

AIRPORT CERTIFICATION MANUAL

**St. Louis Lambert International Airport
St. Louis, Missouri**

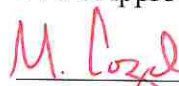
**Rhonda Hamm-Niebruegge
Director of Airports**

A handwritten signature in black ink, reading "Rhonda Hamm-Niebruegge", written over a horizontal line.

JUNE 2018

**MTN-2276, Terminal 1
St. Louis Lambert International Airport
St. Louis, MO 63145**

FAA Approved

A handwritten signature in red ink, reading "M. Coyle", written over a horizontal line.

Date: AUG 16 2018

INTRODUCTION

The purpose of this document is to provide an Airport Certification Manual clearly defining objectives, structures, and functions as well as ensuring maximum assignment and utilization of personnel in order to achieve the highest degree of operational efficiency and safety in compliance with the requirements of Part 139 of the Federal Aviation Regulations at St. Louis Lambert International Airport in St. Louis, Missouri.

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AIRPORT CERTIFICATION MANUAL DISTRIBUTION LIST

DISTRIBUTION OF ACM AS FOLLOWS:

- A. Distribution "1" - Entire ACM
- B. Distribution "2" - Snow Removal & Ice Control, Hazardous Materials, Airport Emergency Plan, Ground Vehicles, Appendix B, and Appendix C
- C. Distribution "3" - Airport Emergency Plan, Appendix B, and Appendix C

Distribution "1"

Director of Airports
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Assistant Director of Engineering & Construction
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Airport Police Chief
Battalion Fire Chief
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Airfield Maintenance Supervisor
Airport Fleet Maintenance Manager
Airport Power Plant Manager
Electric Supervisor
Airport Building Maintenance Supervisor
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Housekeeping Manager
General Counsel
FAA, Regional Office
FAA, Air Traffic Control Tower
FAA, Flight Standards District Office
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Distribution "2"

All tenants involved in refueling and ground operations.
Distribution to individual employees where applicable.

Distribution "3"

All Airport Personnel, Volunteers, Rescue Vehicles, Airline Personnel.

Each manual holder shall be responsible for keeping his/her manual current at all times, and shall insert revised pages immediately upon receipt. Portions of the text affected by a revision will be indicated by a line on the outer margin of the page.

All correspondence related to this manual, suggestions for revisions or improvements, and information regarding corrections or updating should be addressed to:

Rhonda Hamm-Niebruegge
Director of Airports
St. Louis Lambert International Airport
P.O. Box 10212
St. Louis, Missouri 63145

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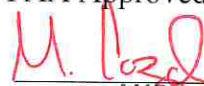
RECORD OF AMENDMENTS

DISTRIBUTION 1

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
AUGUST 2005	I	NOT APPLICABLE	ENTIRE ACM	ENTIRE ACM	
MARCH 2006	II	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
MARCH 2006	II	INDEX	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	ACM	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.201	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.205	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.303	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.305	305-2	305-2	
MARCH 2006	II	139.309	309-1, 309-2	309-1, 309-2	
MARCH 2006	II	139.311	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.313	313-2	313-2	
MARCH 2006	II	139.317	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.319	319-1, 319-2, 319-4	319-1, 319-2, 319-4, 319-7	
MARCH 2006	II	139.321	ENTIRE SECTION	ENTIRE SECTION	

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DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
MARCH 2006	II	139.323	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.325	325-2 thru 7, 325-9, 325-18, 325-37, 325-38, 325-42, 325-44, 325-52, 325-63 thru 148, 325-157 thru 291	325-2 thru 7, 325-9, 325-18, 325-37, 325-38, 325-42, 325-44, 325-52, 325-63 thru 148, 325-157 thru 298	
MARCH 2006	II	139.327	327-1	327-1	
MARCH 2006	II	139.329	329-1, 329-2, 329-5	329-1, 329-2, 329-5	
MARCH 2006	II	139.331	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.337	337-2, 337-3, 337-6	337-2, 337-3, 337-6	
MARCH 2006	II	139.339	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.341	341-1	341-1	
MARCH 2006	II	139.343	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	APPENDIX A	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	

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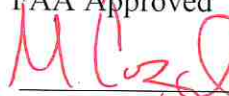
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OCTOBER 2006	III	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
OCTOBER 2006	III	INDEX	i thru x	i thru x	
OCTOBER 2006	III	ACM	ACM-6 thru ACM-10	ACM-6 thru ACM-13	
OCTOBER 2006	III	139.303	303-3 thru 303-15	303-3 thru 303-15	
OCTOBER 2006	III	139.313	313-1	313-1	
OCTOBER 2006	III	139.317	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	139.319	319-2	319-2	
OCTOBER 2006	III	139.321	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	139.325	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	APPENDIX A	AA-1, AA-1A, AA-4	AA-1, AA-1A, AA-4	
OCTOBER 2006	III	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2007	IV	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	

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JANUARY 2007	IV	INDEX	ii	ii	
JANUARY 2007	IV	ACM	ACM-6 thru ACM-13	ACM-6 thru ACM-14	
JANUARY 2007	IV	139.311	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
DECEMBER 2007	V	INDEX	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	ACM	ACM-2, ACM-3, ACM-7 thru ACM-14	ACM-2, ACM-3, ACM-7 thru ACM-15	
DECEMBER 2007	V	139.201	201-1	201-1	
DECEMBER 2007	V	139.205	205-1	205-1	
DECEMBER 2007	V	139.303	3-15	3-15	
DECEMBER 2007	V	139.305	305-2	305-2	
DECEMBER 2007	V	139.309	309-2, 309-3	309-2, 309-3	
DECEMBER 2007	V	139.311	311-1, 311-4 thru 311-6	311-1, 311-4 thru 311-6	
DECEMBER 2007	V	139.313	313-1 thru 313-4, 313-6, 313-7	313-1 thru 313-4, 313-6, 313-7	

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DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
DECEMBER 2007	V	139.317	317-2	317-2	
DECEMBER 2007	V	139.321	321-1, 321-2, 321-4, 321-14 thru 321-18	321-1, 321-2, 321-4, 321-14 thru 321-18	
DECEMBER 2007	V	139.325	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	139.327	327-1, 327-2	327-1, 327-2	
DECEMBER 2007	V	139-329	329-4	329-4	
DECEMBER 2007	V	139.331	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	139.333	333-1	333-1	
DECEMBER 2007	V	139.335	335-1	335-1	
DECEMBER 2007	V	139.337	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	139.339	339-1	339-1	
DECEMBER 2007	V	139.341	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	APPENDIX A	AA-12, AA-13, AA-26 thru AA-42	AA-12, AA-13, AA-26 thru AA-33	
DECEMBER 2007	V	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	APPENDIX C	AC-2	AC-2	

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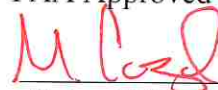
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DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
NOVEMBER 2008	VI	INDEX	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2008	VI	ACM	ACM-9 thru ACM-15	ACM-9 thru ACM-19	
NOVEMBER 2008	VI	139.201	201-1	201-1	
NOVEMBER 2008	VI	139.303	303-3 thru 303-15	303-3 thru 303-16	
NOVEMBER 2008	VI	139.311	311-1 thru 311-7	311-1 thru 311-6	
NOVEMBER 2008	VI	139.319	319-1	319-1	
NOVEMBER 2008	VI	139.321	321-4 thru 321-6, 321-9	321-4 thru 321-6, 321-9	
NOVEMBER 2008	VI	139.325	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2008	VI	139.327	327-2	327-2	
NOVEMBER 2008	VI	139.337	337-5	337-5	
NOVEMBER 2008	VI	139.339	339-2	339-2	
NOVEMBER 2008	VI	139.341	341-1	341-1	
NOVEMBER 2008	VI	APPENDIX A	AA-2 thru A-7, AA-9, AA-21 thru A-33	AA-2 thru AA-7, AA-9, AA-21 thru AA-31	

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DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
NOVEMBER 2008	VI	APPENDIX B	AB-3 thru AB-4C, AB-7A thru AB-8K	AB-3 thru AB-4C, AB-7 thru AB-8K	
NOVEMBER 2008	VI	APPENDIX C	AC-2	AC-2	
APRIL 2009	VII	APPENDIX A	AA-12, AA-13	AA-12, AA-13	
NOVEMBER 2009	VIII	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
NOVEMBER 2009	VIII	INDEX	i, iv thru x	i, iv thru x	
NOVEMBER 2009	VIII	ACM	ACM-10 thru ACM-20	ACM-10 thru ACM-20	
NOVEMBER 2009	VIII	139.105	105-1	105-1	
NOVEMBER 2009	VIII	139.201	201-1 & 201-2	201-1 & 201-2	
NOVEMBER 2009	VIII	139.205	205-1	205-1	
NOVEMBER 2009	VIII	139.303	303-3 thru 303-16	303-3 thru 303-16	
NOVEMBER 2009	VIII	139.305	305-1	305-1	
NOVEMBER 2009	VIII	139.309	309-1 & 309-2	309-1 & 309-2	
NOVEMBER 2009	VIII	139.311	311-4	311-4	
NOVEMBER 2009	VIII	139.313	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	139.319	319-3 & 319-4	319-3 & 319-4	
NOVEMBER 2009	VIII	139.321	321-4	321-4	

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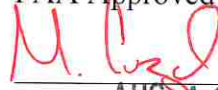
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NOVEMBER 2009	VIII	139.325	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	139.327	327-1, 327-3 thru 327-5	327-1, 327-3 thru 327-5	
NOVEMBER 2009	VIII	139.329	329-1, 329-5 thru 329-8	329-1, 329-5 thru 329-8	
NOVEMBER 2009	VIII	139.331	331-1	331-1	
NOVEMBER 2009	VIII	139.333	333-1	333-1	
NOVEMBER 2009	VIII	139.335	335-1	335-1	
NOVEMBER 2009	VIII	139.337	337-2 thru 337-6	337-2 thru 337-6	
NOVEMBER 2009	VIII	139.339	339-1 & 339-2	339-1 & 339-2	
NOVEMBER 2009	VIII	139.343	343-1	343-1	
NOVEMBER 2009	VIII	APPENDIX A	AA-1A , AA-2 & AA-4	AA-1A , AA-2 & AA-4	
NOVEMBER 2009	VIII	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	APPENDIX C	AC-2	AC-2	
JULY 2010	IX	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JULY 2010	IX	ACM	ACM-2, ACM-3, ACM-11 thru ACM-20	ACM-2, ACM-3, ACM-11 thru ACM-25	
JULY 2010	IX	139.303	303-3 thru 303-16	303-3 thru 303-18	
JULY 2010	IX	139.313	313-1, 313-2 & 313-6	313-1, 313-2 & 313-6	
JULY 2010	IX	139.317	317-4		

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JULY 2010	IX	139.319	319-4	319-4	
JULY 2010	IX	139.325	325-1 thru 325-7, 325-9 thru 325-55 thru 325-61, 325-65 thru 325-68, 325- 71, 325-72, 325-77, 325-80, 325-86 thru 325-89, 325-93, 325-97 thru 325- 105, 325-109 thru 325-114, 325-116, 325-118 thru 325- 131, 325-133, 325-135 thru 325- 180, 325-191 thru 325-197, 325-199, 325-201 thru 325- 203, 325-206 thru 325-211, 325-223 thru 325-231, 325- 236 thru 325-259, 325-262 thru 325- 265, 325-271, 325- 272, 325-274 thru 325-276, 325-279 thru 325-291, 325- 295, 325-297, 325- 299 thru 325-301, 325-304, 325-311, 325-322, 325-327, 325-335, 325-338, 325-340, 325-347	325-1 thru 325-7, 325-9 thru 325-55 thru 325-61, 325-65 thru 325-68, 325-71, 325-72, 325-77, 325-80, 325-86 thru 325-89, 325-93, 325-97 thru 325-105, 325-109 thru 325-114, 325-116, 325-118 thru 325-131, 325-133, 325-135 thru 325-180, 325-191 thru 325-197, 325-199, 325-201 thru 325-203, 325-206 thru 325-211, 325-223 thru 325-231, 325-236 thru 325-259, 325-262 thru 325-265, 325-271, 325-272, 325-274 thru 325-276, 325-279 thru 325-291, 325-295, 325-297, 325-299 thru 325-301, 325-304, 325-311, 325-322, 325-327, 325-335, 325-338, 325-340, 325-347	
JULY 2010	IX	139.329	329-1 & 329-4	329-1 & 329-4	
JULY 2010	IX	139.331	331-1	331-1	
JULY 2010	IX	139.335	335-2	335-2	

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DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JULY 2010	IX	139.337	ENTIRE SECTION	ENTIRE SECTION	
JULY 2010	IX	139.339	339-1	339-1	
JULY 2010	IX	139.341	341-1	341-1	
JULY 2010	IX	139.343	343-1	343-1	
JULY 2010	IX	APPENDIX A	AA-9	AA-9	
JULY 2010	IX	APPENDIX B	AB-1A, AB-4A, AB-4B, AB-4C, AB-6, AB-7A, AB-7C, AB-8D, AB-8F, AB-8G	AB-1A, AB-4A, AB-4B, AB-4C, AB-6, AB-7A, AB-7C, AB-8D, AB-8F, AB-8G	
JULY 2010	IX	APPENDIX C	AC-2	AC-2	
OCTOBER 2011	X	139.303	303-3, 4, 303-6, 7, 303-9 thru 303-16	303-3, 4, 303-6, 7, 303-9 thru 303-16	
OCTOBER 2011	X	139.321	321-20, 21	321-20, 21	
OCTOBER 2011	X	139.325	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2011	X	139.337	337-1 thru 337-3, 337-6	337-1 thru 337-3, 337-6	
OCTOBER 2011	X	APPENDIX A	AA-26 thru AA-30	AA-26 thru AA-30, AA-32 thru AA-35	

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DISTRIBUTION 1

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AUGUST 2012	XI	ACM	ACM-14, 15, 21, 22, 27, 29	ACM-14, 15, 21, 22, 27, 29	
AUGUST 2012	XI	139.105	105-1	105-1	
AUGUST 2012	XI	139.303	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2012	XI	139.309	309-1	309-1	
AUGUST 2012	XI	139.311	311-3, 4	311-3, 4	
AUGUST 2012	XI	139.313	313-1, 4	313-1, 4	
AUGUST 2012	XI	139.317	317-2	317-2	
AUGUST 2012	XI	139.319	319-1	319-1	
AUGUST 2012	XI	139.321	321-3 thru 321-25	321-3 thru 321-25	
AUGUST 2012	XI	139.325	325-1, 325-13, 325-34, 325-43, 325-49, 325-52, 325-61, 325-73, 325-76, 325-78, 325-117, 325-162 thru 325-169, 325-173, 325-209 thru 325-211, 325-354, 325-355, 325-45, 325-68, 325-72, 325-86, 325-93, 325-101, 325-133	325-1, 325-13, 325-34, 325-43, 325-49, 325-52, 325-61, 325-73, 325-76, 325-78, 325-117, 325-162 thru 325-169, 325-173, 325-209 thru 325-211, 325-354, 325-355, 325-45, 325-68, 325-72, 325-86, 325-93, 325-101, 325-133	

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AUGUST 2012	XI	139.337	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2012	XI	139.341	341-2	341-2	
AUGUST 2012	XI	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	INDEX	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	ACM	ACM-15, 16, 23, 28, 29	ACM-15, 16, 23, 28, 29	
AUGUST 2013	XII	139.115	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	139.303	303-1, 303-3 thru 303-17	303-1, 303-3 thru 303-17	
AUGUST 2013	XII	139.313	313-3, 313-5, 313-6	313-3, 313-5, 313-6	
AUGUST 2013	XII	139.317	317-2, 317-3	317-2, 317-3	

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AUGUST 2013	XII	139.319	319-1	319-1	
AUGUST 2013	XII	139.321	321-29, 329-30	321-29, 329-30	
AUGUST 2013	XII	139.325	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	139.329	329-1, 329-2 329-4	329-1, 329-2 329-4	
AUGUST 2013	XII	139.337	337-6, 337-7	337-6, 337-7	
AUGUST 2013	XII	APPENDIX B	AB-3 thru AB-3J	AB-3 thru AB-3J	
JUNE 2014	XIII	ACM	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2014	XIII	INDEX	ENTIRE SECTION	ENTIRE SECTION	

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DISTRIBUTION 1

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JUNE 2014	XIII	139.325	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2014	XIII	139.341	341-1	341-1	
JANUARY 2015	XIV	ACM	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.205	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.301	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.303	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.305	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.309	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.311	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.313	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.317	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.319	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.329	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.331	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.333	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.335	ENTIRE SECTION	ENTIRE SECTION	

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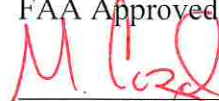
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JANUARY 2015	XIV	139.341	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2016	XV	ACM	ACM 2, ACM 18, ACM 26, ACM 32	ACM 2, ACM 18, ACM 26, ACM 32	
JANUARY 2016	XV	INDEX	ii, iii, ix thru xii	ii, iii, ix thru xii	
JANUARY 2016	XV	139.313	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2016	XV	139.317	317-2	317-2	
JANUARY 2016	XV	139.325	325-1, 325-11, 325-76	325-1, 325-11, 325-76	
JANUARY 2016	XV	139.327	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2016	XV	139.337	337-3, 337-4, 337-6 thru 337-12	337-3, 337-4, 337-6 thru 337-13	
JANUARY 2016	XV	APPENDIX A	AA-1, AA-1A, AA-4 thru AA-7	AA-1, AA-1A thru AA-1C, AA-4 thru AA-7	
JANUARY 2016	XV	APPENDIX B	AB-3 thru AB-3J, AB-8 thru AB-8Q, AB-9 thru AB-9E	AB3 thru AB-3J, AB-8 thru AB-8E	
JANUARY 2016	XV	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	

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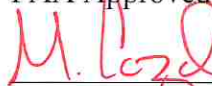
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DISTRIBUTION 1

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
AUGUST 2016	XVI	ACM	ACM 19 – ACM 35	ACM 19 – ACM 38	
AUGUST 2016	XVI	INDEX	i, iv, x, xi, xii	i, iv, x, xi, xii	
AUGUST 2016	XVI	139.313	313-1 thru 313.3, 313.7 thru 313.10	313-1 thru 313.3, 313.7 thru 313.10	
AUGUST 2016	XVI	139.317	317-2	317-2	
AUGUST 2016	XVI	139.321	321-29, 321-30	321-29 thru 321 - 31	
AUGUST 2016	XVI	139.337	337-6 thru 337-13	337-6 thru 337-10	
AUGUST 2016	XVI	139.339	339.1	339.1	
AUGUST 2016	XVI	APPENDIX A	AA-1A, AA-1C, AA-4 thru AA-7	AA-1A, AA-1C thru AA-1F, AA-4 thru AA-7	
AUGUST 2016	XVI	APPENDIX B	AB-1, AB-2, AB-3E, AB-3F, AB-3H, AB-3I, AB-4A thru AB-4C, AB-5, AB-6, AB-7E, AB-7F, AB-7H, AB-7I	AB-1, AB-2, AB-3E, AB-3F, AB-3H, AB-3I, AB-4, AB-4A, AB-5, AB-6, AB-7E, AB-7F, AB-7H, AB-7I	
AUGUST 2016	XVI	APPENDIX C	5556-4, 5557-3, 5457-1	5556-4, 5557-3, 5457-1	
JUNE 2018	XX	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
JUNE 2018	XX	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	ACM SECTION	ENTIRE SECTION	ENTIRE SECTION	

ACM-19

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 1

JUNE 2018	XX	139.105	105-1	105-1	
JUNE 2018	XX	139.201	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.303	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.305	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.311	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.313	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.315	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.317	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.319	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.321	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.329	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.335	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.337	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.339	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.341	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.343	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	APPENDIX A	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	

ACM-20

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 1

JUNE 2018	XX	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
AUGUST 2005	I	139.313	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2005	I	139.321	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2005	I	139.325	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2005	I	139.329	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2005	I	APPENDIX B	ENTIRE APPENDIX	ENTIRE APPENDIX	
MARCH 2005	I	APPENDIX C		ENTIRE APPENDIX	
MARCH 2006	II	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
MARCH 2006	II	INDEX	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	ACM	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.313	313-2	313-2	
MARCH 2006	II	139.321	ENTIRE SECTION	ENTIRE SECTION	

ACM-22

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Date: AUG 16 2018

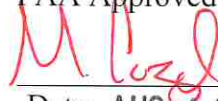
RECORD OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
MARCH 2006	II	139.325	325-2 thru 7, 325-9, 325-18, 325-37, 325-38, 325-42, 325-44, 325-52, 325-63 thru 148, 325-157 thru 291	325-2 thru 7, 325-9, 325-18, 325-37, 325-38, 325-42, 325-44, 325-52, 325-63 thru 148, 325-157 thru 298	
MARCH 2006	II	139.329	329-1, 329-2, 329-5	329-1, 329-2, 329-5	
MARCH 2006	II	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
OCTOBER 2006	III	INDEX	i thru x	i thru x	
OCTOBER 2006	III	ACM	ACM-6 thru ACM-10	ACM-6 thru ACM-13	
OCTOBER 2006	III	139.313	313-1	313-1	
OCTOBER 2006	III	139.321	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	139.325	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
OCTOBER 2006	III	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	INDEX	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	ACM	ACM-2, ACM-3, ACM-7 thru ACM-14	ACM-2, ACM-3, ACM-7 thru ACM-15	
DECEMBER 2007	V	139.313	313-1 thru 313-4, 313-6, 313-7	313-1 thru 313-4, 313-6, 313-7	
DECEMBER 2007	V	139.321	321-1, 321-2, 321-4, 321-14 thru 321-18	321-1, 321-2, 321-4, 321-14 thru 321-18	
DECEMBER 2007	V	139.325	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	139.329	329-4	329-4	
DECEMBER 2007	V	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	APPENDIX C	AC-2	AC-2	
NOVEMBER 2008	VI	INDEX	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2008	VI	ACM	ACM-9 thru ACM-15	ACM-9 thru ACM-19	
NOVEMBER 2008	VI	139.321	321-4 thru 321-6, 321-9	321-4 thru 321-6, 321-9	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
NOVEMBER 2008	VI	139.325	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2008	VI	APPENDIX B	AB-3 thru AB-4C, AB-7A thru AB-8K	AB-3 thru AB-4C, AB-7 thru AB-8K	
NOVEMBER 2008	VI	APPENDIX C	AC-2	AC-2	
NOVEMBER 2009	VIII	139.313	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	139.321	321-4	321-4	
NOVEMBER 2009	VIII	139.325	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	139.329	329-1, 329-5 thru 329-8	329-1, 329-5 thru 329-8	
NOVEMBER 2009	VIII	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	APPENDIX C	AC-2	AC-2	
JULY 2010	IX	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JULY 2010	IX	ACM	ACM-2, ACM-3, ACM-11 thru ACM-20	ACM-2, ACM-3, ACM-11 thru ACM-25	
JULY 2010	IX	139.313	313-2 & 313-6	313-2 & 313-6	

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Date: AUG 16 2018

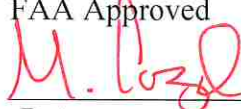
RECORDS OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JULY 2010	IX	139.325	325-1 thru 325-7, 325-9 thru 325-55 thru 325-61, 325-65 thru 325-68, 325-71, 325-72, 325-77, 325-80, 325-86 thru 325-89, 325-93, 325-97 thru 325-105, 325-109 thru 325-114, 325-116, 325-118 thru 325-131, 325-133, 325-135 thru 325-180, 325-191 thru 325-197, 325-199, 325-201 thru 325-203, 325-206 thru 325-211, 325-223 thru 325-231, 325-236 thru 325-259, 325-262 thru 325-265, 325-271, 325-272, 325-274 thru 325-276, 325-279 thru 325-291, 325-295, 325-297, 325-299 thru 325-301, 325-304, 325-311, 325-322, 325-327, 325-335, 325-338, 325-340, 325-347	325-1 thru 325-7, 325-9 thru 325-55 thru 325-61, 325-65 thru 325-68, 325-71, 325-72, 325-77, 325-80, 325-86 thru 325-89, 325-93, 325-97 thru 325-105, 325-109 thru 325-114, 325-116, 325-118 thru 325-131, 325-133, 325-135 thru 325-180, 325-191 thru 325-197, 325-199, 325-201 thru 325-203, 325-206 thru 325-211, 325-223 thru 325-231, 325-236 thru 325-259, 325-262 thru 325-265, 325-271, 325-272, 325-274 thru 325-276, 325-279 thru 325-291, 325-295, 325-297, 325-299 thru 325-301, 325-304, 325-311, 325-322, 325-327, 325-335, 325-338, 325-340, 325-347	

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Date: AUG 16 2010

RECORDS OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JULY 2010	IX	139.329	329-1 & 329-4	329-1 & 329-4	
JULY 2010	IX	APPENDIX B	AB-1A, AB-4A, AB-4B, AB-4C, AB-6, AB-7A, AB-7C, AB-8D, AB-8F, AB-8G	AB-1A, AB-4A, AB-4B, AB-4C, AB-6, AB-7A, AB-7C, AB-8D, AB-8F, AB-8G	
JULY 2010	IX	APPENDIX C	AC-2	AC-2	
OCTOBER 2011	X	139.321	321-20, 21	321-20, 21	
OCTOBER 2011	X	139.325	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2011	X	APPENDIX A	AA-26 thru AA-30	AA-26 thru AA-30, AA-32 thru AA-35	
AUGUST 2012	XI	139.313	313-1, 4	313-1, 4	
AUGUST 2012	XI	139.321	321-3 thru 321-25	321-3 thru 321-25	
AUGUST 2012	XI	139.325	325-1, 325-13, 325-34, 325-43, 325-49, 325-52, 325-61, 325-73, 325-76, 325-78, 325-117, 325-162 thru 325-169, 325-173, 325-209 thru 325-211, 325-354, 325-355, 325-45, 325-68, 325-72, 325-86, 325-93, 325-101, 325-133	325-1, 325-13, 325-34, 325-43, 325-49, 325-52, 325-61, 325-73, 325-76, 325-78, 325-117, 325-162 thru 325-169, 325-173, 325-209 thru 325-211, 325-354, 325-355, 325-45, 325-68, 325-72, 325-86, 325-93, 325-101, 325-133	

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Date: AUG 16 2018

RECORDS OF AMENDMENTS

DISTRIBUTION 2

AUGUST 2012	XI	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	139.313	313-3, 313-5, 313-6	313-3, 313-5, 313-6	
AUGUST 2013	XII	139.321	321-29, 321-30	321-29, 321-30	
AUGUST 2013	XII	139.325	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	139.329	329-1, 329-2, 329-4	329-1, 329-2, 329-4	
AUGUST 2013	XII	APPENDIX B	AB-3 thru AB-3J	AB-3 thru AB-3J	
JUNE 2014	XIII	ACM	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2014	XIII	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2014	XIII	139.313	4,5,7	4,5,7	
JUNE 2014	XIII	139.325	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 16 2018

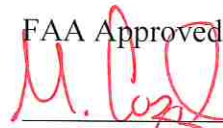
RECORDS OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JANUARY 2015	XIV	ACM	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.313	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	139.329	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2016	XV	ACM	ACM 2, ACM 18, ACM 26, ACM 32	ACM 2, ACM 18, ACM 26, ACM 32	
JANUARY 2016	XV	INDEX	ii, iii, ix thru xii	ii, iii, ix thru xii	
JANUARY 2016	XV	139.313	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2016	XV	139.325	325-1, 325-11, 325-76	325-1, 325-11, 325-76	
JANUARY 2016	XV	APPENDIX B	AB-3 thru AB-3J, AB-8 thru AB-8Q, AB-9 thru AB-9E	AB3 thru AB-3J, AB-8 thru AB-8E	
JANUARY 2016	XV	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 2

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
AUGUST 2016	XVI	ACM	ACM 19 – ACM 35	ACM 19 – ACM 38	
AUGUST 2016	XVI	INDEX	i, iv, x, xi, xii	i, iv, x, xi, xii	
AUGUST 2016	XVI	139.313	313-1 thru 313.3, 313.7 thru 313.10	313-1 thru 313.3, 313.7 thru 313.10	
AUGUST 2016	XVI	139.321	321-29, 321-30	321-29 thru 321 - 31	
AUGUST 2016	XVI	APPENDIX B	AB-1, AB-2, AB-3E, AB-3F, AB-3H, AB-3I, AB-4A thru AB-4C, AB-5, AB-6, AB-7E, AB-7F, AB-7H, AB-7I	AB-1, AB-2, AB-3E, AB-3F, AB-3H, AB-3I, AB-4, AB-4A, AB-5, AB-6, AB-7E, AB-7F, AB-7H, AB-7I	
AUGUST 2016	XVI	APPENDIX C	5556-4, 5557-3, 5457-1	5556-4, 5557-3, 5457-1	
JUNE 2018	XX	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
JUNE 2018	XX	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	ACM SECTION	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.313	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	139.321	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 2

JUNE 2018	XX	139.329	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
AUGUST 2005	I	139.325	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2005	I	APPENDIX B	ENTIRE APPENDIX	ENTIRE APPENDIX	
MARCH 2005	I	APPENDIX C		ENTIRE APPENDIX	
MARCH 2006	II	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
MARCH 2006	II	INDEX	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	ACM	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	139.325	325-2 thru 7, 325-9, 325-18, 325-37, 325-38, 325-42, 325-44, 325-52, 325-63 thru 148, 325-157 thru 291	325-2 thru 7, 325-9, 325-18, 325-37, 325-38, 325-42, 325-44, 325-52, 325-63 thru 148, 325-157 thru 298	
MARCH 2006	II	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
MARCH 2006	II	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
OCTOBER 2006	III	INDEX	i thru x	i thru x	
OCTOBER 2006	III	ACM	ACM-6 thru ACM-10	ACM-6 thru ACM-13	
OCTOBER 2006	III	139.325	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
OCTOBER 2006	III	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	INDEX	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	ACM	ACM-2, ACM-3, ACM-7 thru ACM-14	ACM-2, ACM-3, ACM-7 thru ACM-15	
DECEMBER 2007	V	139.325	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
DECEMBER 2007	V	APPENDIX C	AC-2	AC-2	
NOVEMBER 2008	VI	INDEX	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2008	VI	ACM	ACM-9 thru ACM-15	ACM-9 thru ACM-19	
NOVEMBER 2008	VI	139.325	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 6 2018

RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
NOVEMBER 2008	VI	APPENDIX B	AB-3 thru AB-4C, AB-7A thru AB-8K	AB-3 thru AB-4C, AB-7 thru AB-8K	
NOVEMBER 2009	VIII	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
NOVEMBER 2009	VIII	139.325	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009	VIII	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
NOVEMBER 2009		APPENDIX C	AC-2	AC-2	
JULY 2010	IX	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JULY 2010	IX	ACM	ACM-2, ACM-3, ACM-11 thru ACM-20	ACM-2, ACM-3, ACM-11 thru ACM-25	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JULY 2010	IX	139.325	325-1 thru 325-7, 325-9 thru 325-55 thru 325-61, 325-65 thru 325-68, 325-71, 325-72, 325-77, 325-80, 325-86 thru 325-89, 325-93, 325-97 thru 325-105, 325-109 thru 325-114, 325-116, 325-118 thru 325-131, 325-133, 325-135 thru 325-180, 325-191 thru 325-197, 325-199, 325-201 thru 325-203, 325-206 thru 325-211, 325-223 thru 325-231, 325-236 thru 325-259, 325-262 thru 325-265, 325-271, 325-272, 325-274 thru 325-276, 325-279 thru 325-291, 325-295, 325-297, 325-299 thru 325-301, 325-304, 325-311, 325-322, 325-327, 325-335, 325-338, 325-340, 325-347	325-1 thru 325-7, 325-9 thru 325-55 thru 325-61, 325-65 thru 325-68, 325-71, 325-72, 325-77, 325-80, 325-86 thru 325-89, 325-93, 325-97 thru 325-105, 325-109 thru 325-114, 325-116, 325-118 thru 325-131, 325-133, 325-135 thru 325-180, 325-191 thru 325-197, 325-199, 325-201 thru 325-203, 325-206 thru 325-211, 325-223 thru 325-231, 325-236 thru 325-259, 325-262 thru 325-265, 325-271, 325-272, 325-274 thru 325-276, 325-279 thru 325-291, 325-295, 325-297, 325-299 thru 325-301, 325-304, 325-311, 325-322, 325-327, 325-335, 325-338, 325-340, 325-347	

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Date: AUG 16 2018

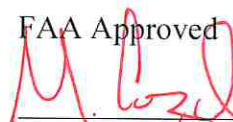
RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JULY 2010	IX	APPENDIX B	AB-1A, AB-4A, AB-4B, AB-4C, AB-6, AB-7A, AB-7C, AB-8D, AB-8F, AB-8G	AB-1A, AB-4A, AB-4B, AB-4C, AB-6, AB-7A, AB-7C, AB-8D, AB-8F, AB-8G	
JULY 2010	IX	APPENDIX C	AC-2	AC-2	
OCTOBER 2011	X	139.325	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2012	XI	139.325	325-1, 325-13, 325-34, 325-43, 325-49, 325-52, 325-61, 325-73, 325-76, 325-78, 325-117, 325-162 thru 325-169, 325-173, 325-209 thru 325-211, 325-354, 325-355, 325-45, 325-68, 325-72, 325-86, 325-93, 325-101, 325-133	325-1, 325-13, 325-34, 325-43, 325-49, 325-52, 325-61, 325-73, 325-76, 325-78, 325-117, 325-162 thru 325-169, 325-173, 325-209 thru 325-211, 325-354, 325-355, 325-45, 325-68, 325-72, 325-86, 325-93, 325-101, 325-133	
AUGUST 2012	XI	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	139.325	ENTIRE SECTION	ENTIRE SECTION	
AUGUST 2013	XII	APPENDIX B	AB-3 thru AB-3J	AB-3 thru AB-3J	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
JUNE 2014	XIII	ACM	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2014	XIII	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2014	XIII	139.325	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	ACM	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2015	XIV	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	
JANUARY 2016	XV	ACM	ACM 2, ACM 18, ACM 26, ACM 32	ACM 2, ACM 18, ACM 26, ACM 32	
JANUARY 2016	XV	INDEX	ii, iii, ix thru xii	ii, iii, ix thru xii	
JANUARY 2016	XV	139.325	325-1, 325-11, 325-76	325-1, 325-11, 325-76	
JANUARY 2016	XV	APPENDIX B	AB-3 thru AB-3J, AB-8 thru AB-8Q, AB-9 thru AB-9E	AB3 thru AB-3J, AB-8 thru AB-8E	
JANUARY 2016	XV	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	

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Date: AUG 16 2018

RECORD OF AMENDMENTS

DISTRIBUTION 3

DATE	AMENDMENT NUMBER	SECTION NUMBER	DELETE PAGES	ADD PAGES	INITIALS
AUGUST 2016	XVI	ACM	ACM 19 – ACM 35	ACM 19 – ACM 38	
AUGUST 2016	XVI	INDEX	i, iv, x, xi, xii	i, iv, x, xi, xii	
AUGUST 2016	XVI	APPENDIX B	AB-1, AB-2, AB-3E, AB- 3F, AB-3H, AB-3I, AB- 4A thru AB- 4C, AB-5, AB-6, AB- 7E, AB-7F, AB-7H, AB- 7I	AB-1, AB-2, AB-3E, AB- 3F, AB-3H, AB-3I, AB-4, AB-4A, AB-5, AB-6, AB-7E, AB-7F, AB- 7H, AB-7I	
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JUNE 2018	XX	NOT APPLICABLE	TITLE PAGE	TITLE PAGE	
JUNE 2018	XX	INDEX	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	ACM SECTION	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	APPENDIX B	ENTIRE SECTION	ENTIRE SECTION	
JUNE 2018	XX	APPENDIX C	ENTIRE SECTION	ENTIRE SECTION	

ACM-38

FAA Approved



Date: AUG 16 2018



> 1 ASSOC CITY: ST LOUIS 4 STATE: MO LOC ID: STL
> 2 AIRPORT NAME: ST LOUIS LAMBERT INTL 5 COUNTY: ST LOUIS MO
3 CBD TO AIRPORT (NM): 10 NW 6 REGION/ADO: ACEINONE 7 SECT AERO CHT: ST LOUIS
FAA SITE NR: 12077.1A

GENERAL

10 OWNERSHIP: PUBLIC
> 11 OWNER: CITY OF ST LOUIS
> 12 ADDRESS: 1320 MARKET ST.
ST LOUIS, MO 63103
> 13 PHONE NR: 673-662-3201
> 14 MANAGER: MS. RHONDA HAMM-NIEBRUEGGE
> 15 ADDRESS: BOX 10212
ST LOUIS, MO 63145
> 16 PHONE NR: 314-426-3000
> 17 ATTENDANCE SCHEDULE:
ALL ALL ALL

SERVICES

> 70 FUEL: 100LL A
> 71 AIRFRAME RPRS: MAJOR
> 72 PWR PLANT RPRS: MAJOR
> 73 BOTTLE OXYGEN: HIGH/LOW
> 74 BULK OXYGEN: HIGH/LOW
75 TQNT STORAGE: HGR, TIE
76 OTHER SERVICES:
AFRT, AVNCS, CARGO, CHTR, INSTR,
RNTL, SALES

BASED AIRCRAFT

90 SINGLE ENG: 1
91 MULTI ENG: 7
92 JET: 10
TOTAL: 18
93 HELICOPTERS: 0
94 GLIDERS: 0
95 MILITARY: 0
96 ULTRA-LIGHT: 0

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED: BCN LGT SKED: SS-SR
> 82 UNICOM: 122.950
> 83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE: NONE
85 CONTROL TWR: YES
86 FSS: SAINT LOUIS
87 FSS ON ARPT: NO
88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

OPERATIONS

100 AIR CARRIER: 131,994
102 AIR TAXI: 52,117
103 G A LOCAL: 7,480
104 G A ITNRNT: 216
105 MILITARY: 2,366
TOTAL: 194,173
OPERATIONS FOR
12 MONTHS
ENDING: 06/30/2017

18 AIRPORT USE: PUBLIC
19 ARPT LAT: 38-44-55.3100N ESTIMATED
20 ARPT LONG: 090-22-12.1040W
21 ARPT ELEV: 616.0 SURVEYED
22 ACREAGE: 2,800
> 23 RIGHT TRAFFIC: 11, 30R, 12R
> 24 NON-COMM LANDING: YES
25 NPIAS/FED AGREEMENTS: NGPY3
> 26 FAR 139 INDEX: I D 9 05/1973

RUNWAY DATA

> 30 RUNWAY INDENT:
> 31 LENGTH:
> 32 WIDTH:
> 33 SURF TYPE-COND:
> 34 SURF TREATMENT:
35 GROSS WT: S
36 (IN THSDS) D
37 2D
38 20/202
> 39 PCN:

06/24	11/29	12L/30R	12R/30L
7,607	9,001	9,003	11,019
150	150	150	200
CONC-F	CONC-E	CONC-G	CONC-G
GRVD	GRVD	GRVD	GRVD
75.0	75.0	75.0	75.0
176.0	200.0	200.0	200.0
280.0	325.0	350.0	350.0
560.0	700.0	760.0	760.0
85 /R/B/W/T	85 /R/B/W/T	85 /R/B/W/T	85 /R/B/W/T

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:
> 42 RWY MARK TYPE-COND:
> 43 VGS:
44 THR COSSING HGT:
45 VISUAL GLIDE ANGLE:
> 46 CNTRLN-TDZ:
> 47 RVR-RVV:
> 48 REIL:
> 49 APCH LIGHTS:

HIGH	HIGH	HIGH	HIGH
PIR - G / PIR - G	PIR - G / PIR - G	PIR - G / PIR - G	PIR - G / PIR - G
P4R / P4L	P4R / P4L	P4R / P4R	P4L / P4R
51 / 53	57 / 73	56 / 55	54 / 58
3.00 / 3.00	3.00 / 3.00	3.00 / 3.00	3.00 / 3.00
- / -	Y - Y / Y - Y	Y - Y / Y - Y	Y - Y / Y - N
TR - / TR - N	TMR - / TMR -	TMR - / TMR - N	TR - N / TR - N
/ /	/ /	Y /	/ N
MALSR / MALG	ALSP2 / ALSF2	ALSP2 / ALSF2	MALSR / MALSR

OBSTRUCTION DATA

50 FAR 77 CATEGORY
> 51 DISPLACED THR:
> 52 CTLG OBSTN:
> 53 OBSTN MARKED/LGTD:
> 54 HGT ABOVE RWY END:
> 55 DIST FROM RWY END:
> 56 CNTRLN OFFSET:
57 OBSTN CLNC SLOPE:
58 CLOSE-IN OBSTN:

PIR / PIR	PIR / PIR	PIR / PIR	PIR / PIR
/ /	/ /	/ /	467 / 201
TREE / SIGN	/ /	BLDG / TOWER	ROAD / SIGN
/ /	/ /	/ /	/ /
31 / 18	/ /	54 / 42	30 / 86
825 / 750	/ /	2,025 / 1,850	300 / 2,800
250L / 450R	/ /	600L / 580R	500L / 900L
20:1 / 30:1	/ /	33:1 / 35:1	3:1 / 30:1
N / N	N / N	N / N	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):
> 61 TAKE OFF DIST AVBL (TODA):
> 62 ACLT STOP DIST AVBL (ASDA):
> 63 LNDG DIST AVBL (LDA):

7,602 / 7,602	9,001 / 9,001	9,003 / 9,003	11,019 / 11,019
7,602 / 7,602	9,001 / 9,001	9,003 / 9,003	11,019 / 11,019
7,352 / 7,602	9,001 / 9,001	9,003 / 9,003	11,019 / 11,019
7,352 / 7,602	9,001 / 9,001	9,003 / 9,003	10,562 / 10,819

(*) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

A 012 202 MUNICIPAL COURT BLDG.
A 014 DIRECTOR OF AIRPORTS.
A 024 LNDG FEE BASED ON ACFT WEIGHT COLLECTED BY FBO.
A 030 RWY 30X THIS RWY EXISTS TO SUPPORT THE (RMK) LDA/DME ASSOCIATED WITH RWY 30L.
A 035 RWY 12L/30R RUNWAY LOAD CAPACITY: ST175
A 035 RWY 12R/30L RUNWAY LOAD CAPACITY: ST175
A 036 RWY 06/24 RUNWAY LOAD CAPACITY: ST175
A 057 RWY 12R APCH RATIO FM DSPLCD THR 25:1.
A 057 RWY 30L APCH RATIO FM DSPLCD THR 34:1.
A 110-010 WAIVER TO CONDUCT SIMULTANEOUS APCHS TO PARALLEL RYS SEPARATED BY 1,300 FT IN EFFECT.
A 110-015 WG TIP CLNC WITH GND VEH NOT ADEQUATE ALONG N SIDE OF MAIN TRML APN.
A 110-016 MISC: MIL ACFT PLANNING TO ARR WHEN WX IS ANTICIPATED TO BE LESS THAN 1200/5 MUST FILE F/T PLAN BEFORE 0900Z+.
A 110-033 ASDE-X IN USE. OPERATE TRANSPONDERS WITH ALTITUDE REPORTING MODE AND ADS-B (IF EQUIPPED) ENABLED ON ALL AIRPORT SURFACES.
111 INSPECTOR: (F) 112 LAST INSP: 08/16/2017 113 LAST INFO REQ:



> 1 ASSOC CITY: ***CONTINUED*** 4 STATE: MO LOC ID: STL FAA SITE NR: 12077.1A
> 2 AIRPORT NAME: 5 COUNTY: 7 SECT AERO CHT:
> 3 CBD TO AIRPORT (NM): 6 REGION/ADO: ACE/NONE

GENERAL
10 OWNERSHIP:
> 11 OWNER:
> 12 ADDRESS:

> 13 PHONE NR:
> 14 MANAGER:
> 15 ADDRESS:

> 16 PHONE NR:
> 17 ATTENDANCE SCHEDULE:

SERVICES
> 70 FUEL:

> 71 AIRFRAME RPRS:
> 72 PWR PLANT RPRS:
> 73 BOTTLE OXYGEN:
> 74 BULK OXYGEN:
75 TGNT STORAGE:
76 OTHER SERVICES:

BASED AIRCRAFT
90 SINGLE ENG:
91 MULTI ENG:
92 JET:
TOTAL:

93 HELICOPTERS:
94 GLIDERS:
95 MILITARY:
96 ULTRA-LIGHT:

18 AIRPORT USE:
19 ARPT LAT:
20 ARPT LONG:
21 ARPT ELEV:
22 ACREAGE:
> 23 RIGHT TRAFFIC:
> 24 NON-COMM LANDING:

25 NPAS/IFED AGREEMENTS:
> 26 FAR 139 INDEX:

FACILITIES
> 80 ARPT BCN:
> 81 ARPT LGT SKED:
BCN LGT SKED:
> 82 UNICOM:
> 83 WIND INDICATOR:
84 SEGMENTED CIRCLE:
85 CONTROL TWR:
86 FSS:
87 FSS ON ARPT:

88 FSS PHONE NR:
89 TOLL FREE NR:

OPERATIONS
100 AIR CARRIER:
102 AIR TAXI:
103 G A LOCAL:
104 G A ITRRNT:
105 MILITARY:
TOTAL:

OPERATIONS FOR
12 MONTHS
ENDING:

RUNWAY DATA

> 30 RUNWAY IDENT:
> 31 LENGTH:
> 32 WIDTH:
> 33 SURF TYPE-COND:
> 34 SURF TREATMENT:
35 GROSS WT: S
36 (IN THSDS) D
37 2D
38 2D/2D2
> 39 PCN:

30X
0
0

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:
> 42 RWY MARK TYPE-COND:
> 43 VGS:
44 THR CROSSING HGT:
45 VISUAL GLIDE ANGLE:
> 46 CNTRLN-TDZ:
> 47 RVR-RVV:
> 48 REIL:
> 49 APCH LIGHTS:

- / - - / - - / - - / -
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/ / / /
- / - - / - - / - - / -
- / - - / - - / - - / -
/ / / /
/ / / /

OBSTRUCTION DATA

50 FAR 77 CATEGORY:
> 51 DISPLACED THR:
> 52 CTLG OBSTN:
> 53 OBSTN MARKED/LGTD:
> 54 HGT ABOVE RWY END:
> 55 DIST FROM RWY END:
> 56 CNTRLN OFFSET:
57 OBSTN CLNC SLOPE:
58 CLOSE-IN OBSTN:

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/ / / / / /
/ / / / / /
/ / / / / /
/ / / / / /
/ / / / / /
N / N / / / / / /

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):
> 61 TAKE OFF DIST AVBL (TODA):
> 62 ACFT STOP DIST AVBL (ASDA):
> 63 LNDG DIST AVBL (LDA):

/ / / / / /
/ / / / / /
/ / / / / /
/ / / / / /

(-) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

- A 110-037 A-GEAR: A-G ARE KEPT IN RECESSED POSN TIL REQ FOR USE. TWR MUST BE NOTIFIED AT LEAST 5 SEC PRIOR TO ENGAGEMENT SO THAT CABLE MAY BE RAISED.
- A 110-039 TWY D OR TAXILANE C FM TWY S TO TWY H. B-747 OR LARGER ACFT ARE NOT AUTHORIZED TO PASS OR BE PASSED BY B-767 OR LARGER ACFT OPERATING ON THE PARALLEL TWY/TAXILANE.
- A 110-040 TWY P, EAST OF THE PAPA PAD TO TWY F, RESTRICTED TO ACFT WITH A WINGSPAN OF LESS THAN 79 FT (J3-41 AND E-120). WHEN ACFT ARE PARKED ON THE PAPA PAD, THIS AREA IS RESTRICTED TO ALL OPS WHEN ACFT ARE PERFORMING ENGINE RUN-UPS IN THE PAPA PAD.
- A 110-041 TWY V, UNDERLYING THE RWY 12L FINAL APPROACH COURSE IS RESTRICTED TO ACFT SMALLER THAN A DC-9 (25 FT OR LESS), WHEN ACFT ARE LANDING ON RWY 12L.
- A 110-042 TWY E, BTN TWY P AND TWY N, RESTRICTED TO B-767 OR SMALLER ACFT (WINGSPAN LESS THAN 171 FT) WHEN ACFT ARE PARKED ON THE ECHO PAD.
- A 110-043 TWY C, EAST OF TWY D ONE TO THE APPROACH END OF RWY 30L, RESTRICTED TO B-727 OR SMALLER ACFT (WINGSPAN OF 118 FT OR LESS) WHEN ACFT ARE PARKED ON THE JULIET PAD.

111 INSPECTOR: (F) 112 LAST INSP: 08/16/2017 113 LAST INFO REQ:



> 1 ASSOC CITY: ***CONTINUED*** 4 STATE: MO LOC ID: STL FAA SITE NR: 12077.A
> 2 AIRPORT NAME: 5 COUNTY:
> 3 CBD TO AIRPORT (NM): 6 REGION/ADO: ACE/NONE 7 SECT AERO CHT:

GENERAL

10 OWNERSHIP:
> 11 OWNER:
> 12 ADDRESS:

> 13 PHONE NR:
> 14 MANAGER:
> 15 ADDRESS:

> 16 PHONE NR:
> 17 ATTENDANCE SCHEDULE:

18 AIRPORT USE:
19 ARPT LAT:
20 ARPT LONG:
21 ARPT ELEV:
22 ACREAGE:
> 23 RIGHT TRAFFIC:
> 24 NON-COMM LANDING:

25 NPIAS/FED AGREEMENTS:
> 26 FAR 139 INDEX:

RUNWAY DATA

> 30 RUNWAY IDENT:
> 31 LENGTH:
> 32 WIDTH:
> 33 SURF TYPE-COND:
> 34 SURF TREATMENT:
35 GROSS WT: S
36 (IN THSDS) D
37 2D
38 2D/2D2
> 39 PCN:

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:
> 42 RWY MARK TYPE-COND:
> 43 VGSII:
44 THR CROSSING HGT:
45 VISUAL GLIDE ANGLE:
> 46 CNTRLN-TDZ:
> 47 RVR-RVV:
> 48 REIL:
> 49 APCH LIGHTS:

OBSTRUCTION DATA

50 FAR 77 CATEGORY
> 51 DISPLACED THR:
> 52 CTLG OBSTN:
> 53 OBSTN MARKED/LGTD:
> 54 HGT ABOVE RWY END:
> 55 DIST FROM RWY END:
> 56 CNTRLN OFFSET:
57 OBSTN CLNC SLOPE:
58 CLOSE-IN OBSTN:

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):
> 61 TAKE OFF DIST AVBL (TODA):
> 62 ACLT STOP DIST AVBL (ASDA):
> 63 LNDG DIST AVBL (LDA):

SERVICES

> 70 FUEL:

> 71 AIRFRAME RPRS:
> 72 PWR PLANT RPRS:
> 73 BOTTLE OXYGEN:
> 74 BULK OXYGEN:
75 TONT STORAGE:
76 OTHER SERVICES:

FACILITIES

> 80 ARPT BCN:
> 81 ARPT LGT SKED:
BCN LGT SKED:
> 82 UNICOM:
> 83 WIND INDICATOR:
84 SEGMENTED CIRCLE:
85 CONTROL TWR:
86 FSS:
87 FSS ON ARPT:
88 FSS PHONE NR:
89 TOLL FREE NR:

BASED AIRCRAFT

90 SINGLE ENG:
91 MULTI ENG:
92 JET:
TOTAL:

93 HELICOPTERS:
94 GLIDERS:
95 MILITARY:
96 ULTRA-LIGHT:

OPERATIONS

100 AIR CARRIER:
102 AIR TAXI:
103 G A LOCAL:
104 G A ITNRNT:
105 MILITARY:
TOTAL:

OPERATIONS FOR
12 MONTHS
ENDING:

> 40 EDGE INTENSITY:	- / -	- / -	- / -	- / -
> 42 RWY MARK TYPE-COND:	/ /	/ /	/ /	/ /
> 43 VGSII:	/ /	/ /	/ /	/ /
44 THR CROSSING HGT:	/ /	/ /	/ /	/ /
45 VISUAL GLIDE ANGLE:	/ /	/ /	/ /	/ /
> 46 CNTRLN-TDZ:	- / -	- / -	- / -	- / -
> 47 RVR-RVV:	- / -	- / -	- / -	- / -
> 48 REIL:	/ /	/ /	/ /	/ /
> 49 APCH LIGHTS:	/ /	/ /	/ /	/ /
50 FAR 77 CATEGORY	/ /	/ /	/ /	/ /
> 51 DISPLACED THR:	/ /	/ /	/ /	/ /
> 52 CTLG OBSTN:	/ /	/ /	/ /	/ /
> 53 OBSTN MARKED/LGTD:	/ /	/ /	/ /	/ /
> 54 HGT ABOVE RWY END:	/ /	/ /	/ /	/ /
> 55 DIST FROM RWY END:	/ /	/ /	/ /	/ /
> 56 CNTRLN OFFSET:	/ /	/ /	/ /	/ /
57 OBSTN CLNC SLOPE:	/ /	/ /	/ /	/ /
58 CLOSE-IN OBSTN:	/ /	/ /	/ /	/ /
> 60 TAKE OFF RUN AVBL (TORA):	/ /	/ /	/ /	/ /
> 61 TAKE OFF DIST AVBL (TODA):	/ /	/ /	/ /	/ /
> 62 ACLT STOP DIST AVBL (ASDA):	/ /	/ /	/ /	/ /
> 63 LNDG DIST AVBL (LDA):	/ /	/ /	/ /	/ /

(-) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

- A 110-044 TAXILANE C, FM TWY S TO TWY R, RESTRICTED TO B-767 OR SMALLER ACFT (156 FT AVBL) WHEN AFT ARE PARKED IN THE CHARLIE PAD. RESTRICTION IS FOR TAXIING ACFT, LARGER ACFT MAY BE TOWED THROUGH THE AREA.
- A 110-045 TAXILANE C FM TWY P TO TWY L, RESTRICTED TO A B-757 300 SERIES OR SMALLER WHEN PASSING BEHIND ACFT THAT HAVE MADE THE INITIAL 10 FT PUSHBACK.
- A 110-046 TWY A EAST OF TWY T, TWY S AND RY 06/24 SOUTH OF TWY B. NO ACFT OR VEHICLE OPS WHEN DEPARTING RY 11 OR ARRIVING RY 29.
- A 110-047 TWY L NORTH OF RWY 12L/30R, ACFT LARGER THAN A G5 TAXIING NORTHBOUND ARE PROHIBITED FM MAKING A RIGHT TURN EASTBOUND ON TWY F.

111 INSPECTOR: (F) 112 LAST INSP: 09/18/2017 113 LAST INFO REQ:

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FAA Approved

Date: AUG 16 2018

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 Date: AUG 16 2018

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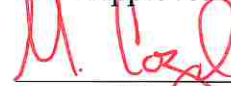
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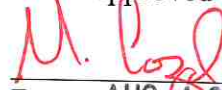
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139.105 INSPECTION AUTHORITY

The Director of Airports, or his designee, shall allow properly identified FAA personnel to conduct such inspections or tests, announced or unannounced, as necessary to ensure compliance of St. Louis Lambert International Airport with the requirements set forth in Far Part 139, and those set forth in this Certification Manual for airport certification.

105-1

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A red handwritten signature, likely of a representative of the FAA, is written over the 'FAA Approved' text.

Date: AUG 16 2018

139.111 EXEMPTIONS FROM CERTIFICATION

At this time there are no exemptions to FAR Part 139 relative to this Airport Certification Manual.

111-1

FAA Approved

M. Muller
Date: AUG 22 2005

139.113 DEVIATIONS TO PART 139 REQUIREMENTS

1. Deviations.

In emergency conditions requiring immediate action for the protection of life or property, the certificate holder may deviate from any requirement of subpart D of this part, or the Airport Certification Manual, to the extent required to meet that emergency.

2. Reporting.

Each certificate holder who deviates from a requirement under this section must, within 14 days after the emergency, notify the Regional Airports Division Manager of the nature, extent, and duration of the deviation. When requested by the Regional Airports Division Manager, the certificate holder must provide this notification in writing.

139.115 FALSIFICATION, REPRODUCTION, OR ALTERATION OF CERTIFICATES, REPORTS, OR RECORDS

1. The Airport shall not make or cause to be made:
 - A. Any fraudulent or internally false entry in any record or report that is required to be Made, kept, or used to show compliance with any requirement under this part.
 - B. Any reproduction, for a fraudulent purpose, of any certificate or approval issued under this part.
 - C. Any alteration, for a fraudulent purpose, of any certificate or approval issued under this part.
2. The Airport understands that the commission of an act prohibited under Part 139.115 is a basis for suspending or revoking of the Airport Operating Certificate by the FAA.

139.201 GENERAL REQUIREMENTS

1. Administrator's Additional Provisions, Limitations, and Exemptions

At this time, there are no additional provisions, limitations, or exemptions relative to this Airport Certification Manual.

2. Airport Information

A. Address

ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
10701 Lambert International Boulevard, Room MTN 2276
P.O. Box 10212, Lambert Station
St. Louis, Mo. 63145
Office Hours: 8:30 a.m. to 5:00 p.m., Monday-Friday
Phone: 314-426-8000/Fax: 314-426-5733
www.flystl.com

B. Location

St. Louis Lambert International Airport is located approximately 10 miles northwest of Downtown St. Louis.

C. Airport Operator

St. Louis Lambert International Airport is owned by the City of St. Louis and is operated as a Class I airport by the City of St. Louis Airport Authority as directed by the City of St. Louis Airport Commission.

D. System of Runway and Taxiway Identification

All runways carry standard magnetic heading information. In addition, parallel runways are designated as right or left runways. Identifications of runways are as follows:

Runway 11-29
Runway 12 Left – 30 Right
Runway 12 Right – 30 Left
Runway 6-24

All taxiways are identified by alpha numeric designation and are 75 feet wide or wider, with the exception of Taxiway Kilo-1 and Taxiway Foxtrot-4 to

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139.205 AMENDMENT OF AIRPORT CERTIFICATION MANUAL

1. Procedures for Revision/Amendment of ACM

No less than once per year, the entire ACM shall be reviewed to determine if any changes have occurred since the last review. Any items requiring change shall be submitted to the FAA Regional Office for approval, and upon approval will be inserted or deleted in the ACM.

In addition, the ACM shall be updated or amended as directed by FAA Change Notices.

2. Person Responsible for ACM Maintenance

Maintenance, review, and changes to the ACM shall be the responsibility of the Airport Operations Center personnel as directed by the Assistant Director of Operations & Maintenance or Airport Operations Supervisor.

3. ACM to Be Maintained Current At All Times

The official ACM copy, and all additional copies or parts of the ACM shall be maintained current in accordance with Paragraph 1 of this section.

4. Location of Official ACM Copy at the Airport

An official copy of the ACM shall be kept at all times in the Airport Director's Office, and the Airport Operations Center.

5. ACM Furnished To Airport Personnel

Copies or parts of the ACM shall be distributed to Airport Authority Departments and appropriate airport tenants in accordance with the ACM Distribution List on Pages ACM-2 and ACM-3.

In addition, applicable changes as directed by the FAA will be forwarded to these tenants to maintain ACM current status.

6. Official ACM Copy Available For Inspection

Official copies of the ACM shall be available for inspection by the FAA, airlines, or other interested parties with a need to know in either of the above offices as listed in Paragraph 4 of the section.

7. FAA Provided With Current Copy Of ACM

Copies of the ACM shall be distributed to the appropriate FAA offices in accordance with the ACM Distribution List on Page ACM-2.

205-2

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M. Mullen
Date: MAR 29 2006

139.301 RECORDS

1. Furnish Records

Upon request of the Administrator, the airport will furnish records listed under this section.

2. List of Required Records

The airport will maintain the following records:

- A. Personnel Training - 24 consecutive months for personnel training records under Sections 303 and 327.
- B. Emergency Personnel Training – 24 consecutive months for ARFF & emergency medical service personnel training records under Section 319.
- C. Airport Fueling Agent Inspection – 12 consecutive months for records of inspection of airport fueling agents under Section 321.
- D. Fueling Personnel Training – 24 consecutive months for training records of fueling personnel under Section 321.
- E. Self Inspection – 12 consecutive months for self-inspection records under Section 327.
- F. Movement Areas and Safety Areas Training – 24 consecutive months for records of training given to pedestrians and ground vehicle operators with access to movement areas and safety areas under Section 329.
- G. Accident and Incident - 12 consecutive months for each accident or incident in movement areas and safety areas involving an air carrier aircraft and/or ground vehicle under Section 329.
- H. Airport Condition – 12 consecutive months for records of airport condition information dissemination under Section 339.

139.303 PERSONNEL

1. Personnel Requirements

The Airport Authority at St. Louis Lambert International Airport shall maintain sufficient, qualified personnel at all times to meet the requirements of both this ACM and the requirements of FAR Part 139.

The Airport Authority shall equip personnel with sufficient resources needed to comply with the requirements of FAR Part 139.

2. List of Key Personnel

The Organizational Charts, as shown on the following pages of this section, list the key personnel of the Airport Authority at St. Louis Lambert International Airport.

3. Lines of Succession

In addition to listing the key personnel, the Organizational Chart also shows the direct lines of succession from the Airport Director down through the Director's Assistants and the departments they head.

The departments listed under the responsibility of the Assistant Directors are headed by Managers or Department Supervisors who report directly to the Assistant Directors. Personnel in the various departments report to the department Supervisor or Manager.

4. Training

The Airport Operations Center shall train all personnel who access movement and safety areas and perform duties in compliance with the requirements of the ACM and Part 139. This training must be completed on the Interactive Employee Training (IET) computers through the airport's Safety & Operations Department's computers before the initial performance of such duties, and at least once every 12 consecutive calendar months. The curriculum for initial and recurrent training must include at least the following areas:

- A. Airport Familiarization, including airport marking, lighting, and signs system.
- B. Procedures for access to, and operations, in movement areas and safety areas, as specified in Part 139.
- C. Airport communications, including radio communication between air traffic control tower and personnel.
- D. Any additional subject areas required under Part 139, Sections 319, 321, 325, 327, 329, 337, and 339 as appropriate.

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E. All initial training will be done through the classroom training that is already established. All recurrent training will be done through the IET computers.

Make a record of all training completed by each individual in compliance with this section that includes, at a minimum, a description and date of training received. Such records shall be maintained for 24 consecutive calendar months after completion of training.

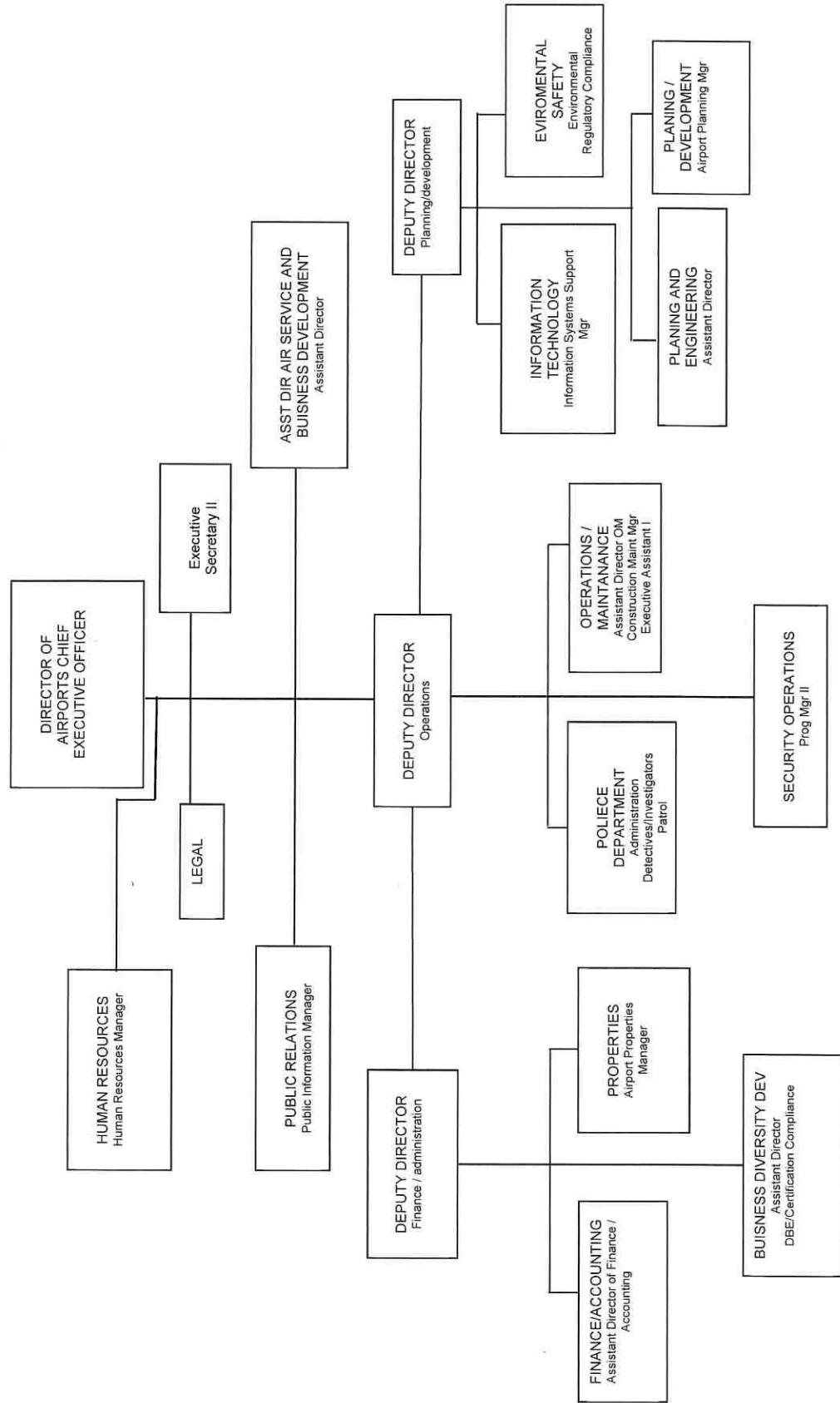
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Date: AUG 16 2018

ST. LOUIS LAMBERT
INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART
June 01, 2018

EXECUTIVE STAFF



303-3

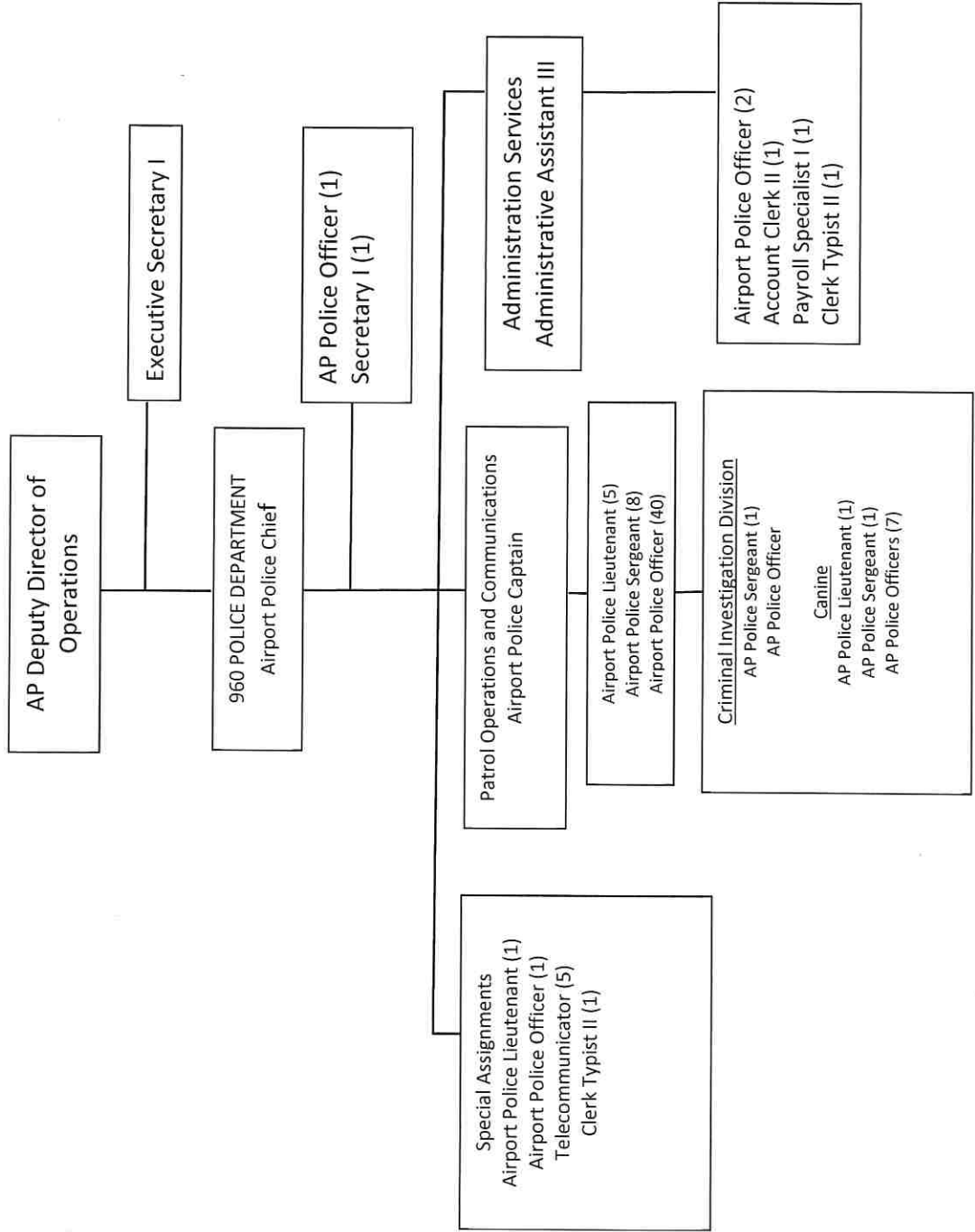
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M. G. [Signature]

Date: AUG 16 2018

ST. LOUIS LAMBERT INTERNATIONAL
 AIRPORT
 ORGANIZATIONAL CHART
 JUNE 1, 2018

POLICE DEPARTMENT



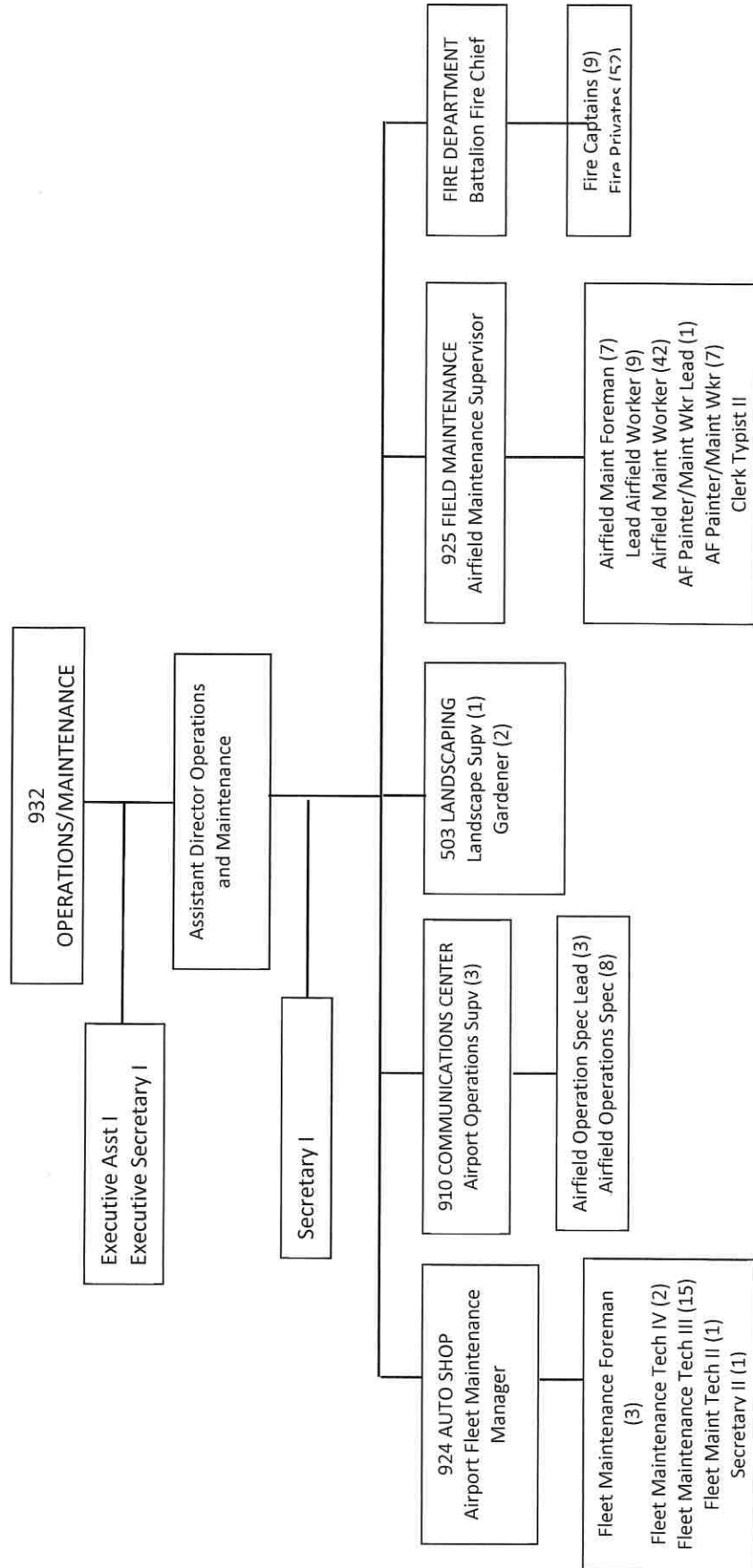
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ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART
 JUNE 1, 2018

OPERATIONS AND MAINTENANCE – FIELD
 OPERATIONS



303-5

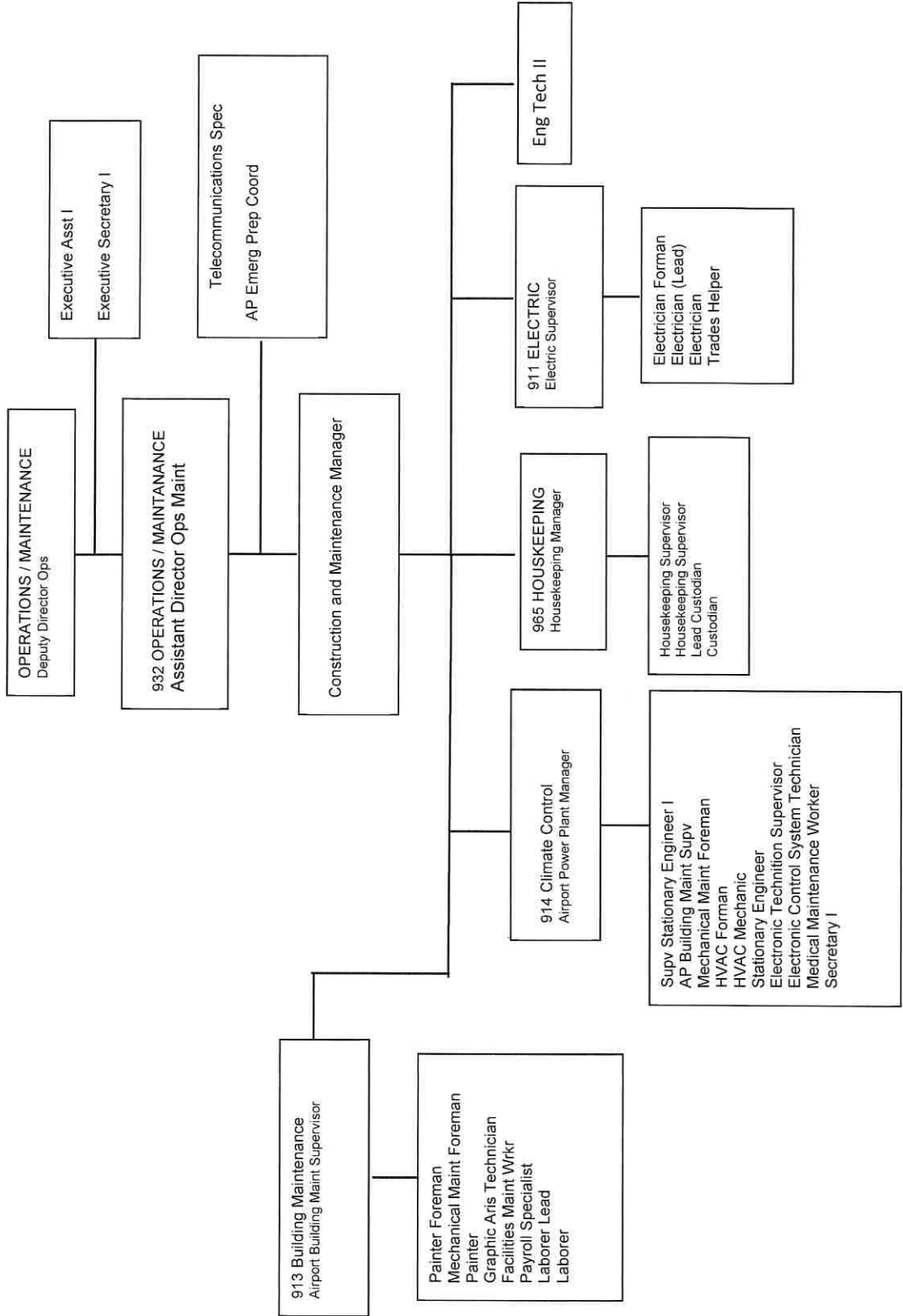
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ORGANIZATIONAL CHART
June 01, 2018**

**OPERATIONS AND MAINTANANCE
BUILDING OPERATIONS**



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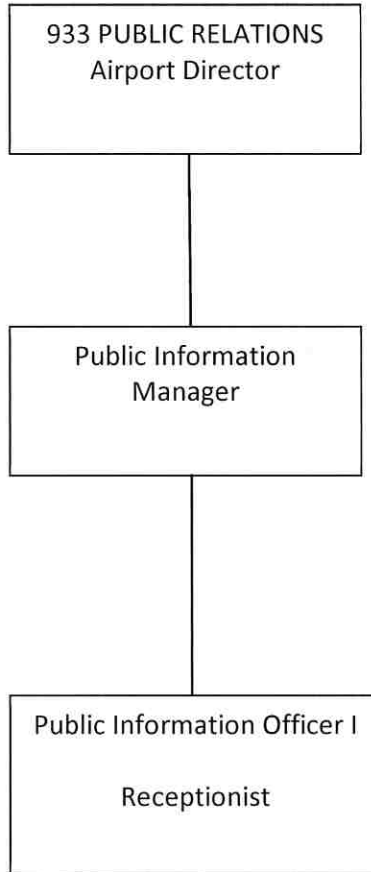
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PUBLIC RELATIONS



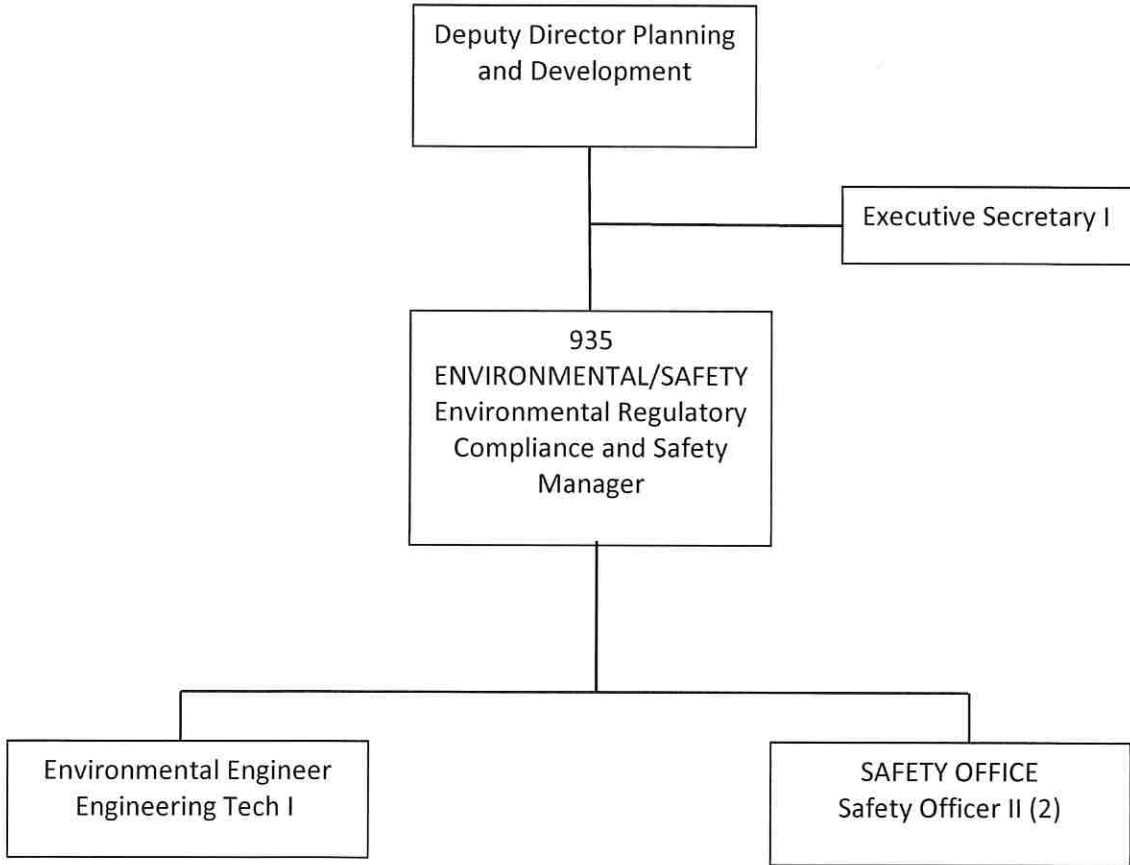
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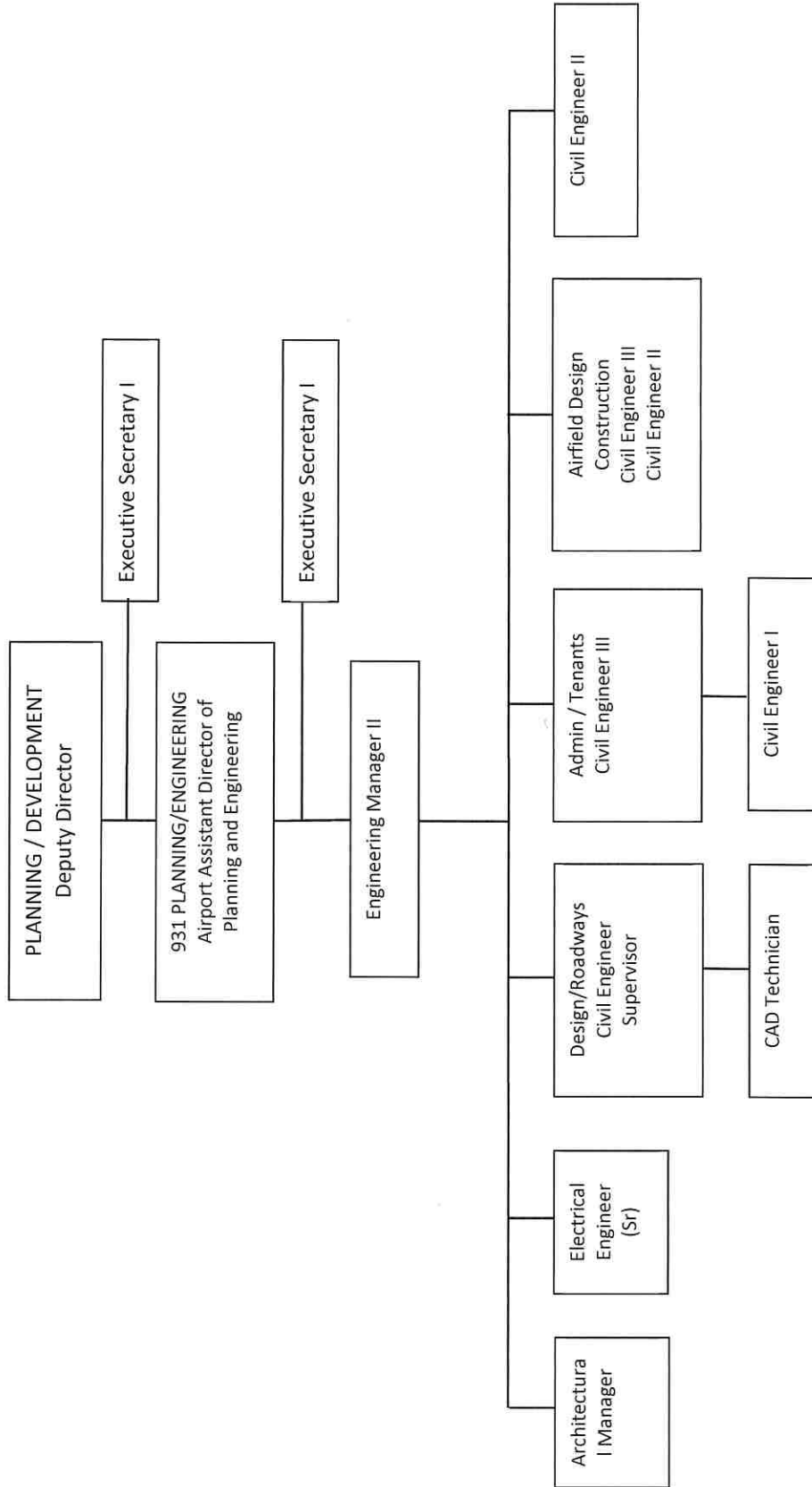
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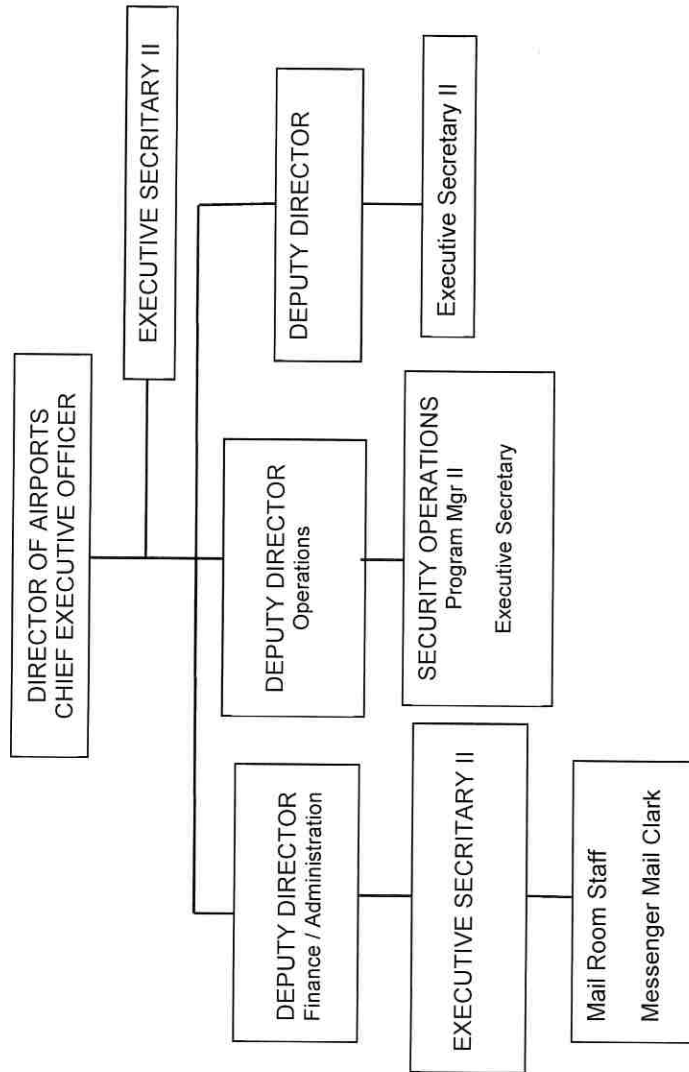
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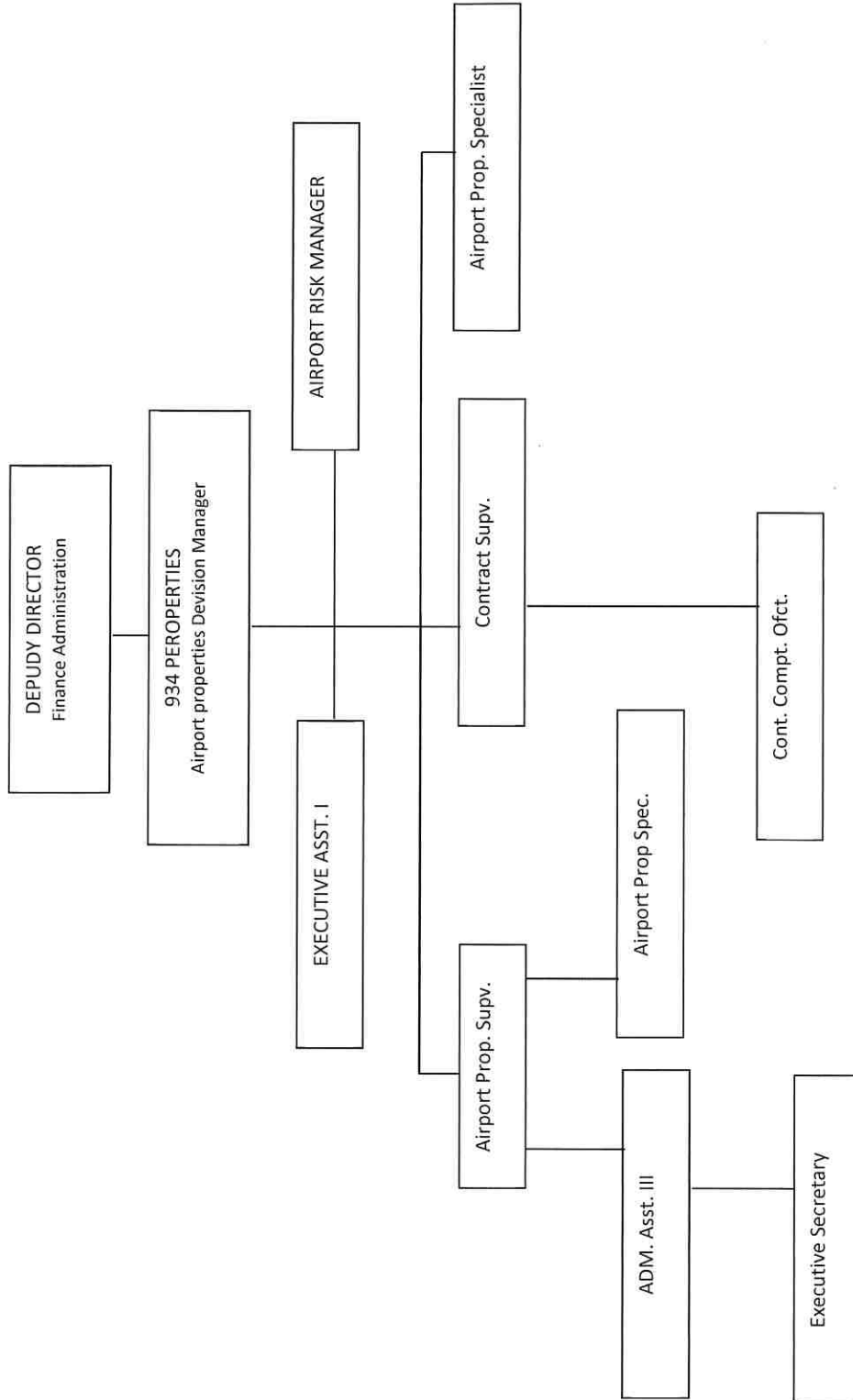
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PROPERTIES



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139.305 PAVED AREAS

1. Required Pavement Conditions.

All airport paved areas are of either asphalt or concrete pavement. Areas include runways, taxiways, airline ramp areas, parking aprons, and vehicle roadways. St. Louis Lambert International Airport Authority shall maintain and, as expeditiously as possible, repair any and all paved areas. Work will be performed in conjunction with the following guidelines:

- A. Pavement edges will not exceed 3 inches difference in elevation between abutting pavement sections and between full strength pavement and abutting shoulders.
- B. The pavement shall have no holes exceeding 3 inches in depth nor have a slope of which from any point in the hole to the lip is 45 degrees or greater as measured from the pavement surface plane, unless, in either case, the entire area of the hole can be covered by a 5-inch diameter circle.
- C. The pavement shall be free of cracks and surface variations which could impair directional control of air carrier aircraft. Any pavement crack or surface deterioration that produces loose aggregate or other contaminants shall be immediately repaired.
- D. Mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants shall be removed promptly and as completely as possible. This requirement does not apply to the associated use of materials such as sand and de-icing solutions for snow removal and ice control.
- E. Any chemical solvent used to clean any pavement area shall be removed as soon as possible, consistent with the instructions of the manufacturer of the solvent.
- F. The pavement shall be sufficiently drained and free of depressions to prevent ponding that obscures markings or impairs safe aircraft operations.

2. Inspection and Maintenance of Paved Areas by Operations Center personnel.

- A. Pavement areas are inspected in accordance with AC 150/5200-18, current edition, Airport Safety Self Inspection.
- B. Paved areas are inspected daily during the morning field inspection performed by Operations Center personnel under the direction of the Operations Center Supervisor. In addition, Field Maintenance or Operations Center personnel may make unscheduled, spontaneous inspections as a part of their daily assignments or

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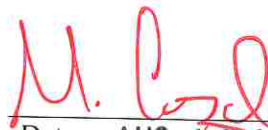
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in response to conditions which may arise. On occasion, or as requested, airline personnel are allowed to accompany Field Maintenance or Operations Center personnel on field inspections.

- C. Pavement conditions requiring corrective actions will be noted on the airport self-inspection checklists; see Appendix A. These checklists will then be turned over to the Field Maintenance Supervisor who will initiate corrective actions or repairs as necessary through the Field Maintenance Department. Repairs beyond the capabilities or scope of the Field Maintenance Department will be noted to the Assistant Director of Planning and Engineering for review and repair by outside contractors.
- D. For pavement conditions requiring immediate attention, if possible, actions will be taken to correct these conditions by Field Maintenance personnel. If immediate corrective actions are not possible, Operations Center personnel will be notified and an amendment to the Airport Condition Report will be issued if appropriate. If the condition does not require an amendment, Operations Center personnel will contact FAA ATCT, airlines, or airport tenants who may be affected by the condition.
- E. Once a repair or corrective action has been taken, Field Maintenance personnel will notify the Field Maintenance Supervisor and the Operations Center personnel. If an amendment to the Airport Condition Report was issued, the Operations Center personnel will cancel the respective amendment and notify any affected tenants that the addressed condition has been corrected.
- F. Airport self-inspection checklists are maintained on file in the Director's Office for no less than 12 consecutive calendar months.

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139.309 SAFETY AREAS

See Appendix B for runway and taxiway safety area locations.

1. Safety Area Dimensions.

Safety areas are maintained at the dimensions that existed on or before December 31, 1987. If a runway or taxiway is reconstructed, or a runway is extended, safety area dimensions shall conform to FAA standards in AC 150/5300-13, current edition, Airport Design, unless authorized by the Administrator. Safety areas dimensions are as follows:

Runway 6-24 – 250 feet from centerline and 1000 feet off each end.

Runway 11-29 – 250 feet from centerline and 1000 feet off each end.

Runway 12R-30L – 250 feet from centerline and 1000 feet off each end.

Runway 12L-30R – 250 feet from centerline, 1000 feet off the Runway 12L approach end, and 1000 feet off the Runway 30R approach end.

Taxiways – 85 feet from the centerline.

The precision approach runways at Lambert, Runways, 6-24, 11-29, 12R-30L, and 12L-30R, meet the safety area specifications for Airplane Design Group IV Aircraft, aircraft with wingspans from 118 feet up to but not including 171 feet.

All taxiways at Lambert meet the safety area specifications for Airplane Design Group IV Aircraft, aircraft with wingspans from 118 feet up to but not including 171 feet.

With the exception of the taxiways listed below, all runways and taxiways consist of stabilized pavement shoulders then turf. Stabilized shoulders are 25 feet wide and are of either asphalt or concrete construction.

2. Safety Areas of Turf and shoulders less than 25 feet.

A. Taxiway Victor from Runway 12R/30L to Taxiway Foxtrot (15 feet wide, asphalt).

3. Required Conditions of Safety Areas.

Safety areas are maintained as follows:

A. All runway and taxiway safety areas are kept clear of debris and foreign objects and

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are maintained free of potentially hazardous ruts, humps, depressions, or other surface irregularities.

- B. All safety areas are drained by means of grading and storm sewers.
- C. All safety areas, when dry, are capable of supporting the weight of snow removal equipment, ARFF equipment, Airport Authority and airline vehicles, and the occasional aircraft which may stray off of a runway or taxiway onto a safety area. Manhole covers and storm sewer grates are made of steel and are of sufficient thickness and strength to support vehicles and/or aircraft.
- D. To the extent practicable, all items constructed within runway or taxiway safety areas will be constructed with frangible mounts with the frangible points being no more than 3 inches higher than the surrounding grade.
- E. Safety areas shall conform to dimensions acceptable to the FAA if any runways or taxiways are constructed, reconstructed, or extended.

4. Inspection And Maintenance Of Safety Areas.

- A. Safety areas are inspected daily during the morning field inspections performed by Operations Center personnel under the direction of the Operations Center Supervisor. In addition, Field Maintenance or Operations Center personnel may make unscheduled, spontaneous inspections as a part of their daily assignments or in response to conditions which may arise.
- B. Safety area conditions requiring corrective actions will be noted on the Airport self-inspection checklists; See Appendix A. These checklists will then be turned over to the Field Maintenance Supervisor who will initiate corrective actions or repairs as necessary through the Field Maintenance Department. Repairs beyond the capabilities or scope of the Field Maintenance Department will be noted to the Assistant Director of Planning and Engineering for review and repair by outside contractors.
- C. For safety area conditions requiring immediate remedy, if possible, actions will be taken to correct these conditions by Field Maintenance personnel. If immediate corrective actions are not possible, Operations Center personnel will be notified, and an amendment to the Airport Condition Report will be issued if appropriate. If the condition does not require an amendment, Operations Center personnel will contact the FAA Control Tower, airlines, or airport tenants who may be affected by the condition.

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- D. Any FAA-owned NAVAIDS inside safety areas are the maintenance responsibility of the FAA although the Operations Center personnel will inspect these items as a part of their daily field inspections. Any NAVAID which the Operations Center personnel may find in need of repair will be noted on the Airport self-inspection checklist and given to the Field Maintenance Supervisor who will in turn notify the Assistant Director of Operations & Maintenance. The Assistant Director of Operations & Maintenance will notify the FAA Control Tower and the FAA Sector Field Office so that FAA personnel may initiate repairs or corrective actions as needed.
- E. Once a repair or corrective action has been taken, Field Maintenance personnel will notify the Field Maintenance Supervisor and the Operations Center personnel. If an amendment to the Airport Condition Report has been issued, the Operations Center personnel will cancel the respective amendment and notify any affected Airport tenants and FAA Airway Facilities personnel that the addressed condition has been corrected.
- F. Airport self-inspection checklists are maintained on file in the Airport Operations Office for no less than 12 months.

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139.311 MARKING, SIGNS, AND LIGHTING

1. Marking

Runways and Taxiways at St. Louis Lambert International Airport are marked in compliance with Part 139.311 and will meet the requirements set forth in A/C 150/5340-1, current edition, Standards for Airport Markings and in A/C 150/5300-13, current edition, Airport Design.

A. Runways

Runway 11-29	Precision Instrument (Configuration B)
Runway 12L-30R	Precision Instrument (Configuration B)
Runway 12R-30L	Precision Instrument (Configuration B)
Runway 6-24	Precision Instrument (Configuration B)

B. Taxiways

Centerlines, edge markings, and transverse stripes where taxiways have stabilized shoulders.

C. Holding Position Markings:

<u>Runway</u>	<u>Category</u>	<u>Holding Distance</u>
11-29	D-IV	285'
12R-30L	D-V	285'
12L-30R	D-V	285'
6-24	D-IV	255'

In addition to the runway hold position markings, an ILS holding position marking is installed on Taxiway Delta and on Taxiway Hotel at the boundary of the Precision Obstacle Free Zone (POFZ) for Runway 30L. Additionally, an intermediate hold position marking has been installed on Taxiway Charlie and on Taxiway Delta at the boundary of the POFZ for Runway 12R. All holding position markings are glass-beaded, highlighted in black and double sized in accordance with AC 150/5340-1, current edition.

D. Blast pads

Blast pads are marked with Chevrons.

2. Signs

Signs at Lambert are in compliance with Part 139.311 and will meet standards in AC 150/5340-18, current edition, Standards for Airport Sign Systems, and sign specifications in AC 150/5345-44, current edition, Specifications for Taxiway and Runway Signs. A modification to the standards has been approved for adding arrows to the holding position signs at the Runway 6 and Runway 29 intersections. The holding position sign for Runway 6 on the right side of the taxiway is canted toward the taxiway.

A. Signs Identifying Taxi Routes

The airport will provide and maintain a sign system for air carrier operations in accordance with FAR Part 139.311 and the Marking and Sign Plan included in Appendix C.

B. Holding Position Signs

Holding position signs are installed at all holding positions in accordance with the Marking and Sign Plan included as Appendix C.

C. ILS Critical Area Signs

ILS critical area signs are installed at all ILS holding positions in accordance with the Marking and Sign Plan included as Appendix C.

3. Lighting

Runway and taxiway lighting at Lambert is in compliance with Part 139.311 and AC 150/5340-30, current edition, Design and Installation Details for Airport Visual Aids. See Appendix B for runway and taxiway lighting locations.

A. Runways

1.) Edge Lighting

All runway lighting consists of high intensity elevated and in-pavement runway edge lights (HIRL) with 5-step intensity control. Runway lights are split white/yellow to mark the caution zone on the last 2000 feet of each end of all runways.

2.) Centerline Lighting

11-29, 12L-30R and 12R-30L have installed runway centerline lights. To warn pilots, alternating red and white lights are in place from 3000 feet to 1000 feet from the runway end, and red lights are installed on the last 1000 foot portion.

3.) Touchdown Zone Lighting

Touchdown zone lighting is in place for runways 11, 12L, 12R, 29, and 30R in accordance with AC 150/5340-30, current edition, Design and Installation Details for Airport Visual Aids.

B. Taxiways

1.) Taxiway Edge Lighting

Medium intensity elevated and in-pavement taxiway lights (MITL) with 3-step intensity control are in place on all taxiways.

2.) Centerline Lighting

Taxiways Alfa-2, 3, 4, & 5 and Echo-1 & 2 have in-pavement centerline lights. These taxiways are acute-angled exits for 11-29 and 12L-30R respectively and have alternating green and yellow in-pavement "lead off" lights between the runway centerline and the runway holding position for each taxiway.

3.) Runway Guard Lights

Elevated RGL fixtures consist of two alternately illuminated, unidirectional yellow lights and are collocated with the runway hold position markings on both sides of all taxiways at Lambert.

In-pavement RGLs consist of a row of alternately illuminated, unidirectional yellow lights and are installed at all runway hold position markings at St. Louis Lambert International Airport.

C. Additional Lighting

- 1.) Medium intensity elevated and in-pavement airline ramp edge lights.
- 2.) Size 4, Class II, internally lighted runway distance remaining signs.
- 3.) Size 3, Class II, internally lighted taxiway guidance signs.

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- 4.) Size 2, Class II, internally lighted taxiway guidance signs located in the island bordered by Taxiway Alfa, Bravo, Tango, and Uniform.

D. Approach Lighting and NAVAIDS

Runway approach lighting at Lambert is in compliance with the requirements set forth in Part 139.311 (c) Approach Lighting Meeting The Specifications For The Approach With The Lowest Minimums Authorized For Each Runway.

Approach lighting and NAVAIDS for each runway at Lambert is as follows:

Runway 11- ALSF-2, TDZL, REIL, PAPI
Runway 12L- ALSF2, TDZL, REIL, PAPI
Runway 12R- MALSR, TDZL, PAPI
Runway 29- ALSF-2, TDZL, REIL, PAPI
Runway 30L- MALSR, REIL, PAPI
Runway 30R- ALSF2, TDZL, PAPI
Runway 6- MALSR, PAPI
Runway 24- MALS, PAPI

E. Airport Beacon

St. Louis Lambert International Airport is equipped with a 36 inch rotating green and white beacon located in the northeast corner of the Airport just East of Signature Aviation. The FAA Air Traffic Control Tower controls the operations of this beacon. The St. Louis Airport Authority is responsible for the maintenance and upkeep of the beacon.

F. Obstruction Lighting and Marking

Obstructions as determined by the FAA which fall under the responsibility of the St. Louis Airport Authority and which may require lighting are as follows:

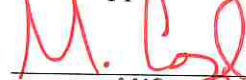
- 1.) Airport Terminal Buildings.
- 2.) FBO Hangars.
- 3.) Airline Hangars.
- 4.) Runway Approach Lighting/Instrument System Components.
- 5.) Perimeter Fence

Obstructions as determined by the FAA which are outside of the Airport perimeter are exhibited in Appendix B.

G. Other Airport Lighting

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Airport lighting at Lambert which is not directly related to aircraft operations, such as Terminal Building lighting, mast lights, ramp and apron floodlights, etc., is either directed downward or shielded to prevent inadvertent blinding of airline personnel or Air Traffic Control Tower personnel and subsequent interruptions of aircraft operations.

4. Maintenance

For conditions which may require immediate remedy, if possible, actions will be taken to correct the discrepancy. If immediate corrective actions are not possible, Operations Center personnel will be notified and, if appropriate, an amendment to the Airport Condition Report will be issued until the discrepancy is corrected or repaired. If the addressed condition does not require an amendment, Operations Center personnel will contact the FAA Control Tower, or any airline or airport tenants who may be affected by the discrepancy.

Once a repair or corrective action has been completed, the Field or Electric Maintenance Departments will notify their respective supervisors who will in turn notify the Operations Center Personnel of the completion of repairs. If an amendment to the Airport Condition Report was issued, Operations Center personnel will cancel the amendment and notify any affected tenants that the discrepancy has been corrected.

The FAA will retain responsibility for maintenance and upkeep of all FAA-owned NAVAIDS, approach lighting, and equipment located at Lambert. Any FAA equipment which Airport personnel find inoperable or in need of repair will be reported to the Assistant Director of Operations & Maintenance who will then notify the local FAA sector office so that they may initiate repairs or corrective actions as needed.

A. Markings and Signs

Each marking, sign, and lighting system installed by the Airport and owned by the Airport will be properly maintained by cleaning, replacing or repairing any faded, missing, or non-functional item. These systems will also be maintained in a manner that prevents them from being obscured, clearly visible, and each item will provide an accurate reference to Airport users.

B. Lighting

Small repairs are made, when possible, by the Electrical Department during their maintenance inspections. Repairs requiring more time are scheduled to take place when their impact will have the least effect on air traffic operations. If necessary, an amendment to the Airport Condition Report will be issued to notify Airmen of the discrepancy and to ensure repairs can be made with a minimum of air traffic interference.

Lighting problems which require an immediate solution will be undertaken by the Airport Electricians. The Airport Operations Center and the Air Traffic Control Tower will coordinate efforts to expedite needed repairs.

Each lighting system will be maintained at least to the minimum operational criteria listed in Appendix A, of AC 150/5340-26, current edition, Maintenance of Airport Visual Aid Facilities. The operating limits for lighting systems before a system is considered inoperable are as follows:

Runway edge lights

- 85% operable for Visual, Non-precision or Cat I runways
- 95% operable for Cat II & III

Runway centerline lights

- 95% operable

Runway TDZ lights

- 90% operable

Runway end/threshold lights

- 75% operable (2 inoperable max. at any runway end)

Taxiway edge lights

- 85% operable

Taxiway centerline lights

- 90% operable

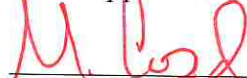
Runway Guard lights

- Elevated- no more than one light in a fixture inoperable
- In-pavement- no more than three lights per location inoperable nor two adjacent lights inoperable

The allowable percentage of inoperable lights shall not be in such a way as to alter the basic pattern of the lighting system. In addition, an inoperable light shall not be adjacent to another inoperable light. Lights are considered adjacent if located either laterally or longitudinally in a lighting system.

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Snow and Ice Control Plan



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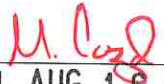
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Phase #1

Pre- and Post-Winter Season Topics

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Chapter 1. Pre-Season Actions

1.1 Airport Preparation

a) Airport Management Meetings

The Deputy Director of Operations & Maintenance, with the assistance of the Assistant Director Operations & Maintenance will typically initiate a series of meetings during the months of September, October and November in order to organize and prepare the Airport community, staff and tenants for the upcoming winter season.

An example of the typical pre-season meetings are as follows:

Snow Team Supervisors - With Airport Operations Supervisors and Airfield Maintenance Supervisor and Foremen to discuss the STL SICP, snow team personnel and equipment staffing & assignments, and snow control techniques.

Airport Authority – All internal Airport Authority departments to discuss equipment and material inventory, repair needs, staffing, budget, training, previous years issue's, and any other topics associated with snow and ice control and its plan.

Airport Operations - Airport Operations training and review meeting will be held by the Assistant Director of Ops & Mx with Airfield Operations Specialist as part of their annual required training requirements to discuss the STL SICP, AC 150/5200-30D Airport Field Condition Assessments and Winter Operations Safety, relevant CertAlerts and industry best practices.

Air Traffic Control - With local FAA Air Traffic Managers, Supervisors and Technical Operations staff to discuss snow clearing Priorities, dissemination of Runway Condition Code (RCC), NOTAMs, and procedures for closing and opening a runway or taxiway. St. Louis TRACON staff, located in St. Charles, are also invited.

Tenants - A winter season kick off meeting will be held by the Airport Deputy Director Operations & Maintenance, or designee, with all available tenants.

Deicing - A deicing meeting will be held with the airlines, deicing contractors and ATCT, to discuss aircraft deicing locations and procedures, coordinated by the Airport Planning Department, with input from the Operations & Maintenance and Environmental Departments.

b) Personnel Training

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All Airport Operations staff, Airfield Maintenance supervisory personnel, and Auto Shop supervisory personnel receive annual, recurrent snow and ice control training. All training for personnel is conducted or verified by the Assistant Director of Operations & Maintenance and/or designees.

Training records are maintained by an Airport Operations Supervisor tasked with maintaining all Part 139 training records.

Training typically consists of a combination of at least one of the following: AAAE Interactive Employee Training (IET), classroom discussion, and/or hands on practical training and review.

i) Airfield Operations Specialists, Lead Airfield Operations Specialists and Airport Operations Supervisors are all required to:

- (1) Take and pass the IET Snow and Ice Control module every 12 consecutive calendar months (CCM).
- (2) Attend an all department Winter Ops training and review staff meeting prior to the start of the winter season.
- (3) Observe and practice operational procedures during an annual mock snow call prior to the start of the winter season.
- (4) As annual operating budgets permit, the Airport Authority attempts to send at least one department representative to an AAAE conference which focuses on snow and ice control. The person selected to attend the conference will conduct a briefing to the other department staff.

ii) Airfield Maintenance Foremen and the Airfield Maintenance Supervisor are all required to:

- (1) Take and pass the IET Snow and Ice Control module every 12 consecutive calendar months (CCM).
- (2) Attend the AFM Winter Ops review meeting prior to the start of the winter season.
- (3) Observe and practice operational procedures during an annual mock snow call prior to the start of the winter season.
- (4) As annual operating budgets permit, the Airport Authority attempts to send at least one department representative to an AAAE conference which focuses on snow and ice control. The person selected to attend the conference will conduct a briefing to the other departmental supervisory staff.

iii) Airfield Maintenance Workers (heavy equipment operators) are required to:

- (1) Take and pass the IET Snow and Ice Control module every 12 consecutive calendar months (CCM).

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- (2) Practice operational procedures and techniques during an annual mock snow call prior to the start of the winter season.

iv) Fleet Maintenance Technicians, Fleet Maintenance Foremen and the Fleet Maintenance Manager are required to:

- (1) Take and pass the IET Snow and Ice Control module every 12 consecutive calendar months (CCM).
- (2) Observe and practice operational procedures during an annual mock snow call prior to the start of the winter season.
- (3) As annual operating budgets permit, the Airport Authority attempts to send at least one representative to an AAAE conference which focuses on snow and ice control. The person selected to attend the conference will conduct a briefing to the other departmental supervisory staff.

v) Ramp Contractor Supervisory staff confined to the Non- Movement Area / are required to:

- (1) Take and pass the IET Snow and Ice Control, Airline Ramp Safety (non-movement area) modules every 24 consecutive calendar months (CCM).

c) Equipment Preparation

An Airport Operations Supervisor responsible for 139 certification shall coordinate with the Fleet Maintenance Manager to ensure the airports Halladay Technologies RT3 will be calibrated, updated and certified annually prior to the winter season. This Airport Operations Supervisor shall ensure the Airport's Bowmonk Decelerometer is factory calibrated annually, prior to the snow season.

The Fleet Maintenance Manager will inspect and prepare each piece of snow removal equipment by November 1 of each year. Required fluids, replacement parts, and snow removal equipment components will be inventoried and stockpiled and reported to the Assistant Airport Director Operations & Maintenance.

He/she shall ensure Out of Service equipment will be kept up to date on the Snow Removal Asset Status page located on the local Intranet.

1.2 Airport Authority and Tenant Snow and Ice Control Meetings.

Prior to the start of the winter season, which begins November 1 and ends April 15, the Operations senior management will host an Airport Authority Departmental meeting, to plan for personnel mobilization, equipment and supplies in order to meet the expected winter events.

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Attendees at the Airport Authority Departmental meeting general consist of the Airport Deputy Director Operations & Maintenance, Assistant Director Operations & Maintenance, Airfield Maintenance Supervisor, Airport Operations Supervisors, Safety Management System Coordinator, Fleet Maintenance Manager, Airport Construction & Maintenance Manager, Building Maintenance Supervisor, Electrical Supervisor, Procurement & Purchasing Manager, a representative from the group of Environmental/Engineers that participate in Snow Call, and the Airport's Non-Movement Area & Landside Contractor.


The Airport Authority departmental meeting shall discuss and review the following:

1. Preparation of operational procedures and plans for snow removal contractors;
2. Preparation to ensure that the essential supply contracts are in force;
3. Inventory of snow removal equipment and ensure completion of pre-season preventive maintenance programs on snow removal equipment;
4. Preparation of plans for erection and placement of snow fencing in designated sites, if any, and snow stakes where appropriate;
5. Development of snow removal plan for haul roads and landside, and evaluation of the condition of these roadways;
6. Selection of sites to be used as snow dumps conveniently located and accessible;
7. Evaluation and publication of appropriate airport security procedures and driving rules and regulations for use during snow and ice emergencies;
8. Review and revision of snow removal plans and procedures;
9. Review and discuss ongoing equipment operator training;
10. Assessment of snow removal staffing needs and new equipment purchases.

The Airport host a season kick off meeting with tenants, and routinely meets at the monthly tenant manager meeting, to enable tenants to provide feedback and make recommendations to snow and ice removal operations and Snow and Ice Control Plan (SICP) at STL. The tenant kickoff meeting is chaired by the Airport Deputy Director Operations & Maintenance and includes, Federal Aviation Administration (Air Traffic and/or Technical Operations) representatives, and airline, fixed based operator and other tenants.

During the month of October the Airport will begin notifying tenants and airport users to review and provide comments to be discussed at the season kick-off meeting which occurs prior to the winter season.

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The following topics will be discussed, when applicable and in the appropriate meetings described previously in this Chapter:

- Airport Clearing Operations Discussion Topics
 - Areas Designated as Priority I area, any new airfield infrastructure
 - Clearing operations and follow-up airfield assessments
 - Potentials for pilot or vehicular runway incursions or incidents
 - Staff requirements and qualifications (training)
 - Update training program
 - Streamline decision making process
 - Response time to keep runways, taxiways and ramp areas operational.
 - Communication, terminology, frequencies, and procedures
 - Monitoring and updating of runway surface conditions
 - Issuance of NOTAMS and dissemination to ensure timely notification
 - Equipment inventory
 - Status of procurement contracts, including storage of materials
 - Validation of deicer certification letters from vendors (if applicable)
 - Procedures for storm water runoff mitigation
 - Snow hauling/disposing, snow dumps
 - New runoff requirements for containment or collection
 - Changes to contract service for clearing ramps

- Air Carrier Ground Deicing/anti-icing programs
 - Assessing all air carriers deicing programs by reviewing airport surface flow strategies; reviewing ground time and takeoff clearances after deicing; analyzing and adjusting airplane deicing plans
 - Maximizing efficiency of operations during icing conditions by identifying locations for airplane deicing; planning taxi routes to minimize ground times; developing rates for deiced departures; allocating departure slots; determination airport deicing crew needs; verifying communications.

- Requirements for collection of deicing/anti-icing.

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Chapter 2. Post-Event/Season Actions

2.1 Post Event.

After each significant snow event, Operations senior management may host a meeting with the tenants to discuss any issues that have arisen from the event. All members of the SICC will be encouraged to provide feedback to airport management before, during or following each snow event.

After a significant event or a challenging operation, a post storm debriefing meeting will take place amongst the applicable Airport Authority departments, and/or ATC, to discuss lessons learned and ways to conduct continuous quality improvement.


During the snow season, winter operations is an agenda item at Tenant Manager meetings which are held monthly.

2.2 Post Season.

After the snow season, when needed, winter operations is an agenda item at Operations & Maintenance meetings which are typically held monthly.

Departments discuss their section's post season responsibilities, such as Fleet Maintenance-inspecting and repairing equipment, Airfield Maintenance-training new and current equipment operators on equipment, maintaining movement area driving proficiency, ordering supplies, Airport Operations – calibrating friction tester and maintaining proficiency, Digital Notam Manager entries and Airport Condition Report usage, and Operations senior management – updating the SICC and participating in airline snow and deicing meetings.

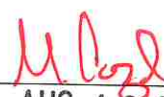
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Phase #2

Winter Storm Actions and Procedures

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Chapter 3. Snow Removal Action Criteria

3.1 Activating Snow Removal Personnel.

At STL, both the Airport Operation Department and the Airfield Maintenance Department are staffed 24/7. The Airfield Maintenance department maintains enough Airfield Maintenance Workers on each shift to provide for an un-forecasted anti-icing/deicing operation or plow/brooming operation with a portion of our Multi-Tasking Equipment (MTE) fleet on a single impacted runway and associated Priority 1 taxiways.

a) Weather Forecasting

- The senior most Airfield Operations Specialist is responsible for monitoring both current and forecasted weather on a continuous basis during their assigned shift and notifying both on duty staff and the Assistant Director Ops & Maintenance of inclement or impactful weather.
- A contracted meteorological service provides weather updates at least three times a day, with additional updates via phone, email, or text as conditions change, and is available by phone to discuss the forecast and expected conditions.
- Ops Specialists also monitor the National Weather Service (NWS) website for current conditions, hourly weather forecast graphs, Terminal Area Forecasts, subscribe to iNWS text alerting and have the ability to call the St. Louis NWS forecaster, if necessary.
- The Ops Specialists also utilize a 3rd party subscription service that provides for radar imagery, current conditions and regional forecasts.
- Vaisala in-pavement surface sensors provide for current surface temperature monitoring. A separate sensor on RWY 12R also provides for runway surface temperature forecasting.
- Ops vehicles are also equipped with mobile vehicle mounted surface/ambient temperature probes with in vehicle displays.

b) Chain of Command & Mobilization Procedures Chain of Command

- **Snow Coordinator (SC)** – The Assistant Director of Ops & Mx serves as the overall Snow Coordinator and as a Snow Crew Leader when needed. The SC shall interface with the SCLs and the Ops Center.
- **Snow Crew Leader (SCL)** – Typically for a full snow call, the Snow Teams are divided into two Teams. An Airport Operations Supervisor shall serve as the Snow Crew Leader for each Team and the Assistant

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Director of Ops & Mx shall serve as a backup Snow Crew Leader when needed. Responsible for the execution of the SICIP and the oversight of the snow & ice operation. Provide direction to and coordinate primarily with the Runway Team Snow Crew Maintenance Foremen. Communicate & coordinate the snow and ice control efforts with the ATCT Supervisors. The SCL shall also direct the Runway Inspector and Ramp Inspector.

- **Snow Crew Maintenance Foreman (SCF) (or Supervisor)** – Supervise and act as a team leader for each separate snow removal team (runway, taxiway, etc.) and provide direction and have oversight of the snow team equipment operators. Coordinate with the Airport Operations staff and the SCL. The Runway Team SCF provides the Runway Inspector and/or SCL the accountability for all other SCF teams.
- **Airfield Operations Specialists (AOS)** – Typically for a full snow call, Airfield Operations Specialists fill the following positions: A) Runway Inspector, B) Ramp Inspector, and C) Operations Center. Responsible for maintaining FAA Part 139 compliance, winter operations surface assessment and NOTAMs. Coordinates concerns and conditions to the Snow Crew Leader. In the event the Ramp Inspector position is unfilled by Ops, Engineering & Environmental staff that participate in Snow Call will cover this position.

c) Mobilization Procedures


- The senior most Airfield Operations Specialist monitors the airfield during the course of their shift. They are staffed 24/7.
- Typically an inspection is completed near the beginning of each shift, after peak traffic volume decreases, or as conditions change in order to be aware of and report accurate surface conditions.
- If runways and Priority 1 surfaces need immediate attention, the senior most Airfield Operations Specialist will coordinate a response plan with the on-duty Airfield Maintenance Foreman or the Lead Airfield Maintenance Worker, to begin treatment or clearing operations as soon as practical. A briefing shall immediately be given to the Assistant Director Ops & Mx, who shall then brief the Deputy Director Ops & Mx.
- If runways and Priority 1 surfaces do not require immediate attention, but inclement weather is forecasted, the senior most Airfield Operations Specialist (AOS) shall initiate a conference call with the Deputy Director, Assistant Director, Airfield Maintenance Supervisor, Fleet Maintenance Manager and the Airport Operations Supervisors. The call shall start by the AOS giving a full weather briefing, by utilizing the sourced previously mentioned, describing current and forecasted conditions to include, time, temperature trends, precipitation potential & rate of accumulation, winds, visibility and moisture consistency to determine the expected type of snow (dry or wet).

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- Whenever advanced timing and the forecast allows, the Assistant Director Ops & Mx will direct the designated snow crew to be placed on Standby status, typically 12-24 hours in advance of an estimated call in time, in order for staff to plan and rest accordingly.
- The Assistant Director Ops & Mx will coordinate with the supervisors in the Ops & Mx departments and the Airport Deputy Director and determine the appropriate time to initiate a snow team (and contractor, if required) call in.
- The AOS staffing the Ops Center will utilize the Everbridge Mass Notification system to disseminate the snow crew call in information, to include the assigned snow team and time to report.
- Airfield Maintenance Foreman will review the Everbridge report status and directly call any Airfield Maintenance Worker that has not acknowledged the mass notification.
- Employees and contractors are required to respond and be available to commence snow removal operations within 2 hours of initial notification.
- For short notice staff recalls (less than a 2.5 hour notice) employees can receive a bonus if they report in for duty in 90 minutes or less.
- Employees in Airport Operations, Airfield Maintenance, Fleet Maintenance, and select positions in Engineering & Environmental are on call for snow call emergencies from November 1 – April 15th and foreman / supervisors have the flexibility to require staff to hold over until an appropriate level of personnel have reported back for duty.
- The Ops Center is responsible for additional notifications for both Standby and Alert statuses:
 - a) Appropriate Snow Crew Leader;
 - b) Airport Fleet Maintenance Manager will be notified while on-duty or at home if off-duty;
 - c) Field Maintenance on-duty Supervisor;
 - d) Building Maintenance on-duty personnel;
 - e) Housekeeping on-duty Supervisor;
 - f) Climate Control: Sand dryer operations for runway operations.
 - g) Airport Police Dispatcher;

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- h) Snow Removal Contractor (private contractor) using airport or home phone numbers;
- i) Boeing Groundhog, using airport or home phone numbers;
- j) Boeing Groundhog: Boeing Groundhog will be notified to have their personnel remove all of the arresting gear cables from the runways.

Note: When ice control operations only are anticipated, Boeing Groundhog and outside contractors may not be mobilized. This decision will be the responsibility of the Snow Coordinator.

- k) Store Room, using airport or home phone numbers;
- l) Engineering on-call personnel;
- m) Environmental & Safety on-call personnel;
- n) Electric Shop on-duty Supervisor.

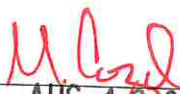
Note: Airport Authority on-duty personnel shall be responsible for further notifications or follow up verification to the respective snow crew personnel once the Ops Center has notified the on-duty personnel.

The same is applicable to other parties notified. The Ops Center will have the primary responsibility to make the initial notification to departments, which will then be responsible for notifying their personnel and following up on the Everbridge report status.

Personnel and departments shall be required to remain on a stand-by alert or until such time as they are called into the airport for snow removal duties.

Snow Removal Contractor: As determined in the Pre-Season Planning Meeting, the Airport Authority-hired outside contractor has been assigned to specific ramp and roadway areas and is required to provide appropriate personnel and equipment relative to whether the call-out is initial, partial, or a full scale call-out. A separate document, the Contract for Snow Removal Services, outlines all of the snow contractor's obligations, personnel and equipment requirements, assignments, entrance points and snow dump areas. In addition to being responsible for all the airline ramp areas (see illustrations 1A and 1B) the contractor shall be responsible for cleaning all areas as seen in illustration I through XI.

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d) Triggers for Initiating Snow Removal Operations

Snow removal operations will begin when contaminants begin accumulating on pavement surfaces. Snow, Ice, Slush should be removed as expeditiously as possible. **STL's goal is to maintain available runways, high speed turnoffs and taxiways, in a no worse than wet condition.**

The SCL shall ensure Airfield Operations Specialists are monitoring surface conditions frequently enough in order for them to notify the Airfield Maintenance Foremen to begin commencing removal operations as soon as accumulations are noted.

The Airfield Maintenance Foremen shall have equipment ready for prompt commencement of operations. The Fleet Maintenance Manager shall have equipment calibrated and ready for prompt commencement of operations.

3.2 RESPONSIBILITIES


1. AIRPORT DEPUTY DIRECTOR OF OPERATIONS & MAINTENANCE

- a) Promulgates Airport Authority policy and formats SICP so that it is in compliance with FAA standards. Revises and amends same, as required.
- b) For significant storms, host conference calls with Airlines & tenants to communicate snow plan and to receive updates on their operations.
- c) Brief Director of Airports on snow & ice control efforts.

