
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