2. SNOW COORDINATOR (Assistant Director Operations & Maintenance) RESPONSIBILITIES

- a) Participate or host conference calls with internal key Ops & Mx department staff to determine the optimal time to initiate a snow alert and/or response.
- b) Organize and host pre-season department and ATCT meetings.
- c) Determine alert levels based on weather forecasts and current conditions reported by Operations or weather contract services;
- d) Monitor snow removal operations on all airport facilities to ensure they are in compliance with the SICP and safety procedures;
- e) Provide direct supervision to Snow Crew Leaders, Foremen and Operations;
- f) Cancel alerts;
- g) Debrief snow committee members after cancellation of alerts in order to continuously improve snow removal operations; and
- h) Make policy & snow plan recommendations to the Airport Deputy Director for review.

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3. AIRPORT OPERATIONS RESPONSIBILITIES

- Maintain continuous weather watch during all periods of active inclement weather and awareness of forecast inclement weather utilizing:
 - a) A privately contracted meteorological service providing weather updates at least three times daily with additional updates as conditions dictate;
 - b) TAF, N.O.A.A. and NWS (iNWS, NWSchat, etc.) services;
 - c) Airport Authority access to weather monitor with radar system which provides continual updates.
 - d) Runway in-pavement surface sensors and mobile vehicle mounted surface sensors reporting surface temperatures and pavement conditions.
 - e) Atmospheric sensors measuring air temperature, dew point, wind direction, wind velocity and precipitation.
- Keep all key personnel advised of weather changes and updates directly, via Everbridge, or through a conference call, as requested by the Snow Coordinator;
- Notify key personnel of alerts and changes in alerts;
- Notify personnel and departments for mobilization of snow removal crews;
- Notify outside contractors to mobilize for ramp and roadway snow removal;
- Prepare and issue NOTAMs via the Digital Notam System amendments to the Airport Condition Report (ACR) detailing airfield conditions to the airlines and airport users;
- Coordinate closures between snow crew leaders and ATCT supervisor. Make an all frequency announcement when runways reopen after snow removal ops.
- In addition to staffing the Ops Center, personnel from Airport Operations will be assigned the following positions during snow removal operations:

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a) **Ramp Inspector –**

- a) Monitoring of snow removal operations and conditions by Ramp contractor or City personnel on airline ramp areas, service roads, and airline tug roads.
- b) Maintains situational awareness of deicing pad operations.
- c) May assist with the inspection and coordination of taxiways, when needed.
- d) As time allows, monitors ARFF access roads.

b) **Runway Inspector –**

- a) Perform runway condition assessments utilizing the Runway Condition Assessment Matrix (RCAM).
 - b) Report the Runway Condition Code (RCC) to the Air Traffic Control Tower and Ops Center.
 - c) Conduct friction testing, as stated in this plan, utilizing the Airport CFME or decelerometer and transmit surface conditions and Mu data to the Snow Crew Leader, and the Ops Center.
 - d) Open and Close the runway with Air Traffic Control over Ground Frequency when the snow team is operating on the runway.
- Report the RCC to the Ground Controller when opening the runway over Ground Control Frequency.
 - Notify all personnel of alert cancellation;
 - Notify Snow Committee Members after cancellation of alerts;
 - Prepare reports and keep logs on snow removal operations;

4. SNOW CREW LEADER'S RESPONSIBILITIES

- Decides on airfield snow removal procedures, in accordance with this plan, experience and the expertise of the SCF;
- Communicates plan and provides general supervision to runway snow crew foreman team leader;
- Monitors other areas of airport grounds that are under snow removal operations;
- Inspects runways and taxiways and determine when additional measures are necessary;

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- Debriefs snow coordinator and/or Airport Deputy Director for determination of alert status and enforces policy.

5. SNOW CREW AIRFIELD MAINTENANCE SUPERVISOR RESPONSIBILITIES

- Responsible for overseeing the training of snow team operators.
- Responsible to oversee the call out of snow team operators and to properly manage fatigue issues and on duty time.
- Coordinates with the Snow Crew Leader a rotating system of breaks so that there is always a snow removal presence on the airfield when needed, unless otherwise approved by the Snow Crew Leader.
- Follows up with appropriate procedures and correction action for staff under his/her jurisdiction.
- Orders supplies and materials through the storeroom to ensure proper inventory on hand during and after a snow event.

6. SNOW CREW AIRFIELD MAINTENANCE FOREMEN RESPONSIBILITIES

- Assign and facilitate recurrent training and cross training opportunities during routine shifts and at times extra personnel are on duty during snow operations.
- Create a crew assignment list before each storm to coordinate with and receive approval from the SC.
- Ensure personnel pre-check, start and have equipment ready for deployment when called upon.
- Act as team leader for each separate snow removal team (Runway Team, Taxiway Teams, and Deicing Team, if necessary, etc).
- The Runway Team SCF will provide general supervision to the Taxiway Team SCF.

7. FLEET MAINTENANCE MANAGER RESPONSIBILITIES

- Responsible for the proper maintaining, calibrating and availability of snow removal equipment and assets.

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- Assigns a mobile repair unit to travel with the snow team, or to wait in a nearby pad, to make immediate repairs to critical pieces and perform calibrations when necessary.
- Tracks, repairs, and reports when snow removal assets are out of service and schedules immediate repairs.
- Ensures supplies are on hand or quickly available to maintain the fleet.
- Follows up with appropriate procedures and correction action for staff under his/her jurisdiction.

8. ENGINEERING & ENVIRONMENTAL STAFF RESPONSIBILITIES

- Engineering & Environmental staff that are part of Snow Call will supervise operations of outside contractor on parking lots, roadways, crosswalks, sidewalks and direct personnel and equipment to areas requiring attention. They will brief the Ops Center when needed of conditions, who will log information and relay issues to the contractor's supervisors.
- They also fill the position of Ramp Inspector when needed.
- The current Engineering & Environmental positions dedicated to participate in snow call are Environmental Engineer, Civil Engineer I, II, and III.

9. SUPERVISION OF LANDSIDE AND ROADWAY SNOW OPERATIONS

- The Ops. Center will notify and maintain on-going communications with specific personnel from Engineering and Environmental who are responsible for supervising landside and roadway snow operations during a snow call event.
- Airport Police monitor roadways when the above are not on duty.

10. PRIVATE CONTRACTORS RESPONSIBILITIES

- All private contractors utilized by the Airport Administrative Office, any carrier or other tenant or agency on the Airport shall be subject to all Airport Rules and Regulations, the direction of the ATCT and/or the Airport Administrative Office. At no time will private contractors, their vehicles and/or equipment be permitted to operate beyond the limits of the existing ramp areas without first being cleared by the appropriate agencies and

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accompanied by radio-equipped vehicles. All such vehicles must have the necessary lights and warning signals for night operations as required by Airport Vehicle Rules and regulations and are required to give the right-of-way to all taxiing aircraft. Contractor communications will be through an assigned channel on the Airport Authority 800 MHz radio system or through the use of telephone/cell phone.

11. AIRPORT POLICE RESPONSIBILITIES

Airport Police will assist in monitoring the condition of all roadways and employee parking areas and notify the Ops. Center Supervisor accordingly. The Ops. Center will call the Airport Police for extra security guards and to notify checkpoints to expedite the snow contractor's dump truck operations.

3.3 SNOW CONTROL CENTER (SCC)

The Airport Operations Center serves as the Snow Control Center during winter operations and is staffed by at least one Airfield Operations Specialist during times of a snow team call in and shall serve as the central location for unified communications.

The Airfield Operations Specialist staffing the Ops Center shall perform the following functions:

- A. Serves as the prime source for disseminating RwyCCs, FICONS & NOTAMS, coordinating advance closures and openings with ATCT & updating same on NOTAM Manager and the Airfield Condition Report (ACR).
- B. Informs ATCT, Air Carriers and other users of the airport with conditions.
- C. Will receive and transmit requests for snow removal, deicing, or sanding of areas to the Snow Crew Leader or applicable Snow Crew Foremen.
- D. Serves as the coordination center for the airport during all snow removal operations.

3.4 Airfield Clearing Priorities.

It is impractical and infeasible for airports to simultaneously clear all airside pavement and support facilities of all snow, slush, and ice. The airport established a minimum level of service by establishing a priority classification system. This targeted approach places focus on critical areas of the airfield that will allow aircraft operations in a safe and efficient manner at an acceptable level of service given environmental conditions. Efforts to clear areas of lower importance can be delayed until the higher priority areas are fully functional or to low aircraft activity hours. See Appendix 1 – Snow Removal Priority Maps.

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The Primary runways are 12L-30R and 12R-30L. Due to its Cat III approaches, 12L-30R is the preferred runway of choice when only single runway operations are possible.

The STL Airport Authority, in consultation with the STL ATCT, has established a system of snow and ice control priorities for St. Louis International Airport. Snow and ice control priority surfaces are graphically depicted as an appendix to this this document. This reference list of priorities shall serve as a general guide, and may be deviated from, through communication with the STL ATCT and the Snow Coordinator, based on actual storm conditions, winds and intensity. Airfield snow and ice control priorities shall be as follows:

Two Runway Operations (Easterly flow):

- Runways 12R, 12L.
- ARFF station and ARFF emergency access roads.
- Mutual Aid Gates 71N, 17S, 7S, 3S.

1st Priority:

- Taxiways D, E, E1, R full length,
- Taxiways C between Runway 12R and Taxiway D, and between Taxiway T and Taxiway R
- Taxiways H and J, between Runway 12L and Taxiway D.
- Taxiway P between Runway 12R and Taxiway D.
- Taxiway K, and N, between Taxiway D and Taxilane C
- Taxiway L between Runway 12R and Taxilane C
- Taxiway S between Runway 12L and Taxiway E

2nd Priority:

- Taxiways F, F4, F5, K1, full length
- Taxiway C between Runway 12R and Taxiway T, and between Taxiway R and Taxiway K
- Taxiway S between Taxiway B and Taxiway E
- Taxiway V between Taxiway C and Taxiway F
- Taxiway Q between Runway 12R and Taxilane C
- Taxiway P between Taxiway D and Taxilane C, and between Runway 12L and Taxiway F
- Taxiway K between Cargo and Taxiway D
- Taxiway P and L, between Runway 12L and Runway 12R
- Taxiway J between Taxiway F and Runway 12L

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- Runways 30L, 30R (Westerly flow)
- ARFF station and ARFF emergency access road
- Mutual Aid Gates 71N, 17S, 7S, 3S.

Priority 1

- Taxiways C, D, E2, full length
- Taxiway Q between Runway 30L and Taxiway C
- Taxiway S between Taxiway C and Runway 30R
- Taxiway P between Runway 30L and Runway 30R
- Taxiway H between Taxiway C and Taxiway E
- Taxiway E between Runway 30R and Taxiway H

Priority 2

- Taxiways F, F4, F5, K1, J, R, full length
- Taxiways P, N, between Runway 30L and Taxiway C
- Taxiway S between Runway 30R and Taxiway F.
- Taxiway P between Taxiway F and Runway 30R.
- Taxiway E between Taxiway S and Taxiway H.
- Taxiway K between Haith Cargo and Taxiway D.
- Taxiway V between Taxiway C and Taxiway F

In the event the severity of a winter weather storm exceeds the airport resource capabilities to maintain two runways, then snow and ice control priorities shall focus on single runway configuration, as follows:

Snow Removal for One Runway Operations:

- Runway 12L (Easterly flow)
- ARFF station and ARFF emergency access road.
- Mutual Aid Gates 71N, 17S, 7S, 3S.

Priority 1

- Taxiway D between Taxiway H and taxiway R.
- Taxiway H, between Runway 12L and Taxiway D
- Taxiway J, between Runway 12L and Taxiway D.
- Taxiway K, N, L, between Taxiway D and Taxiway C.
- Taxiway R full length.

- Taxiway S between Taxiway E and Runway 12L.
- Taxiway E full length.
- Taxiway K, N, between Taxiway D and Taxiway C

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- Taxiway E1 full length.
- Taxiway R full length.
- Taxiway S between Taxiway E and Runway 12L.

Priority 2

STL's Priority 2 for a single runway 12L configuration scenario, after 12L and its Priority 1 taxiways are complete, would be to conduct snow removal operations on and re-open Runway 12R, with the aforementioned 1st Priority surfaces.

Snow Removal for One Runway Operations

- Runway 30R
- ARFF station and ARFF emergency access road.
- Mutual Aid Gates 71N, 17S, 7S, 3S.

Priority 1

- Taxiways C, D, between Taxiway H and Taxiway S.
- Taxiway Q between Runway 30L and Taxiway C.
- Taxiway S between Taxiway C and Runway 30R.
- Taxiway H between Taxiway E and Taxiway C.
- Taxiway E2 between Runway 30R and Taxiway P.
- Taxiway E between Runway 30R and Taxiway H.
- Taxiway P between Runway 30R and Runway 30L.

Priority 2

STL's Priority 2 for a single runway configuration scenario would be to conduct snow removal operations on and re-open Runway 30L, with the aforementioned Priority 1 surfaces.

Secondary Runways (RWY 11-29 & RWY 6-24)

Priority 3

Due to the limited use during a winter event, STL has designated RWY 11-29 and RWY 6-24 and some of their associated taxiways as Priority 3 surfaces, and snow removal operations on these secondary runways will commence at some point after Runways 12R-30L & 12L-30R Priority 1 & 2 surfaces are satisfactorily cleared, serviceable and additional accumulation is expected to be minimal.

If wind shifts or other operational reasons dictate a higher priority to be placed on these secondary runways, particularly the crosswind runway, the Snow

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Coordinator, or designee, will coordinate with the ATCT Supervisor to **substitute** a primary runway that is Priority 1 for one of the secondary Priority 3 runways. The SCL shall inform the Snow Coordinator if / when this occurs. Maintaining 3 runways, during an active, accumulating snow event is not feasible.

3.5 Airfield Clearance Times (40,000 or more annual airplane operations)

STL has sufficient equipment to clear 1 inch of falling snow weighing up to 25lb/ft from single runway Priority 1 areas within 30 minutes. Typically, clearing efforts will last longer than 30 minutes, in order to give back (open) the runway in a condition above this minimum benchmark.

Table 1-1. Clearance Times for Commercial Service Airports

<i>Annual Airplane Operations (includes cargo operations)</i>	<i>Clearance Time¹ (hour)</i>
<i>40,000 or more</i>	<i>½</i>
<i>10,000 – but less than 40,000</i>	<i>1</i>
<i>6,000 – but less than 10,000</i>	<i>1½</i>
<i>Less than 6,000</i>	<i>2</i>
<i>General: Commercial Service Airport means a public-use airport that the U.S. Secretary of Transportation determines has at least 2,500 passenger boardings each year and that receives scheduled passenger airplane service [reference Title 49 United States Code, Section 47102(7)].</i>	
<i>Footnote 1: These airports should have sufficient equipment to clear 1 inch (2.54 cm) of falling snow weighing up to 25 lb/ft³ (400 kg/m³) from Priority 1 areas within the recommended clearance times.</i>	

3.6 Snow Equipment List.

*** These units are equipped with a Vehicle Movement Area Transponder (VMAT)

Multi-Tasking Equipment units (MTEs) Broom/Plow/Air Blast

* These MTE units also include a 1,250 gallon liquid chemical deicer.

Unit #	Year	Make	Model	Description
223*	2017	MB	MB-5	broom 22ft/plow 24ft w/deicer 1,250g ***
(To Be Added Dec 2017)				
221*	2016	MB	MB-5	broom 22ft/plow 24ft w/deicer 1,250g ***
222*	2016	MB	MB-5	broom 22ft/plow 24ft w/deicer 1,250g
204	2015	MB	MB-5	broom 22ft/plow 24ft ***
220	2015	MB	MB-5	broom 22ft/plow 24ft
216	2014	MB	MB-5	broom 22ft/plow 24ft ***
205	2012	MB	MB-5	broom 22ft/plow 24ft ***
206	2012	MB	MB-5	broom 22ft/plow 24ft ***

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219	2012	MB	MB-5	broom 22ft/plow 24ft ***
210	2011	MB	MB-5	broom 22ft/plow 24ft ***
211	2011	MB	MB-5	broom 22ft/plow 24ft ***
218	2011	MB	MB-5	broom 22ft/plow 24ft ***
208	2009	International	MB-5	broom 22ft/plow 24ft ***
TOTAL = 12 MTEs				

Snow Blowers

Unit #	Year	Make	Model	Description
227	1999	Oshkosh	HB2718	Blower
226	1998	Oshkosh	HB2718	Blower
228	1997	Oshkosh	HB2718	Blower ***
230	1997	Oshkosh	HB2718	Blower ***
231	1997	Oshkosh	HB2718	Blower ***
TOTAL = 5 Snow Blowers				

Front Mounted Brooms

Unit #	Year	Make	Model	Description
207	2010	Oshkosh	HB2723	broom
209	2005	Oshkosh	HB2718	broom ***
214	1998	Oshkosh	HB2718	broom ***
217	1998	Oshkosh	HB2718	broom
212	1997	Oshkosh	HB2718	broom ***
213	1997	Oshkosh	HB2718	broom ***
215	1997	Oshkosh	HB2718	broom
TOTAL = 7 Front Mounted Brooms				

Large De-Icers

Unit #	Year	Make	Model	Description
170	2000	Oshkosh	P2546	Deicer truck 4000
173	2000	Oshkosh	P2546	Deicer truck 4000 ***
174	2000	Oshkosh	P2546	Deicer truck 4000 ***
175	1999	Oshkosh	P2546	Deicer truck 4000 ***
172	1997	Oshkosh	P2546	Deicer truck 4000 ***
176	1997	Oshkosh	P2546	Deicer truck 4000 ***
171	1996	Oshkosh	P2546-sp	Deicer truck 4000 ***
TOTAL = 7 Large De-Icers				

Small De-Icers

Unit #	Year	Make	Model	Description
177	2015	Ford	F650XLT	Tanker truck w/spray bars. 1500g

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178 2007 GMC C5500 Tanker truck w/spray bars. 1500g
TOTAL = 2 Small De-icers Large

Dump Trucks w/Plow

Unit #	Year	Make	Model	Description
131	1998	Oshkosh	P2526-5	Dump truck / plow
132	1998	Oshkosh	P2526-5	Dump truck / plow
119	1999	Oshkosh	P2526-5	Dump truck / plow
111	1995	Oshkosh	P2546	Tandem Dump truck / plow ***

Large Dump Trucks w/ Plow & Spreader (sand)

120	2013	International	MB-1	Tandem Dump truck/spreader, (rollover plow)
121	1997	Oshkosh	P2526-5	Dump truck / spreader, plow***
123	1997	Oshkosh	P2526-5	Dump truck / spreader, plow
124	1997	Oshkosh	P2526-5	Dump truck / spreader, plow
125	1997	Oshkosh	P2526-5	Dump truck / spreader, plow***
126	1997	Oshkosh	P2526-5	Dump truck / spreader, plow (To Be Removed Dec 2017)
127	1997	Oshkosh	P2526-5	Dump truck / spreader, plow
128	1997	Oshkosh	P2526-5	Dump truck / spreader, plow

Large Dump Trucks w/ Plow & Spreader (Solid De-Icer)

129	1998	Oshkosh	P2546	Tandem Dump truck / spreader, plow ***
130	1998	Oshkosh	P2546	Tandem Dump truck /spreader, plow ***

TOTAL = 14 Dump trucks with Plows (9 w/ sand spreaders & 2 w/ Solid De-Icer Spreaders)

Large Dump Truck w/Spreader (sand)

118	1993	Oshkosh	P2546	Tandem Dump truck / spreader ***
116	2011	Oshkosh	P2546	Tandem Dump Truck / spreader

TOTAL = 2 Dump Truck Sand only (no low)

Roadway Dump Trucks w/Spreader (salt)

112	1999	Oshkosh	P2526-5	Dump truck / spreader
122	1997	Oshkosh	P2526-5	Dump truck / spreader

TOTAL = 2 Roadway Dump Trucks w/ Salt Spreaders

3.7 Storage of Snow and Ice Control Equipment.

Until the FAA Central Region provides AIP funding for a Snow Removal Equipment

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Storage (SRES) building at STL, all equipment will be stored outside.

3.8 Definitions.

Approved Chemical.

A chemical, either solid or liquid, that meets a generic SAE or MIL specification

Under no circumstances are corrosive chemicals, such as Salt, used airside at STL.

***** See section 4.4 for a description of the current approved chemicals in use at STL.**

Compacted Snow.

Snow that has been compressed and consolidated into a solid form that resists further compression such that an airplane will remain on its surface without displacing any of it. If a chunk of compressed snow can be picked up by hand, it will hold together or can be broken into smaller chunks rather than falling away as individual snow particles.

Note: A layer of compacted snow over ice must be reported as compacted snow only.

Example: When operating on the surface, significant rutting or compaction will not occur. Compacted snow may include a mixture of snow and embedded ice; if it is more ice than compacted snow, then it should be reported as either ice or wet ice, as applicable.

Contaminant.

A deposit such as frost, any snow, slush, ice, or water on an aerodrome pavement where the effects could be detrimental to the friction characteristics of the pavement surface.


Contaminated Runway.

For purposes of generating a runway condition code and airplane performance, a runway is considered contaminated when more than 25 percent of the runway surface area (within the reported length and the width being used) is covered by frost, ice, and any depth of snow, slush, or water.

When runway contaminants exist, but overall coverage is 25 percent or less, the contaminants will still be reported. However, a runway condition code will not be generated.

While mud, ash, sand, oil, and rubber are reportable contaminants, there is no associated airplane performance data available and no depth or Runway Condition Code will be reported.

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Exception: Rubber is not subject to the 25 percent rule, and will be reported as Slippery When Wet when the pavement evaluation/friction deterioration indicates the averaged Mu value on the wet pavement surface is below the **Minimum Friction Level .46** for the Halladay Technologies Runway Friction Tester 3 (HTI RFT3)

Dry (Pavement).

Describes a surface that is neither wet nor contaminated.

Dry Runway.

A runway is dry when it is neither wet, nor contaminated. For purposes of condition reporting and airplane performance, a runway can be considered dry when no more than 25 percent of the runway surface area within the reported length and the width being used is covered by:

Visible moisture or dampness, or Frost, slush, snow (any type), or ice.

A FICON NOTAM must not be originated for the sole purpose of reporting a dry runway. A dry surface must be reported only when there is need to report conditions on the remainder of the surface.

Dry Snow.

Snow that has insufficient free water to cause it to stick together. This generally occurs at temperatures well below 32° F (0° C). If when making a snowball, it falls apart, the snow is considered dry.

The term 'DRY' is used to describe a surface that is neither wet nor contaminated. While a FICON NOTAM is not generated for the sole purpose of reporting a dry runway, a dry surface will be reported when there is need to report conditions on the remainder of the surface. (For example: snow is present on the first two thirds of the runway.)

Eutectic Temperature/Composition.

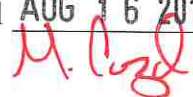
A deicing chemical melts ice by lowering the freezing point. The extent of this freezing point depression depends on the chemical and water in the system. The limit of freezing point depression, equivalent to the lowest temperature that the chemical will melt ice, occurs with a specific amount of chemical. This temperature is called the eutectic temperature, and the amount of chemical is the eutectic composition. Collectively, they are referred to as the eutectic point.

FICON (Field Condition Report).

A Notice to Airmen (NOTAM) generated to reflect Runway Condition Codes, vehicle braking action, and pavement surface conditions on runways, taxiways, and aprons.

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Fluid Deicer/Anti-Icers. The approved specification is SAE AMS 1435, Fluid, Generic Deicing/Anti-icing, Runways and Taxiways.

Frost.

Frost consists of ice crystals formed from airborne moisture that condenses on a surface whose temperature is below freezing. Frost differs from ice in that the frost crystals grow independently and therefore have a more granular texture.

Note: Heavy frost that has noticeable depth may have friction qualities similar to ice and downgrading the runway condition code accordingly should be considered. If driving a vehicle over the frost does not result in tire tracks down to bare pavement, the frost should be considered to have sufficient depth to consider a downgrade of the runway condition code.

Generic Solids. The approved specification is SAE AMS 1431, Compound, Solid Runway and Taxiway Deicing/Anti-Icing.

Ice.

The solid form of frozen water to include ice that is textured (i.e., rough or scarified ice).

A layer of ice over compacted snow must be reported as ice only.

Layered Contaminant.

A contaminant consisting of two overlapping contaminants. The list of layered contaminants has been identified in the RCAM and include:

- Dry Snow over Compacted Snow
- Wet Snow over Compacted Snow
- Slush over Ice
- Water over Compacted Snow
- Dry Snow over Ice
- Wet Snow over Ice

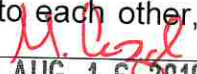
Mud.

Wet, sticky, soft earth material.

Multiple Contaminants.

A combination of contaminants (as identified in the RCAM) observed on paved surfaces. When reporting multiple contaminants, only the two most prevalent / hazardous contaminants are reported. When reporting on runways, up to two contaminant types may be reported for each runway third. The reported contaminants may consist of a single and layered contaminant, two single contaminants, or two layered contaminants. The reporting of "multiple contaminants" represent contaminants which are located adjacent to each other,

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not to be confused with a “layered contaminant” which is overlapping. For example:

- Single contaminant and Layered contaminant.
'Wet' and 'Wet Snow over Compacted Snow'
- Single contaminant and Single contaminant.
'Wet Snow' and 'Slush'
- Layered contaminant and Layered contaminant.
'Dry Snow over Compacted Snow' and 'Dry Snow over Ice'

Oil.

A viscous liquid, derived from petroleum or synthetic material, especially for use as a fuel or lubricant.

Runway (Primary and Secondary).

Primary.

Runway(s) being actively used or expected to be used under the existing or anticipated adverse meteorological conditions, where the majority of the takeoff and landing operations will take place.

Secondary.

Runway(s) that supports a primary runway and is less operationally critical. Takeoff and landing operations on such a runway are generally less frequent than on a primary runway. Snow removal operations on these secondary runways will not occur until Priority 1 & 2 surfaces are satisfactorily cleared and serviceable.

Runway Condition Assessment Matrix (RCAM).

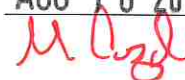
The tool by which an airport operator will assess a runway surface when contaminants are present.

Following the overrun accident of a Boeing-737 in December of 2005, the FAA found that the current state of the industry practices did not have adequate guidance and regulation addressing operation on non-dry, non-wet runways, i.e., contaminated runways. As such, the FAA chartered an Aviation Rulemaking

Committee (ARC) to address Takeoff and Landing Performance Assessment (TALPA) requirements for the appropriate parts 23, 25, 91 subpart K, 121, 125, 135, and 139. In formulating recommendations, it became clear to the ARC that the ability to communicate actual runway conditions to the pilots in real time and in terms that directly relate to expected aircraft performance was critical to the success of the project. While researching current NOTAM processes numerous significant short comings were discovered that hampered this communication effort. This document provides NOTAM reporting procedures intended for a digital communication process that would support this major safety initiative and resolve the identified shortcomings. Without accurate real time information pilots cannot

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safely assess takeoff or landing performance.

At the core of this recommendation is the concept of using the included **Runway Condition Assessment Matrix (RCAM)** (shown on page 49) as the basis for performing runway condition assessments by airport operators and for interpreting the reported runway conditions by pilots in a standardized format based on airplane performance data supplied by airplane manufacturers for each of the stated contaminant types and depths. The concept attempts, to the maximum extent feasible, to replace subject judgments of runway conditions with objective assessments which are tied directly to contaminant type and depth categories, which have been determined by airplane manufacturers to cause specific changes in the airplane braking performance.

Runway Condition Code (RwyCC).

Runway Condition Codes describe runway conditions based on defined contaminants for each runway third. Use of RwyCCs harmonizes with ICAO Annex 14, providing a standardized “shorthand” format (Eg: 4/3/2) for reporting. RwyCC (which replaced Mu values) are used by pilots to determine landing performance assessments.

RwyCCs are reported based on the direction of the assessment and may be read in reverse when aircraft are operating from the opposite direction.

Sand.

A sedimentary material, finer than a granule and coarser than silt.

Slush.

Snow that has water content exceeding a freely drained condition such that it takes on fluid properties (e.g., flowing and splashing). Water will drain from slush when a handful is picked up. This type of water-saturated snow will be displaced with a splatter by a heel and toe slap-down motion against the ground.

Slush over Ice.

See individual definitions for each contaminant.

Slippery When Wet Runway.

A wet runway where the surface friction characteristics would indicate diminished braking action as compared to a normal wet runway.

Slippery When Wet is only reported when a pavement maintenance evaluation indicates the averaged Mu value on the wet pavement surface is below the Minimum Friction Level classification specified in Table 3-2 of FAA Advisory Circular 150/5320-12. Some contributing factors that can create this condition include: Rubber buildup, groove failures/wear, pavement macro/micro textures.

Water.

The liquid state of water. For purposes of condition reporting and airplane

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performance, water is greater than 1/8-inch (3mm) in depth.

Wet Runway.

A runway is wet when it is neither dry nor contaminated. For purposes of condition reporting and airplane performance, a runway can be considered wet when more than 25 percent of the runway surface area within the reported length and the width being used is covered by any visible dampness or water that is 1/8- inch or less in depth.

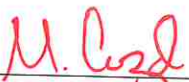
Wet Ice.

Ice that is melting, or ice with a layer of water (any depth) on top.

Wet Snow.

Snow that has grains coated with liquid water, which bonds the mass together, but that has no excess water in the pore spaces. A well-compacted, solid snowball can be made, but water will not squeeze out.

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Chapter 4. Snow Clearing Operations and Ice Prevention

4.1 Snow Clearing Principals.

Contaminants on a runway impede airplane acceleration by absorbing energy in compaction and displacement, and by impinging on parts of the airplane after being kicked up by the tires. For airplanes decelerating, slush, snow, and standing water-covered pavements and, especially iced surfaces, hamper deceleration rates due to a reduction in the friction coefficient of the runway and the potential for hydroplaning. Large chunks of ice, from refreezing snow or slush, or deposits from aircraft gear created during landings, can cause severe damage to tires, engines, and airframes. Wet snow, slush, and standing water can cause structural damage from spray impingement or by engine ingestion, which can affect acceleration capability. The recommended maximum depth of takeoff operations for slush and water is ½ inch (13mm) unless the airplane's AFM shows greater depths to be safe (see AC 25-31), *Takeoff Performance Data for Operations on Contaminated Runways*). Consequently, these runway surface contaminants should be minimized to maintain safe landing, takeoff, and turnoff operations. For these reasons, snow clearing operations for Priority 1 runway(s), taxiway connectors, and taxiways to the terminal(s) should start as soon as practicable after snowfall or icing begins. One prime goal is to take the appropriate measures so snow in its various forms, such as slush or frozen water, does not bond to the pavement. Dry snow falling on cold dry pavement will generally not adhere and may be blown off by wind or airplane operations or removed by brooming operations. In such conditions, only brooming may be needed to prevent the formation of compacted snow tracks. Wet snow, however, cannot be blown off the pavement and will readily compact and bond to it when run over by airplane wheels. Consequently, different clearing and/or preventive measures are used for wet snow than those used for dry snow conditions. When measures are taken, the SCL and Ops Center shall stay in close coordination with the ATCT to ensure prompt and safe responses to winter storm events and inform the users of the airport when less than satisfactory conditions exist.

a) Ramp and Terminal

That Airport Authority is responsible for snow and ice control on the ramps, except for pedestrian clearance, as per the Airline Use and Lease Agreement. The Signatory air carriers at Lambert are responsible for snow and ice control in order to accommodate worker and passenger pedestrian traffic, at their preferential use gate positions and the portions of the aircraft parking and ramp areas they utilize. They may contract out for additional snow removal equipment which shall be a direct responsibility of, and under the supervision of, the individual air carrier entering into the contract or agreement for such equipment. Contractors will be required to obtain

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a SIDA badge and take the Non-Movement Area IET training manual before initial duties and every 24 consecutive calendar months.

The airlines are responsible for snow removal operations on their respective hangar and cargo ramps. Upon request of the individual airline Manager on Duty, the Airport Authority will apply deicer or FAA sand on ramps, and/or gate positions. Efforts shall be made to accommodate these requests, when men and equipment are available and if doing so will not impact other, more critical operations. Any request that cannot be accommodated shall be reported to the Snow Coordinator or Snow Crew Leader for follow-up.

- A. A private snow contractor, under contract with the Airport Authority, is responsible for all plowing and hauling of snow from the airline ramp areas. Contractor equipment moves very slowly and is not radio controlled. All drivers are warned of the traffic in their ramp areas, and at all times are to give way to aircraft and emergency vehicles. Contractor equipment shall start snow removal from the gate areas and work outward to the pile locations noted on Illustration I. Continuous hauling of snow from the airline ramp to a designated snow dump, shall begin shortly after piles are formed, continuing until all piles are removed or placed in ramp location not being used for aircraft operations.
1. Dump Trucks, provided by the snow contractor are filled by contractor Loaders and transported to the Snow Dump.
 2. The Primary Snow Dump shall be on the north & west side of the old MoANG ramp, through Gate 18, just south of the Charlie Pad.
 3. The Secondary Snow Dump shall only be used if the MoANG ramp becomes unavailable, and is located on the west side of Banshee Road, across from and west of the Airport Office Building at 11495 Navaid Rd, Bridgeton Mo 68044.
- B. Any air carrier requiring exclusive snow removal equipment from the Airport's contractor for their preferential use gates shall (at the air carrier's expense) have their Duty officer only, contact the Snow Desk with such request. The Snow Desk will contact the Contractor with such requests and relay the information to the Carrier and the Snow Coordinator. Date and time will be logged.
- C. If it is the decision of the air carrier not to use the Airport Authority contractor, but to use another, the contracting air carrier will be held responsible for the outside contractor observing all Airport and Security Rules and Regulations including security background requirements. The carrier will so notify the SCL

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and the Snow Desk. Other Airport Authority snow removal equipment may be utilized on the airline ramp at the discretion of the SCL.

b) Runway and Taxiways

Runways:

Runway Team Leader – Managed by an Airfield Maintenance Foreman, directs the lead MB-5, the rest of the operators assigned to the Runway Team and the Foremen responsible for the Taxiway Teams

Techniques listed in AC 150/5200-30D are available for the Runway Snow Team to utilize. Below describes the typical formation and techniques most often utilized at STL for runways:

Perpendicular wind/Crosswind operations (or otherwise) -

Approximately 7-8 MB-5 Multi-Tasking Equipment units, aligned in tandem in a closed wing position, start with the lead MB-5 in front, near the threshold of the runway on the upwind edge. The 7-8 units, with a 1.5' overlap on each unit, will plow & broom between 94'-101' in width, respectively. The plow & broom head operate in coordinated directions so that the broom follows the angled direction of the plow. In this configuration they are angled downwind, and the single windrow created is cast over the downwind light line with the use of a Class 5 snow blower. The lead MB-5 and team will proceed at approximately 15 MPH to the end of the runway, turn off at the end taxiway, turnaround, and proceed back down the runway with the plow turned in the opposite direction, so that the lead operator picks up where the last MTE left off, and continues to angle all snow downwind. The snow blower will continue to cast downwind, over the edge lights and using caution for signs, and one or two of the unneeded MB-5's will clean any residue that is left behind the blower.

Sometimes, typically during light wind, parallel wind, or for a third pass or quick cleanup, the open V formation may be utilized. For an odd number of units, the lead MB-5 will line up and straddle the centerline, the next 3 operators in tandem will angle plows downwind and the next 3 operators in tandem will angle blows upwind. The snow blower will typically blow the windrow upwind, opposite of normal edge, in order to limit the snow buildup at one particular edge of the runway. If the wind is too strong, and the snow will blow back on the clean runway, the snow blower will line up behind the last downwind MB-5 and plow the windrow downwind. In an open V formation, if an even number of units are used, the lead MB-5 will overlap the centerline by 3-4', and all of the above remains the same.

Primarily, STL conducts two passes for full width clearing. On the rare occasion if only one pass is completed, regardless of the formation, the minimum width for clearing the center section of the runway will be 100' wide. The remaining width

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could still be utilized by an aircraft, however, the conditions should not present a hazard, and will be reported by the Runway Inspector to the Snow Desk for a FICON and ACR entry.

Taxiways

Taxiway Team Leader(s) – Managed by an Airfield Maintenance Foreman, directs the lead taxiway unit and the rest of the operators assigned to the Taxiway Team(s). Typically, two Taxiway Teams will be utilized to plow and broom the Priority 1 or Priority 1 & Priority 2 taxiways associated with the runway being maintained by the Runway Team.

The extra MB-5 MTE units will be split equally between the two Taxiway Teams mentioned above, and if needed, extra plow trucks, followed behind by front mounted brooms, and a snow blower if needed, will be utilized to staff each team.

If MTEs are not available, typically the taxiway teams consist of 2-4 large plows, followed by 2-3 front mounted brooms, along with a snowblower when needed.

High Speed Taxiway Turnoffs – Require the same attention for snow and ice control and removal as the primary runway(s). These should offer sufficient directional control and braking action for aircraft under all conditions. Should inspections by the Runway Inspector or Pilot Reports (PIREPS) indicate there is not a sufficient level of directional control and braking action, the taxiway shall be closed until directional control and braking action improves.

Supervisory staff are aware, through training and/or reviewing this SICP, that aircraft accident data indicates poor attention to High Speed Taxiway Turnoffs contributes to aircraft veer offs.

Local Factors contributing to snow removal operations:

- a) Through pre-season planning meetings during the past seasons, ATCT and Airport Management agree that when anti-icing operations are conducted, they should focus on 12L-30R and 12R-30L and their associated Priority 1 and Priority 2 taxiways. The SCL may conduct anti-icing efforts on other areas based on a distinct need and safety considerations. Typical example, the SCL may opt to anti-ice RWY 11-29 and associated Priority 1 taxiways to prevent a bond from forming and allow for quicker and easier recovery of that secondary runway when it is time to remove snow and ice contaminants.
- b) Through pre-season planning meetings during the past seasons, ATCT requests when feasible, to prioritize the snow clearing efforts to 12L-30R and 12R-30L, and associated Priority 1 taxiways, so that when able, the parallels

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are available for aircraft use. The snow crew leader shall make the determination, and inform the Tower Supervisor if the snow crew can keep up with both Priority 1 and Priority 2 taxiways off the parallels based on precipitation type and intensity. Based on the conditions of the runways, the SCL may determine that only Priority 1 or less taxiways are feasible to be maintained, along with the primary runway or both parallel runways.

- c) As discussed in pre-season meetings during the past season, when the intensity of the storm is such that it is not safely feasible to keep both parallels open, snow removal efforts shall focus on maintaining the Primary runway, 12L or 30R, and their associated Priority 1 taxiways.
- d) As discussed in pre-season meetings during the past season, to prevent incidents between aircraft and snowbanks, ATCT has agreed to limit through taxi on Taxilane Charlie, as much as feasible. When through taxi is necessary, the Ground controller should contact the Ramp Inspector to verify safe passage.

c) Snowbanks

Snow Bank Height Profiles – See Figure below for Design Group IV.

- A. The objective is to minimize snow bank heights on taxiways and runways to prevent incidents by avoiding the introduction of hazardous snow banks, drifts, windrows, and ice ridges that could come into contact with any portion of the airplane wing or nacelle (engine housing) surface.
- B. Additionally, the Runway Inspector and Ramp Inspector shall be monitoring snow piles on the movement area that could obstruct the view of the pilot.
- C. Visibility of signs (legibility) and lights should be maintained by proper and careful clearing techniques or by performing post-clearing maintenance from the Electrical Department and/or Airfield Maintenance.
- D. The Ramp Inspector monitors contractor snow banks & piles in the non-movement area.
- E. The Runway Inspector monitors snow banks in the movement area.
- F. If necessary, the Ops Center will coordinate and direct the Electrical crew on advising which signs and lights need to be cleared around.


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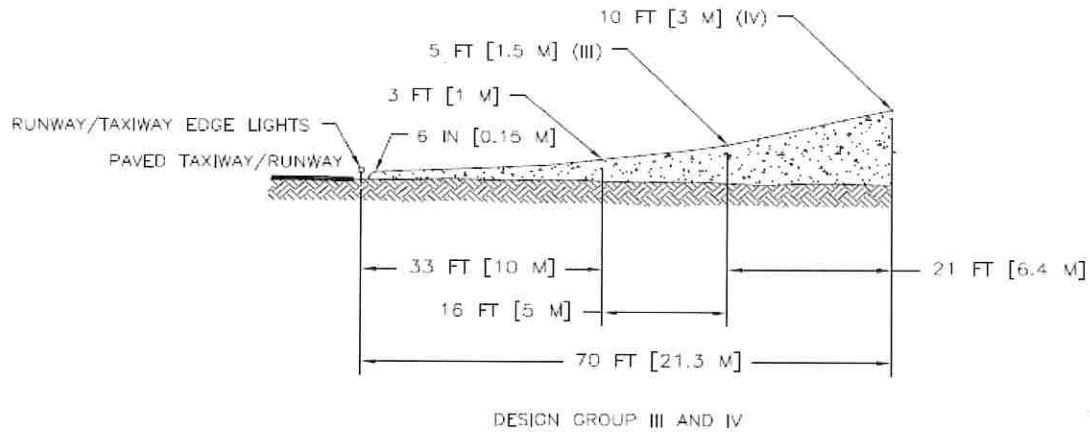
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- G. An ACR update and NOTAM will be issued when the below standards are exceeded and alternate techniques, tools and equipment will be utilized to further minimize the issue.

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d) NAVAIDs

Clearing around FAA lights -

STL FAA Tech Ops personnel are responsible for clearing snow around PAPI and Threshold Lights that are part of the FAA ALS.

Monitoring snow depth heights -

STL FAA Tech Ops monitors the height limits of snow in the GSA critical areas and will provide the Snow Coordinator with advanced notice of the potential to exceed limits so a plan can be formulated for getting the snow depth within limits. Maps describing critical areas are available as an appendix to this plan.

Additionally, Tech Ops has the ability to stake out the limits of the Glide Slope antenna critical area, if a reduction in snow height efforts are required by the Airport Authority, on behalf of the FAA. See Critical Area Map – Appendix 3.

Clearing NAVAID roads –

After snow and ice control has been completed for all runway and taxiways, Airport Authority personnel shall clear the snow on the roads to/from the NAVAIDs.

- Snow removal required, FAA Navigational Aids (to be accomplished after all runways and taxiways are completed).

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a) Runway 6

a. Snow Removal

- 1) GS – Blacktop access road to glide slope building off of TWY Tango. While plowing operations are in effect, the drivers must ensure that they pick up and angle plows and blowers as to not damage the glide slope.
- 2) LOC – Gravel access road off of perimeter road starting at Approach end 24 to antenna and shelter.

b) Runway 24

a. Snow Removal

- 1) LOC – Gravel access road off the perimeter road just W of 34S and following the approach lights to the antenna and shelter
- 2) GS – Blacktop access road 100' S of RWY 24 end to the glide slope shelter.

c) Runway 11

a. Snow Removal

- 1) LOC – Shelter along perimeter road near 34S
- 2) GS – Blacktop access road off of perimeter road just W of 40S to glide slope shelter.

d) Runway 29

- 1) LOC – Blacktop access road off of perimeter road starting from RWY 11 and along approach lights.
- 2) GS – Blacktop access road from perimeter road W of 34S to glide slope shelter.

e) Runway 12R

a. Snow Removal

- 1) LOC – Gravel access road starting at the perimeter road around the Approach end of 30L to the localizer shelter.

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- 2) GS – Concrete access road starting at Taxiway Victor just N of 12R to the glide slope shelter.


- f) Runway 30L
 - a. Snow Removal
 - 1) LOC – Gravel access road from perimeter road starting at the Approach end 12R to the localizer antenna and shelter.
 - 2) GS – Blacktop access road starting at TWY Echo W of TWY Juliet to the glide slop shelter.

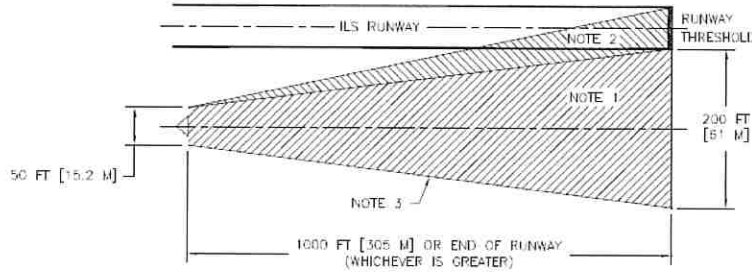
- g) Runway 12L
 - a. Snow Removal
 - 1) LOC – Gravel access road from perimeter road starting at Approach end 30R to the localizer shelter.
 - 2) GS – Concrete access road starting at TWY Echo to the ILS glide slop shelter E of TWY Sierra.

- h) Runway 30R
 - a. Snow Removal
 - 1) LOC – Blacktop access road starting at the Approach end 12L, W side of 6-24, along the approach light stations to the localizer antenna. Snow removal around localizer antenna systems should be coordinated through the FAA ATCT.
 - 2) LOC – Blacktop access road starting at TWY Victor and TWY Foxtrot to localizer shelter.
 - 3) GS – Blacktop access road starting at TWY Hotel to the glide slope shelter.

- i) DVOR
 - a. Snow Removal
 - 1) Gravel access road starting at Papa Pad to the DVOR shelter.

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NOTES:

1. CATEGORY I GUIDE SLOPE SNOW CLEARANCE AREA.
2. CATEGORY II AND III GUIDE SLOPE SNOW CLEARANCE AREA. THE AREA DEPICTED UNDER NOTE 1 SHALL ALSO BE CLEARED.
3. THE DEPTH OF SNOWBANKS ALONG THE EDGES OF THE CLEARED AREA SHALL BE LESS THEN 2 FEET.

ACTION TAKEN	SNOW DEPTH		
	SDR <6 IN [15 cm] NR. CECS <18 IN [45 cm]	SDR 6 TO 8 IN [15 TO 20 cm] NR. CECS 18 TO 24 IN [45 TO 60 cm]	SDR >8 IN [20 cm] NR. CECS >24 IN [60 cm]
SNOW REMOVAL (SEE ABOVE FIGURE)	REMOVAL NOT REQUIRED RESTORE FULL SERVICE AND CATEGORY.	ILS CATEGORY I REMOVE SNOW 50 FT [15M] WIDE AT MAST WIDENING TO 200 FT [60M] WIDE AT 1000 FT [300M] OR END OF RUNWAY TOWARD MIDDLE MARKER. ILS CATEGORIES II AND III AS ABOVE PLUS WIDEN THE AREA TO INCLUDE A LINE FROM THE MAST TO THE FAR EDGE OF RUNWAY THRESHOLD.	
NO SNOW REMOVAL	RESTORE FULL SERVICE AND CATEGORY.	ALL CATEGORIES RESTORE TO CATEGORY I SERVICE. CATEGORY D AIRCRAFT MINIMA RAISED TO LOCALIZER ONLY. TYPICAL NOTAM TEXT: "DUE TO SNOW ON THE XXXX (APPROPRIATE IDENTIFIER) GUIDE SLOPE, MINIMA TEMPORARILY RAISED TO LOCALIZER ONLY FOR CATEGORY D AIRCRAFT" IF APPLICABLE. "CATEGORY II NA" OR "CATEGORY II/III NA".	ALL CATEGORIES APPROACH RESTRICTED TO LOCALIZER ONLY MINIMA. TYPICAL NOTAM TEXT: "DUE TO SNOW ON THE XXXX (APPROPRIATE IDENTIFIER) GUIDE SLOPE, MINIMA TEMPORARILY RAISED TO LOCALIZER ONLY.

* NA (NOT AUTHORIZED)

Figure 4-2. ILS CAT I and CAT II/III Snow Clearance Area Depth Limitations

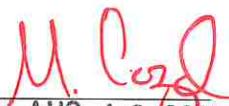
4.2 Controlling Snow Drifts.

Significant snow drifts are typically not a factor affecting STL. However, means and methods listed in AC 150/5200-30D Ch.1 (or most current circular) are available should we need to implement them.

4.3 Snow Disposal.

Typically, snow is relocated and disposed of at the Snow Dump, as mentioned in section 4.1a. Additionally, STL has significant ramp space that is unused by aircraft, and snow could be stacked in these locations, after receiving permission from the Snow Coordinator.

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4.4 Methods for Ice Control and Removal—Chemicals.

Liquid Runway Deicer - AMS 1435 Certified Primary anti-icing / de-icer:

1. CRYOTECH E36 - Typically used for anti-icing and de-icing when temperatures are 24° F and above, or 32.5° F and falling. It should not be used with a dry snow, as it will cause the snow that would otherwise blow off the runway by the wind or by the use of the MTE air blast to stick and create slush and possible refreeze issues.
 - **Cryotech E36** is a potassium acetate-based liquid deicer that is certified for airside use on pavements such as runways, and ramps.

Application rates:

- Anti-icing: 0.5 gallons/100 ft² (25 g/m²)
- Deicing: 1 gallon/100 f² (50 g/m²) near 32° F (0° C) on thin ice

Solid Runway Deicer (2) - Both AMS 1431 Certified

1. CRYOTECH NAAC (Sodium Acetate) – Primarily used during cold conditions, below 24° F and/or to penetrate compacted snow and ice. Primarily used as a standalone product, or could be applied directly behind a liquid chemical truck for severe icing and better adhesion. Can also be applied over thick compacted snow and ice first, and used to penetrate holes in bonded compacted snow and ice, followed by an application of liquid chemical to travel through the holes and break the bond of compaction at the pavement.
 - Manufactured as a round pellet to be less dusty than irregularly shaped deicers
 - Gives off heat as it dissolves – Exothermic
 - Penetrates directly to the pavement due to spherical shape; irregular shaped deicers penetrate laterally, inefficiently expending energy before reaching the pavement
 - Active to low temperatures: 0° F

Application Rates:

- Near 32° F (0° C) on thin ice = 5-7 lbs./1000 ft² (25-35 g/m²)
 - Less than 10° F (-12° C) on 1" (2.5 cm) ice = 10-25 lbs./1000 ft² (50-75 g/m²)
2. NEW DEAL (70-80% Sodium Formate/ 20-30% Acetate Blend) – Primarily used an anti-icing agent during freezing rain events where liquid chemical

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would dilute too quickly and the round sphere of the NAAC would roll off too easily. Also used for penetrating compacted snow and ice and below 24° F. Primarily used as a standalone product, or could be applied directly behind a liquid chemical truck for severe icing and better adhesion. Can also be applied over thick compacted snow and ice first, and used to penetrate holes in bonded compacted snow and ice, followed by an application of liquid chemical to travel through the holes and break the bond of compaction at the pavement.

- Safe for all airside operational surfaces as well as landside applications.
- Granular shape makes it less likely to be blown away: pre-wetting not necessary
- Effective at low temperatures (0° F or -18° C)
- Biodegradable and environmentally friendly
- High deicing efficiency (lower use rate and works fast)
- Increased effectiveness at lower temperatures
- Longer lasting effect than liquid deicer

Application rates:

Conditions	Temperature >20° F (-7° C)	<20° F (-7° C)
Thin/Patchy Snow	1-2 lbs/1000 ft ²	3-4 lbs/1000 ft ²
Packed Snow	5-6 lbs/1000 ft ²	7-8 lbs/1000 ft ²
Freezing Rain/Ice	7-8 lbs/1000 ft ²	11-12 lbs/1000 ft ²

4.5 Sand (for the purposes of treating a winter surface).

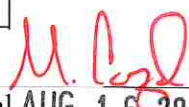
STL keeps an adequate supply of FAA spec sand on hand, and also has the ability to utilize the sand dryer, through Climate Control, which heats and loads the sand into designated dump trucks with material spreaders.

Sand is a lower option, but could be effective for severe low temperatures with extremely high winds where solid deicer keeps blowing away. Can be mixed in with solid deicer, or applied directly behind liquid deicer trucks.

Table 4-2. Standard Gradation for Sand

Sieve Designation	Percent by Weight Passing
8	100
80	0-2

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4.6 Surface Incident/Runway Incursion Mitigation Procedures.

- A. Runway incursion prevention is a critical component of the snow and ice control plan. All snow team members that drive on the movement area are required to watch and pass the Airfield Safety and Runway Incursion training module on an annual basis.
- B. As part of this effort to minimize runway incursions, when the snow team needs to broom, plow or treat the runway, the runway inspector shall close the runway over the Ground Control Frequency so that all snow team members listening can hear. All airfield maintenance equipment operators are required to monitor Ground Control Frequency. The runway inspector will notify the runway team foreman who will then immediately call for clearance on the closed runway. The runway inspector will notify the Snow Desk who will issue the appropriate ACR update and NOTAM.
- C. The Runway Inspector and/ or SCL shall also monitor Local Control frequency to be aware and have information of arriving or departing aircraft.
- D. The snow crew leader will request and receive positive confirmation from the runway snow crew foreman that personnel are clear of the runway when snow operations are complete.
- E. When a runway is ready to be opened, the runway inspector will be the last vehicle off the runway, and will call the runway open, along with the RwyCC, to the ground controller over the frequency. More detailed surface assessment information shall be passed along from the Runway Inspector to the Ops Center for dissemination.
- F. Typically, only call signs Ops 19, Ops18, Ops 17, Ops 16, Ops 15, Car 36, Car 6 and Car 2 will call a runway open that has previously been closed. If there is a change to the call signs, the SCL shall notify the ATCT Supervisor in advance.
- G. So that all snow team members are informed of a runway opening, the Ops Center will then make a runway open announcement over all applicable frequencies, update the ACR and the Digital Notam System.
- H. As much as feasible, the SCL will coordinate the specific plan and tactic with the senior crew airfield maintenance foreman / SCF in advance, and attempt to stick to the plan that is set in place. If plans needs to change, another briefing will commence.
- I. During a pre-season meeting, past surface incidents during snow removal operations will be reviewed as learning tool.
- J. As an additional aid to prevent surface incidents, a majority of the snow removal fleet is equipped with Vehicle Movement Area Transponders

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(Squitters) so that the ATCT can readily determine the location and identify the call sign of each vehicle. The Snow Crew Airfield Maintenance Foremen shall construct individual snow removal team assignments so that at least the first and last vehicle in the convoy have transponders.

a) Radio Communications

See Appendix 2 on Radio Communications Plan matrix.


b) Low Visibility and Whiteout Conditions

Infrequently, the Airport may experience “white out” conditions. To improve visibility for operators, during these times the snow team may proceed plows or brooms up to the upwind location, and perform clearing operations with the wind to improve visibility against the windshield. If true white out conditions exist and operations become unsafe, the snow crew leader has the ability to alter the plan and briefly suspend clearing operations.

c) Driver Fatigue

The Airfield Maintenance Supervisor is responsible to properly manage fatigue issues and on duty time, and keep the SCL updated in advance. In general, employees work a 12 hour shift, and are limited to working 16 hours or less in a 24 hour period.

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Chapter 5. Surface Assessment and Reporting

5.1 Conducting Surface Assessments.

Conducting Surface Assessments:

The Airport Operations Department and the SCL will remain aware and monitor all paved surface conditions in order to plan and request the SCF carry out appropriate maintenance actions in accordance with the Snow and Ice Control plan. The airport strives to maintain a 'no worse than wet' surface condition.

The airport, in complying with Part 139.339, will utilize the NOTAM Manager system and the Airfield Condition Report (ACR) at www.flystl.com/acr for collection and dissemination of airport information to air carriers, and other airport users.

See below

5.2 Applying the Runway Condition Assessment Matrix (RCAM).

The RCAM is the method approved by the FAA that STL uses to report a runway surface assessment when contaminants are present. Once the SCL or Runway Inspector perform the assessment, the RCAM defines the format STL reports and receives a runway condition "Code" via the NOTAM and ACR systems. The reported information allows a pilot to interpret the runway conditions in terms that relate to airplane performance.

a) Determining Runway Conditions

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Assessment Criteria		Code	Mu (μ) ¹	Downgrade Assessment Criteria	
Runway Condition Description				Vehicle Deceleration or Directional Control Observation	Pilot Reported Braking Action
<ul style="list-style-type: none"> Dry 		6	40 or Higher	—	—
<ul style="list-style-type: none"> Frost Wet (Includes Damp and 1/8 inch depth or less of water) <p>1/8 inch (3mm) depth or less of:</p> <ul style="list-style-type: none"> Slush Dry Snow Wet Snow 		5		Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
<p>5° F (-15°C) and Colder outside air temperature:</p> <ul style="list-style-type: none"> Compacted Snow 		4	39 to 30	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
<ul style="list-style-type: none"> Slippery When Wet (wet runway) Dry Snow or Wet Snow (Any depth) over Compacted Snow <p>Greater than 1/8 inch (3mm) depth of:</p> <ul style="list-style-type: none"> Dry Snow Wet Snow <p>Warmer than 5° F (-15°C) outside air temperature:</p> <ul style="list-style-type: none"> Compacted Snow 		3		Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
<p>Greater than 1/8 (3mm) inch depth of:</p> <ul style="list-style-type: none"> Water Slush 		2	29 to 21	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
<ul style="list-style-type: none"> Ice² 		1		Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
<ul style="list-style-type: none"> Wet Ice² Slush over Ice² Water over Compacted Snow² Dry Snow or Wet Snow over Ice² 		0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

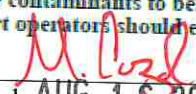
¹ The correlation of the Mu (μ) values with runway conditions and condition codes in the Matrix are only approximate ranges for a generic friction measuring device and are intended to be used only to downgrade a runway condition code; with the exception of circumstances identified in Note 2. Airport operators should use their best judgment when using friction measuring devices for downgrade assessments, including their experience with the specific measuring devices used.

² In some circumstances, these runway surface conditions may not be as slippery as the runway condition code assigned by the Matrix. The airport operator may issue a higher runway condition code (but no higher than code 3) for each third of the runway if the Mu value for that third of the runway is 40 or greater obtained by a properly operated and calibrated friction measuring device, and all other observations, judgment, and vehicle braking action support the higher runway condition code. The decision to issue a higher runway condition code than would be called for by the Matrix cannot be based on Mu values alone; all available means of assessing runway slipperiness must be used and must support the higher runway condition code. This ability to raise the reported runway condition code to a code 1, 2, or 3 can only be applied to those runway conditions listed under codes 0 and 1 in the Matrix.

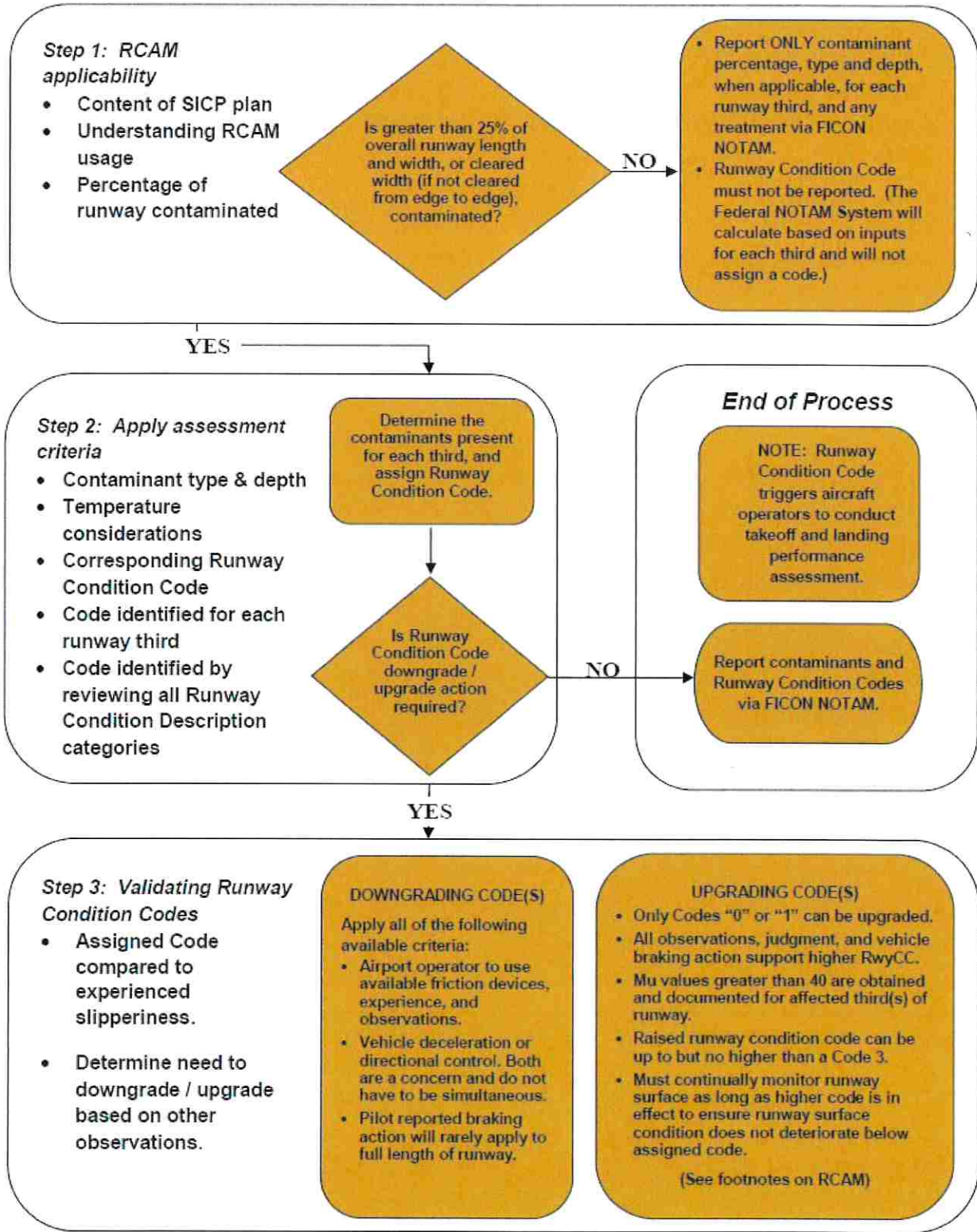
The airport operator must also continually monitor the runway surface as long as the higher code is in effect to ensure that the runway surface condition does not deteriorate below the assigned code. The extent of monitoring must consider all variables that may affect the runway surface condition, including any precipitation conditions, changing temperatures, effects of wind, frequency of runway use, and type of aircraft using the runway. If sand or other approved runway treatments are used to satisfy the requirements for issuing this higher runway condition code, the continued monitoring program must confirm continued effectiveness of the treatment.

Caution: Temperatures near and above freezing (e.g., at 26.6° F (-3°C) and warmer) may cause contaminants to behave more slippery than indicated by the runway condition code given in the Matrix. At these temperatures, airport operators should exercise a heightened level of runway assessment, and should downgrade the runway condition code if appropriate.

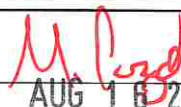
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5.3.2 Overview of the Basic RCAM Process.



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5.2.0 RCAM Components

5.2.1 **Assessment Criteria.**

This section of the RCAM consists of a Runway Condition Description and a Runway Condition Code. This section includes contaminant type and depth categories which are objective assessments that have been determined by airplane manufacturers to cause specific changes in the airplane braking performance. These contaminants correspond to a reportable “shorthand” Runway Condition Code when applicable.

5.2.2 Runway Condition Description

The Runway Condition Description column of the RCAM provides contaminants that are directly correlated to airplane takeoff and landing performance. The description sections, ranging in terms of slipperiness, are categorized based on type and depth of contaminant and temperature.

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Figure 5-1. Runway Condition Description Column of the RCAM

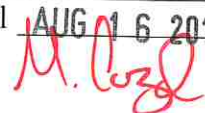
Assessment Criteria
Runway Condition Description
<ul style="list-style-type: none"> • Dry
<ul style="list-style-type: none"> • Frost • Wet (Includes Damp and 1/8 inch depth or less of water) <p>1/8 inch (3mm) depth or less of:</p> <ul style="list-style-type: none"> • Slush • Dry Snow • Wet Snow
<p>5° F (-15°C) and Colder outside air temperature:</p> <ul style="list-style-type: none"> • Compacted Snow
<ul style="list-style-type: none"> • Slippery When Wet (wet runway) • Dry Snow or Wet Snow (Any depth) over Compacted Snow <p>Greater than 1/8 inch (3mm) depth of:</p> <ul style="list-style-type: none"> • Dry Snow • Wet Snow <p>Warmer than 5° F (-15°C) outside air temperature:</p> <ul style="list-style-type: none"> • Compacted Snow
<p>Greater than 1/8 (3mm) inch depth of:</p> <ul style="list-style-type: none"> • Water • Slush
<ul style="list-style-type: none"> • Ice²
<ul style="list-style-type: none"> • Wet Ice² • Slush over Ice² • Water over Compacted Snow² • Dry Snow or Wet Snow over Ice²

5.2.3 Code (Runway Condition Code – RwyCC)

Runway Condition Codes Format: X/X/X) represent the runway condition description based on defined terms and increments. Use of these codes harmonizes with ICAO Annex 4, providing a standardized “shorthand” format for reporting RwyCC (which

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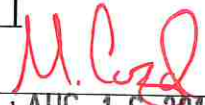
replaces Mu values), and are used by pilots to determine landing performance parameters when applicable. Runway Condition Codes are disseminated by Airport Operations via the following methods:

1. Federal NOTAM System, preferable through NOTAM Manager or equivalent system(s);
2. Airport Traffic Control Tower (ATCT) (as applicable);

Figure 5-2. Runway Condition Code (RwyCC) Column of the RCAM

Assessment Criteria	
Runway Condition Description	Code
<ul style="list-style-type: none"> • Dry 	6
<ul style="list-style-type: none"> • Frost • Wet (Includes Damp and 1/8 inch depth or less of water) <p>1/8 inch (3mm) depth or less of:</p> <ul style="list-style-type: none"> • Slush • Dry Snow • Wet Snow 	5
<p>5° F (-15°C) and Colder outside air temperature:</p> <ul style="list-style-type: none"> • Compacted Snow 	4
<ul style="list-style-type: none"> • Slippery When Wet (wet runway) • Dry Snow or Wet Snow (Any depth) over Compacted Snow <p>Greater than 1/8 inch (3mm) depth of:</p> <ul style="list-style-type: none"> • Dry Snow • Wet Snow <p>Warmer than 5° F (-15°C) outside air temperature:</p> <ul style="list-style-type: none"> • Compacted Snow 	3
<p>Greater than 1/8 (3mm) inch depth of:</p> <ul style="list-style-type: none"> • Water • Slush 	2
<ul style="list-style-type: none"> • Ice ² 	1
<ul style="list-style-type: none"> • Wet Ice ² • Slush over Ice ² • Water over Compacted Snow ² • Dry Snow or Wet Snow over Ice ² 	0

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5.2.4 Downgrade Assessment Criteria (Runway Inspector, In Consultation with SCL).

When data from the shaded area in the RCAM (i.e., CFME/deceleration devices, pilot reports, or observations) suggest conditions are worse than indicated by the present contaminant, the airport operations staff should exercise good judgment and, if warranted, report lower runway condition codes than the contamination type and depth would indicate in the RCAM. While pilot reports (PIREPs) of braking action provide valuable information, these reports rarely apply to the full length of the runway as such evaluations are limited to the specific sections of the runway surface in which wheel braking was utilized. It is not appropriate to use downgrade assessment criteria to upgrade contaminant based assessments of condition codes (e.g., from 2 to 3). There are specific rules and perimeters governing when the RwyCC may be upgraded from Code 0 or 1 to Code 3. See Note for Table 5-2.

5.2.5 MU (u) (Friction Assessment).

The correlation of the Mu (u) values with runway conditions and condition codes in the RCAM are only approximate ranges for a generic friction measuring device and are intended to be used for an upgrade or downgrade of a runway condition code. Airport operations should use their best judgment when using friction measuring devices for downgrade assessments, including their experience with the specific measuring devices used.

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Figure 5-3. Friction Assessment Column of the RCAM

Assessment Criteria		Downgrade Assessment Criteria	
Runway Condition Description	Code	Mu (μ) ¹	
<ul style="list-style-type: none"> Dry 	6	40 or Higher	
<ul style="list-style-type: none"> Frost Wet (Includes Damp and 1/8 inch depth or less of water) <p>1/8 inch (3mm) depth or less of:</p> <ul style="list-style-type: none"> Slush Dry Snow Wet Snow 	5		
<p>5° F (-15°C) and Colder outside air temperature:</p> <ul style="list-style-type: none"> Compacted Snow 	4	39	to
<ul style="list-style-type: none"> Slippery When Wet (wet runway) Dry Snow or Wet Snow (Any depth) over Compacted Snow <p>Greater than 1/8 inch (3mm) depth of:</p> <ul style="list-style-type: none"> Dry Snow Wet Snow <p>Warmer than 5° F (-15°C) outside air temperature:</p> <ul style="list-style-type: none"> Compacted Snow 	3	30	
<p>Greater than 1/8 (3mm) inch depth of:</p> <ul style="list-style-type: none"> Water Slush 	2	29	to
<ul style="list-style-type: none"> Ice² 	1	21	
<ul style="list-style-type: none"> Wet Ice² Slush over Ice² Water over Compacted Snow² Dry Snow or Wet Snow over Ice² 	0	20 or Lower	

5.2.6 Vehicle Deceleration or Directional Control Observation.

Column is used to correlate estimated vehicle braking experienced on a given contaminant.

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Figure 5-4. Vehicle Deceleration or Directional Control Observation Column of the RCAM

Assessment Criteria		Downgrade Assessment Criteria	
Runway Condition Description	Code	Mu (μ) ¹	Vehicle Deceleration or Directional Control Observation
<ul style="list-style-type: none"> Dry 	6	40 or Higher	---
<ul style="list-style-type: none"> Frost Wet (Includes Damp and 1/8 inch depth or less of water) <p><i>1/8 inch (3mm) depth or less of:</i></p> <ul style="list-style-type: none"> Slush Dry Snow Wet Snow 	5		Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.
<p><i>5° F (-15°C) and Colder outside air temperature:</i></p> <ul style="list-style-type: none"> Compacted Snow 	4	39 to 30	Braking deceleration OR directional control is between Good and Medium.
<ul style="list-style-type: none"> Slippery When Wet (wet runway) Dry Snow or Wet Snow (Any depth) over Compacted Snow <p><i>Greater than 1/8 inch (3mm) depth of:</i></p> <ul style="list-style-type: none"> Dry Snow Wet Snow <p><i>Warmer than 5° F (-15°C) outside air temperature:</i></p> <ul style="list-style-type: none"> Compacted Snow 	3		Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.
<p><i>Greater than 1/8 (3mm) inch depth of:</i></p> <ul style="list-style-type: none"> Water Slush 	2		Braking deceleration OR directional control is between Medium and Poor.
<ul style="list-style-type: none"> Ice² 	1	29 to 21	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.
<ul style="list-style-type: none"> Wet Ice² Slush over Ice² Water over Compacted Snow² Dry Snow or Wet Snow over Ice² 	0		Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.
		20 or Lower	

5.2.7 Pilot Reported Braking Action

This is a report of braking action on the runway, by a pilot, providing other pilots with a degree/quality of expected braking. The braking action experienced is dependent on the type of aircraft, aircraft weight, touchdown point, and other factors.

- Good:** Braking deceleration is normal for the wheel braking effort applied, and directional control is normal.
- Good-to-Medium:** Braking deceleration or directional control is between good and medium braking action.

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3. **Medium:** Braking deceleration is noticeable reduced for the wheel braking effort applied, or directional control is noticeably reduced.
4. **Medium-to-poor:** Braking deceleration or directional control is between medium and poor.
5. **Poor:** Braking deceleration is significantly reduced for the wheel braking effort applied, or directional control is significantly reduced.
6. **Nil:** Braking deceleration is minimal to non-existent for the wheel braking effort applied, or directional control is uncertain.

Figure 5-5. Pilot Reported Braking Action Column of the RCAM

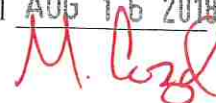
Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	Code	Mu (μ) ¹	Vehicle Deceleration or Directional Control Observation	Pilot Reported Braking Action
<ul style="list-style-type: none"> • Dry 	6	40 or Higher	---	---
<ul style="list-style-type: none"> • Frost • Wet (includes Damp and 1/8 inch depth or less of water) 	5		Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
1/8 inch (3mm) depth or less of: <ul style="list-style-type: none"> • Slush • Dry Snow • Wet Snow 	4	39 to 30	Braking deceleration OR directional control is between Good and Medium	Good to Medium
5° F (-15°C) and Colder outside air temperature: <ul style="list-style-type: none"> • Compacted Snow 	3		Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced	Medium
<ul style="list-style-type: none"> • Slippery When Wet (wet runway) • Dry Snow or Wet Snow (Any depth) over Compacted Snow 	2	29 to 21	Braking deceleration OR directional control is between Medium and Poor	Medium to Poor
Greater than 1/8 inch (3mm) depth of: <ul style="list-style-type: none"> • Dry Snow • Wet Snow 	1		Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced	Poor
Warmer than 5° F (-15°C) outside air temperature: <ul style="list-style-type: none"> • Compacted Snow 	0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain	Nil
Greater than 1/8 (3mm) inch depth of: <ul style="list-style-type: none"> • Water • Slush 				
<ul style="list-style-type: none"> • Ice² 				
<ul style="list-style-type: none"> • Wet Ice² • Slush over Ice⁴ • Water over Compacted Snow² • Dry Snow or Wet Snow over Ice² 				

5.3 Applying the RCAM to a Runway Assessment

To use the RCAM, airport operations will assess surfaces, report contaminants present, and the NOTAM system (NOTAM Manager) will generate the RwyCCs based on the RCAM when applicable. The RwyCCs may vary from each third of the runway if different contaminants are present. However, the same RwyCC may be applied when a uniform coverage of

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contaminants exists.

Note: A RwyCC of "0" denotes minimal or non-existent braking deceleration, which the FAA has determined to be an unsafe condition. The NOTAM system does not accept "0" for RwyCC and, if attempted, prompts Airport Operations to close the surface and perform mitigating actions until the unsafe condition no longer exists.

Step 1: Runway Condition Code (RwyCC) Applicability:

If 25 percent or less of the overall runway length and width or cleared width is covered with contaminants, RwyCCs must not be applied, or reported. The Runway Inspector in this case, will simply 1) report the contaminant percentage, type and 3) depth for each third of the runway to ATCT over the Ground Frequency, and will include any associated treatments, improvements or details to the Ops Center for the NOTAM / ACR.

Or

If the overall runway length and width coverage or cleared width is greater than 25 percent, RwyCCs must be assigned, and reported, informing airplane operators of the contaminant present, and associated codes for each third of the runway. The reported codes, will serve as a trigger for all airplane operators to conduct a takeoff and/or landing performance assessment.

Step 2: Apply Assessment Criteria

Based on the contaminants observed by the Runway Inspector, the associated RwyCC from the RCAM for each third of the runway will be assigned.

Step 3: Validating Runway Condition Codes

If the observations by the Runway Inspector determine that RwyCCs assigned accurately reflect the runway conditions and performance, no further action is necessary, and the RwyCCs generated, along with the opening of the impacted runway, will be reported to the ATCT over Ground Control frequency by the Runway Inspector. The RwyCCs, and any associated treatments, improvements or details will be passed on from the Runway Inspector to the Ops Center, for further dissemination, via the NOTAM and ACR systems.

b) Downgrade Assessment Criteria

When observations indicate a more slippery condition than generated by the RCAM, the Runway Inspector, in consultation with the SCL, may downgrade the RwyCC(s). When necessary, use of the RCAM Downgrade Assessment Criteria (grey columns) may assist in making the determination.

Note: The criteria in the grey columns of the RCAM may only be used to downgrade the RwyCCs.

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5.3.1 Step 3A: Mu (u).

When conditions are acceptable for the airport operator to use available friction devices, the airport operator may utilize Mu readings as a means to assess runway slipperiness for downgrading or to validate the RwyCCs generated by the RCAM.

5.3.2 Step 3B: Vehicle Control

Vehicle deceleration or directional control may cause concerns for the airport operations. These concerns could be for either deceleration or directional control issues. However, they need not occur simultaneously for concern to exist.

5.3.3 Step 3C: Pilot Reported Braking Action.

Pilots, reports, which provide valuable information, rarely apply to the full length of the runway. As such, these reports are limited to the specific sections of the runway surface in which wheel braking was applied.

Note: Temperatures near and above freezing (e.g., at negative 26.6° F (-3° C) and warmer) may cause contaminants to behave more slippery than indicated by the runway condition code given in the RCAM. At these temperatures, airport operations should exercise a heightened awareness of airfield conditions, and should downgrade the RwyCC if appropriate as stated above.

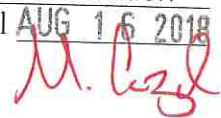
c) Upgrade Assessment Criteria Based on Friction Assessments.

RwyCCs of 0 or 1 may only be upgraded by the Runway Inspector, after consultation with the SCL, when the following requirements are met:

1. All observations, judgment, and vehicle braking action support the higher RwyCC, and
2. Mu values of 40 or greater are obtained for the affected third(s) of the runway by a calibrated friction measuring device that is operated within allowable parameters.
3. This ability to raise the reported RwyCC to no higher than a code 3 can only be applied to those runway conditions listed under code 0 and 1 in the RCAM. (See footnote 2 on the RCAM.)
4. The Runway Inspector must also continually monitor the runway surface as long as the higher code is in effect to ensure that the runway surface condition

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does not deteriorate below the assigned code.

- a. The extent of monitoring must consider all variables that may affect the runway surface condition, including any precipitation conditions, changing temperatures, effects of wind, frequency of runway use, and type of aircraft using the runway.
- b. If sand or other approved runway treatments are used to satisfy the requirements for issuing the higher runway condition code, the monitoring program must confirm continued effectiveness of the treatment.

5.4 Condition Reporting

The Runway Inspector should carefully monitor changing airfield conditions and disseminate information about those conditions in a timely manner to airport users. Section 139.339 requires that airport operators provide for the collection and dissemination of accurate airport condition information (movement areas or loading ramps and parking areas) to all airport users when any pavement condition is worse than bare and dry. Additionally, any condition that may affect the safe operations of aircraft must be reported to all users. Critical information to airplane operators for the purpose of takeoff and landing performance includes the contaminant type, depth, and associated RwyCCs when applicable. The determination of dry versus wet snow or slush is another key element in the report because of its potential for significant impact on airplane performance.

Note: STL Airport Operations report “Wet” conditions (1/8th inch (3mm) or less of water) when it is the only condition present on the runway on a year round basis. The same applies to taxiways, aprons, and holding bays. “Wet” reporting is largely due to differences in airplane performance on surfaces that are wet, dry, or have water greater than 1/8 inch (3mm) in depth. Airport Operations must report “Wet” conditions when associated with or as a result of other winter contaminants when present in any third of the runway. Additionally, when a runway has been treated with chemicals to mitigate a specific contaminant and the resulting surface is now “Wet”, this condition should also be reported.” The requirement to report “Slippery When Wet” has not changed and must be reported anytime the condition exists. (See sections on Slippery When Wet Runway).

5.5 How to Report Surface Conditions:

- 5.5.1 The Airport Operations department is responsible for reporting current runway surface conditions whenever a runway is contaminated by ice, snow, slush, or water.
- 5.5.2 A single runway surface condition is generated for each runway, based on the direction of assessment and typically correlates with the runway end in use.

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- 5.5.3 The assessment applies to the entire runway, and can be read in reverse by pilots, the Airport, ATCT. The associated thirds do not change if reported in reverse.
- 5.5.4 Reporting from both runway ends can cause pilot confusion and also clutters the NOTAM system unnecessarily.
- 5.5.5 Do not report depths for compacted snow and ice. When reporting depth for standing water or slush, the depths are either 1/8 inch (3mm) or less or greater than 1/8 inch (3mm).
- 5.5.6 When the cleared runway width is less than the full runway width, also report the conditions on the uncleared width (runway edges) if different from the cleared width. In the event the full width of the runway is not cleared, the runway condition code will be generated based on the contaminants present in the cleared portion of the runway (typically center 100 feet). Additionally, the Runway Inspector must keep in mind that the entire width of the runway is still usable and available to the aircraft and must be safely maintained. This means that while contaminant depths may vary from the center cleared portion of the remaining portions or edges of the runway, the condition of the outlying portions must not present any operational hazard.
- 5.5.7 **When to Issue New Runway Condition Reports.**
- 5.5.8 Runway condition reports must be updated any time a change to the runway surface condition occurs. Changes that initiate updated reports include weather events, the application of chemicals or sand, or plowing or sweeping operations. Airport Operations should not allow airplane operations on runways after such activities until a new runway condition assessment has been completed identifying the changed condition(s) and the effectiveness of mitigations and treatments and ensuring no new hazards have been inadvertently introduced. This assessment should be reported via the NOTAM system, reflecting the current surface condition(s) of affected runways.
- 5.5.9 The RwyCC will be reported to Ground Control over the frequency upon opening any runway that has been closed, prior to an aircraft utilizing that runway.
- 5.5.10 Whenever any of the previously identified circumstances apply, the Snow Crew Leader can use mitigation to improve runway conditions, which in turn may lead to a higher RwyCC. For

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example, on first assessment of the runway conditions, an airport operator may determine the identified contaminants generate an RwCC of "0". A RwyCC of "0" is equivalent to Nil braking conditions, which requires the runway be closed until mitigation actions are performed and the unsafe conditions no longer exist. After the mitigation actions are completed, the Snow Crew Leader or Runway Inspector would reassess the runway conditions and determine whether a different runway condition applies. Based on the contaminants now present (type, depth, and percentage), the runway condition code may change or no longer be reported if the amount of contamination is 25% or less of the overall runway length and width or cleared width (if not cleared from edge to edge). This process differs from the upgrade process, which is based on improvement of friction within the existing contaminants versus the mitigation or removal of those contaminants (see paragraph 5.4.3.2).

- 5.5.11 Changes to the runway surface condition must be updated and appropriately disseminated so airplane operators are aware of the current conditions before continuing with their operations. During active snow events or rapidly changing conditions (e.g., increasing snowfall, rapidly rising or falling temperatures), the Runway Inspector should maintain a vigilant runway inspection process to ensure accurate runway condition reports. While pilot braking action reports provide valuable information, these reports may not apply to the full length of the runway as such evaluations are limited to the specific sections of the runway surface in which the airplane wheel braking was used. In addition, the runway condition reports should be updated at least at the beginning of each shift of airport operations personnel, when conditions are not changing but contaminants are present (e.g., following a snow event where frozen contaminants remain after an airport's mitigating actions).

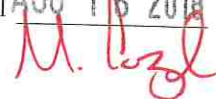
5.6 Runway Friction Surveys, Equipment, and Procedures.

Runway Friction surveys are a valuable tool for the Snow Team and will be deployed to help determine effectiveness of Snow Team treatments, in that it can show trend of a runway as to increasing or decreasing friction. Results of friction surveys will be given to the Snow Coordinator and Snow Crew Leader, and logged in the CityWorks log by the Ops Center. They will not be disseminated via the NOTAM system or other informal methods. Nor will they be used to attempt to correlate Mu values to braking action (Good, Medium, Poor, Nil).

STL has two 2016 Halladay Technologies Runway Friction Testers HTI RT3 CFMEs, and as a backup, one Bowmonk Decelerometer. The HTI RT3s are

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deployed as follows:

#17 2015 Chevy Silverado 2500 dry tester (winter only)

#18 2016 Chevy Silverado 3500 wet tester (winter & summer)

a) Conditions Acceptable to Use Decelerometers or Continuous Friction Measuring Equipment to Conduct Runway Friction Surveys on Frozen Contaminated Surfaces.

The data obtained from such runway friction surveys are only considered to be reliable when the surface is contaminated under any of the following conditions.

It is not acceptable to use decelerometers or CFME to assess any contaminants outside of the below parameters.

The FAA prohibits the dissemination of Mu values to aircraft operators formally and informally.

- Ice or wet ice.
- Compacted snow at any depth.
- Dry snow 1 inch or less.
- Wet snow or slush 1/8 inch or less.

b) When to Conduct

Friction assessments should be conducted if any of the following occurs:

- When the central portion of the runway, centered longitudinally along the runway centerline, is contaminated 500 feet or more.
- After any type of snow removal operations or chemical application (including sanding)
- At least once during an 8 hour shift, while contaminants noted above are present.
- Immediately following any aircraft incident or accident on the runway.

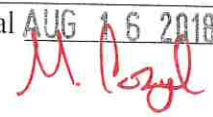
c) How to Conduct

Procedures for conducting a friction test using CFME:

- Notify ATCT that an uninterrupted run is required.
- Lateral location of the CFME test shall be 10' from centerline.
- CFME tests are completed at 40 MPH.
- The test run shall be uninterrupted.
- For the purposes of using the information to upgrade or downgrade a Rwy CC, the direction of the test shall be the same direction as arrival

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- aircraft.
- Friction tests are completed in one pass, on the right side of the centerline.
- Runway zones are touchdown, midpoint and rollout zones.

Procedures for conducting a friction test using the Decelerometer:

- Lateral location of the Bowmonk test shall be 10' from centerline.
- Tests are conducted at 20MPH.
- If possible the test should be uninterrupted, but tests may be interrupted and broken into 3rds.
- For the purposes of using the information to upgrade or downgrade a Rwy CC, the direction of the test shall be the same direction as arrival aircraft.
- Friction tests are completed in one pass, regardless of the side of the centerline.
- 3 frictions tests are conducted on the Runway zones in the touchdown, midpoint and rollout zones for a minimum of 9 tests.

d) Calibration

An Airport Operations Supervisor responsible for 139 certification shall ensure the airports Halladay Technologies HTI RT3s will be calibrated, updated and certified annually prior to the winter season. This person coordinates with the Fleet Maintenance Manager, who coordinates directly with the manufacturer on the factory calibration. This Airport Operations Supervisor is also responsible for ensuring the Bowmonk receives annual factory calibration, prior to the winter season.

5.7 Taxiway, Apron, and Holding Bay Assessments.

The Runway Inspector and Ramp Inspector shall coordinate and complete assessments to these surfaces when contaminants are present, and surfaces will be monitored on a regular, continual basis.

5.8 Surface Condition Reporting.

The SCL is responsible for implementing the SICP and ensuring Airfield Operations Specialists are carefully monitoring changing airfield conditions and disseminating information about those conditions via the NOTAM & ACR System in a timely manner to airport users.

Runway: Runway condition reports will occur when contaminants are present on a runway surface via the NOTAM & ACR Systems. Condition Reports and RwyCCs will be updated as necessary whenever conditions change, such as a contaminant type, depth, percentage or treatment/width change.

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Taxiway, Apron or Holding Bay: Taxiway, Apron or Holding bay condition reports will occur when contaminants are present on these surfaces via the NOTAM & ACR Systems. They will be updated as necessary whenever conditions change, such as a contaminant type, depth, percentage or treatment/width change.

Airfield Operations Specialist's ensure accurate and timely reporting of surface conditions. Their procedures for Surface Condition Reporting are as follows:

Any time a change to the surface conditions occurs which could be any of the following:

- active accumulating snow event
- after plowing/brooming/deicing/sanding
- rapidly rising or falling temperatures that may change the nature of the surface contamination
- rapidly changing conditions
- When contaminants are present, at the minimum a surface condition report shall be updated no later than 0500L so that airlines can plan their morning departures.

5.9 Reportable Contaminants without Performance Data.

If present, unable to be removed, and posing no hazard, mud will be reported with a measured depth. Ash, oil, sand, and rubber contaminants will be reported without a measured depth. These contaminants will not generate a RwyCC.

5.10 Slippery When Wet Runway.

For runways where a friction survey (for the purposes of pavement maintenance) indicates the averaged Mu value at 40 mph on the wet pavement surface failed to meet the minimum friction level of .46 mu, Airport Operations Specialists will report, via the NOTAM & ACR systems a RwyCC of '3' for the entire runway (by thirds: 3/3/3) when the runway is wet.

A runway condition description of 'Slippery When Wet' will be used for this condition. The Airport will not report a "Wet" runway when a "Slippery When Wet Notam" is in effect. When a "Slippery When Wet" Notam is in effect, the Airport will report the runway condition "Slippery When Wet" instead of "Wet" for the relevant thirds.

If it is determined by the SC/ Assistant Director of Ops & Mx that a downgrade is necessary, the downgrade will be made to all three runway thirds match (i.e.

3/3/3, 2/2/2, 1/1/1).

The Airport will discontinue the use of this Notam when the runway friction level has been met or exceeded.

The NOTAM will be cancelled when the minimum runway friction level classification

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has been met or exceeded.

5.11 Requirements for Closures.

Surfaces (Runways & Taxiways) receiving a NIL braking (either pilot reported or by assessment by the airport) are unsafe for aircraft operations and will be closed immediately when this unsafe condition exists.

A January 1, 2012 LOA entitled "Notification Process by the Airport for Surface Area NOTAMs" describes some of the procedures between the Airport and ATCT. Procedures contained herein provide further detail.

When previous PIREPs have indicated GOOD or MEDIUM braking action, two consecutive POOR PIREPS should be taken as evidence that surface conditions may be deteriorating. If the Runway Inspector has not already instituted its continuous monitoring procedures, an assessment by the Runway Inspector or SCL should occur before the next operation.

If the Runway Inspector is conducting continuous monitoring procedures, and if there are no changes to continuous monitoring observations, a runway assessment will occur as soon as air traffic volume allows. In this case, the Ops Center will immediately coordinate closely with ATC, and ATC will begin making plans to create space and time for a runway assessment to be made as a matter of priority, unless the snow crew leader needs the runway sooner.

When POOR PIREPs are occurring, the Snow Crew Leader shall coordinate and formulate a high priority plan to treat the runway, using all reasonable steps and available equipment and materials that are appropriate for the condition to improve the braking action.

If treatment efforts do not improve the runway braking conditions, the Runway Inspector will continuously monitor the runway to ensure braking action does not further degrade and become NIL. **NIL assessments or PIREPs require the Runway Inspector or SCL to NOTAM and report the runway (or surface) as closed.**

The airport will maintain available airport surfaces in a safe operating condition at all times and provide prompt notifications when areas normally available are less than satisfactorily cleared for safe operations. If a surface (runway, taxiway, apron, lane or holding bay) becomes unsafe due to a NIL (by braking action or assessment) or otherwise unsafe hazard or condition, the surface will be closed until the condition no longer exists and is safe.

Additionally, a runway, taxiway or ramp area surface may be closed if the

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accumulated coverage on the surface reaches 2 inches of dry snow, ½ inch of wet snow or slush or covered with a layer of black ice with NIL braking action.

5.12 Continuous Monitoring and Deteriorating Conditions.

Under deteriorating conditions, the Snow Crew Leader will take all reasonable steps using available equipment and materials that are appropriate for the condition to improve the braking action. If braking action cannot be improved, and the surface is not NIL, the Runway Inspector and the Ramp Inspector will continually monitor the runways, taxiways, aprons and holding bays to ensure braking does not become NIL.

Conditions to pay particular attention to, including but not limited to:

- Frozen or freezing precipitation (freezing rain).
- Falling air or pavement temperatures that may cause a wet runway to freeze.
- Rising air or pavement temperatures that may cause frozen contaminants to melt and become slick due to the thin layer of water over frozen contaminant.
- Removal of abrasives previously applied to the runway due to wind or airplane effects.
- Frozen contaminants blown onto the runway by wind.

Implementation of continuous monitoring procedures is triggered by:

- Two consecutive reports of POOR PIREPs.
- Significant active snow / ice events.
- Freezing rain events.

Continuous monitoring procedures shall include:

- Observing which exit taxiways are being used.
- Maintaining a regular program of friction testing to identify trends in runway traction.
- Monitoring runway physical conditions including air and surface temperatures, contaminant types and depths.
- Monitoring pilot communications.
- Monitoring weather patterns.

5.13 Surface Conditions Not Being Monitored/Reported

The Airport Operations Department is manned 24/7 and STL will not be unmonitored or unreported.

5.14 Additional Procedures and Responsibilities

- a. The Airfield Maintenance Supervisor shall schedule personnel, detail areas, make inspections, issue and return all tools, foul weather gear, and be

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responsible for the proper functioning of all mechanical equipment during snow season. He shall maintain at all times adequate supplies (shovels, pellets, scrapers, chippers, etc.) to combat the most unusual conditions for the protection and welfare of the public in the assigned areas. He shall submit a personnel schedule, in writing, to the Snow Coordinator before each winter season.

b. Electrical Staff

The Ops. Center will notify the Electrical Supervisor of when to call in the Electrical maintenance Snow Removal crews. The electrical Supervisor will have one (1) Foreman, and four (4) Electricians available for snow call. Under the direction of the Airport Construction and Maintenance Manager, the Electrical Supervisor will be responsible for coordinating the following Airfield Snow Removal Activities:

1) Preparation

a) The Electrical Supervisor is responsible for training Electrical Maintenance personnel, equipment readiness, issuing and returning of supplies, scheduling of personnel, and ensuring adequate inventory levels and making inspections.

2) Communication

a) Electrical Maintenance personnel snow removal communications will be through the 800 MHz Trunking System on the Electric Shop Radios.

3) Equipment

- a) Air Compressor
- b) Deicing liquid filled tank and sprayer (available from Field Maintenance)
- c) Bobcat front end loader (available from Field Maintenance)
- d) Shovels
- e) Brooms

4) Supplies

a) An adequate inventory of runway, taxiway, centerline, touchdown zone, semi-flush edge light fixtures, lamps, transformers and blank covers shall be maintained to cover all contingencies.

5) Snow Removal

a) The Electrical Maintenance section shall remain in contact with the

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Snow Crew Leader and the Ops. Center during snow removal operations. The electrical departments mobile repair unit will repair damaged lights and clear snow from obstructed signs and lights during and after significant snow events, and/or when requested. Particular attention should be given to runway lighting, taxiway lighting, hold position signs, runway guard lights and lighted wind socks. The Electricians may be required to install flags on runway and taxiway edge lighting.

c. Store Room

Provides materials and equipment for Airport Authority personnel on routine as well as emergency basis. Manned from 7:30 am to 4:30 pm local, Monday through Friday, as well as during and for the duration of all snow and ice emergencies.

d. Building Maintenance and Climate Control Staff

The Ops. Center will notify the on-duty Building Maintenance personnel and the on-duty Climate Control Supervisor of when to call in snow removal crews and when snow and ice removal operations are expected to begin. Under the direction of the Airport Construction and Maintenance Manager, the Building Maintenance Supervisor and all department Foremen will be responsible for coordinating the following snow and ice removal activities for both the Building Maintenance and Climate Control departments.

1) Preparation

a) The Building Maintenance Supervisor and the Climate Control Manager are responsible for equipment readiness, training of personnel, issuing and returning of supplies, ensuring adequate inventory levels, making inspections, scheduling personnel necessary for snow removal operations.

2) Communication

a) All Building Maintenance and Climate Control snow removal radio communications will be through the Building Maintenance Talk Group on 800 MHz Trunking System on the Building Maintenance and Climate Control Radios.

3) Equipment

- a) Truck 701 with 8' snow plow only
- b) Truck 703 with drop in spreader
- c) Truck 704 with 8' snow plow, drop in spreader and hand shovel
- d) Truck 705 with 8' snow plow, drop in spreader and hand shovel

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- e) Truck 706 with 8' snow plow, drop in stainless spreader
 - f) Truck 708 with 8' snow plow, drop in spreader and hand shovel
 - g) Truck 600 with spreader and hand shovel
 - h) Walk behind spreaders
 - i) Hand shovels
- 4) Ice Melting Chemicals
- a) Sodium Acetate (NAAC)
 - b) Sodium Formate/Acetate blend (NEW DEAL)
 - c) Calcium Chloride
 - d) Sodium Chloride (Salt)

Note: NAAC will be the primary chemical used for ice control. New Deal may be used instead of NAAC. Snow crews may be instructed to use Calcium Chloride or salt on some occasions.

CALCIUM CHLORIDE OR SALT SHALL NOT BE USED ON OR NEAR THE AIRFIELD

- 5) Snow and Ice Removal Area

Note: All vehicles shall have their Amber Beacon and flashers on during snow removal operations.

1) WHEN SNOW CONTRACTORS ARE PRESENT

Contractor is responsible for the following Mutual Aid Gates:

- **Mutual Aid Gates 17S, 7S, 3S (NAAC/NEW DEAL ONLY – NO SALT)**
- **Mutual Aid Gates 71N Airside (Airfield Maintenance)**

TRUCK 708/709/711/715 (Laborers in Truck with hand tools and chemical products)

- Terminal 1 sidewalks and crosswalks
 - o Stair and pedestrian ramp between Ticketing and Baggage Claim drive
 - o Ticketing Drive sidewalks and crosswalks
- Terminal 2 sidewalks and crosswalks
 - o Stair and pedestrian ramp between Ticketing and Baggage Claim drive
 - o Ticketing Drive sidewalks and crosswalks
- Airport Office Building sidewalks and steps
- Crosswalk from garage to loading dock
- Sidewalk from E lot to Terminal 2

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- K-9 Facility
- Bus Port sidewalks
- Taxi Cab stand and sidewalks (Peartree Lot)
- Metro Link Terminal 1 & 2 platform and exit stairs

Truck 703

- Chemical truck loaded and on reserve for being dispatched

Truck 705

- Salt truck loaded and on reserve for being dispatched

2) WHEN CONTRACTORS ARE NOT PRESENT

TRUCK 708/709/711/715 (Laborers in Truck with hand tools and chemical products)

- Terminal 1 sidewalks and crosswalks
 - o Stair and pedestrian ramp between Ticketing and Baggage Claim drive
 - o Ticketing Drive sidewalks and crosswalks
- Terminal 2 sidewalks and crosswalks
 - o Stair and pedestrian ramp between Ticketing and Baggage Claim drive
 - o Ticketing Drive sidewalks and crosswalks
- Airport Office Building sidewalks and steps
- Crosswalk from garage to loading dock
- Sidewalk from E lot to Terminal 2
- K-9 Facility
- Bus Port sidewalks
- Taxi Cab stand and sidewalks (Peartree Lot)
- Metro Link Terminal 1 & 2 platform and exit stairs
- **Mutual Aid Gates 17S, 7S, 3S (NAAC/NEW DEAL ONLY – NO SALT)**
- **Mutual Aid Gates 71N Airside (Airfield Maintenance)**

TRUCK 701/704/715

- Will be used as secondary vehicles in reserve

TRUCK 703

- East West Triturates
- Gate 17S
- Gate 7S

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- Terminal 1 Lower and Upper Drive
- Terminal 1 Landside Ramp A
- Terminal 1 Landside Ramp B
- Terminal 1 Landside Ramp C
- Terminal 1 Landside Ramp D
- Terminal 1 Landside Ramp E
- Terminal 1 Landside Ramp F
- Terminal 1 Landside Ramp G
- Terminal 1 Landside Ramp H

TRUCK 705

- Bus Port
- Cell Phone Lot 1
- Cell Phone Lot 2
- Taxi Lot
- K-9 Facility
- Airport Office Building Parking Lots

This Vehicle is not to be used on the airfield due to Salt in Truck

TRUCK 706

- Terminal 2 Lower and Upper Drive
- Terminal 2 Landside Ramp A
- Terminal 2 Landside Ramp B
- Terminal 2 Landside Ramp C
- Terminal 2 Landside Ramp D

a) Climate control:

The Snow Coordinator will determine if there is a need for Sand Dryer activation, based on the forecast. After notification of a need to staff the sand dryer, Climate Control will follow the procedures as written.

Sand Dryer:

Supervisor will assign two (2) personnel to operate the systems. One additional person is assigned by the A or B directive, and will operate the sand loading.

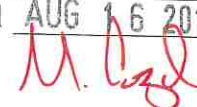
The sand dryer is normally used for freezing rain/ice conditions and extremely low temperatures. It shall be the Snow coordinator's and/or the Snow Crew Leader's determination to activate the sand dryer.

5.15 Contractor Equipment:

The SC shall coordinate with the Airport Deputy Director and the Airport's snow Contractor to determine the appropriate level of commencement and staffing for the Non-Movement Area and Landside Operations snow control. Typically, either a


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“skeleton crew” or “full crew” is scheduled with the Contractor, when needed. However, specific equipment may be modified depending on the actual and forecasted conditions and level of anticipated air traffic operations.

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Typical Example:

"Ramp Crew Required Equipment"			
	Level 1	Level 2 (Total)	
Skid Steer Loader/Snow Bucket and/or 8 ft. plow	6	10	
12 ft. Ramp Pusher Plow	1	3	
16 ft. Ramp Pusher Plow	1	2	
24 ft. Ramp Pusher Plow	1	2	
28 ft. Ramp Pusher Plow	5	6	
Supervisor	3	4	
Snow Pile Crew Equipment			
	Level 1	Level 2 (Total)	Snow Dump
12 ft. Ramp Pusher Plow	0	0	1
Front End Loader with minimum 4.2 cu.yd. bucket	3	5	1
Tandem Dump truck with 12 cu.yd. capacity	15	30	0
Road Crew Equipment			
	Level 1	Level 2	Level 3 (Total)
Truck with minimum 2.1 cu.yd. spreader and 8 ft. plow	2	4	4
Truck with minimum 8 cu.yd. spreader and 10 ft. plow	1	2	3
Skid Steer Loader/Snow Bucket and/or 8 ft. plow	0	2	3
Supervisor	0	1	1

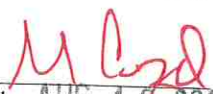
5.16 Aircraft Deicing Collection System:

After notification of the start of aircraft deicing by an airline(s); Airport Operations Center, Climate Control, and Environmental/Health and Safety Departments will perform procedures outlined in Section 4.1 and 4.2 of Airport Environmental Control Procedure 024 (AECP): *Management of the Airport Deicing Collection System – Deicing Collection Tank/Effluent Monitoring and Testing*. These sections are summarized as follows:

1.0 Placing and deicing collection system (system) into collection

The process for placing the deicing system into collection requires collaboration and communication between the Operations Center (Ops. Ctr.), Environmental Health and Safety (EHS), and West Climate Control (WCC). The decision to place the deicing system in collection is made by EHS based on weather information from WCC. The procedure is as follows:

Original Date _____
 Revision Date _____

FAA Approval  AUG 16 2018

- An airline(s) notifies the Ops. Ctr. of the intent to deice an aircraft.
- Ops. Ctr. shall contact Airport EHS Manager to determine if the system should be placed in collection.
- The EHS Manager shall contact WCC with instructions to place the system into collection or leave the system out of collection.

2.0 Procedure for System Operations while in Collection

The WCC Stationary Engineer on duty has the responsibility to monitor the deicing effluent Collection Tank when the system is in deicing collection. The Stationary engineer should make hourly observations and log entries for tank level (in inches), tank flow rate (gallons per minute), and effluent BOD (milligrams per liter).

If the high tank level alarm alerts, the Stationary Engineer must notify the Ops. Ctr. The Ops. Ctr. then notifies the EHS Manager or designee, who determines if the system should remain in collection. The EHS Manager contacts WCC with instructions to remove the system from collection or to leave the system in collection.

WCC Stationary Engineer should also notify the Ops. Ctr. if communication is lost with the collection tank controls or if there are any issues effecting the system's operation. The Airport EHS Manager shall determine and communicate to the Ops. Ctr. and WCC the decision to remove the system from collection for the non-deicing season.

5.17 Additional Best Practices & Information:

1. ICE CONTROL

- General/Runway Sensor
 - a) In general, icing conditions occur when air temperatures are between 29F and 34F, and surface temperatures drop to 32F or lower. As the temperature approaches this range, the runway sensor system (located in the Ops. Center) should be monitored frequently. This will give an accurate measure of air and surface temperatures, as well as the moisture content at twenty-one points on RWYs 6-24, 11-29, 12L-30R, 12R-30L and TWY Foxtrot. When icing conditions occur, it will give a visual and/or audible indication. The use of the runway sensor monitor should be augmented with physical checks and checks with the contracted weather service. Airport personnel and contractors will be alerted to changing conditions. Significant changes will be disseminated by ACR and Digital NOTAM System.

- Ice Control Operations

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2. **WET SNOW**

• General

a) Of all problems encountered during the winter season, the most critical and damaging to both aircraft and vehicles is the accumulation of wet snow. Wet snow melts and creates pods of standing water between snow banks and freezes on wheels, gears and gear wells, flaps, etc., and it may conceivably become a weapon of frozen ice in the form of balls, rocks, or other such instruments inflicting damage and/or injury. It is exceedingly difficult to manage and should be worked with certain types of equipment. Wet snow on roadways is generally moved to the sides of the road by progressive traffic. On airport runways, taxiways and ramps, this is not the situation as wheels of aircraft have a tendency to jam up by ridging and cross ridging wet snow on operational areas.

• Removal Operations

a) Wet snow occurs after a snowfall or icing condition with a quick rise in temperature over a short period of time or a slow rise in temperature over a longer period of time. While there is very little advance planning for wet snow removal, the operations are much the same as those of snow removal. The SCL should use equipment with rubber and/or polyurethane blades, to effect a squeegee action on hard surfaces. Trucks engaged in wet snow removal will be able to move very rapidly in clearing operational areas and in all likelihood, will be able to operate between aircraft movements. NOTAMS should be issued as frequently as required in the same manner as snow removal operations, and this information placed on the ACR. Runway brooms may be used in place of blades if conditions so warrant.

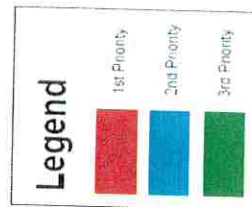
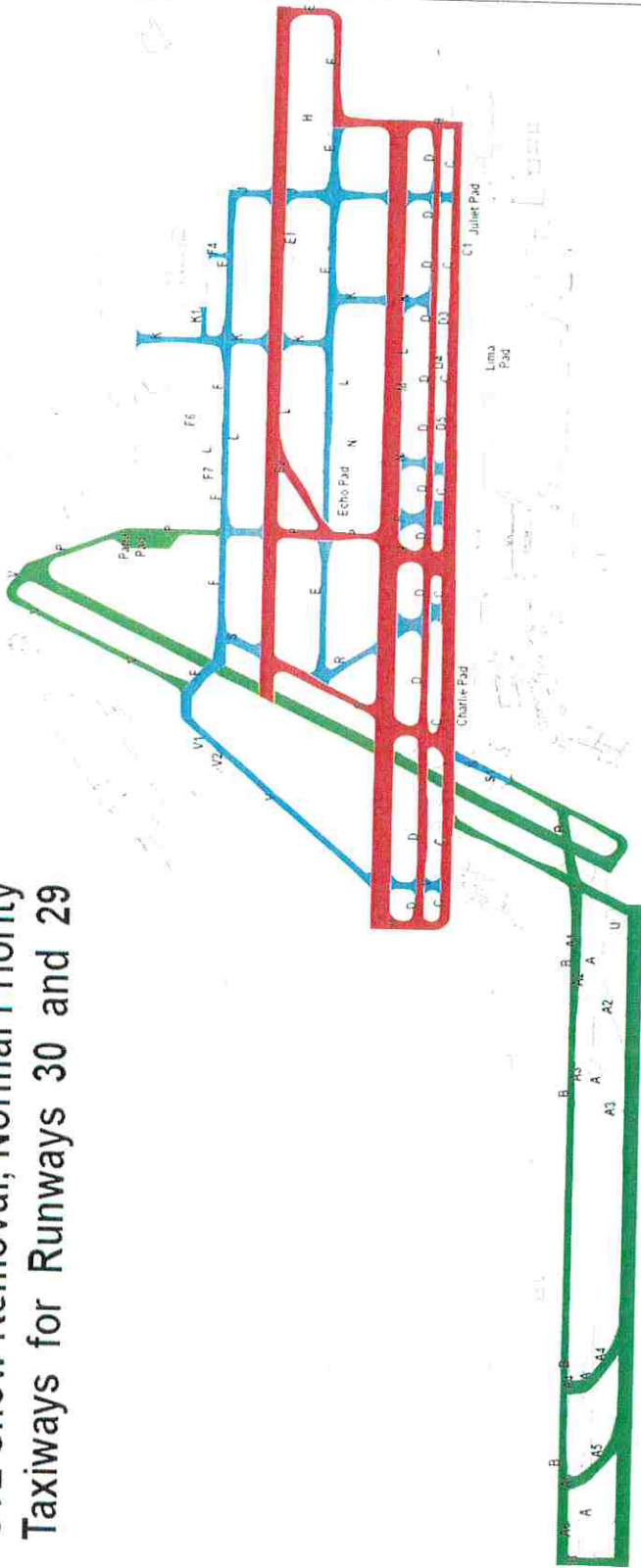
• Cleanup

- a) The Ops Center should make a constant visual check on the progress of wet snow removal, dispatching vehicles to any area/areas on the runways which may be hazardous to aircraft. Critical roadway areas may also require some chemical application operations.
- b) The SCL must remember that wet snow accumulations should be rectified when it starts. Accumulation of one fourth (1/4") or more may seriously hamper or halt airport operations until such time as wet snow accumulation has been eliminated.

Original Date _____
Revision Date _____

FAA Approval  AUG 16 2018

STL Snow Removal, Normal Priority Taxiways for Runways 30 and 29



* 30R-12L Priority Over 12R-30L



ST. LOUIS LAMBERT
INTERNATIONAL AIRPORT

Snow Removal

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Coordinate System:
State Plane - Missouri, East Zone
NAD 83 - UTM Zone 18Q UTM

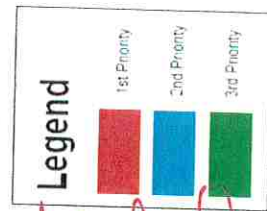
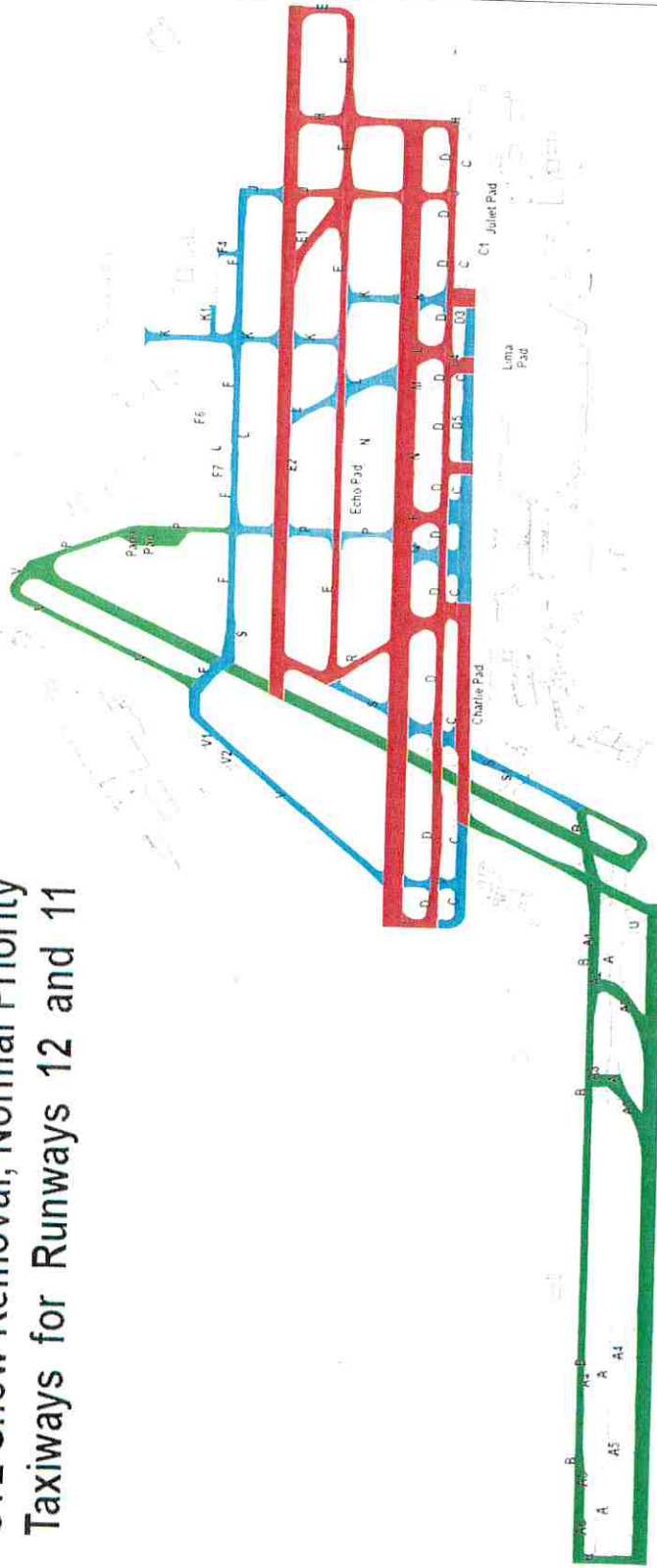
Project ID: _____
Date: June 2019
Revision No: 209

Prepared By: _____
Date: _____
Drawing No: _____
Scale: _____

Original Date _____
Date _____

FAA Approval *M. Lopez*
AUG 16 2019 Revision

STL Snow Removal, Normal Priority Taxiways for Runways 12 and 11



* 30R-12L Priority Over 12R-30L

Original Date _____
Date _____

FAA Approval *M. [Signature]* **AUG 16 2018** Revision _____

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT

Snow Removal

Coordinate System:
2011-Play 2003-ER Visior-ESR 2174
NAD 83 UTM 18Q UTM Zone 18Q

Revised By:	Revised By:	Revised By:
Date:	Date:	Date:
Drawn By:	Drawn By:	Drawn By:
Scale:	Scale:	Scale:

FAA APPROVED

M.L.

DATE: AUG 16 2018

Radio Communications Plan 2016-2017 - Snow Team (Appendix 2)

Snow Crew Leader (SCL) & Runway Inspector (RI)

- **Ops Freq - 1** SCL & RI communicate with Ops Center on Ops Freq. 2) SCL communicates with Runway Foreman (RF) on AFM Freq. 3) RI communicates with RF on Ops Freq, if needed.
- **Airfield Maint Freq - 1** Primary channel for SCL to direct Runway Foremen, and the RF to direct TWY Foremen and RWY Team.
- If ATCT is staffed with an Airport Liaison (AL), the AL shall primarily communicate with the SCL in the field, the SCL shall communicate to RF & RI. RF to communicate to TF 1 & 2.

Runway Foreman (RF) & Runway Team (RT)

- **Airfield Maintenance Freq - 1** Communication & coordination between each Snow Team Foreman. 2) Primary channel for Runway Foreman to direct Runway Team and TWY Foreman. 3) Foreman and SCL communications.
- **Operations Freq - 1** Runway Foreman monitors, communicates and coordinates with Runway Inspector and/or Ops Center on Ops.

Taxiway Foreman 1 (TF1) and TF2 & Taxiway Teams 1 and 2

- **Snow 1 Freq - 1** Taxiway Foreman 1 to TWY Team 1 communication & coordination. 2) Taxiway Foreman direct their respective Taxiway Team.
- **Snow 2 Freq - 1** Taxiway Foreman 2 to TWY Team 2 communication & coordination. 2) Taxiway Foreman direct their respective Taxiway Team.
- **Airfield Maintenance Freq - 1** Runway Foreman briefs & communicates w/ Taxiway Foreman, passes on clearances and hold short instructions and briefings from Ops. 2) Runway Foreman to Taxiway Foreman communication.

Deicer Teams (Liquid or Solid)

- **Airfield Maintenance Freq - 1** Runway Deicers assigned to the Runway Team communicate to Runway Foreman on AFM Freq. 2) Runway Deicers report number to Snow Desk on Snow 1 Freq.
- **Snow 1 & 2 Freq - 1** Taxiway Deicers assigned to Taxiway Team(s) communicate to Taxiway Foreman on Snow 1 Freq or Snow 2 Freq. 2) Taxiway Deicers report number to Snow Desk on Snow 1 Freq.
- Deicers will switch frequencies depending on what Team they are assigned to *** During an all deicer event - communicate on AFM freq. *** Ramp Deicers (small & large) - monitor AFM Freq.

Turn Out Team

- **Airfield Maintenance Freq - 1** Truck to Truck when needed. 2) monitor AFM for situational awareness. 3) Coordinate with Runway Foreman when needed.

Snow Desk

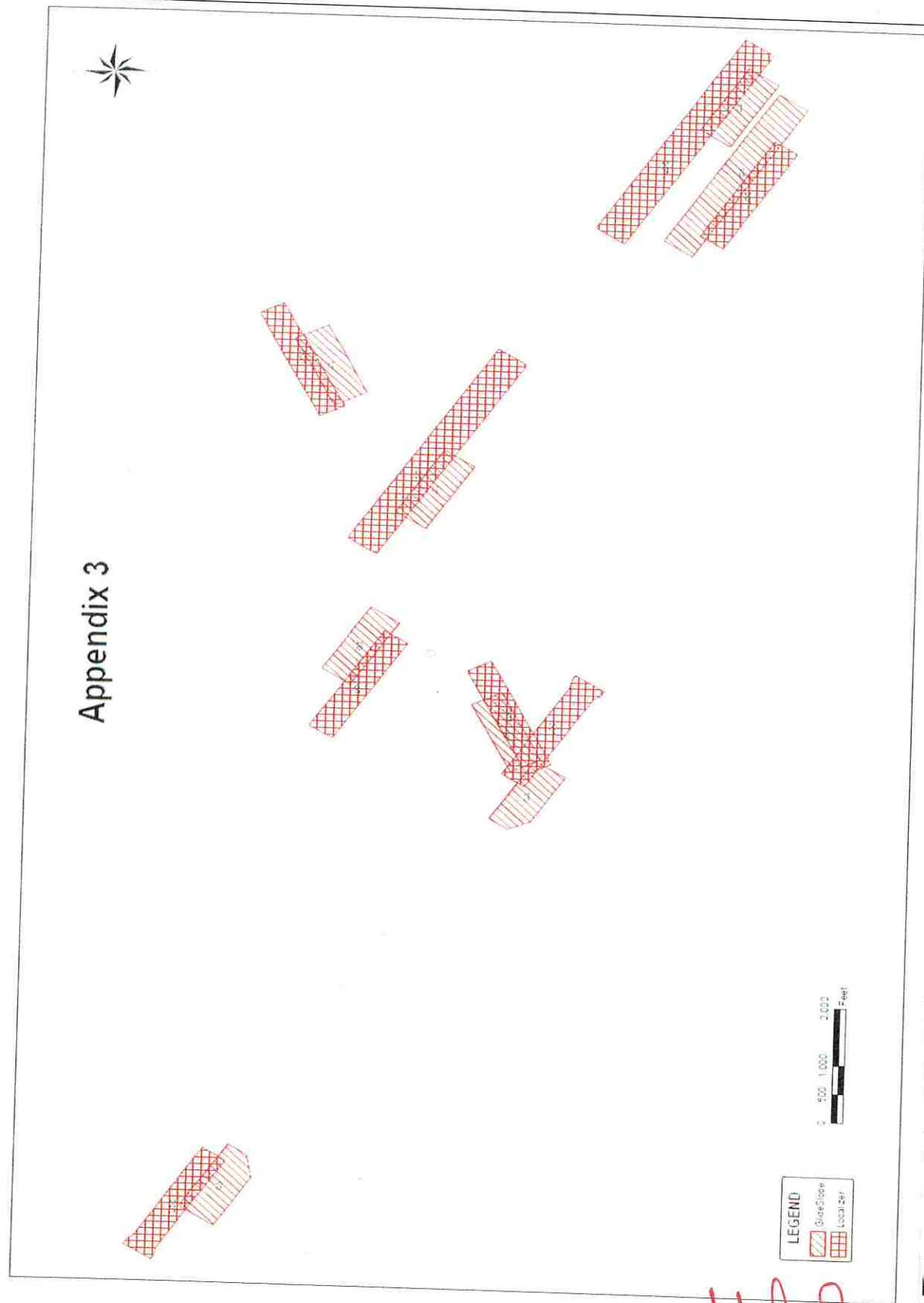
- **Airfield Maintenance Freq - 1** record critical snow team activities from the AFM freq. 2) record runway deicer readings.
- **Snow 1 & Snow 2 Freq - 1** record critical Taxiway Team activities from Snow 1 Freq. 2) record taxiway deicer readings.

Auto Shop

- **Airfield Maintenance Freq - 1** Respond to calls from foremen or operators. 2) Report to Runway Foreman if equipment adjustments are needed.
- **Snow 1 or Snow 2 Freq - 1** Respond to calls from foremen or operators assigned to those frequencies. *** Switch frequencies to which Team they are servicing in order to communicate with operator. *** Switch to Auto Shop Freq temporarily when needed to communicate back to the shop.

All

- Zone C has been reprogrammed in a majority of vehicles. Zone C consists - except AFM, auto shop, building climate, electrical, snow 1, snow 2, snow 3, ops center, hours/stop ops, center messages, & taxi Freq. Use portable as second radio (NO SCAN).
- All vehicles need to monitor ATCT Ground Frequency on 121.9 in addition to above to maintain situational awareness.
- No cell phones, texting, emailing
- No FM/AM radio. No TV.
- Be Safe! Report on frequency when exiting vehicle and wear proper PPE when out of the vehicle.



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
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 (314) 875-3000
 WWW.STLOUISLAMBERT.COM

PROJECT NO. 2018-01
 DATE: 08/16/2018
 REVISION: 01
 SHEET NO. 76

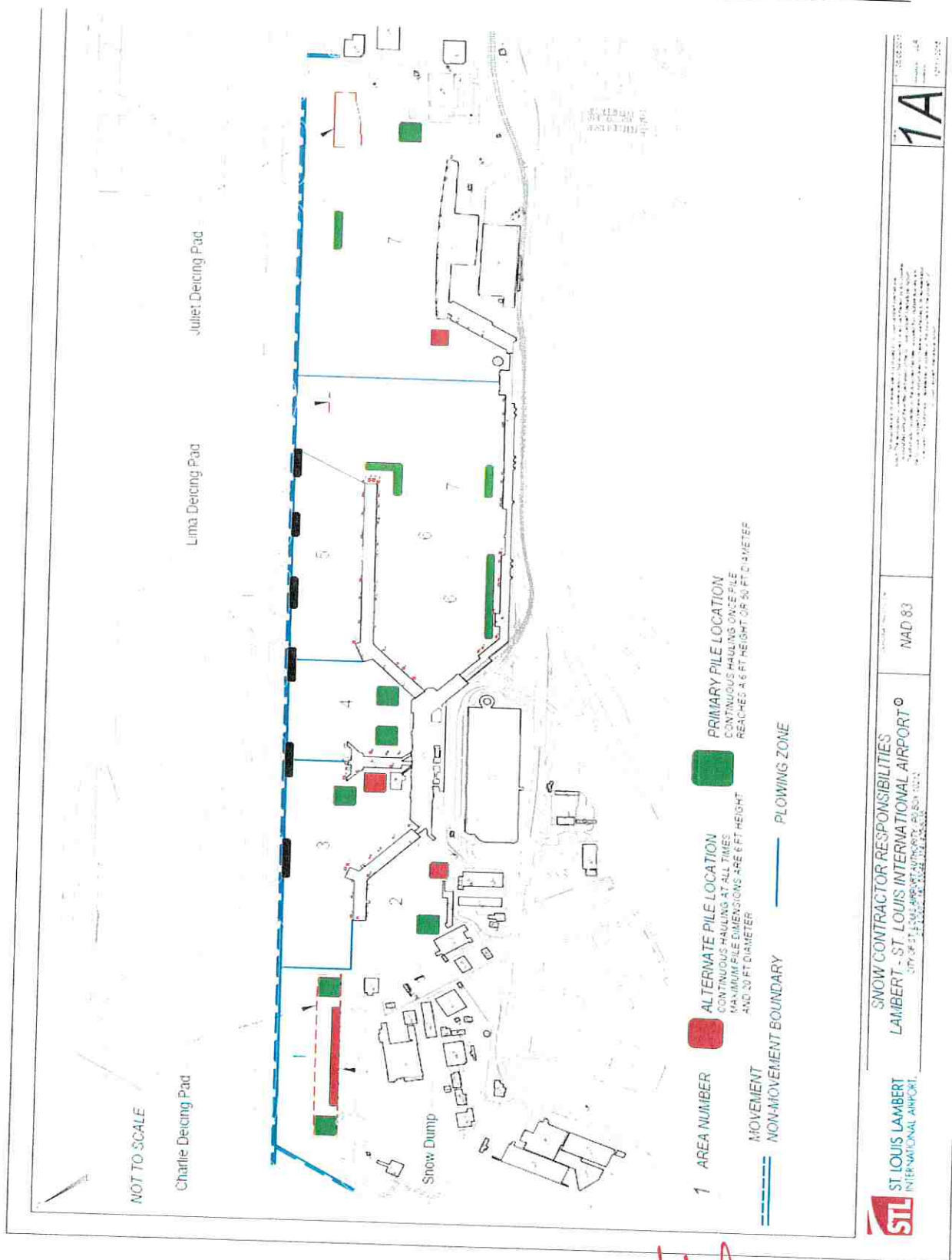
Localizer & Glide Slope

Coordinate System:
NAD 83 - UTM Zone 18N
Datum: North American Datum 1983
Units: Meter



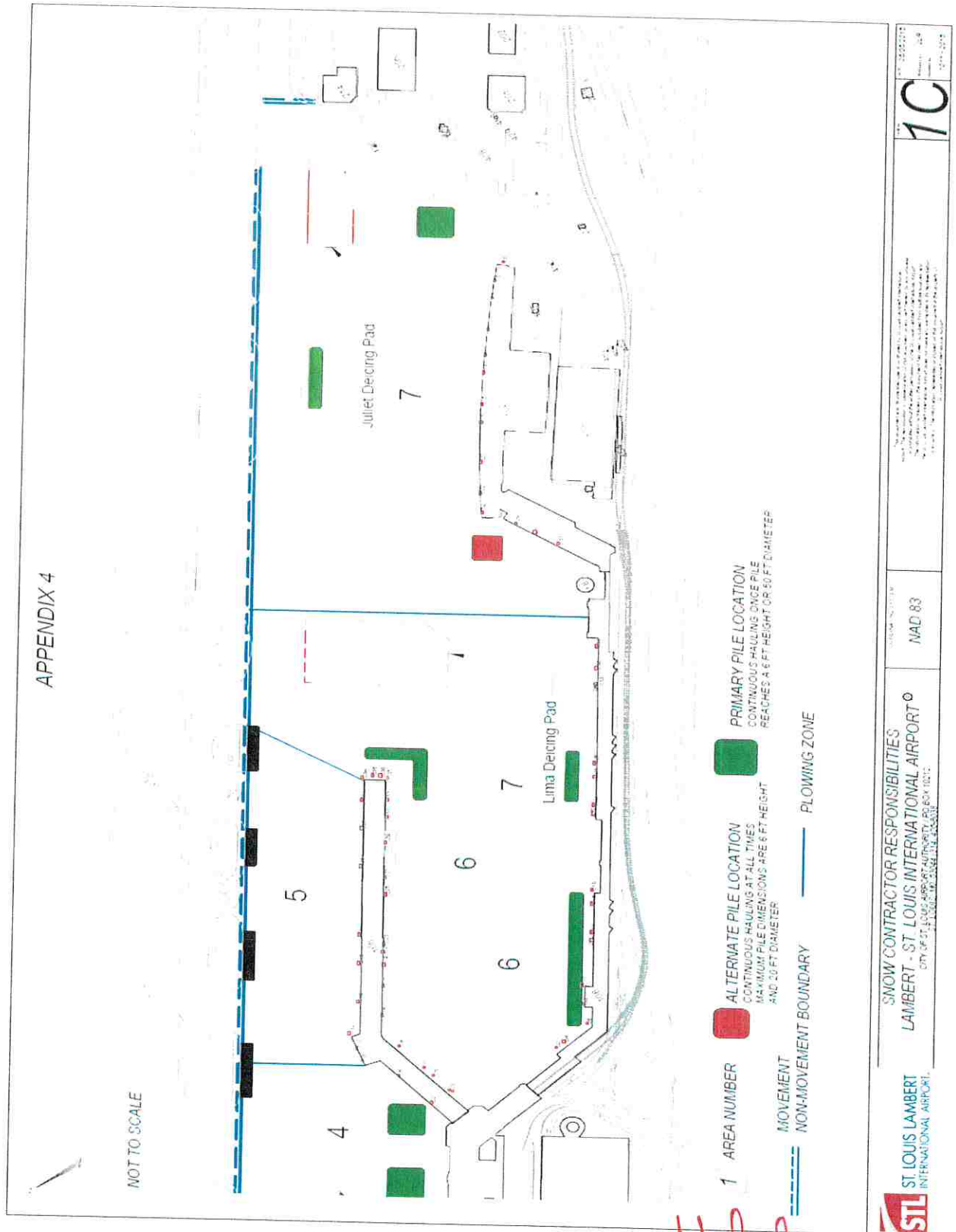
Original Date _____
 Date _____

FAA Approval *M. [Signature]* AUG 16 2018 Revision



Original Date _____
Date _____

FAA Approval *M. Cox*
AUG 16 2018 Revision



Original Date _____
Date _____

FAA Approval *M. Boyd* **AUG 16 2018** Revision

ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT – ST. LOUIS INTERNATIONAL AIRPORT

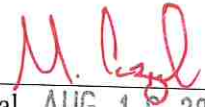
LETTER OF AGREEMENT

EFFECTIVE: 10/01/2016

SUBJECT: Procedures and Responsibilities for Coordinating and Reporting Runway Surface Conditions

1. **PURPOSE:** Prescribes responsibilities and procedures for the coordination of pilot braking action reports, runway condition assessments, field condition reports and cessation of operations for reports of "Nil" conditions.
2. **CANCELLATION:** St. Louis Airport Traffic Control Tower, Lambert-St. Louis International Airport Authority Letter of Agreement, Airport Braking Action Reports, dated February 27, 2009
3. **SCOPE:**
 - a. The City of St. Louis, Owner & Operator of Lambert-St. Louis International Airport
 - b. St. Louis Air Traffic Control Tower
4. **DEFINITIONS:**
 - a. AA - The City of St. Louis Airport Authority.
 - b. FICON (Field Condition Report) - Is a Notice to Airmen (NOTAM) generated to reflect pavement surface conditions on runways, taxiways, and aprons Runway Condition Codes if greater than 25% of the overall runway length and width or cleared width of the runway is contaminated.
 - c. Ops Center - Lambert Airport Operations Communications Center
 - d. STL ATCT - St. Louis Airport Traffic Control Tower.
 - e. RwyCC - Runway Condition Code
 - f. Pilot Reported Braking Action - This is a report on the runway, by a pilot, providing other pilots with a degree quality of expected braking. The braking action experienced is dependent on the type of aircraft, aircraft weight, touchdown point, and other factors.
 - g. Good - Braking deceleration is normal for the wheel braking effort applied, and directional control is normal.
 - h. Good-to-Medium - Braking deceleration or directional control is between Good and Medium braking action.
 - i. Medium - Braking deceleration is noticeably reduced for the wheel braking effort applied, or directional control is noticeably reduced.
 - j. Medium-to-Poor - Braking deceleration or directional control is between Medium and Poor.

Original Date _____
Revision Date _____


FAA Approval AUG 16 2018

10/11/16

STL ATCT/STL AA LOA

k. Poor – Braking deceleration is significantly reduced for the wheel braking effort applied, or directional control is significantly reduced.

l. Nil – Braking deceleration is minimal to non-existent for the wheel braking effort applied, or directional control is uncertain.

5. RESPONSIBILITIES:

a. STL ATCT must be responsible for forwarding braking action reports received from pilots to the AA through the Ops Center during periods of deteriorating pavement conditions.

b. The AA must be responsible for forwarding Runway Condition Codes, Runway Condition Assessments to the STL ATCT, and will only report vehicle braking action reports on surfaces other than runways.

6. PROCEDURES: Communication of Runway Condition Codes, Runway Condition Assessments, and Braking Action Reports

a. STL ATCT must

(1) Solicit pilot reports of braking during adverse weather conditions.

(2) Immediately inform the Ops Center on Ground Control frequency (or telephone if unavailable on Ground) of braking action reported as or containing any remarks of "NIL" or "POOR" and include the following information:

(a) Runway number, specifying the section of runway if appropriate.

(b) Braking action report per the Definitions.

(c) Type of aircraft reporting the braking action.

(3) If a pilot elects to report braking action on a surface other than a runway, the STL ATCT will also inform the Ops Center of braking action reported as "NIL" or "POOR."

(4) Immediately cease operations on surfaces reported as "Nil" braking action until the runway has been assessed and/or treated by STL AA.

EXAMPLE-

OPS CENTER ST LOUIS GROUND CONTROL, RUNWAY 12R BRAKING ACTION POOR FIRST HALF OF RUNWAY. REPORTED BY A "37-00"

(5) Inform the Ops Center on ground control frequency when the braking action reports improve from "NIL" or "POOR."

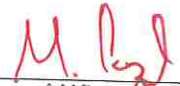
(6) Notify Ops Center when runway braking action reports indicate runway braking conditions have deteriorated to "good to medium", "medium", "medium to poor", "poor", or "nil" or have improved to "good."

b. The AA Ops Center must:

(1) Notify STL ATCT whenever a Runway Condition Code for any runway segment is measured as less than 6.

(2) Monitor the Ground Control frequency as much as feasible during periods of deteriorating pavement conditions.

Original Date _____
Revision Date _____

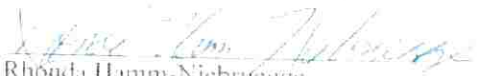
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FAA Approval AUG 18 2018

10/11/16

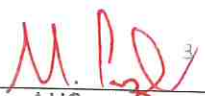
STL ATCT/STL AA LOA

- (3) Conduct runway assessments as detailed in the SII Airport Snow and Ice Control Plan (SICP)
- (4) Inform SII ATCT of Runway Condition Codes, and runway openings & closings, primarily over ground control frequency, or as a backup, over the ATCT recorded phone, as follows:
 - (a) Upon satisfactory completion of snow/ice removal and/or treatment.
 - (b) Prior to opening the runway for aircraft operations.
- (5) Call the SII ATCT recorded line to inform them of runway FICON information details.
- (6) Inform the SII ATCT of further FICON information, primarily by fax, or as a backup by phone or internet, by an updated Airfield Condition Report (ACR)
- (7) Conduct a runway assessment immediately upon receipt of a single pilot report action of SII.
- (8) Coordinate a runway assessment when two (2) consecutive pilot braking action is reported as POOR for the same runway, or at the AA's discretion. See section 5.9 Continuous Monitoring and Deteriorating Conditions SII SICP.
- (9) Notify SII ATCT when runway conditions codes are no longer reportable.


Duane D. Fann
St. Louis ATCT
Air Traffic Manager


Rhonda Hamm-Niebruegge
Director of Airports
Lambert - St. Louis International
Airport

Original Date _____
Revision Date _____

FAA Approval  AUG 10 2018

139.315 AIRCRAFT RESCUE & FIREFIGHTING: INDEX DETERMINATION

St. Louis Lambert International Airport maintains vehicles and personnel meeting the requirements of an Index "D" Airport, air carrier aircraft at least 159 feet but less than 200 feet in length. Should air carrier departures increase to an average of 5 or more aircraft per day that are at least 200 feet in length, the Lambert ARFF District will increase it's index to meet the new index requirements. Air carriers will not be allowed to begin operations of larger aircraft until the Lambert ARFF District meets the requirements of the next higher index.

At the present time, Lambert's ARFF vehicles and personnel meet and/or exceed the requirements of an Index "D" Airport.

315-1

FAA Approved



Date: AUG 16 2018


139.317 ARFF VEHICLES AND CAPABILITIES

The vehicles which make up the Aircraft Rescue and Fire Fighting District at St. Louis Lambert International Airport are listed, along with their descriptions and capabilities, on Page 317-2. In addition, ARFF vehicles are available for use from Boeing Corporation listed on page 317-3. These vehicles range from 1,000 gallon to 3,000 gallon trucks. These vehicles may on occasion be stationed at any of the Lambert ARFF District Houses and manned by Lambert ARFF District personnel in meeting requirements of an Index "D" Airport.

Along with the vehicles listed on Page 317-2, the ARFF Stations also maintain several pieces of "Front Line" structural fire equipment and several "Reserve" fire apparatus.

317-1

FAA Approved



Date:

AUG 16 2018

ST. LOUIS LAMBERT INTERNATIONAL AIRPORT ARFF EQUIPMENT

LAMBERT-ST LOUIS INTERNATIONAL AIRPORT ARFF EQUIPMENT

VEHICLE NUMBER	VEHICLE TYPE	MANUFACTURER	GENERAL CONDITION	AGENT			3% FOAM	(PURPLE-K) CHEMICAL	HALOTRON	TYPE OF ASSIGNMENT
				A/B	200/1500	20				
40	LADDER TRUCK	1989 - SIMON/ITI 110'	POOR	A/B	200/1500	20				AERIAL REACH
41	CHIEF VEHICLE	2017 - CHEVROLET TAHOE	New							COMMAND VEHICLE
42	QUICK RESPONSE	2006 MARK I QUAD AGENT	Poor	A/B	100/60	10	500/5 PSI	120/PSI		RAPID RESPONSE
43	ARFF	2013 - OSHKOSH STRIKER-3000 SNOZZLE	New	A/B	3000/1500	420	700/5PSI	500/5 PSI		PENETRATE NOZZLE
44	PUMPER	1996 - SALISBURY 65' TELESQUIRT	POOR	A/B	500/2000	20				STRUCTURE PUMPER
45	ARFF	2003 - OSHKOSH STRIKER-3000	Good	A/B	3000/1500	420	700/5PSI	500/5 PSI		ARFF
46	ARFF	2007 - OSHKOSH STRIKER-3000 SNOZZLE	Good	A/B	3000/1500	420	700/5PSI	500/5PSI		PENETRATE NOZZLE
47	HAZ-MAT	2002 - GRUMMAN - M155	Good							HAZARDOUS MATERIAL
48	ARFF RIV	2012 - OSHKOSH STRIKER-1500	New	A/B	1500/700	210	500/5PSI	500/5PSI		ARFF
49	QUICK RESPONSE	2005 MARK III QUAD AGENT	Poor	A/B	300/60	10	500/5PSI	120/PSI		RAPID RESPONSE
50	ARFF RESCUE	2008 F-550 Rosenbauer	Good							MINI RESCUE
51	TRAINING OFFICER	2013 - CHEVROLET TAHOE	Good							TRAINING OFFICER
52	ARFF	2006 OSHKOSH STRIKER-1500	Good	A/B	1500/700	210	500/5 PSI			ARFF
53	QUICK RESPONSE	2006 CRASH RESCUE/ACCESS AIR	Good	A/B	90/80	10	500/5 PSI			STAIR TRUCK

* Reduce Manpower on vehicle when required

A = CAPACITY B = GALLONS PER MINUTE or POUNDS PER SECOND

1st Crash Truck must arrive at the Mid-Point on the farthest runway within 3 minutes discharging agent. 2nd Crash Truck 1 minute later discharging.

Revised: 1/1/18

317-2

FAA Approved



Date: AUG 16 2018

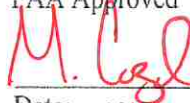
RESERVE ARFF EQUIPMENT AVAILABLE AT BOEING

VEHICLE NUMBER	VEHICLE TYPE	MANUFACTURER	GENERAL CONDITION	MANING STATION	AGENT	WATER	3 % FORM	CHEMICAL	HALON	TYPE OF ASSIGNMENT
7980	ARFF	OSHKOSH T1500 2005	NEW			1500			60	RESERVE
7988	ARFF	OSHKOSH T1500 1978	GOOD			1500				RESERVE

* A= CAPACITY * B= GALLONS PER MINUTE OR POUNDS PER SECOND
 The First Vehicle must arrive at the Mid-Point on the Farthest Runway within 3 minutes; all other 1 Minute later.

317-3

FAA Approved



Date: AUG 16 2018

139.319 AIRCRAFT RESCUE AND FIRE FIGHTING OPERATIONS

1. ARFF HOURS OF OPERATION

The Lambert ARFF District maintains airport Index "D" personnel and vehicles in a continuous ready-state 24 hours a day, 365 days a year. ARFF personnel and equipment are capable of responding to any incident, aircraft or non-aircraft related, any time.

2. ARFF OPERATIONS/ORGANIZATION

The ARFF District of St. Louis Lambert is the Eighth District of the St. Louis Fire Department. It consists of Firefighters, Company Commanders, a Training Officer and a Chief Officer. Currently this District has 7 units of ARFF apparatus, 2 units of Rescue apparatus, 2 units of Structural firefighting apparatus and 2 Staff vehicles. Personnel and equipment are based in two ARFF Stations on the Airport. The North Station is located near the intersections of Taxiway F6 and Taxiway F7. The West Station is located at 4640 Fee Fee Rd., on the north side of 11-29. The goal of this District is fire prevention and the protection of life and property. This is accomplished by the ongoing training of ARFF personnel in the subjects listed on Page 319-3. This also includes training with Mutual Aid Departments that respond to Lambert for an emergency. Off Airport response is approved by the Director of Airports, only if the Airport's index is not lowered as required in FAR Part 139.319.

3. ARFF VEHICLE COMMUNICATIONS

All ARFF vehicles at Lambert are equipped with the following two-way radios:

- A. Air traffic ground control radios;
- B. Vehicle-to-vehicle/vehicle-to-ARFF Station radios;
- C. ARFF Chief vehicle equipped with 800 MHz Airport Management radio frequency.

In addition, hand-held portable 800 MHz radios are carried by ARFF personnel.

Some pieces of ARFF equipment are also equipped with external public-address speakers.

4. ARFF VEHICLE MARKING AND LIGHTING

All ARFF vehicles attached to the Lambert ARFF District are marked and lighted in compliance with A/C 150/5210-5, current edition, Painting, Marking, and Lighting Of Vehicles Used On An Airport.

Currently all vehicles except the Chief's and the Training Officer's vehicle of the Lambert ARFF District are painted lime-yellow with black markings and are equipped with emergency and non-emergency lighting.

5. ARFF VEHICLE MAINTENANCE AND COVER

A. Maintenance: All City-owned ARFF vehicles stationed at Lambert are inspected and maintained on the following basis:

- 1.) Daily by drivers (Inspection forms at the end of this section);
- 2.) Weekly by mechanic;
- 3.) As scheduled by mechanic (12-24 hour preventive maintenance program).

B. Cover: All ARFF vehicles, personnel, and equipment are provided with temperature-controlled, completely encompassing shelter in both ARFF Stations at Lambert.

6. INOPERABLE ARFF VEHICLE PROCEDURES

In the event of a piece, or pieces, of ARFF equipment becoming inoperable and thus losing its full operational ready-status, the Airport Fire Chief will notify the Operations Center. At this time, the approximate amount of time the vehicle is expected to be out of service will be noted and mutual aid agreements will be invoked so that a temporary replacement vehicle may be obtained from Boeing Corporation.

Procedures outlined in FAR Part 139.319, (g), and FAR Part 139.339, (8) will be followed in the event of required index D ARFF equipment becoming inoperable.

7. ARFF VEHICLE RESPONSE CAPABILITIES DURING AIR CARRIER OPERATIONS

ARFF quick-response vehicles, when assisted by the Air Traffic Control Tower, are capable of reaching the midpoint of the farthest runway on the Airport from their respective ARFF Stations and begin rescue/firefighting operations within 3 minutes of notification. Remaining required vehicles will respond within 4 minutes of notification and begin rescue/firefighting operations.

ARFF vehicles responses are in compliance with FAR Part 139.319 (h).

8. ARFF PERSONNEL

The Lambert ARFF District consists of three shifts of Firefighters with 15 Firefighters (minimum) and 2 Company Commanders assigned to each shift. The Lambert Fire Chief is present during the day shift and on an as-needed and emergency basis. Firefighters and Commanders are quartered in the ARFF Stations 24 hours a day, year round.

All ARFF personnel are equipped with the latest in aircraft fire protection clothing and equipment in accordance with FAR Part 139.319 (i).

9. ARFF PERSONNEL TRAINING

The current training of ARFF personnel is maintained and delivered by the Training and Safety Officer of District 8. Personnel must be trained prior to initial performance of aircraft rescue and firefighting duties and receive recurrent instruction ever 12 consecutive calendar months. Training includes but is not limited to:

- Airport Familiarization
- Aircraft Familiarization
- Personal Safety
- Everyday Communications/Fire Alarms
- Use of Firefighting Equipment/Turrets/Appliances
- Types/Applications of Extinguishing Agents
- Aircraft Evacuation Assistance
- Firefighting Operations
- Adapting/Using Structural Rescue and Fire Fighting Equipment for Aircraft
Rescue and Fire Fighting
- Hazards of Aircraft Cargo/ Hazardous Materials Response
- Airport Emergency Plan

All rescue and firefighting personnel must participate in at least one live-fire drill prior to initial performance of aircraft rescue and firefighting duties and every 12 consecutive calendar months thereafter.

A record is maintained by the Training Officer of all training given to each individual under this section for 24 consecutive calendar months after completion of training. Such records must include, at a minimum, a description and date of training received.

10. ARFF EMERGENCY MEDICAL PERSONNEL

The ARFF District has at least one Firefighter on duty daily (24 hours a day), trained and



accredited in basic emergency medical care. This is a minimum of 40 hours of training in the following areas:

- Bleeding
- CPR
- Shock
- Primary patient surveys
- Injuries to skulls, spine, chest, extremities
- Internal injuries
- Movement of patients
- Burns
- Patient triage

In addition to the members of the ARFF who are medically trained, Lambert Airport maintains a contractual agreement for an ambulance service with at least one Paramedic and one EMT on duty and on call 24 hours a day, year round.

11. ARFF ALERTING SYSTEM/TESTING

The ARFF District is notified by the following in the case of a fire alarm, building incident, airfield or aircraft incident:

- 426-8133 Emergency Telephone Number;
- Via the Airport Police Dispatcher;
- Via the Airport Operations Center;
- Via the Air Traffic Control Tower;
- By way of heat/smoke/sprinkler systems and alarms throughout the Airport Terminal Buildings and Airport Buildings;
- By way of CRT and computer printouts in each ARFF Station;
- By way of a horn and siren system located in each ARFF Station.

Tests of these systems are completed daily.

In addition to the ARFF alarm system, a public address system with voice paging, fire warning klaxons, and emergency evacuation messages is housed in the Operations Center for use in Airport Terminal 1. This system is activated by the Operations Center personnel when necessary and is tested once per month.

12. HAZARDOUS MATERIALS GUIDANCE

Each ARFF vehicle is equipped with the North American Emergency Response Guidebook.

13. ARFF EMERGENCY ACCESS ROADS

At the present time, St. Louis Lambert International Airport has no designated ARFF emergency access roads; however all service roads, access roads, and Airport roadways are available for use by emergency vehicles. In addition, a gravel road exists which surrounds the inner perimeter of the airport. All paved roads and the gravel roads are maintained so as to be usable by ARFF vehicles or other Airport vehicles as practicable.

Additionally, all Airport surfaces, paved or turf, are designed and maintained for use by ARFF or other Airport vehicles as practicable, weather permitting.
See Appendix B for Airport Roadways.

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A handwritten signature in red ink, appearing to be 'M. Long', is written over a horizontal line.

Date: AUG 16 2018

**St. Louis Fire Department
Lambert St. Louis International Airport
Daily Apparatus Check Sheet - T 1500 & T 3000**

Truck: _____ Road Miles: _____
 Month: _____ Year: 20 Starting: _____
 Engine Hours: _____

** ITEMS TO BE CHECKED **		OPERATOR SIGNATURE	D A Y	
1. LUBRICATING OIL LEVELS (engine, trans, differential, power steer.)			1	
2. COOLANT: FUEL (fuel above 3/4)			2	
3. LEAKS (oil, fuel, coolant, air, exhaust, etc.)			3	
4. DRIVE BELTS (tension, condition)			4	
5. TIRES, WHEELS AND LUG BOLTS FOR TIGHTNESS, PRESSURE OR DAMAGE.			5	
6. BATTERIES FOR FLUID LEVEL, DAMAGE, CLEAN AND BATTERY CHARGE.			6	
7. CLEANLINESS, DAMAGE, MISSING ITEMS AND CORROSION (interior/exterior)			7	
8. GENERATOR OIL/FUEL (start and test halogen lights)			8	
9. PUMP CLUTCHES (operate foam and water clutches with engine off)			9	
** ENGINE/DRIVING CHECKS **			10	
			11	
10. PARKING BRAKE AND STOPPING BRAKES.			12	
11. STEERING/SPRINGS AND SHACKLES FOR OPERATION AND DAMAGE.			13	
12. SAFETY DEVICES (lights, buzzers, extinguishers, seat belts)			14	
13. OPERATION OF ALL LIGHTS, SIRENS, HORNS AND MIRRORS.			15	
14. SPECIAL TOOLS AND EQUIPMENT, (inventory)			16	
15. AGENTS (Foam, Water, Halon, Dry Chem.)			17	
16. HEATER/DEFROSTER/AIR CONDITIONER			18	
17. WINDSHIELD/WIPERS/WASHERS			19	
18. INSTRUMENTS AND GAUGES (during operation)			20	
19. UNUSUAL NOISES (during operation)			21	
20. SWITCHES SET FOR PROPER OPERATION (dash and panel)			22	
21. HANDLINES/UNDERTRUCK NOZZLES (operation)			23	
22. TURRETS (hydraulic and manual operation)			24	
23. PUMPS/PIPING AND VALVES FOR LEAKES OR CORROSION (operation)			25	
24. FIRE RADIO (trans/recv) GROUND (receive test)			26	
			27	
ITEM	DATE	W.O.	CAPT.	28
				29
				30
				31

420-118 (MLB2)

TURN IN WITH MONTHLY REPORTS

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M. Long

Date: AUG 16 2018

NOTES

(1) ENGINE OIL CHECK

The engine oil level is checked with a dipstick mounted on the right rear of the oil pan. The oil filter cap is on the front of the RH valve cover. Check with engine shut-off and COLD. Add oil to bring the level to "full" mark on dipstick.

(2) DRIVE BELTS

Belts should be checked for frayed areas, cracks and general wear.

(3) COOLANT LEVEL

Check coolant level at sight glass, mounted on radiator to tank, add coolant as required. 60% anti-freeze. Make notation if rusty looking.

(4) TRANSMISSION

Check transmission oil level with dipstick which is located above the frame rail, in the LH center body compartment, ahead of the water pump. Check with truck on level ground, transmission warm, with engine running and parking brake applied. Shift the transmission through all drive ranges to fill the clutch cavities and oil passages, then shift to neutral.

(5) POWER DIVIDER

Check power divider oil level with dipstick located in lower forward area of engine RH compartment. Check level warm, engine off.

(6) PARKING BRAKE

The parking brake shall hold at a 50% incline or decline.

(7) POWER STEERING/TURRET HYDRAULIC RESERVOIR

The steering/turret reservoir is mounted on the RH side of the engine. Check oil level with the engine shut off. Fill cap on reservoir has dipstick.

(8) BATTERIES

The batteries are mounted on a slid-out tray in a compartment on the LH side. Check and maintain the electrolyte level in batteries $\frac{1}{4}$ to $\frac{1}{2}$ inch above the top of the separators. Check specific gravity should read 1.265 at 80° F full charge, and 1.120 at 80° F discharged.

(9) LOW AIR WARNING SYSTEM

With parking brake on, pump foot brake while watching air pressure. Buzzer should activate when pressure drops below 65psi.




**St. Louis Fire Department
Lambert St. Louis International Airport
Daily Apparatus Check Sheet - Structural Trucks**

Truck: _____ Year: 19²⁰ _____ Road Miles: _____
 Month: _____ Starting: _____
 Engine Hours: _____

** ITEMS TO BE CHECKED **				OPERATOR SIGNATURE	D A Y
1.	LUBRICATING OIL LEVELS (engine, trans, differential, power steer.)				1
2.	COOLANT; FUEL (fuel above 3/4)				2
3.	LEAKS (oil, fuel, coolant, air, exhaust, etc.)				3
4.	DRIVE BELTS (tension, condition)				4
5.	TIRES, WHEELS AND LUG BOLTS FOR TIGHTNESS, PRESSURE OR DAMAGE.				5
6.	BATTERIES FOR FLUID LEVEL, DAMAGE, CLEAN AND BATTERY CHARGE.				6
7.	CLEANLINESS, DAMAGE, MISSING ITEMS AND CORROSION (interior/exterior)				7
** ENGINE/DRIVING CHECKS **					8
					9
8.	PUMPS OPERATE (engage/disengage manually and electrically)				10
9.	AERIAL LADDER (engage PTO, outriggers, extend/retract)				11
10.	PARKING BRAKE AND STOPPING BRAKES.				12
11.	STEERING/SPRINGS AND SHACKLES FOR OPERATION AND DAMAGE.				13
12.	SAFETY DEVICES (lights, buzzers, extinguishers, seat belts)				14
13.	OPERATION OF ALL LIGHTS, SIRENS, HORNS AND MIRRORS.				15
14.	SPECIAL TOOLS AND EQUIPMENT, (inventory)				16
15.	AGENTS (water, foam)				17
16.	HEATER/DEFROSTER/AIR CONDITIONER				18
17.	WINDSHIELD/WIPERS/WASHERS				19
18.	INSTRUMENTS AND GAUGES (during operation)				20
19.	UNUSUAL NOISES (during operation)				21
20.	SWITCHES SET FOR PROPER OPERATION (dash and panel)				22
21.	HOSE (booster, cotton, supply, uncovered in good weather)				23
22.	PUMPS/PIPING AND VALVES FOR LEAKS OR CORROSION (operating)				24
23.	FIRE RADIO (trans/receive) GROUND RADIO (receive only)				25
** DISCREPANCIES **					26
DEFINE PROBLEM					27
ITEM	DATE		W.O.	CAPT.	28
					29
					30
					31

420-119 (M11 92)

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 Date: AUG 16 2018

139.321 HANDLING & STORING OF HAZARDOUS SUBSTANCES & MATERIALS

The scope of this plan includes all spills and release events at the Airport including, but not limited to, fuels, oils, sanitary waste, dangerous goods, hazardous materials, hazardous substances, hazardous waste, and special waste. The scope of this plan includes notification of the Airport Operations Center and the Airport Fire Department, as well as, if necessary, the notification of outside agencies as determined by federal, state, and local environmental statutes.

Reportable Quantity: The quantity, as set forth in 40 CFR 302, the release of which requires notification to the National Response Center (NRC) at (800)424-8802 as soon as the responsible party has knowledge of the release. In addition, the responsible party must contact the Missouri Emergency Response Hotline at (573)634-2436, and the United States Coast Guard at (800)325-7376, if a hazardous material or fuel spill reaches the receiving stream in any quantity.

Due to the length and amount of data contained in this section, this section will be broken down into 2 parts. Part 1 will deal with hazardous cargo/material handling and storage, and part 2 will cover the fueling standards and safety.

In the event a person or persons comes in contact with, is exposed to, or inadvertently ingests a chemical or product, a hazardous material data file and two hazardous chemical/toxic material data books are kept in the Airport Operations Center, North Fire House, and the Safety Office for referencing.

This file and the accompanying books are used to determine the personal health hazards, potential fire hazards, fire-aid treatments, and fire containment measures to be taken in the event of exposure or contact with chemicals or products of potentially hazardous natures.

The purpose of this plan is to provide direction to Airport personnel and Airport tenant personnel in regard to spills and releases of fuels, oils, sanitary waste, or any other hazard or hazardous material, hazardous substance, hazardous waste or special waste that is spilled or released to the environment at the St. Louis Lambert International Airport.

A. Hazardous Cargo/Material

The Airport Authority reserves the right to establish such procedures for the handling and storing of hazardous articles, cargo, radioactive materials, and/or nuclear materials as may become necessary or as the Airport Authority deems necessary to insure the safety of the traveling public and/or Airport employees.

1. All scheduled air carriers, cargo carriers, and non-scheduled carriers shall be responsible for the storage and handling of articles, cargo and/or materials of a hazardous nature within their respective air cargo areas, and shall comply with all applicable local, state, and federal regulations.
2. The air carriers shall be responsible for receiving assurances that hazardous articles, cargo, or materials received for storage or shipment are safe to handle, signed by the shipper, and contain any special handling instructions required to assure safe shipment or storage.
3. All hazardous materials will be marked in accordance with the recommended practices in NFPA #704 (2017), Identification of the Fire Hazards of Materials.

All air carriers desiring to use facilities at St. Louis-Lambert International Airport must conform to these rules and regulations.

4. In addition to the data given by the carriers, they shall adhere to the following five regulations;
 - a. No person shall store, keep, handle, use, dispense or transport at, in or upon the Airport any Class A or B explosives, Class A poison, poisonous substances, liquid gasses, compressed gasses, radioactive articles, substances, or materials (as defined in the Interstate Commerce Commission Regulations for Transportation of Explosives, and Other Dangers Articles) at such time or place, or in such matter or condition as to endanger unreasonably, or as to be likely to endanger persons or property here at St. Louis-Lambert International Airport.
 - b. All carriers shall abide with the provisions set forth in regulations #1 above, and shall park all aircraft carrying, loading or unloading hazardous material or cargo in areas which the carrier can secure in order to ensure minimal exposure to personnel and equipment to the hazardous material or cargo. The area, while remaining secure, shall still be accessible by ARFF personnel and vehicles.
 - c. It shall be the responsibility of the air carriers to request an ARFF escort of all aircraft carrying, loading or unloading hazardous materials or cargo to parking areas, and subsequently from parking areas once loading or unloading of hazardous materials or cargo has been completed. ARFF crews will also be requested to standby while loading or unloading operations take place.

- d. Any spill or release of material meeting the following designations must be reported to the Airport Fire Department immediately at 314-426-8133.

Environmentally Hazardous Substance: Any substance or mixture of substances that presents a danger to the public health, safety, or the environment and includes;

- (1) Any hazardous waste identified or listed in 40 CFR 261.3 or RSMO 260.350 – 260.430.
- (2) Any element, compound, mixture, solution, or substance designated pursuant to Sections 101(14) and 102 of CERCLA, or designated pursuant to Section 304 of EPCRA, and
- (3) Any hazardous material designated by the Secretary of the United States Department of Transportation under the Hazardous Materials Transportation Act.

Hazardous Material: A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. The term includes hazardous substances, hazardous wastes, marine pollutants and elevated temperature materials as defined in this section, materials designated as hazardous under the provisions of 49 CFR 172.101.

- e. All persons having come into contact, in any manner, with the material as defined above shall immediately make said contact known to the responding Fire Department personnel.
5. The Airport Fire Department upon arrival at the site shall make an assessment and take the action as appropriate, or direct action to be taken to secure the area in order to minimize the risk of further contamination of personnel and/or property.
 6. Once the spill has been contained, the party responsible for the spill/release event will be obligated to initiate clean up operations as appropriate to the material.

B. Fueling Agents

The following fueling agents operate at the airport:

1. Airport Terminal Services
2. Allied Aviation
3. Signature Flight Support
4. Servisair STL

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Date: AUG 16 2018

C. Airport Fire Safety Fuel Handling Standards

NFPA 407, Current Edition, and NFPA 30, Current Edition, is the local fire code governing airport fueling operations at St. Louis Lambert International Airport. To establish and maintain fire safety fueling standards at the airport, as required by Part 139.321(b), the Airport provides each fueling agent with a copy of the current NFPA 407 and NFPA 30 standards.

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Date: AUG 16 2018

Aircraft Fuel Servicing

2017 Edition

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex C. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex C.

Chapter 1 Administration

1.1 Scope. This standard applies to the fuel servicing of all types of aircraft using liquid petroleum fuel.

1.1.1 This standard does not apply to any of the following:

- (1) In-flight fueling
- (2) Fuel servicing of flying boats or amphibious aircraft on water
- (3) Draining or filling of aircraft fuel tanks incidental to aircraft fuel system maintenance operations or manufacturing

1.1.2* This document is not intended to be used as the sole standard for design, construction, operation, and maintenance of fuel storage and transfer facilities, as it does not address requirements for environmental protection, fuel quality, or other issues not directly related to fire safety.

1.2* Purpose.

1.2.1 The purpose of this standard is to establish reasonable minimum fire safety requirements for procedures, equipment, and installations for the protection of persons, aircraft, and other property during ground fuel servicing of aircraft using liquid petroleum fuels. These requirements are based upon sound engineering principles, test data, and field experience.

1.2.2 The fire hazard properties of aviation fuels vary; however, for the purpose of this standard, the same fire safety precautions are specified for all types.

1.3 Retroactivity. The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

1.3.1 Unless otherwise specified, the design and installation provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard.

1.3.2 Unless otherwise specified, operations and maintenance activities shall meet the current standard.

1.3.3 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

1.3.4 The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.4 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, rating, and safety over those prescribed by this standard.

1.4.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.4.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.5 Units. Where the value for a measurement as specified in this standard is followed by an equivalent value in other units, the first value shall be regarded as the requirement. The equivalent value could be approximate.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2017 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2015 edition.

NFPA 70®, *National Electrical Code®*, 2017 edition.

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, 2017 edition.

NFPA 410, *Standard on Aircraft Maintenance*, 2015 edition.

NFPA 415, *Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways*, 2016 edition.

NFPA 418, *Standard for Heliports*, 2016 edition.

NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*, 2017 edition.

2.3 Other Publications.

2.3.1 ASME Publications. ASME Technical Publishing Office, Two Park Avenue, New York NY 10016-5990.

ASME B31.3, *Process Piping*, 2014.

2.3.2 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM D380, *Standard Test Methods for Rubber Hose*, 1994, reapproved 2012.

2.3.3 AWS Publications. American Welding Society, 8669 NW 36 Street, # 130, Miami, FL 33166-6672.

AWS A5.10, *Welding Consumables — Wire Electrodes, Wires, and Rods for Welding of Aluminum and Aluminum Alloys — Classification*, 2012.

2.3.4 EI Publications. Energy Institute, 61 New Cavendish Street, London W1G 7AR, United Kingdom.

EI 1529, *Aviation Fueling Hose and Hose Assemblies*, 7th edition, 2014.

EI 1540, *Design, Construction, Commissioning, Maintenance and Testing of Aviation Fuelling Facilities*, 5th Edition, 2014.

EI 1542, *Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage, and Mobile Fueling Equipment*, 2012.

2.3.5 FAA Publications. Federal Aviation Administration, U.S. Department of Transportation, Distribution Unit, M-494.3, Washington, DC 20590.

FAA AC-150/5300, *Airport Design*, Rev. 13A, 2012.

2.3.6 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III Division 1, Hazardous (Classified) Locations*, 8th edition, 2013.

2.3.7 U.S. Government Publications. U.S. Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20402.

Title 49, Code of Federal Regulations, Part 172.504, "General Placarding Requirements."

Title 49, Code of Federal Regulations, Part 178.345, "General Design and Construction Requirements Applicable to Specification DOT 406."

2.3.8 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 30, *Flammable and Combustible Liquids Code*, 2015 edition.

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, 2017 edition.

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.4* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.5 Shall. Indicates a mandatory requirement.

3.2.6 Should. Indicates a recommendation or that which is advised but not required.

3.2.7 Standard. An NFPA Standard, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and that is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions are not to be considered a part of the requirements of a standard and shall be located in an appendix, annex, footnote, informational note, or other means as permitted in the NFPA Manuals of Style. When used in a generic sense, such as in the phrase "standards development process" or "standards development activities," the term "standards" includes all NFPA Standards, including Codes, Standards, Recommended Practices, and Guides.

3.3 General Definitions.

3.3.1 Aircraft. A vehicle designed for flight that is powered by liquid petroleum fuel.

3.3.2 Aircraft Fuel Servicing. See 3.3.28.1.

3.3.3 Aircraft Fuel Servicing Hydrant Vehicle (Hydrant Vehicle). See 3.3.36.1.

3.3.4 Aircraft Fuel Servicing Ramp or Apron. An area or position at an airport used for the fuel servicing of aircraft.

3.3.5 Aircraft Fuel Servicing Tank Vehicle (Fueler). See 3.3.36.2.

3.3.6 Aircraft Fueling Vehicle. See 3.3.36.3.

3.3.7 Airport Fueling System. An arrangement of aviation fuel storage tanks, pumps, piping, and associated equipment, such as filters, water separators, hydrants and station, or aircraft fuel servicing vehicles, installed at an airport and designed to service aircraft at fixed positions.

3.3.8* Aviation Fuel. Any petroleum fuel for use in aircraft engines.

3.3.9 Bulkhead. A liquidtight transverse closure between compartments of a cargo tank.

3.3.10 Burst Pressure. See 3.3.25.1.

3.3.11* Cargo Tank. A container used for carrying fuels and mounted permanently or otherwise secured on a tank vehicle.

3.3.12 Cathodic Protection. A method of controlling or impressing an electrical current to prevent corrosion of metal components of airport fueling systems that are in contact with the ground.

3.3.13 Deadman Control. A device that requires a positive continuing action of a person to allow the flow of fuel.

3.3.14 Electric Hand Lamp. A portable lamp other than a flashlight.

3.3.15 Emergency Fuel Shutoff. A function performed to stop the flow of fuel in an emergency.

3.3.16* Fuel Servicing Station. A unit that includes all necessary equipment to enable the transfer of fuel into or from an aircraft or fueler.

3.3.17 Fueler. See 3.3.36.2.

3.3.18 Fueling Point. The location on an aircraft where fuel enters the aircraft from an external source.

3.3.19 Head. A liquidtight transverse closure at the end of a cargo tank.

3.3.20 Hydrant Cart. A non-driven vehicle used to deliver fuel from a hydrant to an aircraft.

3.3.21 Hydrant Valve. An outlet of an airport fueling system that includes a deadman-controlled valve and adapter assembly to which a coupler on a hose or other flexible conduit on an aircraft fuel servicing vehicle can be connected.

3.3.22 Hydrant Vehicle. See 3.3.36.1.

3.3.23 Misfueling. The accidental fueling of an aircraft or refueling vehicle tank with an incorrect grade of product.

3.3.24 Overshoot. The fuel that passes through a valve after the deadman control is released or another flow control device is activated.

3.3.25 Pressure.

3.3.25.1 Burst Pressure. The pressure at which a component fails due to stresses induced as a result of the pressure.

3.3.25.2 Test Pressure. The pressure to which a system or a component of a system is subjected to verify the integrity of the system or component.

3.3.25.3 Working Pressure. The maximum allowable pressure, including momentary surge pressure, to which a system, hose, or other component can be safely subjected while in service.

3.3.26 Pressure Fuel Servicing. See 3.3.28.3.

3.3.27 Self-Service Fueling. The dispensing of aviation fuels into aircraft fuel tanks by persons other than the facility owner/operator.

3.3.28 Servicing.

3.3.28.1 Aircraft Fuel Servicing. The transfer of fuel into or from an aircraft.

3.3.28.2 Overwing Fuel Servicing. A system used to fuel an aircraft through an opening in the aircraft fuel tank using a hose with a hand-held nozzle.

3.3.28.3 Pressure Fuel Servicing. A system used to fuel an aircraft by closed coupled connection under pressure.

3.3.29 Tank Baffle. A nonliquidtight transverse partition in a cargo tank.

3.3.30 Tank Compartment. A liquidtight division in a cargo tank.

3.3.31 Tank Full Trailer. A vehicle that is not self-propelled and that has a cargo tank for the transportation of aviation fuel mounted thereon or built as an integral part thereof. It is so constructed that its weight and load rest on its own wheels.

3.3.32 Tank Semitrailer. A vehicle that is not self-propelled and that has a cargo tank for the transportation of aviation fuel mounted thereon or built as an integral part thereof. It is so constructed that when drawn by a tractor by means of a fifth wheel connection, some of its load and weight rests upon the towing vehicle.

3.3.33 Tank Truck. Any single self-propelled motor vehicle equipped with a cargo tank mounted thereon and used for the transportation of flammable and combustible liquids or asphalt. [385, 2017]

3.3.34 Tank Vehicle. See 3.3.36.5.

3.3.35 Test Pressure. See 3.3.25.2.

3.3.36 Vehicle.

3.3.36.1 Aircraft Fuel Servicing Hydrant Vehicle (Hydrant Vehicle). A vehicle equipped with facilities to transfer fuel between a fuel hydrant and an aircraft.

3.3.36.2 Aircraft Fuel Servicing Tank Vehicle (Fueler). A vehicle having a cargo tank (tank truck, tank full trailer, tank semitrailer) designed for or used in the transportation and transfer of fuel into or from an aircraft.

3.3.36.3 Aircraft Fueling Vehicle. A fuel servicing hydrant vehicle, hydrant cart, or an aircraft fuel servicing tank vehicle.

3.3.36.4 Hydrant Vehicle. See 3.3.36.1.

3.3.36.5 Tank Vehicle. Any tank truck, tank full trailer, or tractor and tank semitrailer combination.

3.3.37 Vent Point. The location on the exterior of an aircraft where fuel vapors are released from the aircraft's fuel system.

3.3.38 Working Pressure. See 3.3.25.3.

Chapter 4 General Requirements

4.1 Design and Construction.

4.1.1 General Requirements.

4.1.1.1 The requirements of Chapter 4 shall apply to all aviation fueling facilities, aircraft fueling vehicles, rooftop heliport fueling facilities, and self-service aviation fueling facilities.

4.1.1.2 Aviation fueling facilities shall also comply with the requirements of Chapter 5.

4.1.1.3 Aircraft fueling vehicles and carts shall also comply with the requirements of Chapter 6.

4.1.1.4 Rooftop heliport fueling facilities shall also comply with the requirements of Chapter 5 and Chapter 7.

4.1.1.5 Self-service aviation fueling facilities shall also comply with the requirements of Chapter 5 and Chapter 8.

4.1.2 Fuel Storage Tanks. (Reserved)

4.1.3 Fuel Dispensing Systems.

4.1.3.1 Any valve that controls the flow of fuel into or from an aircraft fuel servicing vehicle or cart, or into or from an aircraft shall have a deadman control(s).

4.1.3.2 The deadman flow control in the nozzle shall be permitted for overwing fueling.

4.1.3.3 Notches or latches in the handle of an overwing nozzle that could allow the valve to be locked open shall be prohibited.

4.1.3.4 Nozzles for underwing fueling shall be designed to be attached securely to the aircraft adapter before the nozzle can be opened.

4.1.3.5 Disengaging the nozzle from the aircraft adapter shall not be possible until the nozzle is fully closed.

4.1.3.6 Fuel servicing pump mechanisms shall be designed and arranged so that failure or seizure does not cause rupture of the pump housing, of a tank, or of any component containing fuel.

4.1.3.7 Fuel pressure shall be controlled within the stress limits of the hose and plumbing by means of either an in-line pressure controller or a system pressure relief valve, or other suitable means.

4.1.3.8 The working pressure of any system component shall equal or exceed any pressure to which it could be subjected.

4.1.4* Fueling Hose.

4.1.4.1 Performance Requirements. Hose and couplings shall comply with the requirements of EI 1529.

4.1.4.2 Fueling Hose Apparatus. Nozzle receptacles and hose storage shall be arranged to avoid kinks and maintain the hose bend radius within the requirements of EI 1529 and EI 1540.

4.1.4.3 Additional Requirements.

4.1.4.3.1 Each coupled length of hose shall be tested at the same minimum proof pressure rating for that grade of hose as defined in EI 1529.

4.1.4.3.2 A test certificate shall be provided for each coupled length of hose and shall state the following:

- (1) Manufacturer's name of hose
- (2) Manufacturer's name of couplings
- (3) Hose type
- (4) Hose grade
- (5) Size and length of hose
- (6) Serial number or reference number of hose
- (7) Quarter and year of manufacture of hose
- (8) Model number of couplings
- (9) Sizes of coupling ferrules
- (10) Hydrostatic test pressures
- (11) Coupled length serial number
- (12) Identification of individual responsible for coupling the hose
- (13) Name and address of company responsible for coupling the hose
- (14) Date of certification

4.1.4.3.3 The coupling tests as specified in EI 1529 shall be performed for each hose grade, type, and manufacturer.

4.1.4.3.4 Each coupling of a coupled length of hose shall be permanently marked with a serial number corresponding to its hydrostatic test certificate.

4.1.4.3.5 The hose at the end of each coupling ferrule shall be permanently marked prior to hydrostatic testing to serve as a reference to determine whether a coupling has slipped during testing or while in service.

4.1.4.3.6* Lengths of hose shall not be spliced together.

4.1.4.3.7 Hydrostatic Testing. Hydrostatic testing shall be in accordance with ASTM D380.

4.1.4.3.7.1 Following a hydrostatic test, all the water shall be drained and the hose shall be dried internally.

4.1.4.3.7.2 Following a hydrostatic test, the open ends of the hose, including the threads of the couplings, shall be suitably covered to protect the threads and to prevent contamination.

4.1.4.3.7.3 A hose that is recoupled for any reason shall be hydrostatically tested and recertified to the same criteria as a newly coupled hose.

4.1.4.3.8 Hose shall be connected to rigid piping or coupled to a hose reel in a manner that prevents kinks or undue bending action or mechanical stress on the hose or hose couplings.

4.1.5 Electrostatic Hazards and Bonding.

4.1.5.1 A provision for bonding shall be incorporated in the design of fuel servicing vehicles or carts and airport fueling systems to prevent differences in electrostatic potential.

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4.1.5.2 The maximum resistance between the bonding cable clip and the fueling system framework shall not exceed 25 ohms.

4.1.5.3 Bonding cables shall be constructed of conductive, durable, and flexible material.

4.1.5.4 Bonding connections shall be electrically and mechanically firm.

4.1.5.5 Jacks, plugs, clamps, and connecting points shall be clean, unpainted metal to provide a positive electrical connection.

4.1.5.6 EI 1529 Type C hose (semiconductive) shall be used to prevent electrostatic discharges but shall not be used to accomplish required bonding.

4.1.5.7 EI 1529 Type A hose that does not have a semiconductive cover shall not be used.

4.1.5.8 EI 1529 Type F hose (hard wall) and EI 1529 Type CT hose (cold temperature) shall be permitted because they have semiconductive covers.

4.1.5.9* The design of airport fueling systems shall incorporate the provision of a 30-second relaxation period following the filter separator, monitors, or other filtration devices discharging into tanks.

4.1.5.9.1 The relaxation period required by 4.1.5.9 shall not apply to the actual refueling of an aircraft.

4.1.5.9.2 The relaxation period required by 4.1.5.9 shall not apply to fuels with static dissipater additives.

4.1.6 Electrical Systems. (Reserved)

4.1.7 Control of Fuel Flow. (Reserved)

4.1.8 Filters and Ancillary Equipment.

4.1.8.1 Filter vessels used in aviation fuel service shall have a functional automatic air vent (AAV) or automatic air eliminator (AAE).

4.1.8.2 The AAV or AAE shall discharge to a closed system.

4.1.9 Emergency Fuel Shutoff Systems. (Reserved)

4.1.10 Fire Extinguishers.

4.1.10.1* During fueling operations, fire extinguishers shall be available on aircraft servicing ramps or aprons, in accordance with NFPA 410.

4.1.10.2 All fire extinguishers shall conform to the requirements of NFPA 10.

4.1.10.3* ABC multipurpose dry chemical fire extinguishers (ammonium phosphate) shall not be placed on aircraft fueling vehicles, airport fuel servicing ramps or aprons, or at airport fuel facilities that are located within 150 m (500 ft) of aircraft operating areas.

4.1.11 Marking and Labeling.

4.1.11.1 Each emergency fuel shutoff station location shall be placarded EMERGENCY FUEL SHUTOFF in letters at least 50 mm (2 in.) high.

4.1.11.2 The method of operation shall be indicated by an arrow or by the word PUSH or PULL, as appropriate.

4.1.11.3 Any action necessary to gain access to the shutoff device (e.g., BREAK GLASS) shall be shown clearly.

4.1.11.4 Lettering shall be of a color contrasting sharply with the placard background for visibility.

4.1.11.5 Placards shall be weather resistant.

4.1.12 Aircraft Fueling Ramps.

4.1.12.1 Aircraft Radar Equipment.

4.1.12.1.1 Surveillance radar equipment in aircraft shall not be operated within 90 m (300 ft) of any fueling, servicing, or other operation in which flammable liquids, vapors, or mist could be present.

4.1.12.1.2 Weather-mapping radar equipment in aircraft shall not be operated while the aircraft in which it is mounted is undergoing fuel servicing.

4.1.12.2* Ground Radar Equipment.

4.1.12.2.1 Antennas of airport flight traffic surveillance radar equipment shall be located so that the beam will not be directed toward any fuel storage or loading racks within 90 m (300 ft).

4.1.12.2.2 Aircraft fuel servicing shall not be conducted within the 90 m (300 ft) distance established by 4.1.12.2.1.

4.1.12.2.3 Antennas of airport ground traffic surveillance radar equipment shall be located so that the beam will not be directed toward any fuel storage or loading racks within 30 m (100 ft).

4.1.12.2.4 Aircraft fuel servicing or any other operations involving flammable liquids or vapors shall not be conducted within 30 m (100 ft) of antennas of airport ground traffic surveillance radar equipment.

4.1.12.3 Emergency Fire Equipment Accessibility. Accessibility to aircraft by emergency fire equipment shall be considered in establishing aircraft fuel servicing positions.

4.1.12.4 Ramp and Apron Drainage. Aircraft servicing ramps or aprons shall be sloped and drained in accordance with NEPA 415.

4.1.12.4.1 The ramp or apron shall slope away from the rim or edge of fueling hydrants or fueling pits to prevent flooding.

4.1.12.4.2 Fueling hydrant boxes or fueling pits that are connected to a ramp drainage system shall be fitted with vapor-sealing traps.

4.2 Operations.

4.2.1 Security. (Reserved)

4.2.2 Training.

4.2.2.1* Only personnel trained in the safe operation of the equipment and the fuels they use, the operation of emergency controls, and the procedures to be followed in an emergency shall be permitted to handle fuel.

4.2.2.2* Fuel servicing personnel shall be trained in the use of the available fire-extinguishing equipment they could be expected to use.

4.2.3* Prevention and Control of Spills.

4.2.3.1 Following fueling of an aircraft or fuel servicing vehicle, all hoses shall be removed, including those from hydrant systems if applicable.

4.2.3.2 All hoses shall also be properly stowed.

4.2.3.3 Fuel nozzles shall not be dragged along the ground.

4.2.3.4 Approved pumps, either hand operated or power operated, shall be used where aircraft are fueled from drums.

4.2.3.4.1 Pouring or gravity flow shall not be permitted from a container with a capacity of more than 19 L (5 gal).

4.2.3.5 Fuel Spill Procedures.

4.2.3.5.1 Where a spill is observed, the fuel servicing shall be stopped immediately by release of the deadman controls.

4.2.3.5.2 In the event that a spill continues, the equipment emergency fuel shutoff shall be actuated.

4.2.3.5.3 In the event that a spill continues from a hydrant system, the system emergency fuel shutoff shall be actuated.

4.2.3.5.4 The supervisor shall be notified immediately.

4.2.3.5.5 Cleaning operations shall be performed by personnel trained in accordance with 4.2.2.1.

4.2.3.5.6 Operation shall not be resumed until the spill has been cleared and conditions are determined to be safe.

4.2.3.5.7 The airport fire crew, if established, or the local fire department serving the airport shall be notified if a spill covers over 3 m (10 ft) in any direction or is over 5 m² (50 ft²) in area, continues to flow, or is otherwise a hazard to persons or property.

4.2.3.5.8 The spill shall be investigated to determine the cause, to determine whether emergency procedures were properly carried out, and to determine the necessary corrective measures.

4.2.3.5.9 Corrective measures identified by the spill investigation shall be implemented as required by the authority having jurisdiction.

4.2.3.6 Transferring fuel by pumping from one tank vehicle to another tank vehicle within 61 m (200 ft) of an aircraft shall not be permitted.

4.2.3.7 Not more than one tank vehicle shall be permitted to be connected to the same aircraft fueling manifold, unless means are provided to prevent fuel from flowing back into a tank vehicle due to a difference in pumping pressure.

4.2.4 Emergency Fuel Shutoff.

4.2.4.1 Emergency fuel shutoff control stations shall be accessible at all times.

4.2.4.2 A procedure shall be established to notify the fire department serving the airport in the event of a control station activation.

4.2.4.3 If the fuel flow stops for an unknown reason, the emergency fuel shutoff system shall be checked first.

4.2.4.4 The cause of the shutoff shall be identified and corrected before fuel flow is resumed.

4.2.4.5 Emergency fuel shutoff systems shall be operationally checked at intervals not exceeding 6 months.

4.2.4.6 Each individual device shall be checked at least once during every 12-month period.

4.2.4.7 Suitable records shall be kept of tests required by this section.

4.2.5* Bonding.

4.2.5.1 Prior to making any fueling connection to an aircraft or fuel servicing vehicle, the fueling equipment shall be bonded to the aircraft or fuel servicing vehicle by use of a cable, thus providing a conductive path to equalize the potential between the fueling equipment and the aircraft.

4.2.5.1.1 The electrical bond shall be maintained until fueling connections have been removed, thus allowing separated charges that could be generated during the fueling operation to reunite.

4.2.5.1.2 Grounding for the sole purpose of aircraft fueling shall not be permitted.

4.2.5.2 Bonding for Overwing Fueling. In addition to the requirements in 4.2.5.1, where fueling overwing, the nozzle shall be bonded to a metallic component of the aircraft that is metallically connected to the tank filler port.

4.2.5.2.1 The bond connection shall be made before the filler cap is removed.

4.2.5.2.2 If a nozzle bond cable and plug receptacle or means for attaching a clip is available, the operator shall attach the nozzle bond cable before removing the cap in order to equalize the potential between the nozzle and the filler port.

4.2.5.2.3 If no plug receptacle or means for attaching a clip is available, the operator shall touch the filler cap with the nozzle spout before removing the cap in order to equalize the potential between the nozzle and the filler port.

4.2.5.2.4 The nozzle spout shall be kept in contact with the filler neck until the fueling is completed.

4.2.5.3 Where a funnel is used in aircraft fueling, it shall be kept in contact with the filler neck as well as the fueling nozzle spout or the supply container to avoid the possibility of a spark at the fill opening.

4.2.5.3.1* Only metal funnels shall be used.

4.2.5.4 Where a hydrant servicer or cart is used for fueling, the hydrant coupler shall be connected to the hydrant system prior to bonding the fuel equipment to the aircraft.

4.2.5.5 Bonding and fueling connections shall be disconnected in the reverse order of connection.

4.2.5.6 Conductive hose shall be used to prevent electrostatic discharge but shall not be used to accomplish required bonding.

4.2.6 Control of Fuel Flow.

4.2.6.1 Fuel flow shall be controlled by use of a deadman control device.

4.2.6.2 The use of any means that defeats the deadman control shall be prohibited.

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4.2.7 Fire Protection.

4.2.7.1* During fueling operations, fire extinguishers shall be available on aircraft servicing ramps or aprons, in accordance with NFPA 410.

4.2.7.2* Extinguishers shall be kept clear of elements such as ice and snow.

4.2.7.3 Extinguishers located in enclosed compartments shall be readily accessible, and their location shall be marked clearly in letters at least 50 mm (2 in.) high.

4.2.7.4 Fuel servicing personnel shall be trained in the use of the available fire-extinguishing equipment they could be expected to use. (See A.4.2.2.2)

4.2.8 Maintenance.

4.2.8.1 Fuel servicing equipment shall be maintained in safe operating condition.

4.2.8.2 Malfunctioning equipment shall be removed from service.

4.2.8.3 Where a valve or electrical device is used for isolation during maintenance or modification of a fuel system, it shall be tagged and locked out.

4.2.8.4 The tag/lock shall not be removed until the operation is completed.

4.2.8.5 All inspection and maintenance activities shall be recorded.

4.2.8.6 Inspection and maintenance records shall be retained for a minimum of 12 months.

4.2.9* **Aircraft Fueling Hose.** Any hose found to be defective, in accordance with 4.2.9.1 through 4.2.9.4, shall be removed from service.

4.2.9.1 Suitable records shall be kept of required inspections and hydrostatic tests.

4.2.9.2 Aircraft fueling hose shall be removed from service after 10 years from the date of manufacture.

4.2.9.3 Aircraft fueling hose not placed into service within 2 years of the date of manufacture shall not be used.

4.2.9.4 **Daily Inspection.** Aircraft fueling hose shall be inspected before use each day.

4.2.9.4.1 The hose shall be extended as it normally would be for fueling.

4.2.9.4.2 The hose shall be checked for evidence of any of the following defects:

- (1) Blistering
- (2) Carcass saturation or separation
- (3) Exposure of the reinforcement material
- (4) Slippage, misalignment, or leaks at couplings

4.2.9.5 **Monthly Inspection.** At least once each month the hose shall be completely extended and inspected as required in 4.2.9.4 and 4.2.9.5.

4.2.9.5.1* The hose couplings and the hose shall be examined for structural weakness or soft spots.

4.2.9.5.2 With the hose completely extended, it shall be pressurized to the working pressure of the fueling equipment to

which it is attached and checked for defects, such as abnormal twisting or blistering.

4.2.9.6 Quarterly Inspection.

4.2.9.6.1 The nozzle screens shall be examined for evidence of hose deterioration.

4.2.9.7 Kinks or short loops in fueling hose shall be avoided.

4.2.10* **Lightning.** A written procedure shall be established to set the criteria for when and where fueling operations are to be suspended at each airport as approved by the fueling agent and the airport authority.

4.2.11 Aircraft Fuel Servicing.

4.2.11.1 Location of Aircraft During Fuel Servicing.

4.2.11.1.1 Aircraft fuel servicing shall be performed outdoors.

4.2.11.1.2 Aircraft fuel servicing incidental to aircraft fuel system maintenance operations shall comply with the requirements of NFPA 410.

4.2.11.1.3* Aircraft being fueled shall be positioned so that aircraft fuel system vents or fuel tank openings are not closer than 7.6 m (25 ft) to any terminal building, hangar, service building, or enclosed passenger concourse other than a loading walkway.

4.2.11.1.4 Aircraft being fueled shall be positioned so that the vent or tank openings are not closer than 15 m (50 ft) of any combustion and ventilation air intake to any boiler, heater, or incinerator room.

4.2.11.1.5 Accessibility to aircraft by emergency fire equipment shall be maintained for aircraft fuel servicing positions.

4.2.11.2 Aircraft Occupancy During Fuel Servicing.

4.2.11.2.1 If passengers remain on board an aircraft during fuel servicing, at least one qualified person trained in emergency evacuation procedures shall be in the aircraft at or near a door at which there is a passenger loading walkway, integral stairs that lead downward, or a passenger loading stair or stand.

4.2.11.2.1.1 A clear area for emergency evacuation of the aircraft shall be maintained at not less than one additional exit.

4.2.11.2.1.2 Where fueling operations take place with passengers on board away from the terminal building, and stairways are not provided, such as during inclement weather (diversions), all slides shall be armed and the aircraft rescue and fire fighting (ARFF) services shall be notified to respond in standby position in the vicinity of the fueling activity with at least one vehicle.

4.2.11.2.1.3 Aircraft operators shall establish specific procedures covering emergency evacuation under such conditions for each type of aircraft they operate.

4.2.11.2.1.4 All "no smoking" signs shall be displayed in the cabin(s), and the no smoking rule shall be enforced.

4.2.11.2.2 For each aircraft type, aircraft operators shall determine the areas through which it could be hazardous for boarding or deplaning passengers to pass while the aircraft is being fueled.

4.2.11.2.2.1 Controls shall be established so that passengers avoid such areas.

4.2.12 Fire Hazards on Aircraft Fuel Servicing Ramps.

4.2.12.1* Electrical Equipment Operated on Aircraft Fuel Servicing Ramps or Aprons.

4.2.12.1.1 Battery chargers on any fueling equipment shall not be connected or disconnected while fuel servicing is performed on an aircraft.

4.2.12.1.2* Aircraft ground-power generators or other electrical ground-power supplies shall not be connected or disconnected while fuel servicing is performed on the aircraft.

4.2.12.1.3 Electric tools or similar tools likely to produce sparks or arcs shall not be used while fuel servicing is performed on an aircraft.

4.2.12.1.4 Other than aircraft fuel servicing vehicles, battery-powered vehicles that do not comply with the provisions of this standard shall not be operated within 3 m (10 ft) of fueling equipment or spills.

4.2.12.1.5* Communication equipment located outside of the cab of fuel servicing vehicles and used during aircraft fuel servicing operations within 3 m (10 ft) of the fill or vent points of aircraft fuel systems shall be listed as intrinsically safe for Class I, Division I, Group D hazardous (classified) locations in accordance with ANSI/UL 913.

4.2.12.2 Open Flames on Aircraft Fuel Servicing Ramps.

4.2.12.2.1 Entrances to fueling areas shall be posted with "no smoking" signs.

4.2.12.2.2 Open flames on aircraft fuel servicing ramps or aprons within 15 m (50 ft) of any aircraft fuel servicing operation or fueling equipment shall be prohibited.

4.2.12.2.3 The category of open flames and lighted open-flame devices shall include, but shall not be limited to, the following:

- (1) Lighted cigarettes, cigars, or pipes
- (2) Electronic cigarettes (e.g., personal vaporizers or electronic nicotine delivery systems)
- (3) Exposed flame heaters, liquid, solid, or gaseous devices, including portable and wheeled gasoline or kerosene heaters
- (4) Heat-producing welding or cutting devices and blowtorches
- (5) Flare pots or other open-flame lights

4.2.12.2.4 The authority having jurisdiction can establish other locations where open flames and open-flame devices shall not be permitted.

4.2.12.2.5 Personnel shall not carry lighters, matches, or electronic cigarettes on their person while engaged in fuel servicing operations.

4.2.12.2.6 Lighters, matches, or electronic cigarettes shall not be permitted on or in fueling equipment.

4.2.12.2.7 Equipment performing aircraft servicing functions shall not be positioned within a 3 m (10 ft) radius of aircraft fuel system vent openings.

4.2.12.3 Operation of Aircraft Engines and Heaters.

4.2.12.3.1 Fuel servicing shall not be performed on a fixed wing aircraft while an onboard engine is operating, except as permitted by 4.2.12.3.2 or 4.2.14.

4.2.12.3.2 Aircraft auxiliary power units (APUs) that direct exhaust away from the fueling operation shall be permitted to operate during fuel servicing.

4.2.12.3.3 Combustion heaters on aircraft (e.g., wing and tail surface heaters, integral cabin heaters) shall not be operated during fueling operations.

4.2.13 Defueling of Aircraft.

4.2.13.1 All requirements of this standard shall apply to defueling operations.

4.2.13.2 Each operator shall establish procedures to prevent the overfilling of the tank vehicle, which is a special hazard when defueling.

4.2.14 Rapid Refueling.

4.2.14.1 Rapid refueling of aircraft shall be limited to the following aircraft types:

- (1) Helicopters
- (2) Agricultural aircraft actively engaged in aerial application duties
- (3) Medical aircraft actively engaged in the transport of medical patients
- (4) Fire-fighting and search-and-rescue aircraft actively engaged in emergency operations

4.2.14.2 Only turbine engine aircraft fueled with JET A or JET A-1 fuels shall be permitted to be fueled while an onboard engine is operating.

4.2.14.3 Aircraft permitted to be fueled while an onboard engine is operating shall have all sources of ignition of potential fuel spills located above the fuel inlet port(s) and above the vents or tank openings, including but not limited to the following:

- (1) Engines
- (2) Exhausts
- (3) Auxiliary power units (APUs)
- (4) Combustion-type cabin heater

4.2.14.4 Aircraft fueling while onboard engines are operating shall be permitted only under the following conditions:

- (1) A pilot licensed by the appropriate governmental body shall be at the aircraft controls during the entire fueling operation.
- (2) All passengers shall be deboarded to a safe location prior to rapid refueling operations, except as permitted in 4.2.14.4(3).
- (3) Patients on board medical transport aircraft shall be permitted to remain on board the aircraft with medical personnel during rapid refueling operations if, in the opinion of the medical provider, removal from the aircraft would be detrimental to the patient's condition.
- (4) Passengers shall not board or deboard during rapid refueling operations.
- (5) Only designated personnel, properly trained in rapid refueling operations, shall operate the equipment. Written procedures shall include the safe handling of the fuel and equipment.
- (6) All doors, windows, and access points allowing entry to the interior of the aircraft that are adjacent to, or in the immediate vicinity of, the fuel inlet ports shall be closed and shall remain closed during refueling operations.

- (7) Fuel shall be permitted to be dispensed by one of the following methods:
 - (a) Into an open port from approved deadman-type nozzles with a flow rate not to exceed 227 L/min (60 gpm)
 - (b) Through close-coupled pressure fueling ports
- (8) Where fuel is dispensed from fixed piping systems, the hose cabinet shall not extend into the rotor space.
- (9) Clearance between aircraft fuel servicing vehicles and rotating components shall be maintained by one of the following methods:
 - (a) A curb or other approved barrier shall be provided to restrict the fuel servicing vehicle from coming within 3 m (10 ft) of any aircraft rotating components.
 - (b) Fuel servicing vehicles shall be kept 6 m (20 ft) away from any aircraft rotating components, and a trained person shall direct fuel servicing vehicle approach and departure.

Chapter 5 Aviation Fueling Facilities

5.1 Design and Construction.

5.1.1 General Requirements.

5.1.1.1 Each installation shall be designed and installed in conformity with the requirements of this standard and with any additional fire safety measures deemed necessary by the authority having jurisdiction.

5.1.1.2 The system and each of its components shall be designed for the working pressure of the system.

5.1.1.3 The emergency fuel shutoff system shall be designed and installed as an integral part of the airport fuel system.

5.1.1.4 Operating controls for emergency fuel shutoff of the system shall be located to be readily accessible in the event of an accident or spill.

5.1.1.5 In establishing each aircraft fuel dispensing location, consideration shall be given to the accessibility of the location in an emergency by fire-fighting personnel and equipment.

5.1.1.6 System Design and Approval.

5.1.1.6.1 Design Approval. Work shall not be started on the construction or alteration of an airport fuel system until the design, plans, and specifications have been approved by the authority having jurisdiction.

5.1.1.6.2 System Approval. The authority having jurisdiction shall inspect and approve the completed system before it is put into service.

5.1.1.6.3 Hydrostatic Test.

5.1.1.6.3.1 After completion of the installation (including fill and paving), new airport fuel piping systems shall be subjected to a temperature-compensated hydrostatic test pressure equal to 150 percent of the system working pressure for at least 4 hours and shall be proven tight before the system is placed into service.

5.1.1.6.3.2 For additions or modifications to existing airport fuel piping systems, hydrostatic testing of new piping prior to final tie-in to existing piping shall be permitted, with final

closure (tie-in) welds examined in-process in accordance with ASME B31.3.

5.1.2 Fuel Storage Tanks.

5.1.2.1* Fuel storage tanks shall conform to the applicable requirements of NFPA 30.

5.1.2.2 The authority having jurisdiction shall determine the clearances required from runways, taxiways, and other aircraft movement and servicing areas to any aboveground fuel storage structure or fuel transfer equipment, with due recognition given to national and international standards establishing clearances from obstructions.

5.1.3 Pumps and Piping Systems.

5.1.3.1 Underground piping or impact-protected aboveground piping shall be used in the vicinity of aircraft operating areas.

5.1.3.2 Piping shall be laid on firm supports using clean, noncorrosive backfill.

5.1.3.3 Transfer piping located within buildings not specifically designed for the purpose of fuel transfer shall be located within a steel casing of a pressure rating equal to that of the carrier pipe.

5.1.3.3.1 The casing shall extend beyond the building.

5.1.3.3.2 The casing shall terminate at a low point(s) with an automatic leak detection system.

5.1.3.3.3 The casing shall be capable of being drained to a safe location.

5.1.3.4 Piping, valves, and fittings shall be of steel or stainless steel, suitable for aviation fuel service and designed for the working pressure and mechanically and thermally produced structural stresses to which they could be subjected and shall comply with ASME B31.3.

5.1.3.5 Cast-iron, copper, copper alloy, and galvanized steel piping, valves, and fittings shall not be permitted.

5.1.3.6 Ductile iron valves shall be permitted.

5.1.3.7 Aluminum piping, valves, and fittings shall be used only where specifically approved by the authority having jurisdiction.

5.1.3.8 In the selection of pipe, valves, and fittings, the following shall be considered:

- (1) Working pressure
- (2) Bending and mechanical strength requirements (including settlement)
- (3) Internal and external corrosion
- (4) Impact stresses
- (5) Method of system fabrication and assembly
- (6) Location of piping and accessibility for repair or replacement
- (7) Exposure to mechanical, atmospheric, or fire damage
- (8) Expected period of service and effect of future operations

5.1.3.9 Gaskets in flanged connections shall resist fire temperatures for a duration comparable to the temperature resistance of the flange and bolts.

5.1.3.10 Flanges and their associated bolts shall be steel or stainless steel.

5.1.3.10.1 Flanges shall be rated to the ANSI pressure class suitable to the fuel system working pressures but in no cases shall be less than Class 150.

5.1.3.10.2* Joints [and flanges] shall be installed so that the mechanical strength of the joint will not be impaired if exposed to fire. [30:27.5.1.2]

5.1.3.11 Allowances shall be made for thermal expansion and contraction by the use of pipe bends, welded elbows, or other flexible design.

5.1.3.12 Pressure relief valves shall be provided in lines that can be isolated.

5.1.3.13 Welded joints shall be made by qualified welders in accordance with the standards of the American Welding Society and ANSI/ASME B31.3.

5.1.3.14* Isolation valves or devices shall be provided to facilitate dismantling portions of the fueling system.

5.1.3.15 Isolation valves shall be capable of being locked closed.

5.1.3.16 Buried flanges and valves shall not be permitted.

5.1.3.17* All fueling systems with underground piping shall have cathodic protection to mitigate corrosion.

5.1.3.18 A heat-actuated shutoff valve shall be provided in the piping immediately upstream of loading hoses or swing arm connections.

5.1.4 Hose and Nozzles. (Reserved)

5.1.5 Bonding. (Reserved)

5.1.6 Electrical Systems.

5.1.6.1 **Electrical Equipment.** All electrical equipment and wiring shall comply with the requirements of NFPA 70, Article 515, utilizing the Class I liquids requirements for all applications.

5.1.7 Control of Fuel Flow.

5.1.7.1* Deadman Controls.

5.1.7.1.1 The valve that controls the flow of fuel to an aircraft or fueling vehicle shall have a deadman control.

5.1.7.1.2 The fuel flow control means shall be one of the following:

- (1) The hydrant pit valve
- (2) At the feed-side of the fueling hose
- (3) A separate valve on the fuel piping system
- (4) On the hose nozzle for overwing servicing
- (5) An electronic control to stop the pump

5.1.7.1.3 Deadman controls shall be designed to preclude defeating their intended purpose.

5.1.7.2 Pressure Fuel Servicing System Controls.

5.1.7.2.1 The system shall be designed to minimize surge pressure.

5.1.7.2.2* The overshoot shall not exceed 5 percent of actual flow rate in L/min (gal/min) at the time the deadman is released.

5.1.7.2.3 The control valve shall be located and designed so that it will not be rendered inoperative by a surface accident, power failure, or spill.

5.1.7.2.4 The control valve shall be fail-safe by closing completely in the event of control power loss.

5.1.7.3* **Hydrant Valves.** Hydrant valves shall be designed so that the flow of fuel shall shut off when the hydrant coupler is closed.

5.1.7.3.1 Hydrant valves shall be of the self-closing, dry-break type.

5.1.7.4 **Flow Control Valves.** The flow control valve shall be an integral part of the hydrant valve or coupler.

5.1.7.4.1 The fuel control valve shall be arranged so that it is not rendered inoperative by a surface accident, spill, or malfunction and shall shut off the flow of fuel if the operating energy fails.

5.1.7.4.2 The fuel control system shall be designed to minimize overshoot.

5.1.7.4.3 The system shall be designed to shut off fuel flow quickly and effectively, even if there is a reduction of pressure downstream of the flow control valve such as could result from a major line or hose break.

5.1.7.4.4 A screen shall be provided ahead of the valve to trap foreign material that could interfere with complete closure of the valve.

5.1.7.4.5 The hydrant valve that allows the flow of fuel to the aircraft shall have a deadman control.

5.1.7.4.6 The use of any means that allows fuel to flow without the operator activating the deadman shall not be permitted.

5.1.7.4.7 The deadman control shall be arranged so that the fueling operator can observe the operation while activating the control.

5.1.7.4.8 Wireless deadman controls shall be permitted.

5.1.7.5* **Fuel Pressure.** The pressure of the fuel delivered to the aircraft shall be automatically controlled so that it is not higher than that specified by the manufacturer of the aircraft being serviced.

5.1.8 Filters and Ancillary Equipment.

5.1.8.1 All sections of the filtering system shall have electrical continuity with adjoining piping and equipment.

5.1.8.2 In freezing climates, filter separator sumps and associated piping that could contain water shall be protected to prevent freezing and bursting.

5.1.8.3 Heaters shall be constructed of noncorrosive materials.

5.1.8.4 Piping, valves, meters, filters, air eliminators, connections, outlets, fittings, and other components shall be designed to meet the working pressure requirements of the system.

5.1.9 Emergency Fuel Shutoff Systems.

5.1.9.1 Each tank vehicle loading station shall be provided with an emergency fuel shutoff system, in addition to the deadman control required by 5.1.7.4.

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5.1.9.2 The emergency fuel shutoff system shall shut down the flow of fuel in the entire system or in sections of the system.

5.1.9.3 The emergency fuel shutoff system shall be of a fail-safe design.

5.1.9.4* The method of fuel transfer (gravity, pumping, or use of hydraulic or inert gas pressure) shall be considered in the design of the emergency fuel shutoff system and the location of the emergency fuel shutoff valve.

5.1.9.5 The emergency fuel shutoff system shall include shutoff stations located outside of probable spill areas and near the route that normally is used to leave the spill area or to reach the fire extinguishers provided for the protection of the area.

5.1.9.6* At least one emergency shutoff control station shall be accessible to each fueling vehicle loading position or aircraft fueling position.

5.1.9.7 The emergency fuel shutoff system shall be designed so that operation of a station shuts off fuel flow to all hydrants that have a common exposure.

5.1.9.8 Emergency fuel shutoff systems shall be designed so that they shut off the flow of fuel if the operating power fails.

5.1.9.9 Emergency fuel shutoffs shall not be located beneath piping, pumps, vents, or other components containing fuel or fuel vapors.

5.1.10 Fire Protection. At least one fire extinguisher with a minimum rating of 40-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent shall be provided at each fueling vehicle loading position or rack.

5.1.11 Marking and Labeling.

5.1.11.1 Emergency fuel shutoff signs shall be located at least 2.1 m (7 ft) above grade, measured to the bottom of the placard.

5.1.11.2 Emergency fuel shutoff signs shall be positioned so that they can be seen readily from a distance of at least 15.2 m (50 ft).

5.1.11.3 Systems provided with impressed current cathodic protection shall have appropriate signs, located at points of entry, warning against separation of units without prior de-energization or without proper jumpers across the sections to be disconnected.

5.1.11.4 Fuel storage tanks shall be labelled in accordance with the requirements of NFPA 704.

5.1.11.5 Fuel transfer piping shall be marked in accordance with EI 1542 as to the product type conveyed through the pipe and the proper direction of flow of the product.

5.1.12 Aircraft Fuel Servicing Vehicle Loading and Unloading Racks.

5.1.12.1 The loading rack shall be equipped with an automatic shutdown system that stops the tank loading operation when the fuel servicing vehicle tank is full.

5.1.12.2 All fuel servicing tank vehicle primary shutdown systems shall be compatible with the system utilized at the loading rack.

5.1.12.3 The automatic secondary shutoff control shall not be used for normal filling control.

5.1.12.4 New and existing loading systems shall comply with 5.1.12.1 through 5.1.12.3 within 5 years of the effective date of this edition.

5.1.13 Fuel Servicing Hydrants, Pits, and Cabinets.

5.1.13.1 Fueling hydrants and fueling pits that are recessed below a ramp or apron surface and are subject to vehicle or aircraft traffic shall be fitted with a cover designed to sustain the load of vehicles or aircraft that taxi over all or part of them.

5.1.13.2 Fueling hydrants, cabinets, and pits shall be located at least 15.2 m (50 ft) from any terminal building, hangar, service building, or enclosed passenger concourse (other than loading bridges).

5.2 Operations.

5.2.1* Security. Access to fuel storage and fuel vehicle loading areas shall be secured.

5.2.2 Personnel. (Reserved)

5.2.3 Prevention and Control of Spills. (Reserved)

5.2.4 Emergency Fuel Shutoff. (Reserved)

5.2.5 Bonding. (Reserved)

5.2.6 Control of Fuel Flow. If a wireless deadman control is used, the operator shall be located at the fueling point during the fueling operation.

5.2.7 Fire Protection. During fueling operations, fire extinguishers shall be available on aircraft servicing ramps or aprons, in accordance with NFPA 410.

5.2.8 Maintenance. (Reserved)

5.2.9 Aircraft Fueling Hose. (Reserved)

Chapter 6 Airport Fueling Vehicles

6.1 Design and Construction.

6.1.1 General Requirements.

6.1.1.1 Aircraft fuel servicing tank vehicles that are operated on public roadways shall comply with the requirements of NFPA 385.

6.1.1.2 In addition to any specific requirements in this chapter, only materials safe for use in the service intended and compatible with fuel applications shall be used in the construction of aircraft fuel servicing vehicles and hydrant fuel service carts.

6.1.1.3 Magnesium shall not be used in the construction of any portion of an aircraft fuel servicing vehicle or cart.

6.1.1.4 Trailer connections shall be designed to secure the trailer firmly and to prevent the towed vehicle from swerving from side to side at the speeds anticipated so that the trailer essentially remains in the path of the towing vehicle.

6.1.2 Tanks.

6.1.2.1 Every cargo tank shall be supported by and attached to, or shall be a part of, the tank vehicle upon which it is carried in accordance with NFPA 385.

6.1.2.2 Cargo tanks shall be constructed in accordance with 49 CFR 178.345, DOT 406, or other equivalent standard for international application.

6.1.2.3 Aluminum alloys for high-strength welded construction shall be joined by an inert gas arc welding process using filler metals R-GR40A, E-GR40A (5154 alloy), R-GM50A, and E-GM50A (5356 alloy) in accordance with AWS A5.10.

6.1.2.4 Tank outlets shall be of substantial construction.

6.1.2.5 Tank outlets shall be attached securely to the tank.

6.1.2.6 Baffles. Every cargo tank or compartment over 2.3 m (7.5 ft) long shall be provided with baffles, the total number of which shall be such that the distance between any two adjacent baffles, or between any tank head or bulkhead and the baffle closest to it, shall in no case exceed 1.5 m (5 ft).

6.1.2.6.1 The cross-sectional area of each baffle shall be not less than 80 percent of the cross-sectional area of the tank.

6.1.2.6.2 The thickness of a baffle shall be not less than that required for the heads and bulkheads of the cargo tank in which it is installed.

6.1.2.7 Venting shall be in accordance with 49 CFR, DOT 406.

6.1.2.8 Cargo draw-off valves or faucets projecting beyond the frame of a tank vehicle shall be protected against damage.

6.1.2.9 Fill Openings and Top Flashings.

6.1.2.9.1 Dome covers shall be provided with a forward mounted hinge and self-latching catches and shall be fitted with watertight fuel-resistant seals or gaskets designed to prevent spillage or leakage from overturn and to prevent water entry.

6.1.2.9.2 Dome covers shall automatically close and latch with the forward motion of the vehicle.

6.1.2.9.3 Drains from top flashing shall divert spilled fuel from possible sources of ignition, including the engine, the engine exhaust system, the electrical equipment, or an auxiliary equipment enclosure.

6.1.2.9.4 The tank fill openings shall be protected against overturn damage by a rigid member(s) fixed to the tank and extending a minimum of 25 mm (1 in.) above any dome cover, handle, vent opening, or projection of the unit.

6.1.2.9.5 Overturn protection shall be braced adequately to prevent collapse.

6.1.2.9.6 Overturn protection shall be designed to channel rainwater, snow, or fuel to the exterior of the cargo tank and away from vehicle exhaust components.

6.1.2.10 Tanks for Flammable Liquids Other than Fuel. Vehicle or cart fuel tanks and containers for other flammable liquids shall be made of metal and shall be designed, constructed, and located in a manner that precludes hazardous arrangements.

6.1.2.10.1 Tanks shall be substantially protected by their location.

6.1.2.10.2 Fill pipes shall not project beyond the vehicle profile.

6.1.2.10.3 Tanks and containers shall vent away from sources of ignition during filling.

6.1.2.10.4 Any arrangement not protected by location shall be listed for such use.

6.1.2.10.5 The fuel tank arrangement shall allow for drainage without the tank's removal from its mountings.

6.1.2.11 Tests. Cargo tanks, at the time of manufacture, shall be tested by a minimum air or hydrostatic pressure of 24.1 kg/m² (5 psi) applied to the whole tank (or each compartment thereof if the tanks are compartmented) for a period of at least 5 minutes.

6.1.2.11.1 If the test is by air pressure, the entire exterior surface of all joints shall be coated with a solution of soap and water, heavy oil, or other substance that causes foaming or bubbling that indicates the presence of leaks.

6.1.2.11.2 If the test is by hydrostatic pressure, it shall be gaged at the top of the tank, and the tank shall be inspected at the joints for the issuance of liquid to indicate leaks.

6.1.2.11.3 Any leakage discovered by either of the methods described in 6.1.2.11.1 and 6.1.2.11.2, or by any other method, shall be considered evidence of failure to meet these requirements.

6.1.3 Pumps and Piping System.

6.1.3.1 All portions of the flammable liquid feed system shall be constructed and located to minimize the fire hazard.

6.1.3.2 Piping and plumbing shall be made of materials not adversely affected by the fluid or by other materials likely to be encountered.

6.1.3.3 Piping and plumbing shall be of adequate strength for the purpose.

6.1.3.4 Piping and plumbing shall be secured to avoid chafing or undue vibration.

6.1.3.5 Piping and plumbing shall be supported adequately.

6.1.3.6 Product piping shall be metal and rated for the system working pressure or at least 1030 kPa (150 psi), whichever is greater.

6.1.3.7 Except as provided in 6.1.3.8, all joints shall be welded.

6.1.3.8 Flanged connections or approved couplings shall be provided to avoid the need for cutting and welding where components are serviced or replaced.

6.1.3.9 Gaskets in flanged connections shall be of a material and design that resist fire exposure for a time comparable to the flange and bolts.

6.1.3.10 Gravity feed systems shall not be used.

6.1.3.11 At the time of manufacture, the section of the fuel dispensing system that is under pressure during service shall be subjected to a hydrostatic test pressure equal to 150 percent of the working pressure of the system for at least 30 minutes and shall be proven tight before it is placed in service.

6.1.3.11.1 Hose connections shall be permitted to be plugged during this test.

6.1.3.12 Loading System.

6.1.3.12.1 Top Loading.

6.1.3.12.1.1 Drop tubes shall be used.

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6.1.3.12.1.2 Splash filling shall be prohibited.

6.1.3.12.1.3 Drop tubes used in top loading or overhead loading of tank vehicles shall be designed to minimize turbulence.

6.1.3.12.1.4 Drop tubes shall be metallic.

6.1.3.12.1.5 Drop tubes shall extend to the bottom of the tank or to the inside of the sump to maintain submerged loading and to avoid splashing of the fuel.

6.1.3.12.2 Bottom Loading.

6.1.3.12.2.1 The bottom-loading connection of a tank truck shall be a dry-break coupler that cannot be opened until it is engaged to the vehicle tank adapter.

6.1.3.12.2.2 It shall not be possible to disconnect the hose coupler from the tank vehicle until the coupler valve is fully closed.

6.1.3.12.2.3* The bottom loading fitting of the tank vehicle shall be a spring-loaded check valve that remains in a closed position until opened by connecting the coupler.

6.1.3.12.2.4 A float-actuated shutoff or other automatic sensing device shall be provided to close the bottom-loading valve when the tank is filled.

6.1.3.12.2.5 Any liquid bled from a sensing device during loading shall be piped to the bottom of the cargo tank.

6.1.3.12.2.6 The fill pipe and valving on bottom-loaded tank vehicles shall be arranged to prevent fuel spray and turbulence in the cargo tank.

6.1.3.12.2.7 The cargo tank vehicle shall be equipped with an automatic primary shutdown system that stops the tank loading operation when the tank is full, unless an automatic shutdown is provided on the loading rack in accordance with 5.1.12.

6.1.3.12.2.8 The cargo tank vehicle shall be equipped with an automatic secondary shutdown system that stops the tank loading operation when the tank is full.

6.1.3.12.2.9 The automatic secondary shutoff control shall not be used for normal filling control.

6.1.3.13 Each outlet valve shall be provided with a fusible device that causes the valve to close automatically in case of fire.

6.1.3.14 A shear section shall be provided between shutoff valve seats and discharge outlets that breaks under strain, unless the discharge piping is arranged to afford the same protection and leave the shutoff valve seat intact.

6.1.3.15 Openings in cargo tank compartments that are connected to pipe or tubing shall be fitted with a spring-loaded check valve, a self-closing valve, or a similar device to prevent the accidental discharge of fuel in case of equipment malfunction or line breakage.

6.1.3.15.1 Unless the valves required in 6.1.3.15 are located inside the tank, they shall be equipped with a shear section as described in 6.1.3.14.

6.1.3.16 The operating mechanism for each tank outlet valve shall be adjacent to the fuel delivery system operating controls.

6.1.3.16.1 The operating mechanism for each tank outlet valve shall be arranged so that the outlet valve(s) can be closed

simultaneously and instantly in the event of a fire or other emergency.

6.1.3.16.2 A means shall be provided to assure proper operation.

6.1.4 Hose and Nozzles. (Reserved)

6.1.5 Bonding.

6.1.5.1 All metallic components and vehicle or cart chassis shall be electrically bonded to prevent a difference in their electrostatic potential.

6.1.5.2 Such bonding shall be inherent to the installation or by physical application of a suitable bonding mechanism.

6.1.5.3 A provision shall be provided on the vehicle to bond the tank to a fill pipe or loading rack as specified in 6.2.11.10.1.

6.1.5.4 Cables shall be provided on the vehicle or cart to allow the bonding operations specified in 4.2.5.

6.1.6 Electrical System.

6.1.6.1 Battery Compartments. Batteries that are not in engine compartments shall be securely mounted in compartments to prevent accidental arcing.

6.1.6.1.1 The compartment shall be separate from fueling equipment.

6.1.6.1.2 Suitable shielding shall be provided to drain possible fuel spillage or leakage away from the compartment.

6.1.6.1.3 The compartment shall be provided with a vent at the top of the compartment.

6.1.6.2 Wiring. Wiring shall be of adequate size to provide the required current-carrying capacity and mechanical strength.

6.1.6.2.1 Wiring shall be installed to provide protection from physical damage and from contact with spilled fuel either by its location or by enclosing it in metal conduit or other oil-resistant protective covering.

6.1.6.2.2 All circuits shall have overcurrent protection.

6.1.6.2.3 Junction boxes shall be weatherproofed.

6.1.6.2.4 The vehicle shall be equipped with a battery disconnect switch.

6.1.6.3 Spark plugs and other exposed terminal connections shall be insulated to prevent sparking in the event of contact with conductive materials.

6.1.6.4* Motors, alternators, generators, and their associated control equipment located outside of the engine compartment or vehicle cab shall be of a type listed for use in accordance with *NFPA 70*, Class I, Division 1, Group D locations.

6.1.6.5 Electrical equipment and wiring located within a closed compartment shall be of a type listed for use in accordance with *NFPA 70*, Class I, Division 1, Group D locations.

6.1.6.6 Lamps, switching devices, and electronic controls, other than those covered in 6.1.6.4 and 6.1.6.5, shall be of the enclosed, gasketed, weatherproof type.

6.1.6.7 Other electrical components not covered in 6.1.6.4 through 6.1.6.6 shall be of a type listed for use in accordance with *NFPA 70*, Class I, Division 2, Group D locations.

6.1.6.8 Electronic equipment shall not be installed in compartments with other equipment that can produce flammable vapors, unless permitted by *NFPA 70*.

6.1.6.9 Tractor Trailer Wiring. Electrical service wiring between a tractor and trailer shall be designed for heavy-duty service.

6.1.6.9.1 The connector shall be of the positive-engaging type.

6.1.6.9.2 The trailer receptacle shall be mounted securely.

6.1.7 Control of Fuel Flow.

6.1.7.1* The valve that controls the flow of fuel to an aircraft shall have a deadman control.

6.1.7.2 The fuel flow control valve shall be one of the following:

- (1) The hydrant pit valve
- (2) At the tank outlet on a tank vehicle
- (3) A separate valve on the tank vehicle
- (4) On the hose nozzle for overwing servicing

6.1.7.3 Deadman controls shall be designed to preclude defeating their intended purpose.

6.1.7.4 Pressure Fuel Servicing System Controls.

6.1.7.4.1 The system shall be designed to minimize surge pressure.

6.1.7.4.2* The overshoot shall not exceed 5 percent of actual flow rate in L/min (gal/min) at the time the deadman is released.

6.1.7.4.3 The control valve shall be located and designed so that it will not be rendered inoperative by a surface accident, power failure, or spill.

6.1.7.4.4 The control valve shall be fail-safe by closing completely in the event of control power loss.

6.1.7.5 On tank full trailer or tank semitrailer vehicles, the use of a pump in the tractor unit with flexible connections to the trailer shall be prohibited unless one of the following conditions exists:

- (1) Flexible connections are arranged above the liquid level of the tank in order to prevent gravity or siphon discharge in case of a break in the connection or piping.
- (2) The cargo tank discharge valves required by 6.1.7.1 are arranged to be normally closed and to open only when the brakes are set and the pump is engaged.

6.1.7.6 Air Elimination. Aircraft fuel servicing tank vehicles having a positive displacement product pump shall be equipped with a product tank low-level shutdown system that prevents air from being ingested into the fueling system.

6.1.8 Filters and Ancillary Equipment.

6.1.8.1 Cabinets.

6.1.8.1.1 All cabinets, other than those housing electronic equipment, shall be vented to prevent the accumulation of fuel vapors. (See 6.1.6.)

6.1.8.1.2 All cabinets, other than those housing electronic equipment, shall be constructed of noncombustible materials. (See 6.1.6.)

6.1.8.2 Product Recovery Tanks. The refueling system product recovery tank shall be equipped with a control that shuts down the vehicle's fuel dispensing system when the refueling system product recovery tank is three-quarters full.

6.1.9 Emergency Fuel Shutoff Systems.

6.1.9.1 The vehicle shall have at least two emergency shutoff controls, one mounted on each side of the vehicle.

6.1.9.2 The emergency fuel shutoff controls shall be quick-acting to close the outlet valve in case of emergency.

6.1.9.3 The emergency fuel shutoff controls shall be remote from the fill openings and discharge outlets and shall be operable from a ground level standing position.

6.1.9.4 All vehicles or cars equipped with a top deck or elevating platform shall have an additional emergency shutoff control operable from the deck or platform.

6.1.10 Fire Protection.

6.1.10.1 Each aircraft fuel servicing tank vehicle shall have two listed fire extinguishers, each having a rating of at least 40-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent, with one extinguisher mounted on each side of the vehicle.

6.1.10.2 One listed fire extinguisher having a rating of at least 40-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent shall be installed on each hydrant fuel servicing vehicle or cart.

6.1.10.3 Extinguishers shall be readily accessible from the ground.

6.1.10.4 The area of the paneling or tank adjacent to or immediately behind the extinguisher(s) on fueling vehicles or carts shall be painted a color contrasting with that of the extinguisher.

6.1.10.5 Extinguishers shall be kept clear of elements such as ice and snow.

6.1.10.6 Extinguishers located in enclosed compartments shall be readily accessible.

6.1.10.7 The locations of extinguishers in enclosed compartments shall be marked clearly in letters of a contrasting color at least 50 mm (2 in.) high.

6.1.10.8 Smoking Equipment.

6.1.10.8.1* Smoking equipment, such as cigarette lighter elements and ashtrays, shall not be provided.

6.1.10.8.2 If a vehicle includes smoking equipment, it shall be removed or rendered inoperable.

6.1.10.8.3 Subsection 6.1.10.8.2 shall be retroactive to existing vehicles.

6.1.11 Marking and Labeling.

6.1.11.1 Aircraft fueling vehicles shall be marked with the name of the operator or the responsible organization.

6.1.11.2 The marking shall be approved, legible signs on both sides of the exterior of the vehicle.

6.1.11.3 **Signage.** Each aircraft fuel servicing vehicle or cart shall have a signage viewable from all sides of the vehicle.

6.1.11.3.1 Signs shall have letters at least 75 mm (3 in.) high.

6.1.11.3.2 Signs shall be of a color contrasting sharply with the sign background for visibility.

6.1.11.3.3 The words "FLAMMABLE," "NO SMOKING," and the name of the product carried, such as JET A, JET B, GASOLINE, or AVGAS, shall appear on each sign.

6.1.11.4 Emergency Fuel Shutoff Signs.

6.1.11.4.1 Each emergency fuel shutoff station location shall be placarded EMERGENCY FUEL SHUTOFF in letters at least 50 mm (2 in.) high.

6.1.11.4.2 The method of operation shall be indicated by an arrow or by the word PUSH or PULL, as appropriate.

6.1.11.4.3 Any action necessary to gain access to the shutoff device (e.g., BREAK GLASS) shall be shown clearly.

6.1.11.4.4 Lettering shall be of a color contrasting sharply with the placard background for visibility.

6.1.11.4.5 Placards shall be weather resistant.

6.1.11.5 A "NO SMOKING" sign shall be posted prominently in the cab of every aircraft fuel servicing vehicle.

6.1.11.6 Hazardous material placards meeting the requirements of 49 CFR 172.504 or equivalent shall be displayed on all four sides of fuel servicing tank vehicles.

6.1.12 Drive Train.

6.1.12.1 Propulsion or power engine equipment shall be in a compartment housing that shall minimize the hazard of fire in the event of leakage or spillage of fuel during the servicing of an aircraft.

6.1.12.2 The engine air intake shall retain the manufacturer's configuration to prevent the emission of flame in case of back-firing.

6.1.12.3 Where provided, the sediment bowl in the fuel supply line shall be of steel or material of equivalent fire resistance.

6.1.12.4 Full trailers and semitrailers, except tow carts with a gross vehicle weight rating (GVWR) under 1360 kg (3000 lb), shall be equipped with service brakes on all wheels.

6.1.12.5 All full trailers and semitrailers, including tow carts with a GVWR under 1360 kg (3000 lb), shall be equipped with parking brakes.

6.1.12.6 Self-propelled aircraft fuel servicing vehicles shall have an integral system or device that prevents the vehicle from being moved unless all of the following conditions are met:

- (1) All fueling nozzles and hydrant couplers are properly stowed.
- (2) All mechanical lifts are lowered to their stowed position.

(3) Bottom-loading couplers have been disconnected from the vehicle.

6.1.12.7 The vehicle shall have a means to override the system or device required by 6.1.12.6 so that the vehicle can be moved during an emergency.

6.1.12.7.1 The override control shall be clearly marked and accessible.

6.1.12.7.2 A light to indicate activation of the override shall be located in the cabin and visible outside.

6.1.12.7.3 The override control shall be secured in the normal position with a breakaway seal.

6.1.12.7.4 The override control shall deactivate the fueling system.

6.1.13 Exhaust System.

6.1.13.1* The engine exhaust system shall be designed, located, and installed to minimize the hazard of fire in the event of any of the following:

- (1) Leakage of fuel from the vehicle or cart (where applicable) fuel tank or fuel system
- (2) Leakage from the fuel dispensing system of the vehicle or cart
- (3) Spillage or overflow of fuel from the vehicle or cart (if applicable) fuel tank or the cargo tank
- (4) Spillage of fuel during the servicing of an aircraft

6.1.13.2 Exhaust system components shall be secured and located clear of components carrying flammable liquids and separated from any combustible materials used in the construction of the vehicle.

6.1.13.3 Suitable shielding shall be provided to drain possible fuel spillage or leakage away from exhaust system components safely.

6.1.13.3.1 Diesel particulate filter (DPF) regeneration system piping shall be shielded from the engine discharge manifold to the outlet at the tailpipe.

6.1.13.3.2 DPF regeneration-equipped vehicles shall have a listed diffuser installed at the outlet of the exhaust tailpipe.

6.1.13.4 Exhaust gases shall not be discharged where they could ignite fuel vapors that could be released during normal operations or by accidental spillage or by leakage of fuel.

6.1.13.4.1 DPF regeneration-equipped vehicles shall have a lockout mode that will prevent automatic regeneration when these vehicles are operated within 30 m (100 ft) of aircraft parking areas.

6.1.13.5 A muffler (or silencer) cutout shall not be provided.

6.1.13.6 Carbureted gasoline-powered engines on fuel servicing vehicles shall be provided with flame- and spark-arresting exhaust systems.

6.1.13.7* Non-turbo-charged diesel engines on fuel servicing vehicles shall be equipped with flame- and spark-arresting exhaust systems.

6.2 Operations.

6.2.1 Security.

6.2.1.1 Parking of Aircraft Fuel Servicing Tank Vehicles. Parking areas for unattended aircraft fuel servicing tank vehicles shall be arranged to provide the following:

- (1) Dispersal of the vehicles in the event of an emergency
- (2) A minimum of 3 m (10 ft) of clear space between parked vehicles for accessibility for fire control purposes
- (3) Prevention of any leakage from draining to an adjacent building or storm drain that is not suitably designed to handle fuel
- (4) A minimum of 15 m (50 ft) from any parked aircraft and buildings other than maintenance facilities and garages for fuel servicing tank vehicles

6.2.1.2 Parking of Aircraft Fuel Servicing Hydrant Vehicles and Carts. Parking areas for unattended aircraft fuel servicing hydrant vehicles or carts shall be arranged to provide the following:

- (1) Dispersal of the vehicles in the event of an emergency
- (2) Prevention of any leakage from draining to an adjacent building or storm drain that is not suitably designed to handle fuel

6.2.1.3* The authority having jurisdiction shall determine the suitability of tunnels, enclosed roadways, or other limited access areas for use by fuel servicing vehicles.

6.2.2 Training. (Reserved)

6.2.3 Prevention and Control of Spills. (Reserved)

6.2.4 Emergency Fuel Shutoff. (Reserved)

6.2.5 Bonding. (Reserved)

6.2.6 Control of Fuel Flow.

6.2.6.1 The fueling operator shall monitor the fueling operation.

6.2.6.2 During overwing fueling, the operator shall monitor the fill port.

6.2.7 Fire Protection. (Reserved)

6.2.8 Maintenance.

6.2.8.1 Aircraft fuel servicing vehicles or carts shall not be operated unless they are in proper repair and free of accumulations of grease, oil, or other combustibles.

6.2.8.2 Leaking vehicles or carts shall be removed from service, defueled, and parked in a safe area until repaired.

6.2.8.3 Maintenance and servicing of aircraft fuel servicing vehicles and carts shall be performed outdoors or in a building approved for the purpose.

6.2.8.4 At least monthly the operator shall perform a check to ensure complete closure of the bottom-loading valve on the tank vehicle.

6.2.9 Aircraft Fueling Hose. (Reserved)

6.2.10 Exhaust System.

6.2.10.1 All vehicles that have engines equipped with an exhaust after-treatment device, such as a DPF, that requires the filter to be cleaned at high temperature (regenerated) while

installed on the vehicle shall meet the requirements of 6.2.10.2 through 6.2.10.10.

6.2.10.2 DPF regeneration shall be performed only in area(s) designated by the authority having jurisdiction.

6.2.10.3 DPF regeneration shall not be performed within 30 m (100 ft) of any aircraft refueling operations.

6.2.10.4* Vehicle Regeneration Area.

6.2.10.4.1 The immediate area surrounding the DPF exhaust outlet shall be concrete or other high temperature-resistant material and shall be clear of any grass, soil, or flammable materials.

6.2.10.4.2 The area shall be in a remote location that is a minimum of 30 m (100 ft) from the nearest aircraft parking location, airport terminal, or flammable storage or a minimum of 15 m (50 ft) from any other building.

6.2.10.4.3 The area shall be clearly marked with a minimum 61 cm by 30 cm (2 ft by 1 ft) sign reading "Vehicle DPF Regeneration Area," which shall have letters at least 75 mm (3 in.) high and shall be of a color contrasting sharply with the sign background for visibility.

6.2.10.5 The regeneration cycle shall be performed only by trained personnel, who shall remain with the vehicle until the regeneration cycle is complete.

6.2.10.6 The vehicle shall be visually inspected for any signs of fluid leaks under or around the vehicle before regeneration is initiated.

6.2.10.7 DPF regeneration shall not be initiated if there are any signs of any fluid leaks on or beneath the vehicle.

6.2.10.8 Once a regeneration cycle is started, it shall be completed without interruption.

6.2.10.9 After the regeneration process is successfully completed, the vehicle shall be permitted to return to normal service.

6.2.10.10 Problems occurring during the regeneration cycle shall be corrected prior to the vehicle returning to normal service.

6.2.10.11 Aircraft refueling operations shall not be initiated if the regenerative system indicates regeneration is required.

6.2.11 Loading and Unloading.

6.2.11.1 Aircraft fuel servicing tank vehicles shall be loaded only at an approved loading rack.

6.2.11.2 Aircraft fuel servicing tank vehicles shall not be loaded from a hydrant pit, unless permitted by the authority having jurisdiction under emergency circumstances.

6.2.11.3 Filling of the vehicle cargo tank shall be under the observation and control of a qualified and authorized operator at all times.

6.2.11.4 The required deadman and automatic overfill controls shall be in normal operating condition during the filling operation.

6.2.11.5 The controls shall not be blocked open or otherwise bypassed.

6.2.11.6 The engine of the tank vehicle shall be shut off before starting to fill the tank.

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6.2.11.7 To prevent leakage or overflow from expansion of the contents due to a rise in atmospheric temperature or direct exposure to the sun, no cargo tank or compartment shall be loaded to the point where it is liquid full.

6.2.11.7.1 No cargo tank or compartment shall be loaded above the rated net capacity, as specified by the manufacturer's data plate.

6.2.11.7.2 Space for thermal expansion, in no case less than 3 percent of the tank volume, shall be provided to prevent leakage.

6.2.11.8 The driver, operator, or attendant of any tank vehicle shall not remain in the vehicle but shall not leave the vehicle unattended during the loading or unloading process.

6.2.11.8.1 Delivery hose, when attached to a tank vehicle, shall be considered to be a part of the tank vehicle.

6.2.11.9 No fuel shall be transferred to or from any tank vehicle until the parking brake and wheel chocks have been set to prevent motion of the vehicle.

6.2.11.10 Top Loading.

6.2.11.10.1 Where loading tank trucks through open domes, a bond shall be established between the loading piping and the cargo tank to equalize potentials.

6.2.11.10.2 The bond connection shall be made before the dome is opened and shall be removed only after the dome is closed.

6.2.11.10.3 Drop tubes attached to loading assemblies extending into the vehicle tank shall extend to the bottom of the tank and shall be maintained in that position until the tank is loaded to provide submerged loading and avoid splashing or free falling of fuel through the tank atmosphere.

6.2.11.10.4 Splash filling shall be prohibited.

6.2.11.10.5 The flow rate into the tanks shall not exceed 25 percent of the maximum flow until the outlet is fully covered.

6.2.11.10.6 Fixed drop tubes permanently mounted in the vehicle tank shall extend to the bottom of the tank or to the inside of the sump to maintain submerged loading and to avoid splashing of the fuel.

6.2.11.10.7 The level in the tank shall be visually monitored at all times during top loading.

6.2.11.11 Bottom Loading.

6.2.11.11.1 A bonding connection shall be made between the cargo tank and the loading rack before any fuel connections are made and shall remain in place throughout the loading operation.

6.2.11.11.2 The operator shall initiate fuel flow by means of a deadman control device.

6.2.11.11.3 The operator shall ensure that the automatic high-level shutoff system is functioning properly for each compartment shortly after flow has been initiated.

6.2.12 Positioning of Aircraft Fuel Servicing Vehicles and Carts During Fueling.

6.2.12.1 Aircraft fuel servicing vehicles and carts shall be positioned so that a clear path of egress from the aircraft for fuel servicing vehicles shall be maintained.

6.2.12.2 The propulsion or pumping engine of aircraft fuel servicing vehicles or carts shall not be positioned under the wing of the aircraft during overwing fueling or where aircraft fuel system vents are located on the upper wing surface.

6.2.12.3 Aircraft fuel servicing vehicles or carts shall not be positioned within a 3 m (10 ft) radius of aircraft fuel system vent openings.

6.2.12.4 Parking brakes and chocks shall be set on all fuel servicing vehicles or carts before operators begin the fueling operation.

6.2.12.5 During overwing aircraft fuel servicing where aircraft fuel system vents are located on the upper wing surface, equipment shall not be positioned under the trailing edge of the wing.

Chapter 7 Rooftop Heliports

7.1 Design and Construction.

7.1.1 General Requirements.

7.1.1.1 System Design and Approval.

7.1.1.1.1 Fueling on rooftop heliports shall be permitted only where approved by the authority having jurisdiction.

7.1.1.1.2 In addition to the special requirements in this chapter, the heliport shall comply with the requirements of NFPA 418.

7.1.1.1.3 Facilities for dispensing fuel with a flash point below 37.8°C (100°F) shall not be permitted at any rooftop heliport.

7.1.1.1.4 In addition to the special requirements of this chapter, the fuel storage, piping, and dispensing system shall comply with the requirements of NFPA 30 and with applicable portions of this standard.

7.1.1.1.5 The entire system shall be designed so that no part of the system is subjected to pressure above its working pressure.

7.1.2 Fuel Storage Tanks.

7.1.2.1 Fuel storage tanks and components shall comply with the requirements of NFPA 30.

7.1.2.2 The fuel storage system shall be located at or below ground level.

7.1.3 Pumps and Piping Systems.

7.1.3.1 Pumps and piping systems shall comply with the requirements of NFPA 30.

7.1.3.2 Pumps shall be located at or below ground level.

7.1.3.3 Relay pumping shall not be permitted.

7.1.3.4 Pumps installed outside of buildings shall be located not less than 1.5 m (5 ft) from any building opening.

7.1.3.5 Pumps shall be anchored and protected against physical damage from collision.

7.1.3.6 Pumps installed within a building shall be in a separate room with no opening into other portions of the building.

7.1.3.7 The pump room shall be adequately ventilated.

7.1.3.8 Electrical wiring and equipment in pump rooms shall conform to the requirements of *NFPA 70*, Article 515.

7.1.3.9 Piping above grade shall be steel and, unless otherwise approved by the authority having jurisdiction, shall be suitably cased or shall be installed in a duct or chase.

7.1.3.9.1 Such piping duct or chase shall be constructed so that a piping failure does not result in the entry of fuel liquid or vapor entering the building.

7.1.3.9.2 All pipe casings, ducts, and chases shall be drained.

7.1.3.10 Piping shall be anchored and shall be protected against physical damage for a height of at least 2.4 m (8 ft) above the ground.

7.1.3.11 An isolation valve shall be installed on the suction and discharge piping of each pump.

7.1.3.12 A check valve shall be installed at the base of each fuel piping riser to automatically prevent the reverse flow of the fuel into the pump room in the event of pump seal failure, pipe failure, or other malfunction.

7.1.3.13 Piping within buildings shall comply with 5.1.3.3.

7.1.4 **Hose and Nozzles. (Reserved)**

7.1.5 **Electrostatic Bonding. (Reserved)**

7.1.6 **Electrical Systems. (Reserved)**

7.1.7 **Control of Fuel Flow. (Reserved)**

7.1.8 **Filters and Ancillary Equipment. (Reserved)**

7.1.9 **Emergency Fuel Shutoff Systems.**

7.1.9.1 At least two emergency fuel shutoff stations located on opposite sides of the heliport at exitways or at similar locations shall be provided.

7.1.9.2 An additional emergency fuel shutoff station shall be located at ground level and shall be located at least 3 m (10 ft) from the pump but no further than 6 m (20 ft).

7.1.10 **Fire Protection.** Fire protection shall conform to the requirements of *NFPA 418*.

7.1.11 **Marking and Labeling. (Reserved)**

7.2 **Operations.**

7.2.1 **Security. (Reserved)**

7.2.2 **Personnel.** All heliport personnel shall be trained in the use of the available fire extinguishers and fixed extinguishing systems.

7.2.3 **Prevention and Control of Spills. (Reserved)**

7.2.4 **Emergency Fuel Shutoff.** All heliport personnel shall be trained in the operation of emergency fuel shutoff controls.

7.2.5 **Bonding. (Reserved)**

7.2.6 **Monitoring of Fuel Flow. (Reserved)**

7.2.7 **Fire Protection. (Reserved)**

7.2.8 **Maintenance. (Reserved)**

7.2.9 **Aircraft Fueling Hose. (Reserved)**

Chapter 8 Self-Service Aircraft Fueling

8.1 **Design and Construction.**

8.1.1 **General Requirements.**

8.1.1.1 **System Design and Approval.** Self-service fueling shall be permitted, subject to the approval of the authority having jurisdiction.

8.1.1.2 Dispensing devices shall be located on an island to protect against collision damage or shall be protected with pipe bollards or other approved protection.

8.1.2 **Fuel Storage Tanks.** In addition to the special requirements of this chapter, the fuel storage system shall comply with the requirements of *NFPA 30*.

8.1.3 **Pumps and Piping Systems.**

8.1.3.1 In addition to the special requirements of this chapter, the piping and dispensing system shall comply with the requirements of *NFPA 30*.

8.1.3.2 Listed or approved dispensing devices shall be used.

8.1.4 **Hose and Nozzles. (Reserved)**

8.1.5 **Electrostatic Bonding. (Reserved)**

8.1.6 **Electrical Systems. (Reserved)**

8.1.7 **Control of Fuel Flow. (Reserved)**

8.1.8 **Filters and Ancillary Equipment. (Reserved)**

8.1.9 **Emergency Fuel Shutoff Systems.**

8.1.9.1 The controls shall be designed to allow only authorized personnel to reset the system after an emergency fuel shutoff.

8.1.9.2 The emergency fuel shutoff controls shall be installed in a location acceptable to the authority having jurisdiction and shall be more than 6 m (20 ft) but less than 30 m (100 ft) from the dispensers.

8.1.9.3 A clearly identified means to notify the fire department shall be provided and shall be located in the immediate vicinity of each emergency fuel shutoff control.

8.1.9.4 Dispensing devices shall have a listed or approved emergency shutoff valve, incorporating a fusible link or other thermally actuated device designed to close automatically in case of fire.

8.1.9.5 The emergency shutoff valve also shall incorporate a shear section that automatically shuts off the flow of fuel due to severe impact.

8.1.9.6 The emergency shutoff valve shall be rigidly mounted at the base of the dispenser in accordance with the manufacturer's instructions.

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8.1.10 Fire Protection.

8.1.10.1 Each facility shall have a minimum of one fire extinguisher with a rating of at least 40-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent located at the dispenser.

8.1.10.2 At least one fire extinguisher with a rating of at least 40-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent shall be provided at each emergency fuel shutoff control.

8.1.11 Marking and Labeling.

8.1.11.1 Emergency instructions shall be conspicuously posted in the dispensing area and at the emergency fuel shutoff control.

8.1.11.2 Emergency instructions shall incorporate the following or equivalent wording:

EMERGENCY INSTRUCTIONS

IN CASE OF FIRE OR SPILL

- (1) Use emergency fuel shutoff.
- (2) Report accident by calling (specify local fire emergency reporting number) on phone.
- (3) Report address of site (list address of site here).

8.1.11.3 Operating Instructions. Operating instructions shall be posted.

8.1.11.4 The operating instructions shall include the following:

- (1) Proper operation and use of all equipment
- (2) Correct bonding procedures
- (3) Procedures to be employed to dispense fuel safely
- (4) Location and use of the emergency fuel shutoff controls
- (5) Procedures to be used in the event of an emergency

8.2 Operations.

8.2.1 Security. Access to dispensing equipment shall be controlled by means of mechanical or electronic devices designed to resist tampering and to prevent access or use by unauthorized persons.

8.2.2 Training. (Reserved)

8.2.3 Prevention and Control of Spills. (Reserved)

8.2.4 Emergency Fuel Shutoff. (Reserved)

8.2.5 Bonding. (Reserved)

8.2.6 Monitoring of Fuel Flow. (Reserved)

8.2.7 Fire Protection. (Reserved)

8.2.8 Maintenance. (Reserved)

8.2.9 Occupancy. The aircraft shall not be occupied during self-service fueling.

Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.1.1.2 Additional guidance can be obtained from other documents, including, but not limited to: AIA Spec 103, ASTM

MNL5, API 607, API RP 1595, API RP 2003, EI 1529, EI 1540, EI 1550, EI 1581, EI 1583, EI 1590, EI 1596, JIG 4, NATA *Refueling and Quality Control Procedures for Airport Service and Support Operations*, NIST Handbook 44, PEI RP-1300, PEI RP100, PEI RP200, PEI RP800, OSHA regulations in 29 CFR, FAA AC-150-5230, and/or EPA regulations in 112 (Oil Pollution Prevention) and 280 (Underground Tanks).

A.1.2 Aircraft fuel servicing involves the transfer of a flammable or combustible liquid fuel between a bulk storage system and the fuel tanks of an aircraft. It includes both fueling and defueling. The transfer is usually accomplished by using a tank vehicle, a hydrant vehicle, a hydrant cart, a fuel servicing cabinet, or a fueling pit. Drums and pumps sometimes are used. The movement of the fuel through the pumps, piping, and filters of the transfer system causes the fuel to be charged electrostatically. If the charge on the fuel is sufficiently high when it arrives at the fuel tank, a static spark could occur that can ignite the fuel vapor.

During overwing fueling, the fuel is discharged into an opening in the aircraft fuel tank using a hose with a hand-held nozzle. The flow and splashing of fuel causes the generation of static electricity and the production of flammable mists and vapors. Top loading of tank vehicles creates similar hazards.

Underwing servicing, hydrant servicing, and bottom loading of tank vehicles use hoses or flexible connections of metal tubing or piping, as well as devices to allow temporary connection of fuel transfer lines. These methods minimize the charge generation and misting hazards associated with overwing fueling and top loading.

Other potential sources of ignition that could present a hazard during aircraft fuel servicing include the following:

- (1) Operating aircraft engines, auxiliary power units, and heaters
- (2) Operating automotive or other internal combustion engine servicing equipment in the vicinity
- (3) Arcing of electrical circuits
- (4) Open flames
- (5) Energy from energized radar equipment
- (6) Lightning

The autoignition temperatures of turbine fuels (*see Annex B*) are such that the residual heat of aircraft turbine engines after shutdown or the residual heat of turbine aircraft brakes following hard use can ignite such fuels if they are spilled or sprayed on these surfaces before they have cooled below the autoignition temperatures of the fuels.

Aircraft fuel tank vents usually are located some distance above ground level. Under normal conditions, fuel vapors from the vents are quickly dissipated and diluted safely. Fuel spilling from the vents of an overfilled tank is a much more serious hazard. Spills resulting from leaks or equipment failure also are a hazard.

Fire prevention measures in aircraft fuel servicing are directed principally toward the following:

- (1) Prevention of fuel spillage
- (2) Elimination or control of potential ignition sources

A.3.2.1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installa-

tions, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 Authority Having Jurisdiction (AHJ). The phrase "authority having jurisdiction," or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or department official may be the authority having jurisdiction.

A.3.2.4 Listed. The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

A.3.3.8 Aviation Fuel. See Annex B.

A.3.3.11 Cargo Tank. The term *cargo tank* does not apply to any container used solely for the purpose of supplying fuel for the propulsion of the vehicle on which it is mounted.

A.3.3.16 Fuel Servicing Station. This unit can be installed in a cabinet above or below ground.

A.4.1.4 The section on aircraft refueling hose has been altered extensively by referencing EI 1529. NFPA 407 formerly contained many requirements for hose, but these were intended to address only those features that could be related to a fire or the results of a fire. It was not until 1982 that a comprehensive aircraft refueling hose specification was published by the American Petroleum Institute (API). Prior to that time, NFPA 407 was the only document in existence that addressed this subject. In 2010, the API transferred responsibility for aviation fuel-handling standards to the Energy Institute (EI).

EI 1529 deals with all aspects of hose safety, including the couplings that are acceptable.

NFPA 407 recognizes the need for an extensive document such as EI 1529 and requires hoses that meet that standard. However, it is important to recognize that EI does not perform testing and that it does not regulate those manufacturers who claim to sell hose that meets EI 1529. The hose user and the cognizant authority having jurisdiction could find it prudent to require hose manufacturers to produce copies of test reports or documents that certify that hoses of identical construction and compounds have been tested and have passed all requirements of EI 1529 satisfactorily.

A.4.1.4.3.6 Splicing of a hose with couplings alters the design bend radius of the hose, creating two kinks when the hose is wound on a drum.

A.4.1.5.9 The charge on the fuel can be reduced by the use of a static dissipater additive that increases the electrical conductivity of the fuel and thereby allows the charge to relax or dissipate more quickly, or by the use of a relaxation chamber that increases the residence time of the fuel downstream of the filter to at least 30 seconds, thereby allowing most of the charge to dissipate before the fuel arrives at the receiving tank.

API RP 2003 recommends a 30-second relaxation time for loading tank trucks and refuelers. However, it has not been a common practice to require a similar relaxation time for aircraft refueling, primarily because of the relatively few electrostatic incidents that have occurred during aircraft fueling. (For additional information on this topic, see CRC Report No. 583.)

In filling tank trucks or storage tanks, API RP 2003 recommends that at least 30 seconds of residence time be provided downstream of a filter in order to allow static charges generated in flowing fuel to relax before fuel enters the tank.

The reason it is possible to fuel aircraft safely with low conductivity fuel without providing 30 seconds of relaxation time is due primarily to the difference in the geometry of aircraft tanks as compared with tank truck compartments. Flow into the aircraft normally is subdivided into several tanks simultaneously and also distributed into adjoining compartments of each tank by a multihole inlet. Bachman and Dukek (1972) conducted full-scale research using a simulated large aircraft tank and concluded that none of the tanks or compartments hold sufficient fuel to allow enough charges to accumulate and create large surface voltages. Slower fill rates per compartment also allow more charge to relax.

Additionally, the inlet system of most aircraft tanks directs fuel toward the bottom of the tank to avoid splashing that generates more charge. Finally, while the hoses that connect the fueler to the aircraft provide only a few seconds of residence time for charge relaxation at high rates of flow, the actual relaxation volume in the system is significantly greater where a coated screen is used as a second stage water barrier. In this case, the vessel's volume after the first stage filter coalescer could represent an additional 15 seconds of residence time for charge relaxation. (The coated screen, unlike other water barriers, does not generate charge.)

A flammable vapor space in the tank due to the presence of JET B or JP-4 fuels still constitutes a potential hazard. Therefore, to minimize the chance for static ignition, FAA regulations require that fueling be conducted at half of the rated flow where civil aircraft have used such fuels.

A.4.1.10.1 Carbon dioxide extinguishers should not be selected due to their limited range and effectiveness in windy conditions.

A.4.1.10.3 Multipurpose dry chemical (ammonium phosphate) fire-extinguishing agent is known to cause corrosion to aircraft components. Although the agent is capable of extinguishing fires on or near aircraft, it is likely that the agent will spread to other, uninvolved aircraft, causing damage from corrosion.

A.4.1.12.2 The beam of radar equipment has been known to cause ignition of flammable vapor-air mixtures from inductive electric heating of solid materials or from electrical arcs or sparks from chance resonant conditions. The ability of an arc to ignite flammable vapor-air mixtures depends on the total energy of the arc and the time lapse involved in the arc's duration, which is related to the dissipation characteristics of the energy involved. The intensity or peak power output of the radar unit, therefore, is a key factor in establishing safe distances between the radar antenna and fueling operations, fuel storage or fuel loading rack areas, fuel tank truck operations, or any operations where flammable liquids and vapors could be present or created.

Most commercially available weather-mapping airborne radar equipment operates at peak power outputs, varying from 25 kW to 90 kW. Normally this equipment should not be operated on the ground. Tests have shown that the beam of this equipment can induce energy capable of firing flash bulbs at considerable distances. If the equipment is operated on the ground for service checking or for any other reason, the beam should not be directed toward any of the hazards described in the previous paragraph that are located within 30 m (100 ft). Higher power radar equipment can require greater distances.

Airport surface detection radar operates under a peak power output of 50 kW. It is fixed rather than airborne equipment.

Airborne surveillance radar of the type currently carried on military aircraft has a high peak power output. Aircraft carrying this type of radar can be readily distinguished by radomes atop or below the fuselage, or both.

Aircraft warning radar installations are the most powerful. Most of these installations are, however, remotely located from the hazards specified in the first paragraph and therefore are not covered herein. Ground radar for approach control or traffic pattern surveillance is considered the most fire hazardous type of radar normally operating at an airport. The latter type of equipment has a peak power output of 5 MW. Where possible, new installations of this type of equipment should be located at least 150 m (500 ft) from any of the hazards described in the first paragraph.

A.4.2.2.1 Records should be kept of personnel training. These records should be made available to the authority having jurisdiction upon request.

A.4.2.2.2 Fuel servicing personnel should be given adequate training with extinguishers so that such equipment is used effectively in an emergency. Such training should be given on fires of the type that could be encountered on the job. To ensure prompt action in the event of a spill or other hazardous condition developing during fueling operations, aircraft servicing personnel also should be trained in the operation of emergency fuel shutoff controls. Each new fuel servicing employee should be given indoctrination training covering these and similar safety essentials that are related to the job. Follow-up and advanced training should be given as soon as the employee is sufficiently acquainted with the work to benefit from such training. Supervisors should be given training in the more technical aspects of fire safety so that they understand the reason for these and similar requirements and have an appreciation for the responsibility of a supervisor and the safety of an operation.

A.4.2.3 The following actions are appropriate in the event of a fuel spill, although each spill should be treated as an individual case due to such variables as the size of the spill, type of flammable or combustible liquid involved, wind and weather conditions, equipment arrangement, aircraft occupancy, emergency equipment, and personnel available:

- (1) The flow of fuel should be stopped, if possible. If the fuel is discovered leaking or spilling from fuel servicing equipment or hoses, the emergency fuel shutoff should be operated at once. If the fuel is discovered leaking or spilling from the aircraft at the filler opening, vent line, or tank seams during fueling operations, fueling should be stopped immediately. Evacuation of the aircraft should be ordered when necessary. The aircraft then should be thoroughly checked for damage or entrance of flammable liquid or vapors into any concealed wing or fuselage area, and corrective action should be taken as necessary before it is returned to normal operational service.
- (2) The airport fire crew should be notified if the spill presents a fire hazard. The only routine exceptions are for small spills. Supervisory personnel should be notified to ensure that operations in progress can be continued safely or halted until the emergency is past and that corrective measures can be taken to prevent recurrence of a similar accident.
- (3) It could be necessary to evacuate the aircraft if the spill poses a serious fire exposure to the aircraft or its occupants. Walking through the liquid area of the fuel spill should not be permitted. Persons who have been sprayed with fuel or had their clothing soaked with fuel should go to a place of refuge, remove their clothing, and wash. Individuals whose clothing has been ignited should be wrapped in blankets, coats, or other items or should be told to or forced to roll on the ground.
- (4) Mobile fueling equipment and all other mobile equipment should be withdrawn from the area or left as is until the spilled fuel is removed or made safe. No fixed rule can be made as fire safety varies with circumstances. Shutting down equipment or moving vehicles can provide a source of ignition if no fire immediately results from the spillage.
- (5) Aircraft, automotive, or spark-producing equipment in the area should not be started before the spilled fuel is removed or made safe. If a vehicle or cart engine is running at the time of the spill, it normally is good practice to drive the vehicle away from the hazard area unless the hazard to personnel is judged too severe. Fuel servicing vehicles or carts in operation at the time of the spill should not be moved until a check is made to verify that any fuel hose that could have been in use or connected between the vehicle and the aircraft is safely stowed.
- (6) If any aircraft engine is operating at the time of the spill, it normally is good practice to move the aircraft away from the hazard area unless air currents set up by operating power plants would aggravate the extent or the nature of the existing vapor hazard.
- (7) If circumstances dictate that operating internal combustion engine equipment within a spill area that has not ignited should be shut down, engine speeds should be reduced to idle prior to cutting ignition in order to prevent backfire.

- (8) The volatility of the fuel can be a major factor in the initial severity of the hazard created by a spill. Gasoline and other low flash point fuels at normal temperatures and pressures produce vapors that are capable of forming ignitable mixtures with the air near the surface of the liquid, whereas this condition does not normally exist with kerosene fuels (JET A or JET A-1) except where ambient temperatures are 38°C (100°F) or above or where the liquid has been heated to a similar temperature.
- (9) Spills of gasoline and low flash point turbine fuels (JET B) greater than 3 m (10 ft) in any dimension and covering an area of over 5 m² (50 ft²) or that are of an ongoing nature should be blanketed or covered with foam. The nature of the ground surface and the existing exposure conditions dictate the exact method to be followed. Such fuels should not be washed down sewers or drains. The decision to use a sewer or drain should be made only by the chief of the airport fire brigade or the fire department. If fuels do enter sewers, either intentionally or unintentionally, large volumes of water should be introduced to flush such sewers or drains as quickly as possible to dilute the flammable liquid content of the sewer or drain to the maximum possible extent. Normal operations involving ignition sources (including aircraft and vehicle operations) should be prohibited on surface areas adjacent to open drains or manholes from which flammable vapors could issue due to the introduction of liquids into the sewer system until it can be established that no flammable vapor-air mixture is present in the proximity. (NOTE: NFPA 415 provides further information on aircraft fueling ramp drainage designs to control the flow of fuel that could be spilled on a ramp and to minimize the resulting possible danger.)
- (10) Spills of kerosene grades of aviation fuels (JET A or JET A-1) greater than 3 m (10 ft) in any dimension and covering an area of over 5 m² (50 ft²) or that are of an ongoing nature and that have not ignited should be blanketed or covered with foam if there is danger of ignition. If there is no danger of ignition, an absorbent compound or an emulsion-type cleaner can be used to clean the area. Kerosene does not evaporate readily at normal temperatures and should be cleaned up. Smaller spills can be cleaned up using an approved, mineral-type, oil absorbent.
- (11) Aircraft on which fuel has been spilled should be inspected thoroughly to ensure that no fuel or fuel vapors have accumulated in flap well areas or internal wing sections not designed for fuel tankage. Any cargo, baggage, express, mail sacks, or similar items that have been wetted by fuel should be decontaminated before being placed aboard any aircraft.

A.4.2.5 Hydrocarbon fuels, such as aviation gasoline and JET A, generate electrostatic charge when passing through the pumps, filters, and piping of a fuel transfer system. (The primary electrostatic generator is the filter/separator that increases the level of charge on a fuel by a factor of 100 or more as compared with pipe flow.) Splashing, spraying, or free-falling of the fuel further enhances the charge. When charged fuel arrives at the receiving tank (cargo tank or aircraft fuel tank), one of two possible events will occur:

- (1) The charge will relax harmlessly to ground.
- (2) If the charge or the fuel is sufficiently high, a spark discharge can occur. Whether or not an ignition follows

depends on the energy (and duration) of the discharge and the composition of the fuel-air mixture in the vapor space (i.e., whether or not it is in the flammable range).

The amount of charge on a fuel when it arrives at the receiving tank, and hence its tendency to cause a spark discharge, depends on the nature and amount of impurities in the fuel, its electrical conductivity, the nature of the filter media (if present), and the relaxation time of the system [i.e., the residence time of the fuel in the system between the filter (separator) and the receiving tank]. The time needed for this charge to dissipate is dependent upon the conductivity of the fuels; it could be a fraction of a second or several minutes.

No amount of bonding or grounding prevents discharges from occurring inside a fuel tank. Bonding ensures that the fueling equipment and the receiving tank (aircraft or fueler) are at the same potential and provides a path for the charges separated in the fuel transfer system (primarily the filter/separator) to combine with and neutralize the charges in the fuel. Also, in overwing fueling and in top loading of cargo tanks, bonding ensures that the fuel nozzle or the fill pipe is at the same potential as the receiving tank, so that a spark does not occur when the nozzle or fill pipe is inserted into the tank opening. For this reason, the bonding wire has to be connected before the tank is opened.

Grounding during aircraft fueling or fuel servicing vehicle loading is no longer required because of the following:

- (1) Grounding does not prevent sparking at the fuel surface (see NFPA 77).
- (2) Grounding is not required by NFPA 77.
- (3) The static wire might not be able to conduct the current in the event of an electrical fault in the ground support equipment connected to the aircraft and could constitute an ignition source if the wire fuses. If ground support equipment is connected to the aircraft or if other operations are being conducted that necessitate electrical earthing, separate connections should be made for this purpose. Static electrical grounding points can have high resistance and, therefore, are unsuitable for grounding. For a more complete discussion of static electricity in fuels, see NFPA 77.

A.4.2.5.3.1 Ordinary plastic funnels or other nonconducting materials can increase static generation. The use of chamois as a filter is extremely hazardous.

A.4.2.7.1 Portable fire extinguishers for ramps where fueling operations are conducted are intended to provide an immediate means of fire protection in an area likely to contain a high concentration of personnel and valuable equipment. The prominent and strategic positioning of portable fire extinguishers is essential for them to be of maximum value in the event of an emergency. Extinguishers should not be located in probable spill areas. For normal single parking configurations, extinguishers specified for protection of fuel servicing operations should be located along the fence, at terminal building egress points, or at emergency remote control stations of airport fixed-fuel systems. To provide accessibility from adjoining gates, particularly where more than one unit is specified, extinguishers can be permitted to be located approximately midway between gate positions. Where this is done, the maximum distance between extinguishers should not be over 60 m (200 ft). Where the specified extinguishers are not located along the fence but are brought into the servicing area prior to

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the fueling operation, they should be located upwind not over 30 m (100 ft) from the aircraft being serviced. For protection of fuel servicing of aircraft that are double parked or triple parked, extinguishers should be located upwind not over 30 m (100 ft) from the aircraft being serviced.

A.4.2.7.2 During inclement weather, extinguishers not in enclosed compartments can be permitted to be protected by canvas or plastic covers.

A.4.2.9 Failure of an aircraft fueling hose in service is a potential source of fuel spillage and a potential fire hazard. The principal reasons for failure of aircraft fueling hoses include the following:

- (1) Using damaged hoses
- (2) Using aged hoses
- (3) Exceeding hose pressure limits
- (4) Installing hoses improperly

A.4.2.9.5.1 Particular attention should be paid to the 305 mm (12 in.) adjacent to the couplings. These areas are prone to premature failure.

A.4.2.10 Establishing precise rules for fueling is impossible when the electrical storms are in the vicinity of the airport. The distance of the storm from the airport, the direction in which it is traveling, and its intensity are all factors to be weighed in making the decision to suspend fueling operations temporarily. Experience and good judgment are the best guides. Sound travels approximately 322 m/sec (15 mi/sec). The approximate number of miles to the storm can be determined by counting the seconds between a flash of lightning and the sound of thunder and dividing by 5.

A.4.2.11.1.3 The precautions in 4.2.11.1.3 and 4.2.11.1.4 are intended to minimize the danger of the ignition of any flammable vapors discharged during fueling and of fuel spills by sources of ignition likely to be present in airport terminal buildings.

A.4.2.12.1 Electric hand lamps used in the immediate proximity of the fueling operation should be of the type approved for use in *NFPA 70*, Class I, Division 1, Group D hazardous locations. No supportable basis exists for requiring, in the petroleum industry, the use of approved, listed, or permitted two- or three-cell flashlights to avoid igniting Class I, Group D vapors.

A.4.2.12.1.2 Aircraft ground-power generators should be located as far as practical from aircraft fueling points and tank vents to reduce the danger of igniting flammable vapors that could be discharged during fueling operations at sparking contacts or on hot surfaces of the generators.

A.4.2.12.1.5 For further information on intrinsically safe apparatus, see ANSI/UL 913, FM Class 3610, or ANSI/UL 60079-11.

A.5.1.2.1 Where pressure tanks are used, details on construction, spacing, and location should be in accordance with industry good practice and approved by the authority having jurisdiction. When AVGAS, MOGAS, or JET B turbine fuels are stored in bulk quantities in aboveground tanks, they should be stored in floating roof-type tanks. Covered floating roof tanks minimize the hazardous flammable vapor-air space above the liquid level. The vapor spaces of underground tanks storing fuels should not be interconnected.

A.5.1.3.10.2 It is expected that some joints may leak under fire exposure; however, the joint itself should not come apart.

A.5.1.3.14 Flanged connections should be provided for ease of dismantling and to avoid cutting and welding after the system has been placed in service. The location of these isolation devices depends upon the size and character of each system, but the following locations generally apply (see *Figure A.5.1.3.14*):

- (1) At each storage tank
- (2) At each pump
- (3) At each filter separator
- (4) At each hydrant or on each hydrant lateral
- (5) At each flow regulator or pressure control valve

A.5.1.3.17 Cathodic protection is recommended for metal components of airport fueling systems and fuel storage facilities that are in contact with the ground. The two types of cathodic protection are as follows:

- (1) Galvanic anode method, which generates its own current
- (2) Impressed current method, which has an external current source

A.5.1.7.1 Deadman controls should be designed so that the operator can use them comfortably while wearing gloves and hold them for the time needed to complete the operation. A pistol grip deadman device that is squeezed to operate is preferable to a small button that needs to be held by a thumb or finger.

A.5.1.7.2.2 The overshoot of pressure control release, V_{max} , should be calculated by the following equation:

$$V_{max} = Q \times 1 \text{ min} \times 0.05 \quad [\text{A.5.1.7.2.2}]$$

where:

Q = actual fuel flow rate, L/min (gal/min)

Example

If the actual fuel flow rate at the time of deadman control release is 1500 L/min (400 gpm), total overshoot must not exceed 75 L/min (20 gal/min).

A.5.1.7.3 Hydrant valves and couplers should be in accordance with EI 1584.

A.5.1.7.5 Where surge suppressors are necessary, they should be located so that exposure to vehicular traffic, weather conditions, and the result of accidental rupture is minimized.

A.5.1.9.4 Fuel transfer by pumping is the more common procedure and normally is preferred from a fire protection standpoint, since it allows rapid shutdown of fuel flow through pump shutdown. Gravity transfer is the simplest method but normally is limited to relatively low flow rates. Because the static head does exert some pressure in the system, a safety shutdown should include a valve or valves located as close to the tank as practicable.

A.5.1.9.6 The operation of the emergency shutoff control should sound an alarm at the airport fire crew station and at the fuel storage facility.

A.5.2.1 The airport perimeter fence can be sufficient to meet this requirement.

A.6.1.3.12.2.3 An optional precaution against misfueling of aircraft fuel servicing tank vehicles is to equip the coupler and truck fitting with coded lugs or a mechanical device to ensure

product selection and to prevent mixing of products. This might not be feasible on over-the-road-type tank vehicles.

A.6.1.6.4 Electrical equipment contained in aircraft fuel servicing vehicles or cart engine compartments and located 460 mm (18 in.) or more above ground can be permitted to be of the general-purpose type.

A.6.1.7.1 See A.5.1.7.1.

A.6.1.7.4.2 See A.5.1.7.2.2.

A.6.1.10.8.1 It is not the intent of 6.1.10.8.1 to prohibit 12 V power outlets. The intent is to prohibit glowing elements.

A.6.1.13.1 Wherever possible, flexible engine exhaust pipe should be avoided due to the potential of breaking. Where used, stainless steel is preferable, and the length should be limited to approximately 460 mm (18 in.).

A.6.1.13.7 The requirement for spark-arresting exhaust systems is not intended to extend to diesel engines equipped with turbochargers. The USDA Forest Service, the governmental body that regulates the spark arrester standard, clearly identifies that all diesel engines with a turbocharger and no waste gate (also clearly identified therein) are exempt from the requirements to have an additional spark-arresting device.

A.6.2.1.3 The use of tunnels or enclosed roadways is discouraged. Where there is no alternate route, and the fuel servicing vehicle requires the use of a tunnel or enclosed roadway, the authority having jurisdiction should examine the following considerations:

- (1) Length
- (2) Clearances

- (3) Fixed fire suppression or extinguishing systems
- (4) Frequency of use
- (5) Ventilation
- (6) Overlying structures and operations
- (7) Other traffic
- (8) Fire department access
- (9) Emergency egress
- (10) Drainage
- (11) Other conditions

A.6.2.10.4 The size of the DPF regeneration area depends on the equipment being used (fleet size). The authority having jurisdiction should designate the size and number of DPF regeneration pads and determine whether a centralized facility is advantageous.

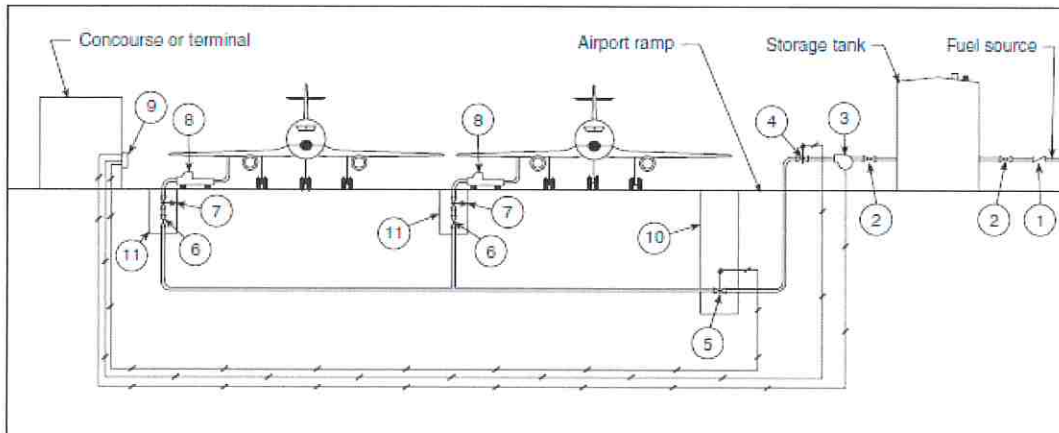
Annex B Aviation Fuel

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

B.1 General. The fire hazard properties of aviation fuels are best described by analyzing the factors described in B.2 and B.3.

B.2 Susceptibility to or Ease of Ignition.

B.2.1 Flash Point. The flash point of standard grades of aviation gasoline has been established at approximately -46°C (-50°F) at sea level by the Tag closed-cup method. The flash point of JET B turbine fuel is not regulated by specification, but samples have been tested by the closed-cup method and have been found to be as low as -23°C (-10°F) at sea level. JET A- or kerosene-grade turbine fuels have a minimum flash point of 38°C (100°F).



Note: No dimensional relationship exists between elements in this figure. Refer to this standard; NFPA 30, *Flammable and Combustible Liquids Code*; NFPA 70, *National Electrical Code*; and FAA Regulations for separations and clearances.

Key:

- | | |
|--|--------------------------------------|
| 1. Check valve at tank inlet | 6. Hydrant shutoff valve |
| 2. Isolation valve at tank inlet/outlet | 7. Hydrant pit valve |
| 3. Pumping system | 8. Hydrant fueling servicing vehicle |
| 4. Pump discharge control valve or hydrant system shutoff valve (alternate location) | 9. Emergency fuel shutoff station |
| 5. Hydrant system shutoff valve (alternate location) | 10. Valve box |
| | 11. Hydrant pit |

FIGURE A.5.1.3.14 Typical Fixed Airport Fueling System Isolation Valving Operating and Emergency Controls.

Aviation gasoline and JET B turbine fuels produce large volumes of vapor and are capable of forming ignitable mixtures with air even at very low temperatures. Kerosene grades of turbine fuel (JET A) do not produce ignitable mixtures with air at normal temperatures and pressures, but when a JET A turbine fuel is heated above its flash point (or exists in the form of a mist), the mixture can be ignited. This condition can develop where temperatures are 38°C (100°F) or higher.

B.2.2 Flammability Conditions. The lower limit represents the minimum concentration while the upper limit defines the maximum amount of fuel vapors in air that allows combustion. The generally accepted flammability range by volume for most gasolines is 1.4 percent to 7.6 percent. The average range for JET B turbine fuels is 1.16 percent to 7.63 percent. The average range for kerosene-grade (JET A) turbine fuels is 0.74 percent to 5.32 percent.

More significant than the strict flammability range is the temperature range in which it is possible for such flammable vapor-air mixtures to form. At sea level in a storage tank, such a temperature range for aviation gasoline is approximately -46°C to -1°C (-50°F to 30°F); for JET B turbine fuels, the range is approximately -23°C to 27°C (-10°F to 80°F); and, for kerosene-grade (JET A) turbine fuels, the range is approximately 38°C to 74°C (100°F to 165°F). It is evident that JET B turbine fuels represent the most serious practical hazard under normal temperature conditions.

Air enters as vented tanks are drained, and, during such periods, the flammable vapor conditions can change drastically. The same change occurs when the aircraft descends in altitude. These facts are important in assessing the degree of hazard that could exist in a tank containing any of these volatile products during or after such air mixing.

Under aircraft crash impact conditions where fuel mists are created following tank failures, all of the fuels are readily ignitable at essentially all ambient temperatures. Under these conditions, fuel in mist form presents a hazard equal to fuel in vapor form with respect to flammability limits.

B.2.3 Vapor Pressure. The vapor pressure of these fuels is the pressure of the vapor at any given temperature at which the vapor and liquid phases of the substance are in equilibrium in a closed container. Such pressures vary with the temperature, but, most commonly, information on hydrocarbon mixtures is obtained using the Reid method, in which the pressures are measured at 38°C (100°F) (see ASTM D323). The Reid vapor pressures of average grades of aviation gasoline have a range of 38 kPa to 48 kPa (5.5 psi to 7.0 psi). For JET B turbine fuels, the Reid vapor pressure range is 14 kPa to 21 kPa (2.0 psi to 3.0 psi). JET A (kerosene-grade) turbine fuels have a Reid vapor pressure range of approximately 0.7 kPa (0.1 psi).

The practical significance of this characteristic of the three grades of fuel is that the standard grades of aviation gasoline do produce flammable vapors in ignitable amounts at normal temperatures and pressures. However, where these vapors are confined, the vapor-air mixture over the liquid surface most often is too rich to be ignited by sparks, since it is above the upper flammability limit. With JET B turbine fuel, due to its relatively low vapor pressure, the vapor-air mixture above the liquid surface under normal temperature and pressure conditions frequently is within the flammability range. This means that ignition of JET B turbine fuel vapors either within or exterior to a tank can cause violent combustion within the confined

space if flame enters. The JET A (kerosene-grade) turbine fuels do not produce flammable vapors in ignitable amounts unless the fuel temperature is above 38°C (100°F).

B.2.4 Autoignition Temperature. The autoignition temperature is the minimum temperature of a substance that will initiate or cause self-sustained combustion independently of any sparks or other means of ignition.

Under one set of test conditions, standard grades of aviation gasoline have ignition temperatures of approximately 419°C (840°F). Turbine fuels have ignition temperatures among the lowest found for hydrocarbons and are considerably lower than those for aviation gasoline. For example, the autoignition temperature of a JET B turbine fuel was measured using the same test procedure at approximately 249°C (480°F). A JET A (kerosene-grade) turbine fuel tested under the same method was found to have an autoignition temperature of approximately 246°C (475°F). Temperatures in this range can exist for a considerable period in turbine engines after shutdown or on brake surfaces following hard use.

It should be noted that these temperatures are derived from reproducible laboratory test procedures, whereas, in actual field conditions, these ignition temperatures could be higher.

B.2.5 Distillation Range. The initial and the end boiling points of standard grades of aviation gasoline are approximately 43°C and 163°C (110°F and 325°F), respectively. The initial boiling point of JET B turbine fuels is approximately 57°C (135°F), and the end point is approximately 252°C (485°F). The only marked difference in the distillation ranges of the three fuels under consideration occurs in the JET A or kerosene-grades of turbine fuels that have initial boiling points of approximately 163°C (325°F) and end points of approximately 300°C (572°F). Note that initial and end boiling points should be determined by ASTM D86.

The boiling range, along with the flash points and vapor pressures of the fuels, indicates the relative volatility of the fuels; the initial and end boiling points indicate the overall volatility of a fuel through its entire distillation range; the flash point and vapor pressures measure the initial tendency of the fuel to vaporize.

B.3 Fire Severity After Ignition.

B.3.1 Heat of Combustion. The net heat of combustion of gasoline normally is quoted as approximately 44.19 kJ/kg (19,000 Btu/lb). For JET B turbine fuels, the average is approximately 43.50 kJ/kg (18,700 Btu/lb), while for JET A (kerosene-grade) turbine fuels it is approximately 43.26 kJ/kg (18,600 Btu/lb).

These figures for heat of combustion clearly indicate that there is little difference in the heats of combustion for these various hydrocarbons that are of significance with regard to fire safety.

B.3.2 Rate of Flame Spread. Where fuel is spilled, there is a marked difference in the rates of flame spread over pools of JET A- or kerosene-grade turbine fuels as compared with the other two types. Under these conditions, a direct relationship exists between the rate of flame spread and the vapor pressures of the materials. A report, entitled *An Evaluation of the Relative Fire Hazards of JET A and JET B for Commercial Flight* (N74-10709) [Hacker and Hibbard, 1973], states that the rate (of flame spread) for JP-4 (JET B) is about 30 times greater than for avia-

tion kerosene (JET A) at the temperatures most often encountered. This is an important factor in evaluating the severity of the fire hazard encountered under these conditions and also is a factor that affects the ease of fire control under similar conditions.

This slower rate of flame propagation for JET A- or kerosene-grade turbine fuels does not occur, however, where the fuel is released as a fuel mist, as frequently results in aircraft impact accidents or where the fuels are heated to or above their flash point. If a flammable or combustible liquid exists in mist form or is at a temperature above its flash point, the speed of flame spread in the mist or vapor is essentially the same, regardless of the liquid spilled.

B.4 Fire Control Factors.

B.4.1 Relative Density. The relative density of a material is commonly expressed as related to water at 16°C (60°F). All these fuels are lighter than water; the relative density of aviation gasolines is normally quoted at about 0.70, JET B turbine fuels at about 0.78, and the JET A (kerosene-grade) fuels at about 0.81.

This means that, with respect to fire control, all of the fuels float on water. This can be a handicap during fire-fighting operations under certain conditions where sizable quantities of spilled fuel are involved.

B.4.2 Solubility in Water. All three of the fuels are essentially nonsoluble in water. Fires involving all three fuels can be handled with regular foam concentrates (as opposed to alcohol types).

The amount of water that is entrained in the fuel due to water contamination is not particularly significant from a fire hazard viewpoint, except for the fact that the amount of water increases the static generation hazard of the fuel.

B.4.3 Standard Grades of Aviation Fuels. Standard grades of aviation fuels include the following:

- (1) Aviation gasoline (AVGAS) includes all gasoline grades of fuel for reciprocating engine-powered aircraft of any octane rating. It has the general fire hazard characteristics of ordinary automotive gasoline (MOGAS).
- (2) JET A and JET A-1 are kerosene grades of fuel for turbine engine-powered aircraft, whatever the trade name or designation. JET A has a -40°C (-40°F) freezing point (maximum); JET A-1 incorporates special low-temperature characteristics for certain operations having a -47°C (-53°F) freezing point (maximum). JP-8 (identical to JET A except for the additive package) and JP-5 (slightly less volatile than either JET A or JET A-1) are used by certain U.S. military forces. JET A and JP-8 are known in the United Kingdom and in many former U.K. areas of influence as AVTUR, whereas JP-5 is similar to the U.K.-designated AVCAT.
- (3) JET B is a blend of gasoline and kerosene grades of fuel for turbine engine-powered aircraft, whatever the trade name or designation. JET B is a relatively wide boiling range volatile distillate having a -51°C (-60°F) freezing point (maximum). JP-4 is one grade of JET B fuel used by U.S. military forces; JP-4 has identical specifications to JET B as they relate to fire hazards. This fuel is known in the United Kingdom as AVTAG.

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D. Compliance

All fueling agents are required by the Airport to comply with NFPA 407 and NFPA 30 fire code standards, and surveillance of all fueling activities on the airport is conducted by the Airport Authority.

E. Inspections of Fueling Facilities

Airport Fire Department personnel conduct inspections of the fueling agent fuel facilities and aircraft fuel servicing vehicle for compliance to the above Airport Fire Safety Fuel Handling Standards every 3 months. These inspections are conducted on or near January 1, April 1, July 1, and October 1, of each year. Follow-up inspections will be conducted when unsatisfactory items are found. A copy of the checklists used by Airport Safety personnel when conducting the inspections and follow-up inspections are included at the end of this section. Inspection records are maintained in the Assistant Director of Operations & Maintenance's office for at least 12 months.

All fueling agents engaged in handling and dispensing aviation fuel are required to take immediate corrective action be taken whenever notified of noncompliance with any of the Airport Safety Fuel Handling Standards. If corrective action cannot be accomplished within a reasonable period of time, the Assistant Director of Operations & Maintenance will notify the FAA by phone, email or mail at:

**Federal Aviation Administration (Central Region Only)
Airports Division, Safety & Standards Branch
901 Locust Street
Kansas City, MO 64106-2325**

816-329-2618/2621/2624

F. Standards Concerning Diesel Particulate Filters (DPF)


When any fueling trucks are equipped with diesel particulate filters the airport will provide a DPF regeneration area as required by NFPA 407, 2017 edition.

G. Training

1. A supervisor with the fuelers, as listed above, will complete an aviation fuel training course in fire safety. The supervisor will receive recurrent training at least once every 24 months. If a new supervisor is hired, he/she will be enrolled in an authorized aviation fuel training course that will be completed within 90 days.
2. All other employees who fuel aircraft, accept fuel shipments, or handle fuel, receive at least initial on-the-job training in fire safety and recurrent training every 24 months from the supervisor mentioned in the previous paragraph.

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3. All fueling agents, engaged in handling and dispensing fuel at the airport, shall submit confirmation to airport management once every 12 months, that the above training standards have been accomplished. The training confirmation records shall be maintained in the Airport Fire Department office for 12 months.
4. Fueling agent personnel training records will be maintained for 24 months at the fueling agents' office.

H. Fuel Spill Reporting and Response

For the purpose of this section, fuel is defined as any petroleum based product in liquid form used to power aircraft, ground service vehicles, and/or stationary power plants.

1. Notification

Immediate notification by the fueling operator or aircraft operator shall be made to the Airport Fire Department at 314-426-8133 should any fuel spill occur or fuel leak be detected. The Airport Fire Department will then notify other Airport Authority departments as necessary.

The reporting party shall provide the Airport Fire Department with the following information:

- a. If the spill is minimal or requires an emergency response
- b. The location of the spill
- c. The nature of the spilled product (gasoline, diesel fuel, jet fuel, AVGAS, hydraulic, or engine oils)
- d. The quantity if known

To determine the appropriate response by the Airport Fire Department, the reporting party shall use the following guidelines:

MINIMAL SPILL

- Product has a flash point at or above 100F
- Product spill covers less than 50 square feet or less than 10 feet in any direction.
- Product has not entered a storm or sanitary drain and is in no immediate danger of doing so.
- Product is not in proximity to an ignition source.

EMERGENCY SPILL

- Product has a flash point below 100F
- Product spill covers over 50 square feet or more than 10 feet in any direction
- Product has entered a storm or sanitary drain
- Product is in proximity to an ignition source

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- Product spill is an immediate hazard to the safety of personnel and/or the general public

2. Roles and Responsibilities

- Airport Fire Department (AFD):** The AFD has the responsibility for protecting life and property at the St. Louis-Lambert International Airport. Any fuel spill must be reported immediately to the AFD at 314-426-8133.
- Airport Operations Center:** The Airport Operations Center has the responsibility for the coordination of activities on the airfield including the airline ramp and gate locations. Any spill/release event reported to the AFD will be relayed to the Operations Center for the coordination of operational activities and the documentation of spill/release events in the Operations Center Logbook.
- Airport Environmental / Safety Department:** The Airport Environmental Regulatory Compliance & Safety Manager of the Airport Environmental / Safety Department has the responsibility for managing the regulatory compliance of affected media (air, soil, and water) pursuant to spills and release of fuels within the constraints of environmental statutes and permit obligations and for managing file storage of the *Spill/Release Notification and Corrective Action* reports submitted pursuant to spills and releases at the Airport.
- Airport Tenant Airlines:** Airport tenant airline management has the responsibility for identifying a point of contact for all spills and releases associated with their operations. The tenant airline has the responsibility for managing spills and releases of potential pollutants from their operations that could potentially enter surface water or infiltrate the subsurface and contaminate ground water.

Tenant airlines have the responsibility to notify the AFD of the spill or release of any hazardous material, hazardous substance, or hazardous waste. Airport tenant airlines have the responsibility for completing and submitting form *Spill/Release Notification and Corrective Action* to the Environmental Regulatory Compliance & Safety Manager within (5) business days of the spill/release event.

- Airport Tenant Fueling Operator:** Airport tenant fueling operational contractor has the responsibility for designating a point of contact for any spill or release of fuel from fueling operation. The fueling contractor has the responsibility for managing fuel spills and releases from all fueling operations at the Airport in accordance with this procedure and the tenant fueling operator's SPCC Plan for the St. Louis-Lambert International Airport.

3. Spill/Release Clean Up

- a. All fuel spills and releases must be cleaned up in a safe and efficient manner as soon as possible following a release in order to protect human health and environmental integrity. Fuel spills and flammable liquid clean ups must address the clean up of fuel from pavement surfaces and if spills enter storm drains, retrievable spills must be removed from the surface of the Cold Water Creek and Cowmire Creek receiving stream.

Clean up shall consist of the following:

- Securing an area adjacent to and encompassing the spill/release to protect personnel.
 - Identifying (if unknown) the spilled material(s).
 - Notification of Airport Fire Department and subsequent notification of local, state, and federal agencies with jurisdiction as required pursuant to statutory environmental regulations.
 - Implement removal and clean up of affected media (pavement surfaces, grass areas, interior spaces, and if affected, storm water sewers and the storm water receiving stream).
 - Disposal of recovered product/waste and affected media restoration (if applicable).
- b. Spill clean up and restoration shall be accomplished without unnecessary delay. All tenant operations shall designate a point of contact for spill response emergencies who will act as a liaison with the Airport Fire Department in the process of spill notification and subsequent clean up.
 - c. The company responsible for a spill/release of reportable quantity of fuel, hazardous material, substance, or waste shall complete and submit the *Spill/Release Notification and Corrective Action* form.

All completed forms must be returned to the Environmental Regulatory Compliance & Safety Manager within 5 business days of a reportable spill/release event. Any changes to operations or logistics as a result of corrective action(s) instituted as a result of spills or releases should be implemented immediately, and those actions should be documented on the aforementioned corrective action document submittal to the Environmental Regulatory Compliance & Safety Manager.

AIRCRAFT FUEL SERVICING VEHICLES

QUARTERLY INSPECTION

Inspector: _____ Fueling Agent: _____ Date: _____

S - Satisfactory	T - Tanker	Truck Number									
U - Unsatisfactory	H - Hydrant	Type Fuel									
R- Remark Below			S	U	R	S	U	R	S	U	R
Fuel trucks parked 50' from bldgs. and 10' apart											
Fuel trucks marked with operator name on both sides											
No Fuel Leaks											
Vehicles Exhaust System - Shielded/Leak free/spark arrestor if required											
No Smoking sign-cab/all 4 sides/No evidence of smoking/No ashtray											
Flammability/Product signs sides-back/Haz Mat placards all sides											
Bonding cables provided and clips/plugs functional											
Fuel Trucks - 2 80-B:C extinguishers min. 20lbs. 1 on each side (No ABC)											
Hydrant vehicles and carts - One 80-B:C extinguisher											
Deadman Control for all nozzles/Not bypassed											
Integral system for nozzles to be stowed before moving fuel vehicles											
Brake interlock system for bottom loading coupler/Overwing nozzles											
Emergency fuel shutoffs operable and properly placard/1 each side											
Acft fueling hose/No blistering, cracking, saturation, separation											
Dry break couplers and adaptors are installed											
Aviation fueling hose used/No Kinks											
Explosion proof electrical/Lights lens intact											
Dome cover seals intact with forward mounted hinge (Tanker Only)											
Truck cabinets have grating type flooring or open flooring											
Vehicle DPF Regeneration Area meets standards, if Applicable											
Proper Fueling Procedures Observed											
Remarks:	FOLLOW UP REQUIRED										

Checklist Based on the 2017 NFPA Fire Code for Airport Fueling Operations

321-35

FAA Approved



Date: AUG 16 2018

AIRPORT FUEL SYSTEMS

QUARTERLY INSPECTION

Inspector: _____ Fueling Agent: _____ Date: _____

S - Satisfactory U - Unsatisfactory R- Remark Below	Jet A Section			100LL Section		
	S	U	R	S	U	R
Entrances to fueling areas posted with No Smoking signs						
Clear display of Hazard Diamond Placard						
No evidence of smoking						
All tanks, machinery, piping is bonded or grounded						
Areas around tanks are free of weeds, trash or combustible materials						
Emergency fuel shutoffs provided for each fueling system/Outside spill area						
Emergency fuel shutoffs provided for each tank vehicle loading station						
Proper EMERGENCY FUEL SHUTOFF placards /7 ft. above grade						
Emergency fuel shutoffs kept clear and tested every 6 months						
Fuel servicing equipment properly maintained free of leaks						
Procedures for prevention & control of spills and notification to fire dept.						
Bonding connections available for loading stations						
Deadman controls available for loading stations/Not bypassing Deadman						
Dry break couplers and adaptors installed						
Aircraft fuel hose/blistering, cracking, carcass saturation, separation, kinks						
Fueling hydrants, pits, cabinets located 50' from bldg. except loading bridges						
80-B:C extinguishers at fuel storage area usually at Emerg Fuel Shutoff						
80-B:C rated extinguisher at each fuel vehicle loading station						
No A:B:C rated DC extinguishers within 500ft of aircraft operating areas						
Wheeled extinguishers on aircraft servicing aprons at gates or 200ft apart						
Explosion proof electrical equipment						
Above ground fuel piping of acft movement area protected by barrier guard						
Remarks:	FOLLOW UP REQUIRED					

Checklist Based on the 2017 NFPA 407 Fire Code for Airport Fueling Operations

321-36

FAA Approved


Date: AUG 16 2018

AIRCRAFT FUEL SERVICING CART

QUARTERLY INSPECTION

Inspector: _____ Fueling Agent: _____ Date: _____

S - Satisfactory U - Unsatisfactory R- Remark Below	Cart Number									
	Type Fuel									
		S	U	R	S	U	R	S	U	R
Fuel cart marked with operator name on both sides										
No Fuel Leaks										
Flammability/Product signs sides-back/Haz Mat placards all sides										
Bonding cables provided and clips/plugs functional										
1 80-B:C extinguisher(No ABC) Hydrant veh & carts										
Deadman Control for all nozzles/Not bypassed										
Emergency fuel shutoffs operable and properly placard/1 each side										
Acft fueling hose/No blistering, cracking, saturation, separation										
Dry break couplers and adaptors are installed										
Aviation fueling hose used/No Kinks										
Proper Fueling Procedures Observed										
Remarks:	FOLLOW UP REQUIRED									

Checklist Based on the 2017 NFPA Fire Code for Airport Fueling Operations

321-37

FAA Approved


 Date: **AUG 16 2018**

139.323 TRAFFIC AND WIND INDICATORS

1. Wind Indicators/Socks

Supplemental wind socks are located at points 1,000 feet inward and to the left of all runway approach ends. Another wind sock is located atop Signature FBO. A final wind indicator/sock is located atop Field Maintenance Building "A".

Lighted wind socks are installed at each end of Runway 6-24, Runway 11-29, Runway 12R-30L, and Runway 12L-30R.

As Lambert Airport has a continuously manned Air Traffic Control Tower, there is no need for a segmented circle and thus Lambert does not have, nor is one planned to be installed here in the future.

2. Procedures for Inspection and Maintenance

Supplemental wind indicators/socks will be inspected as a part of the daily field inspection. Discrepancies will be noted on the Airport Self-Inspection Checklists located in Appendix A and turned over to the Field Maintenance Supervisor and Electric Shop Supervisor for initiation of repairs or corrective actions.

As a rule, wind indicators/socks at Lambert are changed twice a year or when conditions dictate replacement.

139.325 AIRPORT EMERGENCY PLAN

Lambert-St. Louis International Airport®
10701 Lambert International Boulevard, Terminal 1, Room MTN-2276
P.O. Box 10212, Lambert Station
St. Louis, Missouri 63145 U.S.A.
Office Hours: 8:30 a.m. to 5:00 p.m., Monday-Friday
Phone: 314-426-8000/Fax: 314-426-5733
www.flystl.com



LAMBERT-ST. LOUIS
INTERNATIONAL AIRPORT®

January 2016

Rhonda Hamm-Niebruegge
Director of Airports

325-1

FAA Approved

M. Cozad

Date: _____

JAN 25 2016

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325-2

FAA Approved

M. Mullen
Date: JUN 26 2014

139.325 Airport Emergency Plan

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Date: JUN 26 2014

SIGNATURE PAGE

Date	Name	Title	Organization
	Print _____ Signature _____		


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JANUARY, 2007	IV	139.325	No change	No change	
DECEMBER, 2007	V	139.325	Entire section	Entire section	
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JUNE 2014	XIII	139.325	ENTIRE SECTION	ENTIRE SECTION	
FEBRUARY 2015	XIV	139.325	NO CHANGE	NO CHANGE	
JANUARY 2016	XV	139.325	325-1, 325-11, 325-76	325-1, 325-11, 325-76	

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M. Cozad

Date:

JAN 25 2016

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Date of Transmittal	Date Receipt Confirmed	# Copies	Individual & Organization

M. Muller
Date: JUN 26 2014

I. BASIC PLAN

A. FORWARD/INTRODUCTION

1. Lambert-St. Louis International Airport® is owned by the City of St. Louis and is operated as a Class I airport by the City of St. Louis Airport Authority as directed by the City of St. Louis Airport Commission. With over 12 million travelers and 190,000 operations annually, it is critical that this plan ensures an immediate, effective, and organized response to emergency situations. This plan is reviewed and updated on an annual basis to reflect changes in the policies, procedures, and/or operations at the airport
2. The appropriate portions of this plan will be activated for actual or impending situations that require an Airport Authority response to provide for the safety of, and service to, the traveling public, and the communities within the airport environs.
3. It is the intent of this plan to provide general guidance to response personnel in meeting the requirements outlined in 14 CFR Part 139.325, Airport Emergency Plan.

B. PURPOSE

1. The purpose of this Airport Emergency Plan is to define the responsibilities and roles of the various Airport departments, airport tenants, airlines, and Mutual Aid agencies responding to an emergency at Lambert-St. Louis International Airport®.
2. It is not the plan's purpose to define policies or procedures of the various organizations that would be implemented when responding to an emergency, but to define the types of emergencies that may arise and the options for dealing with and controlling them.
3. The response will be varied, as noted in the hazard specific sections, depending upon the type and severity of the emergency. When a notification is made that a response is necessary, the appropriate resources will be activated to respond to the incident at hand. A request for airport resources outside of airport property will be provided, but limited so as not to affect the airport's ARFF Index requirements. Information contained within the functional annexes will focus on operations in general terms and the performance of broad tasks such as what function needs to take place and who is responsible.

C. SITUATIONS AND ASSUMPTIONS

1. The areas covered by this plan and the threats likely to arise are:

- Aircraft Incidents and Accidents
- Disabled Aircraft Removal
- Bomb Threats/Incidents
- Biological/Chemical Terrorism
- Communicable Diseases/Illness
- Crowd Control
- Earthquake (Structural Disaster)
- Structural Fires, Fires at Fuel Farm & Fuel Storage Areas
- Flood
- Hazardous Materials and Radiological Incidents/Spills
- Failure of Power for the Airport
- Sabotage, Hijack, and other Unlawful Interference with Operations
- Tornado/Severe Weather
- Lindbergh Tunnel

2. A "Water Rescue" plan is not presented in this manual due to geographical separation of Lambert Airport and the nearest waterways. The nearest waterways to Lambert Airport are:
 - a. From the western boundary of the airport proper, the Missouri River is approximately 11.3 miles;
 - b. From the northwestern boundary of the airport proper, the Missouri River is approximately 10.7 miles;
 - c. From the northern boundary of the airport proper, the Missouri River is approximately 8.7 miles;
 - d. From the eastern boundary of the airport proper, the Mississippi River is approximately 14.0 miles;
 - e. There are no navigable waterways or other large bodies of water to the southwest, south, or southeast of the airport proper. There are no large bodies of water, lakes, etc. in close proximity to the airport proper.
3. In the event of an aviation accident in any of the above listed waterways, the St. Louis City or County Office of Civil Preparedness, the Captain of the Port of St. Louis and the U.S. Coast Guard shall have jurisdictional control of the site and emergency rescue plans of these agencies shall be implemented.
4. It is possible that one or more of the threats described above will occur at some point in time at the Lambert-St. Louis International Airport®. As a result of our ongoing commitment to education and training, it is our belief that the employees as well as all involved tenants and agencies shall execute their assigned tasks and responsibilities in

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a prompt and efficient manner.

5. We do not anticipate the need for additional emergency assistance but would be prepared step outside of the established parameters and request aid if necessary.
6. The following airport characteristics have been identified as having the potential to affect emergency vehicle response activity. It is our position that the characteristics noted below are inconsequential as we continue to provide ongoing education/training and remain committed towards identifying and resolving concerns before they become a problem.
 - a. The airport is surrounded by major highways and thoroughfares which present the potential for traffic gridlock especially when a traffic accident occurs or during such times as rush hour traffic. The Airport Police Department and surrounding law enforcement agencies are prepared and readily able to assist with the expeditious movement of responding emergency vehicles.
 - b. Access into the airfield itself is controlled by a limited number of access points have the potential to significantly inhibit the flow of incoming and outgoing traffic. Current procedures are in place, which will facilitate ingress and egress through those access points.
 - c. Airport construction projects could pose a potential problem relative to emergency vehicle response unless such issues are identified and resolved. The Airport Authority currently addresses all such concerns in the initial planning stages of construction projects and continues to monitor same through completion.

D. OPERATIONS

General response procedures and actions for implementation of the Airport Emergency Plan (AEP) at Lambert Airport are as follows:

1. TYPES OF ALERTS

a. ALERT I:

An **Alert I** is for any incident, **other than aircraft**, that requires some type of response by airport personnel. This may be anything from an Emergency Medical Services (EMS) assist to a large structural fire that does not threaten aircraft. Personnel of the Airport Fire District, Operations Center, and Airport Police shall be notified in the event of a non-aircraft incident with personnel from each department responding, when needed, as necessary.

b. ALERT II:

An **Alert II** is classified as an aircraft incident. Federal Aviation Regulation Title 49-Transportation, chapter VIII-NTSB, Part 830, defines an “incident” as “an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations”. An emergency **Alert II (an incident)** indicates an aircraft approaching Lambert Airport is in difficulty and is experiencing some type of system or equipment failure or warning (i.e. hydraulic system failure, landing gear warning lights, engine warning lights, etc.). An **Alert II** may also be used to classify an aircraft taxiing on aircraft movement areas or an aircraft parked on the ramp experiencing difficulties that require emergency crew response.

c. ALERT III:

An **Alert III** is classified as an **aircraft accident**. The term, “**Alert III**”, may be used to implement the AEP for any disaster – natural or manmade, that overtaxes the resources assigned to Lambert Airport. Federal Aviation Regulation Title 49 – Transportation, Chapter VIII-NTSB, Part 830, defines an aircraft “accident” as “an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Personnel of the Federal Aviation Administration (FAA) Air Traffic Control Tower (ATCT) shall usually make the notification when an aircraft is involved, although the aircraft owner or others may make notifications as well.

2. IMPLEMENTATION OF THE AIRPORT EMERGENCY PLAN (AEP) DURING ROUTINE WEEKDAY BUSINESS HOURS

- a. In the event of a disaster, the Director of Airports, Airport Manager on Duty (MOD) or the Director’s designee, shall have the authority to initiate the AEP –

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either in its entirety or in a portion determined to be sufficient to handle the situation at hand.

3. IMPLEMENTATION OF THE AIRPORT EMERGENCY PLAN (AEP) DURING NON-BUSINESS HOURS

- a. During non-business hours, it shall be the responsibility of the on duty Operations Center Supervisor to declare a disaster and to initiate the AEP. Assisting the Operations Center Supervisor on the weekends and holidays will be the Airport Manager on Duty (MOD), a designated person on 24-hour standby duty during these periods. It will be assumed that during the week, non-business hours, the Operations Center Supervisor shall be able to contact the Director of Airports, MOD, the Assistant Director of Operations & Maintenance, or the Senior Deputy Director for assistance in initiation of the AEP. Non-business hours are generally considered to be the times from 5:00 p.m. local to 8:30 a.m. local, weekends, and holidays.
- b. Based on the specific disaster and associated needs, Operations Center personnel shall begin making notifications to the various departments and agencies, listed on pages 325-18 thru 325-20, so that they may begin initiating emergency response to the Airport. This list does not necessarily include all of those who shall be notified and at the same time it may not be necessary to notify all in the event of a disaster.
- c. All of the agencies and personnel responding shall be coordinated under the direction of the Incident Commander. Coordination and cooperation between the agencies and personnel shall be continuous until such time as the incident has been terminated.

E. AGENCIES INVOLVED IN THE AIRPORT EMERGENCY PLAN (AEP)

1. The following agencies and personnel can be expected to be contacted for assistance or as a matter of procedure in the event of a disaster occurring at Lambert-St. Louis International Airport®. This list does not necessarily include all of those who shall be notified and at the same time it may not be necessary to notify all of these in the event of a disaster.
2. The order in which they are listed is not necessarily the order in which the Operations Center shall make notification. All phone numbers are maintained in Operations Center files.

Airport Rescue and Fire Fighting (ARFF) District.

Airport Police Department (APD).

Airport Authority Personnel on duty at the Airport. Include employees from the following departments – Airfield Maintenance, Building Maintenance, Climate Control, Electric Shop, Engineering, Environmental/Health & Safety, Finance/Accounting, Fleet Maintenance, Housekeeping, Human Resources/Administration, Information Technology, Materials Management, Operations Center, Operations & Maintenance, Planning & Development, Police, Properties/Contracts, and Public Relations department. In addition, personnel from the Director of Airports' office may be utilized for record keeping and secretarial functions.

Federal Aviation Administration (FAA) Air Traffic Control Tower (ATCT).

FAA Flight Standards District Office.

Lockheed Martin Flight Service Station.

National Transportation Safety Board (NTSB).

Transportation Security Administration (TSA)

Department of Homeland Security (DHS)

Aircraft Owner/Operator.

Airport Interfaith Clergy.

Airport Medical Director.

American Red Cross (ARC)/Red Cross Disaster Team.

City of St. Louis Mayor.

City of St. Louis Emergency Management Agency (CEMA).

St. Louis County Office of Emergency Management (OEM).

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Missouri Department of Natural Resources (MODNR)

Missouri Department of Transportation (MODOT)

Missouri State Highway Patrol.

Federal Bureau of Investigation (FBI).

Salvation Army.

St. Louis City Health Department

St. Louis County Health Department

St. Louis City Medical Examiner.

St. Louis County Medical Examiner.

U.S. Post Office, if carriage of mail is involved in disaster.

Boeing Corporation, if military aircraft are involved.

Signature or ATS Jet Center Fixed Based Operator (FBO)'s for small aircraft removal assistance.


Area hospitals shall be notified by City Fire EMS. List of hospitals with addresses and phone numbers maintained in Operations Center. Names of hospitals contained in this ACM, page 325-90.

Scott Air Force Base, Illinois, Operations, in the event of a national disaster, or incident involving military aircraft.

3. In the event of a disaster or aircraft accident occurring at Lambert Airport, any or all of the above listed personnel/agencies, may be notified to respond to the Airport. All responding personnel and agencies shall be coordinated under the direction of the Incident Commander. Coordination and cooperation between all personnel and agencies shall be continuous until such time that the incident has been terminated.
4. Personnel and agencies noted above have already been contacted by the Operations Center, or an Airport Authority Representative, to determine their full response capabilities. Through the joint cooperation of these agencies and associated personnel, a well-organized and highly effective disaster response is anticipated.
5. The Operations Center, or an Airport Authority Representative, shall contact all agencies and personnel, as listed, no less than once per year to verify and/or amend their response capabilities.

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6. INTER-JURISDICTIONAL RESPONSIBILITIES

- a. The Lambert-St. Louis International Airport® is owned by the City of St. Louis but located in St. Louis County. As a result of this unique relationship, a comprehensive mutual aid system for disaster response was created.

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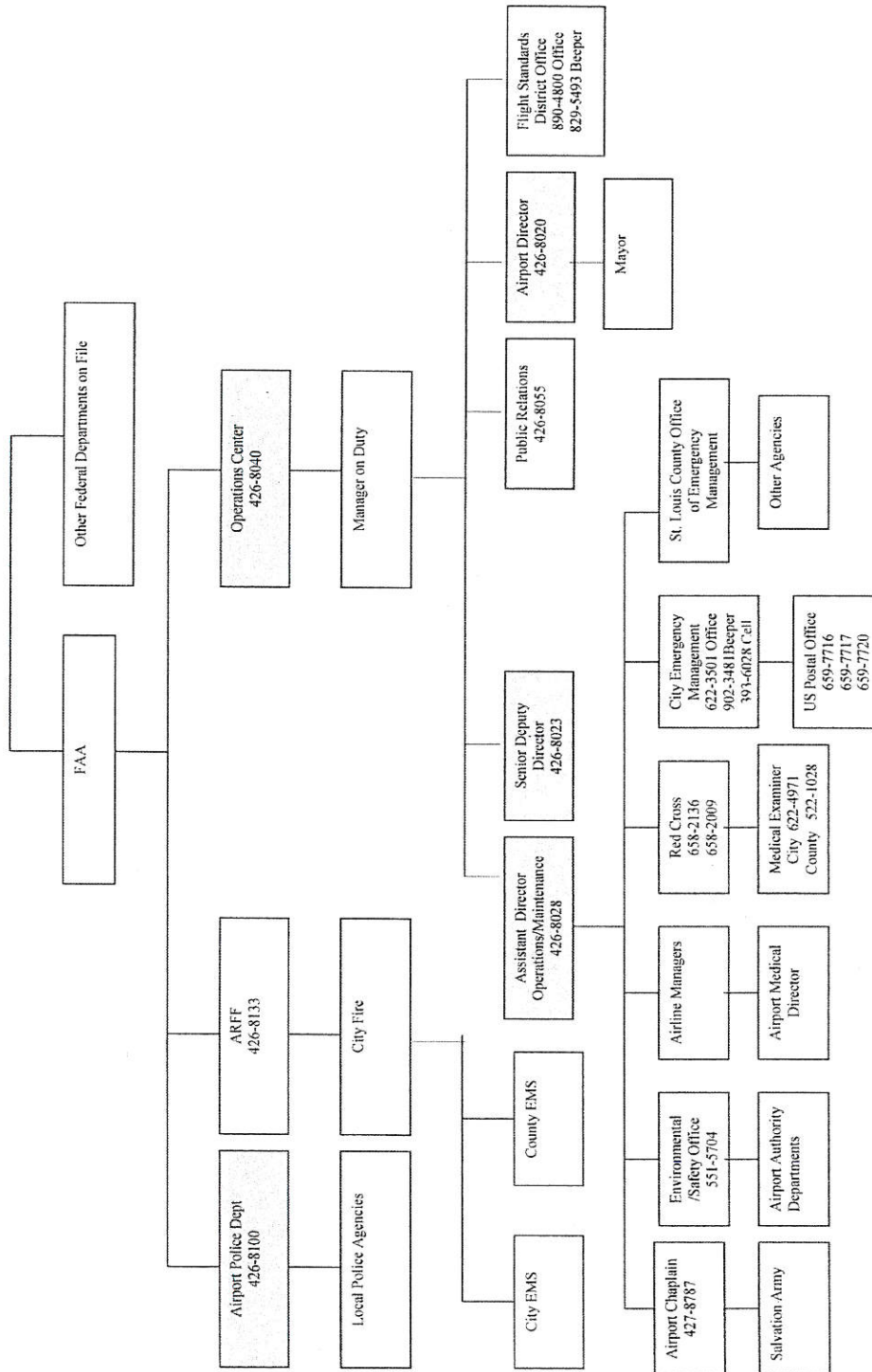
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F. EMERGENCY INFORMATION FLOWCHART

Lambert-St. Louis International Airport
Emergency Information Flowchart



(* Gray boxes reflect the placement of the five crash boxes which are monitored in different locations throughout the Airport Authority offices.

G. RESPONSIBILITY CHART

	Direction & Control	Communications	Alert & Warning	Emergency Public Information	Protective Actions	Law Enforcement	Fire & Rescue	Health & Medical	Resource Management	Operations & Maintenance
Air Traffic Control Tower (ATCT)			S							
Aircraft Rescue and Fire Fighting (ARFF)	P/S		P/S	S	P/S		P	P/S		
City/County Fire							S	P/S		
City EMS								P		
County EMS								P/S		
Airport Police Department (APD)	P/S		S	S	P	P		P/S		
Local Police Agencies						S				
Operations Center	P/S	P/S	P	P/S	S				S	S
Emergency Operations Center (EOC)	P	P		S					S	S
Airport Manager on Duty (MOD)	P/S		S	S	S				S	P/S
Assistant Director of Operations and Maintenance	P/S		S	S	S				S	P/S
Senior Deputy Director	P/S		S	S	S				S	P/S
Information Technology		S								
Public Relations	S	P/S		P						
Director of Airports	P/S		P/S	P/S						P/S
Flight Standards	S									
National Transportation Safety Board (NTSB)	P/S		S	P						
Airport Chaplain								S		
Environmental/Health & Safety Office	P/S		S	S	P/S			S	S	P/S
Airline Managers	S		P/S	P/S	S				S	
American Red Cross (ARC)				S				S		
City Emergency Management Agency (CEMA)				S						
STL County Office of Emergency Management (OEM)				S					S	
Salvation Army								S		
Airport Authority Departments									P	S
Airport Medical Director								P		
STL County/City Medical Examiner								S		
STL County/City Health Department								S		
US Postal Service					S					
Other Agencies					S					

P= = = Primary Responsibility

S= = = Support Responsibility

P/S= = = One of these may be in charge, depending on the nature and scope of the emergency

H. ORGANIZATION & ASSIGNMENT OF RESPONSIBILITIES

1. Air Traffic Control Tower (ATCT)

- a. Make Airport Rescue and Fire Fighting (ARFF) notification and clear all necessary emergency equipment to the scene of the emergency/crash.
- b. Hold all incoming/outgoing aircraft away from the airport or accident site until notified by the Airport Incident Commander that limited or normal operations may be resumed.

2. Aircraft Rescue and Fire Fighting (ARFF)

Proceed to the site of the emergency/crash with all available emergency response vehicles in order to manage and direct firefighting and rescue operations

- a. Establish/maintain radio contact with ATCT for updates.
- b. In charge of rescue operations and initialization of actions to save lives and to protect property.
- c. Preserve wreckage and safeguard flight data/voice recorders until the National Transportation Safety Board arrives to take control of the accident site.

3. City/County Fire

- a. Provide support to ARFF.

4. City Emergency Medical Services (EMS)

- a. Responsible for hospital availability role call.
- b. Provide onsite primary survey to injured individuals, administer casualty identification/erect a flag at the site, then transport to treatment area.
- c. Transfer patients to area hospitals as directed by the EMS Officer.
- a. Provide emergency medical services to the airport during emergency conditions to include triage, stabilization, first aid, and any other necessary medical care.
- b. Coordinate planning, response, and recovery efforts with hospitals, fire/police departments, American Red Cross, Salvation Army, Airport Operator, etc.

5. County Emergency Medical Services (EMS)

- a. Same as City EMS

6. Airport Police Department

- a. Take appropriate actions to assist the movement of emergency EMS vehicles from perimeter gate 17S to the Emergency Supplies Building ramp for staging.
- b. Provide security for the crash site, temporary morgue, in addition to the Aircraft Operations Area (AOA) and Security Identification Display Area (SIDA).
- c. Provide traffic and crowd control.
- d. Provide a photographer to photograph the emergency/crash site as well as the surrounding area and activities.
- e. Coordinate activities with Transportation Security Administration/Department of Homeland Security (TSA/DHS).

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- f. Upon notification the Family and Friends Reception Area is being activated, the Airport Police Department shall follow procedures as outlined in the Family and Friends Reception Area Guideline, page 325-235.
- g. Upon notification the temporary Center is being activated, the Airport Police Department shall follow procedures as outlined in the Survivor Center Guideline, page 325-233.

7. Local Police Agencies

- a. Assist in traffic and crowd control.
- b. Provide general assistance/aid/security as directed by the Airport Incident Commander

8. Operations Center

- a. Senior Operations Supervisor on Duty shall assume Airport Incident Command until relieved by the Airport Manager on Duty (MOD), Assistant Director of Operations & Maintenance, Senior Deputy Director, or Director of Airports (see Director of Airports).
- b. Ensure that all Airport Authority personnel have been notified of actual/impending emergency alerts in addition to notifying the appropriate tenants, air carriers, charter operators, Fixed Base Operators, construction representatives, and others as needed.
- c. Issue appropriate Airport Condition Reports as necessary and as directed.
- d. Monitor all radios in the Operations Center for updates.
- e. Maintain a logbook reflecting all activities prior to, during, and after the emergency/crash.
- f. Provide a communications specialist to the Emergency Operations Center (EOC), if possible, to help monitor communications and help maintain a checklist for the Airport Incident Commander.
- g. If the affected airline requests Airport Operations Center to activate the Family and Friends Reception Area, the Operations Center shall follow procedures as outlined in the Family and Friends Reception Area Guideline, page 325-235.
- h. Upon communication that there are survivors being released from Triage by EMS, Airport Operations shall follow procedures as outlined in the Survivor Center Guideline, page 325-233.

9. Emergency Operations Center (EOC)

- a. Primary function is placement near the scene of the emergency/crash for the coordination of communications and command.
- b. Implement NIMS Incident Command/Unified Command System procedures as warranted.

10. Airport Manger on Duty (MOD)

- a. Assume Airport Incident Command until relieved by the Assistant Director of Operations & Maintenance, Senior Deputy Director, or Director of Airports (see

Director of Airports).

11. Assistant Director / of Operations & Maintenance

- a. Assume Airport Incident Command until relieved by the Senior Deputy Director or Director of Airports (see Director of Airports).

12. Senior Deputy Director

- a. Assume Airport Incident Command until relieved by the Director of Airports (see Director of Airports).

13. Information Technology

- a. Assist/maintain radio communications.
- a. Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.

14. Public Relations

- a. Activate/staff JoAnne Wayne Conference Room or other designated media area.
- b. Prepare press releases and help coordinate any news interviews that may be required.
- c. Coordinate and work with all news media personnel

15. Director of Airports

- a. Approve press releases and prepare for any required news interviews.
- b. Make appropriate calls to agencies and officials as needed.
- c. Oversee rescue/recovery operations in totality.

16. Flight Standards

- a. Oversee/regulate aircraft, airline and pilot operations.
- b. Responsible for giving approval to remove damaged/wrecked aircraft from location as local representative of the National Transportation Safety Board (NTSB).

17. National Transportation Safety Board (NTSB)

- a. Responsible for investigating major and/or fatal aircraft incidents to include determining cause.
- b. Takes custody of aircraft/contents from the time of the accident until such time that the investigation is concluded.
- c. Responsible for approval to remove wreckage and cleanup of scene.

18. Airport Chaplain

- a. Provide support to all involved in rescue/recovery efforts.
- b. Provide support to injured as well as family/friends of casualties.

19. Environmental/Health & Safety Office

- a. Monitor activities to ensure that operations are being conducted at a safe level.

- b. Provide resource information regarding safety equipment, environmental activities, and Hazardous Material (HAZMAT) cleanup.
- c. Coordination/communication with regulatory agencies.

20. Airline Managers

- a. Provide assistance as needed or requested (manpower/equipment).
- b. Assist Airport Authority with Public Relations, casualty notifications, etc.
- c. Assist with aircraft recovery and removal.
- d. Provide any/all aircraft related details, when appropriate, including number of individuals on board, fuel information, and whether or not any dangerous/hazardous materials are being transported.
- e. If the affected airline requests the Airport Operations Center for a Family and Friends Reception Area, the airline shall follow procedures as outlined in the Family and Friends Reception Area Guideline, page 325-235.
- f. Upon communication that there are survivors being released from Triage by EMS, Airport Operations Center shall activate the Survivor Center. The affected airline shall follow procedures as outlined in the Survivor Center Guideline, page 325-233.
- g. Initiate and perform duties in accordance with the air carrier's Aviation Disaster Family Assistance Act (ADFAA) Plan.

21. American Red Cross

- a. Coordinate and provide support services to the victims, families of the victims, and emergency responders according to the Aviation Disaster Family Assistance Act (ADFAA) Plan.

22. City Emergency Management Agency (CEMA)

- a. Coordinates emergency response for major disasters and emergencies pertaining to the City of St. Louis in support of the Lambert-St. Louis International Airport®.
- b. Responsible for planning and conducting training exercises for potential disasters and emergencies which may potentially affect the City of St. Louis in support of the Lambert-St. Louis International Airport®.

23. St. Louis County Office of Emergency Management (OEM)

- a. Same as CEMA except that focus is on St. Louis County.

24. Salvation Army

- a. Provide support services to the victims, families of the victims, and emergency responders.

25. Airport Authority Departments

- a. **Airfield Maintenance**

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- 1) Prepare for relocation of the medical supply/triage trailer to the EMS staging area when instructed.
 - 2) Provide temporary lighting units, heavy equipment, signage, barriers etc. during rescue/recovery operations if needed.
 - 3) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
 - 4) Provide escorts for ambulances and fire department mutual aid equipment from staging areas as needed.
 - 5) Provide additional transportation as requested for the Family and Friends Reception Area.
 - 6) Provide additional transportation as requested for the Survivor Center.
- b. **Building Maintenance**
- 1) Set up the News Media Area in the JoAnne Wayne Conference Room as requested by the PR Manager.
 - 2) Deliver the Portable Hand Washing station to the Triage Area or to a location as directed.
 - 3) When notified, respond to the Family and Friends Reception Area as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - 4) When notified, respond to the Survivor Center as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - 5) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- c. **Climate Control**
- 1) Respond to the Mutual Aid perimeter gates with locks/chains to secure gates as needed.
 - 2) Perform natural gas closures – if needed.
 - 3) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- d. **Electric Shop**
- 1) Maintain, isolate, disconnect, or restore electric power as needed and requested.
 - 2) When notified, respond to the Family and Friends Reception Area as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - 3) When notified, respond to the Survivor Center as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - 4) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- e. **Engineering**
- 1) Provide drawings of utilities in/around the emergency/crash site to the EOC.

- 2) Provide structural damage inspections and assessments to buildings and property.
 - 3) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- f. **Finance/Accounting**
- 1) Implement freeze of all non-essential supply purchases and services (restrict to emergency only).
 - 2) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- g. **Fleet Maintenance**
- 1) Maintain/operate Airport Authority fleet and equipment.
- h. **Housekeeping**
- 1) When notified, respond to the Family and Friends Reception Area as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - 2) When notified, respond to the Survivor Center as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - 3) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- i. **Legal**
- 1) Provide general assistance as requested by the Airport Incident Commander.
 - 2) Provide legal guidance to Resource Management reference issues surrounding Federal/state funding, documentation, reimbursement, etc.
- j. **Materials Management**
- 1) Provide in-house resources as needed during rescue and recovery efforts.
 - 2) Acquire necessary resources from the outside as needed.
 - 3) Provide general assistance, aid, and equipment and other safety equipment, and supplies as requested by the Airport Incident Commander.
- k. **Properties**
- 1) Provide general assistance, aid, and equipment as requested by the Airport Incident Commander.
 - 2) Assist insurance personnel with post accident investigations.

(*Note that the **Fire Department, Police Department, Operations Center, Public Relations,** and the **Environmental/Health & Safety Office** are not addressed here due to already being identified prior to the Airport Authority section.)

26. Airport Medical Director

- a. Responsible for overseeing all medical aspects of emergency operations at Lambert-St. Louis International Airport®.

27. St. Louis County/City Medical Examiner

- a. Responsible for taking charge, and care of, fatalities.

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- b. Assemble fatalities in a temporary morgue until a more suitable location is found.
- c. Attempt to make identification on fatalities

28. St. Louis County/City Health Department

- a. Provide guidance to emergency responders to minimize contamination risks.
- b. Conduct patient interviews as appropriate.
- c. Handle all news media inquiries concerning public health issues only.

29. United States Postal Service

- a. Ensure the security of the mail.
- b. Protect postal property.
- c. Restore any service that may have been interrupted.

30. Airport Incident Commander

- a. Supervise/control all activities at the airport emergency/crash site until such time that NTSB investigators arrive, are briefed, and site is relinquished upon their request.
- b. Direct EOC to be set up for operation and the medical supply/triage trailers to be taken to the staging area.
- c. Oversee the Operations Center and issue/cancel Airport Condition Reports as necessary.
- d. Monitor all rescue/recovery efforts as well as security as conducted by Fire and Police personnel.
- e. Obtain crew manifests and cargo lists when, if, available.
- f. Contact aircraft owner/operator for additional personnel or equipment if needed.

31. Airport Tenants

- a. Coordinate the use of their available equipment and supplies
- b. Coordinate the use of their available manpower that may have knowledge of the airport, aircraft, and other technical knowledge

32. Explosive Ordnance Disposal

- a. Provide technical support for related situations.

33. Federal Bureau of Investigation (FBI)

- a. Investigate any alleged or suspected activities that may involve federal crime Offenses as related to bomb threats, hijackings, hostage situations, dignitaries, etc.
- b. Assume command in response to certain hijack and other criminal situations.

34. Other Agencies

- a. Provide technical support and/or resources in support of the Lambert-St. Louis International Airport®.

I. ADMINISTRATION & LOGISTICS

1. Availability Of Services & Support
 - a. The availability of services & support for emergencies can be located in the organization and assignment of responsibilities (325-23 through 325-29), Airport Contingency Plan, Mutual Aid Agreements, and Code 1000. It is up to each individual department and involved agency to appropriately manage, monitor, and request additional resources as needed.
2. Mutual Aid Agreements
 - a. All Fire Department and EMS Mutual Aid Agreements are maintained by the Airport Fire Chief (ARFF).
 - b. All Law Enforcement Mutual Aid Agreements are maintained by the Airport Police Department Chief (Lambert-St. Louis International Airport® Police Department).
3. Staffing – Assignments, Re-Assignments, and Volunteer Solicitation
 - a. Human Resources shall immediately provide a current listing of all employees by department and job classification to the Director and Senior Deputy Director for their use should employees need to be re-assigned. Most departments already have a cooperative plan in place whereby they shall disperse employees to other departments based on need.
4. General Policies for Managing Resources, Record Keeping, Reporting, Tracking Resources, Etc.
 - a. In the event that the current Materials Management location should be rendered unusable as a result of the disaster or emergency, Airfield Maintenance or the Fleet Maintenance facilities have been designated as alternate materials management resource locations. If necessary, an immediate freeze of all non-essential supplies and service purchases shall be implemented in the event of an emergency or major disaster. The freeze shall restrict those purchases to emergency items **only** and those items absolutely necessary to monitor the safe and efficient operation of the airport.
 - b. The Airport Authority, Materials Management Department, has a computerized system that permits authorized personnel to order their own items/materials (under \$200.00). Departments acquiring emergency supplies and services in this manner shall retain any invoices/receipts and submit them to Materials Management at a later point in time. If the computer system should fail, all departments would revert to the old system of obtaining a purchase order via paperwork. Further information regarding the materials management and resource function may be found in the Resource Management Functional Annex.

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J. PLAN DEVELOPMENT & MAINTENANCE

1. Airport Emergency Plan (AEP) Review and Distribution

- a. The AEP is reviewed on an annual basis by the Airport Authority Senior Deputy Director and the Airport department heads with any other changes or modifications being made on an as needed basis. Any item requiring change should be submitted to the Federal Aviation Administration Regional Office for approval, and upon approval, will either be inserted or deleted in the AEP. Any associated training reflecting those changes/modifications are then handled through management at the various departments.
- b. Copies of the AEP shall be distributed to all appropriate Airport Personnel, Volunteers, Tenants, Emergency Response Agencies and Airline Personnel (see Record of Distribution) in accordance with the Airport Certification Manual (ACM) distribution list. It shall be the responsibility of the individual tenant managers to ensure that all of their personnel are cognizant of the guidelines set forth in this manual as far as emergency or disaster operations go. Although the main responsibility for disaster operations at Lambert Airport rests with the Airport Authority, individual airport tenant assistance may be necessary if their aircraft or property is involved. During the initial stages of a disaster, it may be necessary to utilize any and all available personnel for the rescue operation until such time as more properly trained and equipped personnel arrive to take over the rescue operations.
- c. Personnel of the Airport Authority shall be directed in their response duties and assignments by their department heads. All department heads shall be given copies of this ACM and it shall then be their duty to pass this information on to their personnel and ensure that assignments and duties are clearly spelled out in the event of a disaster occurring at Lambert Airport.
- d. All personnel of the Airport Authority and the airport tenants are invited to direct any questions or comments they may have about this emergency plan to the Senior Deputy Director.

2. Scheduled AEP Reviews

Listed below are scheduled performance reviews that are conducted in order to further support the AEP:

- a. The Airport Operations Center is responsible for:
 - 1) Calling and verifying the accuracy of all phone numbers contained within the AEP on a quarterly basis;
 - 2) Conducting quarterly inspections of the Emergency Operations Center (EOC) as well as the medical supply and triage trailers;
 - 3) Maintenance and changes to the AEP.

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- b. The Information Technology (IT) Department responsible for overseeing and maintaining the Airport Authority's 800MHz radio communications system. The communications system operates on a 24-hour basis which negates the need to have formal testing schedules of the radio frequencies. It is the ongoing responsibility of each department to immediately address any problems detected with the radio system so that normal communications may continue uninterrupted. This includes handheld radios as well as those mounted in Airport Authority vehicles. The department experiencing radio difficulty is required to notify IT Department.
- c. The Building Maintenance Department conducts monthly inspections of all fire extinguishers, smoke detectors, fire alarms/pull stations, and sprinkler systems.
- d. The Airport Police Department performs daily tests of the covert alarm systems utilized at each concourse checkpoint as well as performing a physical check of all Security Identification Display Area (SIDA) access doors to ensure that they are secure and fully operational. In addition, the police department conducts 3 daily inspections of all perimeter fencing and gated access points that lead to secured areas of the airfield.
- e. The Electric Shop conducts daily preventive maintenance inspections of the lighting systems on the airfield in addition to immediately responding to and resolving any reported problem or malfunction of same.
- f. Airfield Maintenance conducts daily preventive maintenance inspections of all runways and taxiways on the airfield in addition to immediately reporting to and resolving any reported concern or problem.
- g. The Operations Center conducts monthly tests of the public address system (with voice paging, fire warning klaxons, and emergency evacuation messages) which is housed in the Operations Center for use in the Airport Terminal Building incident and/or emergency. In addition, the Operations Center conducts Part 139 Airfield Inspections on a daily basis.
- h. Airport Rescue and Fire Fighting (ARFF) Personnel conduct quarterly inspections of the Fixed Base Operator (FBO) facilities and air carrier fueling agent fuel storage areas, mobile fuelers, and fuel cabinets in order to ensure compliance with Airport Fire Safety Fuel Handling Standards. In addition, inspections of the terminals, concourses, and all other associated buildings and offices on the airport proper are conducted by ARFF.
- i. The Operations Center, or Airport Authority Representative, has contacted all agencies and personnel listed on pages 325-19 & 325-20 to ascertain their response capabilities and the level of assistance that they can provide. The



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Operations Center, or Airport Authority Representative, is responsible for contacting all of these agencies and personnel - no less than once per year - to verify or amend their response capabilities as previously provided. This information is retained on file in the Operations Center.

- j. The Public Relations Department maintains constant contact with the public sector in addition to keeping abreast with local news media for any off airport activity that may affect emergency response. Public Relations is also the media contact for all airport emergency response activities.

3. Training

- a. The Airport Operations Center shall train all personnel who access movement and safety areas and perform duties in compliance with the requirements of the ACM and Part 139. This training shall be completed on the AAAE Interactive Employee Training (IET) computers through the airport's Safety & Operations Department's computers before the initial performance of such duties, and at least once every 12 consecutive calendar months. The curriculum for initial and recurrent training shall include at least the following areas:
 - 1) Airport Familiarization, including airport marking, lighting, and signs system.
 - 2) Procedures for access to, and operations, in movement areas and safety areas, as specified in Part 139.
 - 3) Airport communications, including radio communication between air traffic control tower and personnel.
 - 4) Any additional subject areas required under Part 139, Sections 319, 321, 325, 327, 329, 337, and 339 as appropriate.
- b. All initial training will be done through the classroom training that is already established. All recurrent training will be done through the IET computers.

4. Procedures or Full Scale AEP Exercises

- a. The Senior Deputy Director shall be responsible for the coordination of all agencies and personnel at least once every three years to take part in a full-scale mock-up disaster at Lambert Airport to demonstrate the capabilities and responses possible should a true disaster ever occur. In addition, the Airport Authority shall conduct an annual "Table Top" disaster exercise in order to identify any changes that may have surfaced and require an update to the AEP.



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K. AUTHORITIES AND REFERENCES

AC 150/5200-12C: First Responders Responsibility in Protecting Evidence at the Scene of an Aircraft Accident/Incident

AC 150/5200-31C Airport Emergency Plan

AC 150/5210-7D Aircraft Rescue and Fire Fighting Communications

AC 150/5210 ARFF Vehicle and High Reach Extendable Turret (HRET) Operation, Training and Certifications

City of St. Louis Fire Department SOP's; 386.01 Fire/Rescue Incidents - Lambert Airport, 160.01 Fire/Rescue Incidents Metro Link Incidents

Aviation Disaster Family Assistance Act (ADFAA), Public Law 104-264, Title VII

City of St. Louis Emergency Operations Plan, revised

City Ordinance 56848, as amended by Ordinance 60588, in accordance with Chapter 44 of the Revised Missouri Statutes

Code 1000 Documentation

FAR Part 139: Certification and Operations: Land Airport Serving Certain Air Carriers

Homeland Security Presidential Directive-5 (HSPD-5), Management of Domestic Incidents

Homeland Security Presidential Directive-8 (HSPD-8), National Preparedness

Missouri Revised Statutes-Chapter 44 RSMO

Missouri Spill Bill (260.500-260.550 RSMo)

Mutual Aid Documentation

National Response Framework (NRF)

National Incident Management System (NIMS), 2004

National Preparedness Guidelines

NFPA 424: Guide to Airport Community Emergency Planning, 2008 Edition

Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288

Title 49: Transportation (National Transportation Safety Board), revised

TSR 1520: Protection of Sensitive Security Information

TSR 1542: Airport Operator Security

TSR 1544: Aircraft Operator Security

TSR 1546: Foreign Air Carrier Security

TSR 1548: Indirect Air Carrier Security

TSR 1550: Aircraft Security Under General Operating and Flight Rules

St. Louis County Basic Emergency Plan Ordinance 701.200

State and Local Guide (SLG) 101, Guide for All-Hazard Emergency Operations Planning

Not all the above references are in the AEP; however, they can be found with the Certification of Airports documents on file in the Airport Operations Office.

Time Zone used throughout the AEP is CST, unless otherwise specified.

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L. ACRONYMS

AC	Advisory Circular
ACM	Airport Certification Manual
ACP	Access Control Point
ACR	Airport Condition Report
ADA	Americans with Disabilities Act
ADFAA	Aviation Disaster Family Assistance Act of 1996
AEP	Airport Emergency Plan
AL	Airline
ALEAN	Airport Law Enforcement Agency Network
ALERT I	Non-Aircraft Emergencies
ALERT II	Aircraft Incident/Difficulty
ALERT III	Aircraft Accident/Crash
ALPA	Air Line Pilots Association
ALS	Advanced Life Support
AMOD	Airline Manager on Duty
AOA	Air Operations Area
APD	Airport Police Department
APU	Auxiliary Power Unit (Generator)
ARC	American Red Cross
ARFF	Aircraft Rescue and Fire Fighting
ASC	Airport Security Coordinator
ASP	Airport Security Program
ATSA	Airport and Transportation Security Act (Established TSA)
ATCT	Air Traffic Control Tower
ATIS	Automatic Traffic Information Service
BLS	Basic Life Support
CBRNE	Chemical, Biological, Radiological, and High-Yield Explosives
CCP	Casualty Collection Point
CDC	Centers for Disease Control and Prevention
CEMA	City Emergency Management Agency
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CID	Criminal Investigation Division
CITY	City of St. Louis
CFR	Crash Fire and Rescue
DECF	Discreet Emergency Coordination Frequency
DHS	Department of Homeland Security
DOD	Department of Defense
DOE	Department of Energy
EMI	Emergency Management Institute
EMS	Emergency Medical Services
EOC	Emergency Operations Center

EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
EPI	Emergency Public Information
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBI	Federal Bureau of Investigation
FBO	Fixed Base Operator
FEMA	Federal Emergency Management Agency
HAZMAT	Hazardous Material
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Plan
ICS	Incident Command System
ICAO	International Civil Aviation Organization
JIC	Joint Information Center
JOC	Joint Operations Center
LEPC	Local Emergency Planning Commission
MAA	Mutual Assistance Agreement
MOU	Memorandum of Understanding
MOANG	Missouri Air National Guard
MOD	Airport Manager on Duty
MODNR	Missouri Department of Natural Resources
MODOT	Missouri Department of Transportation
MSDS	Material Safety Data Sheet
NIMS	National Incident Management System
NFPA	National Fire Protection Association
NRF	National Response Framework
NTSB	National Transportation Safety Board
OEM	(St. Louis County) Office of Emergency Management
PIO	Public Information Officer
RY	Runway
SARA	Superfund Amendments and Reauthorization Act
SEMA	State Emergency Management Agency
SIDA	Security Identification Display Area
SOP	Standard Operating Procedure
STLAA	St. Louis Airport Authority
TCP	Terminal Coordinating Point
TIC	Traffic Information Center
TSA	Transportation Security Administration
TSR	Transportation Security Regulation
TWY	Taxiway
UPS	Uninterruptible Power Supply

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II. FUNCTIONAL ANNEXES

A. DIRECTION & CONTROL

1. Purpose

- a. The **Direction & Control** section will provide an overview of the mechanisms used by the Lambert-St. Louis International Airport® to direct and control response and recovery activities. Direction & Control provides for those actions essential to saving lives, protecting property, and restoring the airport to normal operations following an emergency situation.

2. Situation

- a. The Lambert-St. Louis International Airport® is subject to many hazards that would require the use of a centralized emergency operations area. The Emergency Operations Center (EOC), which is mobile, would be placed in a suitable location which would facilitate policy making as well as the coordination and control of multi-jurisdictional forces in a large scale disaster/emergency. All direction and control activities would be handled from the EOC by the St. Louis Airport Authority.

3. Assumptions

- a. The EOC shall be immediately activated upon request of the Operations Center, Airport Manager on Duty (MOD), Assistant Director of Operations & Maintenance, Senior Deputy Director, or the Director of Airports.
- b. The Emergency Operations Center (EOC) and the Incident Commander shall work closely together to coordinate all efforts, identify special considerations, secondary threats, and available resources.
- c. It is assumed that the Operations Center and the EOC will survive the disaster/emergency and shall remain fully operational.

4. Operations/Assignment of Responsibilities

The individuals and agencies listed below have primary and support responsibilities relative to Direction & Control (also see page 325-22):

- a. Emergency Operations Center (EOC) – Primary
 - 1) The EOC shall assist with the acquisition and delivery of emergency supplies and equipment.
 - 2) The EOC shall assist with the direction and control of arriving emergency responders and associated equipment.
 - 3) The EOC shall assist with emergency notifications.
- b. Operations Center - Primary/Secondary
 - 1) In some cases, the Operations Center shall make the initial emergency notifications on pages 325-18 thru 325-20 as well as the decision to activate

- the Emergency Operations Center (EOC).
- 2) The Operations Center shall coordinate with Police and Fire to determine the best location for EOC setup.
 - 3) The Operations Center is the Incident Commander and has overall responsibility for direction and control operations until such time that they are relieved by the Airport Manager on Duty (MOD), Assistant Director of Operations & Maintenance, Senior Deputy Director, or Director of Airports.
- c. Aircraft Rescue and Fire Fighting (ARFF) - Primary/Secondary
- 1) ARFF shall send an employee to the Emergency Operations Center (EOC) for communication purposes.
- d. Airport Manager on Duty (MOD) - Primary/Secondary
- 1) The MOD may activate the Emergency Operations Center (EOC) and advise the Operations Center to make all pertinent disaster/emergency notifications.
 - 2) The MOD is the Incident Commander and has overall responsibility for direction and control operations until relieved by the Assistant Director of Operations & Maintenance, Senior Deputy Director, or the Director of Airports.
 - 3) The MOD shall coordinate with Police and Fire to determine the best location for EOC setup.
- e. Assistant Director of Operations and Maintenance - Primary/Secondary
- 1) The Assistant Director of Operations and Maintenance may activate the Emergency Operations Center (EOC) and advise the Operations Center to make all pertinent disaster/emergency notifications.
 - 2) The Assistant Director of Operations and Maintenance is the Incident Commander and has overall responsibility for direction and control operations until relieved by the Senior Deputy Director or the Director of Airports.
 - 3) The Assistant Director of Operations and Maintenance shall coordinate with Police and Fire to determine the best location for EOC setup.
- f. Senior Deputy Director - Primary/Secondary
- 1) The Senior Deputy Director may activate the Emergency Operations Center (EOC) and advise the Operations Center to make all pertinent disaster/emergency notifications.
 - 2) The Senior Deputy Director is the Incident Commander and has overall responsibility for direction and control operations until relieved by the Director of Airports.
 - 3) The Senior Deputy Director shall coordinate with Police and Fire to determine the best location for EOC setup.
- g. Director of Airports - Primary/Secondary
- 1) The Director of Airports may activate the Emergency Operations Center

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- (EOC) and advise the Operations Center to make all pertinent disaster/emergency notifications.
- 2) The Director of Airports, and/or his designee, is the Incident Commander and has overall responsibility for direction/control operations.
 - 3) The Director of Airports shall coordinate with Police and Fire to determine the best location for EOC setup.
- h. National Transportation Safety Board (NTSB) – Primary/Secondary
- 1) The NTSB is responsible for taking custody and control of the disaster/emergency site as well as the aircraft(s) should one be involved.
 - 2) The NTSB is responsible for coordinating the accident investigation unless criminal action is determined to be a contributing factor.
- i. Airport Police Department – Primary/Secondary
- 1) The Airport Police Department shall maintain an Airport Security Program that meet the requirements of TSR 1542.
 - 2) The Airport Police Department is responsible for maintaining security of the disaster/emergency site and or aircraft until such time that control is relinquished over to the National Transportation Safety Board (NTSB).
 - 3) The Airport Police Department is responsible for maintaining security of the EOC as well as recording entry and exit from same.
 - 4) The Airport Police Department is responsible for maintaining security of the airport perimeter as well as the airfield.
- j. Public Relations - Secondary
- 1) In a disaster/emergency, the Public Relations Department is responsible for assisting with the dissemination of information regarding direction and control issues.
 - 2) Public Relations is the point of contact for all media inquiries.
 - 3) Public relations shall coordinate all airport news releases with the Incident Commander.
- k. Flight Standards – Secondary
- 1) Flight Standards acts as a representative of the National Transportation Safety Board (NTSB).
 - 2) Flight Standards assists in the investigative procedures.
 - 3) Flight Standards takes enforcement actions as necessary.
- l. Airline Managers - Secondary
- 1) The Airline Managers are responsible for providing any support possible when it comes to direction and control activities surrounding an emergency/disaster.
 - 2) The Airline Managers are responsible for activating the air carrier's Aviation Disaster Family Assistance Act (ADFAA) Plan.

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- 3) Airline Management is responsible for removal of the wreckage or disabled aircraft.
 - 4) The Airline Managers become the point of contact for the media when aircraft is involved.
- m. Environmental/Health & Safety Office – Primary/Secondary
- 1) Monitor activities to ensure that operations are being conducted at a safe level.
 - 2) Support law enforcement in perimeter patrols.
 - 3) Assist the Operations Center miscellaneous duties.
 - 4) Provide resource information regarding safety equipment, environmental activities, and Hazardous Material (HAZMAT) cleanup.
 - 5) Coordination/communication with regulatory agencies.
 - 6) Identify and analyze health, environmental and safety exposures.
 - 7) Monitor activities, workplace, environmental corrective action and remediation projects compliance with environmental, health and safety related state, local and federal regulations.
 - 8) Support in investigating accidental injuries and property damage losses.
 - 9) Provide guidance and direction for the dissemination of necessary and required information such that employees will be aware of the hazardous chemicals and methods available to prevent or reduce exposure to the potential hazards they present.
5. Plan Development/Maintenance
- a. Annual review of the Direction & Control section, in addition to plan development and maintenance, is the responsibility of the Airport Operations Center Supervisor.
6. Authorities & References
- a. Reference pages 325-35 and 325-36.

B. COMMUNICATIONS

1. Purpose

- a. The **Communications** section provides information on how Lambert-St. Louis International Airport® will establish, use, maintain, augment, and provide redundancy for all types of communication devices needed during emergency response operations.

2. Situation/Operations

- a. The Airport Authority has an 800 MHz trunked communications system. The system has patching and phone interconnect capabilities with a Central Electronics Bank that provides the capability of interfacing with responding fire department mutual aid agencies. All Airport Authority Departments are tied into the 800 MHz Trunking System with radio traffic being monitored by the Operations Center. Airport Authority radios are programmed with a conventional 800 MHz frequency as back up if the trunked system goes down.

b. Other Monitored Systems

- 1) Two-way Ground Control Radio, 121.900, & 121.650;
- 2) Two-way Discreet Emergency Coordination Frequency (DECF) – 134.375;
- 3) Conventional Aircraft Rescue and Fire Fighting (ARFF) truck to truck, Frequency 153.950, conventional Fire Department Mutual Aid, Frequency 154.280 and conventional EMS Command, Frequency 155.325 are patched to the 800 MHz Trunking System;
- 4) Airport Condition Report (ACR) (dissemination process) using the Direct Digital NOTAM manager providing contact with:
 - a) FAA Tower
 - b) Lockheed Martin Flight Service Station
 - c) Airline Tenants

c. Aircraft Rescue and Fire Fighting (ARFF) vehicles and buildings maintain the following and are on the 800 MHz system:

- 1) City Fire Alarm Radio, Frequency 154.010 two-way, Frequency 154.130 Receive only;
- 2) ARFF truck to truck radio, Frequency 153.950;
- 3) Fire Department Mutual Aid, Frequency 154.280;
- 4) Two-way Aircraft Ground Control Radio, as described above.

d. In addition, there are approximately 455 hand-held portable and 257 mobile two-way radios on the 800 MHz system throughout the Airport Authority Departments. The list and inventory is maintained by the Information Technology department. There are also numerous mobile telephones in various Airport Authority vehicles and portable (programmable) aircraft radios.

- e. The Airport Emergency Operations Center (EOC) will be placed near the scene of the incident/accident for the coordination of communications and command. The coordinators for the specific emergency response functional areas may assemble at the unit. The unit will be visible by daytime markings and at night by **flashing green lights**.
- f. The Airport EOC is equipped with the following and is on the 800 MHz system:
 - 1) Two-way Ground Control Radio, 121.900, & 121.650;
 - 2) Two-way Discreet Emergency Coordination Frequency (DECF) – 134.375;
 - 3) Radio for Fire Department position with:
 - a) City Fire Alarm, Frequency 154.010 two-way, Frequency 154.130 Receive only;
 - b) ARFF truck to truck, Frequency 153.950;
 - c) Fire Department Mutual Aid, Frequency 154.280;
 - g. Radio for Fire Department Mutual Aid position with:
 - 1) North Central, Frequency, 154.400 two-way, 154.325 Receive only;
 - 2) Fire Department Mutual Aid, Frequency 154.280;
 - 3) Command A, Frequency 153.830 two-way;
 - 4) Command B, Frequency 155.325 two-way;
 - 5) Command E, Frequency 150.775 two-way;
 - h. Additional positions for Operations, Airline, Police;
 - i. Each position is equipped with a mobile telephone;
- 3. Operations/Assignment of Responsibilities
 - a. Operations Center – Primary/Secondary
 - 1) Senior Operations Supervisor on Duty shall assume Airport Incident Command until relieved by the MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or Director of Airports (see Director of Airports).
 - 2) Ensure that all Airport Authority personnel have been notified of actual/impending emergency alerts in addition to notifying the appropriate tenants, air carriers, charter operators, Fixed Base Operators, construction representatives, and others as needed.
 - 3) Issue appropriate Airport Condition Reports as necessary and as directed.
 - 4) Monitor all radios in the Operations Center for updates.
 - 5) Maintain a logbook reflecting all activities prior to, during, and after the emergency/crash.
 - 6) Provide a communications specialist to the Emergency Operations Center (EOC), if possible, to help monitor communications and help maintain a checklist for the Airport Incident Commander
 - b. Emergency Operations Center – Primary
 - 1) Primary function is placement near the scene of the emergency/crash for the

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coordination of communications and command.

- c. Public Relations – Primary/Secondary
 - 1) Activate/staff JoAnne Wayne Conference Room or other designated media area.
 - 2) Prepare press releases and help coordinate any news interviews that may be required.
 - 3) Coordinate and work with all news media personnel.
- d. Information Technology – Secondary
 - 1) Assist/maintain radio communications.
 - 2) Provide general assistance, aid, and equipment as requested by the Airport Incident Commander.
- 4. Plan Development/Maintenance
 - a. Annual review, in addition to plan development and maintenance of the Communications section, is the responsibility of the Airport Operations Department and the Airport Emergency Plan (AEP) Committee.
- 5. Authorities & References
 - a. Standardized Radio Communication Reference page 325-45
 - b. Reference pages 325-34 and 325-35.

4a. Standardized Radio Communication

<u>Term/Phrase</u>	Means
Acknowledge.....	Let me know you have received, and understood, this message.
Advise Intention...	Tell me what you plan to do.
Affirmative.....	Yes.
Confirm.....	My version is _____, is that correct?
Correction.....	An error has been made in the transmission and the correct version is as follows.
Go Ahead.....	State your request! (This never means proceed!)
Hold.....	Stop where you are!
Hold Short Of.....	Proceed to.....but hold short of a specific point!
Negative.....	Means no, permission denied, <u>or</u> that the information is not correct.
Proceed.....	You are authorized to begin, or continue, moving.
Read Back.....	Repeat my message back to me.
Roger.....	I have received all of your last transmission. (Do not use this to answer a yes or no question.)
Say Again.....	Repeat what you just said.
Standby.....	Wait, I will get back to you. (This is not an approval <u>or</u> denial! The caller should re-establish contact if the delay is lengthy.)
Unable.....	I can't do it.
Verify.....	Request confirmation of information.
Wilco.....	I have received your message, understand it, and will comply.

C. ALERT & WARNING

1. Purpose

- a. The **Alert & Warning** section will identify the methods and sequences to be used in notifying all appropriate personnel of the emergency as well as those in the immediate vicinity. This section will describe the various Alert & Warning systems and the equipment available at the airport. In addition, it will address how and under what conditions they are used as well as who is responsible for activation, de-activation, testing, and maintenance. The ability to direct emergency forces through alert and warning communication is essential to the effective operations in an emergency.

2. Situation

- a. The Lambert-St. Louis International Airport® is vulnerable to many hazards (i.e. natural disaster, structural fire, bomb threats, hijacking attempts, etc.) which would require activation of the emergency alert and warning capabilities.
- b. Initial reports of an emergency may be generated from one of several sources – the Operations Center, Air Traffic Control Tower (ATCT), St. Louis City or County Emergency Management, or perhaps even an individual from the public sector.
- c. In the event of an aircraft Alert I, II, or III, the primary method of alarm notification shall be the Air Traffic Control Tower-to-Airport ARFF hot line. This is a direct hook-up phone line between the ATCT and the two ARFF stations. This is a two-way hook-up with alarms being sounded in all three locations when the alarm is activated. There are also five “Crash Boxes” monitored in five different locations throughout the Airport Authority offices that are automatically activated when the ATCT-to-ARFF hot line is picked up (see flowchart on page 325-22 for exact locations which are depicted by gray boxes).
- d. It is also possible for an outside phone call to be made which will activate a hot line. This phone number is **426-8133**. Any person observing an incident or accident may call this number.
- e. Normal use telephone lines are a secondary method of alarm notification but the hot line and crash boxes will, as a rule, be activated after a phone call is received.
- f. A third method available for alarm notification would be the two-way radio communications. As a rule, the hot line and crash boxes will be activated after notification of an incident or accident.
- g. In the event of terminal building or property incident, a number of alarm systems are present at Lambert Airport. All of the terminal building and airline

concourses are equipped with smoke detectors and sprinkler systems that will be activated in the event of smoke or fire. Activation of any of these systems will activate computer terminals and printers in the two ARFF stations, Building Maintenance, Electric Shop, and the Airport Police Station.

- h. These department's computers will also be activated when a security door is breached by an unauthorized entry or power failure in accordance with TSR 1542.207.
- i. The Police Department maintains silent activation alarms at each of the concourse entry checkpoints as well as a number of other locations on Airport property. The silent activation alarms are directly connected to the Airport Police Department computer system. Activation of any of these alarms will result in a police officer(s) being dispatched to that specified location without delay.
- j. The Operations Center maintains an alarm status board which, while not defining specific problems or alarms, will give an indication when an alarm or a fire system is activated. This system also includes a public address system capable of overriding all other public address systems in the airport as well as individual concourse fire klaxons and evacuation tapes and a terminal-wide fire klaxon system and evacuation tape. This system is under the direct control of the Operations Center personnel and will only be utilized to evacuate areas, sound warnings, or make public address announcements when so directed by the Director of Airports, Senior Deputy Director, Assistant Director of Operations and Maintenance, Fire Chief, or Airport Police Chief. The system is tested on the first Wednesday of each month at 0200 local time and the smoke detectors and sprinkler systems are tested on a monthly basis throughout the year. Any problems reported or found during the testing process are immediately repaired and re-tested to ensure that all systems are operational. The Airport Police Department may also request activation of the public address system even though they also possess a separate public address system. It should be noted that Airport Police Department and ARFF vehicles are equipped with public address systems that are readily capable of initiating and/or supplementing the existing alert and warning system(s).
- k. Warning information concerning the weather is typically received in the Operations Center from one of the following means noted below:
 - 1) A weather report 3 times a day is sent from a contracted weather service.
 - 2) Tuning into channel KDO-89 which broadcasts specific weather related warnings, weather (NOAA), and related information directly from the National Weather Service.
 - 3) Emergency Manager's Weather Information Network (RealEMWIN).

- 4) Atmospheric sensors measuring air temp, dew point, wind direction/speeds, and precipitation.
- 5) Weather accessed through the internet.

1. The Airport Police Department, Operations Center, ARFF, and EMS operate on a 24-hour basis. All 911 system calls made on phones in the Airport Terminals and emergency calls made to 314-426-8100 are directed straight through to the Airport Police Dispatcher, but any other 911 calls are relayed through the St. Louis County Police Department. The Airport Police Dispatcher then makes subsequent notifications to ARFF, EMS, and other agencies based on the specific incident and circumstances. In the event of a disaster/emergency, the Operations Center shall begin making notifications to various departments and agencies (see page 325-22 for flowchart) with additional personnel listed on pages 325-19 & 325-20 being notified, as required.

3. Assumptions

- a. It is assumed that the Airport Authority Warning & Alert System would survive and remain functional during a disaster/emergency. In a situation where the public address system failed, the Airport Police Department, ARFF, and designated Airport Authority employees would be deployed to initiate and/or facilitate the alert and warning process.

4. Operations/Assignment of Responsibilities

a. Operations Center – Primary

- 1) The Operations Center shall initiate disaster/emergency (Alert III) notifications, activate the Emergency Operations Center (EOC), and begin the response process.
- 2) The Operations Center shall monitor radio traffic to ensure that the channels are clear for emergency communications.
- 3) The Operations Center is responsible for advising of any status changes in the disaster/emergency.
- 4) The Operations Center shall maintain and provide information to all decision-makers involved in the disaster/emergency.

b. Aircraft Rescue and Fire Fighting (ARFF) – Primary/Secondary

- 1) In the event of an Alert III notification from the ATCT via the “Emergency Crash Alarm”, ARFF shall immediately respond to the disaster/emergency site and assess.
- 2) Depending on the specific disaster/emergency, ARFF is capable of assisting in the alert and warning process if needed.

c. Airline Managers – Primary/Secondary

- 1) Airline management shall assist in the alert and warning process by acting as a liaison with the Airport Public Relations Department, Incident Commander, and the local media.

- d. Air Traffic Control Tower (ATCT) - Secondary
 - 1) The ATCT shall provide notification to the ARFF Units, Operations Center, and then begin making their required notifications.
 - 2) The ATCT shall provide ground control services for access in the active runway/taxiway system as needed.
- e. Airport Police Department – Secondary
 - 1) The Airport Police Department shall initiate the appropriate disaster/response notifications and simultaneously responding to the emergency site to assist and begin providing the appropriate levels of safety and security.
 - 2) The Airport Police Department shall provide vehicle and foot patrols to assist in the alert and warning process when necessary and when manpower permits.
- f. Public Relations – Secondary
 - 1) Public Relations shall work with the media (television, radio, etc.) in order to assist with the dissemination of disaster/emergency information to the public sector.
 - 2) Public relations shall assist with other administrative support as needed.
- g. Airport Manager on Duty (MOD) – Secondary
 - 1) Assume Airport Incident Command until relieved by the Assistant Director of Operations and Maintenance, Senior Deputy Director, or Director of Airports (see Director of Airports).
- h. Assistant Director of Operations and Maintenance – Secondary
 - 1) Assume Airport Incident Command until relieved by the Senior Deputy Director or Director of Airports (see Director of Airports).
- i. Senior Deputy Director – Secondary
 - 1) Assume Airport Incident Command until relieved by the Director of Airports (see Director of Airports).
- j. Director of Airports – Primary/Secondary
 - 1) The Director of Airports may activate the EOC and advise the Operations Center to make all pertinent disaster/emergency notifications.
 - 2) The Director of Airports, and/or his designee, is the Incident Commander and has overall responsibility for direction/control operations.
- k. National Transportation Safety Board (NTSB) - Secondary
 - 1) Responsible for investigating major and/or fatal aircraft incidents to include determining cause.

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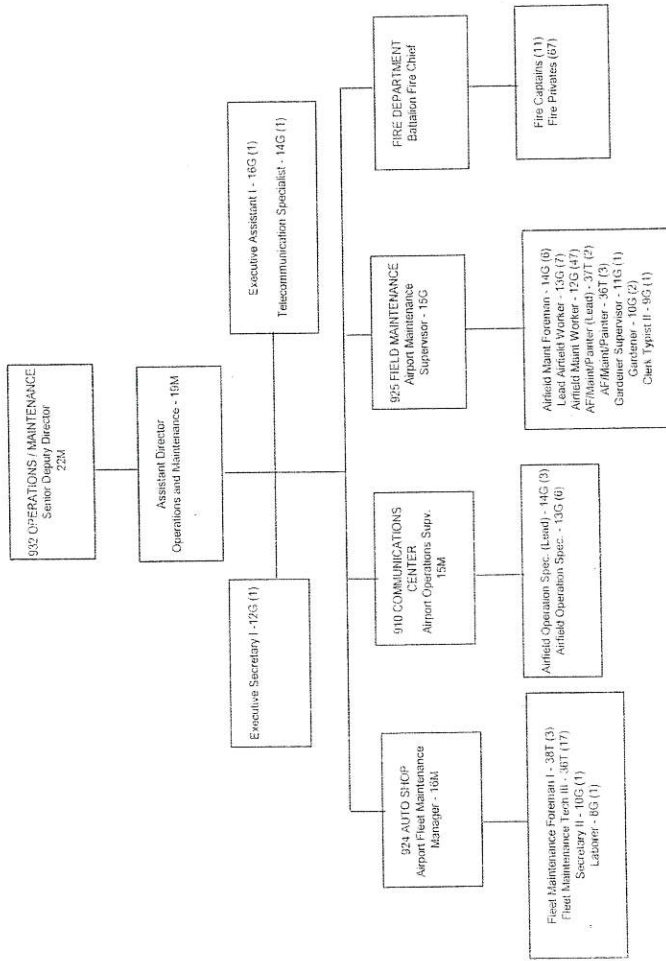


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- 2) Takes custody of aircraft/contents from the time of the accident until such time that the investigation is concluded.
- 3) Responsible for approval to remove wreckage and cleanup of scene.
- j. Environment/Health & Safety Office – Secondary
 - 1) Monitor activities to ensure that operations are being conducted at a safe level.
 - 2) Support law enforcement in perimeter patrols.
 - 3) Assist the Operations Center miscellaneous duties.
 - 4) Provide resource information regarding safety equipment, environmental activities, and Hazardous Material (HAZMAT) cleanup.
 - 5) Coordination/communication with regulatory agencies.
- m. City Emergency Management Agency (CEMA) – Secondary
 - 1) Coordinates emergency response for major disasters and emergencies pertaining to the City of St. Louis in support of the Lambert-St. Louis International Airport®.
- n. St. Louis County Office of Emergency Management (OEM) – Secondary
 - 1) Same as CEMA except that focus is on St. Louis County.
5. Plan Development/Maintenance
 - a. Annual review, in addition to plan development and maintenance of the Alert & Warning section, is the responsibility of the Airport Operations Supervisor.
6. Authorities & References
 - a. Reference pages 325-35 and 325-36.

7. Operations Center Organizational Chart

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART
 June 30, 2012
 OPERATIONS AND MAINTENANCE
 FIELD OPERATIONS



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D. EMERGENCY PUBLIC INFORMATION (EPI)

1. Purpose

- a. The EPI section will describe the means, organization, and processes that the Lambert-St. Louis International Airport® will use in order to provide timely, accurate, and useful information/instructions before, during, and after a disaster/emergency.

2. Situation

- a. The Lambert-St. Louis International Airport® has the potential to be affected by all disasters/emergencies as described in the Hazard Specific section. In each situation, it would become necessary to activate the EPI Organization who would be responsible for the distribution of information and instructions to the public.
- b. News media currently serving the City of St. Louis, St. Louis County, and the Airport Authority are as follows (complete media contact information is on file in the Public Relations Department):

1) Print

St. Louis Post Dispatch	Airports Weekly
Suburban Journals	Aviation Weekly
Associated Press	National League of Cities
St. Louis Business Journal	Phillips Business Information
Belleville News	Airport Magazine
Riverfront Times	Airline Business
St. Louis American	Airport Forum
St. Louis Metro Centinel	US News & World Report
St. Louis Argus	Jane's Airport Review
United Press International	St. Louis Air Partnership
Midwest Aviation Journal	Personal Travel Report -
St. Louis Small Business Monthly	Nationwide Intelligence
USA Today	Travel Weekly
St. Louis Magazine	Business Travel News
Commerce Magazine	World Airport Week
Aviation Daily	Passenger Terminal World
Construction News & Review	Airports
Frequent Flyers Magazine	Centerlines
St. Louis Regional Chamber & Growth Association	

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2) Radio

KTRS-AM (550)	WIL-FM (92.3)
KFNS-AM (590)	KSHE-FM (94.7)
WEW-AM (770)	KHIT-FM (96.3)
WGNU-AM (920)	KFTK-FM (97.1)
KXEN-AM (1010)	KSD-FM (97.3)
WRYT-AM (1080)	KYKY-FM (98.1)
KMOX-AM (1120)	KFUO-FM (99.1)
WSDZ-AM (1260)	KFAV-FM (99.9)
KSIV-AM (1320)	KATZ-FM (100.3)
KSLG-AM (1380)	WALC-FM (100.5)
KJFF-AM (1400)	WVRV-FM (101.1)
KFRU-AM (1400)	KEZK-FM (102.5)
WIL-AM (1430)	KLOU-FM (103.3)
KIRL-AM (1460)	WRDA-FM (104.1)
WESL-AM (1490)	KMJM-FM (104.9)
WBGZ-AM (1570)	KPNT-FM (105.7)
KATZ-AM (1600)	KSLZ-FM (107.7)
KDHX-FM (88.1)	Computraffic/News Plus
WSIE-FM (88.7)	Metro Network
KCLC-FM (89.1)	USA Today Sky Radio
KWMU-FM (90.7)	
KSIV-FM (91.5)	

3) Television Stations

KTVI-TV, Channel 2 (FOX)
KMOV-TV, Channel 4 (CBS)
KSDK-TV, Channel 5 (NBC)
KETC-TV, Channel 9 (PBS)
KPLR-TV, Channel 11 (CW)
CityTV10

- 4) Additional means of emergency notification include, but are not limited to, the airport's public address system, which reaches the terminals and concourses, vehicle mounted public address systems, and person to person notifications (if necessary). In the event that foreign language translation is necessary, the Airport Authority can contact the information booth which has some employees with secondary language training and/or access to language translation services. The Airport Authority may also seek qualified volunteers from the Airport Authority and airlines employee population as well as USO personnel if necessary. Volunteers from these agencies could also be utilized for assistance with the mobility impaired if needed.

- 5) On going preparedness or familiarization training for the media is conducted

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on an as needed basis but primarily takes place prior to a scheduled full scale disaster exercise. Preparedness training for Airport Authority, Airlines, and tenant employees is achieved through participation in the Table Top Exercise Program(s) and the full scale Disaster Drill(s). In addition, the Airport Authority created an Emergency Assistance Team consisting of volunteer employees from various departments who receive ongoing, specialized training. These employees have been tasked with specific responsibilities in the event of a disaster/emergency and are supervised by the Personnel Department. The Emergency Assistance Team is described in further detail in the Logistics section of this functional annex.

3. Assumptions

- a. There will be state and nationwide interest regarding coverage of the disaster/emergency with the majority of media being unfamiliar with the processes as outlined in the Airport Emergency Plan (AEP).
- b. Cooperation is expected from local media in terms of focusing on the dissemination of emergency public information versus spotlighting a spectacle story. However, some media personnel may attempt to gain information from unofficial sources.
- c. Low levels of preparedness are expected in the terminals and concourses due to the transient nature of the population, however, an extremely high interest and desire for information will be expected.
 - 1) An effective EPI Program is expected to help reduce casualties and to minimize the effects of the disaster/emergency whereas the general population are concerned.

4. Operations

- a. Once an Alert 3 has been established, the Operations Center shall contact the Public Relations Manager and make notification regarding the disaster/emergency. The EPI organization is activated at this point with the Public Relations Department being kept abreast of any changes. Note, the request to activate could come from the MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director depending on the situation and circumstances. The notice to activate may be made in person or may be made via telephone or radio. Once the notification has been made, all EPI employees and the Emergency Assistance Team volunteers are contacted and requested to immediately report to the Administrative Office for a briefing and assignments.
- b. After the briefing has been conducted and assignments received, a media area must be designated by the PR Manager with consultation from the MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director or the Director, depending on the situation and circumstances. The primary location for

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a media center is located in the JoAnne Wayne Conference room, which is on the west end, lower level of Terminal 1 between exits 17 and 18. The alternate media area that is more conducive for larger news conferences and live media coverage is located on the upper level of Terminal 1, west end adjacent to the restaurants and entrance 6. If either of these areas is unusable as a media center or media gathering area, the PR manager can select alternative media sites outside of the terminal complex. The EPI should coordinate with the Police Department to ensure that the pre-designated parking spaces for the media trucks on Departing Flights Drive west of Terminal 1, entry 6 are open and available. The Public Relations Manager and/or designee shall be stationed at the Emergency Operations Center (EOC) once the AEP has been activated.

1. Former Air Traffic Control parking lot west of Terminal 1 and shops drive, with entry/exit off of westbound Lambert-International Boulevard, approximately ½ mile west of Terminal 1 (250 ft west of Shops Drive). This site can easily hold media trucks, satellite trucks and can be used for initial (not long term) incidents nearby including airfield.
 2. The Trademart building, located on Navaid Road west of the Airport Office Building. This site can be used as a media staging area for incidents involving the west airfield complex.
- c. EPI shall gather preliminary information from the Operations Center, Airport Manager on Duty (MOD), Senior Deputy Director, Director, Fire Chief, and Airport Police Chief and begin making preparations for an initial statement. News conferences and briefings shall be conducted in the JoAnne Wayne Conference room or other alternative media site as needed by any of the officials noted above. Only information approved by the Director of Airports, Public Relations Manager and/or designee is considered official and shall be released. It is the policy of the Airport Authority that all requests for media information or interviews be directed to Public Relations/EPI. EPI shall make continuous efforts to maintain control and to address rumors/inaccuracies by observing and reviewing all outside forms of media output (video, audio, and print).
- d. In order to assist with the distribution of emergency information and telephone numbers, EPI produced a booklet (Passenger Information) which will be available throughout the disaster/emergency. This booklet provides the following information:
- 1) **Telephone numbers** – Director of Airports, Police Department, Airlines, Hotels, Car Rental Companies, Greyhound Bus, Amtrak, etc.

- 2) **Maps** – Location of information booths, airline ticket counters, bank/money machines, restaurants, MetroLink and taxi/shuttle locations, USO, Chapel, Police Department, etc.
 - e. EPI will provide the appropriate identification confirmation and escort assistance to the media when, and if, permission to travel to the disaster/emergency site is granted. In the event that the disaster/emergency is off property, EPI staff may travel to another jurisdiction in order to assist the other agency whereas the public and media are concerned.
5. Organization/Assignment of Responsibilities
- a. Public Relations – Primary
 - 1) The Airport Authority Public Relations Department is responsible for distributing and disseminating emergency information/instructions to the public and media.
 - 2) If needed, the Airport Authority Public Relations Department shall make the emergency contact notifications to non-city EPI personnel (i.e. Ameren UE, AT&T, MSD).
 - 3) The Airport Authority Public Relations Department will participate in post event evaluations and critiques.
 - 4) The Airport Authority Public Relations Department will coordinate access media and media escorts to the disaster/emergency site once permission has been granted.
 - 5) The Airport Authority Public Relations Department will communicate and coordinate with the EPI staff of the involved airline(s) and or tenant(s).
 - b. Operations Center – Primary/Secondary
 - 1) The Operations Center is responsible for initiating disaster/emergency notifications, which include the Public Relations Manager.
 - 2) The Operations Center will direct media inquiries to the Public Relations Manager.
 - 3) The Operations Center will assist with the escorts of media into the secured areas.
 - c. Director of Airports – Primary/Secondary
 - 1) The Director of Airports will work closely with, and direct, the EPI Organization in order to provide accurate up to date information and news briefs to the public and media.
 - 2) The Director of Airports will coordinate all media activities with the City of St. Louis Mayor's Office.
 - d. Airline Managers – Primary/Secondary
 - 1) The Airline Managers will assist and provide support, wherever possible, to the Airport Authority EPI Organization.

- 2) The Airline Managers or Airline Public Information Officer (PIO) will coordinate news releases, press conferences, and other media related events with the St. Louis Airport Authority EPI.
- e. Airport Rescue and Fire Fighting (ARFF) – Secondary
 - 1) ARFF will assist with the dissemination of disaster/emergency information and instructions via vehicle mounted public address system or person to person notification if needed.
 - 2) ARFF will confirm area safety for media access.
 - 3) ARFF will ensure preservation of all wreckage and accident evidence.
 - f. Airport Police Department – Secondary
 - 1) The Airport Police Department will assist with the dissemination of disaster/emergency information and instructions via person to person if needed.
 - 2) Airport Police Department will confirm appropriate security measures for media access.
 - h. Emergency Operations Center (EOC) – Secondary
 - 1) The EOC will provide the EPI Organization with current, updated information for accurate news/media briefings.
 - i. Airport Manager on Duty (MOD) – Secondary
 - 1) The MOD will work closely with the EPI Organization to provide accurate and up to date information/news briefs to the public and media until relieved by the Assistant Director of Operations and Maintenance, Senior Deputy Director, or Director of Airports.
 - j. Assistant Director of Operations and Maintenance – Secondary
 - 1) The Assistant Director of Operations and Maintenance will work closely with the EPI Organization to provide accurate and up to date information/news briefs to the public and media until relieved by the Senior Deputy Director, or Director of Airports.
 - k. Senior Deputy Director – Secondary
 - 1) The Senior Deputy Director will work closely with the EPI Organization to provide accurate and up to date information/news briefs to the public and media until relieved by the Director of Airports.
 - l. National Transportation Safety Board (NTSB) – Primary
 - 1) The NTSB will assist the EPI Organization by providing accurate and up to date information which may be passed on to the media and public.

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- m. American Red Cross – Secondary
 - 1) The American Red Cross will provide support to the Airport Authority EPI Organization.
 - n. City Emergency Management Agency (CEMA) – Secondary
 - 1) The CEMA will provide support to the Airport Authority EPI Organization.
 - o. St. Louis County Office of Emergency Management (OEM) – Secondary
 - 1) The OEM will provide support to the Airport Authority EPI Organization.
6. Administration
- a. All outgoing EPI information, whether verbal or in writing, will be verified for accuracy prior to being disseminated.
7. Logistics
- a. The Airport Authority Public Relations and Personnel Department have established an Emergency Assistance Team of volunteer employees who have been trained to augment EPI reference the anticipated surge for information from the public and media. These pre-trained volunteer employees, from various Airport Authority departments, have received specialized training and responsibilities that coincide with EPI functions as noted in this plan. These responsibilities include, but are not necessarily limited to, manning designated telephones, staffing information centers/booths, and in some cases providing direct assistance to Airport Authority Public Relations (EPI) personnel. The Airport Authority Personnel Department is in charge of training and supervising these volunteers and is responsible for making the notifications for volunteer response once they have been informed to do so by the Public Relations Manager and/or his designee.
 - b. A complete listing of volunteer employees associated with the Emergency Assistance Team may be found on file in the Public Relations Department and Personnel.
 - c. The JoAnne Wayne Conference room is the designated Terminal 1 media center. If so chosen by the PR Manager and or Airport Authority Management, alternative media sites can be designated on a case by case basis related to the circumstances of the event. Alternatives are the west end of the Terminal 1 Ticketing Lobby, the former Air Traffic Control parking lot west of Terminal 1 on Lambert-International Boulevard, or the West Airport Rescue and Fire Fighting facility. When a media site is designated, the PR Manager or Airport Authority designee should communicate this with other key departments responsible for the emergency response including the MOD, Airport Director, Sr. Deputy Director, Assistant Director of Operations & Maintenance, Police Chief, Fire Chief or other

Airport Authority members. Public Relations will coordinate with the Airport Police Department to make sure media has access to pre-designated parking spaces at any of the media sites designated.

- d. The need for any additional facilities on site will be obtained through the coordination and cooperation of the Airport Authority as well as any involved airline(s) and/or tenant(s). The Public Relations Department doesn't anticipate the need for any additional equipment or supplies.
8. Plan Development/Maintenance
 - a. Annual review, in addition to plan development and maintenance of the Emergency Public Information section, is the responsibility of the Public Relations Manager.
 9. Authorities & References
 - a. Public Relations Organizational Chart
 - b. News Media Center (JoAnne Wayne Conference Room) Diagram
 - c. Media Sign-in Sheet
 - d. References pages 325-35 and 325-36

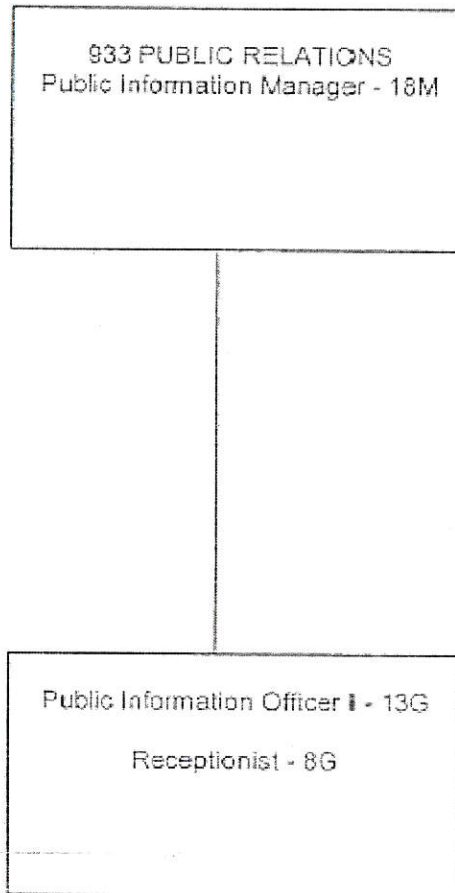
9a.

Public Relations Organizational Chart

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART

August 12, 2013

PUBLIC RELATIONS



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Date: JUN 26 2014

9b. News Media Center (JoAnne Wayne Conference Room)

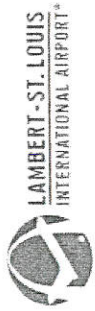
Set Up Procedures

1. The JoAnne Wayne conference Room can be used with minimal set up.
2. A podium should be at the west end of the room (opposite kitchen).
3. Podium and speaker system can be requested for Terminal 1 Ticketing Level.
4. The Trademart Building and Terminal 1 lower level stage will be used as needed.

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Media Sign-In

Event: _____

Date: _____

Name	Organization	Phone #	Email Address

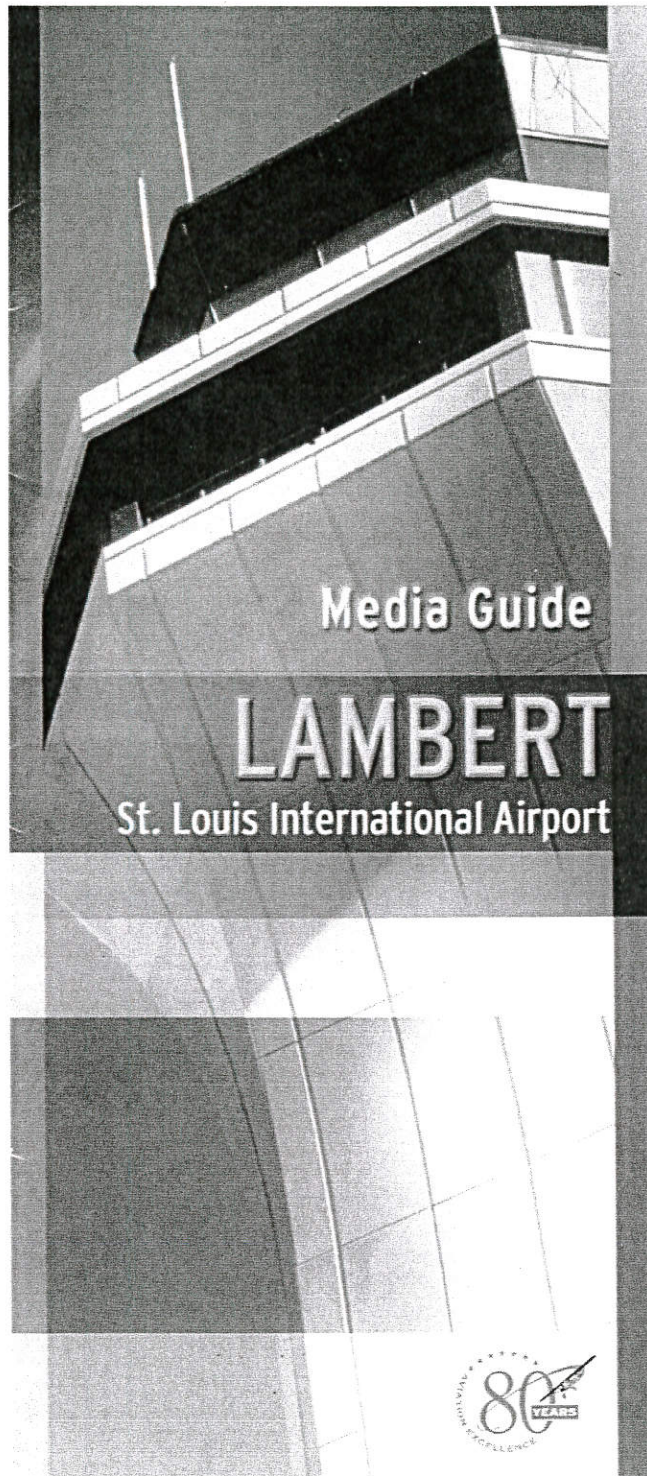
325-63

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9d. Media Guide

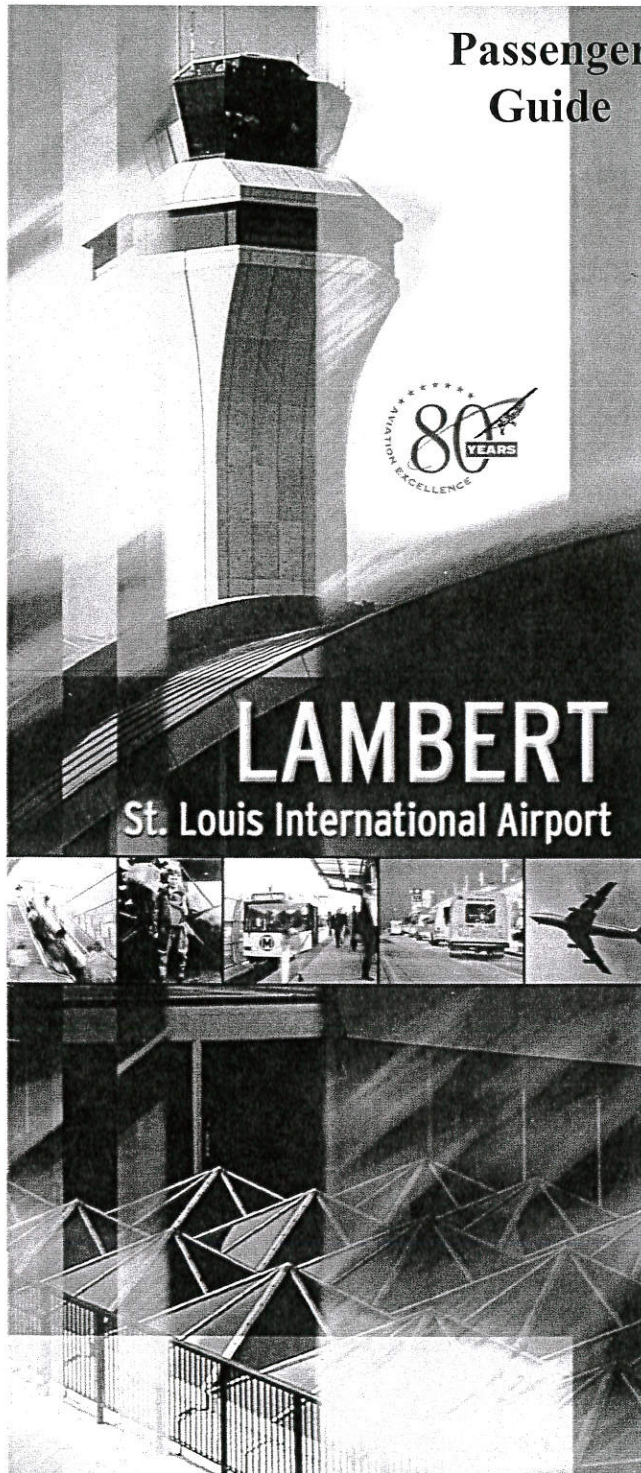


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9e. Passenger Information Booklet



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E. PROTECTIVE ACTIONS

1. Purpose

- a. The **Protective Actions** section will describe the provisions that are in place to ensure a safe and orderly evacuation (time permitting). It will also address emergency sheltering when time is a factor and evacuation ceases to be an option.

2. Situation

- a. Lambert-St. Louis International Airport® is vulnerable to several hazards that could facilitate the need for an evacuation should the lives and property of the traveling public and/or employees be threatened. Natural disasters such as an earthquake or tornado as well as a hazardous materials or a bombing incident are just a few of the hazards that could trigger an order to evacuate.
- b. Evacuation of people at risk for emergency situations that occur with little or no warning can be implemented on an ad hoc basis by the Incident Commander (IC) at the scene. Evacuation instructions should be based on known/assumed health risks associated with the hazard and a determination that sheltering is not a viable option. There are some situations where it would be more appropriate to shelter rather than evacuate.
- c. There are certain segments of the traveling public that may have the need for special attention and assistance (i.e. visual/hearing impaired, physically challenged, and individuals with language barriers).
- d. The primary decision for ordering an evacuation would come from the Director of Airports and/or designee. However, circumstances could place the Aircraft Rescue and Fire Fighting (ARFF) Fire Chief, Airport Police Chief, or the Incident Scene Commander in a position of having to make an evacuation related decision.

3. Assumptions

- a. While many individuals will begin the evacuation process on their own, it is anticipated that the majority of people will be looking for (and follow) information, instructions, and guidance on evacuation procedures. There will undoubtedly be some individuals within the population who may not understand or will refuse to not follow given directions.
- b. The Airport Police Department, ARFF, and other Airport Authority departments will assist with the evacuations in the event of a disaster/emergency. It is assumed that the American Red Cross and Salvation Army will provide assistance in this endeavor when called upon.

4. Operations/Assignment of Responsibilities

- a. Airport Police Department – Primary

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- 1) The Airport Police Department will provide traffic control as well as site security should an evacuation take place. This includes directing any law enforcement agencies that have arrived to assist.
 - 2) The Chief of the Airport Police Department is in a position, and should be ready, to activate an evacuation should the need arise.
- b. Aircraft Rescue and Fire Fighting (ARFF) – Primary/Secondary
- 1) The ARFF will render traffic control and evacuation assistance to the Airport Police Department (manpower permitting).
 - 2) The Airport Fire Chief (ARFF) is in a position, and should be ready, to activate an evacuation should the need arise.
- c. Operations Center – Secondary
- 1) The Operations Center is responsible for directing the appropriate evacuation announcements over the public address system. This will include staging areas and pick-up points for those that need transportation and do not have access to a vehicle.
 - 2) If needed, the Operations Center is responsible for ensuring that Airfield Maintenance has been contacted and advised to prepare the buses for emergency transportation.
 - 2) The Operations Center may be in a position of ordering an evacuation should the need arise and upper level management has not had the opportunity to respond to the notification and/or report to airport property.
- d. Airport Manager on Duty (MOD) – Secondary
- 1) The MOD is responsible for ordering an evacuation in the event that such an action is necessary and the Assistant Director of Operations and Maintenance, Senior Deputy Director, and the Director of Airports are not available to make said decision.
- e. Assistant Director of Operations and Maintenance – Secondary
- 1) The Assistant Director of Operations and Maintenance is responsible for ordering an evacuation in the event that such action is necessary and the Senior Deputy Director and the Director of Airports are not available to make said decision.
- f. Senior Deputy Director – Secondary
- 1) The Senior Deputy Director is responsible for ordering an evacuation in the event that such an action is necessary and the Director of Airports is not available to make said decision.
- g. Environmental/Health & Safety Office – Primary/Secondary
- 1) The Environmental/Health & Safety Office shall provide any requested assistance to the above departments or agencies.

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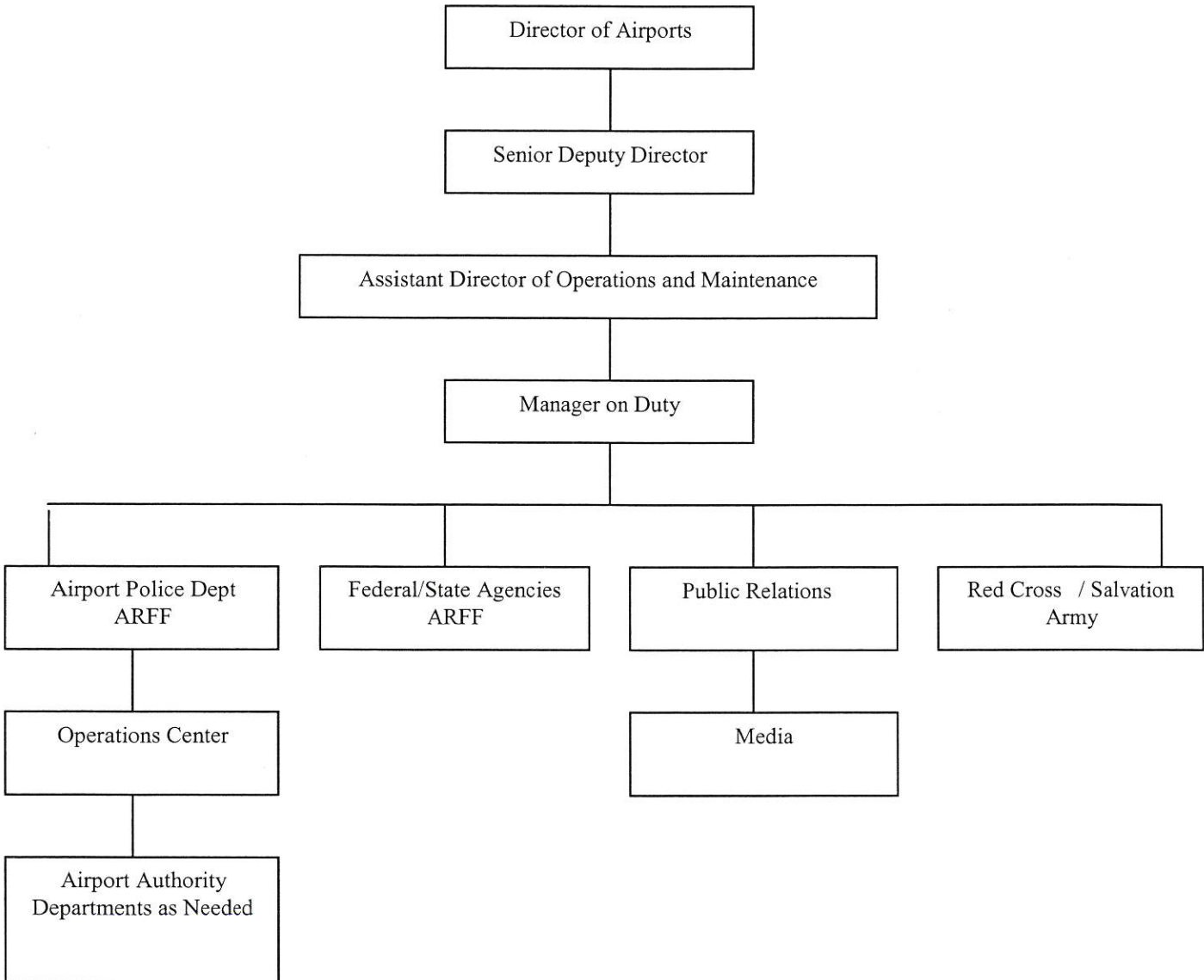

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5. Administration & Logistics
 - a. The Airport Authority is responsible for the procurement of its own essential supplies that are needed for an evacuation operation. Airport Authority and other city-owned transportation are available for use during the evacuation process (if needed).

6. Plan Development/Maintenance
 - a. Annual review of the Protective Actions section, in addition to plan development and maintenance, is the responsibility of the Airport Operations Department and the Emergency Planning Committee.

7. Authorities & References
 - a. Reference pages 325-35 and 325-36.

8. Protective Actions Organizational Chart



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F. LAW ENFORCEMENT

1. Purpose

- a. The **Law Enforcement** section and Code 1000 program provides information and identifies the methods used to mobilize and manage law enforcement services in response to a disaster/emergency. Code 1000 is a detailed document that summarizes the available personnel and the location of additional equipment from other jurisdictions. It also provides an overall statement of response capabilities. Code 1000 exists to protect life and property as well as to ensure rapid access for all emergency responders/equipment to the disaster /incident site as well as provide rapid egress to awaiting medical facilities.

2. Situation

- a. Law enforcement would play a critical role in the event of a major disaster or incident within the physical confines of Lambert Airport.
- b. It is possible that situations could arise which would tax the Airport Police Department resources. Local law enforcement resources (Code 1000), in addition to outside resources (Federal, State, etc.) should adequately fill any supplementary assistance needed by the Airport Police Department.
- c. Telephone calls regarding a potential or impending disaster/incident may be received directly to the Airport Police Department (314-426-8100) or through the St. Louis County Police Department should an individual dial "911" from a telephone on airport property.
- d. Severe weather conditions are monitored and reported to the Airport Police Department and everyone else who has a need to know by the Operations Center. The Operations Center monitors a weather radar as well as weather forecasting services.

3. Assumptions

- a. During an on property disaster/incident (Alert 3), all law enforcement activity will be under the direction and control of the Airport Police Department (Incident Command System).
- b. It is expected that a large-scale disaster/incident will initially tax or exceed the law enforcement capabilities of the Airport Police Department. It is also expected that the majority of outside resources (Code 1000 and other) will respond when called upon. Participating agencies should have sufficient personnel on duty without having to compromise the safety and well being of their communities.

M. M. Miller

Date: JUN 26 2014

4. Operations/Assignment of Responsibilities

a. Airport Police Department - Primary

- 1) The Airport Police Department is responsible for the protection of life and property as well as to enforce law and order.
- 2) The Airport Police Department is responsible for providing perimeter security as well as security of the Security Identification Display Area (SIDA) and the Airfield Operations Area (AOA) per the Airport Security Plan (ASP) as required by the Federal Aviation Administration (TSR 1542).
- 3) The Airport Police Department is responsible for providing traffic and crowd control with the primary emphasis being on ensuring that all emergency responders have rapid access to the disaster/incident site as well as quick egress to awaiting medical facilities.
- 4) The Airport Police Department is responsible for assisting with any evacuations or search and rescue efforts. The Airport Police Department will provide scene security at any and all necessary locations – including the disaster/incident site, Emergency Operations Center (EOC), morgue, etc.
- 5) The Airport Police Department will provide who shall serve as a liaison with the media as well as occupy and represent the police department in the EOC.
- 6) The Airport Police Department may be responsible for assisting with any special escort needs.

b. Local Police Agencies - Secondary

- 1) Local police agencies that respond to assist with the disaster/incident have the following assigned responsibilities – traffic/crowd control, protection of life and property, and that of ensuring rapid access and egress of all emergency personnel/vehicles to and from the site.

5. Plan Development/Maintenance

- a. Annual review and maintenance of the Code 1000 Program is the responsibility of the Airport Police Chief and the St. Louis County Police Chief. Any changes in the Code 1000 Program should then be reviewed by the Airport Operations Department and inserted into this plan. The Airport Police Chief, St. Louis County Police Chief, and all other Police Chiefs affiliated with the Code 1000 Plan are responsible for ensuring that their departmental SOP's have been updated to reflect any changes/modifications.

6. Authorities & References

- a. Reference pages 325-35 and 325-36.

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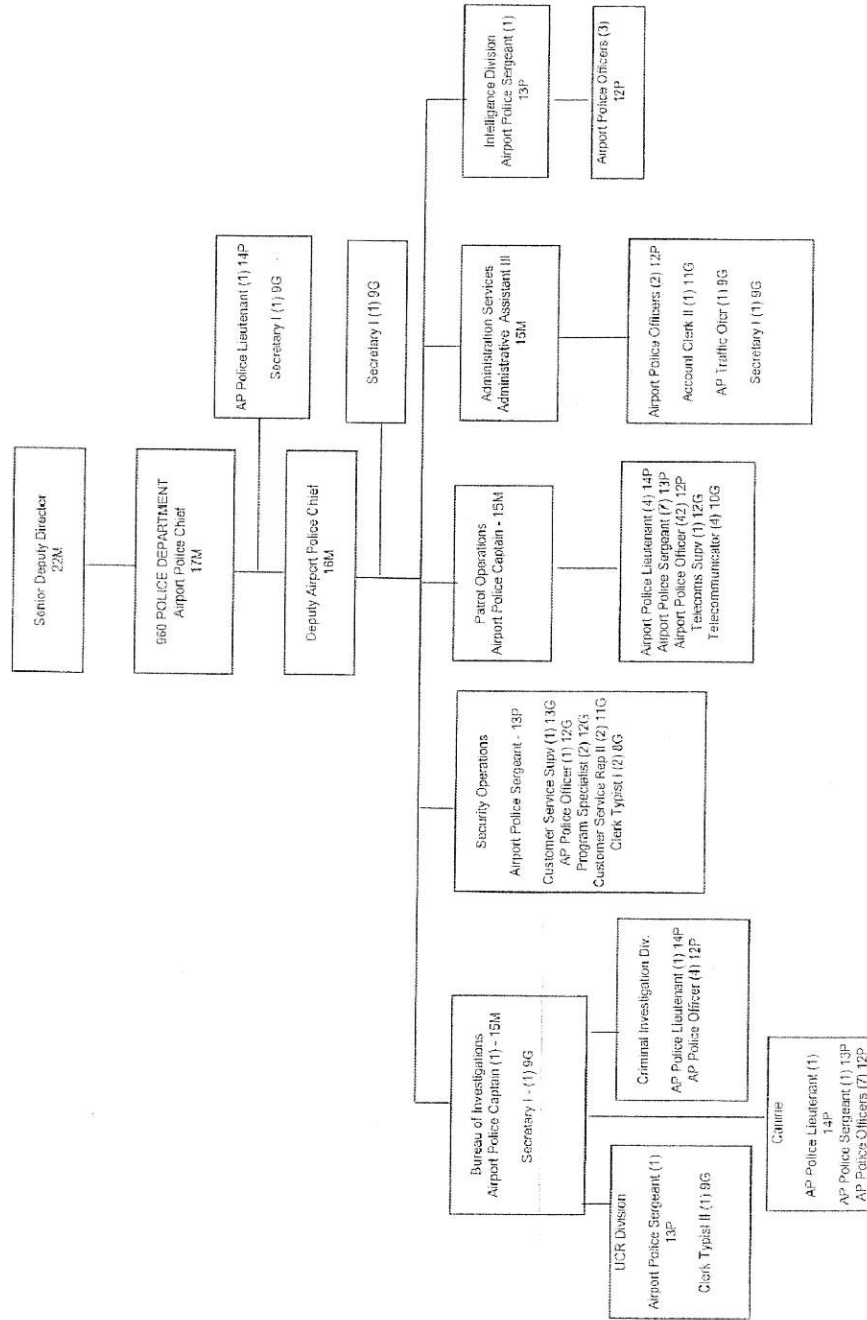
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8. Airport Police Department Organizational Chart

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART

August 12, 2013

POLICE DEPARTMENT



(*Organizational Chart is subject to change due to ongoing changes within the Federal Aviation Administration, Department of Transportation, and aviation industry in general.)

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Date: JUN 26 2014

G. FIRE & RESCUE

1. Purpose

- a. The **Fire & Rescue** section identifies the methods used in mobilizing and managing fire and rescue services in response to emergencies. It includes a summary of the personnel and equipment, where they are located, general notification procedures, and an overall statement of capabilities. The main focus of the Fire & Rescue section is to establish procedures and to organize all outside resources so there is no doubt as to our ability to respond and meet all needs surrounding a significant disaster/emergency.

2. Organization/Assignment of Responsibilities

a. Aircraft Rescue and Fire Fighting (ARFF) - Primary

1. The Lambert-St. Louis International Airport® is subject to many hazards and situations that could overwhelm fire and rescue resources as well as hinder firefighting activities. The main responsibilities that fall upon fire and rescue agencies are as follows – fire suppression, search and rescue efforts, administration of basic first aid, and response to hazardous materials incidents.

b. City/County Fire - Secondary

1. The Lambert-St. Louis International Airport® has organized outside assistance through other fire service agencies via written mutual aid agreements in addition to aid from local, state, and federal government agencies.

3. Situation

- a. The following information describes Lambert Airport's overall Airport Rescue & Fire Fighting status to include the certification elements of 14 CFR Part 139.

1) **139.315 Aircraft Rescue & Firefighting: Index Determination**

Lambert-St. Louis International Airport® maintains vehicles and personnel meeting the requirements of an Index "D" Airport, air carrier aircraft at least 159 feet but less than 200 feet in length. Should air carrier departures increase to an average of 5 or more aircraft per day that are at least 200 feet in length, the Lambert ARFF District will increase its index to meet the new index requirements. Air carriers will not be allowed to begin operations of larger aircraft until the Lambert ARFF District meets the requirements of the next higher index.

2) **139.317 ARFF Vehicles and Capabilities**

The vehicles which make up the Aircraft Rescue and Fire Fighting District at Lambert-St. Louis International Airport are listed, along with their descriptions and capabilities, on Page 317-2. In addition, ARFF vehicles are available for use from Boeing Corporation listed on page 317-3. These vehicles range from 1,000 gallon to 3,000 gallon trucks. These vehicles may on occasion be stationed at any

of the Lambert ARFF District Houses and manned by Lambert ARFF District personnel in meeting requirements of an Index "D" Airport.

Along with the vehicles listed on Page 317-2, the ARFF Stations also maintain several pieces of "Front Line" structural fire equipment and several "Reserve" fire apparatus.

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LAMBERT-ST LOUIS INTERNATIONAL AIRPORT ARFF EQUIPMENT

VEHICLE NUMBER	VEHICLE TYPE	MANUFACTURER	GENERAL CONDITION	MANNING STATION	AGENT	WATER	3% FOAM	(PURPLE-K) CHEMICAL	HALOTRON	TYPE OF ASSIGNMENT
40	LADDER TRUCK	1989 - SIMONLI 110'	POOR	ØN	A/B	200/1500	20			AERIAL REACH
41	CHIEF VEHICLE	2013 - CHEVROLET TAHOE	Good	1N						COMMAND VEHICLE
42	QUICK RESPONSE	2006 MARK I QUAD AGENT	Fair	2N*	A/B	100/60	10	500/5 PSI	120/PSI	RAPID RESPONSE
43	ARFF	2013 - OSHKOSH STRIKER-3000 SNOZZLE	New	2W	A/B	3000/1500	420	700/5PSI	500/5 PSI	PENETRATE NOZZLE
44	PUMPER	1996 - SALISBURY 65' TELESQUIRT	Fair	2N	A/B	500/2000	20			STRUCTURE PUMPER
45	ARFF	2003 - OSHKOSH STRIKER-3000	Good	2N	A/B	3000/1500	420	700/5PSI	500/5 PSI	ARFF
46	ARFF	2007 - OSHKOSH STRIKER-3000 SNOZZLE	Good	2N	A/B	3000/1500	420	700/5PSI	500/5PSI	PENETRATE NOZZLE
47	HAZ-MAT	2002 - GRUMMAN - M155	Good	ØN						HAZARDOUS MATERIAL
48	ARFF RIV	2012 - OSHKOSH STRIKER-1500	New	2N	A/B	1500/700	210	500/5PSI	500/5PSI	ARFF
49	QUICK RESPONSE	2005 MARK III QUAD AGENT	Fair	1W	A/B	300/60	10	500/5PSI	120/PSI	RAPID RESPONSE
50	ARFF RESCUE	2008 F-550 Rosenbauer	Good	2W						MINI RESCUE
51	TRAINING OFFICER	2007 - CHEVROLET TAHOE	Good	1N						TRAINING OFFICER
52	ARFF	2006 OSHKOSH STRIKER-1500	Good	2W	A/B	1500/700	210	500/5 PSI		ARFF
53	QUICK RESPONSE	2006 CRASH RESCUE/ACCESS AIR	Good	2N*	A/B	90/80	10	500/5 PSI		STAIR TRUCK

* Reduce Manpower on vehicle when required

A = CAPACITY B = GALLONS PER MINUTE or POUNDS PER SECOND

1st Crash Truck must arrive at the Mid-Point on the farthest runway within 3 minutes discharging agent; 2nd Crash Truck 1 minute later discharging.

Revised: 12/17/15

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Date:

JAN 25 2016

RESERVE ARFF EQUIPMENT AVAILABLE AT BOEING

VEHICLE NUMBER	VEHICLE TYPE	MANUFACTURER	GENERAL CONDITION	MAINT STATION	AGENT	WATER	3 & FURF	CHEMICAL	HALOTRON	TYPE OF ASSIGNMENT
7980	ARFF	OSHKOSH T1500 2005	NEW		A/B	1500	210	500/5 PSI	450/5 PSI	RESERVE
7988	ARFF	OSHKOSH T1500 2009	NEW		A/B	1500	210	500/5 PSI	450/5 PSI	RESERVE

* A= CAPACITY * B= GALLONS PER MINUTE OR POUNDS PER SECOND
The First Vehicle must arrive at the Mid-Point on the Farthest Runway within 3 minutes; all other 1 Minute later.

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M. Mueller

Date: JUN 26 2014

3). 139.319 Aircraft Rescue and Fire-Fighting Operations (ARFF)

1. ARFF HOURS OF OPERATION

The Lambert ARFF District maintains airport Index "D" personnel and vehicles in a continuous ready-state 24 hours a day, 365 days a year. ARFF personnel and equipment are capable of responding to any incident, aircraft or non-aircraft related, any time.

2. ARFF OPERATIONS/ORGANIZATION

The ARFF District of Lambert-St. Louis is the Eighth District of the St. Louis Fire Department. It consists of Firefighters, Company Commanders, a Training Officer and a Chief Officer. Currently this District has 7 units of ARFF apparatus, 2 units of Rescue apparatus, 2 units of Structural firefighting apparatus and 2 Staff vehicles. Personnel and equipment are based in two ARFF Stations on the Airport. The North Station is located near the intersections of Taxiway F6 and Taxiway F7. The West Station is located at 4640 Fee Fee Rd., on the north side of 11-29. The goal of this District is fire prevention and the protection of life and property. This is accomplished by the ongoing training of ARFF personnel in the subjects listed on Page 319-3. This also includes training with Mutual Aid Departments that respond to Lambert for an emergency. Off Airport response is approved by the Director of Airports, only if the Airport's index is not lowered as required in FAR Part 139.319.

3. ARFF VEHICLE COMMUNICATIONS

All ARFF vehicles at Lambert are equipped with the following two-way radios:

- A. Air traffic ground control radios, three frequencies;
- B. Vehicle-to-vehicle/vehicle-to-ARFF Station radios;
- C. ARFF Chief's vehicle, Training Officer's vehicle, and Truck 42 are equipped with mobile telephones.
- D. ARFF Chief vehicle equipped with 800 MHz Airport Management radio frequency.

In addition, hand-held portable 800 MHz frequency radios are carried by ARFF personnel.

Some pieces of ARFF equipment are also equipped with external public-address speakers.

4. ARFF VEHICLE MARKING AND LIGHTING

All ARFF vehicles attached to the Lambert ARFF District are marked and lighted in compliance with A/C 150/5210-5C, current edition, Painting, Marking, and Lighting Of Vehicles Used On An Airport.

Currently all vehicles except the Chief's and the Training Officer's vehicle of the Lambert ARFF District are painted lime-yellow with black markings and are equipped with emergency and non-emergency lighting.

5. ARFF VEHICLE MAINTENANCE AND COVER

A. Maintenance: All City-owned ARFF vehicles stationed at Lambert are inspected and maintained on the following basis:

- 1.) Daily by drivers (Inspection forms at the end of this section);
- 2.) Weekly by mechanic;
- 3.) As scheduled by mechanic (12-24 hour preventive maintenance program).

B. Cover: All ARFF vehicles, personnel, and equipment are provided with temperature-controlled, completely encompassing shelter in both ARFF Stations at Lambert.

6. INOPERABLE ARFF VEHICLE PROCEDURES

In the event of a piece, or pieces, of ARFF equipment becoming inoperable and thus losing its full operational ready-status, the Airport Fire Chief will notify the Operations Center. At this time, the approximate amount of time the vehicle is expected to be out of service will be noted and mutual aid agreements will be invoked so that a temporary replacement vehicle may be obtained from Boeing Corporation.

Procedures outlined in FAR Part 139.319, (g), and FAR Part 139.339, (8) will be followed in the event of ARFF equipment becoming inoperable.

7. ARFF VEHICLE RESPONSE CAPABILITIES DURING AIR CARRIER OPERATIONS

ARFF quick-response vehicles, when assisted by the Air Traffic Control Tower, are capable of reaching the midpoint of the farthest runway on the Airport from their respective ARFF Stations and begin rescue/firefighting operations within 3 minutes of notification. Remaining required vehicles will respond within 4 minutes of notification and begin rescue/firefighting operations.

ARFF vehicles responses are in compliance with FAR Part 139.319 (h).

8. ARFF PERSONNEL

The Lambert ARFF District consists of three shifts of Firefighters with 15 Firefighters (minimum) and 2 Company Commanders assigned to each shift. The Lambert Fire Chief is present during the day shift and on an as-needed and emergency basis. Firefighters and Commanders are quartered in the ARFF Stations 24 hours a day, year round.

All ARFF personnel are equipped with the latest in aircraft fire protection clothing and equipment in accordance with FAR Part 139.319 (i).

9. ARFF PERSONNEL TRAINING

The current training of ARFF personnel is maintained and delivered by the Training and Safety Officer of District 8. Training includes but is not limited to:

- Airport Familiarization
- Aircraft Familiarization
- Personal Safety
- Everyday Communications/Fire Alarms
- Use of Firefighting Equipment/Turrets/Appliances
- Types/Applications of Extinguishing Agents
- Aircraft Evacuation Assistance
- Firefighting Operations
- Adapting/Using Structural Rescue and Fire Fighting Equipment for Aircraft Rescue and Fire Fighting
- Hazards of Aircraft Cargo/ Hazardous Materials Response
- Airport Emergency Plan

All ARFF personnel are to be trained annually on an ongoing schedule. Training records are maintained on file for no less than 24 months.

10. ARFF EMERGENCY MEDICAL PERSONNEL

The ARFF District has at least one Firefighter on duty daily (24 hours a day), trained and accredited in basic emergency medical care. This is a minimum of 40 hours of training in the following areas:

- Bleeding
- CPR
- Shock
- Primary patient surveys
- Injuries to skulls, spine, chest, extremities

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Internal injuries
Movement of patients
Burns
Patient triage

In addition to the members of the ARFF who are medically trained, Lambert Airport maintains a contractual agreement for an ambulance service with at least one Paramedic and one EMT on duty and on call 24 hours a day, year round.

11. ARFF ALERTING SYSTEM/TESTING

The ARFF District is notified by the following in the case of a fire alarm, building incident, airfield or aircraft incident:

426-8133 Emergency Telephone Number;
Via the Airport Police Dispatcher;
Via the Airport Operations Center;
Via the Air Traffic Control Tower;
By way of heat/smoke/sprinkler systems and alarms throughout the Airport Terminal Buildings and Airport Buildings;
By way of CRT and computer printouts in each ARFF Station;
By way of a horn and siren system located in each ARFF Station.

Tests of these systems are completed daily.

In addition to the ARFF alarm system, a public address system with voice paging, fire warning klaxons, and emergency evacuation messages is housed in the Operations Center for use in Airport Terminal 1. This system is activated by the Operations Center personnel when necessary and is tested once per month.

12. HAZARDOUS MATERIALS GUIDANCE

Each ARFF vehicle is equipped with the North American Emergency Response Guidebook.

13. ARFF EMERGENCY ACCESS ROADS

At the present time, Lambert-St. Louis International Airport has no designated ARFF emergency access roads; however all service roads, access roads, and Airport roadways are available for use by emergency vehicles. In addition, a gravel road exists which surrounds the inner perimeter of the airport. All paved roads and the gravel roads are maintained so as to be usable by ARFF vehicles or other Airport vehicles as practicable.

Additionally, all Airport surfaces, paved or turf, are designed and maintained for use by ARFF or other Airport vehicles as practicable, weather permitting.
See Appendix B for Airport Roadways.

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**St. Louis Fire Department
Lambert St. Louis International Airport
Daily Apparatus Check Sheet - T 1500 & T 3000**

Truck: _____		Road Miles: _____	
Month: _____ Year: 2018		Starting: _____	
		Engine Hours: _____	
** ITEMS TO BE CHECKED **		OPERATOR SIGNATURE	D A Y
1. LUBRICATING OIL LEVELS (engine, trans, differential, power steer.)			
2. COOLANT; FUEL (fuel above 3/4)			
3. LEAKS (oil, fuel, coolant, air, exhaust, etc.)			
4. DRIVE BELTS (tension, condition)			
5. TIRES, WHEELS AND LUG BOLTS FOR TIGHTNESS, PRESSURE OR DAMAGE.			
6. BATTERIES FOR FLUID LEVEL, DAMAGE, CLEAN AND BATTERY CHARGE.			
7. CLEANLINESS, DAMAGE, MISSING ITEMS AND CORROSION (interior/exterior)			
8. GENERATOR OIL/FUEL (start and test halogen lights)			
9. PUMP CLUTCHES (operate foam and water clutches with engine off)			
** ENGINE/DRIVING CHECKS **			
10. PARKING BRAKE AND STOPPING BRAKES.			1
11. STEERING/SPRINGS AND SHACKLES FOR OPERATION AND DAMAGE.			1
12. SAFETY DEVICES (lights, buzzers, extinguishers, seat belts)			1
13. OPERATION OF ALL LIGHTS, SIRENS, HORNS AND MIRRORS.			1
14. SPECIAL TOOLS AND EQUIPMENT, (inventory)			1
15. AGENTS (Foam, Water, Halon, Dry Chem.)			1
16. HEATER/DEFROSTER/AIR CONDITIONER			1
17. WINDSHIELD/WIPERS/WASHERS			1
18. INSTRUMENTS AND GAUGES (during operation)			2
19. UNUSUAL NOISES (during operation)			2
20. SWITCHES SET FOR PROPER OPERATION (dash and panel)			2
21. HANDLINES/UNDERTRUCK NOZZLES (operation)			2
22. TURRETS (hydraulic and manual operation)			2
23. PUMPS/PIPING AND VALVES FOR LEAKS OR CORROSION (operation)			2
24. FIRE RADIO (trans/receive) GROUND (receive test)			2
			2
ITEM	DATE	W.O.	CAPT.

420-11B (ML92)

TURN IN WITH MONTHLY REPORTS

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M. K. Miller
Date: JUN 26 2014

NOTES

(1) **ENGINE OIL CHECK**

The engine oil level is checked with a dipstick mounted on the right rear of the oil pan. The oil filter cap is on the front of the RH valve cover. Check with engine shut-off and COLD. Add oil to bring the level to "full" mark on dipstick.

(2) **DRIVE BELTS**

Belts should be checked for frayed areas, cracks and general wear.

(3) **COOLANT LEVEL**

Check coolant level at sight glass, mounted on radiator to tank, add coolant as required. 60% anti-freeze. Make notation if rusty looking.

(4) **TRANSMISSION**

Check transmission oil level with dipstick which is located above the frame rail, in the LH center body compartment, ahead of the water pump. Check with truck on level ground, transmission warm, with engine running and parking brake applied. Shift the transmission through all drive ranges to fill the clutch cavities and oil passages, then shift to neutral.

(5) **POWER DIVIDER**

Check power divider oil level with dipstick located in lower forward area of engine RH compartment. Check level warm, engine off.

(6) **PARKING BRAKE**

The parking brake shall hold at a 50% incline or decline.

(7) **POWER STEERING/TURRET HYDRAULIC RESERVOIR**

The steering/turret reservoir is mounted on the RH side of the engine. Check oil level with the engine shut off. Fill cap on reservoir has dipstick.

(8) **BATTERIES**

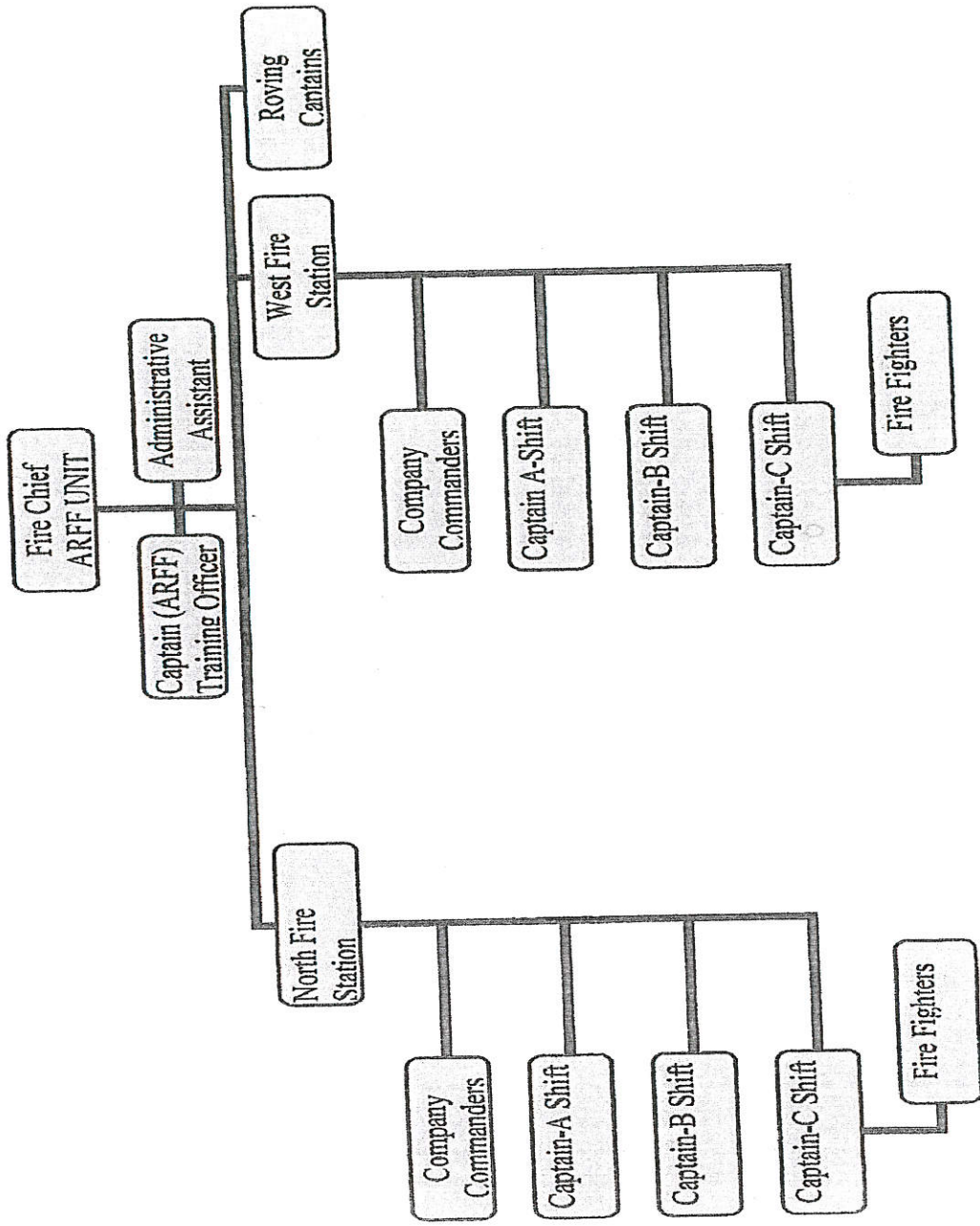
The batteries are mounted on a slid-out tray in a compartment on the LH side. Check and maintain the electrolyte level in batteries $\frac{1}{4}$ to $\frac{1}{2}$ inch above the top of the separators. Check specific gravity should read 1.265 at 80° F full charge, and 1.120 at 80° F discharged.

(9) **LOW AIR WARNING SYSTEM**

With parking brake on, pump foot brake while watching air pressure. Buzzer should activate when pressure drops below 65psi.

6. Aircraft Rescue and Fire Fighting Organizational Chart

Aircraft Rescue and Fire Fighting Organization Chart



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M. Muller
Date: JUN 26 2014

H. HEALTH & MEDICAL

1. Purpose

- a. The **Health & Medical** section identifies the methods used in mobilizing and managing health and medical services in response to emergencies. The Health & Medical section was developed to ensure that the Lambert-St. Louis International Airport® has the ability to provide the necessary medical services following a disaster/emergency of any type of magnitude.

2. Situation

- a. Any delays regarding arriving health and medical support could result from the very disaster/emergency itself in addition to potential traffic congestion, roadway damage, etc. This is not considered a significant threat as the Lambert-St. Louis International Airport® is surrounded by several highways and transportation routes.
- b. Emergency Medical Services (EMS) is the primary Triage, Treatment, & Medical Transport service utilized by the Lambert-St. Louis International Airport® with backup medical service and ambulance transportation from the surrounding communities.

3. Assumptions

The following assumptions reference Health & Medical can be made –

- a. A major disaster/emergency occurring at the Lambert-St. Louis International Airport® would create medical concerns and activity beyond the routine day to day medical operations.
- b. The Lambert-St. Louis International Airport's Medical Disaster Plan is a comprehensive guideline that identifies the steps to be initiated in the event of a disaster/emergency where numerous casualties have occurred. The Medical Disaster Plan identifies all outside medical resources that are available for response and support when called.

4. Operations

- a. The Airport Authority Senior Deputy Director and the Airport Operations Department have the responsibility of formulating, verifying and reviewing the contents of the Airport's Emergency Plan and the Medical Disaster Plan on an annual basis. The Airport Medical Director also bears responsibility for ensuring that the Medical Disaster Plan is solid and addresses all perceived, and real, medical needs.

5. Medical Disaster Plan

- a. In the event of an aircraft accident or incident occurring in which numerous casualties are sustained, this medical plan shall immediately be initiated. This

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plan represents general guidelines to be followed and may be amended in order to meet the situation at hand.

- b. The first paramedic or physician to arrive on the scene shall take charge of the medical effort until relieved by a higher authority or the Airport Medical Director.
- c. The Staging Officer shall be responsible for:
 - 1) Hospital availability role call.
- d. The Triage Officer shall be responsible for:
 - 1) The categorization of casualties;
 - 2) Directing and tagging of casualties;
 - 3) Directing the stabilization of casualties;
 - 4) Directing the transportation of the casualties to designated hospitals.
- e. Ambulance & Transportation Provisions
 - 1) Ambulance and medical transports can be expected to be contacted via their dispatchers. Medical evacuation helicopters from various local hospitals will also be contacted via the St. Louis County Office of Emergency Management for dispatch to the scene. Along with these aircraft, local media helicopters and other privately owned helicopters may be enlisted to assist with the medical rescue effort.
 - 2) The Primary Staging area for responding Ambulances is located on the western portion of the ramp, near the Emergency Supplies Building. The units will remain in this staging area, secured, until directed to an additional staging area in close proximity to the disaster scene, if necessary, by the Airport Incident Commander through the EMS Officer at the site.
- f. Casualty Identification Tag
 - 1) The Casualty Identification Tag shown on page 325-95 and 325-96 is of utmost importance when maintaining records on the victims of a disaster. Each tag has an identification number stamped on the tag; this number becomes the victim's identification for record keeping logs. The tag is a SB-Triage tag which is durable, water and abrasion resistant material suitable for decon use. EMS services have scanner software for tracking the information. If used properly they will provide a continuous record of where the victims were found, what ambulance transported and to which hospital and three tear-off labels with specific triage status color, on the bottom, listing the priority location for the victim to be placed in the treatment area. The tag becomes a wristband by threading the end through the slot. To further extend the size, thread the end of the wristband through the slot (e.g. the extended size option is used when banding an ankle instead of a wrist). After the size has been adjusted the tag is secured by removing the adhesive tab covering that states "peel here". One may be attached to a location flag. The back has space for

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personal information of the victim, if obtainable, space for a primary survey by EMS including time stats are taken, blood pressure, pulse, etc.

- 2) Tag will be attached to victims and the items on the tag are to be filled in and priority designated by EMS personnel only.
- 3) Ambulance units tear a barcode label off tag and place in container listing the hospital where the victim was transported.

g. Marking Flags

Marking flags are found in the Triage Trailer. The marking flags are identification tools which are placed or stuck in the ground to show where the victim was found and transported from. These flags are important for investigative purposes, and along with the Casualty Tags will provide information in case of contamination of the victims by a hazardous material or contaminant found in the area.

h. Some events that EMS units may expect to perform are

- 1) Perform an on site primary survey and attach a Casualty Identification Tag (see page 325-94 and 325-95) to the injured person denoting their placement when transported to the treatment area. Prior to movement of injured, the site where they are located shall be indicated with an orange marker flag and one of barcode labels from the tag shall be attached to the flag.
- 2) Transfer patients from the treatment area to area hospitals as directed by EMS Officer. Ambulances will go only to the hospitals they are directed to, and in no case will wounded or uninjured, prior to transfer to a hospital, must be tagged and a barcode label of the tag retained at the treatment area.
- 3) Air ambulances will be reserved for the most severe casualties. Patients on air ambulances may bypass the treatment area in order to expedite their arrival at hospitals but they must have a "Casualty Identification Tag" and the number recorded.
- 4) As directed by the situation, an additional ambulance staging area may be established in close proximity to the disaster scene at the discretion of the Incident Commander and the EMS Officer on scene.
- 5) Ambulances will be ordered to report back to the "Primary Staging" area, near the Emergency Supplies Building, through Gate 17S, on completion of their trips to a hospital, unless otherwise directed.

Ambulances are readily available for dispatching to the scene from the City of St. Louis Fire Department Bureau of EMS Medical Services and surrounding communities.

i. Medical Assistance

- 1) In the event of a disaster requiring major medical assistance, City Fire EMS may call on any or all of the hospitals located within St. Louis County and St. Louis City. If necessary, medical teams from these hospitals will be dispatched to the scene to assist. Otherwise, the hospitals will be notified to

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initiate their mass-casualty plans. Total in-patient capacity is roughly 750 persons with some hospitals being able to handle more than others. A listing of area hospitals is located on page 325-90 of this Section.

- 2) First aid personnel and litter bearers will be made up of Airport personnel from the Airport Authority and the airline tenants. These personnel will be assembled at their departments or the Emergency Supplies Building ramp or other suitable sites where they may be easily transported to the scene to assist in rescue operations. All personnel responding to rescue operations will be supplied with viable identification to signify them as rescue workers.
- 3) It is feasible that there may be too many rescue workers at the site. Therefore, if this situation develops, unnecessary or extra personnel will be directed back to the personnel staging area where they will be asked to standby until needed or assigned other tasks.
- 4) The St. Louis City and County Medical Examiners will be dispatched to the site where they will take charge of fatalities. These personnel and their staff will assemble fatalities in a temporary morgue where they will attempt to make identifications until such time as fatalities may be moved to a more adequate location.

j. Provisions for the Injured/Uninjured/Deceased

- 1) As stated earlier, all victims must go through Triage, and tagged before transporting.
- 2) Injured and uninjured persons will be taken through Triage for examinations before they will be released. Injured persons will be kept at Triage until such time as they are taken to area hospitals. Injured persons shall be dispatched to the hospitals in priority of injuries. American Red Cross and Salvation Army Teams shall set up assistance areas for the less injured to receive nourishment, comfort or provisions as needed.
- 3) Uninjured persons, after being checked out in the Triage, will be taken to the Survivor Center where they will be afforded an area of protection from the elements as well as an area away from media personnel. These persons will be given access to telephones and every effort will be made to aid them. Airport Clergy will also be available for religious comfort.
- 4) In the event of multiple fatalities, the Missouri Air National Guard (MOANG) has agreed to let their hangar act as a temporary morgue if it is not already in use as a treatment area. A private contractor will be notified as soon as it is readily apparent that there will be fatalities, and to dispatch to the Airport no less than two refrigerated trucks. These trucks will be sent to the MOANG hangar where the bodies will be loaded on to them until such time as the incident has terminated and the bodies may be moved to an appropriate morgue for examination and identification.

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6. AREA HOSPITALS

a. Level I Trauma Center

Barnes-Jewish	City
St. John's Mercy Medical Center (Burn)	County
St. Louis University	City
St. Louis Children's (Pediatrics/Burn)	City
Cardinal Glennon Children's (Pediatrics)	City

b. Level II Trauma Center

Christian - Northeast	County
DePaul Health Center	County
St. Anthony's	County
St. Joseph Health Center	St. Charles City

c. Other

Barnes-Jewish West County	County
Des Peres	County
Missouri Baptist	County
St. Alexius	City
St. Clare	County
St. Luke's (Hyperbaric)	County
St. Mary's	City
VA Medical Center, John Cochran	City

NOTE: All phone numbers are maintained in Operations Center.

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7. Organization/Assignment of Responsibilities
- a. St. Louis Fire Department EMS Division (City EMS) – Primary/Secondary
(*Note, City EMS is primary if disaster/incident occurs within the confines of the perimeter fence line but secondary if occurring outside these boundaries.)
 - 1) City EMS has the responsibility of establishing the EMS Command Post:
 - (a) EMS representative responds to Airport Authority Emergency Operations Command Center (EOC) Bus.800 working in conjunction with Police and Fire personnel at the Command Post.
 - 2) City EMS will conduct an initial survey and assessment regarding medical needs pertaining to the disaster/emergency.
 - 3) City EMS will provide first aid, triage, and transportation to medical facilities. Those in need of emergency medical care will be identified and shall receive treatment and transportation first.
 - 4) City EMS is responsible for overall site coordination as far as health and medical is concerned.
 - 5) City EMS Units shall provide secondary medical support and transportation assistance to County EMS Units in the event that the disaster/emergency takes place outside the perimeter fence line.
 - b. St. Louis City Fire Department Medical Director – Primary
 - 1) The Airport Medical Director is responsible for making sure that all perceived and real medical needs are addressed and that the Medical Disaster Plan itself is sound.
 - 2) The Airport Medical Director may, or may not, be able to respond to the EOC but will designate a representative in his/her absence who will provide guidance before, during, and after the disaster/emergency.
 - c. Aircraft Rescue and Fire Fighting (ARFF) – Primary/Secondary
 - 1) ARFF will provide rescue operations first and then basic first aid to disaster/emergency victims.
 - d. County EMS – Primary/Secondary
(*Note, County EMS is primary if disaster/incident occurs outside the confines of the perimeter fence line but secondary if occurring within these boundaries.)
 - 1) County EMS has the responsibility of establishing the EMS Command Post and working with Police and Fire at the Command Post.
 - 2) County EMS will conduct an initial survey and assessment regarding medical needs pertaining to the disaster/emergency.
 - 3) County EMS will provide first aid, triage, and transportation to medical facilities. Those in need of emergency medical care will be identified and shall receive treatment and transportation first.
 - 4) County EMS is responsible for overall site coordination as far as health and medical is concerned.

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- 5) County EMS units shall provide secondary medical support and transportation assistance to City EMS Units in the event that the disaster/emergency takes place outside the perimeter fence line.
- e. City/County Fire – Secondary
 - 1) City/County Fire Fighting Units shall provide support to ARFF.
 - f. Airport Chaplain - Secondary
 - 1) It is the responsibility of the Airport Chaplain(s) to provide religious support and assistance to the victims involved in the disaster/emergency. This would also include family and friends of those casualties.
 - g. Airport Environmental/Health & Safety Office – Secondary
 - 1) The Environmental/Health & Safety Office shall ensure that anyone providing emergency medical services has the appropriate safety and personal protective equipment.
 - 2) Provide environmental emergency response, services and coordination with regulatory agencies.
 - h. American Red Cross – Secondary
 - 1) The American Red Cross will provide the following assistance to disaster/emergency victims - evacuation reception centers, shelter, first aid, canteen service, food, clothing, and crisis intervention.
 - 2) The American Red Cross will provide all of the above to emergency workers with the exception of clothing.
 - 3) The American Red Cross will activated and perform assistance duties in accordance with the ADFAA Plan.
 - i. Salvation Army – Secondary
 - 1) The Salvation Army shall provide relief and services to victims of the emergency/disaster in the following areas – evacuation, mass/individual sheltering, clothing, counseling, personal inquiry services.
 - 2) All above relief and services apply to emergency responders as well.
 - j. St. Louis County/City Medical Examiner – Secondary
(*Note, the St. Louis City Medical Examiner has jurisdictional responsibilities in the event that any fatalities associated with the disaster/emergency occur within the confines of the perimeter fence line. The St. Louis County Medical Examiner has jurisdictional responsibilities should any fatalities associated with the disaster/emergency take place outside the perimeter fence line.)
 - 1) The St. Louis County and City Medical Examiner(s) may respond to the disaster/emergency site in order to evaluate the situation and determine the most realistic and appropriate course of action. For example, whether or not it will be necessary to set up a temporary morgue and whether additional supplies, equipment, and manpower will be needed.

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- k. Airport Police Department – Primary/Secondary
 - 1) Take appropriate actions to assist the movement of emergency EMS vehicles from perimeter gate 17S to the Emergency Supplies Building ramp for staging
 - 2) Provide security for the crash site, temporary morgue, in addition to the Aircraft Operations Area (AOA) and Security Identification Display Area (SIDA).
 - 3) Provide traffic and crowd control.
 - 4) Coordinate activities with Transportation Security Administration/Department of Homeland Security (TSA/DHS).

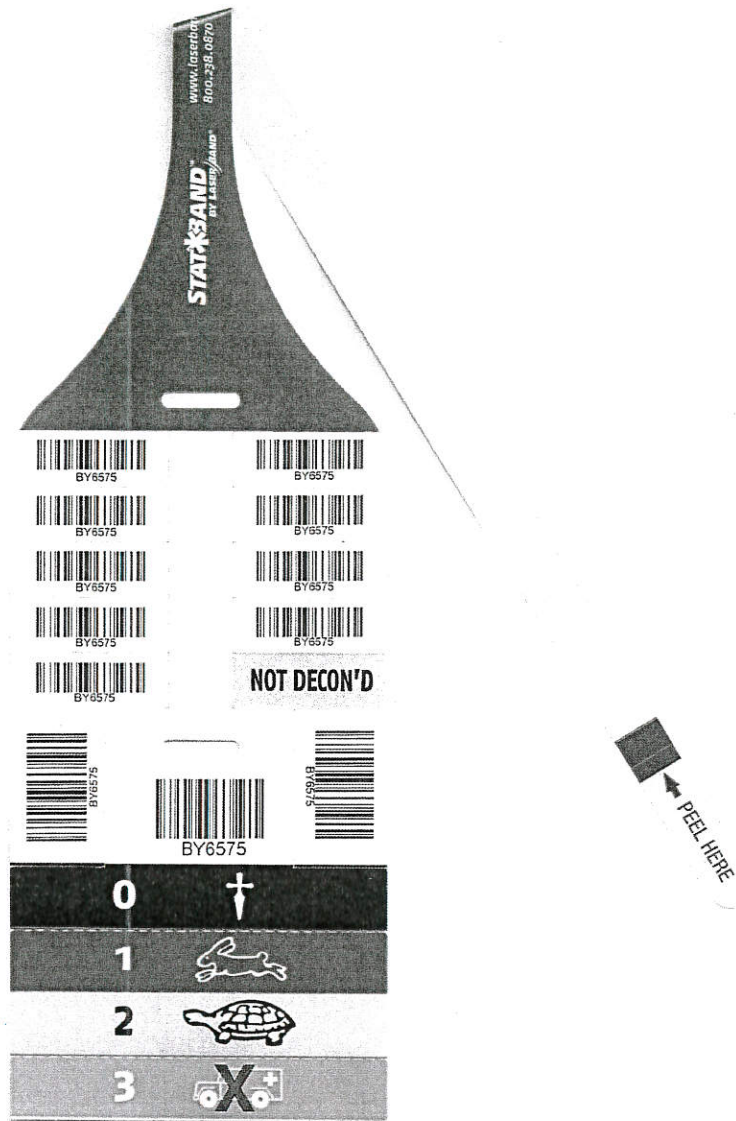
- 8. Administration
 - a. Health and Medical information that should be documented, and reported, to the EOC is information related to injuries, deaths, and incidents of disease.

- 9. Logistics
 - a. All emergency responders should exhaust their supplies/equipment through their own channels prior to contacting the EOC.

- 10. Plan Development/Maintenance
 - a. Annual review, in addition to plan development and maintenance of the Health & Medical section is the responsibility of the Airport Operations Department in conjunction with the Airport Medical Director.

- 11. Authorities & References
 - a. Casualty Identification Tag
 - b. Reference pages 325-35 and 325-36.

11a. Casualty Identification Tags



CASUALTY IDENTIFICATION TAG (front)

325-94

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Date: JUN 26 2014

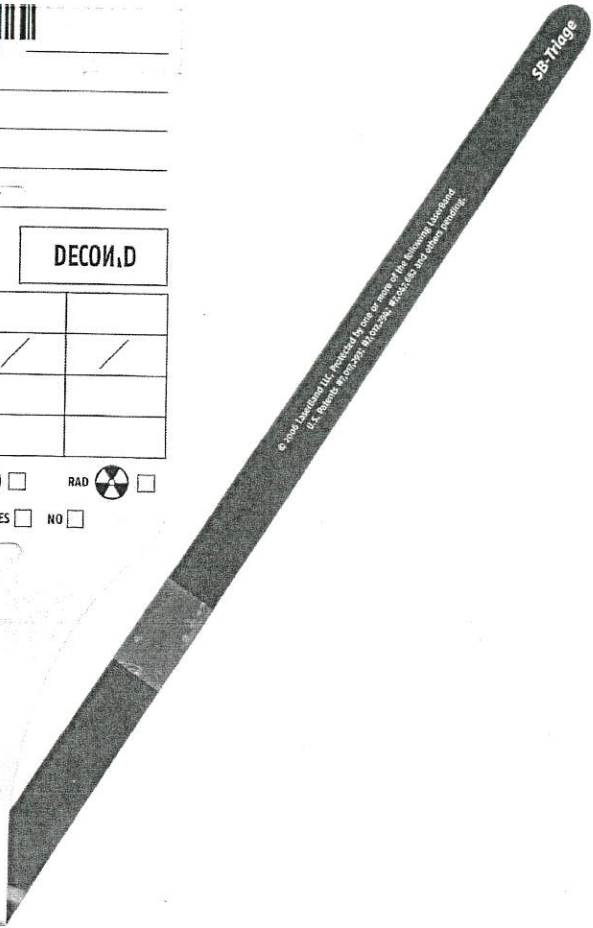
3
2
1
0

DECON,D

TIME			
BP	/	/	/
PULSE			
RESP.			

CHEM
 BIO
 RAD

REQUIRES DECON YES NO



CASUALTY IDENTIFICATION TAG (back)

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Date: JUN 26 2014

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325-96

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Date: JUN 26 2014

I. RESOURCE MANAGEMENT

1. Purpose

- a. The **Resource Management** section will describe the processes by which the Lambert-St. Louis International Airport® will identify, locate, obtain, and distribute resources in an efficient and orderly manner in response to a disaster/emergency.

2. Situation

- a. Through lessons learned, as well as planned drills and tabletop exercises, the Airport Authority believes that we have soundly established ourselves relative to emergency resources. Resource Management activation, and associated support activities, are based on the circumstances reflecting each individual emergency. Resources from responding agencies may experience brief delays due to possible transportation infrastructure damage (i.e. bridge collapse), however, this should be a minor issue as the airport is surrounded by numerous highways and transportation routes. Maps reflecting airport property and the surrounding areas may be found on page 325-107 and 325-108.
- b. In the event that the current Materials Management facility (4780 St. Andrews Lane, Bridgeton, MO 63044) cannot be utilized, the Fleet Maintenance and Airfield Maintenance facilities have been identified as alternate locations for materials/resource management functions. The Fleet Maintenance and Airfield Maintenance Facilities are adjacent to each other and located one block southeast of Materials Management.
- c. The airport's general resource categories that are available in the event of an emergency/disaster are as follows:
 - 1) Materials Management

All available materials, supplies, and equipment are kept in the Materials Management computerized database that is maintained by the Procurement & Purchasing Manager II. Materials Management has an agreement with Grainger (local) that permits us access to virtually any and all supplies/equipment (excluding office supplies and machinery) on a 24-hour emergency basis.
 - 2) Personnel

An abbreviated Airport Authority telephone directory, by department, may be found on pages 325-114 through 325-116. In addition, a document reflecting manpower allocation figures plus individual department organizational charts are on pages 325-117 through 325-132. Note, the Airport Police Department and Airport Rescue and Fire Fighting (ARFF) organizational charts may be found in their respective functional annex. The organizational chart for the Operations Center is in the Alert & Warning functional annex and the Public Relations organization chart may be found in the Emergency Public Information (EPI) section.

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- 3) Vehicles/Heavy Equipment
See pages 325-135 through 325-161 for a complete listing of all available Airport Authority vehicles and heavy equipment.
 - 4) Radio Communications
See page 325-133 for a partial listing of all radio call signs. Complete radio call sign information and an inventory of all available radio communication equipment is routinely updated and on file in the Operations Center.
 - 5) Miscellaneous
 - a) See pages 325-162 through 325-180 for complete listings of all available contract services/equipment from Airfield Maintenance, Building Maintenance, Climate Control, Electric Shop, Environmental/Health & Safety Office, Fleet Maintenance and Housekeeping.
 - b) See pages 325-192 thru 325-197 for a complete inventory of all equipment and supplies maintained in the Emergency Operations Center (EOC); the Triage and Medical Supply Trailers; and the ARFF HAZMAT Vehicle.
5. Assumptions
- The following assumptions reference Resource Management can be made –
- a. Response agencies will be able to sustain themselves during the first 24 hours of the emergency. Emergency response organizations should exhaust their own channels of support prior to turning to Resource Management.
 - b. It is assumed that offers of help – volunteers, services, supplies, and equipment will be received and accepted.
6. Operations
- a. The Purchasing & Procurement Manager (II) is among those initially notified of an impending emergency. The Management Resource function is immediately mobilized upon notification from the Operations Center, Airport Manager on Duty (MOD), Assistant Director of Operations and Maintenance, Senior Deputy Director, or Director of Airport and all imminent needs are identified. Victims of the emergency/disaster take precedence in the allocation of resources with all departments and mutual aid responders having been asked to deplete their own existing resources and materials prior to approaching Resource Management.
 - b. Once notified of the emergency/disaster, the Purchasing & Procurement Manager (II) makes notification to off duty employees with the request to respond to the Materials Management facility. Materials Management employees report to the lunch room and are briefed and given assignments.
 - c. Materials Management employees are cross-trained and capable of performing other tasks and jobs within their department. All other departments are described in section 5. (Organization/Assignment of Responsibilities); have received instructions to respond to their respective lunch/break rooms in order to be briefed regarding the emergency/incident as well as to receive their assignments.
 - d. Requests for routine or everyday supplies/equipment may be made via telephone, email, fax, radio, or in person to Materials Management (dock). All emergency

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requests that fall outside of the scope of everyday supplies/equipment should be directed to the EOC (via telephone or radio) who will handle and process all such special needs.

- e. Materials Management does not anticipate any shortages regarding manpower, vehicles, supplies, or equipment. Materials Management has ready access to additional personnel, vehicles, forklifts, etc. from other Airport Authority departments should the need arise.

5. Organization/Assignment of Responsibilities

a. Airport Authority Departments – Primary

1) Materials Management

- a) The Procurement/Purchasing Manager II will activate resource management operations and all associated employees upon receiving notification of the emergency/disaster from the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director of Airports.
- b) The Procurement/Purchasing Manager II will confer with management personnel noted above to determine immediate and priority needs reference the emergency.
- c) The Procurement/Purchasing Manager II will make notification to the EOC if it is determined that additional employees are needed within Materials Management. If possible, notification will be made to the appropriate suppliers and vendors whereby placing them on alert status for materials, equipment, and service needs.

2) Building Maintenance

- a) The Building Maintenance Supervisor, and/or designee, will activate additional manpower if needed or requested by the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or Director of Airports.
- b) Building Maintenance will acquire, deliver, and set up the News Media Center in the JoAnne Wayne Conference room with a pre-determined number of chairs, tables, podiums, and microphones.
- c) The Building Maintenance Supervisor, and/or designee, will order and arrange for the delivery and pick up of portable toilets, rubber tire front-end loaders, sweepers, and construction style dumpsters – if needed.
- d) When notified, respond to the Family and Friends Reception Area as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
- e) When notified, respond to the Survivor Center as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.

3) Climate Control

- a) The Climate Control Supervisor, and/or designee, will activate additional manpower if needed or requested by the Operations Center, MOD,

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- Assistant Director of Operations and Maintenance, Senior Deputy Director, or Director of Airports.
- b) The Climate Control Supervisor, and/or designee, will order and arrange for the delivery and pick up of portable heaters, ventilators, and air conditioning units – if needed.
- 4) Electric Shop
- a) The Electric Shop Supervisor, and/or designee, will activate additional manpower if needed or requested by the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director of Airports.
 - b) The Electric Shop shall provide portable power and lighting if needed.
 - c) The Electric Shop shall acquire and deliver the generator truck and light stand units – if needed.
 - f) When notified, respond to the Family and Friends Reception Area as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - g) When notified, respond to the Survivor Center as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
- 5) Housekeeping
- a) The Housekeeping Supervisor, and/or designee, will activate additional manpower if needed or requested by the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director of Airports.
 - b) When notified, respond to the Family and Friends Reception Area as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - c) When notified, respond to the Survivor Center as specified in the Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
 - d) The Housekeeping Department will also assist with the acquisition and delivery of debris removing equipment from other departments.
- 6) Airfield Maintenance
- a) The Airfield Maintenance Supervisor, and/or designee, will activate additional manpower if needed or requested by the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director of Airports.
 - b) The Airfield Maintenance Department will deliver the EOC; Medical and Triage trailers (which are located at the Emergency Supplies Building); other safety equipment and supplies to the specified location after the request is made from the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director of Airports.

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- c) Provide escorts as directed.
 - h) Provide additional transportation as requested for the Family and Friends Reception Area and the Survivor Center.
 - e) The Airfield Maintenance Department will deliver any signage and/or barricades to the specified location after the request is made from the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, of the Director of Airports.
- 7) Fleet Maintenance
- a) The Fleet Maintenance Manager and/or designee will activate additional manpower if needed or requested by the Operations Center, MOD, Assistant Director of Operations and Maintenance, Senior Deputy Director, or the Director of Airports.
 - b) The Fleet Maintenance will ensure that the fuel supplier has been contacted and is on standby should additional fuel deliveries be needed.
 - c) The Fleet Maintenance's primary responsibility is to ensure that the Airport Authority vehicle fleet operations run smoothly and without interruption.
- b. Assistant Director Operations & Maintenance– Primary/Secondary
- 1) The Airport Operations Department is responsible for ensuring that the Medical and Triage trailers are always properly equipped in the event of an emergency and is additionally responsible for ensuring that the trailers are delivered to the appropriate location upon request by the MOD, Senior Deputy Director, or the Director of Airports.
- c. Information Technology
- 1) Information Technology is to provide assistance relative to any questions or problems regarding the Airport's radio system.
- d. Operations Center – Primary/Secondary
- 1) Operations Center personnel will be in charge of the emergency/disaster until relieved by the Operations Center Supervisor, Airport Manger on Duty (MOD), Senior Deputy Director, or the Director of Airports.
 - 2) The Operations Center will commit one employee to the Emergency Operations Center (EOC) to assist with communications in addition to mutual aid response and resource requests that fall outside the scope of day to day requests.
- e. Emergency Operations Center (EOC) – Secondary
- 1) The EOC will serve as a liaison between all agencies to ensure that all necessary resources are readily identified, located, and delivered.
 - 2) The EOC will serve as a liaison between Incident Command and all mutual aid resources.
- f. Airport Manger on Duty (MOD) – Secondary

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- 1) The MOD shall oversee all operations concerning the emergency/disaster as well as resource acquisition/distribution until relieved by the Assistant Director/Operations and Maintenance, Senior Deputy Director, or Director of Airports.
- g. Assistant Director/Operations and Maintenance – Secondary
 - 1) The Assistant Director/Operations and Maintenance shall oversee all operations concerning the emergency/disaster as well as resource acquisition/distribution until relieved by the Senior Deputy Director or Director of Airports.
- h. Senior Deputy Director – Secondary
 - 1) The Senior Deputy Director shall oversee all operations concerning the emergency/disaster as well as resource acquisition/distribution until relieved by the Director of Airports.
- i. Public Relations – Secondary
 - 1) Coordinate with the media in order to acquire any additional emergency resources which are needed by Resource Management or the EOC (i.e. manpower, supplies, materials, equipment).
- j. Director of Airports – Secondary
 - 1) Director of Airports shall oversee all operations concerning the emergency/disaster as well as resource acquisition.
- k. Environmental/Health & Safety Office – Secondary
 - 1) The Environmental/Health & Safety Office shall assist by providing any supplementary personal protective equipment where needed so that employees and emergency responders are working safely and free from harm.
 - 2) The Environmental/Health & Safety Office shall assist in the acquisition of personal protective equipment from vendors and suppliers if needed.
- l. Airline Managers – Secondary
 - 1) The Airline Managers shall provide any assistance possible in terms of additional manpower, supplies, and equipment.
 - 2) The Airline Managers, upon notification of an actual emergency/disaster shall activate the Federal Assistance Plan (local hotel agreements).
- m. City Emergency Management Agency (CEMA)– Secondary
 - 1) CEMA will provide assistance reference the acquisition of additional needs and/or resources.
- n. St. Louis County Office of Emergency Management (OEM) – Secondary

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1) Same as CEMA (# m)

6. Administration

- a. Resource requests made to Materials Management are logged, prioritized, tracked, and housed via computer with automatic backups of the system being performed and maintained on a daily basis. In the event of a power outage, Materials Management would revert to the prior system of maintaining records by hardcopy (paper). Hard copy paperwork and records are active until paid and are then maintained on file for three to five years. Computerized records are maintained in the computer system and then stored to disk for an indefinite period of time. All records and contracts are housed in the Materials Management facility with access being limited to only those employees and individuals who have a legitimate need. As stated earlier, all requests made to the EOC will be logged, prioritized, and tracked on paper (page 325-204). Copies of all such request forms/documentation have been included in the Reference section for Resource Management (pages 325-185 through 325-187).
- b. Individual departments have the ability to acquire their own purchase orders via computer, which alleviates substantial paperwork and expedites the process so that the necessary materials, supplies, and equipment can be received more quickly.
- c. Note that all involved agencies and organizations are required to maintain individual accounting records in sufficient detail to document subsequent requests for reimbursement.

7. Logistics

- a. The current Materials Management storeroom is the only resource facility that will be activated in the event of an emergency with the exception of the remote storeroom, which exists within the Fleet Maintenance. Materials Management maintains the following telephone lines in addition to one fax machine (314-551-5310), two copiers, and three 800 MHz radios.
 - 314-551-5300
 - 314-551-5302
 - 314-551-5301
 - 314-551-5303
 - 314-551-5304
 - 314-551-5305
 - 314-551-5306
- b. Upon notification that an emergency/incident has taken place, the Purchasing & Procurement Manager (II) will immediately contact Airport Information Technology to request additional radios.
- c. Materials Management currently has two assigned vehicles (# 480, # 481) both of which would be available for use related to the emergency/incident. In addition, Materials Management would be able to acquire any additional vehicles needed from other Airport Authority Departments. Materials Management does not have

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a designated delivery team nor the designation to drive ramp side, therefore, the only deliveries made by Materials Management will be those of an **emergency** nature which fall on the public side of the Airport. All pickups and deliveries will take place at the Materials Management dock (or the Fleet Maintenance location if appropriate) with the only exceptions being:

- 1) The Emergency Operations Center (EOC) may elect to make other pick up and delivery arrangements in which case they will retain the hard copy invoice and submit it to Materials Management at a later point in time. The EOC may decide to have a delivery made to Materials Management who will then retain the hard copy invoice and make immediate notification that the delivery has been made. It is the responsibility of the EOC to contact Materials Management and give advance notice regarding the anticipated delivery.
 - 2) Any department within the Airport Authority may take responsibility for their own pick up if they have sufficient manpower, authorization from department management, and the ability to draw their own purchase order via computer.
- d. If volunteers are needed, Materials Management will first accept volunteers from other Airport Authority departments, airline personnel, and tenants. This task would be accomplished by the Procurement/Purchasing Manager II making such notification to the Emergency Operations Center. Should the need for manpower be higher than anticipated, Materials Management would solicit volunteers from the public by contacting the Public Relations Manager who would put forth the message through the local media outlets. Individuals volunteering from the public population would be asked to sign a waiver which would release the Airport Authority/City of St. Louis from any/all liability associated with volunteer activity (page 325-205). With few exceptions, volunteers would either be teamed up with another employee from Materials Management or assigned a task requiring minimal supervision.
8. Plan Development/Maintenance
- a. Annual review, in addition to plan development and maintenance of the Resource Management section, is the responsibility of the Purchasing and Procurement Manager II as well as the individual managers from each relevant Airport Authority Department.
9. Authorities & References
- a. Maps
 - b. Airport Authority Telephone Directory
 - c. Airport Authority Manpower Allocation Figures
 - d. Departmental Organization Charts
 - e. Airport Authority Radio Call Signs
 - f. Airport Authority Vehicle/Equipment Fleet Inventory
 - g. Departmental Contract Services/Equipment Listing
 - h. Materials Management Documentation/Forms
 - i. Medical Supplies Resources
 - j. ARFF HAZMAT Vehicle Inventory

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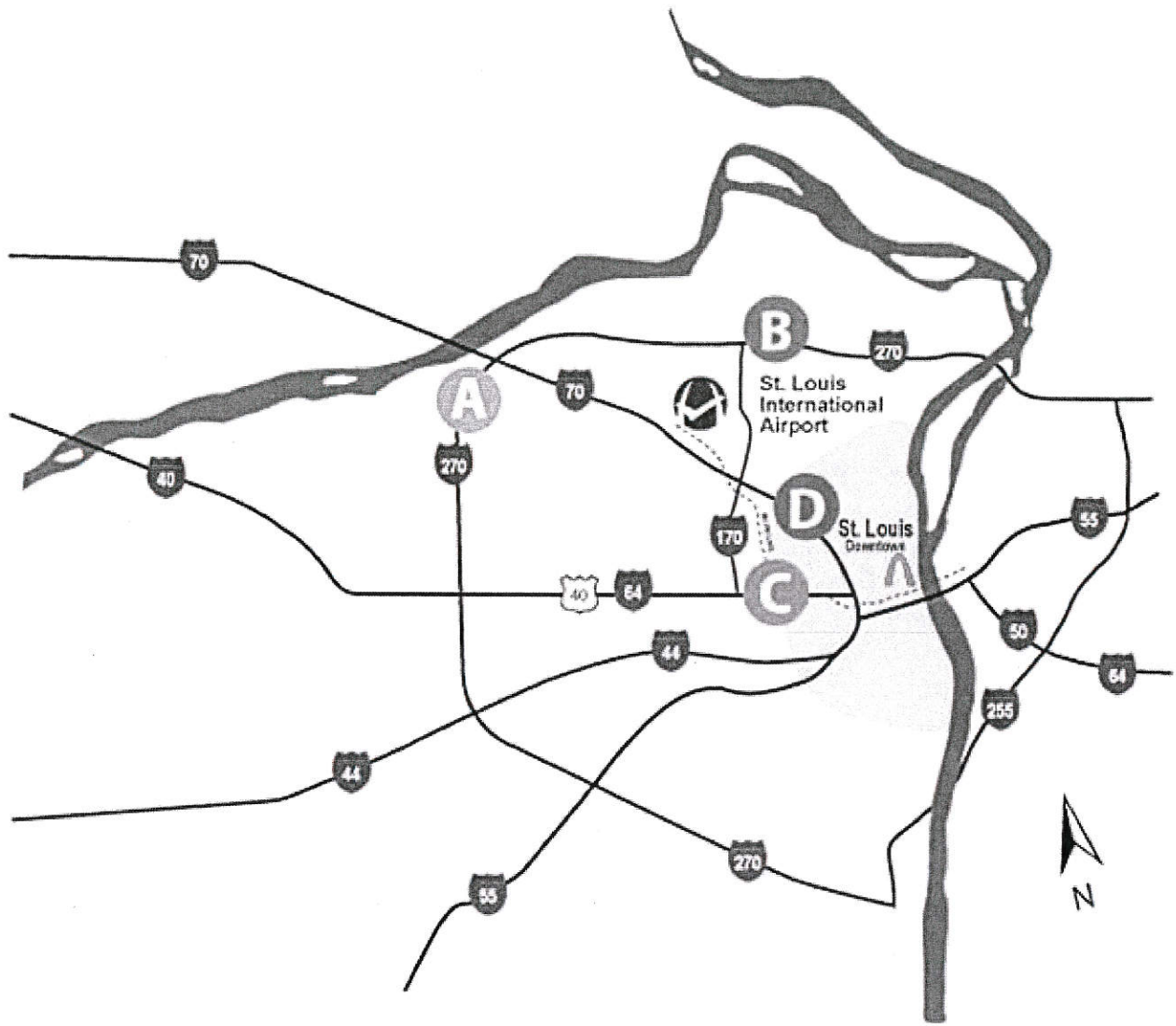
- k. Medical Supply Trailer
- l. Triage Equipment Inventory
- m. EOC Inventory
- n.. EOC Checklist
- o. EOC Resource Management Form
- p. Volunteer Waiver Form
- q. Reference pages 325-35 and 325-36.

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STREET/HIGHWAY MAP



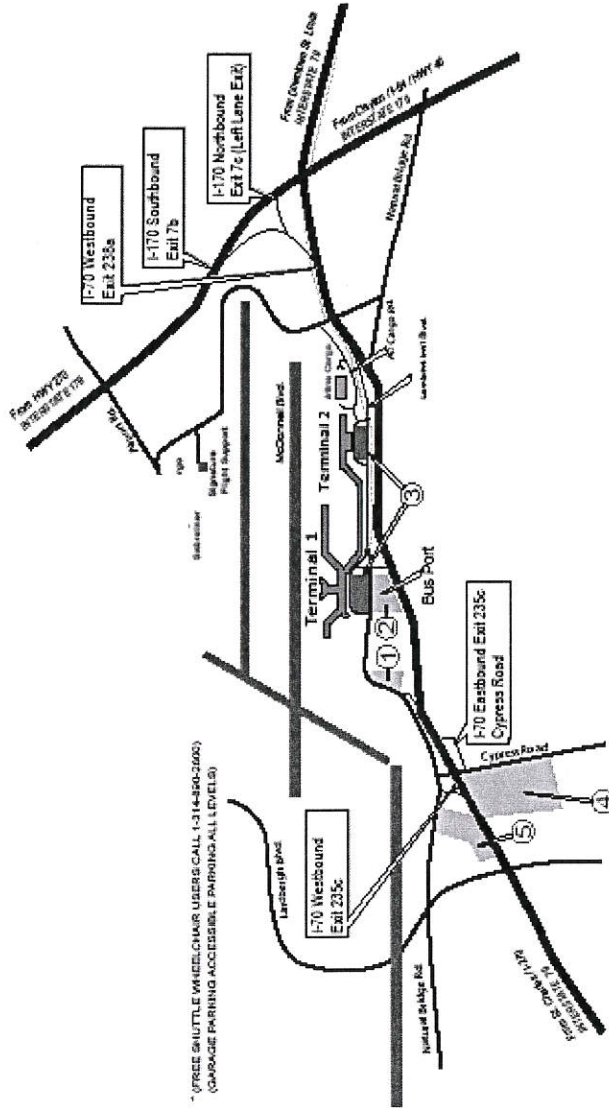
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STREET/PARKING LOCATIONS MAP



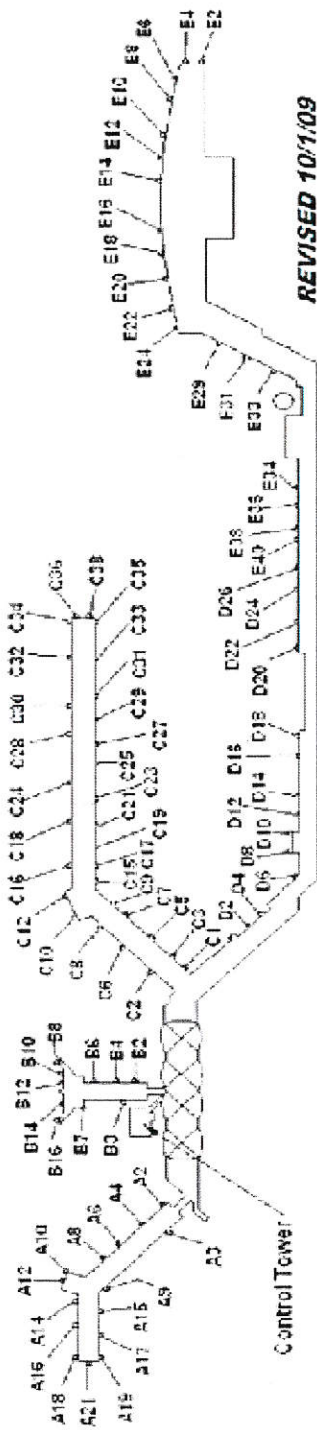
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TERMINAL GATES

Lambert-St. Louis International Airport

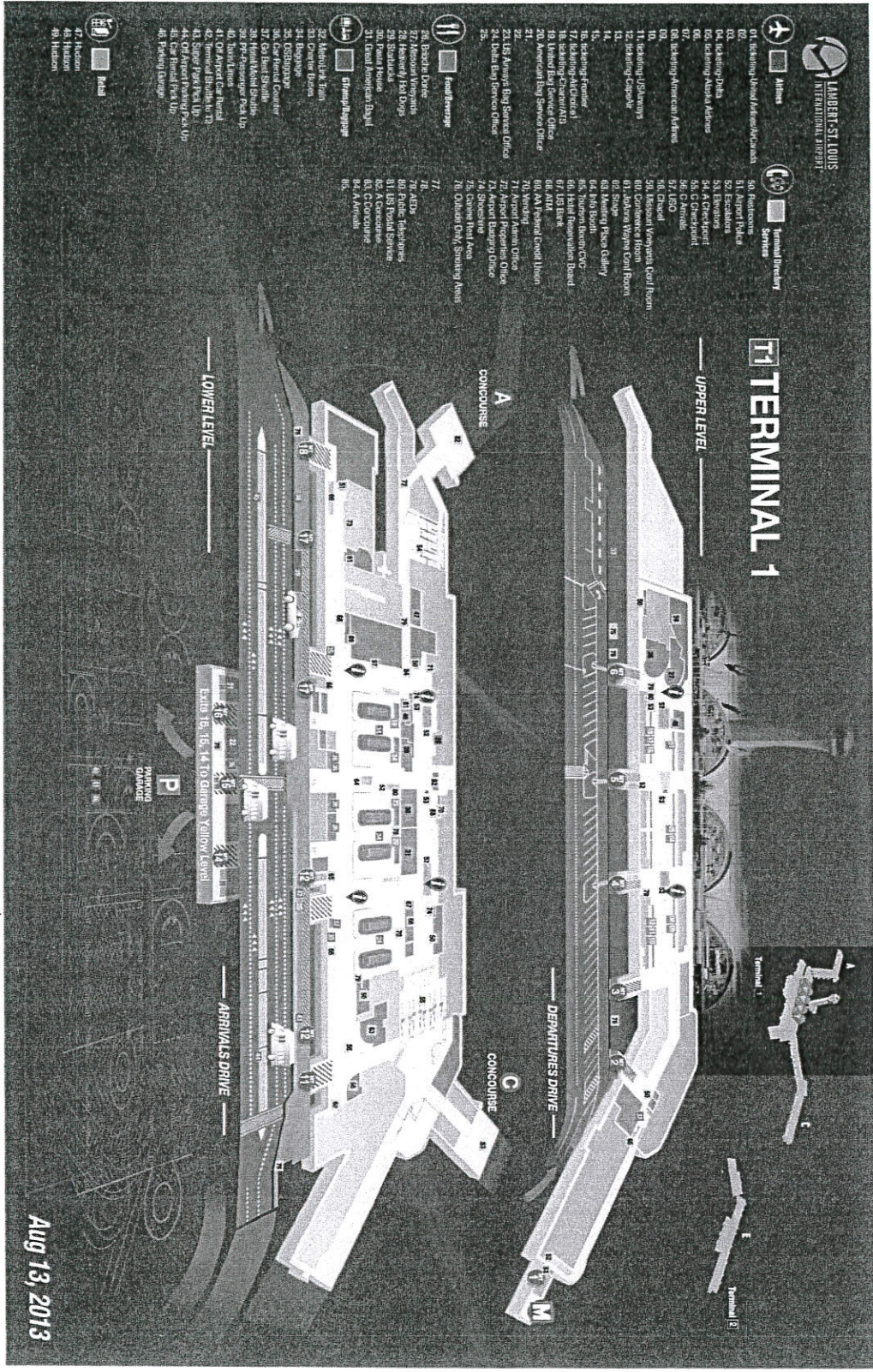


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TERMINAL 1 DIRECTORY



- Airline**
 - 01. Allegiant Air
 - 02. Delta
 - 03. Eastern
 - 04. Hawaiian
 - 05. JetBlue
 - 06. Southwest
 - 07. Spirit
 - 08. United
 - 09. WestJet
- Food & Beverage**
 - 26. Bacon Drive
 - 27. Biscuits
 - 28. Honey Bad Dogz
 - 29. The Pit
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- Other Services**
 - 50. Restrooms
 - 51. Airport Police
 - 52. Escalators
 - 53. Elevators
 - 54. A Checkpoint
 - 55. B Checkpoint
 - 56. C Checkpoint
 - 57. USDO
 - 58. Chisel
 - 59. Missouri Department of Transportation
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TERMINAL 2 DIRECTORY

Liberty

- 01. Ticketing/Airline
- 02. Ticketing/Seatwork
- 03. STL Business/Exp. Trip Room
- 04. Security
- 05. Customs/Pass/Kiosk
- 07. Burger King
- 08. Dunkin Donuts
- 09. Dunkin Donuts
- 10. Emporium-8
- 11. Great American Bowl
- 12. Fruit & Nuts
- 14. Fruit
- 15. Kate Weaks
- 16. CMT Merch/Stand
- 17. Bookery/Bookstore
- 19. American St. Louis
- 20. Hicken
- 21. St. Louis Sports
- 22. Manda's Candy Jar
- 23. Specialty
- 24. Hulton
- 25. (DO NOT ACTIVATE)

Food & Beverage

- 30. Mofa Cafe
- 27. Biscuits
- 28. Oriental Biscuits
- 29. Southwest Language Office
- 30. Chover Biscuits
- 31.
- 32. Cup Best Sports Center
- 33. Headlines/Books
- 34. P.F. Personal Pick-Up
- 35. headlines
- 37. Terminal Shuttle to T1
- 38. Super Park Pick-Up
- 39. CV Airport Parking Pick-Up
- 40. CV Rental Pick-Up
- 41. Parking Garage

Terminal Directory

- 42. Police/Security
- 43. Escalators
- 44. Elevators
- 45. E Checkpoint
- 46. E Airline / Airline
- 48. URG
- 49. Check
- 60. Bottom Board/POC
- 61. Hotel Reservation Board
- 62. ATM
- 63. Verifly
- 64. Verifly
- 65. Specialty
- 66. Pet Relief Area
- 67. AEDs
- 68. Public Telephones

Terminal 2

E Concourse

UPPER LEVEL

LOWER LEVEL

ARRIVALS DRIVE

DEPARTURES DRIVE

CUSTOMS EXIT

ARRIVAL CONCOURSE

Aug 13, 2013

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TERMINAL 1 A-CONCOURSE DIRECTORY AND GATE MAP

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TERMINAL 1 C-CONCOURSE DIRECTORY AND GATE MAP

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9b. Lambert-St. Louis International Airport® Departmental Telephone Directory®

Mailing Address: P.O. Box 10212
St. Louis, MO 63145

Street Address: 10701 Lambert International Boulevard
Room-2276, Terminal 1
St. Louis, MO 63145

Office Hours: 8:30 a.m. to 5:00 p.m., Monday-Friday
www.flystl.com

Airport Authority Main Listing: 314-426-8000 / fax: 314-426-5733
All Airport Authority 314-426-8040 (24 Hour)

Director's Office:

314-426-8022 (Administrative)
314-426-8020 (Director)
314-426-8023 (Senior Deputy Director)
314-426-8164 (Administrative)
314-890-1328 (Deputy Director of Finance and
Accounting)
314-426-8094 (Administrative)
314-426-8079 (Assistant Director of Air Service and
Business Development)

Airfield Maintenance: 314-551-5354 (Administrative)
314-551-5352 (Management)
314-551-5350 (24 Hour)

Building Maintenance: 314-890-1364 (Administrative)
314-426-8075 (Management)
314-426-8065 (24 Hour)

DBE Programs 314-426-8111 (Administrative)
314-426-8192 (Management)

Climate Control: 314-890-1311 (Administrative)
314-426-8050 (Management)
314-426-8068 (Engineer East)
314-426-8045 (Engineer West)

Electric Shop 314-426-8160 (Administrative)
314-426-8046 (Management)
314-426-8053 (24 Hour)

Engineering 314-551-5055 (Administrative)
314-551-5034 (Management)

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**Environmental/Health
& Safety Office**

314-551-5704 (Administrative)
314-551-5035 (Management)

EOC – BUS.800

314-426-8149 (Operations)
314-890-1823 (Police)
314-426-8177 (ARFF)
314-890-1824 (EMS)
314-426-8161 (Airline)
314-890-1826 (Conference Room)

BACK UP (NO LINE OF SITE)

314-807-8045 (Operations)
314-807-8047 (Police)
314-807-8048 (ARFF)
314-807-8049 (EMS)
314-807-8050 (Airline)
314-807-8051 (Conference Room)

Finance/Accounting

314-426-8085 (Administrative)
314-426-8026 (Management)

Fire Department

314-426-8011 (Fire Chief)
314-426-8005 (West - 24 Hour)
314-426-8136 (North – 24 Hour)

FIRE.T47 - Hazmat Bus

314-952-3750
314-952-3751
314-852-7451
314-852-9554

Fleet Maintenance:

314-551-5321 (Administrative)
314-551-5322 (Management)
314-551-5320 (24 Hour)

Housekeeping

314-890-1359 (Management)
314-426-8051 (Terminal 1 Supervisor – 24 Hour)
314-426-8054 (Terminal 2 Supervisor – 24 Hour)

Human Resources/Personnel

314-426-8024 (Administrative)
314-426-8052 (Management)

Information Technology

314-426-8016 (Administrative)
314-890-1831 (Management)

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Legal	314-426-8061 (Administrative) 314-426-8057 (Management)
Materials Management	314-551-5300 (Administrative) 314-551-5302 (Management)
Operations Center	314-890-1322 (Management) 314-426-8040 (24 Hour)
Operations/Maintenance	314-426-8029 (Administrative) 314-426-8028 (Assistant Director of Operations and Maintenance) 314-890-1331 (Construction and Maintenance Manager) 314-890-1355 (Telecommunications)
Planning & Development	314-551-5029 (Administrative) 314-551-5008 (Management)
Police Department	314-426-8100 (24 Hour)
Properties/Contracts	314-426-8184 (Administrative) 314-426-8162 (Management)
Public Relations	314-426-8125 (Management) 314-426-8097 (Public Info. Officer)

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9c. Airport Authority Manpower Allocation Figures
(As of 7/24/12)

Pay Location	Department Name	Number of Employees
910	Operations Center	10
911	Electric Shop	31
913	Building Maintenance	33
914	Climate Control	40
918	Materials Management	7
922	Planning & Development	6
924	Fleet Maintenance	23
925	Airfield Maintenance	70
927	Information Technology	16
930	Finance/Acct/Audit/Ord/Govt Affairs	24
931	Engineering	11
932	Operations & Maintenance	7
933	Public Relations	3
934	Properties/Contracts	9
935	Environmental/Health & Safety	6
936	Director's Office	9
937	Administration - HR	4
938	Legal	2
939	DBE	12
940	Air Service & Business Development	2
960	Police	101
965	Housekeeping	54
Totals	Total Positions Allocated	478

(*The number of allocated positions for each department is based on the current, annual budget and is subject to change.)

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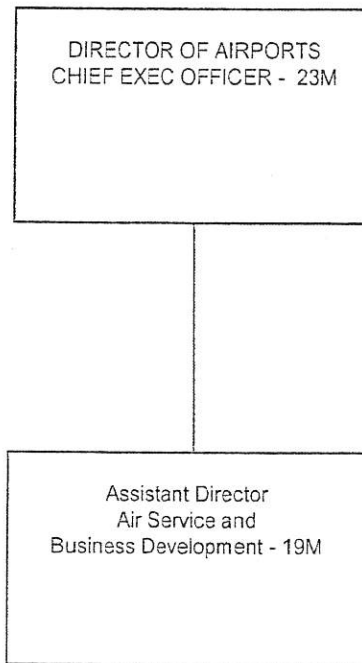
Date: JUN 26 2014

9d. Airport Organizational Charts

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART

August 12, 2013

AIR SERVICE AND BUSINESS DEVELOPMENT



325-119

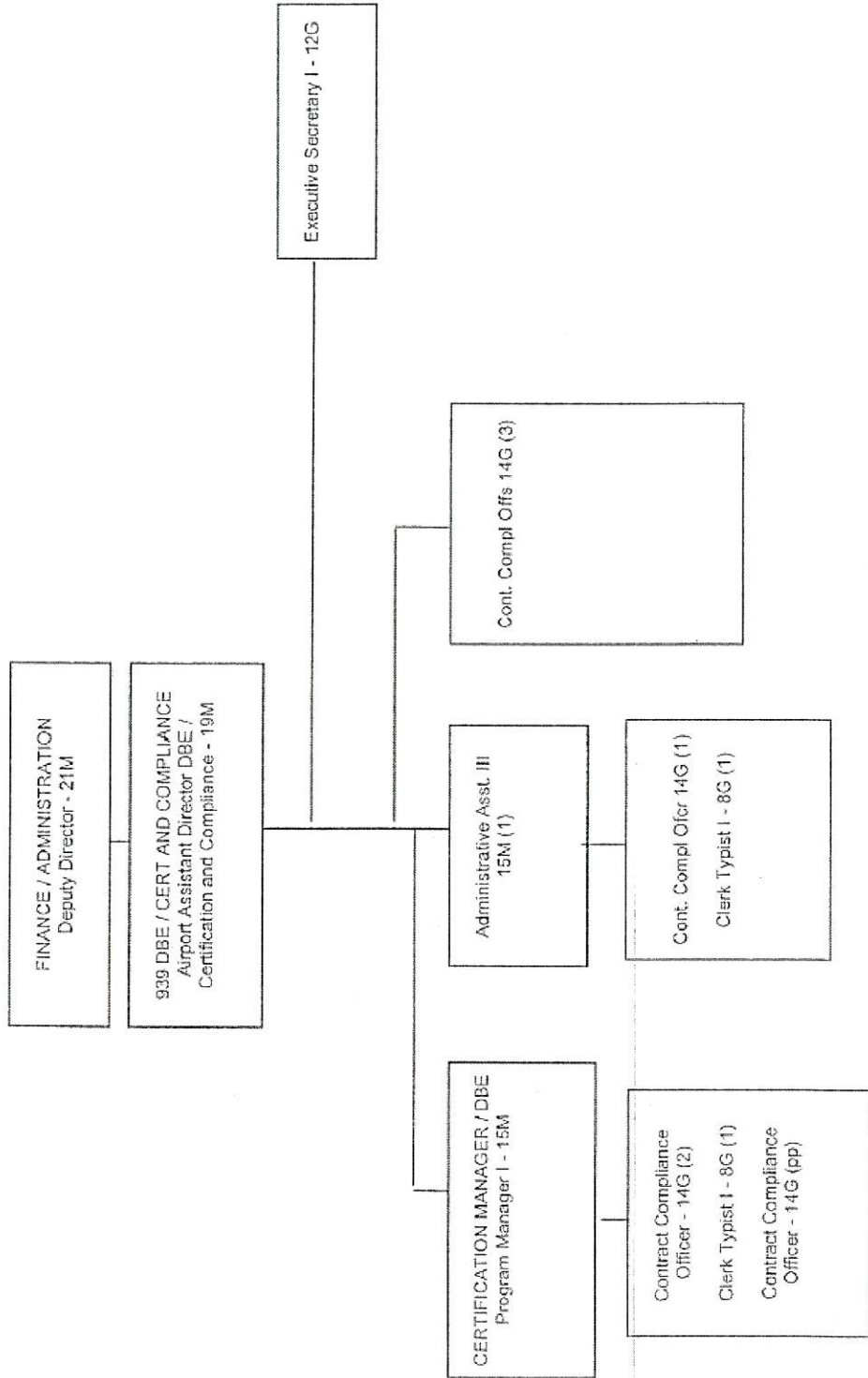
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART

August 12, 2013

DBE / CERTIFICATION AND COMPLIANCE



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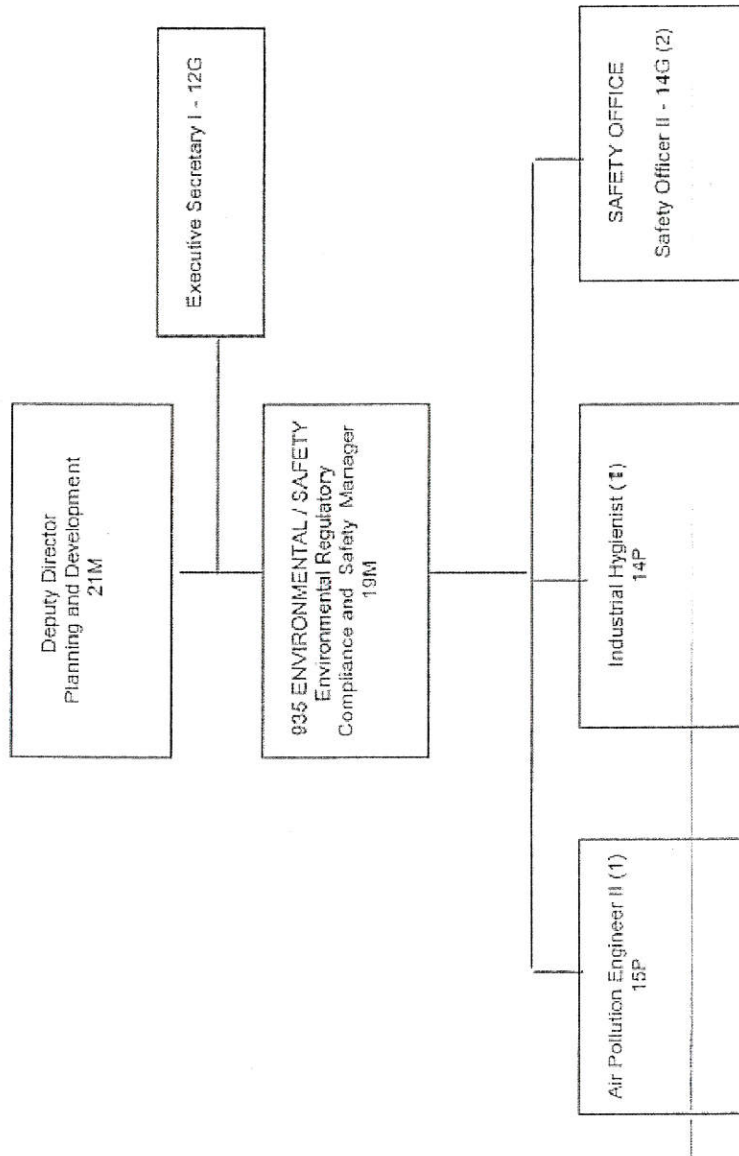
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART

August 12, 2013

ENVIRONMENTAL / SAFETY



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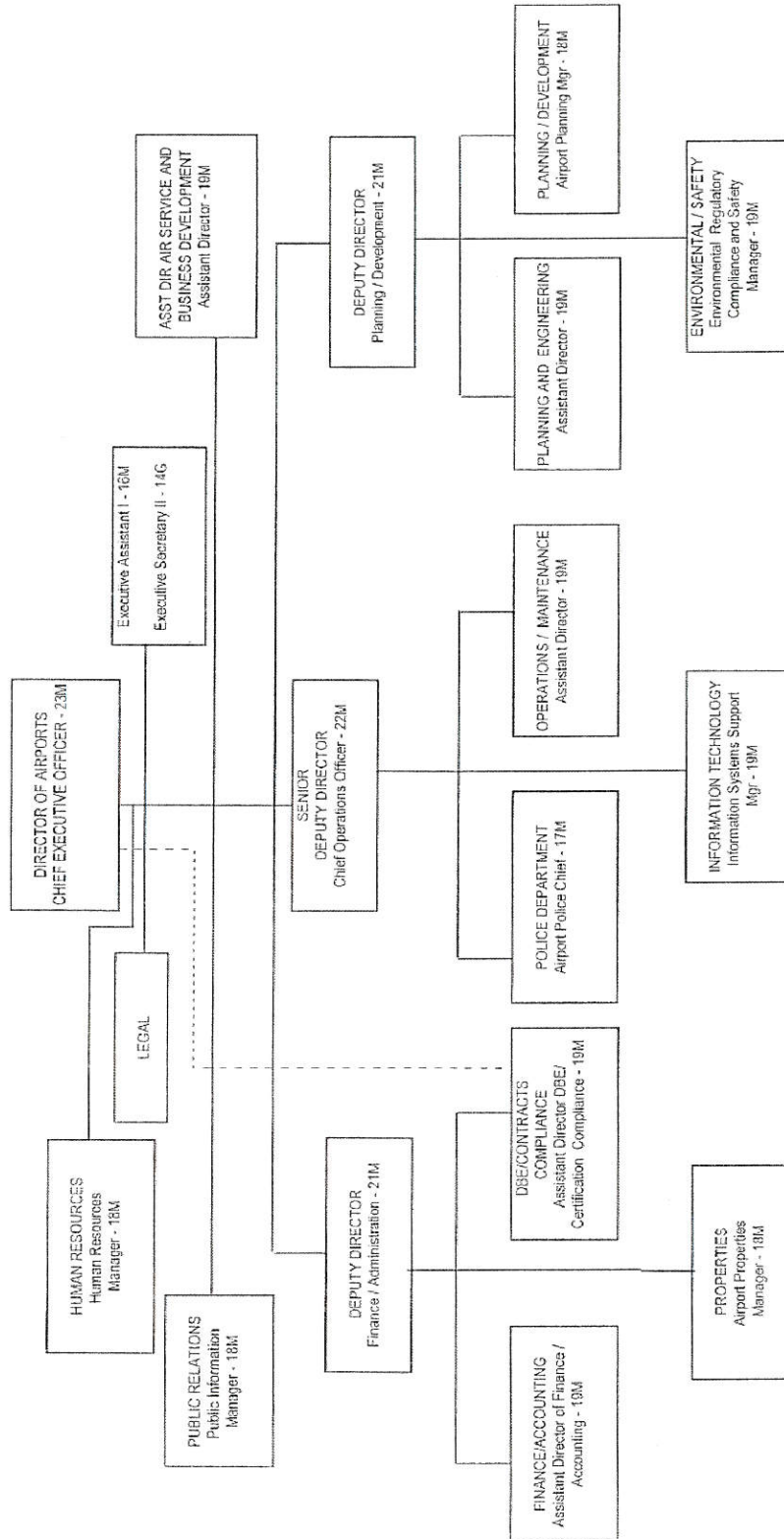
M. Muller

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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART

August 12, 2013

EXECUTIVE STAFF



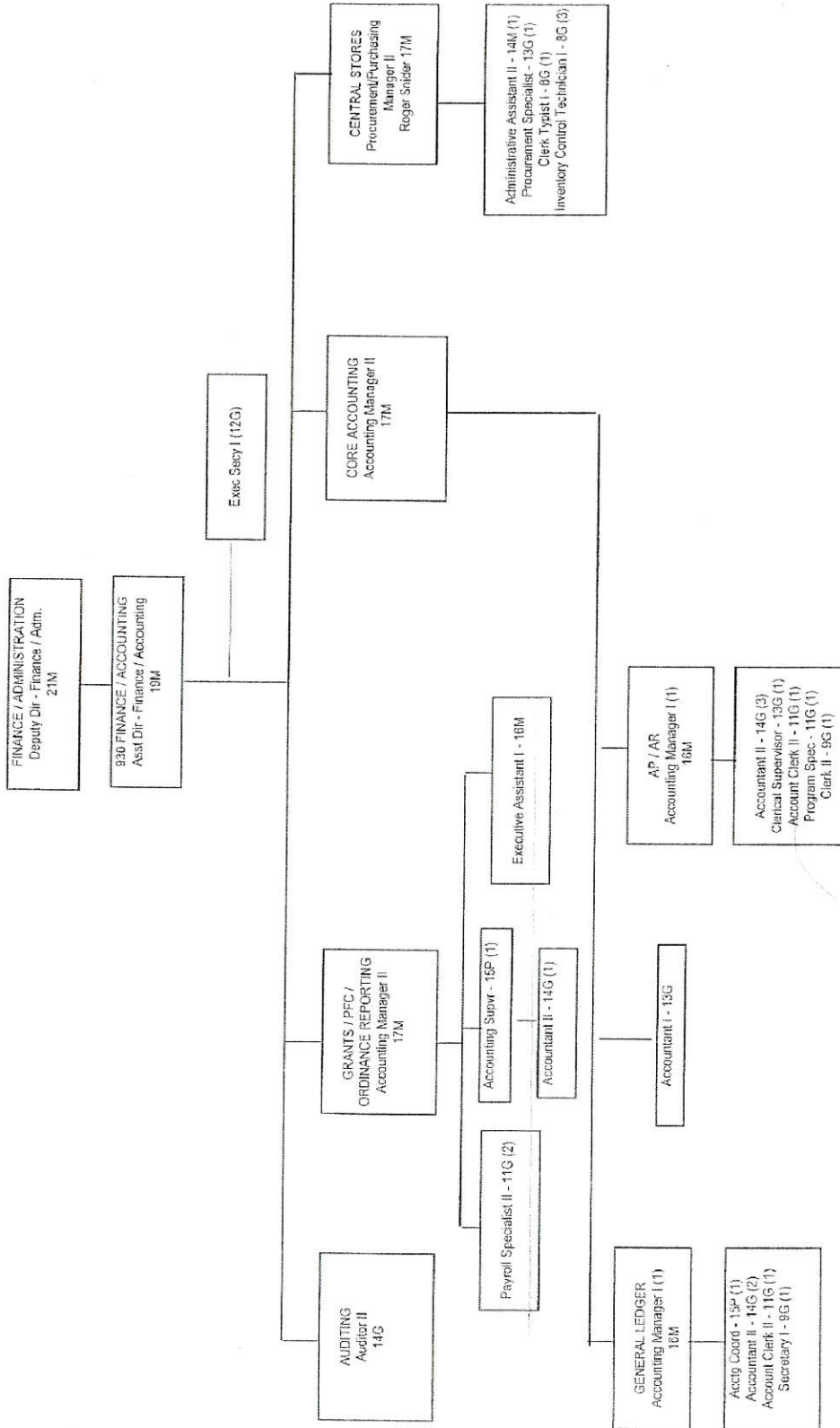
325-122

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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART
 August 12, 2013

FINANCE / ADMINISTRATION



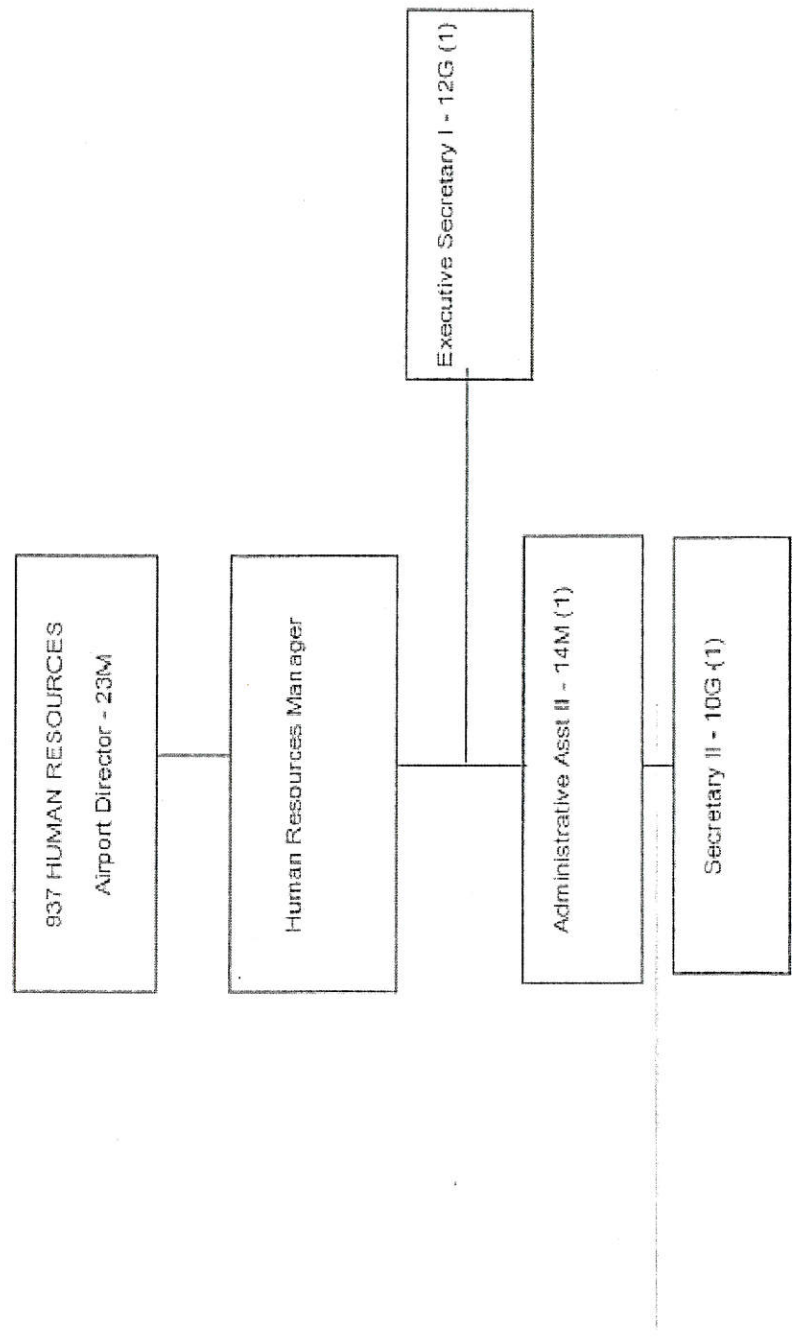
325-123

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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART
August 12, 2013

HUMAN RESOURCES



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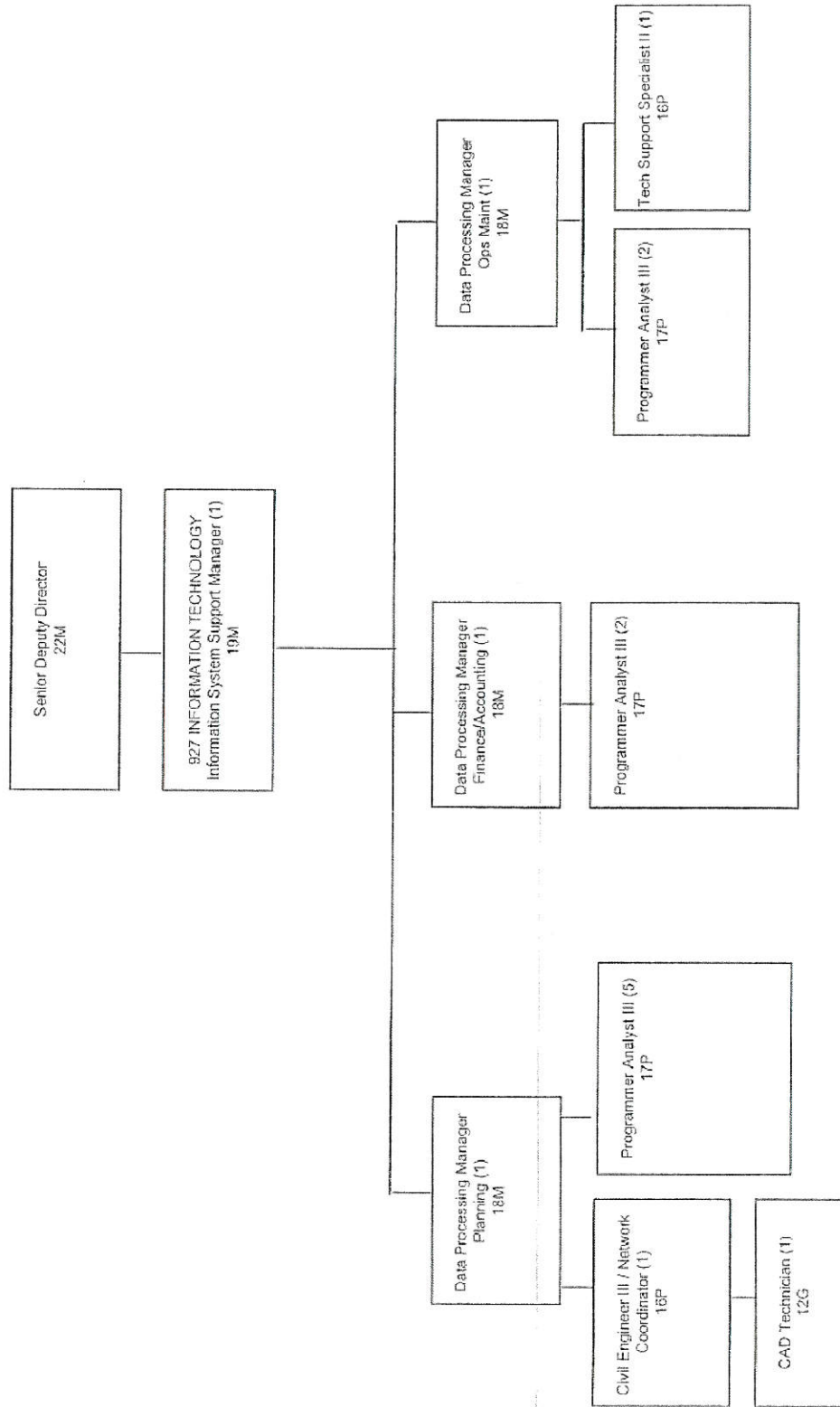
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART

August 12, 2013

INFORMATION TECHNOLOGY



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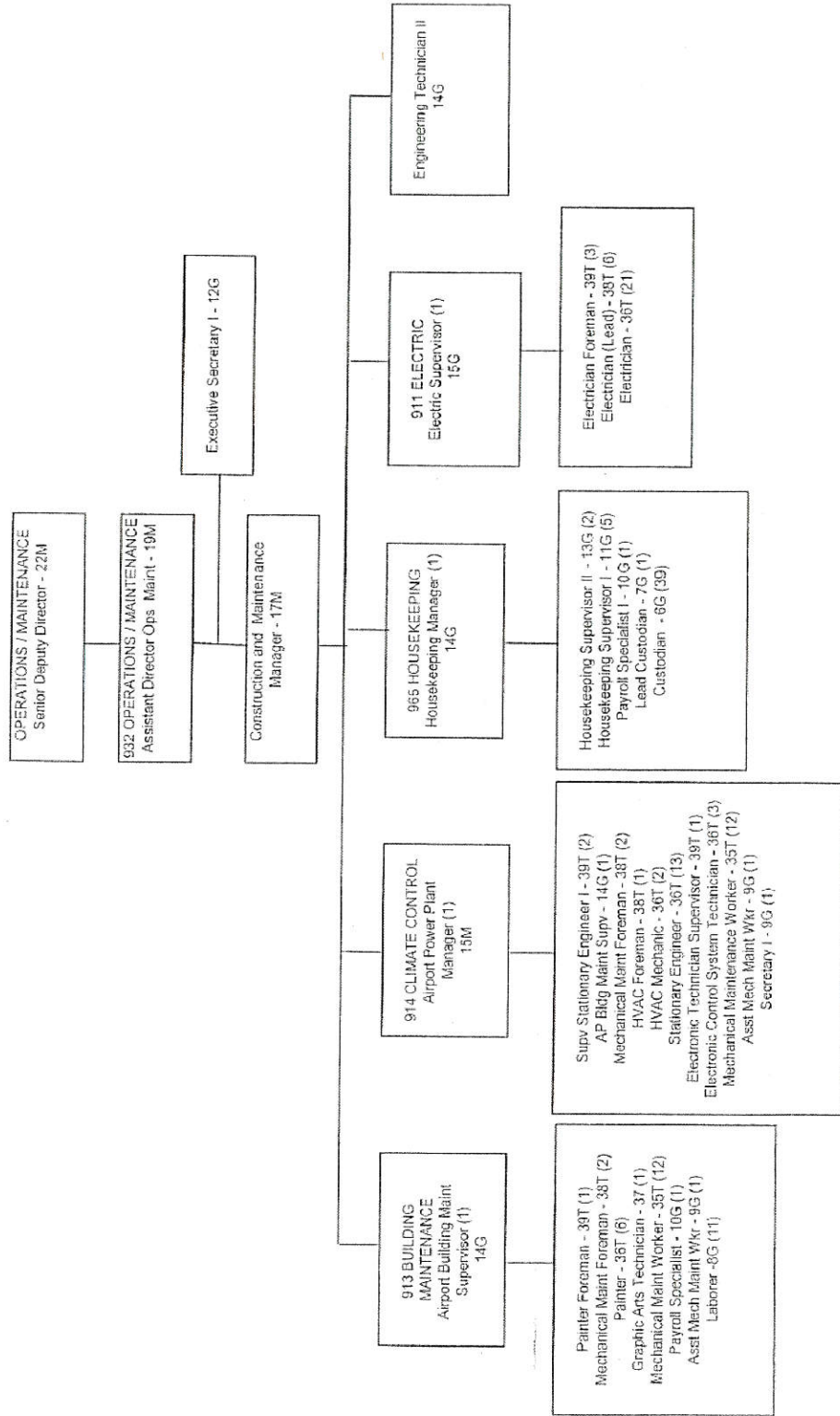
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 ORGANIZATIONAL CHART

August 12, 2013

OPERATIONS AND MAINTENANCE
 BUILDING OPERATIONS



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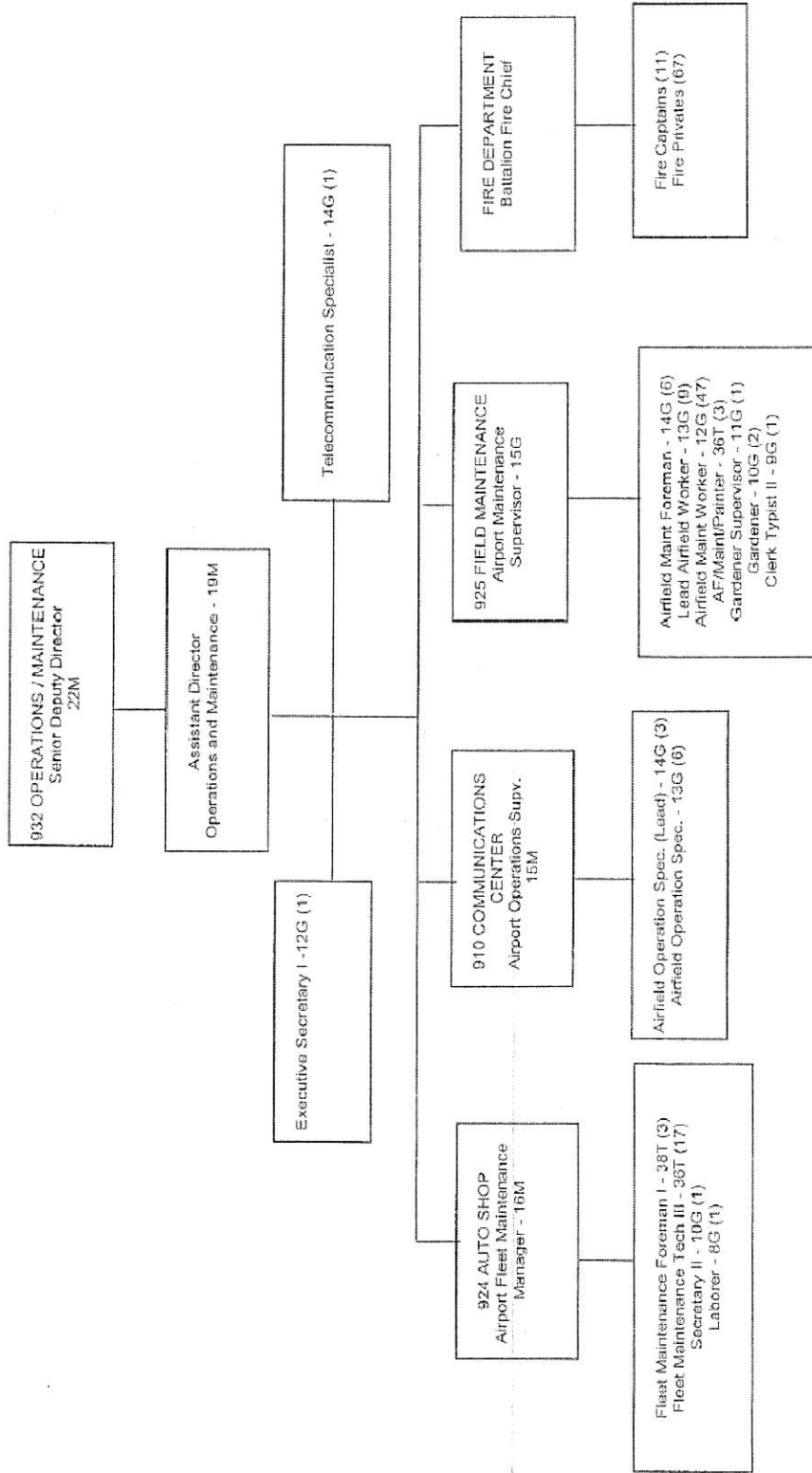
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 ORGANIZATIONAL CHART

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OPERATIONS AND MAINTENANCE
 FIELD OPERATIONS



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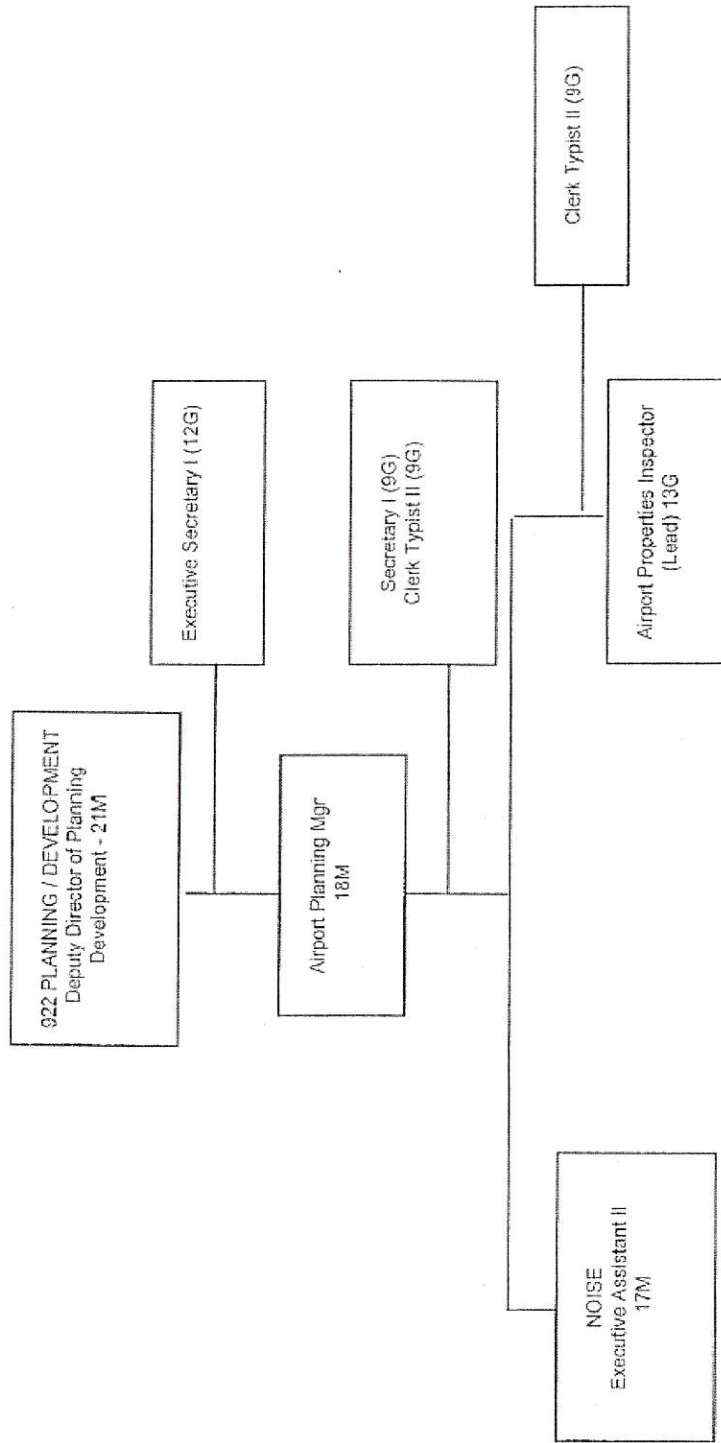
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART - PROPOSED

August 12, 2013

PLANNING / DEVELOPMENT



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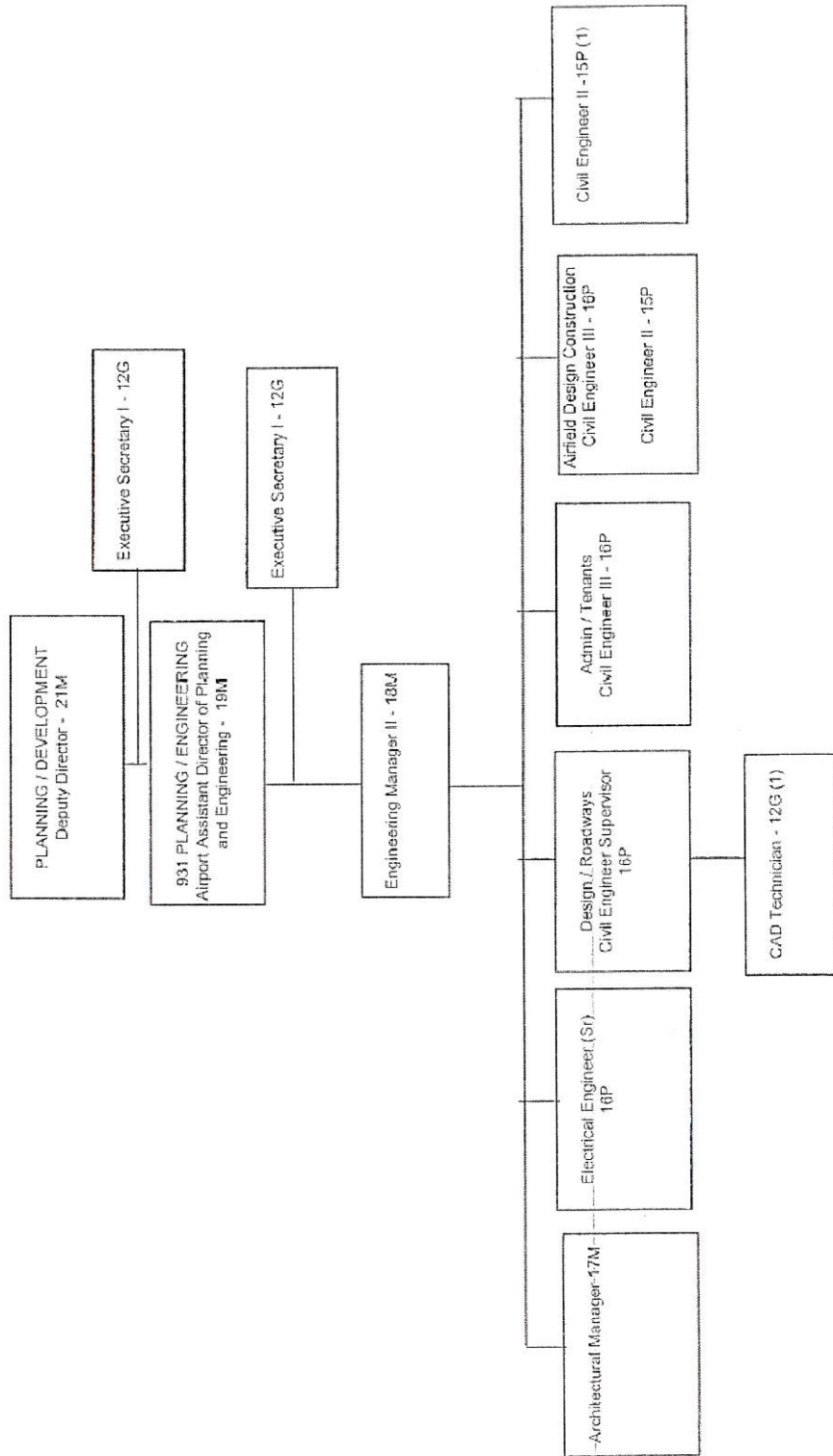
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART

August 12, 2013

PLANNING / ENGINEERING



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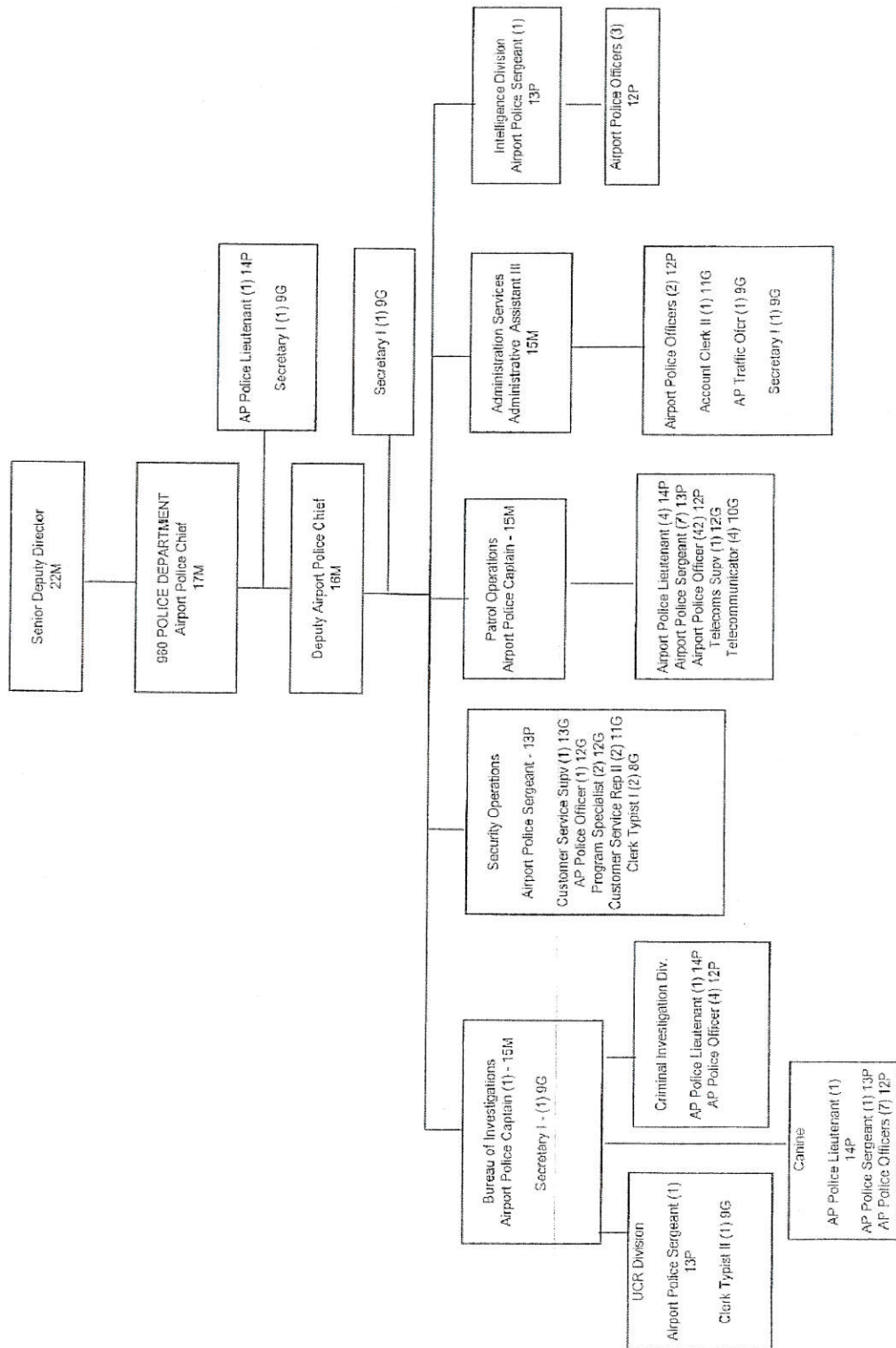
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART

August 12, 2013

POLICE DEPARTMENT

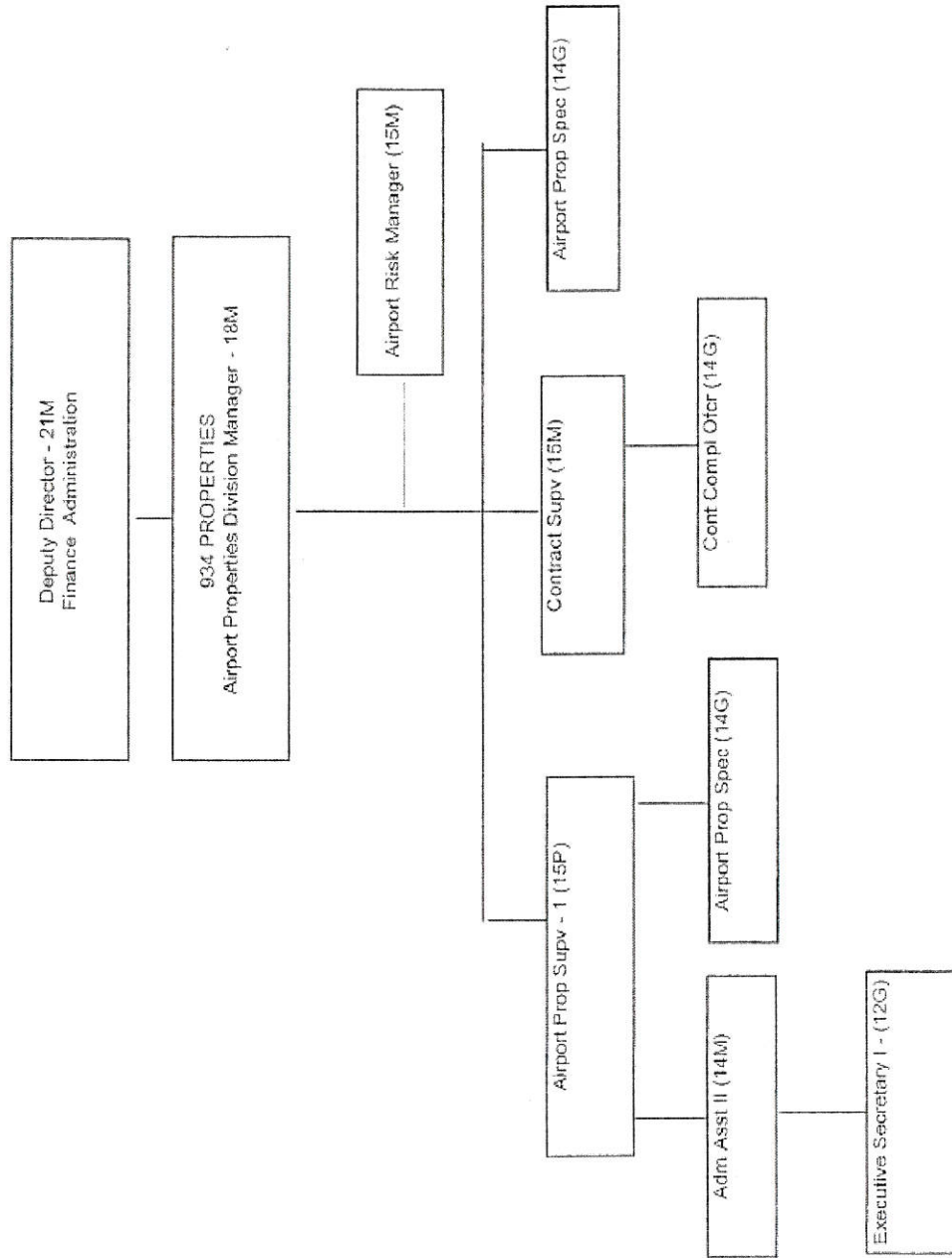


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LAMBERT ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART
 August 12, 2013
 PROPERTIES



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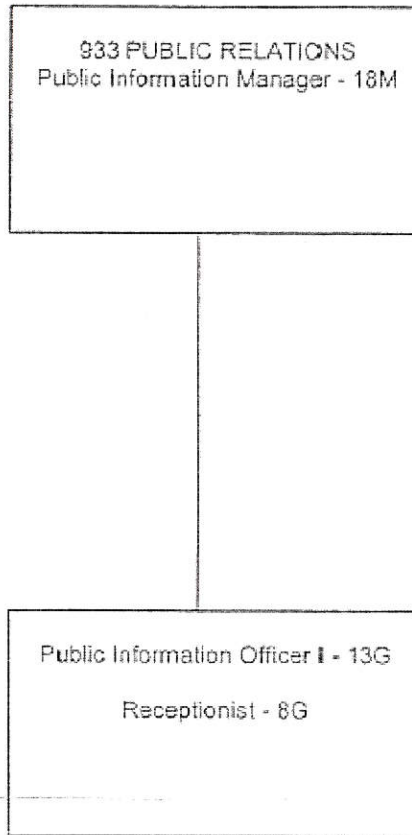
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LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
ORGANIZATIONAL CHART

August 12, 2013

PUBLIC RELATIONS



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9e. **Airport Authority Radio Call Signs**

800MHz Radio Call Signs (as of 10/01/09)

Alias	Location
Car 1	Director of Airports
Car 2	Senior Deputy Director
Car 4	Assistant Director of Operations and Maintenance
Car 5	Construction and Maintenance Manager
Car 10	Airfield Maintenance Supervisor
Safety 12A	Environmental/Health & Safety Manager
Ops 16	Airport Operations Center
Car 17	Airport Operations Center
Car 19	Airport Operations Supervisor
IT 60	Information Technology Manager
PR 930	Public Relations Manager
AUTO.T30	Fleet Maintenance Manager
ATT Pam	Telecommunications
Building.700	Building Maintenance Supervisor
BUS.801	BUS.801.HANDICAP
BUS.802	BUS.802
BUS.803	BUS.803
BUS.800	EOC
Climate.500	Power Plant Manager
Electric.300	Electrical Supervisor
Engineering.414	Engineering Supervisor
FIRE.41	Fire Chief
FIRE.51	Fire Captain
HAZMAT.47	Hazmat Vehicle
Housekeeping.600	Housekeeping Manager
Storeroom	Storeroom (Materials Management)

(*The radio call sign/distribution listing is routinely updated on an as needed basis and maintained on file in the Operations Center. The above listing is a partial document for reference purposes only.)

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9f. AIRPORT AUTHORITY VEHICLE / EQUIPMENT FLEET INVENTORY
(As of 5/25/14)

AssetNo	Year	Mfg	Model	AssetShortDesc
0001	2010	CHEVROLET	TRAVERSE	AWD UTILITY
0002	2006	CHEVROLET	TRAILBLAZER	4WD UTILITY
0003	2007	CHEVROLET	TRAILBLAZER	4WD UTILITY
0004	2006	CHEVROLET	TAHOE	4WD UTILITY
0005	2006	CHEVROLET	TRAILBLAZER	4WD UTILITY
0010	2008	CHEVROLET	SILVERADO 1500	4WD EXT CAB
0011	2001	FORD	CROWN VICTORIA	PASSENGER CAR
0013	1999	CHEVROLET	BLAZER	4WD UTILITY
0014	2008	CHEVROLET	TRAILBLAZER	4WD UTILITY
0016	2000	CHEVROLET	S10	P/U S-10 2WD EXT
0017	2013	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0018	2004	DODGE	CARAVAN	FRICTION TESTER
0019	2013	CHEVROLET	SILVERADO 1500	P/U 4WD EXT. CAB
0020	2005	CHEVROLET	IMPALA	PASSENGER CAR
0021	2002	CHEVROLET	BLAZER LS	4WD UTILITY
0022	2007	CHEVROLET	TRAILBLAZER	4WD UTILITY
0025	2011	CHEVROLET	EQUINOX	FWD UTILITY
0026	2004	CHEVROLET	BLAZER LS	4WD UTILITY
0030	2005	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0031	2005	FORD	F450	TOW TRUCK
0032	2003	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0033	2011	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0034	2007	CHEVROLET	COLORADO	P/U 4WD MINI
0035	1988	INTERNATIONAL	S-1954	MOVING VAN
0036	2005	CHEVROLET	TRAILBLAZER	4WD UTILITY
0037	2008	GMC	TC8500	TANKER TRUCK
0038	2003	GMC	ENVOY	4WD UTILITY
0039	0		Built Trailer	VEHICLE TRAILER
0040	1989	SIMON	QS 110 ARIEL LADDER	ARFF
0041	2013	CHEVROLET	TAHOE	4WD UTILITY
0042	2006	FORD	F450	ARFF
0043	2014	OSHKOSH	T-3000	ARFF
0044	1996	SAULSBURY	842	ARFF
0045	2003	OSHKOSH	STRIKER 3000	ARFF

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0046	2007	OSHKOSH	STRIKER 3000	ARFF W/SNOZZLE
0047	2002	FREIGHTLINER	MT55	HAZMAT UNIT
0048	2012	OSHKOSH	T-1500	ARFF
0049	2005	FORD	F550 XLT MK III RIV	ARFF
0050	2007	FORD	F550 XL	MINI RESCUE ARFF
0051	2007	CHEVROLET	TAHOE	4WD UTILITY
0052	2006	OSHKOSH	STRIKER 1500	ARFF
0053	2006	FORD	F-550	ARFF STAIR TRUCK
0060	2009	FORD	CROWN VICTORIA	PASSENGER CAR
0061	2008	CHEVROLET	TRAILBLAZER	4WD UTILITY
0062	2013	FORD	TAURUS	PASSENGER CAR
0063	2011	CHEVROLET	TAHOE	2WD UTILITY
0064	2007	CHEVROLET	COLORADO	P/U MINI EXT. CAB
0065	2013	FORD	EXPLORER	AWD SUV
0066	2014	FORD	EXPLORER	PASSENGER CAR
0067	2010	FORD	CROWN VICTORIA	PASSENGER CAR
0068	2013	FORD	EXPLORER	4WD UTILITY
0069	2013	FORD	EXPLORER	AWD UTILITY
0070	2009	CHEVROLET	IMPALA	PASSENGER CAR
0071	2011	FORD	CROWN VICTORIA	PASSENGER CAR
0072	2010	FORD	CROWN VICTORIA	PASSENGER CAR
0073	2009	CHEVROLET	IMPALA	PASSENGER CAR
0075	2012	CHEVROLET	EQUINOX	4WD UTILITY
0076	2012	CHEVROLET	EQUINOX	4WD UTILITY
0077	2013	FORD	EXPLORER	4WD UTILITY
0078	2013	FORD	TAURUS	PASSENGER CAR
0079	2010	FORD	CROWN VICTORIA	PASSENGER CAR
0080	2013	FORD	EXPLORER	AWD UTILITY
0081	2013	FORD	EXPLORER	AWD UTILITY
0082	2013	FORD	EXPLORER	AWD UTILITY
0083	2013	FORD	TAURUS	PASSENGER CAR
0084	2013	CHEVROLET	IMPALA	PASSENGER CAR
0085	2008	CHEVROLET	IMPALA	PASSENGER CAR
0086	2011	FORD	CROWN VICTORIA	PASSENGER CAR
0087	2011	FORD	CROWN VICTORIA	PASSENGER CAR
0088	2009	MERCURY	MARQUIS	PASSENGER CAR
0089	2013	FORD	TAURUS	PASSENGER CAR
0090	2008	CHEVROLET	IMPALA	PASSENGER CAR
0091	2011	FORD	CROWN VICTORIA	PASSENGER CAR

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0092	2006	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0093	2011	CHEVROLET	TAHOE	2WD UTILITY
0099	2007	TC TRECKER	TC5101	TRAILER
0100	2009	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0101	2013	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0102	2003	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0103	2013	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0104	2008	CHEVROLET	SILVERADO 3500	P/U 4WD CREW CAB
0105	2007	CHEVROLET	COLORADO	P/U 4WD MINI
0106	2005	CHEVROLET	EXPRESS 15	VAN PANEL
0107	1999	FREIGHTLINER	FL60	DUMP TRUCK
0108	2008	FORD	F550	P/U 4WD REG. DUMP
0109	1997	CHEVROLET	SIERRA	P/U 4WD CREW DUMP
0110	1996	OSHKOSH	P2526-5	DUMP TRUCK
0111	1995	OSHKOSH	P2546	DUMP TRUCK
0112	1999	OSHKOSH	P2526-5	DUMP TRUCK
0113	2000	FREIGHTLINER	FL80	DUMP TRUCK
0114	1997	OSHKOSH	P2526-5	DUMP TRUCK
0115	1997	OSHKOSH	P2526-5	DUMP TRUCK
0116	2011	OSHKOSH	P2546	DUMP TRUCK
0117	1996	OSHKOSH	P2526-5	DUMP TRUCK
0118	1993	OSHKOSH	P2546-4	DUMP TRUCK
0119	1999	OSHKOSH	P2526-5	DUMP TRUCK
0120	2013	INTERNATIONAL	7600	DUMP TRUCK
0121	1997	OSHKOSH	P2526-5	DUMP TRUCK
0122	1997	OSHKOSH	P2526-5	DUMP TRUCK
0123	1997	OSHKOSH	P2526-5	DUMP TRUCK
0124	1997	OSHKOSH	P2526-5	DUMP TRUCK
0125	1997	OSHKOSH	P2526-5	DUMP TRUCK
0126	1997	OSHKOSH	P2526-5	DUMP TRUCK
0127	1997	OSHKOSH	P2526-5	DUMP TRUCK
0128	1997	OSHKOSH	P2526-5	DUMP TRUCK
0129	1998	OSHKOSH	P2546	DUMP TRUCK
0130	1998	OSHKOSH	P2546	DUMP TRUCK
0131	1998	OSHKOSH	P2526-5	DUMP TRUCK
0132	1998	OSHKOSH	P2526-5	DUMP TRUCK
0133	2000	FREIGHTLINER	FL60	TRUCK DUMP 4X2

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0134	2001	FORD	F350	P/U CREW CAB DUMP
0136	1993	MORTON	TMT 123P	PAINT STRIPER
0137	1996	FORD	CF-8000	PAINT TRUCK
0138	2001	KELLY- CRESWELL	MR-10	PAINT STRIPER
0139	2002	SEALMASTER	TR300	TANK MOUNTED ON TRAILER
0140	2007	LLIFETIME	LALP2389	TRAILER
0141	2008	BELSHE	WB12	TRAILER
0142	1997	HIGHWAY EQUIPMENT	DUMP E AG18	VACUUM TRASH COLLECTION
0143	2009	FREIGHTLINER	M2	STREET SWEEPER
0144	2001	TYMCO	435	SWEEPER
0145	2007	JOHNSTON	MT350	SWEEPER
0146	1997	JOHNSTON	HS-705	STREET SWEEPER
0147	2005	JOHNSTON	770	STREET SWEEPER
0148	2007	ISUZU	W4500	SWEEPER
0149	2010	ISUZU	NRZ	SWEEPER
0150	1994	CASE	621B	FRONT LOADER
0151	1993	E. THOMAS	TMT233HD	SKID STEER LOADER
0152	2011	CASE	590SN	LOADER/BACKHOE
0153	2008	CATERPILLAR	953D	CRAWLER/LOADER
0154	1999	FERGUSON	46A	ROLLER
0155	1996	CHAMPION	716A	ROAD GRADER
0156	1997	CASE	580 SL	BACKHOE/LOADER
0157	1974	JOY	RPS185-DA	AIR COMPRESSOR
0158	2004	SULLAIR	185DPQ	AIR COMPRESSOR
0159	1998	MILLER	BIG 40G	PORTABLE WELDER
0160	1972	MILLER	900-955	PORTABLE WELDER
0161	1987	ONAN		GENERATOR\TRAILER
0162	2008	TAKEUCHI	TL150	TRACK LOADER
0163	2007	CASE	621E-XT	TOOL CARRIER WHEEL LOADER
0164	2012	LEROI	Q185D	AIR COMPRESSOR
0165	1990	CASE	1840	UNILOADER
0166	2008	FORD	F350	P/U FLAT BED
0167	2008	CHEVROLET	SILVERADO 3500	P/U CREW CAB
0168	2008	CHEVROLET	SILVERADO 3500	P/U CREW CAB

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0169	2008	CHEVROLET	SILVERADO 3500	P/U 4WD CREW CAB
0170	2000	OSHKOSH	P2546	DEICER TANKER
0171	1996	OSHKOSH	P2546-SP	DEICER TANKER
0172	1997	OSHKOSH	P2546	DEICER TANKER
0173	2000	OSHKOSH	P2546	DEICER TANKER
0174	2000	OSHKOSH	P2546	DEICER TANKER
0175	1999	OSHKOSH	P2546	DEICER TANKER
0176	1997	OSHKOSH	P2546	DEICER TANKER
0177	1996	GMC	TOPKICK	TANKER 1500 GAL
0178	2007	GMC	C5500	TANKER 1500 GAL
0179	2011	SUNS		TRAILER
0180	1997	AMIDA	AL4060D-4MH	PORTABLE LIGHT UNIT
0181	2004	AMIDA	AL4060D-4MH	PORTABLE LIGHT UNIT
0182	1997	AMERICAN SIGNAL		TRAILER W/MESSAGE BOARD
0183	1979	KOEHRING-MASTER	60DSE-3CE	PORTABLE LIGHT UNIT
0184	1997	AMIDA	AL4060D-4MH	PORTABLE LIGHT UNIT
0185	2007	AMIDA	AL4000	PORTABLE LIGHT UNIT
0186	1982	ALMAND		PORTABLE LIGHT UNIT
0187	2008	TEREX	A24050	PORTABLE LIGHT UNIT
0188	2004	AMIDA	AL4000	PORTABLE LIGHT UNIT
0189	2006	AMIDA	AL4060D	PORTABLE LIGHT UNIT
0190	1993	BEUTHLING	TRAILER	TRAILER
0191	1981	BROOKS	TRAILER	TRAILER
0192	1982	KORY	6278	TRAILER TANDEM
0193	1991	L & B	TRAILER	TRAILER
0194	1994	NUWAY	TRAILER	TRAILER
0195	1980	KORY	6278	FENCE TRAILER
0196	1977	KORY		FENCE TRAILER
0197	2004	TOWMASTER	T10T	TRAILER
0198	1983	HYSTER	TRAILER	TRAILER

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0199	1974		GENERAL	TRAILER
0200	1999	BROOKS	TRAILER	TRAILER
0201	1997	CROAKHITE	520 SA	TRAILER
0202	2013	REDI HAUL	ML7460E	TRAILER
0203	1999	IMPERIAL	3120	TRAILER
0205	2012	MB	MB5	BROOM/PLOW
0206	2012	MB	MB5	BROOM/PLOW
0207	2010	OSHKOSH	HB2723	RUNWAY BROOM MB
0208	2009	MB	MB5	BROOM/PLOW MB
0209	2005	MB	HB2718	RUNWAY BROOM MB
0210	2011	MB	MB5	BROOM/PLOW
0211	2011	MB	MB5	BROOM/PLOW
0212	1997	OSHKOSH	HB2718	RUNWAY BROOM MB
0213	1997	OSHKOSH	HB2718	RUNWAY BROOM MB
0214	1998	OSHKOSH	HB2718	RUNWAY BROOM MB
0215	1997	OSHKOSH	HB2718	RUNWAY BROOM MB
0216	1998	OSHKOSH	HB2718	RUNWAY BROOM MB
0218	2011	MB	MB5	BROOM/PLOW
0219	2012	MB	MB5	BROOM/PLOW
0226	1998	OSHKOSH	HB2718	RUNWAY SNOWBLOWER
0227	1999	OSHKOSH	HB2718	RUNWAY SNOWBLOWER
0228	1997	OSHKOSH	HB2718	RUNWAY SNOWBLOWER
0230	1997	OSHKOSH	HB2718	RUNWAY SNOWBLOWER
0231	1997	OSHKOSH	HB2718	RUNWAY SNOWBLOWER
0238	2008	CHEVROLET	SILVERADO 3500	P/U 4WD CREW CAB
0239	1987	LLIFETIME	EPT4-514	LIFT A LOAD
0240	2012	SULLIVAN	DO185PJD	AIR COMPRESSOR
0241	1990	MAXI DUMP	MDT58	DUMP TRAILER

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0242	2008	KUBOTA	ZD331	MOWER
0243	1997	JOHN DEERE	6400	TRACTOR
0244	2013	GENIE	GTH-844	FORK LIFT
0245	1992	FORD	7710	TRACTOR W/BOOM
0246	2013	KUBOTA	F3680	MOWER
0247	2013	KUBOTA	F3680	MOWER
0249	2012	JOHN DEERE	6400	TRACTOR W/FLAIL MOWER
0250	1999	JOHN DEERE	6410	TRACTOR W/FLAIL MOWER
0251	2011	JOHN DEERE	6400	TRACTOR
0252	2001	JOHN DEERE	6410	TRACTOR W/FLAIL MOWER
0253	1995	GOFF	24D16	TRACTOR ROADABRATOR
0254	2001	JOHN DEERE	6410	TRACTOR W/FLAIL MOWER
0255	2003	JOHN DEERE	6420	TRACTOR W/FLAIL MOWER
0256	1999	JOHN DEERE	6410	TRACTOR W/FLAIL MOWER
0257	2001	JOHN DEERE	6410	TRACTOR W/FLAIL MOWER
0258	1999	JOHN DEERE	6410	TRACTOR W/FLAIL MOWER
0259	2009	JOHN DEERE	6430	TRACTOR
0260	2000	KUBOTA	L3010	TRACTOR
0261	2001	KUBOTA	M9000	TRACTOR
0262	2006	JOHN DEERE	JD6415	TRACTOR W/FLAIL MOWER
0263	2001	KUBOTA	M9000	TRACTOR
0264	1991	KUBOTA	L265	TRACTOR
0265	2000	DEWEZE	ATM-72	MOWER
0266	1991	JOHN DEERE	770	TRACTOR
0267	1997	JOHN DEERE	5400	TRACTOR
0268	2000	KUBOTA	M680	TRACTOR
0269	1997	KUBOTA	L2900	TRACTOR
0270	2000	KUBOTA	F2560	TRACTOR
0271	2000	KUBOTA	F2560	MOWER

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0272	2001	PERFORMANCE FIRST	90W	CHIPPER
0273	2004	KUBOTA	F2260	RIDING MOWER
0274	1989	PROMARK	310	CHIPPER
0275	1994	RAYCO	RG1635A/SA	TRAILER MOUNTED STUMP CUTTER
0276	2005	DEWEZE	72LC	MOWER
0277	1989	KD MANITOU	T602TC-D	FORKLIFT
0278	1997	SELLICK	SD-60	FORKLIFT
0279	1982	KOMATSU	FG30-7	FORKLIFT
0280	2008	BOXER	427W	SKID STEER
0281	2008	BOXER	526D	SKID STEER
0282	2013	CHEVROLET	EXPRESS	VAN FULL SIZE
0283	1996	CHEVROLET	VAN	VAN FULL SIZE
0284	2008	CHEVROLET	SILVERADO 3500	P/U 4WD CREW CAB
0285	2006	CHEVROLET	COLORADO	PICK UP
0286	1989	GMC	7000	BOOM TRUCK
0290	2013	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0291	2008	VORTEQ	VTQ-TL3	TRAILER
0292	2014	ALLMAND	ECLIPSE	ARROW BOARD
0293	2014	ALLMAND	ECLIPSE	ARROW BOARD
0294	2004	KUBOTA	F2260	MOWER
0295	2004	KUBOTA	F3060R	MOWER
0296	2005	BELSHE	WB-1EP	TRAILER
0297	2005	STILL		TRAILER/GUARD SHACK
0298	2005	LOADMASTER	TANDEM	TRAILER
0299	2005	LOADMASTER	TANDEM	TRAILER
0300	2013	CHEVROLET	SILVERADO 1500	P/U 4WD EXT. CAB
0301	2007	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0302	2009	JLG	600SJ	BOOM LIFT
0303	2008	CHEVROLET	2500 EXPRESS	CARGO VAN
0304	2007	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0305	2007	CHEVROLET	SILVERADO 2500	P/U 4WD CREW CAB
0306	2010	FREIGHTLINER	M2106	BOOM TRUCK
0307	2007	CHEVROLET	SILVERADO 2500	P/U 4WD CREW CAB
0308	2013	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0309	1989	BELSHE	WB-1	TRAILER
0310	1997	DITCH WITCH	3610DDL5	TRENCHER/BACK- HOE W/TRAILER

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0311	2010	INTERNATIONAL	7400	DERRICK DIGGER
0312	1990	SULLAIR	100GPQ-TOY	AIR COMPRESSOR
0313	2007	CHEVROLET	VAN 2500	CARGO VAN
0314	1990	ROADRUNNER	TRAILER	SPOOL TRAILER
0315	2014	ALLMAND	ECLIPSE	ARROW BOARD
0316	2008	CHEVROLET	EXPRESS	CARGO VAN
0317	2007	CHEVROLET	COLORADO	P/U 4WD MINI
0318	1996	MANITEX	2592	BUCKET/CRANE TRUCK
0319	1997	SPECTRUM		GENERATOR
0320	1997	LEROI	Q125DJE	AIR COMPRESSOR
0321	1998	TOWMASTER	T-12DDT	TILT BED TRAILER
0322	2009	FREIGHTLINER	M2106	UTILITY W/LIFT
0323	2001	JLG	100SX	BOOM LIFT
0333	2007	CHEVROLET	SILVERADO 2500	P/U 4WD EXT. CAB
0334	2013	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0335	2007	CHEVROLET	VAN 2500	WORK VAN
0338	1998	CHEVROLET	CHEYENNE	P/U FLAT BED
0400	2008	CHEVROLET	TRAILBLAZER	4WD UTILITY
0401	2006	CHEVROLET	TRAILBLAZER	4WD UTILITY
0402	2013	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0403	2006	CHEVROLET	TRAILBLAZER	4WD UTILITY
0404	2014	CHEVROLET	SILVERADO 2500	P/U 4WD CREW CAB
0405	2013	CHEVROLET	EQUINOX	4WD UTILITY
0480	1999	CHEVROLET	1500	P/U 4WD EXT. CAB
0481	2006	CHEVROLET	COLORADO	P/U MINI
0483	2001	TOYOTA	7FGC430	FORKLIFT
0484	2006	TOYOTA	YDG-2700E-E	FORKLIFT
0486	2001	FORD	CROWN VICTORIA	PASSENGER CAR
0489	2008	CHEVROLET	UPLANDER	MINI VAN
0491	2008	CHEVROLET	UPLANDER	MINI VAN
0500	2007	CHEVROLET	SILVERADO 1500 LT	P/U 4WD EXT. CAB
0501	2009	CHEVROLET	COLORADO	P/U 4WD MINI
0502	2008	CHEVROLET	SILVERADO	P/U 2WD REG. CAB
0503	2008	CHEVROLET	SILVERADO	P/U 2WD REG. CAB
0504	2000	CHEVROLET	SILVERADO	P/U 2WD FULL
0505	1996	GMC TRUCK	VAN	MINI VAN
0506	2012	CHEVROLET	SILVERADO	P/U FLAT BED

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0507	2008	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0508	2006	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0509	2006	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0510	2008	CHEVROLET	SILVERADO	P/U 2WD REG. CAB
0511	2009	CHEVROLET	COLORADO	P/U 4WD MINI
0512	2008	CHEVROLET	COLORADO	P/U 4WD MINI
0513	2002	CHEVROLET	S-10	P/U 2WD MINI
0514	2001	FORD	F150	P/U 4X2 REG. CAB
0515	2002	CHEVROLET	S-10	P/U 2WD MINI
0524	1987	YALE	Y437266	FORKLIFT
0525	1988	CLARK	GCS-30-I	FORKLIFT
0528	2008	BIL-JAX	ET5000W	TRAILER
0600	2011	CHEVROLET	SILVERADO	P/U 4WD CREW
0603	2013	CHEVROLET	EXPRESS	EXPRESS VAN
0641	2012	CHEVROLET	EQUINOX	UTILITY FWD
0643	2003	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0644	2006	CHEVROLET	TRAILBLAZER	4WD UTILITY
0646	2011	CHEVROLET	EQUINOX	FWD UTILITY
0700	2008	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0701	2007	CHEVROLET	SILVERADO 2500	P/U 4WD REG. CAB
0702	2003	CHEVROLET	2500	PASSENGER VAN
0703	2006	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0704	2005	CHEVROLET	SILVERADO 2500	P/U 4WD REG. CAB
0705	2005	CHEVROLET	SILVERADO 2500	P/U 4WD REG. CAB
0706	2007	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0707	2003	CHEVROLET	2500	PASSENGER VAN
0708	2003	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0709	1998	GMC	SIERRA 3500	1 TON FLATBED TRUCK
0711	1997	GMC	SONOMA	PICK-UP
0712	2012	CHEVROLET	COLORADO	P/U 2WD MINI
0713	2002	CHEVROLET	S-10	P/U 2WD MINI
0714	2006	CHEVROLET	SILVERADO	P/U 4WD REG. CAB
0715	2011	CHEVROLET	SILVERADO	P/U 4WD CREW CAB
0730	2008	MADVAC	CN100-B	SWEEPER
0740	2013	CHEVROLET	SILVERADO	P/U 4WD EXT. CAB
0741	2013	CHEVROLET	EXPRESS	VAN FULL SIZE
0742	1997	FORD	E150	VAN FULL SIZE
0743	1999	CHEVROLET	3500	VERSALIFT

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0748	1996	EAGER BEAVER		TRAILER W/GENERATOR
0749	2001	RETTIG	TRAILER	TRAILER
0750	2006	HUGHES		TRAILER
0751	2013	TOYOTA	8FGU25	FORKLIFT
0800	2003	PREVOST	LE MIRAGE-XC2-45	MOBILE COMMAND CENTER
0801	1998	GOSHEN	1130	BUS 21 PASS. W/C
0802	1998	GOSHEN	1130	32 PASSENGER BUS
0803	1998	GOSHEN	1130	32 PASSENGER BUS
0804	1998	WELLS CARGO	EW2624W	TRIAGE TRAILER
0805	1998	WELLS CARGO	EW2024W	TRIAGE TRAILER
0806	2003	UNITED	U712TA35	TRAILER
0850	1997	FMC	FMDL60	CARGO LOADER
1000				CAN CARD NUMBER
1001				CAN CARD NUMBER
1002				CAN CARD NUMBER
1003				CAN CARD NUMBER
1004				CAN CARD NUMBER
1005				CAN CARD NUMBER
1006				CAN CARD NUMBER
1007				CAN CARD NUMBER
1008				CAN CARD NUMBER
1009				CAN CARD NUMBER
1010				CAN CARD NUMBER
1011				CAN CARD NUMBER
1012				CAN CARD NUMBER
1013				CAN CARD NUMBER
1016				CAN CARD NUMBER
1017				CAN CARD NUMBER
1018				CAN CARD NUMBER
1021				CAN CARD NUMBER
1022				CAN CARD NUMBER
1023				CAN CARD NUMBER
1025				CAN CARD NUMBER
1031				CAN CARD NUMBER
1041				CAN CARD NUMBER
1042				CAN CARD NUMBER
1043				CAN CARD NUMBER
1044				CAN CARD NUMBER

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1045				CAN CARD NUMBER
1047				CAN CARD NUMBER
1048				CAN CARD NUMBER
1049				CAN CARD NUMBER
1053				CAN CARD NUMBER
1054				CAN CARD NUMBER
2003				Fuel card for Police Special P
70000		YAMAHA	YG300S	GENERATOR
70101	0			GENERATOR
70102	2013			AIR COMPRESSOR
70104		INGERSOLL RAND		AIR COMPRESSOR
70107	1999			PRESSURE WASHER
70108	0	HONDA	K97B	PRESSURE WASHER
70125			5S3301	FLOOR SCRUBBER
70244	2014	PLOARIS	MY14-GEM	CAR ELECTRIC
70245	2014	PLOARIS	MY14-GEM	CAR ELECTRIC
71000	2014	CRAFCO	SS125	MELTER
71002	1988			CRACK ROUTER
71003	2003	CRAFCO	14	BRUSH/BLOWER
71004	1986			BRUSH/BLOWER
71006	1981			HOMEMADE TRAILER
71007				CONCRETE SAW
71008	1991	MECO	M-65-G	CONCRETE SAW
71009	1986	CIMLINE	RCS-25	CONCRETE SAW
71010	1983	BERRY	200	BLOWER/BRUSH
71011	1987			SANDBLASTER
71015		ONAN	3CR-24688	GENERATOR/TRAILER MOUNTED
71016	1993			AIR COMPRESSOR
71017	1987	WACKER	112232	COMPACTOR
71019	0			PUMP, LIQUID
71020	1980	PORTA PATCHER2	928-HESC	ASPHALT RECYCLER
71021	1997	STEPP	SRM 10x120	ASPHALT RECYCLER
71022	1998	STEPP	SPH-3	ASPHALT HOT BOX
71023	2004		311X4	POWER WASHER
71024	2005			PUMP

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71025	2001	MK DIAMOND	MK2005G	BRICK SAW
71026	2005	STIHL	MS310	SAW
71027	2004		SPS10	PAINT STRIPPER
71028	2004		SPS10	PAINT STRIPPER
71029	2004		SPS10	PAINT STRIPPER
71034	2005	STEPP	SRM 10X120	ASPHALT RECYCLER
71035	2005	STEPP	SAMIH	ASPHALT IINFRARED HEATER
71050	2006		LNx8QD	TRAFFIC LINE ERASER
71051	2010	STIHL		MINI TILLER
71107	2005	REDMAX	GZ25N	WEEDEATER
71108	2004	MTD	24A652D700	LEAF BLOWER
71109	2004	MTD	24A 652D700	LEAF BLOWER
71110	2006		BVM 200LE	BLOWER/VAC
71111	2006		BVM 200LE	BLOWER/VAC
71152	2011	STIHL	MS290	CHAINSAW
71154	0	HOMELITE	SUPER XL	CHAINSAW
71158	2002	STIHL	021	CHAIN SAW
71160	2006	STIHL	MS270BW9CA	CHAIN SAW
71161	2006	STIHL	MS270BW9CA	CHAIN SAW
71162	2006	STIHL	MS270BW9CA	CHAIN SAW
71163	2006	STIHL	MS270BW9CCA	CHAIN SAW
71164	2006	STIHL	MS270BW9CA	CHAIN SAW
71165				CHAINSAW
71166		HOMELITE		CHAINSAW
71167		POULAN		CHAINSAW
71168	2007	STIHL	TS800	CONCRETE SAW
71170	2007	STIHL	TS800	CONCRETE SAW
71202	2013	SNAPPER	SP80	MOWER
71225	2008	STIHL	HS45	HEDGE TRIMMER
71301	2000	WACKER	GS5.6A	PORTABLE GENERATOR
71513	2013	FERRIS	5900555	WALK BEHIND MOWER
71514	2013	FERRIS	5900555	WALK BEHIND MOWER
71515	1987	BUSH HOG	315W	MOWER
71524	1993	TIGER	TRF-90	MOWER

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71525	2002	EXMARK	VHC 4815 KC	WALK BEHIND MOWER
71527	2004	SNAPPER	MR216517B	MOWER
71528	2004		DD5KAV23	WALK BEHIND MOWER
71529	2004		DD5KAU23	WALK BEHIND MOWER
71530	1995			AIRRATOR
71532	2005	REDMAX	BCZ26005	TRIMMER
71533	2005	REDMAX	BCZ26005	TRIMMER
71534	2005	REDMAX	BCZ26005	TRIMMER
71535	2008	STIHL	KM55R	TRIMMER
71536	2005	REDMAX	BCZ26005	TRIMMER
71537	2005		6232 PRO	EDGER
71538	2005	SNAPPER	MRP216518B	MULCH MOWER
71539	2010			SPREADER
71540	2006	STIHL	HS81T	HEDGE TRIMMER
71541			13AX694G401	RIDING MOWER
71542	2010			AUGER
71543	2011	REDMAX		TRIMMER
71550	1977	HOMELITE	160TP4	PUMP, DEICER
71551	2006	TSURUMI	EPT3-1001-1A	PUMP
71552	2009			TRASH PUMP
71611	2000			TRAILER
71612	2005			TRAILER
71613				TRAILER, HOMEMADE
71614				TRAILER, HOMEMADE
71615				TRAILER, HOMEMADE
71701	2004	REDMAX	BCZ2400	WEEDEATER
71702	2004	REDMAX	BCZ2400	WEEDEATER
71703	2004	REDMAX	BCZ2400	WEEDEATER
71704	2004	REDMAX	BCZ2400	WEEDEATER
71705	2004	REDMAX	BCZ2400	WEEDEATER
71706	2004	REDMAX	BCZ2400	WEEDEATER
71708	2004	REDMAX	BCZ2400	WEEDEATER
71709	2004	REDMAX	BCZ2400	WEEDEATER
71710				FOGGER

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71711	2006	STIHL	HS81T	HEDGE TRIMMER
71712	2006	REDMAX	BCZZ600S	TRIMMER
71713	2006	REDMAX	BCZZ600S	TRIMMER
71714	2006	REDMAX	BCZZ600S	TRIMMER
71716	2006	REDMAX	BCZZ600S	TRIMMER
71717	2006	REDMAX	BCZZ600S	TRIMMER
71719	2006	REDMAX	BLZZ600S	TRIMMER
71720	2006	STIHL	HL100	HEDGE TRIMMER
71721	2006		GHT225	HEDGE TRIMMER
71722	2006		GHT225	HEDGE TRIMMER
71723	2006	REDMAX	BCZ600S	TRIMMER
71724	2006	STIHL	HL100	HEDGE TRIMMER
71726	2007	STIHL	BG65	LEAF BLOWER
71727	2007	STIHL	BG65	LEAF BLOWER
71729	2007	STIHL	BG65	BLOWER
71730	2008	STIHL	BG65	BLOWER
71732	2008	REDMAX	HBZ2601	LEAF BLOWER
71734	2013	OZTEC	1.2	CONCRETE VIBRATOR
71735	2009	BILLY GOAT		CRACK CLEANER
71736	2009	BILLY GOAT		CRACK CLEANER
71737	2010	BILLY GOAT		POWER RAKE
71739	2011	REDMAX		BLOWER
71742	2011	REDMAX		BLOWER
71801	0	WESTHEFER	LC320TR	WEEDSPRAYER
71802	2004	BROYHILL2	LAWNMATE	SPRAYER
71803	2004	BROYHILL2	LAWNMATE	SPRAYER
71805	2006	KELLY-CRESWELL	HPS2	PAINT STRIPPER
71903	0	MILLER	AEAD-200LE	WELDER
71904	1988	BEST	65	MIXER, CEMENT
71905	0	GILSON	1200MP	MIXER, MORTAR
71906	1986	MILLER	BLUE STAR	WELDER
71907				CEMENT MIXER
71908	2006		MC945	CONCRETE MIXER
71920	2005		TS1517	POWER WASHER
71926	2013			PLATE COMPACTOR
71930	2013	SAKAI	CR271	ROLLER
71931	2004	STIHL	TS760	CONCRETE SAW

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71932	2005		SP2S13H0	CONCRETE SAW
71933				PORTABLE JACK HAMMER
71935	1985	EDCO2	CPT-X-16	PLANER, CONCRETE
71936	2000	VON VARX	VA25S	GRINDER
71937	2001	KELLY- CRESWELL	HEAVY DUTY HD-C	LINE STRIPPER
71938	2001	KELLY- CRESWELL	HEAVY DUTY HD-C	LINE STRIPPER
71942	1974			LINE STRIPPER
71945	1994	NUWAY		SPRAYER
71946	1987	BINKS	3-1261	AIR COMPRESSOR
71947	1998	KELLY- CRESWELL	HDC	LINE STRIPPER
71948	2003	BRIGGS & STRATTON	91232	WATER/TRASH PUMP
71949	2009			PUMP
71950	2002	STIHL	HS 45	TRIMMER
71952	2002	STIHL	FS 85	TRIMMER
71954	2008	STIHL	HT130	TRIMMER
71956	2008	STIHL	HS45	HEDGE TRIMMER
71957	2012	REDMAX		WEEDEATER
71961	1998	ECHO	SMR-2400	WEED EATER
71962	1998	ECHO	SRM-2400	WEED EATER
71970				PAINT STRIPER
71971	2004	KELLY- CRESWELL	HDC	PAINT STRIPER
71972	2004	KELLY- CRESWELL	HDC	PAINT STRIPER
71973	2004	KELLY- CRESWELL	HDC	PAINT STRIPER
71974	2004	KELLY- CRESWELL	HDC	PAINT STRIPER
71977	2002	PAULAN	2150	CHAINSAW
71980	2002	GNC	GX160	SPRAYER
71990	2002	JOHN DEERE	JS60	MOWER
71995	2006	SNAPPER	SPV21	MOWER
71997	2006	SNAPPER	SPV21	MOWER
71998	2006	SNAPPER	SPV21	MOWER
72000	0			GENERATOR

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72001	0			GENERATOR
72002	0	HOMELITE	4000 WATTS	GENERATOR
72004	2003	PORTER CABLE	CH250	PORTABLE GENERATOR
72006	2005	LANDA	PGD435324E	POWER WASHER
72009	1999	HONDA	GX240	TRASH PUMP
72010	1999	HONDA	GX240	TRASH PUMP
72011	1999	HONDA	GX240	TRASH PUMP
72012	1999	HONDA	GX240	TRASH PUMP
72013	2003	STIHL	TS-400	CONCRETE SAW
72014	0	PARTNER	K650-II	CONCRETE SAW
72015	1998	GRACO	GMAX 5900	PAINT PUMP
72018	2000	LANDA	PG4-3500	PRESSURE WASHER
72020	2005	LANDA		POWER WASHER
72021	2013	STIHL	BG86	BLOWER
72022		LANDA		POWER WASHER
72023	2013	STIHL	BG86	BLOWER
72024	2014	CRAFTSMAN	247-9854	SNOW THROWER
72025	2000	YARD MACHINES	31AE172-022	SNOW BLOWER
72026	2007		ST0726	SNOW BLOWER
72027	2011	TORO		SNOW BLOWER
72028	2013	TORO		SNOW BLOWER
72029	2014	CRAFTSMAN	247-9854	SNOW THROWER
72264		LINCOLN	AC-225/DC-210/16	PORTABLE WELDER
72265	2001	LINCOLN	RANGER	PORTABLE WELDER
72267	2005	MILLER	BOBCAT 250	WELDER
72268	2008			PIPE SAW
73101	0	BATTS	4W115A	RUNWAY LIGHTS
73102	0	BATTS	4W115A	RUNWAY LIGHTS
73103	0	BATTS	4W115A	RUNWAY LIGHTS
73104	0	BATTS	4W115A	RUNWAY LIGHTS
73106	0	HOMELITE	195432	PUMP, TRASH
73108	1990	MARKLIFT	270	MARKLIFT
73109	0	DEVILBISS	GB4000-2	GENERATOR
73111	0	HOMELITE	HTP2	PUMP, TRASH
73116	1999	SKYJACK	SJKB33N	BOOM LIFT
73117	1999	BRIGGS & STRATTON	EB5010-1	GENERATOR
73119	2000	HIDELS	SEV-50X	PUMP

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73120	2000	HIDELS	SEV-50X	PUMP
73122	2000			BOOM LIFT
73123	2004	SKYJACK	SJIII-3219	MANLIFT
73125	2004	BATTS	4W115A	RUNWAY LIGHTS
73126		BATTS	4W115A	RUNWAY LIGHTS
73128	2005	BATTS	YDG2700EE-E	RUNWAY LIGHTS
73129	2005	BATTS	YDG2700EV-E	RUNWAY LIGHTS
73130	2009			RUNWAY LIGHTS
73131	2009	MAGNUM		RUNWAY LIGHTS
73132	2009			RUNWAY LIGHTS
73133	2010	MAGNUM		RUNWAY LIGHTS
73134	2010	MAGNUM		RUNWAY LIGHTS
73200	1999	YAMAHA	JN8	CART
73201	1999	YAMAHA	JN8	GOLF CART
73220	2006	TEEL	IV-256	TRASH PUMP
73221	2006	TEEL	IV-256	TRASH PUMP
75000	0			SPRAYER
75001	0			SPRAYER
75005	1997	RAVEN	EX160	TANK, 100 GAL
75113	1999	STIHL	HS-75	TRIMMER
75155		SHINDAIWA		CHAINSAW
75301	0			TILLER
75303	0			TILLER
75305	0			TREE SPADE
75501	0			STEAM CLEANER
75502	2001	LANDA	VHW2-15021D	PRESSURE WASHER
75898	2001	SHINDUIWA2	EB240/EPA	BLOWER
75899	2001	SHINDUIWA2	EB240/EPA	BLOWER
75901	0			SEEDER, SLIT
75902	0			SOD CUTTER
75908	0			AREATOR
75910	0			SPRAYER, BUG
75914	0	GIANT	680	BLOWER
75915	2000	TORO	PROLINE	MOWER
75918	75	ECHO	EDR-2100	AUGER
75927	1999	REDMAX	BC2600	TRIMMER, HEDGE
75929	2000	TURFMAKER	425	Turf Maker
75930	2002	MTD	21A-332A000	TILLER
76000	2008		ST7526	SNOW THROWER

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76001		MTD	31AE150-000	SNOWBLOWER
76002		MTD	31AE150-000	SNOWBLOWER
76003	2013			BUFFER
76004	2013			BUFFER
76005	2013			FLOOR SCRUBBER
76110				VACUUM
76951	0			SNOW PLOW
76952	0			SNOW PLOW
76953	0			SNOW PLOW
76954	0			SNOW PLOW
77000	0			PUMP, TRASH
77002	0	HOMELITE	E4000-1	GENERATOR
77003	0	LANDA	PC42000	SPRAYER, PRESSURE WASHER
77004	0	LINCOLN	G8000	GENERATOR
77005	1999	ONAN	PRO 600E	GENERATOR
77006	1998	CURTIS	PH23G	AIR COMPRESSOR
77007	2004	MILLER		GENERATOR/WELDER
77010	2002	HONDA	GC160	PRESSURE WASHER
77011	2003	TSURUMI	TE2-50HA	DEWATERING PUMP
77020	2006	BRIGGS & STRATTON	030209	GENERATOR
77100				MOBILE CNG TANK TRAILER
77200	1999	YAMAHA	JN8	CART
77201	1999	YAMAHA	JN8	CART
77901	0	TORO	38180	BLOWER, SNOW
77902		BRIGGS & STRATTON	091232	POWER BLOWER
77903	2007		SVBG8	BLOWER
84001	0	BRIGGS & STRATTON	171432	GENERATOR
84002	0	INCIPIENT	EP98-801C	FIRE SIMULATOR
84003	2012			AIR COMPRESSOR
85000	0	EZ-GO	X-300	CART
85001	2002	TAYLOR DUNN	B-100	CART
85005				PRESSURE WASHER
95000	2003	JLG	2658E3	PASSENGER LIFT
95001	2003	JLG	2658E3	PASSENGER LIFT

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95002	2003	JLG	2658E3	PASSENGER LIFT
97000	0			CART
99000	0	Cushman	898371	CART
0901	2013	FORD	E-450	SHUTTLE BUS
0902	2013	FORD	E-450	SHUTTLE BUS
0904	2009	FORD	E-450	SHUTTLE BUS
0905	2009	FORD	E-450	SHUTTLE BUS
0906	2007	FORD	E-450	SHUTTLE BUS
0908	2012	FORD	E-450	SHUTTLE BUS
0909	2007	FORD	E-450	SHUTTLE BUS
0910	2009	FORD	E-450	SHUTTLE BUS
0911	2009	FORD	E-450	SHUTTLE BUS
0912	2009	FORD	E-450	SHUTTLE BUS
0914	2007	FORD	E-450	SHUTTLE BUS
0916	2013	FORD	E-450	SHUTTLE BUS
0917	2013	FORD	E-450	SHUTTLE BUS
0918	2013	FORD	E-450	SHUTTLE BUS
0919	2007	FORD	E-450	SHUTTLE BUS
0921	2009	FORD	E-450	SHUTTLE BUS
0922	2007	FORD	E-450	SHUTTLE BUS
0923	2010	FORD	E-450	SHUTTLE BUS
0924	2009	FORD	E-450	SHUTTLE BUS
0925	2009	FORD	E-450	SHUTTLE BUS
0926	2009	FORD	E-450	SHUTTLE BUS
0927	2009	FORD	E-450	SHUTTLE BUS
0928	2009	FORD	E-450	SHUTTLE BUS
0930	2013	FORD	E450	SHUTTLE BUS
0931	2012	FORD	E-450	SHUTTLE BUS
0932	2012	FORD	E-450	SHUTTLE BUS
0933	2012	FORD	E-450	SHUTTLE BUS
0934	2012	FORD	E-450	SHUTTLE BUS
0935	2012	FORD	E-450	SHUTTLE BUS
0936	2005	CHEVROLET	BLAZER	4W UTILITY
0937	2010	FORD	FUSION	PASSENGER CAR
0939	2013	GLOBAL	L13G4SGALA	ELECTRIC CAR
0940	2007	CHEVROLET	TRAILBLAZER	4WD UTILITY
0942	2013	GLOBAL	L13G2DGALA	ELECTRIC CAR
0943	2007	CHEVROLET	SILVERADO	P/U REG. CAB
0944	2014	DODGE	RAM	PICK UP

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0945	2008	FORD	F250	P/U REG. CAB
0946	2005	CHEVROLET	2500 HD	PICK UP TRUCK
0947	2014	DODGE	RAM	PICK UP
0948	2008	GMC	3500	SWEEPER
0949	1999	CHEVROLET	3500	PICK UP
0950	2008	FORD	F250	PICK UP REG. CAB
0951	2006	BOBCAT	S160	LOADER
0952	2012	TENNANT	T20	SWEEPER
0953	2013	GLOBAL	L13G4SGALA	ELECTRIC CAR
0954	2013	GLOBAL	L1G32DGALA	ELECTRIC CAR
0960	2010	FORD	E450	SHUTTLE BUS
0961	2010	FORD	E450	SHUTTLE BUS
0962	2010	FORD	E450	SHUTTLE BUS
0963	2010	FORD	E450	SHUTTLE BUS
0964	2010	FORD	E450	SHUTTLE BUS
0965	2010	FORD	E450	SHUTTLE BUS

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 Date: JUN 26 2014

9g. Departmental Contract Services/Equipment Listing

Airfield Maintenance
Available Equipment/Tools 3/31/10

Quantity Item

7	Portable Light Units (4 Fixture lamps on lift tower, when not used as lights they can be used as generators)
60	Barricades with Flashers (36" H x 36" W)
13	Barricades (Saw horse type – 36" H x 10' L)
50	Rope Stanchions (48" H/3000' x 3/4" Nylon Rope)
75	Orange Traffic Cones (12" – 48" H)
10 Bags	Oil Dry/Oil Absorbent
	Various Hand/Power Tools Available

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Building Maintenance
Contract Services/Equipment 06/21/12

B & R Equipment 1802 Larkin Williams Rd. Fenton, MO 63026	636-343-4484	Power washing company
Kirberg Roofing 3951 Duncan Ave. St. Louis, MO 631110	314-534-2626	Roofing repairs
Rottler Pest 8625 St. Charles Rock Rd. St. Louis, MO 63114	314-426-6100	Exterminators
Zumwalt Corp. 1617 Lafayette St. Louis, MO 63104	314-772-6596 314-486-4209	Doors & windows 24 hr. Emergency
Luby Equipment 1617 Lafayette St. Louis, MO 63026	636-343-9970	Cranes, cherry pickers, and backhoe
Merlo Plumbing 11041 Gravois Industrial Ct. St. Louis, MO 63128	314-843-1000	Plumbing
Overhead Door 3927 Shrewsbury Ave. St. Louis, MO 63119	314-781-5200	Overhead/Garage doors
Lyons Sheetmetal 4085 Bingham Ave. St. Louis, MO 63116	314-568-2709	Metal work
CI Select Flooring Solutions 1716 Hidden Creek Ct. St. Louis, MO 63131	314-909-1990	Floor cleaners
Engineered Fire Protection Inc. 1615 South Kingshighway St. Louis, MO 63110	314-771-0033	Fire protection services

EMERGENCY NUMBERS AVAILABLE AT BUILDING MAINTENANCE

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M. Mullen
Date: JUN 26 2014

BUILDING MAINTENANCE
AVAILABLE EQUIPMENT/TOOLS 06/21/12

AVAILABLE EQUIPMENT – KEY SHOP – BUILDING MAINTENANCE

- 3 Key Cutters 024A
- 1 westbound socket set
- 2 ½ Dewalt cordless impacts
- 1 ¼ Dewalt impact
- 2 Dewalt 18 v drills
- 1 Dewalt cordless vacuum
- 1 Elect 3” cut off Milwaukee
- 1 Black & Decker electric drill

AVAILABLE EQUIPMENT SHIFT LOCKER 1ST SHIFT – BUILDING MAINTENANCE

- 1 Riobi electric 12” concrete saw
- 1 Dayton 6” bench grinder
- 1 General hot shot pipe thawing machine
- 1 Sears’s 16” scroll saw
- 1 Power flite floor dryer
- 1 Milwaukee 7 ¼” warm drive saw

AVAILABLE EQUIPMENT LOCKER # 13 STORAGE


- 2 18 v cordless Dewalt drills
- 1 14.4 v Dewalt cordless drill
- 1 Rigid sea snake sewer camera kit (three parts monitor cable reel locator)

AVAILABLE EQUIPMENT 1ST SHIFT TOOL LOCKER – BUILDING MAINTENANCE

- 1 Hilti laser level
- 1 Pass load gas framing nailer
- 3 Dewalt 5” trim saw 18 v
- 1 Qwik freezer pipe freezing equipment
- 1 Hilti TE 10k hammer drill
- 2 Milwaukee porta band saw
- 1 Hilti tesa hammer drill
- 1 Bosch bulldog hammer drill
- 1 Milwaukee hammer drill
- 1 Rigid drill sewer auger

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AVAILABLE EQUIPMENT 1ST SHIFT TOOL LOCKER – BUILDING MAINTENANCE
con'td

- 1 Milwaukee 10" wood chop saw
- 1 Bosch 90lb jack hammer
- 1 Proto ¾ drive socket set
- 1 Hilti TE 72 hammer drill
- 1 Hilti Tesa hammer drill
- 2 Milwaukee super sawzalls
- 1 Dewalt ½ electric impact
- 1 Dewalt 18 v jigsaw
- 3 7¼ Dewalt circle saws
- 1 Hilti CP 620 fire stop dispenser
- 1 Hilti stud finder
- 1 Hilti SB 10 cordless 3/8 drill
- 1 Hilti laser level
- 1 Ridgid pro press accessory
- 1 Rigid pro press
- 1 Dewalt sawzall 18 v
- 2 18 v Dewalt drills
- 1 18 v Dewalt angle 3/8 drill
- 1 Black & Decker nibbler
- 2 portu cable pancake compressors
- 1 Garett metal detector

AVAILABLE EQUIPMENT WELDING SHOP – BUILDING MAINTENANCE

- 1 Dayton 20" multi speed drill press
- 1 Rockweld 20" drill press
- 1 Dayton 225 amp mig welder
- 1 Lincoln mig welder
- 1 Wellsaw band saw
- 1 Dayton grinder w/base
- 1 12' Milwaukee chop saw
- 1 Dayton 9 x 16 band saw
- 1 Upright Dayton band saw
- 1 4" pump w/Honda motor
- 3 Tool Spartan sewer machines
- 1 gas powered jetter
- 1 electric jetter
- 1 General mini rooter
- 1 Spartan rod o matic
- 1 Rigid pipe threader

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AVAILABLE EQUIPMENT WELDING SHOP – BUILDING MAINTENANCE

1 Small tank set cutting torch
1 K 650 concrete saw
1 Electric eel sewer
1 Stihits 400 concrete saw
1 Milwaukee 4" cut off
1 Dewalt heavy duty grinder
1 4" Dewalt grinder
1 4" Bosch grinder
1 Heavy duty Dewalt grinder
1 Black & Decker heavy duty grinder
1 Milwaukee heavy duty ½ electric drill
1 Master heat gun
1 Roto dip
1 Dewalt angle drill
1 Hilti Tesa hammer drill
1 large set cutting torches
1 Lincoln stik welder

1 Dewalt 16 v sawzall w/battery
1 Super vac drill auger
1 Dewalt charger/radio
1 Laminate trimmer
1 Roto zip
1 Milwaukee screw gun electric
1 Milwaukee grinder electric
1 Black & Decker grinder electric
1 Milwaukee angle drill electric
1 Milwaukee drill electric
2 Dewalt flashlights – 14.4 no batteries
1 Dewalt drill no battery
1 Dewalt angle drill no battery
1 RYOBI sander
1 Milwaukee sawzall battery
1 Milwaukee sawzall electric
1 Milwaukee portable band saw electric
1 Varitemp heat gun
1 Dewalt 18v grinder w/battery
2 Dewalt 18v drills w/battery
1 MK wet tile saw

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AVAILABLE EQUIPMENT/TOOLS – BUILDING MAINTENANCE

3 Vinyl tile cutters
1 Alcan cutter
1 small shop vacuum
1 Dewalt flashlight
1 3/8" angle drill
1 1/4 impact
1 1/2" cordless drill
1 Dewalt jigsaw
1 Milwaukee hammer drill
1 Crafts men socket set
1 Dewalt radio charger
1 Husky D.A. air sander
1 Milwaukee 4" cut off tool
1 Heavy duty Milwaukee sawzall
1 Dewalt 18v sawzall
1 Porter cable crown stapler
1 Dayton finish nailer
1 /Dremel multi max
1 Milwaukee electric sheer
1 Porter cable plate joiner
1 Porter cable 5" sander
1 Bosch sander
1 Porter cable sander 1/4 sheet
1 Power 22 caliber stud gun
1 Porter cable wood router
1 Porter cable angle router
1 Porter cable trim router
1 Porter cable plunge router
1 Porter cable framing nailer
1 Dewalt compound chop saw
1 Craftsmen 12" table saw
1 Delta radial 14" arm saw

AVAILABLE EQUIPMENT/TOOLS PAINT SHOP– BUILDING MAINTENANCE

1 Paint spray booth
1 Stationary compressor
1 Gerber machine w/plotter guide
1 Sign engraver
1 Portable paint sprayer airless
1 Large shop fan

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AVAILABLE EQUIPMENT/TOOLS PAINT SHOP- BUILDING MAINTENANCE

2 shop vacuums
1 Parts washer
1 Titan 440 I sprayer
1 Graco ultra plus 1000 airless sprayer
1 Wagner HVLP paint sprayer
1 Graco PT 2000 pressure roller system
1 Landa commercial pressure washer
3 Bink's conventual spray guns
1 Graco HVLP 3800
1 Ransburg 9040 classic
1 Graco airless sprayer G max (gas)
2 Werner multi ladders
1 Sanitair vacuum
1 Master heat guns
1 Talpro Inc. drywall lift
2 DeVilbirs gravity feed spray guns
1 Dewalt portable vacuum
1 Stinger 2.5 gallon wet/dry vacuum
1 Dewalt xrp hammer drill 18 volt
1 Dewalt small drill
1 Roto zip drywall cutter
1 Falltech harness
1 Dewalt battery charger/radio
2 Graco pro shot battery spray guns
1 Blink's pressure tank for large jobs
1 Quicksand random orbital sander
2 Portable air compressors
1 Aldek Aluminum scaffolding 4' X 8' and 2' X
2 Pick 16' aluminum ladders
1 Two gallon paint shaker
1 16' extension ladder
2 32" aluminum extension ladders
2 4' step ladders
2 6' step ladders
1 8' step ladder
1 10' step ladder
1 16' fiberglass extension ladder
1 Push cart
1 Paint shop dolly
1 HS 750 plotter
1 Dimension 200 router/engraver

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Date: JUN 26 2014

AVAILABLE EQUIPMENT/TOOLS PAINT SHOP- BUILDING MAINTENANCE

- 1 Hermes vanguard 3000 engraver
- 1 Scotchlite hand squeeze roll applicator
- 1 Silk screen sign drying rack
- 1 One man silk screen machine
- 1 Five gallon paint shaker
- 1 Screen washer
- 1 Gerber edge FX
- 1 15' Plotter Gerber vision
- 1 Honda generator
- 1 Milwaukee 10" chop saw
- 1 Tennsmith foot sheer
- 1 Fletcher 3000 matt cutter
- 1 bucket truck w/welder/generator #743
- 1 HP designjet L25500 42" printer
- 1 Dell sign computer

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Date: JUN 26 2014

Climate Control
Contract Services/Equipment 7/20/2012

AGGREKO, INC. 10317 Lake Bluff Drive St. Louis, Mo. 63123	(314) 894-7787 (877) 603-6021	Heaters/Chillers
RENTAL SERVICE CORP. 449 St. Ferdinand (Washington and Graham Rd.) Florissant, Mo. 63031	(314) 839-2244	Heaters: Kerosene (40,000 BTU) Kerosene (90,000 BTU) Propane (80,000 BTU) Propane (350,000 BTU) Propane (250,000 BTU Salamander) Propane (50,000 BTU Salamander) Propane Manifolds Air Compressors: 100 CFM (gas) 250 CFM (diesel) 1.8 CFM 7.5 CFM Generators: 5.0 AMP w/light 500 25 AMP 30 AMP 240 Amp (generator/welder)
SUN RENTAL, INC. 11710 Saint Charles Rock Rd. Bridgeton, Mo. 63044	(314) 291-7210	Generator 3kw Generator 5kw Electric Jack Hammer 2" Electric Pump 2" Gas Pump 2" Trash Pump Squat Heater (propane) Torpedo Heater Welder Arch Wheel Barrel Lantern (propane) Chain Hoise Floor Jack Fan (pedestal) Heater (electric) Heater (kerosene)

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 Date: JUN 26 2014

Climate Control

Available Equipment / Tools 7/20/11

AVAILABLE EQUIPMENT – WEST PLANT – MAINTENANCE SHOP

2 EA. C Clamps 12"
2 EA. C Clamps 10"
5 EA. C Clamps 9"
3 EA. C Clamps 8"
4 EA. C Clamps 6"
8 EA. C Clamps 4"
7 EA. C Clamps 3"
2 EA. C Clamps 2"
3 EA. C Clamps 1"
1 EA Vise Grip Clamp
1 EA Portable 12v Battery Charger
1 EA Electric Impact (1/2" Drive)
4 EA Battery Drills (3/8" Drive)
1 EA Electric Drill (3/8" Drive)
2 EA Electric Drills (1/2" Drive)
2 EA Drill Presses
2 EA Drill Bit Sharpener
3 EA Electric Hammer Drills (1/2" Drive)
1 EA Reversible Air Drills (1/2" Drive)
2 EA 32 Piece 3/4" Pneumatic Impact Socket Set
2 EA 32 Piece 3/4" Electric Impact Socket Set
1 EA Circular Saw 7 1/2"
3 EA 2 Speed Reciprocating Saws
2 EA Electric Band Saws
1 EA Portable Electric Band Saws
2 EA Electric Jig Saws
1 EA Table Saw
5 EA Pipe Cutters
4 EA Portable Pipe Threaders
1 EA Pipe Bender
1 EA Tubing Bender
2 EA Table Pipe Vises
2 EA Portable Pipe Vises
2 EA 8" Pipe Wrenches
2 EA 10" Pipe Wrenches
3 EA 14" Pipe Wrenches
2 EA 18" Pipe Wrenches
4 EA 24" Pipe Wrenches
4 EA 36" Pipe Wrenches

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2 EA Large Wheel Pullers
1 EA Large Sleeve Pullers
2 EA Small Sleeve Pullers
3 EA Medium Sleeve Pullers
2 EA Portable Welders
2 EA Electric Arc Welders
4 EA Ball Peen Hammers (1 Large 3 Small)
6 EA Hand Trucks
1 EA Barrel Dolly
8 EA Angle Grinders
3 EA Metal Shears
1 EA Bending Brake
2 EA Portable Generators
2 EA Portable Hoists (3 ton)
4 EA Tubing Cutters
2 EA Short Handel Shovels
1 EA Sharp Shooter
2 EA Gasket Punch Set
1 EA Stretcher Band
4 EA Grease Guns
5 EA Levels
3 EA Levels Squares
5 EA Squares 2'
2 EA Channel Locks (1 Large 1 Small)
4 EA Crow Bar (2 Large 2 Small)
2 EA Rubber Mallets
2 EA Tin Snips
1 EA snapping Pliers
2 EA Vice Grips
1 EA Jack Stand (5 ton, Model# 93516)
1 EA Miller Trailblazer #320 CC/CV, AC/DC Welder 10,000 Watt Generator
1 EA Cummins on a Pro 6000E Generator
1 EA Brigg & Stratton Elite Series, 5,000 Watt Generator
1 EA Curtis Portable Air Compressor
1 EA Tsurmi Pump 2" Trash Pump
1 EA Troy Built Pressure Washer 2, 600 PSI
1 EA Landa Industrial Plus Washer
1 EA Toro Snow Blower
1 EA Miller 250 Bobcat Welder/Generator Mounted in Truck # 504
1 EA Chemical Containers Inc. Water Tank & Pump on Trailer
AVAILABLE EQUIPMENT – EAST PLANT

1 EA Battery Operated Drill
1 EA Electric Drill (1/2" Drive)

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Date: JUN 26 2014

- 1 EA Angle Grinder
- 1 EA Gas Torch Set (Small)
- 2 EA Electric Vacuum Wet/Dry
- 1 EA Portable Pipe Tap & Die Set (1/4' to 1 1/4")
- 1 EA Hand Truck
- 1 EA Bench Mounted Pipe Vise (1/4' to 6")
- 1 EA Lincoln Welder Power G8000

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M. Muller

Date: JUN 26 2014

Electric Shop
Contract Services/Equipment 7/20/11

PORTABLE GENERATORS

Requested to be placed on a priority list for the following Portable Generators:

One (1) 300 kW 4160 volt for Terminal 1 Emergency Generator Back Up.

Nine (9) 50 kW 120/208 volt 3 phase for tunnel Pumps/Power tools for the following locations:

One (1)	Terminal 1
One (1)	A Concourse
One (1)	B Concourse
Two (2)	C Concourse
Two (2)	D Concourse
One (1)	Terminal 2
One (1)	Building Maintenance

PORTABLE GENERATORS

CK Power Products
1100 Research Blvd.
St. Louis, MO 63132
Phone: 868-8620 After hours: 868-8624

Fabic Power Systems
101 Fabic Drive
Fenton, Mo. 63026
Phone: (636) 349-5500

Aggreko, Inc.
10317 Lake Bluff Drive
St. Louis, Mo. 63123
Phone: 894-7787

ELECTRICAL CONTRACTORS

Guarantee Electric Company
3405 Bent Avenue
St. Louis, Mo. 63116
(314) 773-1111
(314) 428-7138 (emergency)

Aschinger Electric Company
877 Horan Drive
Fenton, Mo. 63026
(636) 343-1211
(314) 277-9920 (Greg Bolten)

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(314) 280-2164 (Mike Herr)

ELECTRICAL SUPPLIES

Anixter, Inc. Wire & Cable Supplies
2266 Ball Drive
Maryland Heights, Mo. 63146
(314) 214-2000
(636) 326-6800 (emergency)

Graybar Electrical Supplies
8170 Lackland Road
Bel Ridge, Mo. 63114
(314) 573-2000
1-800-GRAYBAR (emergency)

Rexel Electrical & Data Com. Supplies
2067 Westport Center Drive
St. Louis, Mo. 63146
(314) 427-3333
1-800-248-2187 (emergency)

Western Extralite Company
14042 C Riverport Drive
Maryland, Heights, Mo. 63043
(314) 432-4560

Grainger
2535 Metro Blvd.
Maryland Heights, Mo. 63043
(314) 569-1630
1-800-CALLWWG (emergency)

Emergency Offices

City Emergency Management Agency
1315 Chestnut
(314) 622-3501

St. Louis County
Office of Emergency Management
14807 Ladue Crossing
Chesterfield, Mo. 63017
(314) 628-5400 (emergency)

EMERGENCY NUMBERS AVAILABLE IN ELECTRIC SHOP

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Date: JUN 26 2014

Electric Shop

Available Equipment/Tools 7/20/11

- Vehicle 302 Sixty-five foot telescoping boom; self propelled man lift; two man platform, 800 lbs capacity maximum.
- Vehicle 306 Basket truck articulating boom 36 ft. working height; 360 degree rotation, 2 man buck 600 lbs. capacity. Has a lifting eye on the boom capacity, 250 lbs. maximum; hydraulic tool outlets and tools.
- Vehicle 311 Boom truck; 3 stage telescoping boom; 45 ft. maximum lift. Depending on angle and extension, capacity is 5,000 lbs. to 15,000 lbs; equipped with 60 ft. 1" nylon rope; hydraulic tools and outlets.
- Vehicle 312 One air compressor; Sullair with pneumatic tools.
- Vehicle 318 100' truck type crane.
- Vehicle 320 One air compressor; Leroy with pneumatic tools.
- Vehicle 322 Basket truck with single man bucket; 30' full extension.
- Vehicle 323 100' self propelled boom type; JGL man lift.
- Vehicle 749 150 amp 120/240 volt; AC 1 phase generator on portable trailer.

1-Coffing Hoist (½ ton)

2-Coffing Hoist (1½ ton)

1-Portable Generator (1500 watt, 120/240 vac)

1-Portable Generator (1500 watt, 120/240 vac, mounted on trailer)

1-6 way adjustable 3 ton Gantry Hoist (portable when disassembled, may be towed)

2-Water Pumps (2 gasoline driven)

1 Trash Pump (1½" gasoline driver)

3-Electric Lights on 7'-10' adjustable stands

1-Trailer 319 Generator General Corporation; Waukesha WI Alternator Data Model
#96A055560, S/N 12031045

1-Trailer with 2 transformers mounted (KVA 75 from 480 vac to 208/120)

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Date: JUN 26 2014

Environmental/Health & Safety Office

Contract Services/Equipment 7/20/11

Name	Address	Services/Equipment
Professional Environmental Engineers, Inc.	500 South Ewing Ave., Ste E Saint Louis, MO 63103 Tel: 314-531-0060 Fax: 314-531-0068 Toll-free 1-888-781-3999	Environmental Remediation / ER responses

Environmental/Health & Safety Office

Available Equipment/Tools 7/20/11

Quantity	Equipment Type	Model
1	Water level indicator	Testwell
2	Flashlights 2M Candle	Brinkman
1	pH/Conductivity Meter	Hanna
1	Bio-pump	Zefon
1	PID	Mini-rae 2000
1	Oil/Water Interface Probe	Investigator
1	TOC Meter	LAR
1	Moisture Meter	Mitchell
See note	4-Gas Detector Micro Max Pro	Lumidor

Note: There are 4-Gas Detectors in the following departments:
Operations Center (Maintained by Environmental/Health & Safety Office)
Climate Control
The Airport Fire Department has additional units.

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Date: JUN 26 2014

Fleet Maintenance
Contract Services/Equipment 7/20/11

Name	Address	Services/Equipment
Freightliner	747 E. Taylor St. Louis, MO (314) 381-3800	Vehicle Parts
The Kiesel Company	4801 Fyler Avenue St. Louis, MO 63116 (314) 351-5500	Vehicle/Diesel Fuel
NAPA Automotive	525 S. Jefferson St. Louis, MO (314) 533-0243	Vehicle Parts
Reliance Automotive	490 N. Kingshighway St. Louis, MO (314) 367-8486	Vehicle Parts
Tractor Trailer	2525 Natural Bridge St. Louis, MO (314) 241-3072	Vehicle Parts

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Date: JUN 26 2014

Housekeeping

Contract Services/Equipment 7/20/11

Triangle

3409 Hollenberg Drive
St. Louis, Mo. 63044
(314) 241-1975
(314) 220-8107 (emergency/cellular)

Manpower
Cleaning Equipment

Rental Center

449 St. Ferdinand (Graham and Washington)
Florissant, Mo. 63031
(314) 839-2244

PA – Shoulder type
PA – Podium
Wet Vacuums
Kirby Vacuums

Sun Rental

12228 Natural Bridge Road
Bridgeton, Mo. 63044
(314) 429-2292 (emergency)

Tables 6' and 8'
Roundtables 48" and 60"
Turbo Dryer
Wet/Dry Vacuum

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Date: JUN 26 2014

Housekeeping

Available Equipment/Tools 7/20/11

1-7 Passenger Van (#603)
3-4 X 4 Pick Up Trucks w/ spreader (#600)
2-4 X4 Pick Up Trucks w/ plow and lift gate (#601 and 602)
4-Riding Sweepers (gasoline operated, #'s 607,608, 609 and 610)
1-Riding Sweeper (battery operated)
2-Riding Scubbers (battery operated)
5-Walk Behind Sweepers (battery operated)
40-Custodial Carts
40-Mob Buckets
40-Wringers
8-Mop Buckets w/wringers attached
4-Librators Carpet Cleaners
2-Aquamatic Carpet Cleaners
2-Power Washers (gasoline operated)
3-Escalator Cleaners
1-Estrator
1-Steamer
4-Kal Vac
5-Wet-N-Dry Vacs
6-20" Floor Buffers (electric)
2-20" Floor Buffers w/tank
4-Snow Plows
3-Snow Blowers
9-Spreaders
1-Scaffold
18-Eureka Vacuums
2-Royal Vacuums
4-Wind Tunnel Vacuums
6-Powerlite Vacuums (2)
1-Pacer 30 Vacuum
3-Micro Trak Wax Applicators
6-2 Wheel Dollies
1-Table Dolly
1-Chair Dolly
1-Desk Dolly
2-Pallet Jacks
1-Dock Plate
6-Flat Beds
13-Battery Chargers
14-Hand Shovels
3-Squeezes

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Date: JUN 26 2014

2-Genie Automatic Floor Machines
6-Ice Chisels
3-Heavy Duty Hoses
1-Industrial Washer
1-Industrial Dryer
18-44 Gal. Barrels
2-55 Gal. Barrels
3-5 Gal. Gasoline Cans
1-2.5 Gal. Gasoline Can
1-Push Broom

Vehicle 600 – 4 X 4 GMC Pickup
Vehicle 603 – 4 X 4 Passenger Van

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Date: JUN 26 2014

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FAA Approved

M. M. Sullivan

Date: JUN 26 2014

9h. Materials Management Documentation/Forms

Computerized Purchase Ordering System

Please Enter Your Security Access Code

POs Created By:

User Name To Enter System:

Name On Security Code:

Close Screen

325-178

FAA Approved

M. Muller
Date: JUN 26 2014

St. Louis Lambert Airport Small Purchase Order System

Enter, Edit, and Cancel
Purchase Orders

Purchase Order
Reports

Vendor
Reports

Enter New PO
Edit PO
Cancel PO

Print Purchase Order

Listing Of PO's,
PO Detail and
Funds Management

PO Lookup
by Vendor

Vendor Lookup

Quit Small Purchase Order System

ver120701-01

325-179

FAA Approved

Ms. Muller
Date: JUN 26 2014

Purchase Order Screen

Purchase Order Number:	<input type="text"/>	Will Be Automatically Generated By System
Requesting Department:	<input type="text"/>	Vendor Name: <input type="text"/>
Expense Source:	<input type="text"/>	Vendor Id: <input type="text"/> <input type="text"/> <input type="text"/> Add New
		Sales Person: <input type="text"/>
		Status Of PO: <input type="text"/>
Status Remarks:	<input type="text"/>	

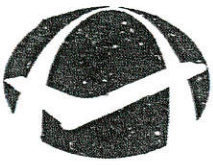
Double Click entry to Delete for Editing PO:

Cancel Purchase Order Request	Total Amount Of PO <input type="text"/>	Generate Purchase Order	Close
-------------------------------	---	-------------------------	-------

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FAA Approved

Mr. Muller
Date: JUN 26 2014



LAMBERT - ST. LOUIS INTERNATIONAL AIRPORT
AIRPORT AUTHORITY

SUPPLY REQUEST

DOC # _____

AIRPORT UPC#	DESCRIPTION	QUAN- TITY	UNIT OF ISSUE	AREA OF USE	DEPT. OF USE	B/O	ENTERED BY
REC'D BY	SUPV. SIG.	REQ.	DEPT	CODE	DATE	FILLED BY	PROCESSED BY

AREAS OF USE	
CODE	DESCRIPTION
00	UNKNOWN/DEPT. STOCK
11	RUNWAY, TAXIWAY, AIRFIELD GROUNDS & ROADS APRONS
15	TWA EXCLUSIVE APRON
21	TRANSPORTER WING (EAST CONNECTOR)
22	TERMINAL BLDG. (4 DOMES)
23	EAST TERMINAL (INT'L FAC)
24	NON-AIRFIELD GROUNDS & ROADS
26	CONCOURSES A, B & C, (NOT "C" EXT.)
27	"C" CONCOURSE EXTENSION
28	CONCOURSE "D"
31	AIR CARGO COMPLEX
32	AIR CARGO ROADS
41	HANGARS & GROUNDS (OLD MIDCOAST)
43	SANITARY DISPOSAL ROOM (TRITURATOR)
44	AIRLINE SHOP BUILDING
45	OTHER BUILDINGS & CONTROL TOWER
52	AIRLINE/TENANT PARKING LOTS
53	CONTRACT SURFACE PARKING LOTS
55	CONTRACT PARKING GARAGE

USING DEPARTMENTS	
CODE	DESCRIPTION
70	AUTO SHOP
71	FIELD MAINTENANCE
72	BUILDING MAINTENANCE
73	ELECTRICAL MAINTENANCE
75	LANDSCAPING
76	HOUSEKEEPING
77	CLIMATE CONTROL EAST/WEST
78	MATERIALS MANAGEMENT
82	ENGINEERING
83	COMMUNITY PROGRAMS
84	FIRE DEPARTMENT
85	POLICE
86	OPERATIONS CENTER
90	CONTRACTS/DBE
91	AIRPORT DEVELOPMENT OFFICE
92	DIRECTOR
93	PUBLIC RELATIONS
94	LEGAL DEPT.
95	PROPERTIES
96	SAFETY
97	FINANCE / ACCT / AUDIT / ORD / GOVT AFFAIRS
98	OPERATIONS
99	PERSONNEL / ADMINISTRATION / SYSTEMS

420-509 (Rev. 10/94)

WHITE - MAT. MGMT COPY

BLUE - DEPARTMENT COPY

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M. G. Miller
Date: JUN 26 2014

<u>Area of Use</u>	<u>Description</u>	<u>Departments</u>	<u>Description</u>
11	AIRFIELD	62	NON-OPERATING
15	APRONS	64	NON-OPERATING 93A
20	AMBASSADOR CLUB	70	AUTO SHOP
21	EAST CONNECTOR	71	FIELD MAINTENANCE
22	MAIN TERMINAL	72	BUILDING MAINTENANCE
23	INTERNATIONA AREA	73	ELECTRIC SHOP
24	ROADS & GROUNDS	74	SUPPLY
25	EAST TERMINAL	75	
28	"D" CONCOURSE	76	CUSTODIAL
29	B-C CONNECTOR	77	CLIMATE CONTROL
30	WEST TERMINAL	78	MATERIALS MANAGEMENT
31	CARGO COMPLES	79	
32	CARGO ROADS	80	
33	"A" CONCOURSE	81	
34	"B" CONCOURSE	82	ENGINEERING
35	"C" CONCOURSE	83	
41	HANGARS & GROUNDS	84	FIRE
43	TRITURATOR	85	POLICE
44	AIRLINE SHOPS	86	COMMUNICATION CENTER
45	OTHER BUILDINGS	87	
46	METROLINK	88	INFORMATION TECHNOLOGY
47	BUILDING #42 BANSHEE RD	89	
48	11495 NATURAL BRIDGE - FLIGHT TRAINING BLDG	90	DBE
49	LINDBERGH TUNNEL	91	PLANNING & DEVELOPMENT
52	EMPLOYEE PARKING LOT	92	DIRECTOR
53	PUBLIC PARKING LOTS	93	PUBLIC RELATIONS
55	PARKING GARAGE	94	LEGAL
61	93A	95	PROPERTIES
62	NON-OPERATING	96	SAFETY
63	HURRICANE KATRINA	97	ACCOUNTING
64	NON-OPERATING 93A	98	OPERATIONS
65	PFC	99	HUMAN RESOURCES
68	SEPT 11 SECURITY		
70	STORM DAMAGE JULY 2006		

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FAA Approved


 Date: JUN 26 2014

LAMBERT -ST. LOUIS INTERNATIONAL AIRPORT
 AIRPORT AUTHORITY



SUPPLY REQUEST

DCC # _____

AIRPORT UPC#	DESCRIPTION	QUAN-TITY	UNIT OF ISSUE	AREA OF USE	DEPT. OF USE	OFFICE USE ONLY BACKORDER
RECD'T BY	SUPV. SIG.	REQ.	DEPT	CODE	DATE	FILLED BY PROCESSED BY

420-508 (ML7/92) WHITE - MAT. MGMT COPY BLUE - DEPARTMENT COPY

325-183

FAA Approved

M. Miller

Date: JUN 26 2014

**AIRPORT AUTHORITY OF THE CITY OF ST. LOUIS
REQUEST FOR PURCHASE REQUISITION**

DELIVER TO: AIRPORT AUTHORITY
CENTRAL STORES
4780 ST. ANDREW
BRIDGETON, MO. 63044

=====
PART I
REQUESTING DEPT.

VENDOR'S TELEPHONE #: (___) _____ PRIORITY (A-B-C) _____
VENDOR'S NAME: _____ CONTRACT _____
VENDOR'S ADDRESS: _____ NON-CONTRACT _____
VENDOR'S CITY, STATE, ZIP: _____
_____ BLANKET _____ MULTIGRAPH _____ EQUIPMENT
DEA (4208000-5430)* _____
ORDINANCE* _____
*Approved
Ordinance Sec.: _____
Date: _____

EQUIP BUDGET ITEM #: _____ BUDGET ACCOUNT: 0- ___ - ___ - 5
area dept budget
use use acct.

APPROVED BY: _____
SIGNATURE DATE

=====
PART II
MATERIALS MANAGEMENT

INITIATOR: _____ INITIALS: _____ DATE: _____ SPECIFICATIONS ATTACHED: YES NO
OFFICE SUPV: _____
TYPIST/MSA: _____
PROOFED BY: _____
MATERIALS MGR: _____
TO ACCOUNTING: _____
USLAN DATA: _____

325-184

FAA Approved


Date: JUN 26 2014

INTER-OFFICE COMMUNICATION
AIRPORT AUTHORITY OF THE CITY OF ST. LOUIS

TO: MATERIALS MANAGEMENT FROM: _____
SUBJECT: REQUEST FOR EMERGENCY PURCHASE DATE: _____

Request you take action to obtain item(s) or service(s) identified below:

ITEM/SERVICE DESCRIPTION:	QTY:	COST:	BUDGET ACCOUNT:
_____	_____	_____	0- - - - -5
_____	_____	_____	
_____	_____	_____	

FREIGHT: _____
TOTAL COST: \$ _____

CHECK ONE: _____ ITEMS TO BE PICKED UP.
_____ ITEMS TO BE DELIVERED.

CHECK ONE: _____ THREE LETTER HEAD BIDS ATTACHED
_____ ONE LETTER HEAD BID ATTACHED (SOLE SOURCE)

RECOMMENDED SOURCE OF SUPPLY: _____
COMPANY NAME: _____
ADDRESS: _____
PHONE: _____

JUSTIFICATION: _____

I certify the item/service identified above is/are required to alleviate a condition which may cause injury to a person, property damage, or seriously impair public service.

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

Signature and Title

i Attach
LTR HEAD PKG.

M. Muller
Date: JUN 26 2014

9i. **Medical Supplies Resources**
(July 20, 2011)

Direct Relief International
directrelief.org
Phone: 805-964-4767
Fax: 805-681-4838

Press Contact:
Jim Prosser
Manager, Media Relations
805-964-4767

Direct Relief International
27 S. La Patera Lane
Santa Barbara, CA 93117

Open from 8 am to 5 pm Monday through Friday

325-187

FAA Approved


Date: JUN 26 2014

9j. ARFF HAZMAT Vehicle Inventory

HAZARDOUS MATERIAL UNIT # 47
2002 GRUMMAN MT55
3/31/10

DATE:

INTERIOR COMPARTMENTS
COMPARTMENT # 1

6 _____ ARM RADIO ACTIVATORS
1 _____ COFFEE MAKER
1 _____ REFRIGERATOR

COMPARTMENT # 2

1 _____ CAMERA MAST
1 _____ AWNING HOOK

COMPARTMENT # 3
(SHELF ONE)

1 _____ AWNING TARP
4 _____ DUCT TAPE
4 _____ SCENE TAPE
1 _____ WEB SLING
1 _____ MEDICAL KIT
1 _____ O² KIT & SPARE TANK (MEDICAL)

(SHELF TWO)

1 _____ K-12 RESCUR SAW
2 _____ CONCRETE BLADES
2 _____ METAL BLADES
2 _____ WOOD BLADES

(SHELF THREE)

6 _____ OIL ABSORBENTS PADS (various sizes)

COMPARTMENT # 4

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Date: JUN 26 2014

(SHELF ONE)

- 1 _____ BRASS TOOL KIT
- 1 _____ GREASE BOARD
- 2 _____ RUBBER GLOVE
- 2 _____ ROLLS TRASH BAGS
- 10 _____ SAFETY LIGHT STICKS
- 6 _____ PRIVACY KITS
- 6 _____ FACE PIECES

(SHELF TWO)

- 4 _____ LARGE MASK & HARNESS

(SHELF THREE)

- 1 _____ RESPIRATOR & FILTERS
- 1 _____ OIL BOOM
- 1 _____ CASUALTY TAGS & FLAGS

COMPARTMENT # 5

- 6 _____ PORTABLE RADIOS
- 1 _____ PRINTER
- 1 _____ FAX MACHINE

COMPARTMENT # 6

(SHELF ONE)

- 1 _____ ANTHRAX TEST KIT
- 1 _____ M-256 TEST KIT
- 4 _____ EAR MUFFS
- 1 _____ BARREL PATH KIT
- 1 _____ RAE SYSTEM
- 1 _____ DRAGER HAZ-MAT KIT
- 1 _____ THERMAL IMAGE GUN

(SHELF TWO)

- 4 _____ CLASS B-SUITS
- 2 _____ CLASS C-SUITS
- 4 _____ GLOVES
- 6 _____ BOOTS

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Date: JUN 26 2014

(SHELF THREE)

3 _____ CONES
3 _____ BASE for cones
3 _____ ZONE SIGNS
1 _____ OUTSIDE TABLE BOTTOM & COVER

COMPARTMENT # 7

(SHELF ONE)

2 _____ CLASS A-SUITS

(SHELF TWO)

2 _____ CLASS A-SUITS

(SHELF THREE)

2 _____ SKED STRETCHERS
3 _____ CONES
3 _____ BASE for cones
3 _____ SIGNS
1 _____ SPINE SPLINT

EXTERIOR COMPARTMENTS

DRIVER SIDE

COMPARTMENT # 1

3 _____ GARDEN HAZ-MAT HOSES
2 _____ NOZZLES
2 _____ PORTABLE SHOWERS
4 _____ COLLECTION POOLS
2 _____ STREET BROOMS
2 _____ HANDLES for brooms
1 _____ EXTENSION CORD

COMPARTMENT # 2

OPEN

COMPARTMENT # 3

325-190

FAA Approved


Date: JUN 26 2014

1 _____ GENERATOR

**PASSENGERS SIDE
COMPARTMENT # 4**

1 _____ BATTERY COMPARTMENT

COMPARTMENT # 5

1 _____ ABSORBUNT PADS (various sizes)

COMPARTMENT # 6

1 _____ WATER COOLER
2 _____ SCOOP SHOVELS
1 _____ ADJUSTABLE PLUG WRENCH
1 _____ DECON WATER MANIFOLD
1 _____ BELAY LINE
3 _____ CONES
3 _____ BASE for cones
1 _____ RESCUE ROPE
3 _____ ZONE SIGNS

325-191

FAA Approved

M. Muller
Date: JUN 26 2014

9k. Medical Supply Trailer

St. Louis Fire Department
Lambert International Airport
Medical Supply Trailer Inventory
7/20/11

HEMMORARAGE CONTROL SUPPLIES

- 1) 8x7.5 Dressings, combine abdominal pad—6 cases—240/cs = 1,440 pads
- 2) 4x4 Dressing, gauze, sponge—7 cases—4000/cs = 24,000 pads
- 3) 3 inch Kling, conforming stretch gauze bandage—20 cases—96/cs = 1,920 rolls
- 4) Bandage shears, metal = quantity 12 pair
- 5) 1 inch tape-2 cases—144/cs = 288 rolls
- 6) 3 inch tape-3 cases—48/cs = 144 rolls
- 7) 10x30 Trauma Dressing—7cases—50/cs = 350 dressings
- 8) Burn Sheets-17 cases—12/cs = 204
- 9) Burn Jel-4 cases (4-oz. squeeze bottles)—96/cs = 96 bottles

AIRWAY SUPPLIES AND EQUIPMENT

- 10) Adult Oxygen Masks-3 cases—50/cs = 150 pieces
- 11) Pediatric Oxygen Masks-2 cases—50/cs = 100 pieces
- 12) Adult Nasal Cannulas-2 cases-50/cs = 100 pieces
- 13) Disposable Oral Airway Kits—25 kits containing various sizes of airways
- 14) Adult Laryngoscope Blades—8 Adult
- 15) Child Laryngoscope Blades—12 Child
- 16) Infant Laryngoscope Blades—5 Infant
- 17) Laryngoscope Handles—11 pieces
- 18) Adult BVM—30 pieces
- 19) Child BVM—18 pieces
- 20) Infant BVM—10 pieces
- 21) V-Vacs—17 pieces
- 22) ET Tubes, 2.5MM—10 pieces
- 23) ET Tubes, size 3MM—10 pieces
- 24) ET Tubes, size 4MM—10 pieces
- 25) ET Tubes, size 6MM—10 pieces
- 26) ET Tubes, size 7MM—10 pieces
- 27) ET Tubes, size 8MM—10 pieces
- 28) ET Tubes, size 9MM—10 pieces
- 29) ET Tubes, Combitube Airway-double lumen, 41Fr-pt.5'+--16 pieces
- 30) IV Fluids, Lactated Ringers 1000ml—15 cases-14/cs = 210 bags
- 31) IV Flush, 0.9% Sodium Chloride Solution-15 cases--25/cs = 375 bags
- 32) IV Tourniquet, latex free = 2,500
- 33) IV Catheter, 14ga-1 cases—200/cs = 200 caths
- 34) IV Catheter, 16ga-1 cases—200/cs = 200 caths
- 35) IV Catheter, 18ga-1 cases—200/cs = 200 caths
- 36) IV Catheter, 20ga-4 cases—50/cs = 200 caths
- 37) IV Catheter, 22ga-4 boxes—50/box = 200 caths

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Date: JUN 26 2014

- 38) IV administration sets, macro drip 10 drop 83" IV set-6 cases—50/cs = 300 sets
- 39) Flexible Suction Catheter, 14 FR-1 case—50/cs = 50 cath
- 40) Yankauer Suction Catheter, Ridgid-1 case—50/cs = 50 cath
- 41) Syringe, 1cc-10 cases, 100/cs=1,000 syringes
- 42) Syringe, 3cc-10 cases, 100/cs = 1,000 syringes
- 43) Syringe, 12cc, 6 cases-80/cs = 480 syringes
- 44) Syringe, 35 cc, 6 cases—30/cs = 180 syringes
- 45) Syringe, TBm 1ml, 27ga x 1/2"—5 cases--500/case = 2500 syringes
- 46) Hypodermic Needles, 19ga x 1 1/2"1 case-1000/cs = 1000 needles
- 47) Infection Control Kit—1 cases—200/cs = 200

SPLINTING

- 48) Ladder Splints, wire—300 pieces
- 49) Cold Packs—5 cases—24/cs—120 packs
- 50) Triangular Bandages—17 packs/12 bandages—204 bandages
- 51) IV Arm Boards (Splints) = 300

EKG MONITORING

- 52) Pediatric EKG Electrodes--30 electrodes
- 53) Adult EKG Electrodes—300 electrodes

MISCELLANEOUS SUPPLIES AND EQUIPMENT

- 54) Hand Wash, Waterless Antiseptic-5 cases—48/cs = 240
- 55) Convenience Bags-1 case—240/cs = 240
- 56) N95 Respirators-4 cases—160/cs = 640
- 57) Portable Sharps Container—2 cases—24/cs = 48 containers
- 58) OB Kits—10 kits
- 59) Lanterns—10 pieces
- 60) Lantern Batteries, 6 volt—10 pieces
- 61) Vaseline Petroleum Gauze Dressing1 case = 144 dressings
- 62) Alcohol Prep Pads, Large—5 cases—1000/cs = 5,000 pads
- 63) Benzoin Tincture Prep Swabs—10 cases—500/cs = 5,000 swabs
- 64) Bio-Hazard Bags--1case = 500 bags
- 65) Blood Pressure Cuff - Adult = 10
- 66) Blood Pressure Cuff - Adult, Large = 5
- 67) Blood Pressure Cuff – Adult, Thigh = 2
- 68) Blood Pressure Cuff – Child = 5
- 69) Stethoscopes—22 sets
- 70) Aluminum Foil—5 rolls—75 foot/roll
- 71) Spray Bottles—10 each
- 72) Funnels, Plastic—8 each

St. Louis Fire Department
Lambert International Airport
Medical Items to be Rotated/Checked

Date: _____

Instructions:

- IV fluids will be rotated approximately 6 months prior to the expiration date -- integrity will be checked and checked for cloudiness and discoloration every other month.

0.9% Sodium Chloride Injection – 1000 ml, 15 cases or 12 each = 180 bags

Expiration Dates:

_____/_____
_____/_____
_____/_____
_____/_____
_____/_____

Cases rotated to Bureau of EMS _____, Date _____

Lactated Ringers Injection-1000 ml, 15 cases of 12 each = 180 bags

Expiration Dates:

_____/_____
_____/_____
_____/_____
_____/_____
_____/_____

Cases rotated to Bureau of EMS _____, Date _____

- Ice packs will be checked for leakage every other month.
Ice packs - 5 cases (24 per case) = 120 ice packs
Ice Packs traded to Bureau of EMS _____, Date _____
- Other items under miscellaneous will be checked every other month.
Laryngoscope Batteries (Check for acid leakage and expiration date)
Lantern Batteries (Check for acid leakage and expiration date)
IV Catheters (Check for package yellowing and humidity damage)
1" and 3" Tape (check for overall stickiness and yellowing)
Paper Packaged Supplies - 4x4, 8x7, 10x30 Trauma Dressings, Burn Sheets
ET Tubes, Electrodes, etc. (Check for package yellowing and any humidity damage)

Signature of Inspecting EMS Supervisor

Date

325-194

FAA Approved

Mr. Muller
Date: JUN 26 2014

91. Triage Equipment Inventory

St. Louis Fire Department
Lambert International Airport
Inventory of Triage Equipment 3/15/10

Date: _____

_____ 150 Backboards	_____ 350 (Bar Code) Triage Tags
_____ 150 Head Immobilizers	_____ 130 Blankets
_____ 600 Backboard Straps	_____ 10 Hare Splints
_____ 5 Wire Basket Stretchers	_____ 300 IV Arm Board Splints
_____ 12 Evac Tracs	_____ 20 Portable IV Poles
_____ Approximately 250 Vinyl Litters	_____ 130 Blankets
_____ *Additional at Central Stores	_____ 1 Box Splash/Safety Glasses
_____ 50 Oxygen Tanks	_____ Spit Cups
_____ 2 Mutilators	_____ Box of Rags
_____ 8 Flare Kits	_____ 2 Boxes Corded/Foam Earplugs, 100 pr each
_____ 2 Crates Body Flags	_____ 600 Face Shields
_____ 150 Body Bags	_____ 160 N95 Masks
_____ C-Collars (Number & Size)	_____ 1 Box Orange Vests
_____ 50 Infant	_____ 1 Green Staging Officer Vest
_____ 50 Pediatric	_____ 1 Yellow Transportation Officer Vest
_____ 50 Adult Neckless	_____ 1 Red Triage Officer Vest
_____ 150 Adult Regular	_____ 1 Blue EMS/Command Vest
_____ 100 Adult Short	_____ 25 Medic Bags *
_____ 100 Adult Tall	_____ 1 MCI Rapid Response Kit **

*MEDIC BAGS:


- 1 P.A.W.S.
- 1 2 x 4.1 yd sterile stretch conforming bandage
- 1 triangular bandage
- 1 ADC BP cuff
- 1 7 ¼ EMT scissors
- 2 3 x 4.1 yd sterile stretch conforming bandage
- 1 3 x 5 yds self-adherent bandage wrap
- 1 navy Sprague stethoscope
- 1 penlight with pupil gauge
- 6 4 x 4 8-ply sterile-2's gauge sponge
- 8 fingertip bandage
- 1 orange SAM splint
- 1 safety glasses with side shield
- 1 10 x 30 trauma dressing
- 1 roll 1 transparent tape
- 3 9.5 Nitrile gloves
- 2 burn jel unit dose packets
- 1 5 x 9 ABD combine pad

**MCI RAPID RESPONSE KIT:

- 1 Each 20" x 30" treatment tarps
 - Green
 - Yellow
 - Red
 - Black
- 6 Key Position vests for rapid deployment
 - Triage Unit Leader
 - Treatment Unit Leader
 - Minor Treatment Manger
 - Delayed Treatment Manager
 - Immediate Treatment Manager
 - Morgue Manager
- 4 MCI vests
 - Blue EMS Command
 - Green Staging Officer
 - Yellow Transportation Officer
 - Red Triage Officer
- 50 (Waterproof) Triage Tags
- pencils, pens, clipboards, forms

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FAA Approved


Date: JUN 26 2014

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FAA Approved

M. G. Allen

Date: JUN 26 2014

9m. EOC Inventory
(7/20/11)

Individual positions: Driver, Airline, Police, Ops, ARFF, EMS:


- Driver - Ground Control & 800 MHz Radios
- STATION
- 101 Ops - 800 MHz & Ground Control Radios
Phone: 314-426-8149
- 102 Police - 800 MHz Radio
Phone: 314-890-1823
- 103 ARFF - Fire Department
Conventional Frequency Radio:
STLFD Dispatch
STLFD Truck
Command F
Mutual Aid
STLFD Ops
Command C
Command D
Phone: 314-426-8177
- 104 EMS - Fire Department
Conventional Frequency Radio:
North Central Dispatch
STLFD Truck
Mutual Aid
Command A
Command B
Command E
Phone: 314-890-1824
- 105 Airline - Phone: 314-426-8161
- 106 Conference Room - Phone: 314-890-1826

BACK UP (NO LINE OF SITE)

314-807-8045 (Operations)
314-807-8047 (Police)
314-807-8048 (ARFF)
314-807-8049 (EMS)

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FAA Approved


Date: JUN 26 2014

314-807-8050 (Airline)
314-807-8051 (Conference Room)

Supplies:

Box of disposable earplugs
3 sets of rain gear
Airport Emergency Plan (AEP)
Contingency Plan
Emergency Procedures (Building MTC)
STL Fire Department Bureau of EMS Response Plan for
Lambert-St. Louis International Airport® –
Roles & Responsibilities of Incident Command
2 boxes with the individual positions to be held by Mutual Aid
Responders
139.321 – Hazardous Materials/Dangerous Goods Technical
Guidelines Series A
2008 Emergency Response Guidebook
Medical Supply Inventory
Kenwood radio manual (Fire Department Conventional Radio)
St. Louis white & yellow pages
2 Municipal phone books
Tenant list
Tenant emergency notification phone list
Airport phone directory
Airport beeper & mobile phone list
Airline fax/phone numbers
800 MHz radio directory
FAA directory
Maps – Grid
Gate
Airfield – 2 types

Office Supplies:

Legal pads – 2 sizes
Pens
Tape
Scissors
Stapler & refills
3 refills fax cartridge

325-198

FAA Approved


Date: JUN 26 2014

9n. EOC Checklist
(06/26/13)

BUS 800 CHECKLIST

DATE: _____
 BUS MILEAGE: _____
 ENGINE HOURS: _____
 DID THE BUS START? Y N

GENERATORS
 DID THE GENERATORS START? Y N
 HOURS DRIVERS SIDE _____
 HOURS PASSENGER SIDE _____

DRIVERS POSITION
 GROUND RADIO Y N
 800 MHz RADIO Y N
 HVAC Y N
 POWER MIRRORS Y N
 POWER WINDOWS Y N
 FANS Y N
 PORCH LIGHTS Y N
 WINDSHIELD WIPERS Y N
 HEADLIGHTS Y N
 STANDARD FOG LIGHTS Y N
 SECONDARY FOG LIGHTS Y N
 TURN SIGNALS Y N
 BRAKE LIGHTS Y N
 OVERHEAD LIGHT Y N
 TAC LIGHT Y N
 DRIVERS SIDE SCENE Y N
 REAR SIDE SCENE Y N
 PASSENGER SIDE SCENE Y N
 DOCKING/CORNERING LIGHTS Y N
 WHELAND POWER CENTER Y N
 WHELAND TRAFFIC ADVISOR Y N
 INFRARED CAMERA Y N
 BACK UP MONITOR Y N

VIDEO CABINET POSITION
 TV/VCR Y N
 MICROWAVE TRANSMITTER/RECEIVER Y N
 MICROWAVE DISH PAN-TILT CONTROLLER Y N
 CAMERA / PAN-TILT CONTROLLER Y N
 FAX MACHINE** Y N

INCIDENT COMMAND COMMUNICATIONS AREA
 OVERHEAD LIGHTS Y N
 DESK LIGHTS Y N
 COUNTER LIGHTS Y N
 TAC LIGHT Y N
 HVAC Y N
 GROUND RADIO Y N
 800 MHz RADIO Y N
 CLOCKS Y N
 DESK PHONES Y N
 TV/VCR Y N
 ARFF RADIO Y N
 EMS RADIO Y N
 AIRLINE RADIO Y N
 APD RADIO Y N
 RADIO BATTERY CHARGING STATION Y N
 SMOKE DETECTORS* Y N

CONFERENCE / NEGOTIATION AREA
 TV / VCR Y N
 GROUND RADIO Y N
 DESK PHONES Y N
 CLOCKS Y N
 SMOKE DETECTORS* Y N
 GALLEY Y N

EXTERIOR
 MICROWAVE / CAMERA MAST Y N
 FLOODLIGHT MAST Y N
 PORTABLE FLOOD LIGHTS Y N
 MAST WARNING LIGHTS Y N
 POWER CORD RETRACTOR Y N
 GREEN STROBE LIGHT Y N
 DOOR KEY PAD Y N

REMARKS: _____

* BATTERIES TO BE CHANGED THE FIRST WEEK OF MARCH AND SEPTEMBER.
 ** ITEM CURRENTLY WORKING, BUT NOT USABLE.

S.I.C. _____

Ms. McMillan
 Date: JUN 26 2014

90. **Operations Center Resource Management Form**
Emergency Operations Center
Priority Resource Management Requests

Request #	Date/Time Received	Requested Item (Description/Quantity)	Requesting Party/Department	Pickup/Delivery Info

325-200

FAA Approved


Date: JUN 26 2014

Volunteer Waiver

Date: _____ Time: _____

Name: _____

Home Address: _____

City, State, Zip Code: _____

Home Telephone Number: _____

Emergency Contact Name/Relationship: _____

Phone Number: _____

As a volunteer for the Lambert-St. Louis International Airport®, I hereby relieve the City of St. Louis and the Airport Authority from all liability and responsibility associated by my activity as a volunteer.

Signature

-----For Official Use Only-----

City of St. Louis/Airport Authority Witness: _____

Airport Authority Copy

Volunteer Copy

As a volunteer for the Lambert-St. Louis International Airport®, I hereby relieve the City of St. Louis and the Airport Authority from all liability and responsibility associated by my activity as a volunteer.

Signature

Date: _____ Time: _____

325-201

FAA Approved

W. Muller

Date: JUN 26 2014

J. AIRPORT OPERATIONS & MAINTENANCE

1. Purpose
 - a. The **Airport Operations & Maintenance** section identifies the roles and responsibilities of operations and maintenance personnel during an airport emergency. The Operations & Maintenance and Operations Center organizational charts are depicted on pages 325-52, 325-209, 325-210 and 325-211 respectively. Refer to the Resource Management section regarding all other relevant personnel and equipment summaries.
2. Situation
 - a. The Airport Authority is subject to many hazards that would directly involve the Operations & Maintenance departments.
 - b. The Airport Authority is serviced by the following public utilities:
 - 1) Ameren UE
 - 2) Laclede Gas
 - 3) Metropolitan Sewer District (MSD)
 - 4) AT&T
3. Assumptions
 - a. All responding Operations & Maintenance personnel have received training on disaster/emergency operations and are familiar with their work environment.
 - b. It is feasible that Operations & Maintenance personnel may be the first to arrive to the disaster/emergency site and that the Operations Center personnel may initially represent airport management during the early stages.
 - c. It is presumed that Operations & Maintenance would not have sufficient resources in the event of a major disaster and that problems will initially have to be handled on a priority basis.
 - d. When a disaster/emergency occurs, outside federal and state assistance as well as personnel and equipment from public utilities (see above) may be able to respond.
4. Operations/Assignment of Responsibilities
 - a. Airport Manger on Duty (MOD) – Primary/Secondary
 - 1) The MOD acts as the ranking representative for the commitment of Airport Authority resources and emergency response activities.
 - 2) The MOD provides the Director of Airports with direct chain-of-command operational control.
 - 3) The MOD provides logistical support to other MOD's.
 - b. Senior Deputy Director – Primary/Secondary
 - 1) The Senior Deputy Director serves as MOD on a rotating schedule.

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FAA Approved


Date: JUN 26 2014

- 2) The Senior Deputy Director acts as ranking representative for commitment of Airport Authority resources for emergency and non-emergency response activities on the airfield.
- c. Operations Center – Primary/Secondary
 - 1) The Operations Center acts for Airport Authority MOD until relieved by senior ranking staff member.
 - 2) The Operations Center coordinates all Airport Authority response.
 - 3) The Operations Center makes all necessary initial notifications to response and regulatory agencies.
 - 4) The Operations Center sets up and mans the Emergency Operations Center (EOC) when activated.
 - 5) The Operations Center resumes operational support of routine communications and coordination activities after the EOC is activated.
- d. Emergency Operation Center (EOC) – Secondary
 - 1) The EOC serves as mobile incident command and communications center for Airport Authority emergency response activities.
- f. Director of Airports – Secondary
 - 1) The Director of Airports serves as the senior ranking Airport Authority representative in all matters pertaining to the Lambert-St. Louis International Airport®.
 - 2) The Director of Airports is responsible for reporting all Airport Authority activities to the Mayor of the City of St. Louis.
- g. Airport Authority Departments – Secondary
 - 1) The Airport Authority department is responsible for providing manpower and equipment material resources to support all Airport emergency and non-emergency activities.
5. Administration
 - a. The overall administration of the Operations & Maintenance function is the responsibility of the Assistant Director of Operations and Maintenance and the Airport Construction and Maintenance Manager (and/or their designees).
6. Logistics
 - a. The procurement of all essential supplies and outside services will take place according to established procedures with records being kept of all emergency purchases. The Resource Management section addresses all relevant manpower, equipment, suppliers, etc.
7. Plan Development/Maintenance
 - a. Annual review and maintenance of the Operations & Maintenance section is the responsibility of the Assistant Director of Operations and Maintenance and the Airport Construction and Maintenance Manager (and/or their designees). The

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FAA Approved


Date: JUN 26 2014

Assistant Director of Operations and Maintenance and the Airport Construction and Maintenance Manager shall insure that all departmental SOP's are updated to reflect any changes or modifications.

8. Authorities & References
 - a. Reference pages 325-35 and 325-36.

325-204

FAA Approved

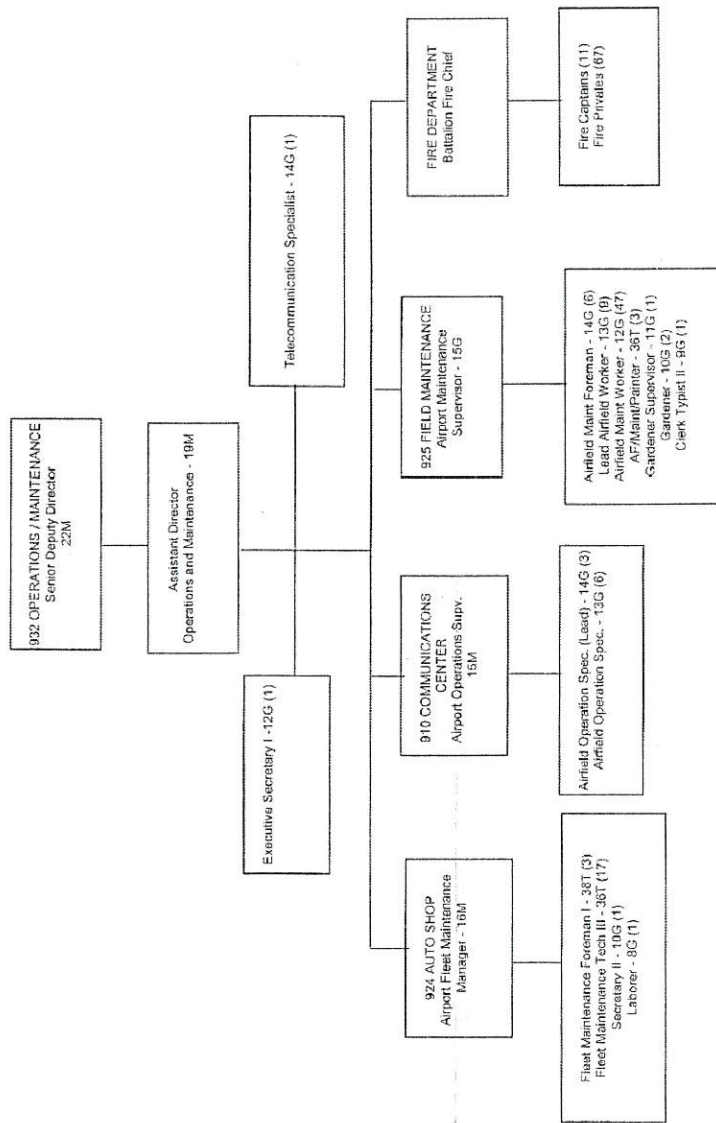
M. M. Kelly

Date: JUN 26 2014

9. Operations & Maintenance Field Operations Organization Chart

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
 ORGANIZATIONAL CHART
 August 12, 2013

OPERATIONS AND MAINTENANCE
 FIELD OPERATIONS



325-205

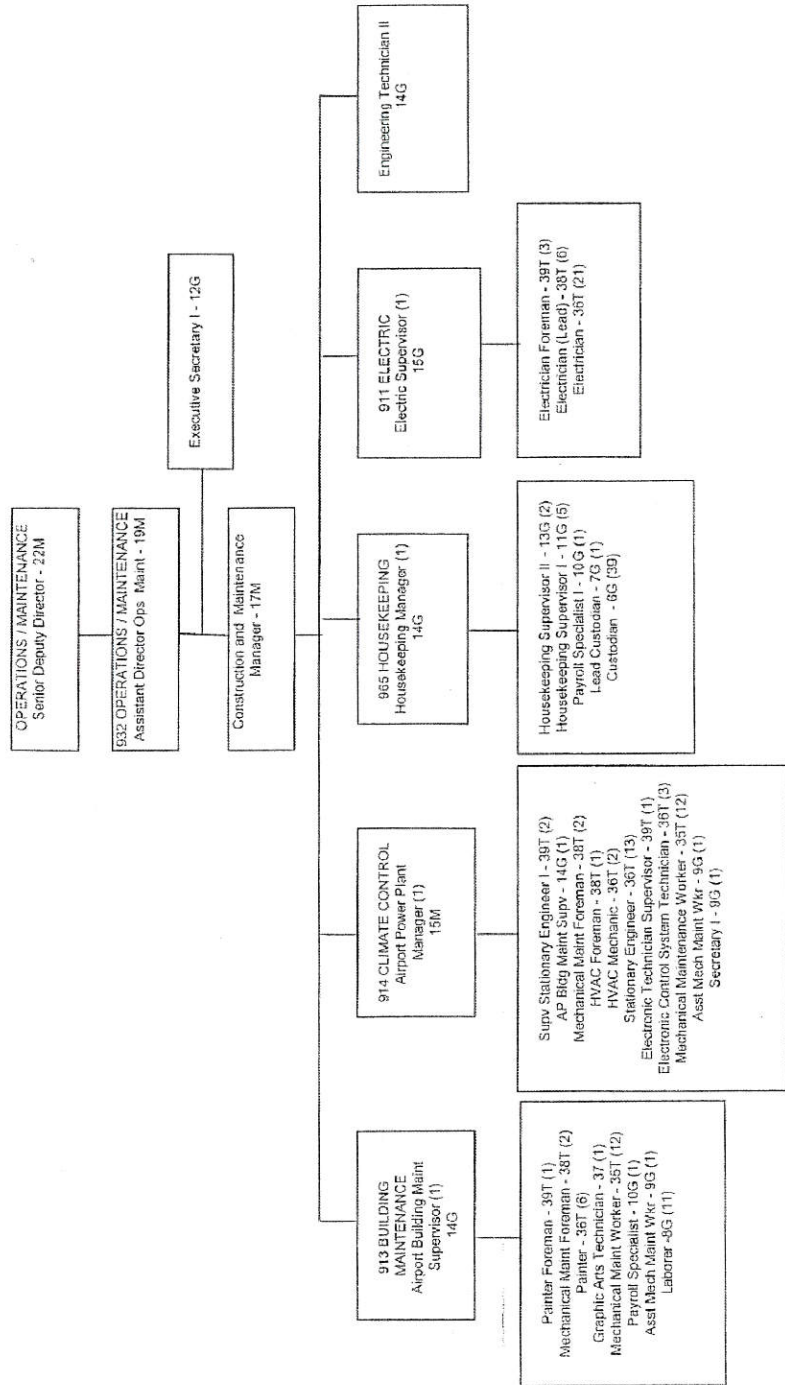
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M. Muller
 Date: JUN 26 2014

10. Operations & Maintenance Build Operations Organization Chart

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT ORGANIZATIONAL CHART August 12, 2013

OPERATIONS AND MAINTENANCE BUILDING OPERATIONS



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M. Muller
Date: JUN 26 2014

11. Operations Center Organizational Chart

910 COMMUNICATIONS
CENTER


Airport Operations Supervisor – 15M

3 - LEAD AIRFIELD OPERATIONS SPEC – 14G

7 - AIRFIELD OPERATIONS SPEC – 13G

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III. HAZARDS

A. AIRCRAFT INCIDENTS & ACCIDENTS

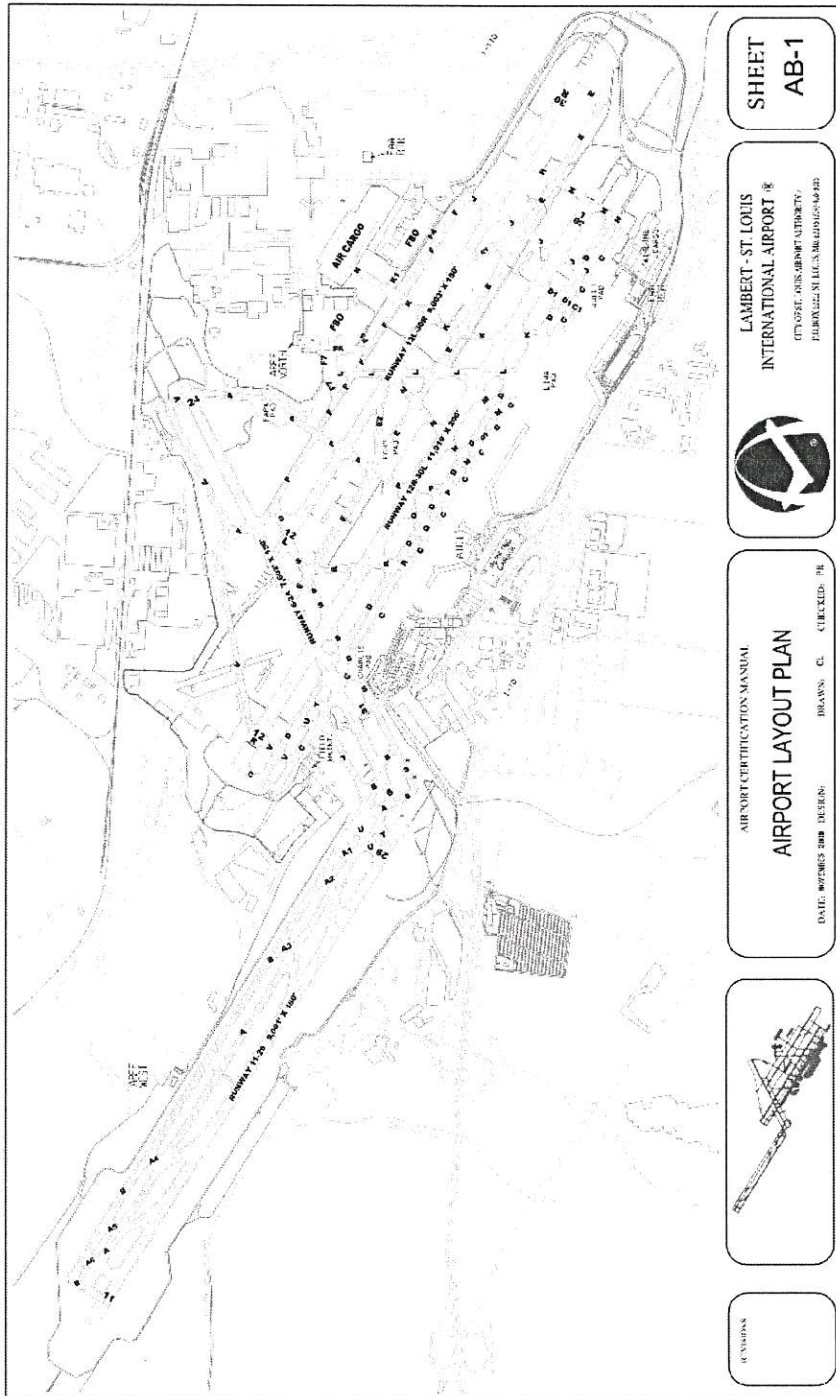
1. For the purposes of emergency response, each aircraft incident/accident shall be considered to be a potential hazardous materials incident until deemed otherwise.
2. The Lambert ARFF District maintains Airport Index "D" personnel and vehicles in a continuous ready state 24 hours a day, 365 days a year. ARFF personnel are capable of responding to any incident, aircraft or non-aircraft related, any time.
3. The ATCT operates 24 hours a day, 365 days a year.
4. The Lambert-St. Louis International Airport® currently has 4 runways which are identified below and depicted on the following page:
 - a. 12 Right – 30 Left 11,019 ft x 200 ft
 - b. 12 Left – 30 Right 9,003 ft x 150 ft
 - c. 11 – 29 9,000 ft. x 150 ft.
 - d. 6 – 24 7,602 ft x 150 ft
5. During periods of low visibility, ARFF employees are **required** to operate all ARFF vehicles, trucks, and other equipment with all available lighting on. This is standard operating procedure regardless of the time of day or existing weather conditions.
6. For the purposes of emergency response, each aircraft incident/accident shall be considered to be a potential hazardous materials incident until deemed otherwise.
7. The following incident classification system was developed regarding aircraft incidents and accidents – see pages 325-17 and 325-18 for complete descriptions. Emergency Alerts I or II do not require implementation of the AEP.
 - a. **Alert I** (Local Standby)
 - b. **Alert II** (Full Emergency)
 - c. **Alert III** (Aircraft Accident)
 - d. Runway Maps:
 - 1) Airport Layout Plan Map
 - 2) Operations Grid Map
 - 3) Perimeter Fence & Gates/Fire Department Staging Gates Map
 - 4) Access and Service Roads

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7d. 1) Airport Layout Plan

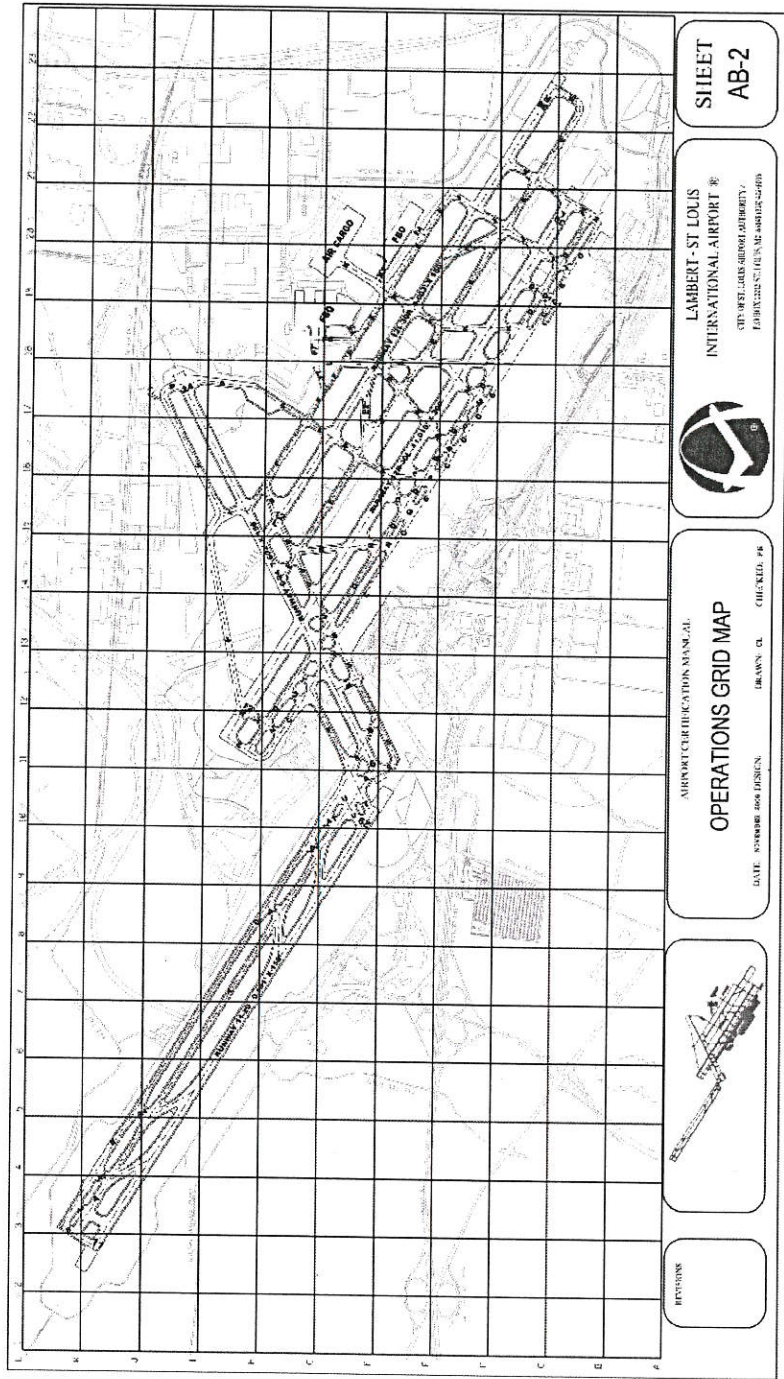


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7d. 2) Operations Grid Map



SHEET
AB-2

LAMBERT - ST LOUIS
INTERNATIONAL AIRPORT
CITY OF ST. LOUIS AIRPORT AUTHORITY
FURNISHED TO THE PUBLIC AS SHOWN



AIRPORT CLERIFICATION MANUAL
OPERATIONS GRID MAP
DATE: 05/08/14 DRAWN: CL CHECKED: PK



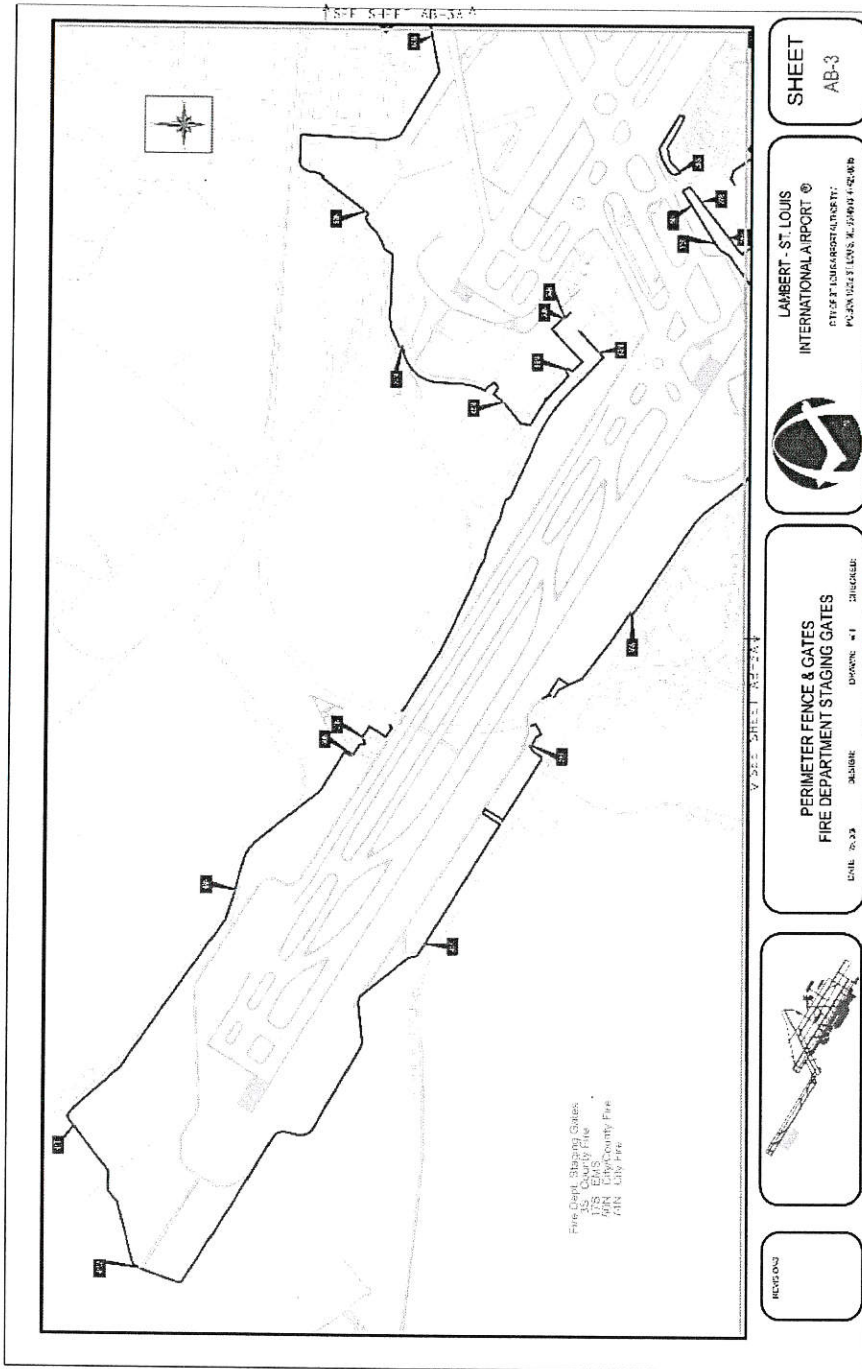
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M. Mulkin
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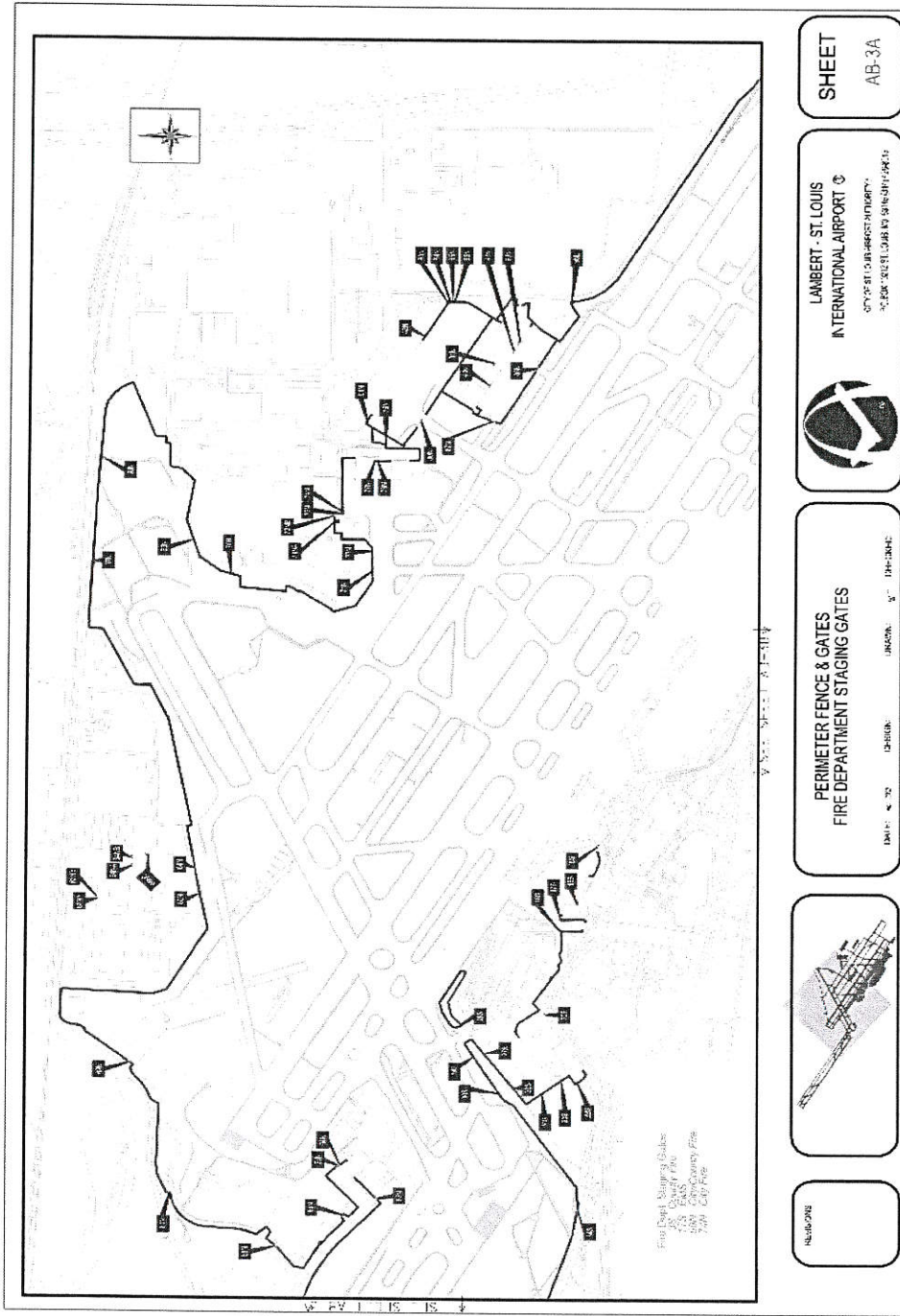
7d. 3) Perimeter Fence & Gates/Fire Department Staging Gates



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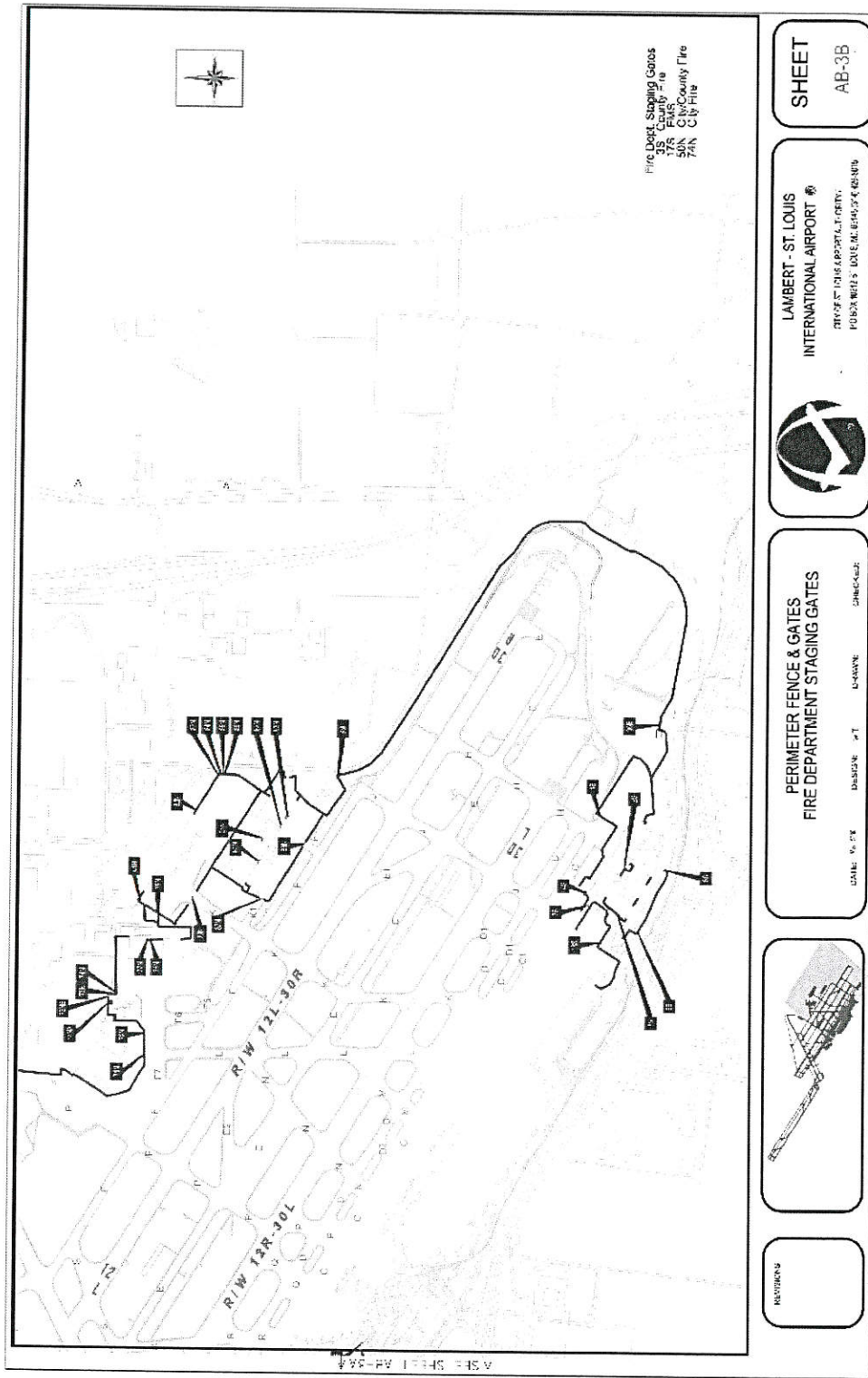
M. Muller
 Date: JUN 26 2014



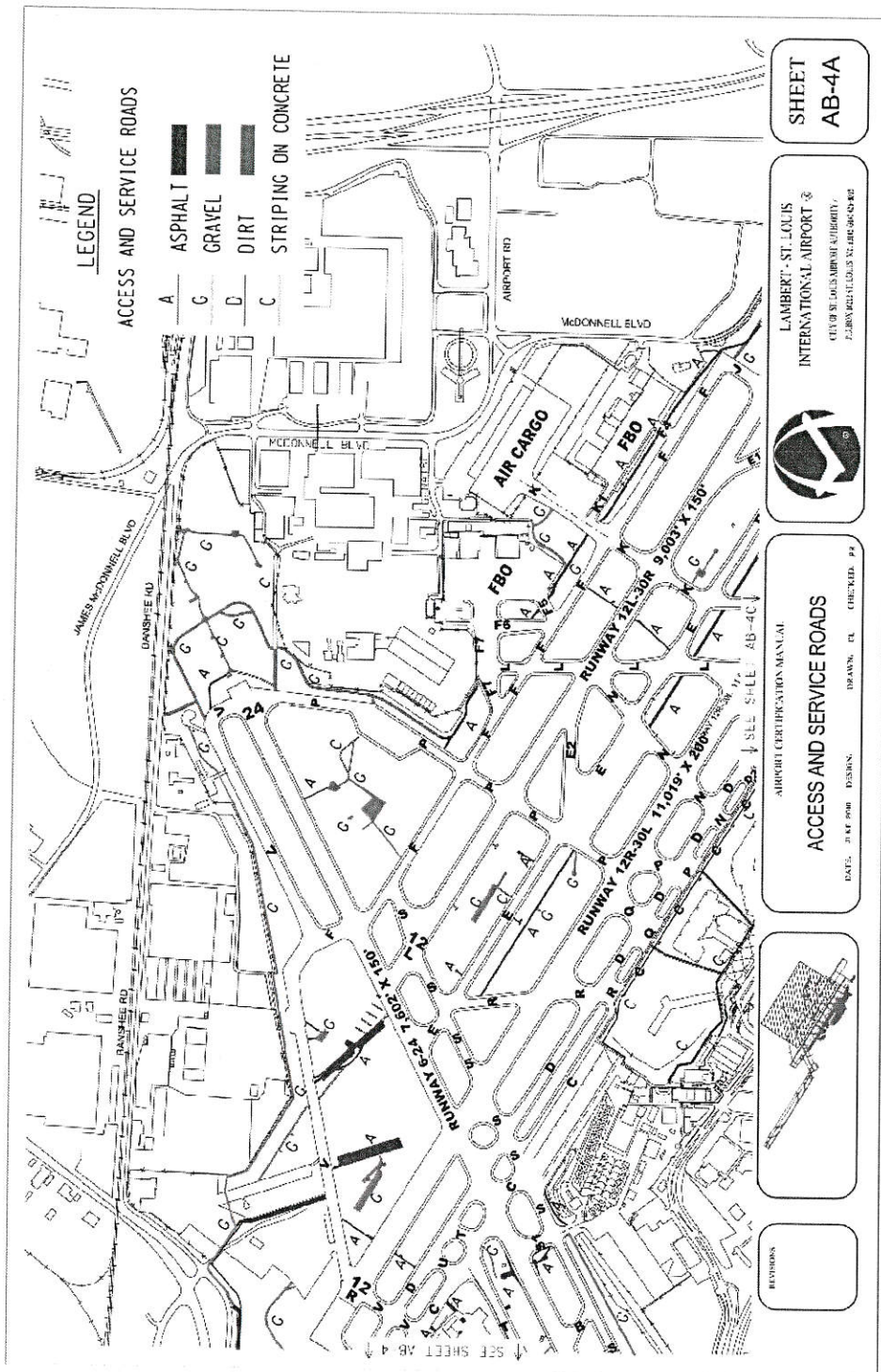
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Ms. Mueller
 Date: JUN 26 2014



7d. 4) Access and Service Roads



SHEET
AB-4A

LAMBERT-ST. LOUIS
INTERNATIONAL AIRPORT
CITY OF ST. LOUIS AIRPORT AUTHORITY
2200N WILMINGTON ST. ST. LOUIS, MO 63103



APPROVED FOR CONSTRUCTION
DATE: 01/14/2014
DRAWN: CE
CHECKED: PA

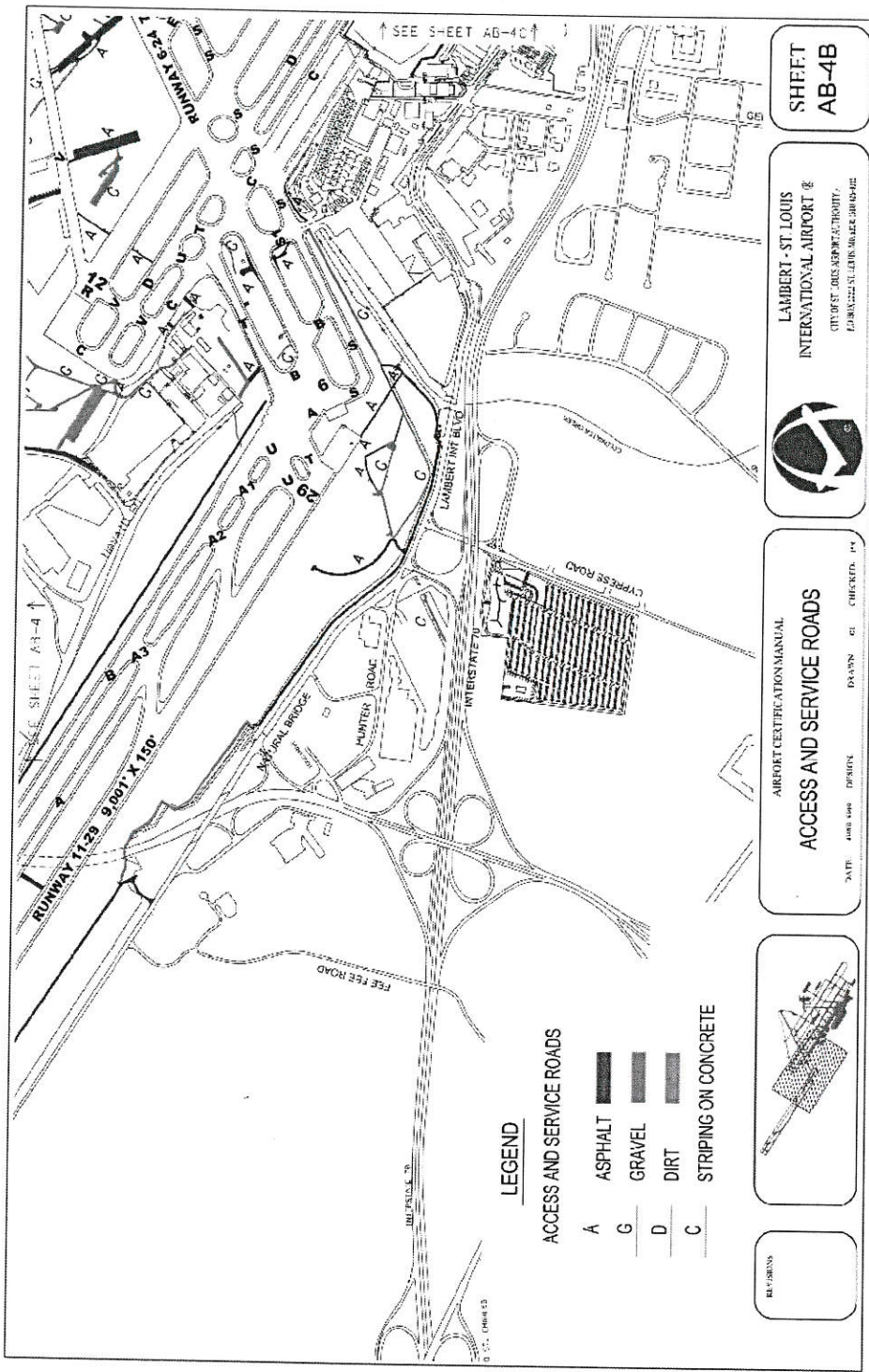


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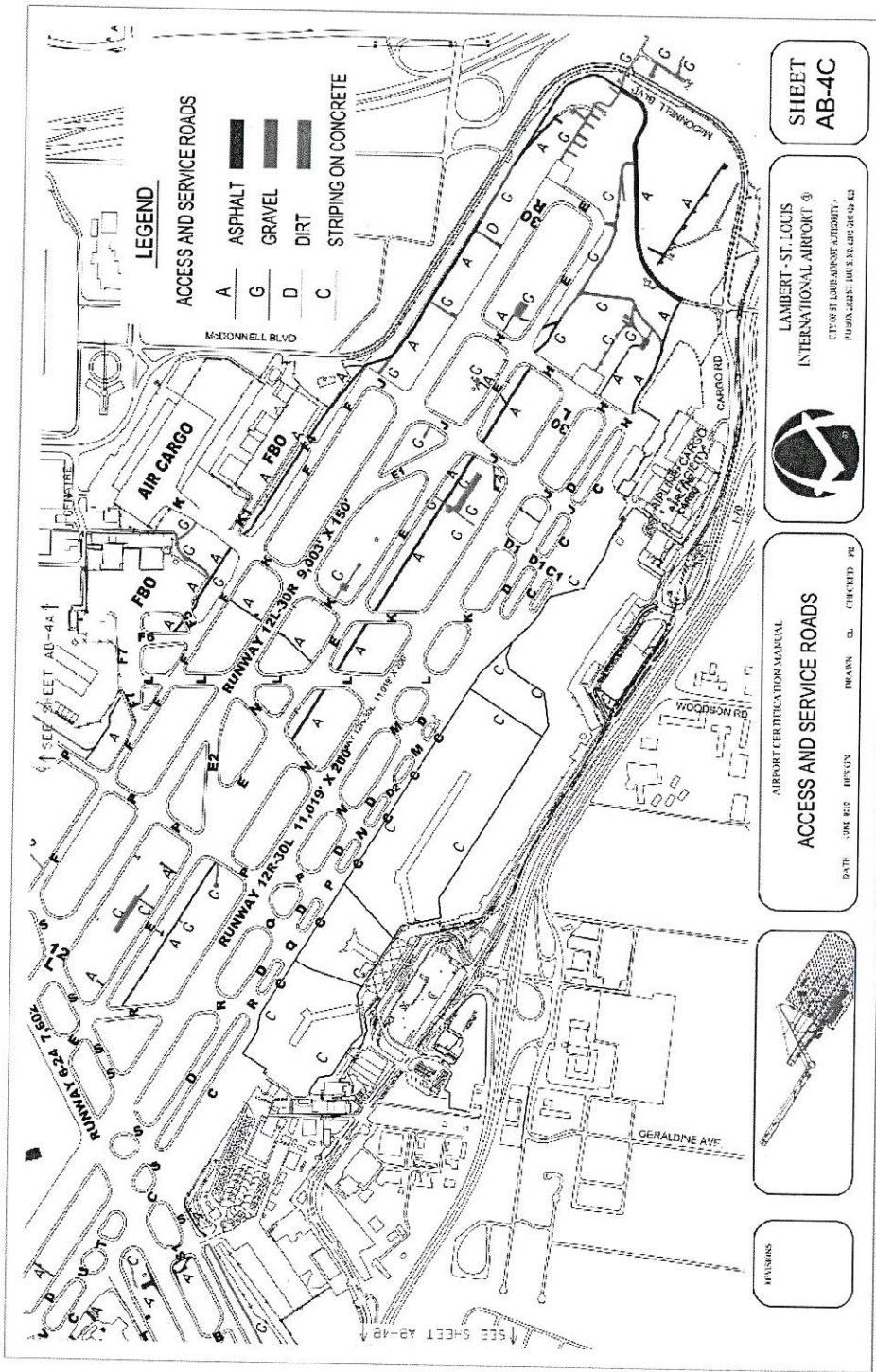
M. Miller
Date: JUN 26 2014



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M. Muller
Date: JUN 26 2014



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M. Miller
 Date: JUN 26 2014

8. ALERT II PROCEDURES

Title 49-Transportation, Chapter VIII-NTSB, Part 830, defines an "incident" as "an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations."

a. AIR TRAFFIC CONTROL TOWER (ATCT)

- 1) Upon receiving notification of an aircraft experiencing difficulty and requiring assistance, shall dispatch Airport Rescue and Fire Fighting (ARFF) units to standby at designated areas near the intended landing runway or respond to the area on the aircraft movement area where the aircraft is located. When possible, the ATCT shall give the ARFF units the description and the nature of the difficulty, the type of aircraft involved, if hazardous materials are onboard, and the number of persons and fuel on the aircraft;
- 2) ATCT shall inform the Operations Center of the above;
- 3) If an aircraft crash occurs or requires an Alert III response, ATCT will initiate their portion of the Alert III response plan;
- 4) ATCT shall notify the Airport Fire Chief and the Operations Center when an Alert II may be terminated.

b. AIRPORT FIRE CHIEF

- 1) Upon notification of an aircraft in difficulty, shall proceed via specified routes to standby (set-up) positions adjacent to the intended landing runway or shall proceed to the aircraft movement area where the troubled aircraft is located;
- 2) Should the aircraft crash or require an Alert III response, the Airport Fire Chief shall immediately initiate the ARFF portion of the Alert III response Plan;
- 3) Should the aircraft make a normal landing or no longer need further assistance, the Fire Chief and the ARFF units shall stay at standby (set-up) positions until the Air Traffic Control Tower directs the crews to stand down from their response as the emergency has terminated.

c. AIRPORT POLICE DEPARTMENT


When the Airport Police Department is notified that an aircraft is experiencing difficulty, the police dispatcher shall make the following notifications and assignments:

- 1) Notify the shift supervisor;
- 2) Assign one police officer to the airline ramp for security, traffic control and report on any problems observed;
- 3) Assign one police officer to assist at police dispatching office, if necessary;
- 4) Call ARFF (North Fire House) for fire response update.

If ARFF requests a third alarm assignment for "Fire Department Mutual Aid," then the following actions shall be taken:

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- a) Request traffic control from surrounding departments to handle traffic congestion possibilities caused by incoming emergency equipment;
 - b) Notify St. Louis County Dispatcher of possible traffic control request;
 - c) Assign a police officer to assist at Perimeter Gate 17S security gate, to control access of EMS units;
 - d) Assign a police officer to assist at Mutual Aid Fire Department Staging Perimeter Gates.
 - e) Deputy Chief shall decide whether to notify the Commander of Support Operations.
 - f) Notify Building Maintenance to respond to Mutual Aid perimeter gates with locks and chains to secure as needed.
- d. OPERATIONS CENTER
- 1) Upon notification of an aircraft difficulty, shall monitor Ground Control radio for updates on the aircraft and record incident into operations log;
 - 2) Shall make notifications to appropriate Airport Authority personnel and keep them updated;
 - 3) Shall "Standby" to make notifications to appropriate personnel and agencies should specific assistance be required other than that available from the ARFF units;
 - 4) In the event of an aircraft going from an Alert II status to an Alert III status, shall initiate the Airport Emergency Plan (AEP) in its entirety;
 - 5) Shall remain in standby status until told to stand down or the emergency has terminated;
 - 6) Shall contact the aircraft owner/operator for assistance if necessary.
- e. AIRPORT PUBLIC RELATIONS
- 1) Gather basic information from Operations Center;
 - 2) Provide Media with basic information appropriate to the incident within the guidelines of the owner/operator;
 - 3) Refer the Media to an Airline Corporate Spokesperson for further information regarding details.

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9. **ALERT III PROCEDURES (AIRCRAFT)**

Title 49-Transportation, Chapter VIII-NTSB, Part 830, defines an "aircraft accident" as "an occurrence" associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage."

An Airport Emergency Alert III shall be considered to be the worst possible scenario that may occur involving aircraft at Lambert. That is, an aircraft has crashed, parked aircraft are endangered by fire or explosion, aircraft are involved in a collision, or there is **"A VERY HIGH PROBABILITY"** that the aircraft shall crash or suffer extreme damage. **A change from an "Alert II" status to an "Alert III" status before an actual "accident," must be agreed upon by the Director of Airports or his representative.** An Alert III shall result in full notification being made to all individuals and agencies as listed on pages 325-19 thru 325-21.

a. AIR TRAFFIC CONTROL TOWER (ATCT)

- 1). Notify the Airport Rescue and Fire Fighting (ARFF) units via the "Emergency Crash Alarm," that a crash or an accident has occurred and shall clear all necessary emergency equipment to the scene of the emergency or crash, in the most expedient and direct route possible. When the ARFF units acquire radio contact, the ATCT shall provide updated information as to the accident condition;
- 2) Hold all incoming or outgoing aircraft away from the Airport or the accident site until Airport Incident Commander advises the ATCT that they may resume limited or normal operations;
- 3) Notify the Operations Center that an Alert III has occurred or been declared;
- 4) Shall notify others as required in the FAA Handbook, 8020.4, "AIRCRAFT ACCIDENT NOTIFICATION PROCEDURES AND RESPONSIBILITIES."

These procedures are kept on file in the ATCT.

b. AIRPORT FIRE CHIEF

- 1) Shall proceed with all emergency response vehicles available to the site of the crash/emergency, establishing radio contact with the ATCT for updates;
- 2) Shall take complete charge of rescue operations and initiate appropriate actions to save lives and protect property from fire as per the St. Louis Fire Department SOP #386.01, 6/93, (on file in ARFF department);
- 3) Shall keep the Incident Commander apprised of the status of firefighting and rescue operations;
- 4) Once the emergency is under control, shall assume duties of Fire Command until relieved by a Senior Fire Officer;
- 5) Shall ensure radiological monitoring of the scene in accordance with radiological procedures as outlined in Section I of this Part. Shall also ensure hazardous materials are handled in accordance with Part 139.321 of the ACM;

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- 6) Shall attempt to remove and safeguard the flight data recorders and voice recorders if obtainable until personnel from the NTSB arrive to take command of these items;
- 7) If the aircraft involved in the crash/emergency is military and has a live weapon onboard, the Fire Chief shall attempt to keep the weapon cool if it not already engulfed in fire. However, if the weapon is engulfed in flames, the Fire Chief shall direct his crews and all other personnel to move away from the aircraft and weapon until the danger of the weapon explosion has passed. Military aircraft accidents shall be cleaned by the Military Recovery Teams;
- 8) If aircraft is off of airport property and the accident does not interfere with airfield operations, he may send ARFF units, if requested by the affected fire district, with units that are above FAA Index D, to assist with a Mutual Aid assignment as listed in Part 139.319 (2) and (3) of the ACM.

c. AIRPORT POLICE CHIEF

- 1) Shall take appropriate actions to assist the movement of emergency vehicles to the crash/emergency site utilizing Local and State Police Departments as necessary to accomplish this.
 - a) The Chief of Police may request traffic control from surrounding departments to handle traffic congestion possibilities caused by incoming emergency equipment;
 - b) Notify St. Louis County Dispatcher of a possible traffic control request;
- 2) Shall secure the crash site from spectators and other persons not immediately active in the rescue operation. Again, Local and State Police may be utilized to perform this task;
- 3) Shall ensure EMS Units arriving at Gate 17S security gate have access to staging area;
- 4) Shall coordinate traffic and crowd control with State, County and Local Police;
- 5) Shall release responsibility for guarding the crash/emergency site to the Military, FAA, NTSB or Aircraft Owner/Operator, when ordered to do so by the Director of Airports or his representative;
- 6) Shall provide a photographer;
- 7) Shall also provide security for the temporary morgue security as needed.
- 8) Shall also provide a police officer(s) to respond to:
 - a) The Aircraft Owner/Operator ticket counter to assist with verification of responding family members
 - b) Passenger Survivor Center
 - c) Friends and Family Reception Center.

d. AIRPORT POLICE PHOTOGRAPHER

- 1) The Airport Photographer, (an assigned Airport Police Officer), shall proceed to the site and begin taking photographs of the crash/emergency site and the surrounding areas. Photographs to include, but not limited to the following:
 - a) Overall Scene;

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- b) Specific objects; (bodies wreckage, etc.);
 - c) Objects/bodies being removed;
 - d) Fire and rescue activities;
 - e) Local weather phenomena;
 - f) Other photographs of pertinent value.
- 2) The photographer shall not release those photos to anyone other than the Airport Incident Commander or the Director of Airports unless otherwise told to do so by either of these two persons.
 - 3) The photographer shall also maintain a logbook keeping dates, times and locations of photos taken. This logbook shall also be kept under the restrictions listed above.

e. AIRPORT OPERATIONS CENTER

- 1) Assume Airport Incident Command until relieved by superior;
- 2) Provide an Operations Specialist for the Emergency Operations Center (EOC), if available, to monitor communications and maintain a check list for the Airport Incident Commander;
- 3) Update all responding Airport Authority personnel as necessary;
- 4) Monitor all radios maintained in the Operations Center for continuous updates regarding an impending disaster or disaster which has already occurred. Assist in transferring radio and phone messages as needed;
- 5) Ensure Airport Authority personnel have been notified of actual or impending aircraft emergency alerts;
- 6) Issue appropriate Airport Condition Reports as necessary and as directed;
- 7) Notify appropriate tenants to include air carriers, charter operators, fixed base operators, airport construction representatives and others as may be applicable;
- 8) Maintain an accurate logbook reflecting all events occurring prior to, during and after an emergency or crash;
- 9) Perform additional duties as prescribed by the Director of Airports or the Airport Incident Commander;
- 10) Notify the U.S. Postal Office if the crash/emergency involves the carriage of postal materials.
- 11) Notify the American Red Cross of the crash and Aircraft Owner/Operator information. They shall enact the Family Disaster Assistance Program.

f. AIRPORT INCIDENT COMMANDER

The Airport Incident Commander shall be:

- 1) The Senior Operations Supervisor on duty, until relieved by;
- 2) The Airport Manager on Duty (MOD), or the Assistant Director of Operations and Maintenance, until relieved by;
- 3) The Senior Deputy Director until relieved by;
- 4) The Director of Airports.

Actions which the Airport Incident Commander may take in an emergency include, but are not limited to the following:

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- a) Direct Airfield Maintenance personnel to take the following to the (EMS) assigned staging area:
 - i) Medical Supply Trailer;
 - ii) Triage Trailer;
 - iii) Emergency Operations Center (EOC). Airfield Maintenance shall provide a driver for the EOC until relieved by an Operations Center Specialist;
 - iv) Airport Authority Buses to transport passengers off the airfield as needed to the Survivor Center;
 - v) Other safety equipment and supplies.
- b) Call Operations Center for a specialist to operate communications equipment, to provide assistance for Emergency Personnel and to setup the EOC for operation. Operations Center to bring additional two-way radio portable radios to be issued to Mutual Aid Responders.
- c) Have the Operations Center issue/cancel Airport Condition Reports, regarding runway and taxiway conditions.
- d) Monitor overall scene security with Airport Police Department and have weaknesses corrected.
- e) Monitor all efforts of the entire rescue operation and take positive measures, with the Airport Fire Chief, when necessary, to strengthen weak areas when discovered.
- f) Have Building Maintenance bring the Portable Hand Washing station to the scene when needed.
- h) Coordinate with the Aircraft Owner/Operator at the scene to obtain passenger and crew manifests and cargo lists when available.

The Airport Incident Commander shall supervise and control all activities at the Airport emergency site until relieved of certain authority as vested in others by Federal, State or Local laws. If crash occurs outside the Airport proper, Airport representatives may assist with emergency operations until other officials arrive upon the scene.

Other actions the Airport Incident Commander may take in an emergency include:

- 1) Once injured have been transported, coordinate Medical Examiner functions;
- 2) Select an area for the uninjured and obtain transportation for them;
- 3) Prepare to brief NTSB Investigator upon their arrival and turn site responsibility over to NTSB upon their request;
- 4) Ensure aircraft wreckage is expeditiously removed at the earliest practical time;
- 5) The appropriate representative of the shipper or intended receiver (whichever is closer) if the aircraft is known or suspected to be carrying radioactive materials. Coordinate this person's operations with the Airport's procedures for radiological incidents;
- 6) Notify Police, EMS units, and ARFF units if additional personnel or specialized equipment is needed. May also contact Aircraft Owner/Operator for assistance as needed.

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g. DIRECTOR OF AIRPORTS OR HIS REPRESENTATIVE

Upon notification of a crash or emergency, shall report to the Administrative Office or the Operations Center and receive a briefing on all preceding events from the Airport Incident Commander then supervise all emergency operations and support the Airport Incident Commander.

- 1) Shall place conference calls with appropriate officials and agencies as listed on pages 325-19 thru 325-21, as needed;
- 2) Shall designate a control point where investigative authorities may report and a similar area where relatives may converge. Control points normally shall be established in the Airport Director's Conference Room, an Airport Authority conference room, and other large areas where numbers of persons may congregate;
- 3) Approve press releases and prepare for any news media interviews that may be required.

h. AIRPORT PUBLIC RELATIONS

- 1) Activate News Media Area in the JoAnne Wayne Conference Room or other designated media area.
- 2) Request the Director of Airports/Airport Manager on Duty (MOD) provide a staff person to assist in PR functions (answer phones, correspondence, updates);
- 3) Notify Airport Police Department to clear space on Terminal 1 upper level drive west of Terminal 1, entry 6 for news media trucks;
- 4) Gather basic information from Director, MOD or Operations Center for initial preparation of news release;
- 5) Provide Media with basic information appropriate to the incident within the guidelines of the owner/operator;
- 6) Inform the media that the only official source for the cause of an accident is the National Transportation and Safety Board (NTSB);
- 7) Establish contact with airline, aircraft owner or other agencies involved requesting a spokesperson to join us in News Media Area;
- 8) Hold news conferences as required to brief media;
- 9) Provide identification system for media access to scene;
- 10) Coordinate media access to airfield when Director of Airports declares accident site under control;
- 11) Maintain a file of all information given to media during and after emergency. (The name of spokesperson and time released to media).


i. AIRPORT AIRFIELD MAINTENANCE DEPARTMENT

Provide the following materials to the site as directed by the Airport Incident Commander:

- 1) EOC, Medical Supply Trailer, Triage Trailer, other safety equipment and supplies;
- 2) Barricades, barriers, ropes, etc, to seal off the site;
- 3) Mobile lighting units as necessary;

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- 4) Prepare to provide heavy equipment pieces as needed, with operators;
- 5) Dry Absorbent or booms for the creek to contain hazardous material spills, if needed;
- 6) Perform field inspection of Runways and Taxiways.

j. AIRPORT BUILDING MAINTENANCE

Provide the following equipment or assistance as directed by the Airport Incident Commander:

- 1) Respond to the Mutual Aid Perimeter gates with locks and chains to secure the gates as needed;
- 2) Bring the Portable Hand Washing station to site designated by Airport Incident Commander;
- 3) Provide general assistance and aid as directed by the Airport Incident Commander;
- 4) Additional Building Maintenance Special Orders regarding Aircraft Incident Procedures may be found in the SOP/Checklist section.

k. AIRPORT CLIMATE CONTROL

Provide the following equipment or assistance as directed by the Airport Incident Commander:

- 1) Provide general assistance and aid as directed by the Airport Incident Commander;
- 2) Additional Climate Control Special Orders regarding Aircraft Incident Procedures may be found in the SOP/Checklist section.

l. AIRPORT ELECTRIC DEPARTMENT

Provide the following at the site as directed by the Airport Incident Commander:

- 1) Maintain communications between Electric Shop and Airport Incident Commander at scene and be prepared to handle building and airfield lighting problems;
- 2) Emergency electrical power, telephone lines, portable lighting and service any portable generators at the Operations Center or at the site as needed;
- 3) General assistance and aid as requested by the Airport Incident Commander;
- 4) Additional Electric Shop Special Orders regarding Aircraft Incident Procedures may be found in the SOP/Checklist section.

m. AIRPORT ENGINEERING DEPARTMENT

- 1) Provide drawings of utilities in and around the site, to the Emergency Operations Center (EOC);
- 2) Provide general assistance and aid as directed by the Airport Incident Commander.

n. ALL OTHER AIRPORT AUTHORITY DEPARTMENTS

- 1) In the event of a crash or disaster at Lambert Airport, all personnel of the Airport Authority may assume that they shall be called upon to perform any

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number of duties to aid in the rescue operations. Identification shall be issued to all personnel prior to their entering the site.

- 2) Special Orders regarding the Housekeeping Department's Aircraft Incident Procedures may be found in the SOP/Checklist section.

o. AIRLINES AND AIRPORT TENANTS

- 1) In the event of a disaster involving an aircraft owned or operated by an agency or persons at Lambert Airport, that agency or persons shall be called upon to provide aircraft recovery and removal assistance and may also be called upon to provide manpower and equipment at the site.
- 2) Other airport tenants may be called upon to provide manpower and equipment to aid in the rescue operations or to simply provide assistance to areas away from the crash/emergency site.
- 3) All personnel involved in the rescue operations, whether Airport Authority personnel or other, shall be provided identification recognizable as authorized members of the rescue operations at the site. Personnel not able to provide identification or authorization to be on the crash/emergency site shall be removed.
- 4) In 1996, Congress passed the Aviation Disaster Family Assistance Act. The act requires airlines to submit a plan to the NTSB that would address the needs of families of passengers who are involved in any aircraft accident that results in a major loss of life. Plans approved under the ADFAA include but are not limited to minimum requirements such as: set up, publication and staffing of a toll-free telephone line that passenger's families can call for information, establishment of a Family Assistance Center at the arriving and departing airports and provision for their physical needs while at the accident location.
To assist the affected airline the Airport shall provide temporary areas for a Survivor Center and a Friends and Family Reception Center until the airline establishes and activates a Family Assistance Center in accordance with their approved plan. Specific procedures followed by the Airport regarding the following services may be found in the SOP/Checklist section.

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SURVIVOR CENTER

The Survivor Center is on-airport and is established for the purpose of accommodating the initial interview and care-giving services for the survivors of an aircraft accident. Uninjured persons, after being checked out in Triage, shall be taken to an area in the Emergency Medical Supplies Building. This area, formerly used as a firehouse shall provide the individuals with a secure area, protected from the elements, media and general public where aid and comfort can be initiated. The airline working with the American Red Cross and Airport Clergy shall dispatch personnel to this area upon notification by the Airport that there are survivors. The Airport shall provide transport of the uninjured survivors from the site to the Survivor Center upon release from Triage. The Airport shall be responsible for the housekeeping, communications, access control/security and general maintenance of the area until the airline activates it's Family Assistance Plan.

FRIENDS AND FAMILY RECEPTION AREA

The Friends and Family Reception Area is on-airport. It shall be set up upon notification to the Airport by the affected airline that the area is needed. Notification by the airline is required since, typically, a Family Assistance Center is established at both, arriving and departing airports regardless of the accident location. Upon notification, the Airport shall close the concourse level of Concourse B, clear the passengers, tenants and other non-essential personnel. The airlines have mutually agreed to this area as the best location for this service. Once the area is considered clear, the Airport shall notify the airline that the Friends and Family Reception Area is available. The airline shall be responsible for identifying individuals authorized to enter this area. The Airport shall be responsible for the housekeeping, communications, access control/security and general maintenance of the area until the airline establishes and activates a Family Assistance Center. Once notified that the Family Assistance Center has been activated, the Airport shall coordinate and provide transportation from the airport to that location.

10. SOPS & Checklists

- a. Survivor Center Diagram
- b. Survivor Center Guideline
- c. Family and Friends Visitor's Center Diagram
- d. Family and Friends Visitor's Center Guideline
- e. Building Maintenance - Aircraft Incident Procedures
- f. Climate Control – Aircraft Incident Procedures
- g. Electric Shop – Aircraft Incident Procedures
- h. Housekeeping – Aircraft Incident Procedures
- i. Airport Police Departmental General Order D09-03 Aircraft Disaster

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- j. Police Department Notifications – Aircraft Set Up, Alert I
- k. Police Department Notifications – Alert II
- l. Reference pages 325-35 and 325-36.

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M. Muller

Date: JUN 26 2014

10a. Survivors Center Diagram

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Mr. Muller
Date: JUN 26 2014

10b. Survivor Center Guideline

The Survivor Center shall be activated by the Airport Operations Center upon communication that there are survivors being leased from Triage by EMS.

Airport Operations shall:

- 1) Notify the affected airline that the Survivors Center is being activated.
- 2) Notify Airport Police Department, Building Maintenance, Electric Shop, and Housekeeping to respond to the Survivors Center as specified in Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
- 3) Notify Airfield Maintenance to provide transport from the Triage Area to the Survivor Center.
- 4) Provide an Airport representative (Operations Center initially) to be stationed in this area to assist and coordinate further activities with the airline representative.
- 5) Notify Airfield Maintenance to provide additional transport to a location determined by the airline representative after the airline has obtained the necessary information from the survivors.

Airport Police Department shall:

- 1) Man two points of access at the Medical Supplies Building.

Airline Manager shall:

- 1) Provide a representative for this area to coordinate further activities.
- 2) Provide amenities such as pillows, blankets, food and beverages.
- 3) Contact the American Red Cross, Salvation Army and Clergy for additional services.
- 4) Initiate and perform duties in accordance with the air carrier's Aviation Disaster Family Assistance Act (ADFAA) Plan.

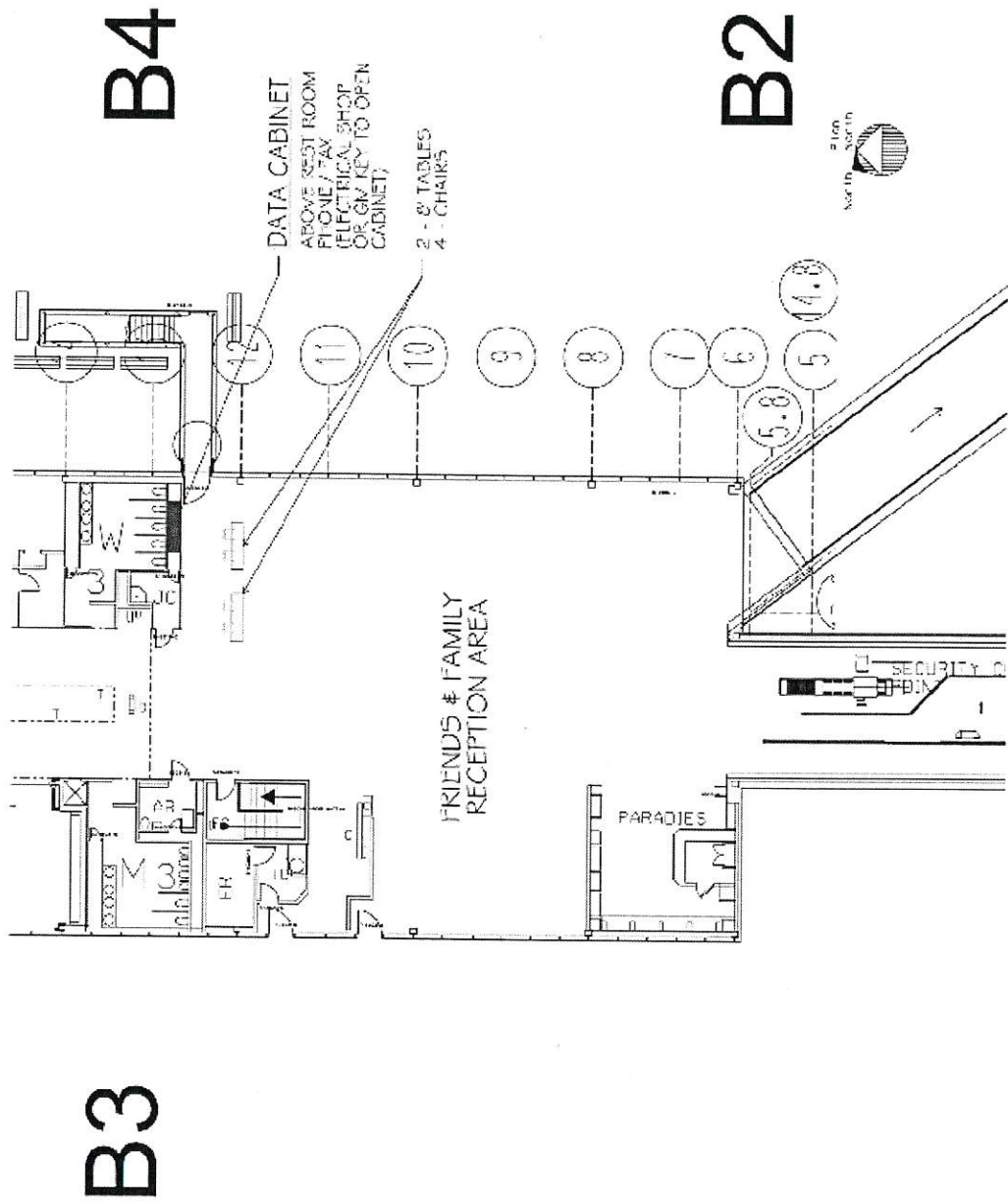
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10c. Friends and Family Reception Area Diagram

Hold Rooms: B Concourse – Concourse Level at Gates # B-2 & B-4



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FAA Approved

M. M. Nelson
Date: JUN 26 2014

10d. Family and Friends Reception Area Guideline

If the affected airline requests Airport Operations Center to activate the Family and Friends Reception Area,

Airport Operations Center shall:

- 1) Makes notifications to: Airport Police Department, Building Maintenance, Housekeeping, and Electric Shop to respond to the Family and Friends Reception Area as specified in Special Orders regarding Aircraft Incident Procedures found in the SOP/Checklist section.
- 2) Provide an Airport representative (Operations Center initially) to be stationed in this area to assist and coordinate further activities with the airline representative.
- 3) Upon notification that the airline has set up a long term Family and Friends Reception Area at another location, notify Airfield Maintenance to transport the people to the location determined by the airline. (Airport Police shall escort and coordinate security of the new location).

Airport Police Department shall:

- 1) Man two points of access / B Security Checkpoint and elevator at Gate B-4.

Airline Manager shall:

- 1) Escort family and friends to B Security Checkpoint.
- 2) Provide a representative for this area to coordinate further activities.
- 3) Provide amenities such as pillows, blankets, food and beverages.
- 4) Initiate and perform duties in accordance with the air carrier's Aviation Disaster Family Assistance Act (ADFAA) Plan.

10e. **Building Maintenance – Aircraft Incident Procedures**

BUILDING MAINTENANCE

AIRCRAFT INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

NORMAL WORKING HOURS

After receiving notification of an Aircraft Incident, all Building Maintenance Personnel shall report to the Building Maintenance lunchroom.

1. The Maintenance Supervisor shall immediately notify the Construction and Maintenance Manager by phone.
2. Building Maintenance personnel shall respond with locks and chains to check perimeter gate security.
3. The Supervisor shall set up tables and chairs as requested. Deliver easels, a podium, and a microphone to the News Media Center. The JoAnne Wayne Conference Room between Terminal 1, exit 17 and 18 will be used as the News Media Center. Set up table, chairs and podium for the News Media as identified in the diagram depicted on page 325-62. Supplies are located in the Housekeeping Storage Room near the News Media Area. Deliver two easels, a podium, and a microphone to the New Media Center. Place News Media Area signs on easels outside of the conference room.
4. The Maintenance Foreman shall keep two Mechanical Maintenance Workers for regular building maintenance duties. All remaining employees shall remain in the lunchroom and await further instructions.
5. The Maintenance Foreman shall remain in the lunchroom at all times for communication purposes.
6. Order portable toilets when requested.
7. Deliver the portable hand washing station to the Triage Area or to a location as directed.
8. Upon notification, respond to the Survivor Center (see diagram, page 325-228) and:
 - a. Install magnetic sign (Survivor Center) (stored in the survivor's center storage) above exterior of Medical Supplies Building door.
 - b. Set up partitions along a north and south line starting from the east side of the room to the opposite wall.

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- c. Remove two 8 ft. tables and four chairs from the survivor center storage room and set them up along wall as shown in diagram.
 - d. Check men's and women's restrooms for operations and all fixtures.
 - e. Contact supervisors with status, stand by and wait for further instructions.
9. Upon notification, respond to the Friends and Family Reception Area (see diagram, page 325-230) and:
- a. Check concourse restroom for proper operation.
 - b. Set up two 8 ft. tables and four chairs.
 - c. Cover concourse windows if instructed, retrieve plastic roll (black 20 ft. x 100 ft.) and four rolls of duct tape from Operations Center concourse level office, B-2090.
 - d. Contact supervisor with status and stand by and wait for further instructions.

OTHER HOURS

After receiving notification of an aircraft incident, the Building Maintenance Shift Worker shall report to the Building Maintenance lunchroom.

1. The Building Maintenance Shift Worker shall immediately notify the Construction and Maintenance Manager and Maintenance Supervisor.
2. Building Maintenance personnel shall respond with locks and chains to check perimeter gate security.
3. The supervisor shall set up tables and chairs as requested and deliver easels, a podium, and a microphone to the News Media Center. The JoAnne Wayne conference Room between Terminal 1, exit 17 & 18 will be used as the News Media Center. Set up table, chairs and podium for the News Media as identified in the diagram depicted on page 325-62. Supplies are located in the Housekeeping Storage Room near the News Media Area. Deliver two easels, a podium, and a microphone to the News Media Center. Place News Media Area signs on easels outside of the conference room.
4. The shift worker shall then begin calling additional Building Maintenance Personnel to work if requested. The employees shall be instructed to report to the Building Maintenance lunchroom to sign in and wait for further instructions.
5. The shift worker shall remain in the lunchroom for communication purposes until the Foremen arrive and one employee shall perform regular building maintenance duties.
6. Order portable toilets when requested.
7. Deliver portable hand washing station to the Triage Area or other designated location as directed.

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8. Upon notification, respond to the Survivor Center (see diagram, page 325-233) and:
 - a. Install magnetic sign (Survivor Center) (stored in the survivor's center storage) above exterior of the Medical Supplies Building door.
 - b. Set up partitions along a north and south line starting from the east side of the elevator to the opposite wall.
 - c. Remove two 8 ft. tables and four chairs from the survivor center storage room and set them up along wall as shown in diagram.
 - d. Check men's and women's restrooms for proper operations and all fixtures.
 - e. Contact supervisors with status, stand by and wait for further instructions.

9. Upon notification, respond to the Friends and Family Reception Area (see diagram, page 325-230) and:
 - a. Check concourse restrooms for proper operation.
 - b. Set up two 8 ft. tables and four chairs.
 - c. Cover concourse windows if instructed, retrieve plastic roll (black 20 ft. x 100 ft.) and four rolls of duct tape from Operations Center concourse level office, B-2090.
 - d. Contact supervisor with status and stand by and wait for further instructions.

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Date: JUN 26 2014

10f. Climate Control - Aircraft Incident Procedures

CLIMATE CONTROL

AIRCRAFT INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

NORMAL WORKING HOURS

After receiving notification of an Aircraft Incident, all Climate Control Personnel, except Watch personnel, shall report to the West Climate Control lunchroom. Watch personnel shall continue with their regular duties.

1. The Power Plant Manager shall immediately notify the Construction and Maintenance Manager by phone.
2. The Maintenance Foreman shall keep two Mechanical Maintenance Workers for regular maintenance duties. All remaining employees shall remain in the West Power Plant and wait further instructions.
3. The Maintenance Foreman shall remain in the Engineers Office at all times for communication purposes.

OTHER HOURS

After receiving notification of an Aircraft Incident, the Stationary Engineer and Shift Workers shall report to their respective Engineer's Office for communication purposes.

1. The West Climate Control Engineer shall immediately notify the Climate Control Manager and Construction and Maintenance Manager by phone or pager.
2. When requested, The West Climate Control Engineer shall then begin calling additional Climate Control personnel to report for work. The employees shall be instructed to report to the West Climate Control Engineer's Office to sign in and await further instructions.
3. The Engineers shall remain in the Engineer's Office for communication purposes, and the Watchman shall perform regular climate control maintenance duties.
4. Climate Control personnel may be assigned to check perimeter gate security.

10g. Electric Shop – Aircraft Incident Procedures

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Date: JUN 26 2014

ELECTRIC SHOP

AIRCRAFT INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

NORMAL WORKING HOURS

Upon notification that an Aircraft Incident/Accident has occurred, all Electrical Maintenance personnel shall report to the Electric Shop.

1. An Electrical Foreman will keep two (2) Electricians available to handle building and airfield lighting problems. All other employees shall remain at Electric Shop and wait for further instructions.
2. An Electrical Foreman will remain at the Electric Shop for communication purposes.
3. The Electric Shop should be ready to disconnect or isolate electrical services in the event of a fuel spill.
4. Deliver generator trailer #749 and light stand units as directed.
7. Upon notification, respond to the Survivor Center (see diagram, page 325-228) and:
 - a. Contact Operations Center to open survivors center storage room cabinets and exterior door to The Medical Supplies Building (weather permitting).
 - b. Remove phones from cabinets in storage room and place them on the two 8 foot tables that housekeeping has set up.
 - c. Data and phone lines in wall, ceiling connect lines and test phones.
 - d. Check lighting in area restroom, storage room, and exterior area.
 - e. Test run elevator from ramp level to concourse level.
 - f. Contact supervisor with status, stand by and wait for further instructions.
8. Upon notification, respond to the Friends and Family Reception Area (see diagram, page 325-230) and:
 - a. Open data and phone cabinet located on top of wall at gate # B-4, drop phone, data, and fax lines.
 - b. Retrieve ten (10) phones and four, 20 ft. extension cords from concourse level of operation center office door # B-2090.
 - c. Set five phones on each of the two 8 ft. tables (housekeeping will set up tables) test phones.
 - d. Turn off TV's and PA system on B concourse.
 - e. Contact supervisor with status, stand by and wait for further instructions.

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Date: JUN 26 2014

OTHER HOURS

After being notified that an Aircraft Incident/Accident has occurred, the Electrician shift worker will report to the Electric Shop and notify the Electrical Supervisor by pager or phone. The Electrical shift worker shall then begin calling Foremen and other Electric employees to report for work if requested.

1. Employees are to report to the Electric Shop to check in and wait in the lunchroom for further instructions. Two (2) Electricians should be available for airfield and building electrical needs. One (1) Electrician should remain at the shop for communication purposes until a Foreman arrives.
2. An Electrical Foreman will remain at the Electric Shop for communication purposes.
3. The Electric Shop shall be ready to disconnect or isolate electrical services in the event of a fuel spill.
4. Deliver generator trailer #749 and light stand units as directed.
5. Upon notification, respond to the Survivor Center (see diagram, page 325-228) and:
 - a. Contact Operations Center to open survivors center storage room cabinets and exterior door to survivors center, DR # C-1300 (weather permitting).
 - b. Remove phones from cabinets in storage room and place them on the two 8 foot tables that housekeeping has set up.
 - c. Data and phone lines in wall, ceiling connect lines and test phones.
 - d. Check lighting in area restroom, storage room, and exterior area.
 - e. Test run elevator from ramp level to concourse level.
 - f. Contact supervisor with status, stand by and wait for further instructions.
6. Upon notification, respond to the Friends and Family Reception Area (see diagram, page 325-230) and:
 - a. Open data and phone cabinet located on top of wall at gate # B-4, drop phone, data, and fax lines.
 - b. Retrieve ten (10) phones and four, 20 ft. extension cords from concourse level of operation center office door # B-2090.
 - c. Set five phones on each of the two 8 ft. tables (housekeeping will set up tables) test phones.
 - d. Turn off TV's and PA system on B concourse.
 - e. Contact supervisor with status, stand by and wait for further instructions.

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Date: JUN 26 2014

10h. Housekeeping – Aircraft Incident Procedures

HOUSEKEEPING DEPARTMENT

AIRCRAFT INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

After notification of an Aircraft Incident, all Custodians shall report to the Custodial lunchroom to receive their assignments.

1. The Custodial Supervisor shall keep four (4) Custodians in the building to cover regular duties. All remaining Custodians will remain in the lunchroom and wait for further instructions.
2. The Custodial Supervisor shall call in employees from other shifts if requested to do so.
3. The Custodial Supervisor shall remain in the lunchroom for communication purposes.
4. The Custodial Supervisor shall contact the Housekeeping Manager.
5. Upon notification, respond to the Survivor Center (see diagram, page 325-228) and:
 - a. Check men's and women's restrooms for soap/paper products.
 - b. Contact supervisor with status, stand by and wait for further instructions.
6. Upon notification, respond to the Friends and Family Reception Area (see diagram, page 325-230) and:
 - a. Check restrooms in area for soap/paper products, contact the Cleaning Contractor by radio to restock and clean if needed.
 - b. Contact supervisor with status, stand by and wait for further instructions.

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FAA Approved


Date: JUN 26 2014

10i. Airport Police Departmental General Order D09-03 Aircraft Disaster

General Order D09-03

Date Issued: 10/15/09

DEPARTMENTAL GENERAL ORDER

ST. LOUIS AIRPORT POLICE
OFFICE OF THE CHIEF OF POLICE

Index as:
Aircraft Disaster
Code 1000

Cancels:
General Order D05-01

AIRCRAFT DISASTER

I. PURPOSE

The purpose of this General Order is to establish policies and procedures for police response to aircraft incidents or disasters at Lambert St. Louis International Airport.

II. CONCEPT OF OPERATION

The Lambert St. Louis International Airport has established an outline for response to aircraft incidents and disasters. The outline of response includes specific actions that must be taken by the Airport Police Department. The Airport Authority has outlined three levels during an on airport aircraft disaster that require response from the Airport Police Department. Those three levels are Alert II, First Alarm, and Alert III. At each level the Airport Police Department's response will follow the same standard guidelines and procedures. During an aircraft disaster the Airport Police, among other responsibilities, will have the responsibility of reestablishing airfield perimeter security; after the fire department has released the scene, the securing of the crash site and control of access to the area; and to coordinate responding Code 1000 units.

III. DEFINITIONS

Alert II – An Alert II indicates that an aircraft approaching the airport is experiencing some type of system or equipment failure or warning. An aircraft experiencing trouble before landing and requiring police response is commonly referred to as an "aircraft setup." This Alert may also be used to classify an aircraft taxiing on aircraft movement areas or parked on the ramp experiencing difficulties and requiring emergency crews to respond to the aircraft.

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Alert III – An Alert III is when an aircraft has crashed, parked aircraft are endangered by fire or explosion, aircraft are involved in a collision, or there is a very high probability that an aircraft will crash or suffer extreme damage. A change from an Alert II status to an Alert III status before an actual "accident," must be agreed upon by the Airport Director or his representative.

AOA – Airfield Operations Area

Airport Police Command Post – Police Command Post activated in the Chief's Conference Room.

FAA – Federal Aviation Administration

FBI – Federal Bureau of Investigation

Incident Commander- The Manager on Duty in the Airport Operations Center (MOD)

Mobile Command Post – The Airport Authority's mobile command bus.

NTSB – National Transportation Safety Board

TSA – Transportation Security Administration

IV. ALERT II PROCEDURES

A. Dispatcher Responsibilities

1. Make required notifications in accordance with Appendix 1 of this General Order.
2. Dispatch a mobile unit to the ramp area to observe the landing of the troubled aircraft and report observations to the dispatcher on the main radio channel.
3. Place the main radio channel on emergency traffic by stating, "All units, emergency traffic only."

B. Watch Commander Responsibilities

4. Ensure that one police officer is assigned to assist the dispatcher and record a timeline. The timeline should be as detailed as possible.
5. Ensure that a mobile unit has been dispatched to the ramp area.



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V. FIRST ALARM PROCEDURES

- A. At any time during an aircraft incident, the Airport Fire Department may strike a First Alarm. This action is a request for additional fire apparatus to respond from St. Louis City. The decision to strike a First Alarm is made by the senior firefighter present at the scene.
- B. If a First Alarm is called the Dispatcher shall make the required notifications in accordance with Appendix 2 of this General Order. These notifications are to alert surrounding municipalities of the possibility of fire apparatus traveling through their venue.
- C. Two police officers shall be assigned to assist at Gate 17S. One officer should control access of EMS at the gate and direct the responding units to the remote house. The second officer shall park the EMS units in front of the South Firehouse, within the red painted box marked on the pavement. The second officer will be partnered with a fire fighter or EMS staging officer who will assist in the staging of EMS units.
- D. A police officer shall be assigned to assist at either Gate 50N or 74N, the location of this officer will be determined by the Airport Fire Chief's Decision on which gate to utilize.

VI. ALERT III PROCEDURES**A. Bureau of Patrol Operations Responsibilities****1. Dispatcher Responsibilities:**

- a. The dispatcher or a designated officer shall make the required notifications as outlined in Appendix 3 of this General order.
- b. If the Chief calls a Code 1000 the dispatcher shall make notification to the St. Louis County Police Department to activate the Code 1000 Aircraft Disaster Traffic Control Plan. Dispatch will also advise the Bureau Commander of Patrol Operations and the Deputy Chief of Police of the Code 1000 notification.

2. Watch Commander Responsibilities:

- a. The Watch Commander will respond to the scene and coordinate police response with the MOD. The Watch Commander shall remain at the scene until the Bureau Commander arrives.
- b. The Watch Commander shall ensure the security of the AOA, by allowing only emergency response vehicles or Airport Authority vehicles inside the airfield perimeter.

3. Police Officer Responsibilities:

- a. Two officers shall be dispatched to Gate 17S to coordinate the arrival of emergency crews and equipment. Arriving ambulances shall be staged in front of the South Firehouse, within the red painted box marked on the pavement.
- b. Officers not dispatched to a specific call/assignment or assigned to mandatory beats will report to the Roll Call Room/Staging Area and await assignment and instruction. Officers assigned to mandatory beats shall remain alert and in their respective beat areas.
- c. Police Officers should be dispatched, as necessary, to the following locations:
 - 1) To clear an area for media vehicles to stage in the parking areas around and to the west of MT-6.
 - 2) The Aircraft Owner/Operator ticket counter to assist with verification of responding family members.
 - 3) Passenger Survivor Center
 - 4) Friends and Family Reception Center

4. Bureau of Patrol Operations Commander Responsibilities:

- a. Upon arrival, the Bureau Commander will serve as the police representative in the Mobile Command Post and direct all police units to set their radios to the Special Detail Channel, channel 4.
- b. When requested by the Incident Commander (MOD), the Bureau Commander shall secure the crash site by ensuring it is adequately posted by police personnel.
- c. The Bureau Commander will direct K-9 response, including the issuing of "Scene" and "Scene/Morgue" badges.
- d. The Bureau Commander shall request officers be sent, as needed, to assist with control and security of the Survivor Center, which shall be located on the Concourse C, apron level, next to Gate C-24. The airport will provide transport of uninjured survivors from the crash site, after they have been released from Triage, to the Survivor Center. Media and general public shall not be allowed in this area, as it is established as a site where aid and comfort can be initiated. Two officers shall be sent to the Survivor Center at the points of access, which are: the door below gate C-28 and the elevator on the Concourse Level near gate C-28.
- e. The Bureau Commander shall request officers be sent, as needed, to assist with the establishment, control, and security of the Friends and Family Reception Area, which will be located on the concourse level of Concourse B. Upon notification that a Friends and Family Reception Area has been requested officers shall be dispatched to close the B Concourse and clear the concourse of passengers, tenants and other non-essential personnel. Two officers shall be sent to the Reception Center at the points of access, which are: the B Security Checkpoint and the elevator at Gate B-4.

B. Chief of Police Responsibilities

1. Direct overall police response.
2. Coordinate policy and assignments with the Airport Director and Senior Deputy Director of the Airport.
3. If thirty (30) or more passengers are onboard the aircraft, creating a mass casualty situation, the Chief or his designee, may instruct the Dispatcher to make notification to the St. Louis County Police Department to activate the Code 1000 Aircraft Disaster Traffic Control Plan.

C. Deputy Chief of Police Responsibilities

1. Respond to the Airport Police Command Post and activate if needed.
2. Stage available personnel for deployment as required.
3. Act as a liaison to the FAA Flight Standards Division.
4. Serve as the Airport Police representative on the NTSB Structure Committee.

D. Bureau of Security Operations Responsibilities

1. The Bureau Commander shall:
 - a. Coordinate police and security matters with the affected airline.
 - b. Act as a liaison to TSA.
 - c. Alert the security contractor to potential security needs.
 - d. Supervise the reestablishment of the AOA and perimeter integrity.
 - e. When necessary notify Airport Operations to respond to the Mutual Aid perimeter gates with locks and chains to secure as needed.
2. All police officers assigned to the Bureau of Security Operations shall report to the Roll Call Room/Staging area to await assignments and instructions.

E. Bureau of Investigations and Criminal Investigations Responsibilities

1. Responsibilities of the Bureau Commander:

- a. Report to the Airport Police Command Post and assist in staging additional personnel for deployment.
- b. Ensure that notifications have been made to the Division Commanders assigned to the Bureau of Investigations.
- c. Ensure that manpower from the Bureau of Investigations is available to assist.

2. Responding detectives shall respond, with vehicles, and should report to the Roll Call Room/Staging Area with a handheld police radio and await assignment.

3. When directed, detectives will secure the morgue area. A minimum of two (2) detectives is required for any Morgue Detail.

4. Airport Police Photographer

a. The Criminal Investigations Division will be responsible for assigning a detective to act as the Airport Photographer. The photographer will proceed to the site and begin taking photographs of the crash/emergency site and the surrounding areas.

b. The photographs are to include, but not be limited to the following:

- 1) Overall Scene;
- 2) Specific objects (bodies, wreckage, etc);
- 3) Objects/bodies being removed;
- 4) Fire and rescue activities;
- 5) Local weather phenomena;
- 6) And other photographs of pertinent value.

c. The photographer will maintain a logbook keeping dates, times and locations of photos taken.

- d. The photographer will not release photos taken or the logbook kept to anyone other than the Airport-On-Site Commander, the Airport Director, or the Chief of Police unless otherwise instructed to do so by the aforementioned individuals.
- e. If films/photographs taken require developing, the photographer will ensure developing is done as quickly as possible while safeguarding against inadvertent early release.

F. Canine Division Responsibilities

- 1. The Division Commander will report to the Airport Police Command Post and assist in staging additional personnel for deployment.
- 2. Canine handlers shall respond to the main station and report to the Roll Call Room/Staging Area to await assignment or additional instruction.
- 3. Scene and Scene/Morgue badges:
 - a. When directed, Canine handlers will respond to the crash scene and issue "Scene" and "Scene/Morgue" badges at the discretion of the Bureau of Patrol Commander.
 - b. Handlers must record the name, social security number, and organization affiliation of each recipient prior to issuing a "Scene" or "Scene/Morgue" badge.
 - c. Badges shall be identified in the following way:
 - 1) "Scene" badges shall be blue in color with a Lambert Airport logo hologram and be individually numbered. These badges will allow access to the crash scene only.
 - 2) "Scene/Morgue" badges shall be orange in color with a Lambert Airport logo hologram and be individually numbered. These badges will allow access to the crash scene as well as the Morgue Facility.

M. Muller

Date: JUN 26 2014

- d. Upon completion of "Scene" and "Scene/Morgue" badge distribution, Canine Division personnel will return to the Roll Call Room and await further instruction.

G. Administrative Services Division

1. The Division Manager shall:

- a. Report to the Airport Police Command Post and assist in staging additional personnel for deployment.
- b. Deliver necessary communications equipment to the Command Post.
- c. Track expenditures.
- d. Coordinate needed outside resources.

- 2. All police officers assigned to the Administrative Services Division shall report to the Roll Call Room/Staging area to await assignments and instructions.

VII. OFF-AIRPORT CRASH PROCEDURES

A. Bureau of Patrol Operations

- 1. The dispatcher or an assigned officer shall make required notifications in accordance with Appendix 4 of this General Order.
- 2. If the crash site is within twenty (20) miles of the airport, the Patrol Commander and one (1) patrol unit will respond to the site and offer whatever assistance may be needed.

Note: Under no circumstances, shall the Airport Police be dispatched outside of our designated venue without expressed consent from the Chief of Police, Deputy Chief of Police, or the Patrol Commander.

VIII. SAFE LANDING PROCEDURES AFTER A FIRST ALARM HAS BEEN STRUCK

- A. The dispatcher shall make the required notifications in accordance with Appendix 2 of this General Order, advising the safe landing of the aircraft.

B. An officer shall be dispatched to check the perimeter.

IX. ADDITIONAL GUIDANCE

- A. Personnel responding in vehicles shall be careful not to drive over debris or through hazardous or flammable liquid spills.
- B. Personnel discovering Cockpit Voice Recorders and/or Flight Data Recorders should notify dispatch, note the location, and should not remove or attempt to remove the devices from the crash site, except to preserve them from any further damage.
- C. As soon as practical, all personnel involved in the disaster should document, in writing, all of their actions and activities during their involvement in the accident/incident. This documentation should be forwarded to the Chief of Police so that it may be made available to the appropriate investigative agencies.
- D. In the event the Airport Police Station is destroyed as the result of an aircraft disaster, an alternate Airport Police Command Post will be activated in the Bridgeton Trademart Building, Criminal Investigation Division offices.
- E. One (1) Disaster Supply Kit will be located in the primary Airport Police Command Post (Chief's Conference Room) and one (1) Disaster Supply Kit will be located in the alternate Airport Police Command Post (Criminal Investigation Division Offices).

By Order of,

Paul E. Mason II
Colonel
Chief of Police

Attachments:

- Attachment 1 – Notifications for Alert 2
- Attachment 2 – Notifications for First Alarm
- Attachment 3 – Notifications for Alert 3 (Crash has Occurred)
- Attachment 4 – Notifications for Off-Airport Crash

PEM/awk

Attachment 2				
NOTIFICATIONS FOR FIRST ALARM				
CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED	
1. Patrol Operations Commander				
2. Berkeley Police Department (314-524-3311) (See instructions below, in comment section.)				
3. Bridgeton Police Department (314-739-7557) (See instructions below, in comment section.)				
4. St. Louis County Police Department (314-889-2345) (See instructions below, in comment section.)				
5. Communications Center, extension 8040				
Comments:				
Berkeley Police Department: Advise of First Alarm and request a patrol unit respond to the east end of the airport in case of traffic congestion.				
Bridgeton Police Department: Advise of First Alarm and request a patrol unit respond to the west end of the airport in case of traffic congestion.				
St. Louis County Police Department: Advise of First Alarm and instructions given to Berkeley and Bridgeton Police Departments.				


General Order: D09-03

Date Issued: 10/15/09

Attachment 1			
NOTIFICATIONS FOR ALERT 2			
CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. Shift Supervisor			
2. Airport Fire Department (314-426-8133)			
3. EMS 1			
Comments:			

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Date: JUN 26 2014

Attachment 3

NOTIFICATIONS FOR ALERT 3 (CRASH HAS OCCURRED)

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. Re-notify Bureau of Patrol Operations Commander			
2. Chief of Police			
3. Deputy Chief of Police			
4. Bureau of Security Operations Commander			
5. Bureau of Investigations Commander (See instructions below, in comment section.)			
6. Canine Division Commander			
7. Administrative Services Division Manager			
8. Private Security Contractor (On-Duty Supervisor) (Sec Ops Radio Channel, Channel 5)			
9. Re-notify St. Louis County Police Department (314-889-2345)			
10. Re-notify Berkeley Police Department (314-524-3311)			
11. Re-notify Bridgeton Police Department (314-739-7557)			
12. F.A.A. Flight Standards Division (816-329-3000)			
13. T.S.A. (314-890-2745)			
Bureau of Investigations Commander: The Bureau Commander, or designee, will notify the F.B.I. of the disaster. (314-231-4324)			

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FAA Approved

M. Miller

Date: JUN 26 2014

General Order: D09-03 Date Issued: 10/15/09

Attachment 4			
NOTIFICATIONS FOR OFF AIRPORT CRASH			
CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. Re-notify Patrol Operations Commander			
2. Deputy Chief of Police			
3. Chief of Police			
4. Bureau of Investigations Commander			
Comments:			

325-252

FAA Approved

Mr. G. Miller
Date: JUN 26 2014

10j. Police Department Notifications – Aircraft Set-Up, Alert I

**AIRCRAFT EMERGENCY – POLICE DEPARTMENT NOTIFICATIONS
ALERT 1**

An **Alert I** is for any incident, **other than aircraft**, that requires some type of response by airport personnel. This may be anything from an EMS assist to a large structural fire that does not threaten aircraft. Personnel of the Airport Fire District, OC, and Airport Police shall be notified in the event of a non-aircraft incident with personnel from each department responding, when needed, as necessary. Airport Police would make notifications as needed.

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Date: JUN 26 2014

**AIRCRAFT EMERGENCY – POLICE DEPARTMENT
NOTIFICATIONS
AIRCRAFT SET UP ALERT 2**

Police Department Notifications			
AIRCRAFT EMERGENCY - NOTIFICATIONS FOR ALERT 2			
CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. Patrol Operations Commander			
2. Berkeley Police Department (See instructions below, in comment section.)			
3. Bridgeton Police Department (See instructions below, in comment section.)			
4. St. Louis County Police Department (See instructions below, in comment section.)			
5. Communications Center			
<p>Comments:</p> <p>Berkeley Police Department: Advise of Alert 2. If instructed by the Chief, request a patrol unit respond to the east end of the airport in case of traffic congestion.</p> <p>Bridgeton Police Department: Advise of Alert 2. If instructed by the Chief, request a patrol unit respond to the west end of the airport in case of traffic congestion.</p> <p>St. Louis County Police Department: Advise of Alert 2 and instructions given to Berkeley and Bridgeton Police Departments.</p>			

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FAA Approved

M. Mullen

Date: JUN 26 2014

101. Police Department Notifications – Alert III

**AIRCRAFT EMERGENCY – POLICE DEPARTMENT NOTIFICATIONS
ALERT 3 (CRASH HAS OCCURRED)**

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. DISPATCH CAR/OFFICER TO GATE 17S			
2. RE-NOTIFY POLICE OPERATIONS COMMANDER			
3. NOTIFY DEPUTY CHIEF			
4. NOTIFY CHIEF OF POLICE			
5. NOTIFY SUPPORT OPERATIONS			
6. NOTIFY SECURITY OPERATIONS			
7. RE-NOTIFY ST. LOUIS COUNTY POLICE			
8. RE-NOTIFY BERKELEY POLICE			
9. RE-NOTIFY BRIDGETON POLICE			
10. RE-NOTIFY OPERATIONS CENTER			
11. NOTIFY K-9			
12. NOTIFY CRIMINAL INVESTIGATION DIVISION			

(*All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

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FAA Approved

M. M. Miller
Date: JUN 26 2014

B. DISABLED AIRCRAFT REMOVAL

1. Recovery and removal procedures of an aircraft disaster shall begin after the Airport Fire Chief or the Incident Commander have determined that all persons have been rescued and any casualties removed from the aircraft or the site and when the National Transportation Safety Board, (NTSB), the FAA, or the Department of Defense have assumed custody of the aircraft for accident investigation.
2. Lambert-St. Louis International Airport® has determined that the pilot, owner, or operator, of any aircraft involved in an accident or incident on the grounds at Lambert Airport shall have full and ultimate responsibility for the prompt and expeditious removal of said aircraft. The location of such aircraft on or close to a runway or taxiway out of service shall not be a justifiable reason for delay in removal operations. The Senior Deputy Director may direct said aircraft be moved by Airport Authority personnel or personnel hired for such purpose by the Airport Authority in the event the aircraft is not moved in an expedited manner. In such case, the owner, operator, or pilot of the aircraft shall bear any costs incurred in the removal of the aircraft and the Airport Authority and its contractors shall not be liable in any way, shape, or fashion for any damage sustained to the aircraft in the removal operations.
3. Guidelines for aircraft removal and recovery shall be taken from the following sources and agencies:
 - a. NTSB Investigative Regulation Part 830, "Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records."
 - b. National Transportation Safety Board Investigative Regulation Part 831, "Aircraft Accident/Incident Investigation Procedures."
 - c. FAA Advisory Circular, AC 150/5200-12C, "First Responders Responsibility In Protecting Evidence At The Scene Of An Aircraft Accident/Incident."
4. The NTSB shall take custody of civil aircraft and their contents from the time of the accident to the completion of the investigation or written release of the aircraft. In most cases, the NTSB may be expected to issue a "Permission To Move Aircraft" to the owner/operator of the aircraft after the initial investigation of the accident or incident. This permission to move the aircraft only allows the aircraft to be moved from its location to a selected area for further investigation. The NTSB shall still retain custody. In the case of a military aircraft, the Department of Defense shall take custody and investigate the incident/accident.
5. Upon completion of its investigation, or as determined by the Board of the NTSB, a Release order shall be issued to the owner/operator allowing the owner/operator to move the aircraft as desired for repairs, disposal, etc.
6. Initial notification to the NTSB of aircraft incidents/accidents shall include the following when possible:

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- a. Type, nationality, and registration marks of the aircraft;
- b. Name of owner/operator of aircraft;
- d. Name of the pilot-in-command;
- e. Date and time of the accident;
- f. Last point of departure and destination of the aircraft;
- g. Position of the aircraft with reference to some easily defined geographical point;
- h. Number of persons aboard and number of injured or killed, if known;
- i. Nature of the accident including weather and the extent of damage to the aircraft;
- j. Description of any explosives, radioactive materials, or other hazardous or dangerous materials aboard the aircraft, if known;
- k. Location and telephone number where the owner/operator can be located.

7. OWNER/OPERATOR RESPONSIBILITY

- a. The owner/operator of an aircraft involved in an accident shall be responsible for preserving to the extent possible any aircraft wreckage, cargo, or mail aboard the aircraft as well as all records from the aircraft including flight recorders and tapes, voice recorders and tapes, aircraft logbooks, airmen logbooks, and other records pertaining to the aircraft. Aircraft wreckage, mail, and cargo may be moved as part of the rescue effort in order to remove persons from the wreckage, to protect the wreckage from further damage, to protect the general public, or as needed to assist the rescue effort. When it becomes necessary to move or disturb aircraft wreckage, mail, or cargo, sketches, notes, or photographs shall be made, when feasible, to aid in the incident/accident investigation.
- b. The owner/operator of an aircraft involved in an accident or incident shall retain all records and reports, including all internal documents and memoranda dealing with the accident/incident and shall make these available without delay to accident/incident investigators when so directed.
- c. Should an international flight be involved, the owner/operator shall notify the following Federal agencies:
 - 1) U.S. Department of Agriculture
 - 2) U.S. Department of Customs
 - 3) U.S. Department of Immigrations
- d. The aircraft owner/operator shall, upon initial notification of an incident or accident, take the following steps:
 - 1) Arrange for transportation to bring uninjured persons from the site to the terminal building, after being cleared through the triage site, if one has been set up;
 - 2) Arrange for portable stairs to be taken to the aircraft and necessary personnel and equipment to be taken to the site to assist in removal of mail, baggage, and cargo after receiving clearance to remove such items by the on-site NTSB investigator;

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- 3) Shall designate one official with the authority to make all decisions necessary to recover the aircraft.
- e. It is expected that each air carrier operating out of Lambert Airport shall have their own aircraft recovery and emergency contingency plan and that such plans shall be implemented in coordination with the Airport Authority's rescue efforts in the event of that air carrier's aircraft being involved. Help from other air carriers or operators may also be requested for aircraft recovery/removal operations.
- f. The aforementioned official of the air carrier shall meet with the Airport Authority Incident Commander and the on-site NTSB investigator to develop a comprehensive plan for the removal of the aircraft.
- g. It shall be the responsibility of the aircraft owner/operator to set up and make press releases relating to the incident. The Airport Authority shall make available only those facts and data that may affect the operations of the Airport. Aircraft details shall be left to the discretion of the owner/operator.

8. AIRPORT AUTHORITY RESPONSIBILITY

- a. It shall be the obligation of the Airport Authority at Lambert-St. Louis International Airport® to operate and maintain the Airport in a safe and usable condition for the use and benefit of the general public. In the event of an aircraft incident or accident resulting in a disabled aircraft jeopardizing the safety of other aircraft or flights, that portion of the Airport endangered or the entire Airport shall be closed until such time as safe operations can resume.
- b. Should an aircraft incident/accident disable a portion or portions of the aircraft movement area, the Director of Airports or his designee shall direct all efforts be made to ensure that area is well lighted, either by repair of existing systems or use of external lighting systems, shall ensure the area is well marked as a restricted or closed area, and shall ensure that all affected airport tenants are notified of the existing hazardous condition.
- c. The Airport Authority Incident Commander shall direct all operations as contained in this AEP and shall direct Airport Authority personnel to perform tasks and assignments as necessary to facilitate the rescue efforts and aircraft recovery/removal operations.
- d. Personnel of the Operations Center shall ensure that appropriate Airport Condition Reports are sent with regard to areas that may be closed or only partially usable and shall ensure these Airport Condition Reports are maintained current with the situation at hand and shall see that all Airport Condition Reports are promptly canceled with the termination of the situation.

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- e. The Director of Airports shall direct any measures as necessary be taken to protect the lives of the personnel in and around the airport and to protect the property of the airport grounds. Safety of personnel shall take precedence over all operations and any and all operations undertaken in a rescue or recovery operation shall be immediately halted by direction of the Director of Airports when such operations present an increased danger to rescue personnel or other personnel.
- f. Aircraft design statistics and data are kept on file in the Operations Center as well as aircraft recovery manuals for select aircraft and manufacturers and are available for use in the event of an aircraft accident or incident.
- g. In general, the steps taken during an aircraft recovery or removal operation shall be as follows:
 - 1) National Transportation Safety Board (NTSB) surveys aircraft and makes preliminary investigation;
 - 2) NTSB determines what part or parts of the aircraft or wreckage may be moved;
 - 3) NTSB gives "Permission to Move" to aircraft owner/operator;
 - 4) Aircraft recovery plan is formulated by the NTSB, aircraft owner/operator, and the Airport Authority Incident Commander;
 - 5) Preliminary recovery operations begin;
 - 6) Cargo and baggage shall be inspected for hazardous materials requiring special handling;
 - 7) Mail, baggage, and cargo are removed from aircraft after approval to do so is given by the NTSB on-site investigator;
 - 8) Defueling of aircraft shall begin, if necessary, with the understanding that this may take several hours;
 - 9) Heavy recovery equipment and associated personnel arrive on scene;
 - 10) Main aircraft recovery program begins;
 - 11) Aircraft is moved to a hard surface prior to final move;
 - 12) Aircraft is stabilized and moved to maintenance area or area where final investigations can be made;
 - 13) Accident site is cleaned up and all excavations, if any, are filled in;
 - 14) Lighting and instrumentation facilities are replaced or repaired as necessary;
 - 15) Pavement repairs, if necessary, are made;
 - 16) Final inspections of site are made;
 - 17) Normal operations at airport are resumed.
- h. These are only general steps to be taken. These steps are not in any way intended to be the final say in the event of a disaster; rather, they are guidelines for disaster operations.

9. RECOVERY EQUIPMENT:

- a. The aircraft owner/operator shall be responsible for providing any and all such equipment and personnel as necessary for the recovery or removal of an aircraft involved in an accident or incident.

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- b. In general, in the event of an accident or incident occurring at Lambert Airport, the Airport Authority shall coordinate with the local air carriers, the local fixed base operators, Boeing Corporation, and local construction contractors to assist with recovery and removal operations at Lambert Airport by providing equipment and personnel.
- c. Additionally, the Airline Transport Association has available, at various locations throughout the United States, recovery kits consisting of equipment necessary and capable of recovering wide-bodied aircraft.

10. DISABLED AIRCRAFT REMOVAL CAPABILITIES:

- a. Due to the high cost of obtaining and maintaining recovery equipment for aircraft, the City of St. Louis Airport Authority maintains no equipment, which may be construed as aircraft recovery equipment other than that which is maintained for normal day-to-day airport operations. The responsibility for obtaining and maintaining such recovery equipment shall be the duty of the aircraft owners/operators.
- b. The air carrier operators shall be responsible for obtaining any and all such recovery equipment that may be necessary in the event of an aircraft incident or accident requiring the recovery or removal of an aircraft from the site. A large variety of equipment for air carrier aircraft is maintained by the different airlines at Lambert Airport and is available for use if necessary. A list of this equipment is kept in the Operations Center. The size of this list prohibits its inclusion in this manual. In most cases, the equipment maintained at Lambert Airport by the various air carriers should be sufficient to move an aircraft in question.
- c. Should additional equipment be needed, the Airline Transport Association has a recovery kit available for use and most of the major carriers throughout the United States have recovery kits and personnel based at their hubs for dispatch to sites requiring their use.
- d. The two fixed-base operators at Lambert Airport maintain a variety of equipment for use in recovery and removal of smaller aircraft to include commuter aircraft. This equipment is tailored for general aviation aircraft, corporate aircraft, and the aforementioned commuter aircraft. Both of the FBO's also maintain "Fast-Response" vehicles equipped with various pieces of hardware enabling them to reach an aircraft and begin expeditious removal or recovery operations.
- e. In addition to the FBO's and the air carriers, Boeing Corporation maintains personnel and equipment for aircraft recovery or removal. While the equipment and personnel of this agency is designed for military aircraft applications, they may also be used for civil aircraft of both small and large dimensions.
- f. Should large, heavy pieces of construction equipment be needed, the Airport

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Authority may call on a number of local area construction companies to supply this equipment and operators. Then take measures to shore up these areas, if any exist or discovered.

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C. BOMB THREATS/INCIDENTS

1. Bomb threats by their very nature indicate the very real potential for serious damage to aircraft, buildings and property, as well as the potential for serious injuries or loss of life. Therefore, all bomb threats received at Lambert-St. Louis International Airport®, regardless of who receives them, shall be treated as if a bomb or bombs do exist and the impending explosion is real. Should a threat be received directly by the Airport Authority, Airport Police Department dispatchers, telephone switchboard operators, or Operations Center personnel, Bomb Threat Interrogation outlines have been provided to assist authorities in the evaluation of the threat.
2. As a bomb threat received at Lambert Airport may be against an aircraft or the Airport buildings, this Section shall be divided in to two sub-sections. Section 1 relates to bomb threats against aircraft while Section 2 relates to bomb threats against Airport property or buildings.
3. Specific Bomb Incident Procedures regarding the Airport Authority Building Maintenance, Climate Control, Electric Shop, and Housekeeping Departments are included in the SOP/Checklist section.

4. **BOMB THREATS AGAINST AIRCRAFT**

- a. In the event a bomb threat is received against an aircraft, the following agencies or personnel shall be notified:
 - 1) Federal Aviation Administration (FAA) Air Traffic Control Tower (ATCT)
 - 2) Airport Operations Center
 - 3) Airport Authority Personnel
 - 4) Airport Police Department
 - 5) Airport Aircraft Rescue and Fire Fighting (ARFF) District
 - 6) Department of Homeland Security (DHS)/Transportation Security Administration (TSA)
 - 7) Federal Bureau of Investigation (FBI)
 - 8) Aircraft Owner/Operator
- b. It is feasible that any of the above shall receive an aircraft bomb threat and is also possible that another agency entirely removed from the Airport shall receive the threat and pass it on to Airport personnel.
- c. Each agency has a notification list that is kept on hand at the respective agencies' location. The sheer size of the notification lists precludes their insertion in this ACM. However, as stated, each of these agencies shall be notified and they in turn shall make additional notifications as necessary per their notification lists.
- d. **AIRCRAFT HANDLING**
 - 1) The foremost condition demanded in a bomb threat against an aircraft at Lambert Airport is to evacuate the passengers and move the aircraft to one of

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the designated bomb threat search areas as quickly as possible. Designated search area for parking of bomb-threatened aircraft is the approach end of Runway 6; if a cargo aircraft is involved, it may be directed to a location on the Haith Air Cargo ramp. Should these two areas be unavailable for use, a number of other sites exist which may be used as areas in which to park the threatened aircraft.


- 2) If an aircraft is airborne and becomes threatened, the aircraft commander shall have the choice to return to the Airport and initiate either a quick stop with passenger evacuation or taxi to a designated area, where passenger evacuation shall take place. If a quick stop is elected on a runway or taxiway, that runway or taxiway shall be closed via an appropriately issued Airport Condition Reports. Airport ARFF vehicles shall standby at a safe location until the aircraft threat is terminated.
- 3) Off-loading of passengers shall be commenced immediately after the aircraft has stopped. Passenger evacuation shall be via:
 - a) Aircraft evacuation slides as directed by the aircraft commander;
 - b) Built-in aircraft stairs;
 - c) Airport Authority buses if time permits;
 - d) Airline mobile stairs.
 - e) ARFF mobile stairs.
- 4) If immediate passenger transportation is not available, passengers shall be instructed to move as far away from the aircraft as possible until transportation arrives. Passengers shall not be allowed to remain on an aircraft while it is being searched and must remove all personal items with them upon exiting the aircraft.
- 5) If an aircraft is taxiing on the airport movement area, it shall again be the aircraft commander's decision to stop and commence an emergency evacuation or proceed to the designated area for passenger off-loading.
- 6) In no case shall a threatened aircraft be allowed to return to a terminal gate for passenger disembarking. If an aircraft is at a terminal gate, passengers shall be off-loaded through the terminal jetway and the aircraft shall then be towed or taxied to the designated search area.
- 7) Upon reaching a designated search area, the aircraft shall be parked facing into the wind or with the tail section into the wind for effective fire stream application.

e. AIRCRAFT SEARCH PROCEDURES

- 1) Once an aircraft has reached the search area and all passengers and crew have exited, no vehicles other than those of necessity shall be allowed between the Airport ARFF vehicles on standby and the aircraft.

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- 2) Personnel employed by the aircraft owner/operator shall be used to remove baggage and cargo from the aircraft where it shall be laid out on the ground for search purposes.
- 3) Once an aircraft has been declared safe, baggage and cargo shall be reloaded and the aircraft allowed to return to the Airport terminal area.
- 4) Upon the issuance of an "All-Clear," the personnel previously notified at the beginning of Section 1 shall again be notified and informed that at this time the situation has been terminated.

5. BOMB THREATS AGAINST AIRPORT TERMINAL BUILDINGS OR PROPERTY

- a. In the event a threat is received against a building or property at Lambert Airport, those personnel previously notified in Section 1 shall be notified with the addition that the Operations Center shall also notify individual airport tenants as necessary.
- b. The Director of Airports, his representatives or lessee shall have the responsibility for deciding whether or not to evacuate the building or property threatened.
- c. During all bomb threats, tenants shall be notified to conduct a diligent, thorough search of their respective non-public areas. If any suspicious items are found, personnel are to be instructed to leave them alone, clear the area and contact the Airport Police at 314-426-8100. Tenants are to notify the Police once their area has been searched.
- d. All public areas are to be searched by the Police Department. All officers shall be advised to keep the Airport Police Department Dispatcher informed of their search via radio communications or station phones.
- e. If evacuation of the Terminal building becomes necessary, all aircraft shall be held out from the gate positions until the respective concourse has been cleared. Evacuation notices may be made through either the Airport Police Department or the Operations Center public address systems.
- f. Airport Fire Department personnel and vehicles shall be on standby at a safe location, nearby, in the event of an explosion and fire.
- g. Upon notification of an "All-Clear," a reverse notification shall be made to all tenants and personnel previously notified informing them of the termination of the situation.

6. EXPLOSION

- a. In the event of an explosion, the Airport Fire Chief shall have full responsibility

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for extinguishing any fire that may occur. The Airport Police Department shall assist by sealing off the area. After the injured have been removed and the fire extinguished, it is most important that the damaged area not be disturbed until officials have had the opportunity to inspect the area.

7. SOPS & Checklists

- a. Building Maintenance – Bomb Incident Procedures
- b. Climate Control – Bomb Incident Procedures
- c. Electric Shop – Bomb Incident Procedures
- d. Housekeeping – Bomb Incident Procedures
- e. Police Department – Bomb Threat/Aircraft Notifications
- f. Police Department – Bomb Threat/Airport Notifications
- g. Reference pages 325-34 and 325-35.

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7a. Building Maintenance – Bomb Incident Procedures

BUILDING MAINTENANCE

BOMB INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

BOMB THREAT

In the event of a Bomb Threat against Airport Buildings, on-duty employees shall visually check areas for suspicious packages, containers, or luggage. If a suspicious package is found, immediately notify the Airport Police.

BUILDING EXPLOSION - NORMAL HOURS

If an explosion occurs in an Airport building, employees shall report to the Building Maintenance lunchroom. The Maintenance Foreman shall remain in the Shop for communication purposes.

1. Notify the Construction and Maintenance Manager by phone.
2. Active/staff the JoAnne Conference Room or other designated media area.
3. Deliver a podium, a microphone, and two easels to the News Media Area. Place News Media Area signs on the easels outside of the conference room.
4. Set up tables, chairs and podium as shown on diagram depicted on page 325-62.
5. Ensure city water and fire line operation/isolation. Maintain air pressure to deluge valves. Water services shall only be isolated after receiving approval from an Airport Manager or the Airport Fire Officer in Charge.
6. Perform initial damage assessment of the area and report findings to Operations Center.
7. Prioritize and begin emergency repairs according to initial damage assessments.
8. Order portable toilets if necessary.
9. Deliver portable hand washing station if requested.
10. If massive debris removal is required, contact Airfield Maintenance for their Bob Cat and call snow contractor for their Bob Cat, and order construction-type trash dumpsters.

BUILDING MAINTENANCE

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BOMB INCIDENT PROCEDURES

BUILDING EXPLOSION: OTHER HOURS

The Shift Worker shall report to the damaged area and request the Operation Center to notify the Construction and Maintenance Manager and Maintenance Supervisor by pager or phone.

1. The Maintenance Supervisor shall begin calling additional personnel to report for work if necessary.
2. The Shift Worker shall ensure city water and fire line operation/isolation. Maintain air pressure to deluge valves. Water services will only be isolated after receiving approval from an Airport Manager or the Airport Fire Officer in Charge.
3. Upon arrival of Maintenance Supervisor, begin response for "Building Explosion - Normal Hours".

AIRCRAFT EXPLOSION

(See Aircraft Incident)

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7b. **Climate Control – Bomb Incident Procedures**

CLIMATE CONTROL
BOMB INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

BOMB THREAT

In the event of a Bomb Threat against Airport Buildings, on-duty employees shall check areas for suspicious packages, containers, or luggage. If a suspicious package is found, immediately notify the Airport Police.

BUILDING EXPLOSION: NORMAL WORKING HOURS

If an explosion occurs in an Airport building, all employees, except Watch personnel, shall report to the West Power Plant. An employee should be assigned to remain in the West Plant Engineer's office for communication purposes. Watch personnel shall continue their designated duties as usual.

1. Power Plant Watch Personnel shall secure plant equipment if necessary.
2. The Power Plant Manager or Supervisor shall coordinate activities.
3. Isolate natural gas mains for the Terminal buildings and concourses. Only restore natural gas service after receiving approval from an Airport Manager or the Airport Fire Officer in Charge. Explosive gas detection meter is available through the Airport Fire Department.
4. Perform initial damage assessment of all utility tunnels if accessible and safe.
5. Report perimeter damage evaluations to the appropriate departments.
6. Report all damage evaluations to the Operations Center.
7. Prioritize and begin emergency repairs according to initial damage assessment.
8. Rent portable heaters/ventilators/air conditioning units if required.

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CLIMATE CONTROL

BOMB INCIDENT PROCEDURES

BUILDING EXPLOSION: OTHER HOURS

The West Plant Shift Personnel shall contact the Power Plant Manager and Supervisors by pager or phone.

1. The West Plant personnel shall coordinate activities until the Power Plant Manager arrives.
2. The Power Plant Manager shall begin calling in additional personnel if necessary.
3. The West Plant and East Plant Stationary Engineers shall begin procedures for "Normal Working Hours".

AIRCRAFT EXPLOSION

(See Aircraft Incident)

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7c. Electric Shop – Bomb Incident Procedures

ELECTRIC SHOP

BOMB INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

BOMB THREAT

In the event of a Bomb Threat against Airport Buildings, on-duty employees shall check areas for suspicious packages, containers, or luggage. If a suspicious package is found, immediately notify the Airport Police.

BUILDING EXPLOSION: NORMAL WORKING HOURS

If an explosion occurs in an Airport building, employees shall report to the Electric Shop. An employee shall be assigned to remain in the Shop for communication purposes. The Electrical Supervisor or Foreman shall coordinate activities.

1. After receiving approval from an Airport Manager in Charge, disconnect main electrical feeders at both the East and West sub-stations.
2. Perform initial damage assessment of electrical systems and public paging systems in the terminal buildings and concourses. Reset/Silence faulty alarms.
3. Feeders on emergency power sources may have to be opened if hazardous conditions exist.
4. Report damage assessments to the Operations Center.
5. Before power is restored, obtain approval from an Airport Manager in Charge. Request assistance from the Fire Department to watch effected areas.
6. Prioritize repairs from damage assessments. Provide portable power and lighting; begin emergency repairs to restore power and public paging systems.

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ELECTRIC SHOP

BOMB INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

BUILDING EXPLOSION: OTHER HOURS

The Shift Worker should request the Operations Center to contact the Electrical Supervisor by pager.


1. The Shift Worker shall begin "Normal Working Hours" procedures and coordinate electrical-related activities until the Electrical Supervisor or Foreman arrives.
2. The Electrical Supervisor shall call in additional personnel if necessary.

AIRCRAFT EXPLOSION

(See Aircraft Incident)

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7d. Housekeeping – Bomb Incident Procedures

HOUSEKEEPING

BOMB INCIDENT PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

BOMB THREAT

In the event of a Bomb Threat against Airport Buildings, on-duty employees shall visually check areas for suspicious packages, containers, or luggage. If a suspicious package is found, immediately notify the Airport Police.

BUILDING EXPLOSION: NORMAL WORKING HOURS

All employees shall report to the Housekeeping lunchroom. The Housekeeping Manager shall coordinate activities.

1. Assist the Police Department with building evacuation and security.
2. Obtain debris removal requirements from other departments.
3. Begin debris removal as required.

BUILDING EXPLOSION: OTHER HOURS

The Shift Supervisor should contact the Housekeeping Manager.


1. The Housekeeping Manager shall call in additional personnel if necessary.
2. The Shift Supervisor shall begin procedures for "Normal Working Hours".

AIRCRAFT EXPLOSION PROCEDURES

(See Aircraft Incident)

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7e. Police Department – Bomb Threat/Aircraft Notifications

BOMB INCIDENT – AIRCRAFT

Date: _____

<i>Contact</i>	<i>Name</i>	<i>Time Notified</i>	<i>Time Arrived</i>	<i>Time All-Clear Notification</i>
WATCH COMMANDER/SUPERVISOR				
DISPATCH (OR CALL) ON-DUTY K-9 OFFICERS				
AFFECTED AIRLINE MANAGER ON DUTY				
COMMANDER K-9 DIVISION				
AIRPORT FIRE DEPARTMENT				
CHIEF OF POLICE				
DEPUTY CHIEF OF POLICE				
AIRPORT COMM CENTER				
TSA (314) 595-0434				
COMMANDER PATROL OPERATIONS				
COMMANDER SECURITY OPERATIONS				
COMMANDER BUREAU OF INVESTIGATIONS				
FBI				
COMMENTS:				

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7f. Police Department – Bomb Threat/Airport Notifications

BOMB INCIDENT – AIRCRAFT

Date: _____

<i>Contact</i>	<i>Name</i>	<i>Time Notified</i>	<i>Time Arrived</i>	<i>Time All-Clear Notification</i>
WATCH COMMANDER/SUPERVISOR				
DISPATCH (OR CALL) ON-DUTY K-9 OFFICERS				
AFFECTED AIRLINE MANAGER ON DUTY				
COMMANDER K-9 DIVISION				
AIRPORT FIRE DEPARTMENT				
CHIEF OF POLICE				
DEPUTY CHIEF OF POLICE				
AIRPORT COMM CENTER				
TSA (314) 595-0434				
COMMANDER PATROL OPERATIONS				
COMMANDER SECURITY OPERATIONS				
COMMANDER BUREAU OF INVESTIGATIONS				
FBI				
COMMENTS:				

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D. BIOLOGICAL/CHEMICAL TERRORISM

1. Past events that took place in New York City and Washington D.C. on September 11, 2001 opened our eyes to the fact that the United States is **not** immune from terrorist attacks or violence. Therefore, procedures have been established should any type of biological/chemical terrorist attack take place at the Lambert-St. Louis International Airport® by any of the four means described below. (Note: This section may also be cross referenced with the following hazard specific sections – Hazardous Material and Radiological Incident.)
 - a. Incident involving an isolated aircraft(s)
 - b. Incident involving an operational aircraft having exposure/access to the jetway, gate, concourse, and or terminal building
 - c. Incident involving the cargo hold area of an aircraft(s)
 - d. Incident involving the terminal building(s), concourse(s), gates(s), or jetway(s)
2. Emergency responders would assume the initial and primary responsibility of handling a suspected biological/chemical terrorism incident.
3. AIRPORT FIRE CHIEF
 - a. Respond to the scene with all appropriate personnel protective equipment, secure the area, and then ascertain the nature and severity of the threat.
 - b. Establish primary and secondary perimeters after a thorough search and assessment has been conducted.
 - c. In the event of a biological/chemical release, it may become necessary to secure and evaluate a large downwind area in order to prevent further potential civilian casualties.
3. AIRPORT POLICE DEPARTMENT
 - a. Respond to the scene with all appropriate personnel protective equipment, secure the area, then ascertain the nature and severity of the threat.
 - b. Establish primary and secondary perimeters after a thorough search and assessment has been conducted.
 - c. In the event of a biological/chemical release, it may become necessary to secure and evaluate a large downwind area in order to prevent further potential civilian casualties.
4. AIR TRAFFIC CONTROL TOWER (ATCT)
 - a. The ATCT shall assist with the emergency relocation of aircraft if necessary.
5. **SOPS & Checklists**
 - a. Building Maintenance Biohazard Response Procedures
 - b. Police Department - Response to Suspected Bioterrorism

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5a. Building Maintenance Biohazard Response Procedures

BUILDING MAINTENANCE

BIOHAZARD RESPONSE

COMMUNICATIONS: 800 MHz Radio Frequency

Request the Operations Center to contact the Fire Department. Describe the suspected biohazard, location, and anyone suspected of exposure.

1. Notify the Construction and Maintenance Manager and Department Supervisor.
2. Upon request of an Airport Manager, Fire Department or Airport Police shall barricade or isolate specified area.
3. Building Maintenance personnel shall deliver portable hand washing cart to location of incident if requested.

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5b. Police Department – Response to Suspected Bioterrorism

**RESPONSE TO SUSPECTED BIOTERRORISM
POLICE DEPARTMENT PROCEDURES**

1. AIRCRAFT ARRIVING AT THE GATE WITH SUSPECTED SUBSTANCE IN THE CABIN

- A. Notify Police and Fire Departments.
 - 1. APD will notify the on-call CID and TSA.
 - 2. CID will contact the FBI if deemed necessary.
- B. Do not connect the jetway or open the aircraft until instructed to do so by a firefighter.
- C. All individuals shall remain on the aircraft.
- D. All luggage shall remain on the aircraft.
- E. No air carrier personnel will be allowed on the aircraft until it has been cleared by the Fire Department, APD, and the FBI.
- F. Upon arrival of the Fire Department and Police Department:
 - 1. An Airport Police Officer will be stationed at the concourse door to insure that no one enters the jetway except the jetway operator.
 - 2. Firefighters will enter the aircraft to examine the suspected threat and interview appropriate personnel.
 - 3. The firefighters will then exit the aircraft and consult with the APD, CID, and the FBI.
 - 4. If the substance is determined to not be a credible threat, then the aircraft and personnel will be released to the air carrier.
 - 5. If the substance is viewed as a credible threat, all personnel will be isolated in a secure area, ramp level, and the St. Louis Fire Department Hazardous Material Team will be summoned to assume command of the incident. Note, CID will collect a sample of the suspected substance and turn it over to the FBI for analysis.

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- a. St. Louis County Health Department will be notified.
- b. If the air carrier needs assistance in relocating passengers and crew, the Airport Authority will provide busses and assist in finding a room – possibly one of the Federal Inspection Stations (FIS).

2. **AIRCRAFT AT THE GATE WHEN SUSPECTED SUBSTANCE IS DISCOVERED IN THE CABIN**

A. Notify Fire Department and APD.

1. APD will notify on call CID and TSA.
2. CID will contact the FBI if deemed necessary.

B. All personnel on the aircraft shall remain on the aircraft.

C. All luggage shall remain on the aircraft.

D. No additional personnel will enter the aircraft and the jetway will be cleared.

E. Upon approval of the Fire Department and the Police Department:

1. An Airport Police Officer will be stationed at the concourse door to ensure that no one enters the jetway except the jetway operator.
2. Firefighters will enter the aircraft to examine the suspected threat and interview appropriate personnel.
3. The firefighters will then exit the aircraft and consult with the APD, CID, and the FBI.
4. If the substance is determined to not be a credible threat, the aircraft and personnel will be released to the air carrier.
5. If the substance is viewed as a credible threat, all personnel will be isolated in a secure area, ramp level, and the St. Louis Fire Department Hazardous Material Team will be summoned to assume command of the incident. Note, CID will collect a sample of the suspected substance and turn it over to the FBI for analysis.
 - a. St. Louis County Health Department will be notified.
 - b. If the air carrier needs assistance in relocating passengers and crew, the Airport Authority will provide busses and assist in finding a room, possibly one of the Federal Inspection Stations (FIS).

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3. **FOREIGN SUBSTANCE IN THE CARGO HOLD OF THE AIRCRAFT**

Unless information has been received indicating that the substance might be a credible threat, normal air carrier procedures will be followed to include a hazardous materials response – if deemed appropriate.

4. **SUSPICIOUS SUBSTANCE FOUND IN OR AROUND AIRPORT BUILDINGS**

A. If no threat has been received and the substance is not in a container that contains a threat or anti-American statements, the substance will not be considered a credible threat.

B. If a threat has been received, or the substance is in a contained that contains a threat or anti-American statements, procedures for a substance in an aircraft will be followed.

1. Climate Control will be notified to turn off the HVAC system to the affected area.

Additional police actions that are to be taken during all four scenarios noted above are:

A. Secure and isolate the area(s).

B. Preserve any evidence.

C. The Uniformed Officer assigned to the call shall document all actions.

E. COMMUNICABLE DISEASES/ILLNESSES

This plan contains provisions regarding point of entry control, activities, and measures to provide adequate protection to airport responders, and the traveling public, in the event that a source of infectious illness is discovered or reported at the airport. The purpose of this response plan is to provide general guidance to first responders in order to identify a threat to public safety, and to reduce or limit the potential of exposure to communicable diseases or illnesses, meeting the federal requirements for isolation and/or quarantine. Current (at the time of the incident) Centers for Disease Control and Prevention (CDC) guidelines shall be followed. It should be noted that if the flight is an international flight, the U.S. Customs and Immigration Services shall have jurisdiction over the emergency response agencies.

1. INCIDENT INVOLVING A PASSENGER, PASSENGERS and FLIGHT CREW MEMBER OR MEMBERS ABOARD AN ARRIVING OR DEPARTING AIRCRAFT

a. Aircraft Rescue and Fire Fighting (ARFF)

- 1) Respond to the scene with all appropriate personnel to ascertain the nature, severity, and possible communicability of the illness. Conduct patient assessment using Airborne Infectious Disease Surveillance Checklist/Form, as appropriate.
- 2) Establish appropriate isolation procedures to prevent potential exposure to civilians and airport personnel.
- 3) Contact the Operations Center if a positive response is recorded on Airborne Infectious Disease Surveillance Checklist/Form.

b. Airport Police Department

- 1) Respond to the scene with all appropriate personnel to ascertain the resources needed to establish a primary, and if necessary, a secondary perimeter to secure the egress/ingress of persons located within and outside of the isolation area.

c. Emergency Medical Services (EMS)

- 1) If EMS is the first on the scene, ascertain the nature, severity, and possible communicability of the illness. Conduct patient assessment using Airborne Infectious Disease Surveillance Checklist/Form, as appropriate.
- 2) Contact the ARFF and Airport Police Department if an isolation response is required.
- 3) Commence appropriate treatment of the infected individual or individuals.
- 4) Transport individual or individuals to the appropriate medical treatment facility. Movement shall be accomplished with minimal contact with other personnel or the public.
- 5) Contact the Operations Center if a positive response is recorded on the Airborne Infectious Disease Surveillance Checklist/Form.

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d. Operations Center

- 1) Monitor all response activities.
- 2) Provide communications, escort, and coordination services as needed.
- 3) Ensure that requested resources are provided in an expedited manner.
- 4) Activate and initiate appropriate portions of the Airport Emergency Plan (AEP), as warranted.
- 5) Contact both St. Louis County and St. Louis City Health Departments if a positive response is recorded on the Airborne Infectious Disease Surveillance Checklist/Form.

e. Air Traffic Control Tower (ATCT)

- 1) After the aircraft has landed, assist in establishing communications between the flight crew and the ARFF, using the Discreet Emergency Coordination Frequency (DECF) to determine if the aircraft should be held off-gate.
- 2) Provide the necessary instructions to the flight crew to locate the aircraft in an isolated area, if needed. Isolation area shall be coordinated with the Operations Center. The area shall be determined based upon availability of aircraft parking space, ease of access by emergency responders, and impact to air traffic.

f. Local Public Health Agency

- 1) Upon receipt of a request for assistance, St. Louis City may send a response team to the Airport Authority Administrative Office, or Airport Police Department, during non-business hours, to receive instructions, information, and/or obtain an escort, as appropriate.
- 2) Shall provide public health and safety guidance to emergency responders to minimize contamination risks.
- 3) Shall obtain the passenger manifest.
- 4) Shall conduct patient interviews as appropriate.
- 5) Shall notify the home public health agency of the patient, and the home public health agency of the contacts, as appropriate.
- 6) Shall handle all news media inquiries concerning public health issues only.

g. Airline

- 1) Shall provide immediate notification to both the ATCT and the airport, via established procedures, to initiate a medical response. The airline may make notification via telephone or radio depending on the local station operation.
- 2) Shall provide aircraft ground handling equipment and services, as necessary.

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2. INCIDENT INVOLVING A PERSON OR PERSONS LOCATED IN THE PUBLIC ACCESS AREAS OF THE TERMINAL FACILITIES

a. Aircraft Rescue and Fire Fighting (ARFF)

- 1) Respond to the scene with all appropriate personnel to ascertain the nature, severity and possible communicability of the illness. Conduct patient assessment using the Airborne Infectious Disease Surveillance Checklist/Form, as appropriate.
- 2) Establish appropriate isolation procedures to prevent potential exposure to civilians and airport personnel.
- 3) Contact the Operations Center if a positive response is recorded on Airborne Infectious Disease Surveillance Checklist/Form.

b. Airport Police Department

- 1) Respond to the scene with all appropriate personnel to ascertain the resources needed to establish a primary, and if necessary, a secondary perimeter to secure the egress/ingress of persons located within and outside of the isolation area.

c. Emergency Medical Services (EMS)

- 1) If EMS is the first on the scene, ascertain the nature, severity, and possible communicability of the illness. Conduct patient assessment using Airborne Infectious Disease Surveillance Checklist/Form as appropriate.
- 2) Contact the ARFF and Airport Police Department if an isolation response is required.
- 3) Commence appropriate treatment of the infected individual or individuals.
- 4) Transport individual or individuals to the appropriate medical treatment facility. Movement shall be accomplished with minimal contact with other personnel or the public.
- 5) Contact the Operations Center if a positive response is recorded on Airborne Infectious Disease Surveillance Checklist/Form.


d. Operations Center

- 1) Monitor all response activities.
- 2) Provide communications, escort, and coordination services as needed.
- 3) Ensure that requested resources are provided in an expedited manner.
- 4) Activate and initiate appropriate portions of the Airport Emergency Plan (AEP), as warranted.
- 5) Contact both St. Louis County and St. Louis City Health Departments if a positive response is recorded on the Airborne Infectious Disease Surveillance Checklist/Form.

e. Local Public Health Agency

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- 1) Upon receipt of a request for assistance, St. Louis City may send a response team to the Airport Authority Administrative Office, or the Airport Police Department, during non-business hours, to receive instructions, information, and/or obtain an escort, as appropriate.
- 2) Shall provide public health and safety guidance to emergency responders to minimize contamination risks.
- 3) Shall conduct patient interviews as appropriate.
- 4) Shall notify the home public health agency of the patient, and the home public health agency of the contacts, as appropriate.
- 5) Shall handle all news media inquiries concerning public health issues only.

3. INCIDENT INVOLVING A PERSON OR PERSONS LOCATED IN THE NON-PUBLIC, SECURE ACCESS AREAS OF THE AIRPORT

a. Aircraft Rescue and Fire Fighting (ARFF)

- 1) Respond to the scene with all appropriate personnel to ascertain the nature, severity, and possible communicability of the illness. Conduct patient assessment using Airborne Infectious Disease Surveillance Checklist/Form, as appropriate.
- 2) Establish appropriate isolation procedures to prevent potential exposure to civilians and airport personnel.
- 3) Contact the Operations Center if a positive response is recorded on the Airborne Infectious Disease Surveillance Checklist/Form.

b. Airport Police Department

- 1) Respond to the scene with all appropriate personnel to ascertain the resources needed to establish a primary, and if necessary, a secondary perimeter to secure the egress/ingress of persons located within and outside of the isolation area.

c. Emergency Medical Services (EMS)

- 1) If EMS is the first on the scene, ascertain the nature, severity, and possible communicability of the illness. Conduct patient assessment using Airborne Infectious Disease Surveillance Checklist/Form, as appropriate.
- 2) Contact the ARFF and Airport Police Department if an isolation response is required.
- 3) Commence appropriate treatment of the infected individual or individuals.
- 4) Transport individual or individuals to the appropriate medical treatment facility. Movement shall be accomplished with minimal contact with other personnel or the public.
- 5) Contact the Operations Center if a positive response is recorded on the Airborne Infectious Disease Surveillance Checklist/Form.

d. Operations Center

- 1) Monitor all response activities.

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- 2) Provide communications and coordination services as needed.
- 3) Ensure that requested resources are provided in an expedited manner.
- 4) Activate and initiate appropriate portions of the Airport Emergency Plan (AEP), as warranted.
- 5) Contact both St. Louis County and St. Louis City Health Departments if a positive response is recorded on the Airborne Infectious Disease Surveillance Checklist/Form.

e. Local Public Health Agency


- 1) Upon receipt of a request for assistance, St. Louis City may send a response team to the Airport Authority Administrative Office, or the Airport Police Department, during non- business hours, to receive instructions, information, and/or obtain an escort, as appropriate.
- 2) Shall provide public health and safety guidance to emergency responders to minimize contamination risks.
- 3) Shall obtain the passenger manifest.
- 4) Shall conduct patient interviews as appropriate.
- 5) Shall notify the home public health agency of the patient, and the home public health agency of the contacts, as appropriate.
- 6) Shall handle all news media inquiries concerning public health issues only.

f. Company/Employer

- 1) Shall provide information to the emergency responders, and/or local public health agency, to assist in a determination if the infected individual or individuals came in contact with others.
- 2) Shall provide contact information to the appropriate emergency responders and local public health agency for the infected individual or individuals upon request.

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4. NOTIFICATION FLOW CHART

INBOUND FLIGHT

PASSENGER WITH POTENTIALLY INFECTIOUS DISEASE

Airline crew places mask on passenger

Airline crew **notifies** Pilot

Pilot **notifies** ATCT

ATCT simultaneously **notifies** ARFF, Airport Police Department, & Operations Center

Airport Police Department **notifies** EMS

PLANE LANDS

Airport Police Department/ARFF and maybe EMS shall be present

Paramedic boards plane and assesses patient checklist

If necessary, patient transported to DePaul Hospital
(may be another hospital at patient's request)


IF INFECTIOUS DISEASE SUSPECTED

Airport Police Department **notifies** County and City Health Departments

Appropriate public health agencies shall verify the diagnosis with the hospital(s) and provide a public health response for disease control and prevention. I.E. contacts first responders, active surveillance or prophylaxis of other passengers and crew

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5. AIRBOURNE INFECTIOUS DISEASE SURVEILLANCE FORM

AIRBOURNE INFECTIOUS DISEASE SURVEILLANCE FORM

Complete this form for every patient with FEVER
AND/OR
Any patient that has signs/symptoms of infectious disease

Patient's Name _____ Date _____

Airline _____ Flight No. _____ Seat No. _____

Responder's Name _____ EMS Trip No. _____

1.	Does the patient have fever (>38 degrees C, > 100.4F)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2A.	Does the patient have respiratory complaints (cough, sore throat, shortness of breath, dyspnea, or current pneumonia/Adult Respiratory Distress Syndrome)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2B.	Is the patient's pulse oximetry reading <94% while on room air?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3.	Travel to areas that have had an outbreak of the flu within 10 days preceding symptoms onset? OR Close contact with a person meeting criteria 1, 2A, 2B, and 3 within 10 days preceding symptom onset?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

If the answer to questions 1, 2A, 2B, and 3 are all YES, then request the Operations Center (426-8040) to notify the St. Louis City & County Health Departments.

4.	Any hemorrhage from eyes, nose, or mouth with FEVER?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5.	Any rash?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
6.	Any coughing that produces blood?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

If the answer to ANY of the questions 4-6 is YES, then request that Operations Center (426-8040) to notify the St. Louis City & County Health Departments.

Remember to wear PERSONNEL PROTECTIVE EQUIPMENT (gloves, eye protection, N-95 mask, gown, and shoe covers) for all patients exhibiting signs/symptoms of an infectious disease.

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M. M. Miller

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F. CROWD CONTROL

1. The Airport Police Chief, or his designee, shall have the responsibility to implement such measures as necessary to ensure adequate crowd control procedures in the event of an aircraft disaster at Lambert Airport. Airport Police personnel shall be the primary enforcement agency used for crowd control, but additional assistance may be requested from local and state police as well as military personnel.
2. The Airport Police Chief may direct physical barriers to be erected in order to define a perimeter around a disaster area. Airfield Maintenance has the necessary barricades and stanchions to erect such perimeters and shall do so when directed. Only authorized persons responding to the rescue effort shall be allowed in to this perimeter and any unauthorized persons found inside the perimeter shall be escorted outside the perimeter.
3. The Airport Police Chief may also direct Airport Police personnel to cordon off the area inside the terminal buildings where the uninjured, relatives, airline personnel, and Airport Authority personnel are congregating.
4. In the event of a disaster, the Airport Police Chief shall also ensure security personnel at the two manned checkpoints allow no vehicles or personnel through the checkpoints without proper airport identification or the approval of the Director of Airports or his designee.
5. Vehicular traffic on the roadways surrounding the airport will be kept moving and all attempts will be made to keep roadways open to facilitate the movement of rescue vehicles and personnel. It is expected that units of the Missouri State Highway Patrol and units from the Airport's surrounding communities will be utilized for this function.
6. **SOPS & Checklists**
 - a. Reference pages 325-35 and 325-36.

G. EARTHQUAKE (STRUCTURAL DISASTERS)

1. An earthquake is a sudden, violent shaking or movement of part of the earth's surface caused by the abrupt displacement of rock masses. Earthquakes normally occur with no warning. While some have been predicted, there is no reliable warning system. Additional consequences of an earthquake may include fire, hazardous materials release, and landslides. Consideration must be given to relocating people from damaged structures, particularly those facilities which may have more damage when hit by subsequent aftershocks.

A major earthquake is the most devastating of the potential structural disasters threatening the Airport. Accordingly, the following assumptions are provided for in the Earthquake Planning Scenario:

The earthquake's magnitude would be equivalent to 8.3 on the Richter Scale, would last from 30 to 50 seconds, would have approximately an 18 ft. displacement, would have aftershocks of 6 to 7 on the Richter Scale, and would cause severe disruption for the first 72 hours.

2. Lambert-St. Louis International Airport® is located in an area that could expect an extremely strong shock with partial/total destruction of some buildings. A Seismic Evaluation of Facilities at Lambert Airport was conducted in 1998 and the following structures were evaluated:

- (1) Domed Terminal 1 Building
- (2) Terminal 1 Expansion Building
- (3) Baggage Claim and Deplaning Roadway Bridge
- (4) Terminal 2 Connector
- (5) West Terminal Connector
- (6) Arriving Flights and Enplaning Roadway and Bridges
- (7) Parking Garage
- (8) Concourses A, B and C
- (9) Concourse D and Old Terminal 2
- (10) Cooling Tower at Concourse D
- (11) West Boiler and Shops Building
- (12) Emergency Supplies Building
- (13) North ARFF Facility
- (14) Runways/Taxiways


Structures constructed after the 1998 Seismic Evaluation were designed and constructed to current seismic standards. This includes Terminal 2, Lindbergh Tunnel, the West Fire House, and Runway 11-29.

a. Results of Analysis:

- 1) Both the steel-framed buildings and the concrete buildings could suffer extensive damage under the design level earthquake loads. Terminal 1 may

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suffer extensive damage and possible collapse due to column failure. Concourses A, B, and the west portion of C may be closed for repairs. It should be noted that the Operations Center is in Concourse B.

- 2) Hard line telephone may be interrupted. Mobile radio shall be operational but will be limited to battery charge life (4-12 hours).
- 3) Cellular telephone may be interrupted due to excessive use and possibly system damage.
- 4) Natural gas lines may break and may be the cause of immediate gas fires.
- 5) Public water delivery lines may have numerous breaks. Lambert Airport may not have water supply for several days.
- 6) People may be trapped and require heavy rescue operations.
- 7) All buildings and facilities will need to be inspected by qualified engineers to certify occupancy. Buildings and facilities will need to be rechecked after major aftershocks. Lambert's engineering staff should continue to maintain certification to serve as inspectors under such emergency orders.
- 8) Critical lifeline facilities will need to be inspected for hazards, leaks, and unsafe conditions.
- 9) Lambert's staff may be unable to reach the site in time to relieve the on-duty shift due to the proximity of the St. Louis City limits to the airport and the expected conditions of major roadways and interchanges.

Runways and Taxiways:

- 1) Typically, the damage to runways, taxiways and aprons is a direct function of the strength characteristics of the underlying soils. In general, runways can be damaged by liquefaction, compaction, faulting, and flooding. Damage may include misalignment, uplift cracking, or buckling of pavement. Prior experience indicates that the greatest damage to pavements is usually caused by liquefaction. In the absence of liquefaction, pavement damage is generally small.
- 2) Based on evaluation of geologic and seismic features that may cause damage at this site, major damage is not anticipated to occur to these pavements because liquefaction is not likely. Consequently, the type of damage judged likely will probably consist of cracking of the pavements due to minor differential settlement in the areas with highly saturated clay soil conditions, predominantly in areas adjacent to Coldwater Creek.

Structures 1 through 7 and 11:

Concrete structures with insufficient reinforcement - significant damage.


Structures 8 through 10, 12, and 13:

Steel construction is adequate to resist the code specified seismic forces, however the expansion joints are inadequate for the seismic movements.

Structure 14:

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Steel and concrete construction is able to resist the code specified seismic forces with cracking in concrete and masonry walls.

Runways and Taxiways:

- 1) Soil samples not available but samples from area indicate liquefaction may cause damage in the form of joint distress.
- 2) Because of expected damage to runways and land access routes, the Airport would probably be closed for at least 72 hours and would be unavailable for major airborne relief operations. In the event of a high magnitude earthquake, it is expected that sustained runway damage will cause considerable surface joint damage.

Earthquake damage to airports can be divided into:

- 1) Damage to runways and taxiways;
- 2) Damage to buildings and structures.

Damage to structures, in turn, can be subdivided into:

- 1) Damage to structures vital to the operational aspects such as control towers, fuel tanks and similar features and;
- 2) Damage to the less important service structures. While detailed information was obtained on the construction of a large number of Airport buildings, and it is reasonable to expect serious structural damage to some of the buildings, the emphasis is on the **damage to runways and taxiways**. In other words, we are relying on the ability of the Airport to remain functional after a disaster despite inconveniences and trusting to the leadership abilities of ATCT management to find alternative and non-standard methods of communication.

3. Although earthquake oriented, the provisions of this hazard specific section/plan apply to any major natural or man-made disaster affecting Airport Structures. This plan is activated when a natural disaster occurs and results in significant damage and injuries at the airport. This situation requires airport emergency responders, employees, and tenants to cease normal, daily operations and focus on response and recovery. The Emergency Operations Center (EOC) would be activated at the direction of the Director of Airports, or a duly authorized representative, whenever an emergency is deemed in effect.
4. The following priorities are adopted:
 - a. Life Saving
 - b. First Aid
 - c. Fire Fighting
 - d. Search and Rescue
 - e. Hazard Reduction
 - f. Damage Assessment

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- g. Resource Inventory
- h. Evacuation

All agencies, City and County, tenants and airlines, should take whatever steps necessary to save lives and prevent damage to the immediate area. Once this has been accomplished, they should report damage and injuries as well as available resources to the Airport's EOC. Where possible, this should include an accounting of all personnel known to be on duty.

After an earthquake, the Airport is expected to be isolated and self-sufficient for up to 72 hours, only those resources that are on-Airport at the time of the incident are expected to be available.

Organizations and agencies involved are required to maintain individual accounting records in sufficient detail to document subsequent requests for reimbursement.

5. Communications

- a. In the event of an earthquake, the Airport Emergency Operations Center (EOC) shall be dispatched and shall act as a Mobile Communication Post. This vehicle is equipped with communications equipment.
- b. In the event of a disaster, telephone lines for emergency services should be restored first to ensure that emergency calls can be received, as well as dispatched. The order of repair should be as follows:
 - 1) Operations Center, Police and Fire
 - 2) Director and Administrative Office (includes all other STLAA on Terminal 1 switch)
 - 3) Airfield Maintenance, Fleet Maintenance and Materials Management.
 - 4) Airport Office Building, Trademart and Airport Paging.
- c. It may be necessary for Airport Authority departments as well as the airlines to use runners to augment communication shortfalls.

6. Coordination

a. Terminal Coordinating Points (TCP's)


Terminal Coordinating Points (TCP's) are the backbone of the Airport's emergency response program. They are designed to provide a focal point for the coordination of intra-terminal emergency response activities. TCP's are located at each Concourse checkpoint.

Terminal Coordinating Points (TCP's) Airline Sponsors:

- a. Concourse A: Delta/Northwest

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- b. Concourse C/D: American
- c. Terminal 2: Southwest
- d. International: U.S. Customs

Under direction of the sponsoring airline, the intra-terminal shortfalls are balanced against resources reported within the terminal. Remaining shortfalls, as well as excess resources, shall be reported by TCP sponsors to the Airport Emergency Operations Center (EOC) upon request by the Airport Command and/or Operations Center. The EOC shall resolve issues on an inter-terminal basis. In addition to allocating inter-terminal airline resources reported by the TCP's, the EOC shall deploy Airport assets and, if available, any assistance received from off the Airport.

The Terminal Coordinating Point (TCP) and the Emergency Operations Center (EOC) shall document all requests for support, response provided and resources used.

b. Terminal Coordinating Point Airline Representative:

Each airline is responsible for providing a representative to their concourse TCP to relay requirements and report available assets to the TCP sponsor. This representative is the TCP's conduit back and forth to the airline. The representative should keep track of both extra airline resources as well as the outstanding requirements of the airline. If either the TCP sponsor or the airline staff need to relay information to each other, it shall be through this TCP representative.

c. Airport Rescue and Fire Fighting (ARFF)

1) The Fire Chief or other designated alternate shall report to the Emergency Operations Center (EOC) and assume Incident Command authority, and direct response and recovery management (e.g. requesting fire fighting mutual aid). All other Fire personnel and units perform the following:

- a) Fire suppression
- b) Search and rescue
- c) Establish alternate water supplies for fire fighting

2) First aid and advanced medical support. The airport must be prepared to manage with no or few from City and/or County Emergency Services (EMS) mutual aid responders during the first phases of response. In addition to the members of ARFF who are medically trained, Lambert Airport maintains a contractual agreement with at least one Paramedic and one EMT on duty and on call 24 hours a day, year round.

2) Inspect and evaluate water, gas, and drainage systems as required.

d. Air Traffic Control Tower

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- 1) Temporarily cease flight operations and contact Airport Operations Center to inspect runways and taxiways. The airfield surfaces remain closed until determined to be safe.
- 2) Evacuate the Air Traffic Control Tower if severely damaged. If the Airport Operations Center is unavailable, shall utilize a FAA tech vehicle for mobile tower operations.

e. Airlines

- 1) Activate Terminal Coordinating Points (TCP's), Terminal Coordinating Point Airline Sponsors, and Terminal Coordinating Point Airline Representatives.
- 2) Activate their internal emergency plans.
- 3) Responsible for an estimate of their situation to include a rapid evaluation of damage to their facilities and an approximation of their available resources; this estimate should include the condition of all leased areas. At a minimum, reports should be received over the airline's radio system from Ramp, Gate, Counter, and Baggage Make-Up are as; they should be rendered to an airline focal point, such as the Airline Manager on Duty (AMOD). Once reports have been consolidated and responded to within the airline's own capability, the results of these estimates shall be transmitted by airline radio net to the airlines representative at a Terminal Coordinating Point (TCP); these representatives relay information to a TCP sponsor. Such information shall be requested by the Airport Emergency Operations Center (EOC) and/or the Operations Center.

f. Airport Operations Center

- 1) Coordinate with the Air Traffic Control Tower to ensure that all airfield surfaces are temporarily closed and operations suspended until damage inspections are completed.
- 2) Issue Airport Condition Reports as necessary and as directed.
- 3) Evacuate the Operations Center if severely damaged. Notify Airfield Maintenance to stage the Mobile Emergency Operations Center (EOC) near gate B-3 within easy access to continue operations.
- 4) Make notifications to appropriate Airport Authority personnel and keep them updated.
- 5) Issue evacuation notices as directed by the Airport Fire Chief, the Director of Airports, or their representatives.

g. Airport Police Department

- 1) Assist with and control terminal and other facility evacuations and passenger containment if evacuation onto the Air Operations Area (AOA) has occurred.
- 2) Control traffic to assist with emergency response vehicle movement.
- 3) Survey and report status of roadways (ingress, egress, and on-airport). Structural damage to ingress and egress roadways (e.g. freeway ramps) will severely limit vehicle movement into or out of the airport.

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- 4) Perform law enforcement duties in occupied terminal areas and prohibit public entry to unsafe areas.
- 5) Locate, evaluate, and report high risk hazards (e.g., fires, gas leaks, toxic fumes, and structural damage).

h. Public Relations

- 1) Activate/staff the JoAnne Wayne Conference Room or other designated media area.
- 2) Prepare press releases and help coordinate any news interviews that may be required.
- 3) Coordinate all airport news releases with the Incident Commander.
- 4) Coordinate and work with all news media personnel.

i. Information Technology


- 1) Ensure airport radio communications are properly functioning.
- 2) Ensure all data and voice communications systems are properly functioning.
- 3) Assess outages and coordinate restoration of critical services.

j. Environmental/Health and Safety

- 1) The Environmental Staff will immediately begin inspecting all areas of the Airport for releases of hazardous or toxic materials caused by the event. The Operations Center and the EOC will report any possible releases to the Environmental/Health and Safety Manager.
 - a) Priority areas to be inspected will include fueling and fuel storage areas operated by Allied, Signature, ATS, Boeing, Airport Fleet Maintenance, Central Parking, as well as de-icer storage and recovery tanks belonging to the Airport and the airlines.
 - b) If large, uncontained releases are found, assistance and equipment will be obtained from Airfield Maintenance to contain the releases.
 - c) Building Maintenance and Housekeeping will assist in cleaning up small releases. Spill areas will be barricaded or taped off. The Environmental Staff will report any releases to the appropriate regulatory agencies.
 - d) Additional assistance will be requested from the tenants or other parties who own and operate the structures on the Airport owned property.
- 2) Provide resource information regarding safety equipment, environmental activities, and Hazardous Material (HAZMAT) cleanup.
- 3) Environmental/Health and Safety staff will convey Personal Protective Equipment (PPE) to the Maintenance Department assembly areas for immediate use by Airport Maintenance Workers. Maintenance Department assembly areas shall be determined by the Incident Commander. Equipment shall include gloves, hardhats, dust masks, particulate respirators, safety glasses and goggles, flashlights and batteries, first aid supplies, and eyewash refills. Health and Safety staff will monitor Airport workers and their efforts for health and safety concerns.

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4) Four-Gas Detection Meters, which include explosive gas sensors, are available for use through the Airport Operations Center and the Airport Fire Department.

k. Materials Management Department

The primary responsibility is to secure Airport Authority assets and obtain/distribute assets to rescue/maintenance personnel.

i. Tenants

Airport tenants may provide assistance on a voluntary basis.

m. Specific Natural Disaster Response Procedures/SOP's regarding the Airport Authority Building Maintenance, Climate Control, Electric Shop, and Housekeeping Departments are attached to the end of this hazard specific section.

7. EVACUATION

Evacuation immediately following initial earthquake shocks is expected to be haphazard and virtually uncontrolled. However, once initial command and control is established (i.e., EOC activated and operational), then systematic evacuation of damaged areas occurs.

a. Terminal Exits are:

1) Terminal 1, Upper Level:

- a) Entrees, 2, 3, 4, 5, 6.
- b) Entry 1 to Metro Link platform may have problems.
- c) Down to Lower Level.

2). Terminal 1, Lower Level:

- a) Exits, 11, 17, 18
- b) Exits, 12, 14, 15, 16 to the parking garage may have problems.

3). Terminal 2, Upper Level:

- a) Entrees, 1, 2, 3.
- b) Down to Lower Level.

4). Terminal 2, Lower Level:


- a) Exits, 10, 11, 12, 14, 16

b. On all passenger level concourses emergency exits are clearly identified as bright orange doors and/or signed as Emergency Exit. These doors lead to stairwells that discharge directly onto the airline ramp.

c. Once outside resources become available, sites shall be identified as assembly areas for off-airport evacuation. Airport buses shall be used for transport. Priorities of injured evacuation shall be established by the Airport Medical Director or the ranking EMS Officer on duty.

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8. SOPS & Checklists

- a. Building Maintenance – Natural Disaster Response
- b. Climate Control – Natural Disaster Response
- c. Electric Shop – Natural Disaster Response
- d. Housekeeping – Natural Disaster Response
- e. Police Department – Earthquake Emergency Notifications
- f. Reference pages 325-35 and 325-36.

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Date: JUN 26 2014

8a. Building Maintenance – Natural Disaster Response

BUILDING MAINTENANCE

NATURAL DISASTER RESPONSE

COMMUNICATIONS: 800 MHz Radio Frequency

- NOTES:
- 1) Portable generator may be required for charging radio batteries.
 - 2) Work in pairs.
 - 3) Wear hard hat and vest.
 - 4) Have flashlight and radio.

NORMAL WORKING HOURS

All employees shall report to the Building Maintenance lunchroom; if inaccessible, then report to the nearest accessible work place.

1. The Supervisor or Foreman will coordinate activities.
2. Ensure city water and fire line operation/isolation. Maintain air pressure to deluge fire valves. Water services shall only be isolated after receiving approval from Airport Manager or the Airport Fire Officer in Charge.
3. Make an initial damage assessment of all levels of Terminal 1 and Terminal 2, concourse and apron levels of the concourses.
4. Set up the News Media Center in the JoAnne Wayne Conference Room between Terminal 1, exit 17 and 18 if requested (see location map on page 325-62). Barricades and signs are located in the custodial storage room near the News Media Area.
5. Deliver a podium, a microphone, and two easels to the News Media Area. Place News Media Area signs on the easels outside of the conference room.
6. Deliver tables and chairs as directed.
7. Obtain perimeter damage reports from Climate Control Section and other departments.
8. Report all damage assessments to the Operations Center.
9. Prioritize and begin emergency repairs according to initial damage assessments.
10. Order portable toilets if restrooms are out of service.

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11. If massive debris removal is required, contact Airfield Maintenance for their Bob Cat, and call snow contractor for their Bob Cat for building interior and exterior clean up. Order construction type trash dumpsters.

BUILDING MAINTENANCE

NATURAL DISASTER REPOSE

OTHER HOURS

The Shift Worker shall report to the damaged area and request the Operations Center to notify the Building Maintenance Manager and Maintenance Supervisor by phone or pager.

1. Maintenance Supervisor shall call in additional personnel to report for work if necessary.
2. Upon arrival of Maintenance Supervisor or Foreman, begin "Normal Working Hours" response.
3. If normal communication is interrupted, off duty personnel shall listen to Radio Station KMOX, 1120 AM for instructions.

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Date: JUN 26 2014

8b. **Climate Control – Natural Disaster Response**

CLIMATE CONTROL

NATURAL DISASTER RESPONSE

COMMUNICATIONS: 800 MHz Radio Frequency

- NOTES:
- 1) Portable generator may be required for charging radio batteries.
 - 2) Work in pairs.
 - 3) Wear hard hat and vest.
 - 4) Have flashlight and radio.

NORMAL WORKING HOURS

All employees shall report to their normal work place; if inaccessible, then report to the nearest accessible work place.

1. The Power Plant Manager or Supervisors will coordinate activities.
2. Isolate natural gas mains for the Terminal buildings and concourses. Only restore natural gas service after receiving approval from an Airport Manager or the Airport Fire Officer in Charge. An explosive gas detection meter is available through the Airport Fire Department or Power Plant Manager.
3. Secure Power Plant equipment if required.
4. Isolate natural gas services if necessary. Perform initial damage assessment of perimeter buildings, including structural and other utilities in the following order:
 1. North Fire House
 2. Emergency Supplies Building
 3. West Fire House
 4. Airfield Maintenance/Fleet Maint.
 5. Storeroom (Central Store)
 6. Cargo City
 7. East/West Triturator
 8. K9 Trailer – 11935 Nat'l Bridge
 9. Lindbergh Tunnel
 10. Trademart – Navaid Rd.
 11. Central Parking – West & East
 12. Airport Office Building
 13. Terminal 2 Systems
 14. "A" Concourse Main Gas (West)
 15. Host Main at West Plant
 16. C & D Checkpoints
Food Court located roadside
D Concourse at ramp arriving flights
 17. CNG Stations at Airfield Maint., and Cypress lot
 18. Bldg. #41 and Bldg. #42
5. Perform initial damage assessment of all utility tunnels if accessible and safe.
6. Report perimeter damage assessments to the appropriate departments.
7. Report all damage assessments to the Operations Center.

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8. Prioritize and begin emergency repairs according to initial damage assessment.
9. Rent portable heaters/ventilators/air-conditioning units if required.

CLIMATE CONTROL

NATURAL DISASTER RESPONSE

OTHER HOURS

The West Plant shift personnel shall contact the Power Plant Manager and Supervisors by pager.

1. The West Plant personnel shall coordinate activities until the Power Plant Manager or Supervisors arrive.
2. The Power Plant Manager shall begin calling in additional personnel if necessary.
3. The West Plant and East Plant Stationary Engineers shall begin procedures to return to "Normal Working Hours".
4. If normal communication is interrupted, off duty personnel shall listen to Radio Station KMOX, 1120 AM for instructions.

8c. Electric Shop – Natural Disaster Response

ELECTRIC SHOP

NATURAL DISASTER RESPONSE

COMMUNICATIONS: 800 MHz Radio Frequency

- NOTES: 1) Portable generator may be required for charging radio batteries.
2) Work in pairs.
3) Wear hard hat and vest.
4) Have flashlight and radio.

NORMAL WORKING HOURS

The Electrical Supervisor or Foreman shall coordinate activities.

1. All employees shall report to the Electric Shop; if inaccessible, then report to the nearest accessible workplace.
2. After receiving approval from an Airport Officer in Charge, disconnect main electrical feeders at both the East and West sub-stations.
3. Perform initial damage assessment of electrical systems and public paging systems in the Terminal buildings and concourses. Reset/Silence faulty alarms.
4. Perform initial damage assessment of airfield electrical system.
5. Feeders on emergency power sources may have to be opened if hazardous conditions exist.
6. Obtain perimeter electrical damage evaluations from the Climate Control Section and other departments.
7. Report damage evaluations to the Operations Center.
8. Before power is restored, obtain approval from an Airport Manager. Request assistance from the Fire Department to watch effected areas.
9. Prioritize emergency repairs according to damage assessments. Provide portable power and lighting, begin emergency repairs to restore power and to restore public paging system.
10. Check emergency generators for operation (call Contractor).

ELECTRIC SHOP

NATURAL DISASTER RESPONSE

OTHER HOURS

The Shift Worker shall request the Operations Center to contact Electrical Supervisor by pager or phone.

1. The Shift Worker shall begin "Normal Working Hour" procedures and coordinate electrical related activities until the Electrical Supervisor or Foreman arrives.
2. The Electrical Supervisor shall call in additional personnel if necessary.
3. If normal communications are interrupted, off-duty personnel shall monitor radio station KMOX, 1120 AM for instructions.

8d. Housekeeping – Natural Disaster Response

HOUSEKEEPING

NATURAL DISASTER RESPONSE

COMMUNICATIONS: 800 MHz Radio Frequency

Note: 1) Portable generator may be required for charging radio batteries.

NORMAL WORKING HOURS

The Housekeeping Manager will coordinate activities:

1. All employees shall report to the Housekeeping lunchroom; if inaccessible, then report to the nearest accessible work place (Building Maintenance or West Climate Control).
2. Assist Police Department with building evacuation and security to reduce theft and looting.
3. Obtain debris removal requirements from other departments.
4. Prioritize areas and begin debris removal.

OTHER HOURS

The Shift Supervisor shall contact the Housekeeping Manager.

1. The Housekeeping Manager shall call in additional personnel if necessary.
2. Begin procedures for "Normal Working Hours".
3. If normal communication is interrupted, off-duty personnel shall listen to Radio Station KMOX, 1120 AM for instructions.

8e. Police Department – Earthquake Emergency Notifications

**EARTHQUAKE EMERGENCY
POLICE DEPARTMENT NOTIFICATIONS**

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. POLICE WATCH SUPERVISOR			
2. POLICE OPERATIONS COMMANDER - COORDINATE RESCUE/EVACUATION TEAMS, COORDINATE CODE 1000 EMERGENCY TRAFFIC PLAN			
3. DISPATCH POLICE OFFICER TO SURVEY/CHECK CONDITIONS OF AIRPORT PERIMETER FENCING			
4. DISPATCH POLICE OFFICER TO CHECK AIR OPERATION AREA, MAINTENANCE/STORAGE AREAS AND TOWER			
5. DISPATCH POLICE OFFICER TO CHECK TERMINALS AND CONCOURSE			
6. AIRPORT POLICE CHIEF			
7. NOTIFY DEPUTY CHIEF OF POLICE – TO RESPOND TO MOBILE COMMAND POST			
8. NOTIFY COMMANDER OF SECURITY OPERATIONS – COORDINATE THE OVERALL SECURITY OF AIRPORT PROPERTY/BUILDINGS, COORDINATE MUTUAL AID LAW ENFORCEMENT WITH OTHER AGENCIES			
9. DIVISION HEAD ADMIN SERVICES - CREATE TEAMS GATHERING SUPPLIES, FOOD, WATER, ETC.			
10. ONE POLICE OFFICER WILL SURVEY THE POLICE COMPLEX, EQUIPMENT, TELEPHONE SERVICE, RADIOS, ETC.			

(*All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

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H. **STRUCTURAL FIRES, FUEL FARM & FUEL STORAGE AREAS**

1. A structural fire may occur anywhere on the Airport property and may include one or a number of buildings. Procedures for all fires, regardless of location, are basically the same.
2. Upon initial notification of a fire in a structure, the Airport ARFF units shall immediately respond to the area using assistance from the ATCT as necessary.
3. Notifications made are essentially the same as those, which shall be made for all Airport emergencies. Essentially, the Airport ARFF District, Airport Police Department, Operations Center and the Air Traffic Control Tower (ATCT) shall be notified with each making additional notifications as necessary.
4. **AIRPORT FIRE CHIEF**
 - a. Respond with units to the area and initiate fire extinguishing procedures. If it becomes necessary for the Fire Chief to retreat from a structural fire to handle an aircraft emergency, the scene must be left with "Mutual Aid" fire units.
 - b. Dispatch a firefighter to check the sprinkler control valve to ensure it is in an open position.
 - c. Alert Operations Center or Airport Police Department to begin evacuation notification via public address systems if necessary.
 - d. Request "Mutual Aid" from surrounding communities, if necessary, should Airport ARFF units be unable to extinguish a fire.
5. **AIRPORT POLICE DEPARTMENT**
 - a. Respond to the fire area to assist with crowd control and evacuation of the area if necessary.
 - b. Assist medical personnel if needed.
 - c. Brief Airport Police Department Dispatcher and Airport Operations Center of all developments relative to the fire situation.
6. **AIRPORT OPERATIONS CENTER**
 - a. Monitor Police and Fire radios for updates on the fire situation.
 - b. Notify appropriate Airport Authority personnel.
 - c. Notify Airfield Maintenance, Airport Building Maintenance , Climate Control, Electric Shop, Environment/Health & Safety Office, and Housekeeping to respond to fire area to assist as necessary.
 - d. Issue evacuation notices as directed by the Airport Fire Chief, the Director of Airports or their representatives.
 - e. Notify Airport tenants in adjacent areas to the fire area that evacuation, as a precaution may be necessary.
7. **AIRFIELD MAINTENANCE**
 - a. Provide temporary lighting units to the fire area if needed.
 - b. Provide heavy equipment and operators if needed.

8. BUILDING MAINTENANCE

- a. The Shift Worker should notify the Building Maintenance Manager and Maintenance Supervisor by pager. The Shift Worker should coordinate activities until the Manager or Supervisor arrives.
- b. The Maintenance Supervisor should make damage assessment and call in additional personnel if necessary.
- c. Report damage evaluations to the Operations Center.
- d. Prioritize and begin emergency repairs according to initial damage assessments.
- e. Respond to the fire sprinkler valve location to assist ARFF. Fire sprinkler valves should be in the open position unless directed to close a valve by ARFF or the MOD.
- f. Make non-emergency fire valve closures as directed by ARFF or MOD.
- g. Make temporary repairs to structures to prevent the elements from entering the damaged area.
- h. If massive debris removal is required, rent rubber tire front-end loaders and sweepers for building interior and exterior clean up. Order construction type trash dumpsters.

9. CLIMATE CONTROL

- a. The Power Plant Manager should call in additional personnel if necessary.
- b. On duty personnel, except Watch Personnel, should report to the West Plant for assignments. Watch Personnel should continue their regular duties.
- c. The Stationary Engineers should secure plant equipment if necessary.
- d. Perform necessary natural gas line closures as directed.
- e. Ensure proper operation of heating/ventilation/air conditioning (HVAC) units in the smoke mode to assist in exhausting of smoke and fumes.
- f. Perform necessary domestic water supply closures as approved by ARFF or Airport Manager on Duty (MOD).
- g. Perform initial damage assessment and inform the Operations Center on the extent of the damage.
- h. Rent portable heaters/ventilators/air conditioning units if required.
- i. Prioritize and begin emergency repairs.

10. ELECTRIC DEPARTMENT

- a. Shift worker should request the Operations Center to notify the Electrical Supervisor by pager who shall then call in additional personnel if necessary.
- b. The shift worker should maintain or isolate electric power and lights to fire area as long as possible to assist in firefighting effort.
- c. Disconnect electric power to the fire area as directed by the Fire Chief for safety of personnel.
- d. Restore power to fire area as quickly as possible upon termination of fire, with the approval of the Fire Chief. Request assistance from the Airport Fire Department to watch affected areas.
- e. Perform initial damage assessment of electrical systems, public paging systems, Reset/Silence alarms, and report damage evaluation to the Operations Center.
- f. Prioritize tasks from damage assessments and begin making necessary repairs to

the power and paging systems in addition to beginning manual testing of smoke detector alarms, flow and tamper alarms and pull station alarms.

- g. Provide portable power and lighting if necessary.
- h. Before power is restored, obtain approval from the Construction and Maintenance Manager or MOD and request assistance from the Airport Fire Department to watch affected areas.

11. ENVIRONMENTAL/HEALTH & SAFETY OFFICE

- a. Responsible for environmental remediation.
- b. Ensures proper clean up.
- c. Liaison with regulatory agencies.

12. HOUSEKEEPING

- a. Respond to the fire area to assist with clean up of area.

13. AIR TRAFFIC CONTROL TOWER (ATCT)

- a. Although the ATCT actually will have little or no role in a structural fire, they shall be used to facilitate getting fire units from one side of the Airport to the other, as well as other non-fire department vehicles and personnel.
- b. In the event of a concourse fire with close aircraft proximity, ATCT shall expedite aircraft movement from the fire area if so ordered by the Fire Chief.

14. GENERAL

- a. In the event of a fire occurring in the Terminal concourse area, the Airline operator shall be notified by the Operations Center to move any and all of their aircraft away from the gate areas so as to minimize the danger to their aircraft.
- b. Only the Airport Fire Chief shall have the authority to declare an area safe and to allow personnel back in the area. If necessary, the Fire Chief may utilize Airport Police Department to keep persons out of a fire area until he declares it safe.
- c. In the event the fire crews must retreat from a structural fire to an aircraft emergency, the Fire Chief shall request assistance ("Mutual Aid"), from the City of St. Louis Fire Department Dispatcher and the surrounding community fire departments to take over the structural fire.
- d. If the cause of the fire appears suspicious, Saint Louis County Police Department's Bomb and Arson Unit will be contacted to conduct the appropriate investigation.

15. EVACUATION

- a. On all passenger level concourses emergency exits are clearly identified as bright orange doors and/or signed as Emergency Exit. These doors lead to stairwells that discharge directly onto the airline ramp. All employees are encouraged to know the location of emergency exits in their work area.
- b. See evacuation pages 325-295 and 325-311 in G. Earthquake/Structural Disasters.

16. SOPS & Checklists

- a. Building Maintenance Structural Fire Procedures
- b. Climate Control Structural Fire Procedures

- c. Electric Shop Structural Fire Procedures
- d. Housekeeping Structural Fire Procedures
- e. Police Department – Structural Fire Emergency Notifications
- f. Reference pages 325-35 and 325-36.

16a. Building Maintenance Structural Fire Procedures

BUILDING MAINTENANCE

STRUCTURAL FIRE PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

The Shift Worker shall respond to the fire sprinkler valve location to assist the Fire Department. Fire sprinkler valves shall be in the open position unless directed to close a valve by an Airport Manager or the Airport Officer in Charge.

1. The Shift Worker shall notify the Construction and Maintenance Manager and Maintenance Supervisor by pager or phone. The Shift Worker shall coordinate activities until the Supervisor or Foreman arrives.
2. The Maintenance Supervisor shall make damage assessment and call in additional personnel if necessary.
3. Report damage evaluations to the Operations Center.
4. Set up news media area in the JoAnne Wayne Conference Room or other designated area if requested.
5. Deliver podium, microphone and related directional signs to the designated media area.
6. Prioritize and begin emergency repairs according to initial damage assessments.
7. If massive debris removal is required, rent rubber tire front-end loaders and sweepers for building interior and exterior clean up. Order construction type trash dumpsters.

16b. Climate Control Structural Fire Procedures

CLIMATE CONTROL

STRUCTURAL FIRE PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

The West Plant Watch personnel shall notify the Power Plant Manager and Supervisors by pager. The West Plant personnel shall coordinate efforts until the Power Plant Manager or Supervisor arrives.

1. The Power Plant Manager shall call in additional personnel if necessary.
2. On-duty personnel, except Watch personnel, shall report to the West Plant for assignments. Watch personnel shall continue their regular duties.
3. The Stationary Engineers shall secure plant equipment if necessary.
4. Make necessary natural gas line closures.
5. Ensure proper operation of HVAC units in the smoke mode to assist with exhausting smoke and fumes.
6. Make necessary domestic water supply closures as approved by an Airport Manager or Airport Fire Officer in Charge.
7. Perform initial damage assessment and inform the Operations Center on the extent of damage.
8. Rent portable heaters/ventilators/air conditioning units if required.
9. Prioritize and begin emergency repairs.

16c. Electric Shop Structural Fire Procedures

ELECTRIC SHOP

STRUCTURAL FIRE PROCEDURES

COMMUNICATIONS: 800MHz Radio Frequency

The Shift Worker shall coordinate efforts until the Electrical Supervisor or Foreman arrives.

1. Request the Operations Center to notify the Electrical Supervisor by pager or phone.
2. The Shift Worker shall report to the Fire Area to isolate or maintain electrical power as required.
3. The Electrical Supervisor shall call in additional personnel if necessary.
4. Perform initial damage assessment of electrical systems and public paging systems.
5. Perform initial damage assessment and report damage evaluation to the Operations Center.
6. Before power is restored, obtain approval from an Airport Manager. Request assistance from the Airport Fire Department to watch effected areas.
7. Prioritize tasks from damage assessments. Provide portable power and lighting if necessary. Begin emergency repairs to power and paging systems.
8. Check emergency generators.

16d. Housekeeping Structural Fire Procedures

HOUSEKEEPING

STRUCTURAL FIRE PROCEDURES

COMMUNICATIONS: 800MHz Radio Frequency

NORMAL WORKING HOURS

All employees shall report to the Housekeeping lunchroom. The Housekeeping Manager shall coordinate activities.

1. Assist the Police Department with building evacuation and building security.
2. Obtain debris removal requirements from other departments.
3. Begin debris removal as required.

OTHER HOURS

1. The Shift Supervisor shall contact the Housekeeping Manager.
2. The Housekeeping Manager shall call in additional personnel if necessary.
3. The Shift Supervisor shall begin procedures for "Normal Working Hours".

16e. Police Department – Structural Fire Emergency Notifications

**STRUCTURAL, FUEL FARM & FUEL STORAGE FIRE
EMERGENCY
POLICE DEPARTMENT NOTIFICATIONS**

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. DISPATCH POLICE OFFICER TO SCENE			
2. AIRPORT FIRE DEPARTMENT (426-8133)			
3. AIRPORT OPERATIONS CENTER (PAX-8040)			
4. AIRPORT POLICE WATCH COMMANDER			
5. DISPATCH ADDITIONAL POLICE OFFICERS FOR EVACUATION AND CROWD CONTROL (IF NECESSARY)			
6. PROPERTY OWNER			
7. COMMANDER OF POLICE OPERATIONS DETERMINATION IF CODE 1000 EMERGENCY TRAFFIC PLAN IS ACTIVATED			
8. AIRPORT POLICE CHIEF			
9. AIRPORT DEPUTY CHIEF OF POLICE			
10. DIVISION HEAD CID			
11. COMMANDER BUREAU OF SECURITY OPERATIONS			

(*All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

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I. FLOOD

1. If flash flood warnings are issued by National Weather Service or detected through the contracted weather service, the Operations Center shall:
 - a. Notify all Airport Authority departments and the FAA Air Traffic Control Tower (ATCT).
 - b. The Operations Center shall monitor the level of Cold Water Creek via the contracted weather service's level monitor that is located in the creek bed.
 - c. Notify Airfield Maintenance to make periodical visual inspections of Cold Water Creek, North and South detention basins, and Cowmire Creek.

2. If flooding is sighted in Cold Water creek or on the airfield the Operations Center shall:
 - a. Notify all Airport Authority departments and the ATCT of the situation.
 - b. Inspect and issue Airport Condition Reports with the information concerning the affected/closed areas of the airfield.
 - c. Coordinate the response efforts between all Airport Authority departments and the ATCT.
 - d. Continue to monitor the situation until the flooded areas have subsided.
 - e. Coordinate the clean up of any/all debris in the affected areas of the airfield.
 - f. Inspect and reopen closed areas.
 - g. Make all necessary notifications.

3. A water rescue plan is not presented in this manual due to geographical separation of Lambert Airport and the nearest waterways.

4. In the event of an aviation accident in any of the above listed waterways, the St. Louis City or County Office of Civil Preparedness, the Captain of the Port of St. Louis and the U.S. Coast Guard shall have jurisdictional control of the site and emergency rescue plans of these agencies shall be implemented.

J. HAZARDOUS MATERIALS AND RADIOLOGICAL INCIDENTS

It is conceivable that hazardous materials and/or radioactive materials will be transported into, through or out of Lambert Airport by both civil and military aircraft. Section 1 relates to civil aircraft carriage and general Airport property in contact with hazardous/radioactive materials. Section 2 deals with military aircraft carriage of radioactive materials or nuclear devices. This section may also be cross-referenced with the following hazard specific section – Biological/Chemical Terrorism.

Section 1.

CIVIL AIRCRAFT CARRIAGE AND GENERAL AIRPORT PROPERTY PROCEDURES

1. The transportation of hazardous/radioactive material, including fissionable materials, onboard civil aircraft operating in the United States is governed by the Civil Air Regulations promulgated by the FAA. Thus, any civil aircraft carrying such materials must have onboard a copy of the restricted article document listing the materials carried and the specifics of the materials.
2. If an aircraft is airborne and develops a problem, related to the material carried or not, the aircraft commander shall have the responsibility of notifying the ATCT of such material being onboard.
3. In the event of an airborne incident the ATCT shall notify the following:
 - a. Airport ARFF units, specifying that hazardous/radioactive materials are onboard;
 - b. Operations Center, specifying the above. The Operations Center shall notify the Airport Police Department.
4. If the airborne aircraft develops a problem with hazardous/radioactive material, upon landing, the aircraft shall not be allowed to taxi to a terminal gate, but will rather be directed to the approach end of Runway 6 where hazardous/radioactive incident procedures shall be initiated; if a cargo aircraft is involved, it may be directed to a location on the Haith Air Cargo ramp by the ARFF Chief or Commander on the scene. In the event the on scene ARFF Chief or Commander determines that the use of any of these sites is precluded due to the proximity of other parked aircraft or the prevailing meteorological conditions, he may direct the aircraft involved to an alternate site.
5. In the event of hazardous/radioactive material being exposed while an aircraft is on the ground, or while the material is off an aircraft and being transported, the carrier of the material shall immediately notify the STL ATCT and the Airport ARFF District. If hazardous/radioactive material is exposed or suspected of release while on board an aircraft, the aircraft shall remain at its present gate or holding position and under no circumstances be moved unless at the instruction of the ARFF Chief or Commander at the scene. The STL ATCT shall not allow any aircraft to taxi through the area of the incident in order to prevent further spreading and contamination of the material.

6. Upon arrival at the scene, the Airport ARFF Chief or Commander shall initiate the following:
 - a. Approach the aircraft or contaminated area from an upwind direction to reduce further contamination or exposure;
 - b. Direct ARFF crews to utilize full protective clothing and breathing apparatus before approaching the area;
 - c. Direct crews to avoid entering area unless absolutely necessary;
 - d. Assume total control of the area and incident until relieved by appropriate officials or until the incident has terminated.

7. Upon arrival at the scene, the Airport Police Department shall do the following:
 - a. Initiate an immediate and complete security perimeter around the site, cordoning off the area from entry by anyone other than absolutely necessary personnel or vehicles;
 - b. Escort emergency response teams from the Airport perimeter gates to the incident site.

8. Operations Center
 - a. Upon notification of an incident occurring, the Operations Center shall initiate the following procedures:
 - 1) Contact ATCT to ensure aircraft are not allowed through area;
 - 2) Contact airport tenants and advise them to keep their personnel clear of the area;
 - 3) Notify appropriate Airport Authority personnel;
 - b. Notify any of the following for radiological monitoring of the site:
 - 1) Environmental/Health & Safety Manager;
 - 2) Missouri Emergency Response Center;
 - 3) Boeing-Environmental Compliance representative;
 - 4) FAA Regional Operations Center;
 - 5) Should additional emergency response be needed, the Department of Energy Office in Oakridge, Tennessee, has available an emergency response team.
NOTE: Phone numbers maintained in Operations Center.
 - 6) Obtain a copy of the restricted articles document and ensure that response teams are given a copy as well;
 - 7) Issue appropriate Airport Condition Reports as necessary;
 - 8) Perform additional duties as directed by the Incident Commander.

9. Environmental/Health & Safety
 - a. Monitor activities to ensure that operations are being conducted at a safe level.
 - b. Support law enforcement in perimeter patrols.
 - c. Assist the Operations Center miscellaneous duties.
 - d. Provide resource information regarding safety equipment, environmental activities, and Hazardous Material (HAZMAT)/Radiological cleanup.
 - e. Coordination/communication with regulatory agencies.
 - f. When an incident is a hazardous material spill/discharge/pollution under the Missouri Spill Bill (260.500-260.550 RSMo), notify the Missouri Department of

Natural Resources Environmental Emergency Response (EER) hotline and/or the National Response Center.

- g. When incident is radioactive type of contamination/spill, notify the U.S. Nuclear Regulatory Commission (NRC), Inspector General (OIG) hotline, and/or Region IV response.
10. Only the Airport Fire Chief shall have the authority to declare an area clean and safe after an incident. Once an "All-Clear" has been issued, notifications shall be made to all previously notified personnel and agencies notifying them of the termination of the incident.

Section 2.

MILITARY AIRCRAFT CARRIAGE OF RADIOACTIVE MATERIALS OR NUCLEAR DEVICES

1. In an aircraft accident or incident involving a nuclear weapon, several hazards may be present that do not occur in the commercial transport of radioisotopes. Blasts of varying degrees may occur as a result of the detonation of high explosives in the weapon, toxic or caustic fumes may be released by burning high explosives and spread over considerable distances by smoke and wind.
2. The following shall be the general procedures to be followed in the event of an aircraft incident or accident while carrying radioactive or nuclear materials:
3. The aircraft commander shall have the responsibility of notifying the ATCT that the aircraft is carrying such material and the type and amount, if available.
4. Procedures from this point on will generally mirror those used for civil aircraft with only a few changes incorporated to accommodate the military aircraft.
5. If the aircraft catches fire and is exposed to total envelopment in flames for more than 10 minutes, all rescue crews shall be instructed to move at least 2,500 feet from the aircraft due to the high probability of explosives' detonation.
6. If the aircraft has not been enveloped in flames for more than 10 minutes, fire crews shall use a maximum amount of cooling agents available on the aircraft and the weapons or material in attempting to prevent explosions.
7. Additionally, the ATCT shall advise all traffic on the ground to remain at least 2,500 feet away from the aircraft.
8. The Airport Police Department shall evacuate all Airport terminal buildings and other buildings adjacent to the site of the military aircraft if fire and explosion are imminent. Military aircraft accidents and incidents are the responsibility of the military as far as clean up and removal of the aircraft go. In the case of hazardous materials carried aboard an aircraft, the military command to which the aircraft is attached shall also have ultimate responsibility to remove the hazardous materials or weapons and clean up any exposures resulting from the incident. Units of the St.

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Louis County Civil Preparedness Bureau may also be used for clean up of such incidents should their assistance be required or requested.

9. GENERAL

- a. In the event of a hazardous/radioactive accident or exposure, all personnel and equipment responding to the scene shall be checked for contamination and decontaminated as necessary.
- b. If an accident or incident occurs, the Incident Commander or the Airport Fire Chief shall determine if the Airport's Medical Disaster Plan should be initiated.
- c. No unauthorized personnel shall be allowed in to any area in which there is a radioactive hazard until such time as the radioactive hazard has been terminated.

10. SOPS & Checklists

- a. Building Maintenance - Hazardous Material Procedures
- b. Police Department – Hazardous/Radiological Spill (Evacuation) Notifications
- c. Police Department – Hazardous/Radiological Spill (Non-Evacuation) Notifications
- d. Police Department - Special Order D-02
- e. Reference pages 325-35 and 325-36.

10a. Building Maintenance - Hazardous Material Procedures and Bio Hazard Response

BUILDING MAINTENANCE

HAZARDOUS MATERIAL PROCEDURES

COMMUNICATIONS: 800 MHz Radio Frequency

Request the Operations Center to notify the Airport Fire Department. Give location and type of material if possible.

1. Notify the Construction and Maintenance Manager and Department Supervisors.
2. Upon request of an Airport Manger, Fire Department or Airport Police shall barricade or isolate specified area.
3. Building Maintenance Personnel shall deliver portable hand washing cart to the location of incident if necessary.

10b. Police Department – Hazardous/Radiological Spill (Evacuation) Notifications

**HAZARDOUS/RADIOLOGICAL SPILL (EVACUATION)
POLICE DEPARTMENT NOTIFICATIONS**

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. COMMANDER SECURITY OPERATIONS			
2. COMMANDER POLICE OPERATIONS			
3. DEPUTY CHIEF			
4. CHIEF OF POLICE			
5. DIVISION HEAD CID			
6. K9 SUPERVISOR			
7. RE-NOTIFY AIRPORT OPERATIONS (PAX-8040)			

(*All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

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M. Muller

Date: JUN 26 2014

10c. Police Department – Hazardous/Radiological Spill (Non-Evacuation) Notifications

**HAZARDOUS/RADIOLOGICAL SPILL (NON-EVACUATION)
POLICE DEPARTMENT NOTIFICATIONS**

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. DISPATCH WATCH COMMANDER TO SCENE			
2. DISPATCH POLICE OFFICER TO SCENE			
3. AIRPORT FIRE DEPARTMENT (426-8133)			
4. AIRPORT OPERATIONS CENTER (PAX-8040)			
5. NOTIFY AFFECTED AIRLINE(S) - STAND BY STATUS			
6. COMMANDER SECURITY OPERATIONS BUREAU			
7. TSA			

(*All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

10d. Police Department – Special Order D-02

LAMBERT AIRPORT POLICE DEPARTMENT—CITY OF ST. LOUIS

DEPARTMENTAL SPECIAL ORDER

SPECIAL ORDER NUMBER/BOOK LOCATION: D-02

EFFECTIVE DATE: IMMEDIATELY EXPIRATION DATE: INDEFINITE

REFERENCE: NONE

CANCELLED PUBLICATIONS: SPECIAL ORDER D-02 (Issued 07/17/00)

SUBJECT: HAZARDOUS MATERIAL INCIDENT (NON-FUEL)

PURPOSE

To provide guidance concerning the appropriate police response to a hazardous material incident.

GENERAL

- A. A hazardous material incident can occur as a result of carelessness, accident, aircraft crash or damage to the container from some other source. They can include chemical, radiological and biological hazards.
- B. In the event of a hazardous material incident, the Airport Fire Department has incident command responsibilities to include:

Summon resources.

- 1. Assess Threat Level (determine if any evacuations are required).
 - 2. Establish containment area (hot zone and perimeter); establish Isolation and treatment areas.
 - 3. Treat and transport the injured. (Abbott Ambulance will not be called.)
- C. Police responsibility is to assist Fire Department in maintaining:
- 1. Perimeter of containment area.
 - 2. Security of isolation areas.
 - 3. Security of access routes and staging areas.

D. Police lead role responsibilities:

1. Identify material, material origin, material owner, and material transport method (to include identifying and locating persons who encountered suspect material).
2. Assess criminal intent.
 - a. Investigation/prosecution if required.
 - b. Secure and transport evidence as required.
3. Make required Federal Notifications: Transportation Security Administration

E. Operation Center Responsibilities:

1. Liaison with affected airlines.
2. Liaison with Ground Operations (air traffic control tower).
3. Summons Airport resources as needed.

F. Immediately upon being notified of a hazardous materials incident at the airport, the dispatcher will implement the notification checklists as appropriate (Appendix #1 and #2).

G. The Watch Commander will be dispatched to the scene to coordinate with the Incident Commander, who is usually the senior firefighter present. The area in question should be approached cautiously for personal safety.

CONCEPT OF OPERATION

- A. The Watch Commander will summon and supervise the necessary Police Department resources to secure the Isolation Areas and perimeters in accordance with guidance provided by the Incident Commander.
- B. One police officer will be assigned to prepare the appropriate reports.
- C. The dispatcher will make the required notifications as detailed in Appendix #1.
- D. The Watch Commander will summon the on-call detectives if assistance is needed in complying with General Request D1 and D2 of this Order.

- E. Should the determination be made that there is criminal intent, the FBI will be contacted immediately. The Watch Commander will personally brief the FBI as to the factors that cause him to believe criminal intent exists. The senior law enforcement officer present will request that the Fire Department or Hazardous Material Unit collect a sample of the suspect material for safe transport. Suspicious substances held for testing will be handled using existing evidence protocol. The Evidence and Property Officer will turn the evidence over to the FBI for testing at the first opportunity.
- F. Should the incident require decontamination of persons, the Incident Commander (senior fire official) may request assistance from the St. Louis County Health Department. The St. Louis County Health Department can be contacted at telephone number 314-615-1603.

A copy of the one-page handout, "St. Louis County Health—Possible Bioterrorism Incident", should be given to all individuals that undergo the decontamination process. (See attachment.)

- G. If the scope of the incident is such that police resources outside of the Bureau of Police Operations are needed, the Commander of the Bureau of Police Operations will be responsible for ensuring the notifications are made in accordance with Appendix #2.

BIOTERRORISM

- A. Aircraft arriving at the gate, with suspected substance in the cabin:
 - 1. Notify Police and Fire Departments.
 - a. APD will notify on-call CID and TSA.
 - b. CID will contact the FBI if deemed necessary.
 - 2. Do not connect the jetway or open the aircraft until instructed to do so by a firefighter.
 - 3. All personnel remain on the aircraft.
 - 4. All luggage must remain on the aircraft.
 - 5. No air carrier personnel will be allowed on the aircraft until it has been cleared by the Fire Department, APD, and the FBI.
 - 6. Upon arrival of the Fire Department and APD:
 - a. An APD officer will be stationed at the concourse door to insure no one enters the jetway except the jetway operator.
 - b. Firefighters will enter the aircraft to examine the suspected threat and interview appropriate personnel.

- c. The firefighters will then exit the aircraft and consult with the APD, CID, and the FBI.
- d. If the substance is determined to not be a credible threat the aircraft and personnel will be released to the air carrier.
- e. If the substance is viewed as a credible threat, all personnel will be isolated in a secure area, ramp level, and the St. Louis Fire Department Hazardous Material Team will be summoned to assume command of the incident. Note to Airport Detectives: A sample of the suspected substance will be collected and turned over to the FBI for analysis.

(1) St. Louis County Health Department will be notified.

(2) If the air carrier needs assistance in relocating passengers and crew, the Airport Authority will provide busses and assist in finding a room, possibly one of the Federal Inspection Stations (FIS).

B. Aircraft at the gate when suspected substance is discovered in the cabin:

- 1. Notify Fire Department and APD.
 - a. APD will notify on-call CID and TSA.
 - b. CID will contact the FBI if deemed necessary.
- 2. All personnel on the aircraft will remain on the aircraft.
- 3. All luggage must remain on the aircraft.
- 4. No additional personnel will enter the aircraft and the jetway will be cleared.
- 5. Upon arrival of the Fire Department and APD:
 - a. An Airport Police officer will be stationed at the concourse door to insure no one enters the jetway except the jetway operator.
 - b. Firefighters will enter the aircraft to examine the suspected threat and interview appropriate personnel.
 - c. The firefighters will then exit the aircraft and consult with the APD, CID, and the FBI.
 - d. If the substance is determined to not be a credible threat, the aircraft and personnel will be released to the air carrier.

- e. If the substance is viewed as a credible threat, all personnel will be isolated in a secure area, ramp level, and the St. Louis Fire Department Hazardous Material Team will be summoned to assume command of the incident. Note to Airport Detectives: A sample of the suspected substance will be collected and turned over to the FBI for analysis.

- (1) St. Louis County Health Department will be notified.

- (2) If the air carrier needs assistance in relocating passengers and crew, the Airport Authority will provide busses and assist in finding a room, possibly one of the Federal Inspection Stations (FIS).

C. Foreign substance in the cargo hold area of the aircraft:

1. Unless information has been received indicating that the substance might be a credible threat, normal air carrier procedures will be followed to include a hazardous material response if deemed appropriate.

D. Suspicious substance found in or around airport buildings:

1. If no threat has been received and the substance is not in a container that contains a threat or anti-American statements, the substance will not be considered a credible threat.
2. If a threat has been received, or the substance is in a container that contains a threat or anti-American statements, procedures for a substance in an aircraft will be followed.

- a. Notify Climate Control to turn off HVAC system to affected area.

E. Additional police actions during all events discussed in this memorandum.

1. Secure/Isolate the areas.
2. Preserve any evidence.
3. The uniformed officer assigned to the call will document all actions.

By order of,

Paul E. Mason II
Colonel
Chief of Police

PEM/sal
Distribution:
All Department Personnel

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FAA Approved


Date: JUN 26 2014

K. FAILURE OF POWER FOR THE AIRPORT

1. Electrical power for runway and taxiway lighting is supplied to the Airport from two separately derived systems provided by Ameren UE Electric Company of Missouri. In the event of a loss of power to either of these systems, substation automatic buss ties will operate to supply power to switch gear picking up the load of the failed service. In the event that we would lose power from both of these systems, two automatic emergency generators will come on-line to supply power to the airfield lighting. Both airfield lighting generators, known as Vault 2 and Vault 3, are located in secure areas with restricted access. The generators can be selected to provide power to the airfield lighting by remote control from the ATCT for Category II or below operations.
2. Electrical power for the Airport terminal buildings, ARFF stations, Lindbergh Tunnel, and other ancillary buildings that support Airport operations and maintenance services, is supplied by several separately derived systems provided by Ameren UE Electric Company of Missouri. In the event of a loss of power from any one or all of these systems there are a number of automatic emergency generators that will provide limited power to the affected structures. Lighting, communications, security and other resources required to maintain an acceptable level of safety will be maintained. Due to the security sensitive nature of some of these resources, specific details will not be published in this document. All of the emergency generators are located in secure areas or restricted access areas. The generators are maintained and serviced by an outside contractor through a service agreement that requires compliance with the standards set forth in NFPA 110.
3. Procedures have been established to supply critical and essential needs during outages of the Airport's primary power sources. These procedures will maintain but not be limited to obtaining a minimal level of service where life safety electrical power needs are involved.

a. Responses During The Emergency

Upon notification of a partial on complete loss of electrical power, the Airport Authority shall respond as follows:

1) Airport Electric Shop

- a) Upon notification that a partial or complete loss of power the Electric Shop personnel on duty shall notify the Electrical Supervisor and Foreman immediately.
- b) Supervisor or Foreman shall dispatch electricians to check elevators and get passengers or personnel off elevators if needed. Supervisor or Foreman shall dispatch electricians to inspect field lighting and report any outages to the Operations Center.
- c) Foremen shall call in electricians if more are needed.

- d) Electrical Supervisor and Foreman shall contact Ameren UE to report outage and ascertain possible down time or other information pertaining to power restoration if known; and check all Airport substations and electrical lighting vaults for current status.
- e) Electricians on duty shall report to the Electric Shop immediately for instructions.
- f) Power status shall be checked at all ancillary buildings.
- g) Electrical Supervisor or Foreman shall keep Lambert Operations staff updated on condition of electrical system and work in progress through out power loss event until restored.
- h) Electricians shall be dispatched to inspect each generator for proper operation, notify Fleet Maintenance of the status of fuel in each, and conduct periodic inspections throughout the power loss event.
- i) If needed, Electrical Supervisor or Foreman shall dispatch electricians to connect 480 vac 3 Ø generator to Airport Compressed Natural Gas Station located at Airfield Maintenance.
- j) Electricians shall be dispatched to get work lights from Store Room and portable generators from wire cage in Electric Shop to supply temporary lighting in affected areas.

2) Airport Operations Center

- a) Make the initial notifications of the status of the Airport to the Director, Senior Deputy Director, Assistant Director of Operations and Maintenance, MOD, and others as deemed necessary.
- b) During the initial contact with the Assistant Director of Operations and Maintenance the decision shall be made to initiate the callout for additional responders and the use of Bus #800 (Airport Command Bus). If activated, notify Police and Fire to send an individual to the bus.
- c) As events occur, the Operations Center would check the status of all systems through their respective Airport Authority departments and others as needed. The Operations Center shall issue NOTAMS appropriate to airfield lighting outages. In the event the entire airfield lighting system is out of service, the Operations Center will notify the ATCT and the FAA Regional Administrator that the Airport is closed until further notice.
- d) The Operations Center shall notify airlines to staff ticket counters to communicate airline status to customers.
- e) The Operations Center shall log all information as it is relayed to them from those departments, and then notify the Director, Senior Deputy Director, the Assistant Director of Operations and Maintenance, and MOD of the status of all systems.
- f) The Operations Center shall request from each of the respective departments to provide an update of the status of those systems periodically to remain aware of the entire situation, or the Operations Center shall contact those respective departments at a later time to gain the necessary information, and in turn keep everyone else informed.

- 3) Airport Building Maintenance**
- a) Building Maintenance personnel on duty shall notify the Building Maintenance Supervisor and Foreman immediately.
 - b) Ensure that water supply and fire lines are operational. Maintain air pressure to deluge fire valves.
 - c) Make an initial assessment of services and conditions of terminal facilities. Report assessments and conditions to the Operations Center.
 - d) Make an initial assessment of services and conditions of all ancillary buildings. Report assessments to the Operations Center.
 - e) Provide materials, tools, and labor required to maintain an acceptable level of life safety services.
 - f) Deliver tables and chairs as directed. Set up news media room as directed.
- 4) Airport Housekeeping Department**
- a) Housekeeping personnel on duty shall notify the Housekeeping Manager and Supervisor immediately.
 - b) Assist Airport Police with building evacuation and security to maintain order.
 - c) Continue trash and debris removal as required in all public areas. Inspect restrooms and report in-service or out-of-service conditions to the Operations Center.
 - d) Inspect all entrances and exits to ensure accessibility.
 - e) Close smoking lounges.
- 5) Airport Climate Control**
- a) Climate Control personnel on duty shall notify the Climate Control Manager immediately.
 - b) The Stationary Engineer shall secure all equipment to the off mode to protect systems and maintain boilers.
 - c) Report all out-of-service HVAC systems to the Operations Center.
- 6) Airport Fleet Maintenance**
- a) Fleet Maintenance personnel on duty shall notify the Fleet Manager immediately.
 - b) Assess operational capabilities of the Airport fuel systems. Report in-service or out-of-service conditions to the Operations Center. If out-of-service, secure portable generator to maintain fueling with emergency response vehicles being the highest priority.
 - c) All mechanics shall be prepared to use hand tools in the event electrical power, and/or air compressors are out-of-service.
 - d) Have available, on an on-call basis, mobile fueling services for stationary and portable generators.
- 7) Airfield Maintenance**
- a) Airfield Maintenance on duty personnel shall notify the Airfield Maintenance Supervisor immediately.

- b) Have available all portable light units and electrical generator units on an on-call basis.
- c) Provide traffic control devices as necessary.
- d) Provide drivers for the Airport Command Bus and 3 passenger transport buses as needed.
- e) Provide debris clean up on runways, taxiways, ramp areas, and roadways if required.
- f) Provide material deliveries as needed.

8) Airport Information Technology (IT)

- a) Upon notification of a partial or total power outage, the IT Manager and Data Processing Manager shall determine the scope of systems affected.
- b) Report all in-service or out-of-service conditions on Airport IT systems to the Operations Center.
- c) Secure all systems from further intermittent power fluctuations.
- d) Provide back up to critical systems if there are areas of the Airport that are unaffected.

9) Airport Engineering

- a) Upon notification of a partial or complete power outage, the Chief Engineer shall provide personnel to assist in the initial damage assessments conducted by the Airport building groups.
- b) Provide Airport structural, electrical, and mechanical drawings as needed.

10) Airport Public Relations

- a) Provide staffing for the news media area and maintain a communications link between the Operations Center to ensure that information is released in an appropriate manner and form.
- b) Ensure adequate staffing appropriate to the emergency is maintained in the Airport Information Booth.
- c) Ascertain Airport customer status to the extent possible. Determine if customer services can be enhanced and make the appropriate notifications to provide the services required.

11) Airport Police Department

- a) Provide safety, assistance, and assurance to passengers and employees by maintaining a constant police presence in the affect areas.
- b) Assist Airport Operations in assessment procedures and with Alert and Warning Procedures through the use of the Airport Police Airline and Tenant Emergency Telephone Notification Listing and the Airport paging system. In the event phone service is not available, officers shall be dispatched to make personal contact with airline and tenant representatives.
- c) Maintain the security integrity of the AOA and sterile areas.
- d) In the event the evacuation order is given, the Police Department shall take a lead role in the evacuation process.

- e) In the event of telephone failure, officers communicating with Police Dispatch via the Conventional Channel may become the primary communication source for the Airport Police.
- f) Essential Airport services and emergency responses may have to be handled through the Continuity of Operations or the Alternate Police Command Post General Orders.
- g) A Police Commander with decision making authority shall be assigned to the Emergency Operations Center to facilitate communications with Airport Operations, ARFF, airline managers, and major tenants. In the event the Airport Command Bus is activated, an officer shall be dispatched to man the Police position.
- h) Conduct vehicle and pedestrian traffic control as needed.
- i) Deliver emergency supplies to staging area and information booth.

12) Airport Fire Department

- a) Upon notification of a partial or complete power outage, Fire Department personnel shall notify the Battalion Chief and Training Officer immediately.
- b) Determine operational status of Aircraft Rescue and Fire Fighting capabilities. Notify the Operations Center of ARFF status.
- c) If required, establish an ARFF Command Post using Truck 47. In the event the Airport Command Bus is activated, a Fire Fighter shall be dispatched to man the ARFF position.
- d) Upon request to establish a Fire Watch at the Airport terminals, coordinate the utilization of ARFF personnel to minimize the impact to air traffic with the Operations Center.

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L. SABOTAGE, HIJACK, & OTHER UNLAWFUL INTERFERENCE WITH OPERATIONS

1. SABOTAGE/UNLAWFUL INTERFERENCE

- a. For those persons or groups who may wish to do damage to aircraft or Airport property by means of sabotage or interference, the Airport Authority has taken measures to prevent or seriously hinder these attempts.
- b. The most basic measure taken was the erection of an 8-foot chain-link perimeter fence topped with 3-strand barbed wire and a 3-strand interior cable barrier system around the Airport proper (pages 325-213 through 325-220).
- c. Combined with this are round-the-clock perimeter inspections by Airport Police personnel. Police personnel are also continuously patrolling aircraft movement areas and Terminal buildings. Airline tenants have also been instructed to "Button-Up" all aircraft on the airline ramp when not in use to further discourage sabotage or interference attempts.
- d. Navigational aids and other electronic approach aids located outside the Airport perimeter fence are each individually fenced in or have gates on the roadways to help prevent sabotage or interference.
- e. Daily inspections, by Airfield Maintenance, Operations Center and Airport Police personnel of the Airport properties shall reveal any sabotage to Airport grounds or property and immediate remedial measures shall be undertaken to correct any disrupted areas.

2. HIJACKING

- a. In the event an aircraft is hijacked or an aircraft is boarded by a person or persons with the intent of hijacking, all attempts shall be made to protect the aircraft and its occupants.
- b. As in other Airport emergencies, the basic notifications shall be made to the Air Traffic Control Tower (ATCT), Operations Center, Airport Fire District and Airport Police Department with each then making their own notifications. Additionally, the Federal Bureau of Investigation (FBI) shall be called to respond to the incident.
- c. Should an aircraft become hijacked, the ATCT shall attempt to have the aircraft placed in an isolated area away from the Terminal buildings. The areas used for bomb searches shall ideally be used. Once in an isolated area, or at a standstill position, units of the Airport Police Department shall take charge of the situation until relieved by the Federal Bureau of Investigation. Units of the Airport ARFF shall be instructed to standby at a safe distance until such time as they are needed or instructed to stand down.
- d. Personnel of the Operations Center shall be on a standby status throughout the duration of the incident and shall perform duties as directed by the On-Site Police Commander or other higher officials.
- e. Personnel of the ATCT shall perform their normal duties during the incident and shall handle the aircraft in question per their emergency incident procedures and as directed by the On-Site FBI Commander.

- f. The FBI shall attempt to contact the hijacker(s) and shall make all attempts to keep the aircraft on the ground. FBI hostage negotiations shall continue through the incident to its termination with the ultimate hope that the aircraft and its occupants are released unharmed and the hijacker(s) are taken into custody.

3. SOPS & Checklists

- a. Police Department – Sabotage/Interference Emergency Notifications
- b. Police Department – Response to Hijacking Situation/Notifications Special OrderD-03
- c. Police Department – Hijack Notifications
- d. Reference pages 325-35 and 325-36.

3a. Police Department – Sabotage/Interference Emergency Notifications

**SABOTAGE/INTERFERENCE EMERGENCY
POLICE DEPARTMENT NOTIFICATIONS**

CONTACT	NAME	TIME NOTIFIED	TIME ARRIVED
1. DISPATCH POLICE OFFICER TO SCENE TO TAKE REPORT			
2. AIRPORT OPERATIONS CENTER (PAX -8040)			
3. AIRPORT POLICE WATCH COMMANDER			
4. COMMANDER POLICE OPERATION			
5. AIRPORT DEPUTY POLICE CHIEF			
4. AIRPORT CHIEF OF POLICE			
5. COMMANDER SECURITY OPERATIONS			
6. DIVISION HEAD CID			
7. TSA			
8. FBI			
11. DISPATCH POLICE OFFICER TO AIR OPERATIONS AREA FOR INSPECTION AND PATROL			
12. DISPATCH POLICE OFFICER TO PERFORM PERIMETER/FENCING CHECKS			
13. DISPATCH POLICE OFFICER(S) TO SCENE TO SECURE AND/OR PROTECT AREA DAMAGED			
14. NOTIFY CID, IF NECESSARY			

(*All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

- F. A minimum of three (3) officers (Beats 12, 13, and 14) will be assigned to secure the aircraft. Beat 13 will be assigned to observe and note the sequence of events, including a timeline, descriptions, and other pertinent information. This officer will be designated the "Reporting Officer".
- G. It is important to note that having a line of communication to the aircraft is necessary. However, initial negotiations, of any kind, should be delayed until the arrival of the FBI Hostage Negotiation Team. If communications or negotiations must begin, a member of the Detective Unit should assume responsibility for the dialogue with the hijacker, as soon as possible. Every effort should be made to avoid confrontational tones. If the hijacker demands to speak to someone in authority, stalling tactics are the preferred course of action. Under no circumstances should the Watch Commander (Scene Commander), carry out this dialogue. Only if a life-threatening situation is imminent, should the scene commander consider meeting any specific demands.
- H. No use of force, by Airport Police personnel, will occur. Officers will maintain surveillance from a secure position of cover and concealment. Weapons fire will only be used if armed hijackers abandon hostages, leave their secure position, and begin firing indiscriminately, while attempting to flee.

III. CONCEPT OF OPERATION

A. Aircraft hijacked in flight:

1. If information is received that a hijacked aircraft is enroute to this airport, the following actions should be taken.
2. The Watch Commander should establish an on-scene Command Post, a safe distance from the aircraft, after it parks. He/she will serve as the Scene Commander until the Commander of the Bureau of Police Operations arrives.
 - a. Responsibilities of the Scene Commander.
 - Performing command activities, such as establishing command and establishing a Command Post.
 - Protecting life and property.
 - Controlling resources, including personnel and equipment.
 - Ensuring personnel accountability for safety and task accomplishment.
 - Maintaining effective liaison with outside agencies and resources.
 - b. Incident management includes the following major responsibilities.

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- Establishing command.
 - Ensuring responder safety.
 - Assessing incident priorities.
 - Determining goals.
 - Determining objectives.
 - Managing incident resources.
 - Coordinating overall emergency activities.
 - Coordinating activities of outside agencies.
- c. Need for a Command Post.

Although Command Posts may vary in type and size at different incidents, a Command Post provides a central, stationary location where key personnel assist the Scene Commander with incident command control. The Command Post is a field location for management functions, such as gathering, analyzing, and disseminating information.

Generally, a Command Post is established because of incident size or complexity, such as in a high-hazard operation or a long-term incident.

A Command Post should provide a place where the Scene Commander can carry out necessary coordination and communication in an organized fashion.

- There should be only one Command Post. Having more than one adds confusion to those working in the Command Post or responding to the incident.
- The Command Post should be isolated from the noise and confusion of the incident.
- The Command Post needs effective communication capability.
- A status board or maps in the Command Post are helpful.
- The Command Post must be large enough so that sufficient working area is available for the potentially large number of individuals who may work there. It must also have enough food, water, and toilet

facilities for the Command Post staff.

- The Command Post location should be announced as soon as possible so those individuals with certain functional assignments know where to report.
- The Command Post should also be identified with a flag, lights, or other easily identifiable markings.
- Watch Commanders are advised that the Airport Authority Mobile Command Post is available 24 hours a day, by contacting the Operation Center.
- A stairway truck and emergency medical supplies should be requested from the Operation Center.
- The Scene Commander should designate someone in the Command Post to keep a chronological log of all Command Post activities.

The FBI will set up their Command Post and Staging Area at the Missouri Air National Guard Base.

d. Scene Commander key questions for command activities.

Assess Incident Priorities:

- Life safety is the first priority. What are the main areas of concern related to life safety in this incident?
- Incident stabilization is the second priority. What are the main areas of concern related to minimizing the overall effect of the incident?
- Property damage is the third priority. What are the main areas of concern related to minimizing property damage?
- What other areas of concern exist for this incident, and what are there priorities?

Develop goals and objectives:

- What needs to happen to protect life and safety? How will you accomplish this?
- What needs to happen to stabilize the incident? How will you accomplish this?

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- What needs to happen to minimize property damage? How will you accomplish this?
- What needs to happen to deal with other priority issues? How will you accomplish this?

Manage incident resources:

- What other resources are required to meet the goals and objectives, i.e. lighting, vehicles, supplies?
 - What resources are available at this airport?
 - Can personnel safety be ensured, given existing resources?
 - Do additional resources need to be acquired from outside the airport?
 - Does the incident action plan need to be revised to accommodate additional resources?
 - How and where will resources be organized for deployment?
 - How will we monitor the ongoing status of resource availability and deployment?
 - How will we ensure the resources are efficiently deployed where they are most needed, according to incident priorities?
3. One (1) police vehicle (Beat 12) should park under the nose of the aircraft, in front of the nose wheel. This action serves two purposes. First, it psychologically infringes on the control of the hijacker. Second, it provides the hostage negotiator something to give away, in exchange for concession by the hijackers.


The officer should exit the vehicle, and return to the Scene Commander's location, as soon as it is safe to do so. (Officers should note that the centerline, parallel to the aircraft from nose to tail, is generally not visible from the inside of the aircraft.)

4. Beat 13 and 14 should assume positions around the aircraft to observe activity. These positions must be far enough from the aircraft that they do not pose a threat to the hijackers. These officers should select positions that provide cover from weapons fire.
5. Additional officers, as available, can be used to isolate the incident.

B. Aircraft hijacked while at the gate or on the ground at Lambert:

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1. If information is received that a hijacking has occurred at the boarding gate, the following actions will be taken.
 2. Communication will be established with Airline Management and the Operation Center. The Scene Commander will request the concourse and ramp area be evacuated and isolated. If possible, aircraft in the vicinity should be moved.
 3. Beat 13 and 14 should assume positions around the aircraft to observe activity. These positions must be far enough from the aircraft that they do not pose a threat to the hijackers. These officers should select positions that provide cover from weapons fire.
 4. The police vehicle assigned to Beat 12 will be used to block the aircraft.
 5. Additional officers should be used to isolate the incident.
- C. Aircraft hijacked on the airfield:
1. Once the aircraft has parked, actions outlined in Section III, Letter A, numbers 1-5 will be taken.
- D. Scene Commanders should be prepared to brief the tactical commanders of the St. Louis County Police Department and the FBI. Procedurally, what will occur is that once notified, these tactical commanders will request telephone contact with the Scene Commander to determine what resources are needed and a staging area for preliminary response. St. Louis County Police Department will respond and provide tactical guidance. Upon arrival of the FBI, command and control of the scene will be transferred to their tactical commander.
- E. Handling of persons exiting the aircraft:
1. All persons exiting the aircraft should be approached as if they were armed hijackers.
 2. Once it is determined that freed persons are actually released hostages, they should be isolated in a secure location for interview. The interviewing detective should try to ascertain the following information:
 - a. Number of hijackers and as much information about the hijackers as possible.
 - b. Types of weapons and explosives displayed.
 - c. Other pertinent information.

F. Handling of the media:

1. The area near the aircraft must be isolated.
2. The primary media site will be the Trademart Building for media to assemble.
3. The secondary media site is the stage near the entrance to the B-Concourse.

G. Command responsibilities:

1. The Chief of Police will respond to the Emergency Management Center in the Airport Authority Director's Office, to advise the Director and serve as the coordinator of all Law Enforcement Command Operations.
2. The Commander of the Bureau of Police Operations will respond to the scene and assume duties as Airport Police Scene Commander.
3. The Commander of the Bureau of Security Operations will respond to the FBI/FAA Law Enforcement Command Post to serve as the APD representative. This Command Post will be in the Situation Room at the Missouri Air National Guard Base (North Side).

a. Staging.

As an incident escalates, additional resources will be required. To avoid the problems that could result from the convergence of many resources and to manage available resources effectively, a staging area will be established. A staging area is a resource-marshalling area where units report while waiting for a specific assignment.

- Initially, the FBI, FAA, and St. Louis County Police will be staged at the Missouri Air National Guard Base. APD will stage in the roll call room.
- Resources in the staging area are ready for immediate assignment.
- The staging area is under control of the Staging Area Manager (Commander of the Bureau of Support Operations).
- Additional staging areas or the change of staging areas may occur as the situation dictates.

b. Benefits of staging.

A properly run staging area provides significant advantages.

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- It allows for law enforcement safety and personnel accountability.
 - It prevents premature deployment of resources.
 - It prevents freelancing.
 - Staging provides an excellent location for resources, private construction equipment, and callback personnel to report to be logged in.
4. The Deputy Chief of Police will assume the responsibility of any Bureau Commander who is not available. Additionally, the Chief of Police may call upon the Deputy Chief of Police to function as the Liaison Officer.
- a. Liaison Officer.

A Liaison Officer is the point of contact for assisting or coordinating agencies. This function is assigned to prevent the Incident Command Staff (ICS) from becoming overloaded by questions from the numerous assisting agencies that some incidents involve. Liaison management provides lines of authority, responsibility, and communication with outside agencies.

The Liaison Officer position is usually implemented at large or complex incidents. For example, the Liaison function could be used if mutual aid is activated and crews from another city or the State arrive to help with an incident such as a plane crash or a large civil disturbance.

One of the most important responsibilities of the Liaison Officer is to coordinate the management of the participating agencies. This coordination is essential; it prevents duplication of efforts and allows each agency to do what it does best. In addition, there are sometimes special demands on the Liaison Officer:

- The Liaison Officer may act as diplomat when needed, such as when an agency is unfamiliar with Incident Command Staff (ICS), when there is a lack of joint training among agencies, or when multiple agencies wish to establish their own Command Posts, which would result in lack of coordination and potentially unsafe operations.
- The Liaison Officer may occasionally need to give strong direction to help an agency fit into the system. This means “telling”, not requesting.

Liaison Officers need to have a specifically identified place for agencies to report in, work, and communicate with each other.

5. When it is necessary to transfer command, the transfer must be made as efficiently as possible and in person, whenever possible. The outgoing command must brief the incoming command, to provide at least the following information.

- The incident conditions (e.g., objectives, priorities, hazards, etc.)
- The incident action plan and its current status.
- Safety considerations and concerns.
- Deployment and assignment of operating units and personnel.
- Appraisal of the need for additional resources.

Dispatch must be advised of the command change.

By order of,

Paul E. Mason II
Colonel
Chief of Police

PEM/sal

Distribution:
All Department Personnel

3c. Police Department – Hijack Notifications

HIJACK NOTIFICATIONS			
CONTACT	NAME OF PERSON CONTACTED	TIME NOTIFIED AND INITIALS OF PERSON MAKING CONTACT	ON-SCENE ARRIVAL TIME
1. Watch Commander			
2. On-Duty Canine Officers			
3. On-Duty Detectives			
4. Airport Operations Center			
5. Airport Fire Department			
6. Federal Bureau of Investigation			
7. St. Louis County Tactical Unit			
8. Missouri Air National Guard Police			
9. Chief of Police			
10. Deputy Chief of Police			
11. Commander, Bureau of Police Operations			
12. Commander, Bureau of Security Operations			
13. Division Head Admin. Services			
14. Commander, Criminal Investigation Division			
15. TSA			
16. Commander, Canine Unit			

(All command staff noted above have current contact and emergency numbers on file with the Police Dispatcher.)

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M. Muller
Date: JUN 26 2014

M. TORNADO/SEVERE WEATHER

1. A tornado is a violently rotating column of air associated with a severe thunderstorm. Severe thunderstorms typically produce localized heavy rain, damaging hail, damaging straight-line wind gusts, and frequent lightning. The ingredient that defines a thunderstorm is lightning. It is a rain shower until lightning is present. A thunderstorm is classified as severe if it produces hail at least one of the following; hail at least one inch in diameter, wind gusts of 58 mph or higher, or a tornado. Tornadoes are very destructive. The typical tornado often only causes damage for a couple of minutes, will have a damage path length of under a mile, and a damage width around 100 yards. A violent tornado, which only includes about 2% of all tornadoes, can cause damage for an hour or so, will have damage path lengths of many miles, and have damage widths of one-quarter mile or more. The wind speeds of a violent tornado can be over 200 mph. The peak time for tornadoes in Missouri is April – June. However severe thunderstorms and tornadoes can occur any month of the year. Since 1950, Missouri has averaged 32 tornadoes a year. The peak time of occurrence is from mid-afternoon through early evening, but tornadoes have occurred at all hours. 60% of Missouri tornadoes move to the Northeast, 30% move due East, and about 10% move to the Southeast.
2. Terms used by weather forecasters:
 - a. Severe Thunderstorm Watch:
Conditions are favorable for severe thunderstorms, mass lightning, hail, and high wind to develop in the area.
 - b. Severe Thunderstorm Warning:
Severe thunderstorms containing most, or all, of the above mentioned elements are occurring. Speed and direction of travel is usually given.
 - c. Tornado Watch:
Severe thunderstorms that can produce tornadoes are possible in your area.
 - d. Tornado Warning:
A tornado has been reported by a reliable source, or Doppler radar indicates a severe thunderstorm with a strong circulation that could produce a tornado.
3. The Operations Center shall:
 - a. Maintain continuous weather watch during all periods of inclement weather utilizing:
 - 1) A privately contracted meteorological service providing weather updates at least three times daily with additional updates as conditions dictate. These updates will include a notification when lightning is within a 5 mile radius of the airport and also if a tornado is confirmed and sighted within a 6 mile radius of the airport.
 - 2) N.O.A.A and NWS Services;
 - 3) Weather accessed by internet;
 - 4) Atmospheric sensors measuring air temperature, dew point, wind direction, wind velocity, and precipitation.

- b. Keep airport authority departments, key airport personnel, ATCT, fueling operations, and various tenants advised of weather forecasts, updates, and alerts via either:
 - 1) Telephone;
 - 2) Airport Authority 800 MHz radio announcement;
 - 3) Email reports.
 - c. If severe weather is reported in the vicinity of the airport, the Operations Center shall:
 - 1) Activate an emergency message across the public address announcement system in terminal areas stating that severe weather is in the area.
 - 2) Activate CNN television weather alert messages.
 - 3) Notify all Airport Authority departments, ATCT, airlines and fixed base operators.
 - d. If a tornado is reported and sighted within a 6 mile radius of the airport, the Operations Center shall:
 - 1) Notify all Airport Authority departments, ATCT, airlines and fixed base operators.
 - 2) Activate CNN television weather alert messages.
 - 3) Activate a message across the public address announcement system in terminal areas stating that a tornado warning is in effect for Lambert. The activated message will state "all personnel and passengers to seek immediate shelter in the designated areas due to the tornado warning that is in effect".
4. If the tornado does strike the airport:
- a. Structural Damage Procedures (pages 325-290 through 325-306) should be followed for evacuation procedures and damage assessment;
 - b. Health & Medical procedures (pages 325-85 through 325-95) should be followed.
5. If the tornado alert is canceled, the Operations Center should repeat the notifications of the cancellation by public address announcement system.
- 4. SOPS & Checklists**
- a. Natural Disaster Response Procedures/SOP's for the Airport Authority Building Maintenance, Climate Control, Electric Shop, Housekeeping Department, and Airport Police Department Notification checklist may be found on pages 325-290 through 325-306 in the Earthquake (Structural Disaster) hazard specific section.
 - b. Reference pages 325-34 and 325-35.

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Date: JUN 26 2014

N. LINDBERGH TUNNEL

1. The Lindbergh Tunnel opened to vehicular traffic September, 2004. The Lindbergh Tunnel was constructed for Lindberg Boulevard to pass beneath the new runway and taxiways as part of the Lambert Airport Expansion Program. Detailed plans for the public usage of the tunnel are maintained by the Missouri Department of Transportation Traffic Management Center (TMC). The first responder for vehicle roadway emergency responses for law enforcement is Bridgeton Police Department. The first responder to fire-fighting related emergencies is Pattonville Fire District for the northbound vehicle roadway traffic and Robertson Fire District for the southbound vehicle roadway traffic. The Airport Authority shall respond as a mutual aid responder. TMC requests for Airport Authority assistance is made to the Operations Center. Any airfield emergencies requiring the tunnel to be closed are made from the Operations Center to TMC. The Airport departments are the first responders. Bridgeton, Pattonville, and Robertson are among mutual aid responders to the airport.
2. Incidents could potentially occur inside either Tunnel Cell, on the St. Louis Airport Runway above the Tunnel, or inside the Tunnel Utility Corridor. In addition, an incident on Lindbergh Blvd, just downstream from the tunnel could potentially create a secondary incident inside the tunnel. Each of these locations demands a different set of response activities and response procedures.
 - a. **Incidents on Approach Roadways**

The system boundaries for the MODOT Emergency Response Plan include the Lindbergh Blvd, corridor between the I-70 and I-270 Interchanges. Lindbergh Blvd is constructed with a non-mountable median barrier throughout the corridor. MODOT shall treat incidents occurring on these approaches as standard roadway incidents with the exception of any roadway incident that occurs immediately downstream from either Tunnel Cell. In these cases a traffic backup shall occur within the Tunnel compromising the safety of Tunnel occupants. These incidents shall be treated in the same manner as incidents occurring within the Tunnel. Typical actions shall include closing the Tunnel, opening median barrier crossovers, and rapid assistance by the MODOT Operations Personnel.
3. The following documentation is from the MODOT working group pre-planning team with guidelines per NFPA Section 502 addressing how these incidents are detected and what actions would be taken for each.
 - a. Fire or Smoke Condition (one or more vehicles inside the Tunnel)

Detection: Smoke and fire detectors, Emergency Call Boxes, CCTV monitors and Microloop Detectors
Actions: Dispatch of rescue services, jet fan operation, Tunnel cell closings, runway closure and Dynamic Message sign activation. Possible long-term detours
Covered by: Standard fire response procedures spelled out in all emergency response plans and MODOT's Concept of Operations
 - b. Fire or Smoke Condition (adjoining or adjacent to the facility)

Detection: CCTV monitors, Emergency Call Boxes

Actions: Dispatch of rescue services, jet fan operation, Tunnel cell closings, runway closure and Dynamic Message sign activation
Covered by: Standard fire response procedures spelled out in all emergency response plans and MODOT's Concept of Operations

c. *Collision Involving One or More Vehicles*

Detection: Emergency Call Boxes, CCTV monitors, and Microloop Detectors
Actions: Dispatch of rescue services, jet fan operation, Tunnel cell closings, dispatch of MODOT Operations Personnel, and Dynamic Message sign activation
Covered by: Standard police and fire response procedures spelled out in all emergency response plans and MODOT's Concept of Operations

d. *Loss of electric power that results in loss of illumination, ventilation, or other life safety systems*

Detection: SCADA alarms, Emergency Call Boxes
Actions: Backup generator activation, Tunnel cell closings, and Dynamic Message sign activation. Possible long-term detours
Covered by: Standard procedures spelled out in all emergency response plans and MODOT's Concept of Operations

e. *Rescue/evacuation of motorists under adverse conditions*

Detection: Emergency Call Boxes, CCTV monitors, Microloop Detectors, and Road Weather Sensors
Actions: Dispatch of rescue services, jet fan operation, Tunnel cell closings, Dynamic Message sign activation, dispatch of MODOT Operations Personnel, and Opening of Median Crossovers. Possible long-term detours
Covered by: Standard response procedures spelled out in all emergency response plans and MODOT's Concept of Operations

f. *Disabled Vehicles*

Detection: Emergency Call Boxes, CCTV monitors and Microloop Detectors
Actions: Dispatch of MODOT Operations Personnel, and Tunnel cell closures
Covered by: MODOT's Concept of Operations

g. *Flooding of Traveled Way or an Evacuation Route*

Detection: SCADA alarms, Pavement Condition Sensors, Emergency Call boxes, CCTV monitors and Microloop Detectors
Actions: Tunnel cell closures, and dispatch of MODOT Operations Personnel, draining of Hazmat collection tanks
Covered by: MODOT's Concept of Operations

h. *Seepage and spillage of petroleum products, flammable, toxic or irritating vapors; and hazardous materials*

Detection: SCADA alarms, Emergency Call boxes, CCTV monitors and Microloop detectors

Actions: Dispatch of MODOT Operations Personnel, Tunnel cell closures, Dynamic Message sign activation and draining of Hazmat collection tanks
Covered by: Standard response procedures spelled out in all emergency response plans and MODOT's Concept of Operations

i. *Multiple Casualty Incidents*

Detection: Emergency Call Boxes, CCTV monitors and Microloop Detectors
Actions: Dispatch of rescue services, jet fan operation, Tunnel cell closings, Dynamic Message sign activation, dispatch of MODOT Operations Personnel, and Opening of Median Crossovers
Covered by: Standard response procedures spelled out in all emergency response plans and MODOT's Concept of Operations

j. *Damage to structures from impact and heat exposure*

Detection: MODOT Inspection following major traffic incidents
Actions: Tunnel cell closings, runway closure, Dynamic Message sign activation, potential two way traffic in one Tunnel cell
Covered by: Special MODOT and Airport inspection teams and MODOT's Concept of Operations

k. *Serious vandalism or other criminal acts, such as a bomb threat*

Detection: Emergency Call Boxes, CCTV monitors, MODOT and Airport inspection teams
Actions: Tunnel cell closings, Runway closure, Dynamic Message sign activation, potential two way traffic in one Tunnel cell
Covered by: Standard response procedures spelled out in all emergency response plans, Special MODOT and Airport inspection teams and MODOT's Concept of Operations, Code 1000 Response Plan

l. *First aid or medical attention for motorists*

Detection: Emergency Call Boxes, CCTV monitors and Microloop Detectors
Actions: Dispatch of Rescue services, MODOT Operations Personnel, Dynamic Message sign activation and Tunnel cell closures
Covered by: MODOT's Concept of Operations

m. *Extreme weather conditions, such as heavy snow, rain, high winds, high heat, low temperatures, sleet or ice that causes disruption of operations*

Detection: Pavement Weather Condition Sensors, Emergency Call boxes, CCTV monitors and Microloop Detectors
Actions: Dispatch of rescue services, MODOT Operations Personnel, Tunnel cell closures, and Dynamic Message sign activation
Covered by: MODOT's Concept of Operations

n. *Earthquake*

Detection: Outside sources, Emergency Call Boxes, and CCTV monitors

Actions: Dispatch of rescue services, MODOT Operations Personnel, Tunnel cell closures, and Dynamic Message sign activation Possible long-term detours

Covered by: Standard response procedures spelled out in all emergency response plans, Special MODOT inspection teams and MODOT's Concept of Operations

4. Coordination with other agencies all affected emergency response agencies are listed * Through the years they have maintained strong working relationships with interagency agreements already in place. The standard fire-fighting procedures described in the fire agencies' emergency response plans cover all aspects of Tunnel fire-fighting activities with the exception of the following:

a. *Fire-fighting operational procedures*

Control Room Access

The Tunnel Control Room shall be, for the most part, an unmanned facility. In the event of an emergency, however, the fire departments shall need immediate access. To achieve this level of access while maintaining a secured facility, two entry systems will be employed. MODOT uses an electronic card access system at their Transportation Management Center (TMC), and a duplicate of this system will be installed to facilitate use for MODOT Operations Personnel. The standard Fireman's Key system will also be installed at the Control Room door to enable them to access all Tunnel areas themselves without the need for TMC Operator intervention.

b. *Hydrants & Dry Standpipes*

The Tunnel is equipped with hydrants at both ends and a dry standpipe system inside.

c. *Staging Areas*

The Tunnel is constructed with special parking areas near both portals. The entries to these staging areas are aligned with the median crossovers to make them readily accessible during an incident. Although maintenance and operations personnel shall most often use them, the parking areas were designed to accommodate emergency response vehicles. Only authorized vehicles are allowed, TMC shall request immediate tow.

d. *Traffic Management*

All traffic management for Lindbergh Blvd, falls under the jurisdiction of MODOT and shall be addressed by their standard traffic operation practices. Specific ground transportation issues created by the Tunnel shall be addressed by the Intelligent Transportation Systems (ITS) operations at the TMC. Air traffic management falls under the jurisdiction of the Lambert-St. Louis Airport Authority. Secure and redundant communication systems shall insure that the Airport Authority is notified of any incident that could potentially compromise the safety of air traffic on the runway above the tunnel.

e. *Medical Evacuation Plan*

The standard medical evacuation procedures described in the fire agencies' emergency response plans cover all aspects of Tunnel evacuation. These procedures are similar to those employed for medical incidents occurring in buildings with the added complication of vehicular traffic blocking paths.

f. *Emergency alert notification plan*

* contains a diagram of the information flow paths that will be followed whenever an incident occurs within the Tunnel. Additional details of the specific procedures shall be incorporated into the MODOT Concept of Operations for the TMC. For major incidents, each agency's emergency response plan also deals with the distribution of information within their jurisdictions and the interagency communications that are necessary to support the Incident Command System adopted by most public emergency response agencies nationwide.

4. Tunnel Training Exercises

a. Ongoing efforts will be continual training, Record training references and related materials are listed in more detail below.

1) Annual Schedule

2) Possible training topics are:

- a) Motor vehicle crash involving injuries and smoke within a tunnel cell
- b) Aircraft incident involving a fuel spill or fire on the runway above the tunnel
- c) Medical emergency of a motorist or pedestrian inside the tunnel
- d) Response to a non-tunnel incident when a tunnel cell is closed for maintenance
- e) Police Activity relating to a bomb threat, hostage situation or other criminal activity affecting the tunnel
- f) Long term condition that requires two way traffic to be established in one of the cells
- g) Sudden loss of power in the tunnel

3) *Annual Training*

- a) A major portion of the training occurred during the first Annual Training Exercise conducted prior to the opening of the Tunnel. It provided enough time for all response personnel to become acquainted with the Tunnel features. This was much easier to do while Lindbergh Boulevard was not opened to traffic. It was comprehensive, covering the most likely incident scenarios with future training events focused on a revolving list of issues.
- b) Training materials are updated annually. Besides a set of potential scenarios be the safety features of the Tunnel also needs to be documented so that new personnel can become familiar with the specific tools available to them. This might include diagrams, notebooks and possibly videotape materials. Information flow paths and interagency procedures should also be included and kept up to date

- c) Annual training exercises normally address all of the five major elements of incident management: detection; verification; response implementation; clearance and control; and roadway reopening. Because the tunnel creates some unique challenges for each of these issues, they need to be incorporated in the annual training exercises with emphasis being placed on one or more of these issues each year. Carefully maintained training records will insure that the subject matter is presented comprehensively over time regardless of changes in staff. Each year's training materials could, in a sense, become another "chapter" in the tunnel-training program. Past years' materials can be used for new employee orientations as well as reference materials for planning future training exercises.

5. SOPS & Checklists

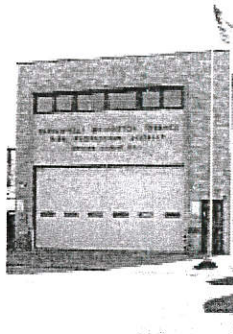
- a. Jurisdictional Maps/Information
- b. Lindbergh Tunnel Emergency Notifications Chart For Traffic Incidents
- c. Lindbergh Tunnel Emergency Notifications Chart For Lane Restrictions Due To Incidents or Road Work
- d. Lindbergh Tunnel Emergency Notifications Chart Cell Closures Due To Incidents or Road Work
- e. Reference pages 325-35 and 325-36.

5a. JURISDICTIONAL MAPS/INFORMATION

Pattonville Fire Protection District
13900 Saint Charles Rock Rd
Bridgeton, MO 63044
Phone: 314-739-3118

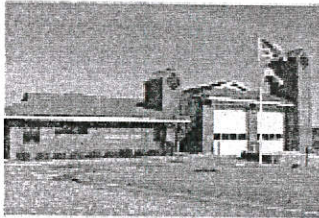
ENGINE HOUSES
HOUSE ONE

Pattonville Fire Protection District Engine House One is located at 4008 Fee Fee Road in Bridgeton.



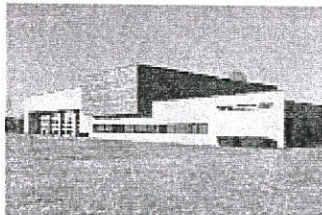
HOUSE TWO

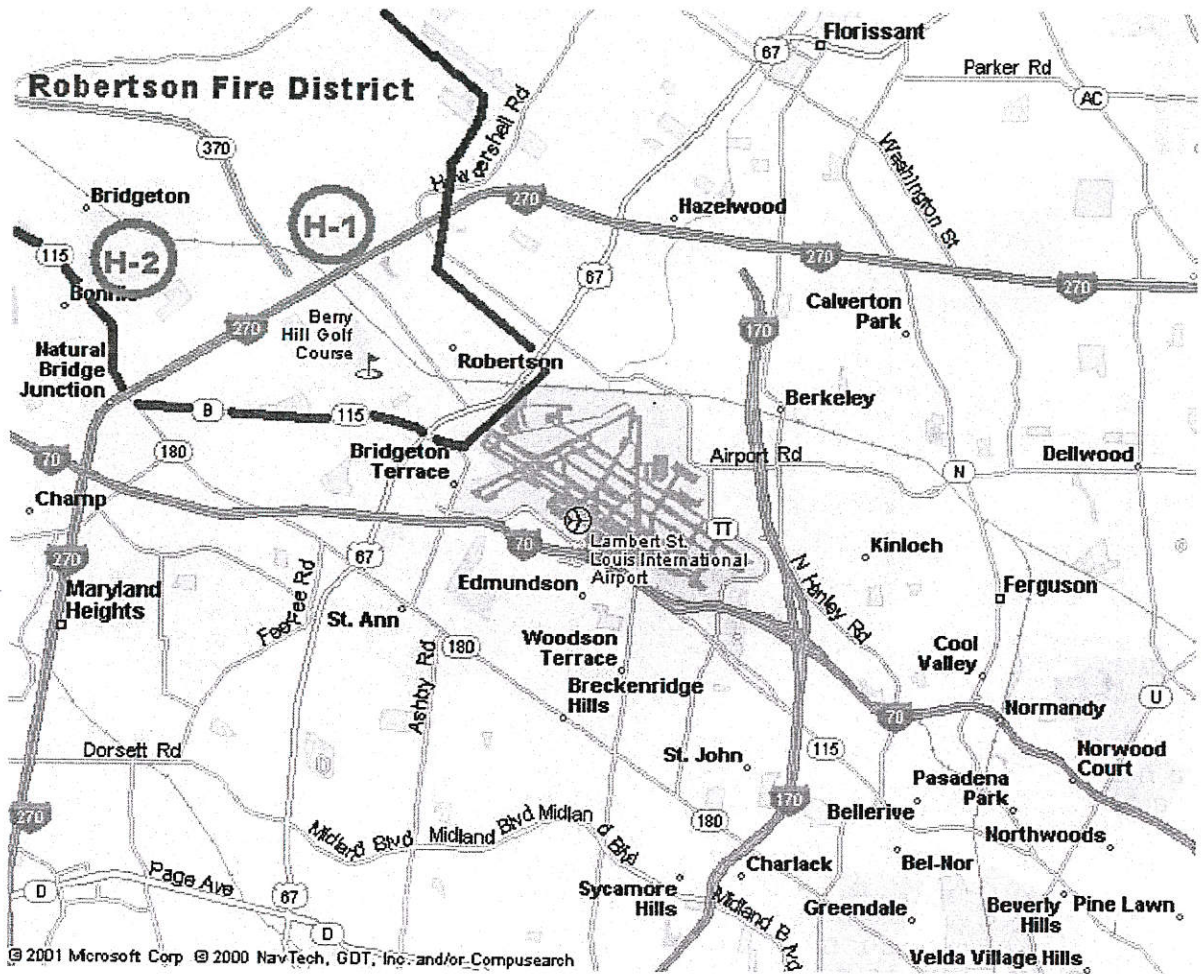
Pattonville Fire Protection District Engine House Two is located at 3365 McKelvey Rd in Bridgeton. It is just across the street from SSM DePaul Hospital.



HOUSE THREE

Pattonville Fire Protection District Engine House Three is located at 13900 St Charles Rock Rd in Earth City. House Three houses a rescue pumper, an ambulance, rescue boats, and our administrative offices.





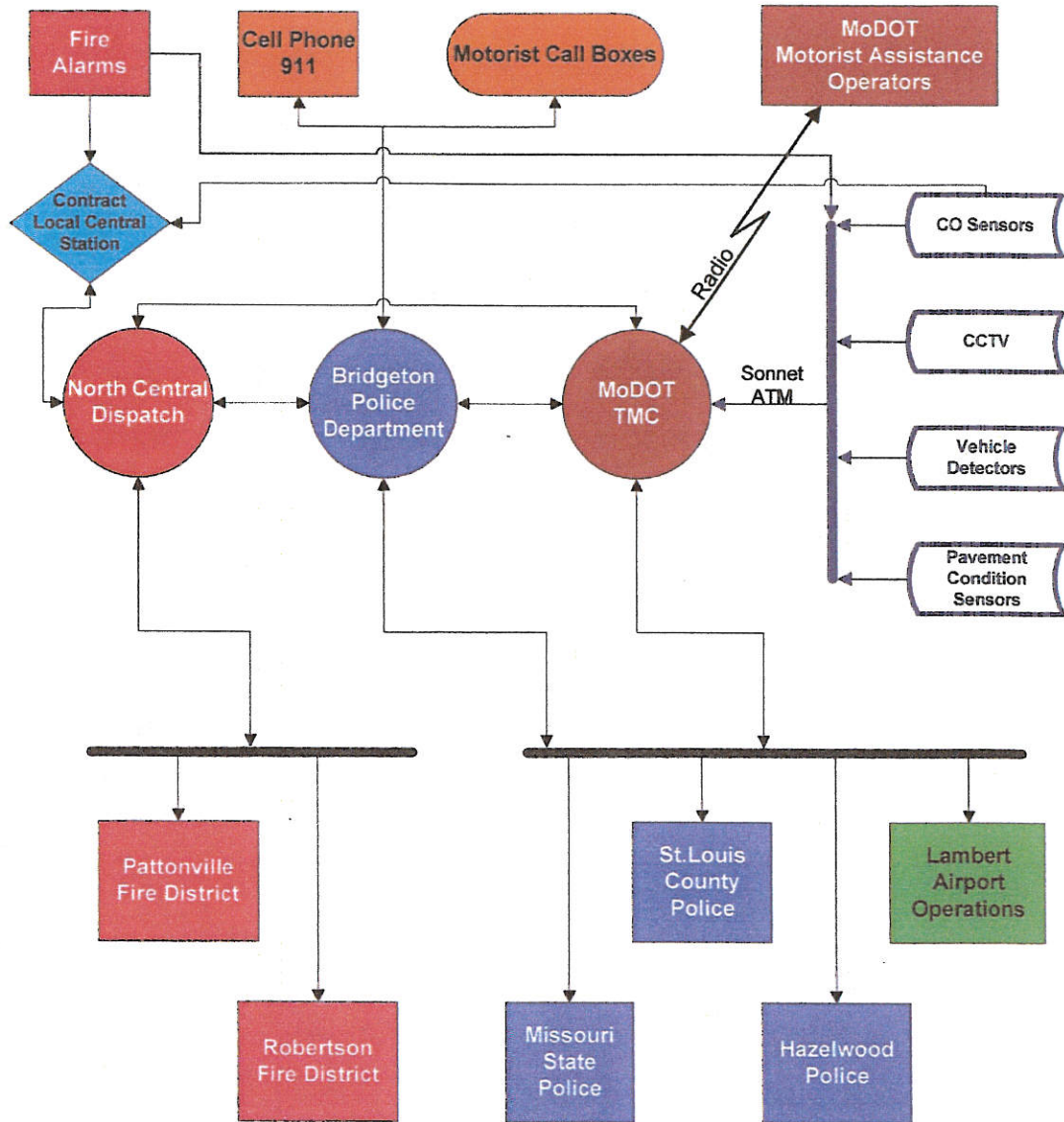
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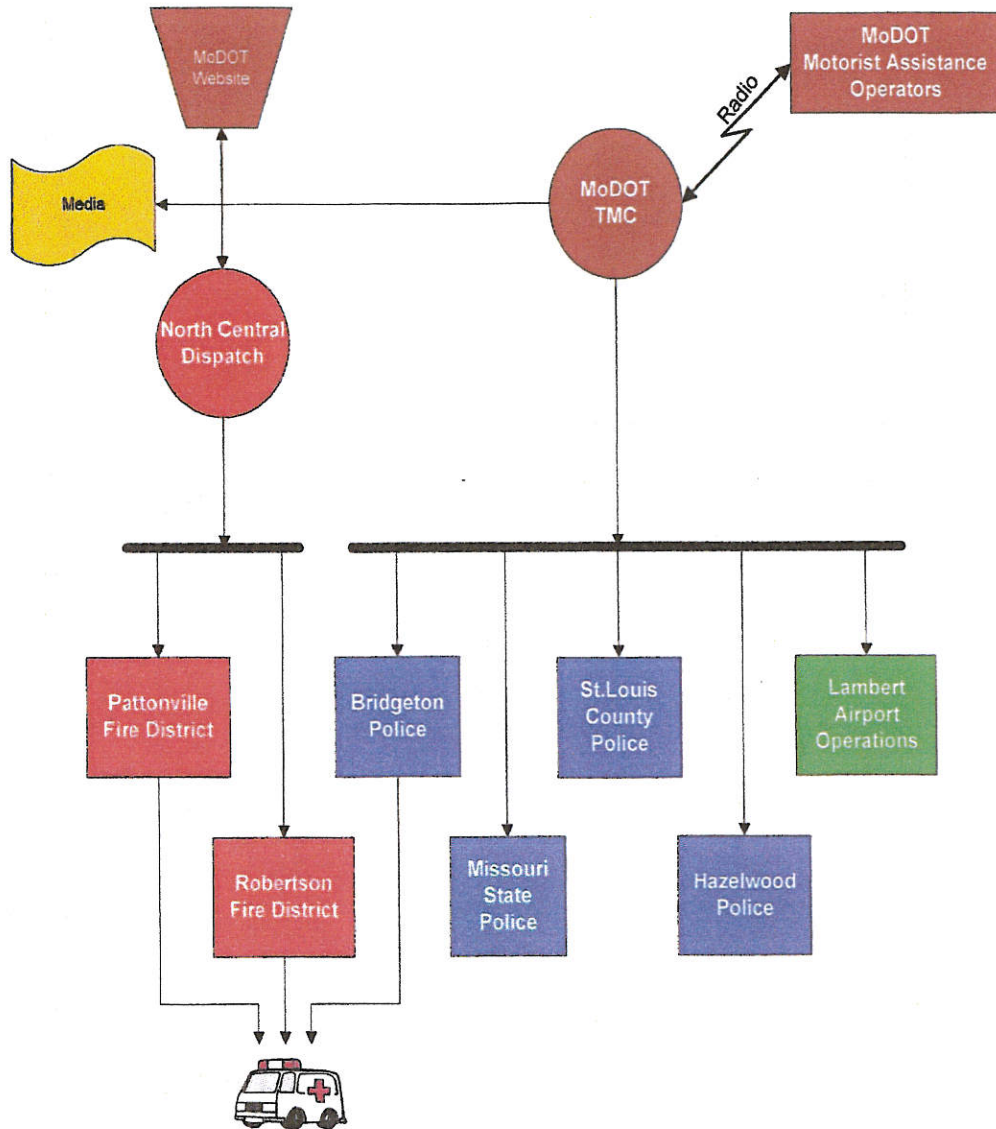
M. Muller

Date: JUN 26 2014

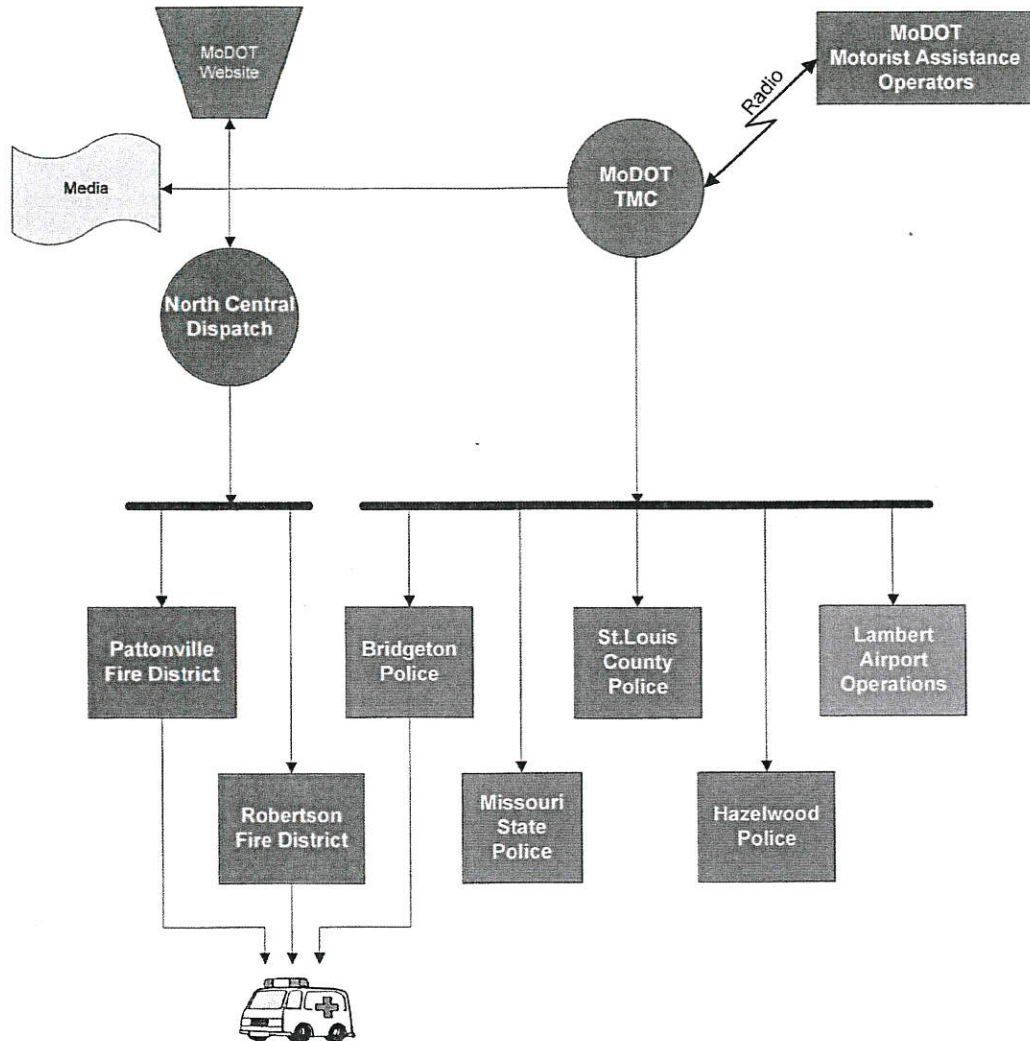
5b. LINBERGH TUNNEL EMERGENCY NOTIFICATIONS CHART FOR TRAFFIC INCIDENTS



5c. **LINDBERGH TUNNEL EMERGENCY NOTIFICATIONS CHART FOR LANE RESTRICTIONS DUE TO INCIDENTS OR ROAD WORK**



5d. LINDBERGH TUNNEL NOTIFICATIONS CHART FOR CELL CLOSURES DUE TO INCIDENTS OR ROAD WORK



139.327 SELF-INSPECTION PROGRAM

1. Airport Inspection Procedures

Field and Electrical Inspections are made daily at scheduled times by personnel of the Operations Center. Maintenance inspections of the above areas are also made by Field Maintenance and Electrical departments as a part of their daily work routine.

Inspections are the responsibility of the Operations Center. Daily inspections are generally made at night and are performed by the Operations Center Personnel. Inspections are made by personnel in vehicles driving on runways, taxiways, and other Airport areas in such a way as to observe any and all conditions which may require corrective actions or repairs.

Discrepancies will be noted on the Airport Self Inspection Checklists located in Appendix A on pages AA-1 and 1A. Corrective actions or repairs will be made in accordance with the specifications of this Airport Certification Manual.

In addition to the daily inspections, special inspections of Airport areas may be made for the following reasons:

- A. During and after construction activities;
- B. In response to weather-induced conditions, (extreme heat, snow, ice, etc.);
- C. Immediately after any incident or accident, aircraft or non-aircraft related, which has taken place on Airport grounds;
- D. When possible, in response to airline requests for FOD/debris inspections;
- E. In response to any other condition which may occur on Airport grounds and which may necessitate an inspection by Airport personnel.

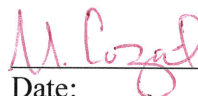
2. Inspection Reporting System

If Operations Center Personnel determine that a field or electrical item requires rectification, a work order shall be issued for the discrepancy through Cityworks and it will be disseminated automatically to Maintenance Department Heads for initiation of corrective actions or repairs. Additionally, these discrepancies will be noted to the Assistant Director of Operations & Maintenance and the Operations Center. If the Assistant Director of Operations & Maintenance or Operations Center determines a condition exists which may be, or is, hazardous to Aircraft Operations or if any such condition is in violation of FAA Rules and Regulations, such area(s) where the condition exists will be closed or restricted to aircraft operations.

Closures/restrictions will be disseminated by means of the Airport Condition Report issued via the ACR dissemination process through the Airport Operations Center. Personnel in this department are responsible for issuing, verifying and canceling all amendments to the Airport Condition Report regardless of the nature or condition the amendment addresses.

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Once a discrepancy has been corrected, Maintenance personnel will complete the work order via Cityworks and it will automatically send it to the Operations Center for re-inspection. Upon re-inspection of a work order, the Airport Operations Center Personnel shall determine if it satisfies FAA Rules and Regulations and will close out the work order. The Operations Center will notify the Air Traffic Control Tower and/or the affected Airport tenants that the discrepancy or condition has been corrected or repaired. If an amendment to the Airport Condition Report was issued, that amendment will be canceled by the Operations Center personnel. If the Operations Center Personnel determine that the work order does not satisfy FAA Rules and Regulations, it shall be sent back to the respective Maintenance Department Heads for corrective action to be taken and the Airport Condition Report shall be updated accordingly.

In the event of a Cityworks network failure, the Operations Center shall revert back to the Airport Self Inspection Checklists located in Appendix A on pages AA-1B and 1C.

3. Training

The Airport Operations Supervisor is responsible for training the Operations Center personnel to ensure that qualified personnel perform the inspections. In addition to On-The-Job Training, instruction includes initial and/or recurrent training in the following subjects:

- A. Airport Familiarization and Radio Procedures Class
- B. USDA Wildlife training
- C. AMO notification procedures
- D. AAAE Airport Safety and Security Specialist School (ASOS), subject to budgetary constraints
- E. Discrepancy reporting procedures
- F. Inspection Procedures and Record Keeping

4. Record Keeping

A. Inspection

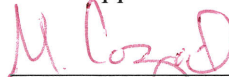
All Airport Self-Inspection Checklists will be kept on file electronically no less than 12 calendar months. Upon the request by the FAA Administrator, or his designee, Airport Operations Personnel shall furnish a compact disc with all said inspections for the previous 12 calendar months.

B. Training

Training records for each individual include a description and date of training received. Training records are kept for no less than 24 months as specified in Federal Aviation Regulation part 139.301.

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Date: **JAN 25 2016**

5. Field and Lighting Inspection Conditions

Conditions which are inspected daily include but are not limited to the following:

A. Pavement Areas

- 1.) Pavement lips exceeding 3 inches.
- 2.) Holes exceeding 3 inches deep and 5 inches across.
- 3.) Cracks or surface variations which could impair directional control of aircraft.
- 4.) Presence of snow, ice, slush, standing water or ponding.
- 5.) Presence of mud, excessive sand, loose aggregate, rubber deposits, or other debris.

B. Safety Areas

- 1.) Potentially hazardous ruts, depressions, humps, erosion, or other surface variations.
- 2.) Objects in safety areas, other than those required by function.
- 3.) Mounting bases on authorized objects in safety areas in which the frangible point exceeds 3 inches above grade, including FAA NAVAIDS.
- 4.) Ponding of water or plugged drains.
- 5.) Removed or missing manhole covers.
- 6.) Snowbanks in such a height that all air carrier propellers, engine pods, and wingtips shall not clear the snowbanks when the aircraft's landing gear located at any point along the full strength edge of the pavement.

C. Pavement Markings

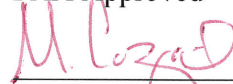
- 1.) Markings which are not clearly visible and in good condition.
- 2.) Glass beads not clearly visible at night.
- 3.) Markings which are not in accordance with standards in AC 150/5340-1, current edition, Standards for Airport Markings and the Marking & Sign Plan.

D. Guidance Signs

- 1.) Signs not in accordance with the Marking & Sign Plan.
- 2.) Signs not in accordance with standards in AC 150/5340-18, current edition, Standards for Airport Sign Systems.
- 3.) Signs not in accordance with specifications in AC 150/5345-44, current edition, Specification for Taxiway & Runway Signs.

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- 4.) Inoperable lighting.
- 5.) Damaged, missing, peeling, flaking or obscured signs.
- 6.) Concrete base or frangible point more than 3 inches above grade.

E. Holding Position Markings/Signs

- 1.) Signs not in accordance with standards in AC 150/5340-18, current edition, Standards for Airport Sign Systems & 150/5345-44, current edition, Specification for Taxiway & Runway Signs.
- 2.) Marking not in accordance with standards in AC 150/5340-1, current edition, Standards for Airport Markings.
- 3.) Hold markings not clearly visible.
- 4.) Glass beads not clearly visible at night.
- 5.) Damaged, missing, peeling, flaking, inoperable or obscured hold signs.

F. Lighting

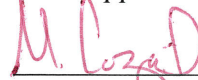
- 1.) Lights not in accordance with standards in AC 150/5340-30, current edition, Design and Installation Details for Airport Visual Aids.
- 2.) Lighting systems not maintained in accordance with Section 311 of this ACM or Appendix A, of AC 150/5340-26, current edition, Maintenance of Airport Visual Aid Facilities.
- 3.) Lights obscured, dirty, missing, or out of adjustment.
- 4.) Inoperable lighting system.
- 5.) More than 15% of lights out on runway edge light system for Cat I, NPI or visual runway.
- 6.) More than 5% of lights out on runway edge light system for Cat II or III runway.
- 7.) Two or more runway edge lights out in a row. (Any missing fixtures at intersections are counted as an inoperable light.)
- 8.) More than 5% runway centerline lights out.
- 9.) More than 10% TDZ lights out.
- 10.) Two or more threshold/runway end lights out on any runway end.
- 11.) More than two adjacent taxiway lights out/more than 15% out in a taxiway system.
- 12.) More than 10% taxiway centerline lights out in a taxiway system.
- 13.) Inadequate shielding of apron, parking, and roadway lighting.

G. NAVAIDS

- 1.) Inoperable rotating beacon.
- 2.) Inoperable lighting on wind direction indicators.

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- 3.) Deteriorated, faded, or malfunctioning wind sock.
- 4.) Objects, vegetation, or snow that may affect NAVAID signals.

H. Obstructions

- 1.) Inoperable obstruction lights.
- 2.) New construction nearby which may affect aircraft operations or NAVAIDS.

I. Airfield Construction Areas

- 1.) Barricades not in place or too high to provide adequate clearance for aircraft.
- 2.) Construction warning lights inoperable.
- 3.) Construction warning lights on movement areas are not red.
- 4.) Marking of construction vehicle routes inadequate.
- 5.) NOTAM's not current.
- 6.) Construction equipment parked or operating in unauthorized areas.
- 7.) Marking, lighting, or sign systems being installed contrary to FAA standards.
- 8.) Potentially confusing marking/lighting/signs around construction areas.
- 9.) Construction activity contrary to AC 150/5370-2, current edition, Operational Safety on Airports During Construction.
- 10.) Construction activity contrary to the Construction Safety Plan.

J. Fencing

- 1.) Perimeter fencing down, gates open, or signs missing.
- 2.) Apron fencing down, gates open, or signs missing.

K. Wildlife Hazards

- 1.) Presence of birds, deer, coyotes or other wildlife that could affect safe operations of air carrier aircraft.

139.329 PEDESTRIANS & GROUND VEHICLES

1. Authorized Ground Vehicles

Only those ground vehicles authorized by the Airport Authority or those operating in support of Aircraft/Airline operations will be allowed in the aircraft movement area and safety areas at St. Louis Lambert International Airport.

Operators of the above vehicles will be required to have both a valid state operator's and a Lambert Airport Identification Badge. Operators of vehicles who do not possess an Airport ID Badge will be escorted at all times by personnel possessing appropriate Airport Identification.

2. Access to Airport Movement Areas and Safety Areas

Access to aircraft movement areas and safety areas is restricted by means of 2 (two) continuously manned, guard controlled electric gates, a remote-controlled overhead electric gate and a series of perimeter fence gates, each of which is chained and padlocked.

Keys to padlocks and controls for remote-controlled gates are distributed to Airport Personnel on an as needed basis. Access through any of the four manned electric gates is only possible by displaying Airport Identification and by driving an approved vehicle.

3. Vehicle Communications

All ground vehicles desiring to enter, cross or drive on any runway, taxiway or other aircraft movement area and/or associated safety area must be equipped with a two-way radio capable of communications with STL ATCT on the operative Ground Control frequency.

All ground vehicles that are not being escorted will establish two-way radio communications with STL ATCT Ground Control and receive clearance prior to entering any runway, taxiway or other aircraft movement area. Vehicles so cleared will maintain two-way radio communications with, constantly monitor and be subject to control by STL ATCT Ground Control at all times while operating in aircraft movement areas and must request and receive clearance before entering any other movement area. Before proceeding onto an aircraft movement area that has been closed by an amendment to the Airfield Condition Report, vehicles must still request and receive an initial clearance from STL ATCT Ground Control. Vehicles will always advise STL ATCT Ground Control when they are clear of the respective aircraft movement area following each clearance by STL ATCT.

In the event a vehicle loses radio contact with STL ATCT Ground Control while it is on an active runway, taxiway or other Airport Movement Area, the vehicle will flash its headlights in the direction of the Control Tower in an effort to get the attention of Control Tower Personnel. Once so alerted, Air Traffic Control Tower personnel will signal the vehicle with a light gun from the Control Tower cab until such time as the vehicle is clear of the aircraft movement area.

A ground vehicle not equipped with a two-way radio capable of communications with STL ATCT on operative Ground Control frequencies that desires access to any runway, taxiway or other aircraft movement area and/or associated safety area, must be escorted on and off the runway, taxiway, or other aircraft movement area and/or associated safety area and accompanied at all times by a vehicle so equipped.

4. Lead Vehicle Escorting Procedures

The lead vehicle shall establish communications with the Air Traffic Control Tower, stating their location, intentions and the number of vehicles being escorted. All vehicles being escorted must follow the lead vehicle at all times while under escort. The lead escort vehicle will inform all subsequent vehicle operators of this standard operating procedure. An escorted vehicle may break off from an established group only if they have established communications with the Air Traffic Control Tower on their radio and receive clearance to break off from the group.

5. Ground Vehicle Operations Procedures

The following procedures establish the rules and regulations governing vehicle movements on aircraft movement areas at St. Louis Lambert International Airport under the authority of St. Louis, Missouri County Ordinance #8778, dated August 8, 1978.

A. Rules and Regulations

- 1.) Only persons possessing a valid state operator's license and a valid airport identification badge will be authorized to operate any motorized vehicle, other than aircraft, on aircraft movement areas at Lambert.
- 2.) Riding on baggage carts, trailer hitches, fenders, or on any portion of a vehicle not equipped with proper seats is prohibited.
- 3.) All vehicle lights will be lighted from sundown to sunup or during the time of reduced visibility when said vehicle is being operated.
- 4.) All baggage tugs and motorized ramp vehicles must have at least two working headlights. When headlights cannot be dimmed by a dimmer

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switch, they must be focused so as to strike the ground not more than 50 feet ahead of the vehicle. All baggage tugs and motorized ramp vehicles must have at least one operating tail light.

- 5.) All non-motorized equipment will have reflectorized material on the rear of said equipment.
- 6.) All vehicles with a type chassis that normally would be licensed to operate on highways will have two headlights, two operating tail lights and stop lights.

B. Traffic Rules and Regulations on Ramp/Aprons

- 1.) No person will operate a motor vehicle of any kind in a reckless manner or in excess of the speed limits prescribed by the Airport Authority (15 miles per hour on the apron or ramp). Motor vehicles will be so operated as to be under proper control at all times.
- 2.) A moving aircraft, an aircraft with engines running, or an aircraft under tow has the right of way over all vehicles.
- 3.) Transit vehicles crossing the ramp and/or apron area around the gate positions will travel on the outer side of the parked aircraft.
- 4.) Vehicles operating on the ramp and/or apron will pass to the right of approaching vehicles at all times. To pass a vehicle traveling in the same direction, the overtaking vehicle will pass on the left side of the vehicle being overtaken.
- 5.) No vehicle will be left unattended with motor running on the ramp or apron without first setting the parking brake, and only when necessary to perform the primary vehicle function.
- 6.) No equipment or vehicle will be parked in the middle of the ramp or apron, or in such a manner as to obstruct or block driveways or doors.
- 7.) No vehicle will have more than four carts, six pod dollies, or four wide body trailers in tow at any one time.
- 8.) Private vehicles will not be permitted on aircraft movement areas unless escorted by Airport Police, airline personnel, or Airport Authority personnel.
- 9.) All vehicles will use traffic lanes where they are marked or as so designated.

- 10.) In the event a vehicle becomes disabled, the operator is to immediately turn on the vehicle emergency flashers and/or rotating beacon(s), and notify their company of the situation and request assistance. A representative of the company is to then notify the Airport Operations Center with type of vehicle, location and an estimate of the time required to remove the vehicle from the area.

C. Enforcement

Enforcement of the ground vehicle operations procedures and traffic rules and regulations as contained in this section will be the same as regards to the consequences of noncompliance by any employee, tenant or contractor as follows;

- 1.) Violators of the above rules and regulations maybe issued a traffic citation requiring appearance in St. Louis County Traffic Court.
- 2.) Movement Area Violations - Upon notification of a violation, such as a runway incursion, the Director of Airports or designated representative will take under advisement the individual and the violations involved and may, at his/her discretion, immediately revoke the airport movement area driving privileges of the concerned individual. A debrief and recurrent Movement Area training by Airport Operations shall be conducted before any person involved in a runway incursion will be authorized to drive on the Movement Area.
- 3.) Non-Movement Area Violations – Violations, such as speeding on the ramp, follow a progressive penalty type of system. 1st violation is a written warning, 2nd violation is mandatory recurrent training with Airport Operations, 3rd violation is a loss of driving privileges for 7 days and mandatory recurrent training with Airport Operations and the 4th violation is loss of driving privileges for one year and mandatory recurrent training with Airport Operations.
- 4.) The uniformed Police Officers or Airport Operations, as designated by the Director of Airports are empowered to require compliance with these rules and regulations. No authority is hereby either expressed or implied, however, that would permit any individual other than the Director of Airports to change, alter, or amend these rules and regulations, in accordance with St. Louis County Ordinance No. 8778 (7-24-78).

6. Training of Employees

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A. Movement Area and Safety Area Access

The Airport Operations Center shall train all personnel who access movement areas and safety areas and perform duties in compliance with the requirements of the ACM and Part 139. Training must be completed before the initial performance of such duties and, for all personnel authorized to access the movement areas and safety areas. All personnel shall undergo recurrent training at least once every 12 consecutive calendar months on the AAAE Interactive Employee Training (IET) computers. The Airport has prepared a Movement Area Driver's Training Class Manual that is provided to all personnel authorized to operate on the movement areas and safety areas. The curriculum for initial and recurrent training must include at least the following areas:

- 1.) Review of the Movement Area Driver's Training Class Manual.
- 2.) Airport Familiarization, including airport marking, lighting, and signs system.
- 3.) Procedures for access to, and operations in, movement areas and safety areas, as specified under Part 139.329.
- 4.) Airport communications, including radio communication between air traffic control tower and personnel.
- 5.) Any additional subject areas required under Part 139, Sections 319, 321, 325, 327, 337, and 339 as appropriate.
- 6.) Viewing a PowerPoint presentation and a training video.

Additional department-specific Part 139 training for Airport Authority employees is conducted by the Safety Office.

B. Apron and Ramp Area Access Only

The Airport Operations Center has prepared a Non-Movement Area Driver's Training Class that new employees, who access apron and ramp areas, are required to attend prior to the initial performance of their duties. These employees primarily consist of airline and FBO employees, contractors, and Airport Authority personnel. The curriculum includes at least the following areas:

- 1.) Review of the Non-Movement Area Driver's Training Class Manual.
- 2.) Airport Familiarization, including airport marking, lighting, and signs system.
- 3.) Regulations governing vehicular traffic.
- 4.) Foreign Object Damage (FOD).
- 5.) Any additional subject areas required under Part 139, Sections 321, 329 and 339 as appropriate.
- 6.) Viewing a PowerPoint presentation and a training video.

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On-the-job training for Airport Authority employees is conducted by the employee's supervisor.

C. Tenant Training

The Airport Administrator may, on a case by case basis, allow an individual tenant to train their employees. These employee trainers are required to complete the appropriate Airport Authority class described above and are strongly encouraged to complete recurrent training with the Airport Authority at least once every 12 consecutive calendar months.

Tenants that conduct their own training are responsible for keeping records of all training completed by each individual in compliance with this section.

To ensure proper training and oversight, tenant training records and classes may be audited at any time by the Airport Operations Supervisor.

D. Personnel Training Program

A training curriculum has been prepared for the following topics related to the airport certification program required by F.A.R. Part 139.303(c). The training consists of an outline of the subject matter for each airport certification related topic and a list of training materials available for use. Content of training is primarily based on airport related Advisory Circulars, (Series 150), the ACM and F.A.R. Part 139. The Airport Operations Supervisor and the Airport Safety Manager are responsible for administering the training program and maintaining records of training.

The following personnel are required to receive initial and annual recurrent training in airport certification related areas as required by F.A.R. Part 139.303(c).

1. Airport Operations Center personnel are trained in accordance with a training curriculum addressing the following topics:
 - a. Airfield Familiarization & Radio Procedures
 - b. Airport Certification Manual (ACM)
 - c. FAA Standards for Airfield Marking, Signs and Lighting, instructed by Airport Safety Office.
 - d. Airport Self Inspection Program; F.A.R. Part 139 maintenance criteria for maintaining paved areas, safety areas, airfield markings, signs, lighting, obstruction lighting, ILS critical areas, traffic and wind direction indicators.
 - e. Maintenance of Airport Visual Aid Facilities (most current AC)
 - f. Operational Safety on Airports During Construction (most current AC)
 - g. Ground Vehicle/Pedestrian Operations on the Movement Area

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- h. Wildlife Hazard Management (trained by USDA Wildlife Biologist)
 - i. Snow and Ice Control Plan
 - j. Airport Condition Reporting (NOTAMS)
 - k. Airport Emergency Plan (responsibilities related to their position)
 - l. Surface Movement Guidance and Control System (SMGCS)
2. Airport Airfield Maintenance personnel are trained in accordance with a training curriculum addressing the following topics:
- a. Airfield Familiarization & Radio Procedures
 - b. FAA Standards for Airfield Marking, Signs and Lighting, instructed by Airport Safety Office.
 - c. Snow and Ice Control Plan
3. Airport Electric Shop personnel are trained in accordance with a training curriculum addressing the following topics:
- a. Airfield Familiarization & Radio Procedures
 - b. FAA Standards for Airfield Marking, Signs and Lighting, instructed by Airport Safety Office.
4. FAA Technical Operations personnel are trained in accordance with a training curriculum addressing the following topics:
- a. Airfield Familiarization & Radio Procedures
5. FBO/Airline personnel are trained in accordance by their own safety instructors with a training curriculum addressing the following topics:
- a. Non-Movement Area Driver's Training Class
6. Boeing personnel are trained in accordance by their own safety instructors with a training curriculum addressing the following topics:
- a. Airfield Familiarization & Radio Procedures
7. Authorized Construction personnel are trained in accordance with a training curriculum addressing the following topics:
- a. Airfield Familiarization & Radio Procedures
7. Distribution to Airport Tenants, Employees, and Contractors

A copy of ground vehicle operations procedures, traffic rules and regulations and enforcement provisions as contained in this section will be made available to each employee, tenant or contractor with access to any aircraft movement area as follows:

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- A. A copy will be provided to all affected Airport tenants via the Airport's website. It will be the responsibility of the Airport Authority to ensure distribution of these procedures, rules and regulations and enforcement provisions to the tenants; however, it will be the responsibility of the tenant to ensure further distribution to their own personnel.
- B. A copy will be made available to all affected employees through their respective Airport Authority Department heads.
- C. A copy will be provided to all affected Airport contractors as part of the Security Access Procedures. It will be the responsibility of the Airport Authority to ensure distribution of these procedures, rules and regulations and enforcement provisions to the contractors; however, it will be the responsibility of the contractor to ensure further distribution to their own personnel.

8. Vehicle Accident Reports

All persons involved in any personal or automotive accident occurring on the premises of St. Louis Lambert International Airport will make a report to the Airport Police as soon as possible giving all pertinent information as requested by the responding officer. Each operator of a ground vehicle involved in any accident or incident with an aircraft or involved in any accident or incident in a movement or safety area will immediately report the accident or incident both to the Airport Police and the Airport Authority Operations Center, giving all pertinent information as requested by the responding officer and Operations Supervisor in charge.

9. Records

- A. Records of training completed by each individual will include, at a minimum, a description and date of training received. These records are maintained for 24 consecutive calendar months after completion of training.
- B. Accident and incident reports in the Movement Areas and Safety Areas will be kept on file in the Airport Director's Office for no less than 12 months.



139.331 OBSTRUCTIONS

1. General

All contractors shall send an FAA Form 7460-1, Notice of Proposed Construction or Alteration to the FAA Regional Office when / where applicable.

2. Obstructions

Obstructions as determined by the FAA which are lighted and listed in Section 139.311 of this Airport Certification Manual. Obstruction lighting is inspected daily as a part of the Electrical Inspections; see Section 139.327 of this Airport Certification Manual.

Obstructions as determined by the FAA which are outside the Airport perimeter fence are listed in Appendix B.

3. Zoning Ordinance

It will be the responsibility of any contractor, individual or organization who wishes to build upon, alter existing premises or construct new premises upon property at Lambert-St. Louis International Airport to be in compliance with all Local, City, County, State and Federal Ordinances, to include FAR Part 77.13, Construction Or Alteration Requiring Notice, and must submit a Tenant Construction or Alteration Application to the Airport Properties Division Manager.



Date: **FEB 02 2015**

139.333 PROTECTION OF NAVAIDS

1. Construction Review

It shall be the responsibility of the Assistant Director of Engineering and the Assistant Director of Operations & Maintenance to review all proposed construction plans and equipment needed for such construction, which may take place on, around or near Airport Grounds. When such plans require it, they will be submitted to the FAA Regional Office along with FAA Form 7460-1, Notice of Proposed Construction or Alteration. This form and plans will be submitted no less than 30 days prior to the starting date of the construction or alteration.

Necessary requirements for submission of FAA Form 7460-1 are as follows:

- A. Construction or alteration on Airport Property;
- B. Construction, alteration or necessary equipment in Instrument Approach Areas;
- C. Construction, alteration or necessary equipment above 200 feet AGL;
- D. Penetration of FAR Part 77 Imaginary Surfaces by construction, alteration or necessary equipment.

2. Construction Coordination

Prior to the start-up of any construction, the Assistant Director of Planning & Engineering, the Assistant Director or Operations & Maintenance, affected Airport Tenants, and personnel of the local FAA Air Traffic Control Tower will meet to ensure construction will create the absolute minimum interference to airport and/or aircraft operations and airport NAVAIDS.

Blueprints are available in the Airport Engineering Offices for use by construction personnel to prevent the inadvertent disruption of Airport utilities (Utilities such as underground electrical lines, sewage lines, fuel pipelines, water lines, etc.). Additionally, during construction, personnel of the Airport Authority will periodically inspect construction areas to ensure minimization of airport/aircraft operations interruptions.

3. NAVAID Protection

NAVAIDS located inside the airport perimeter are protected by the airport's perimeter fence and are thus not easily accessible for theft, vandalism or acts of malicious mischief. NAVAIDS located outside the airport perimeter are individually protected by chain link fences.

NAVAIDS inside Airport property are inspected daily by Operations Personnel on their scheduled inspections. NAVAIDS outside Airport property are inspected for integrity by members of the Airport Police on their perimeter inspections.

4. Protection of NAVAID Visual And Electronic Signals

Inadvertent interruption of NAVAID visual and electronic signals is to be kept to a minimum by the use of the following:

- A. Use of ILS Hold Signs, where needed, in, around or near ILS Critical Areas;
- B. Use of ILS Hold Signs, where needed, on service/access roads passing through or near ILS Critical Areas;
- C. Inspections of ILS Critical Areas for excess build-ups of snow, vegetation or other foreign debris.
- D. Training of airport vehicle operators in locations, weather conditions and restrictions of ILS Critical Areas.

M. M. Miller

Date: FEB 02 2015

139.335 PUBLIC PROTECTION

1. Fencing

The airport perimeter at St. Louis Lambert International Airport is surrounded entirely by a series 8-10 foot chain link fencing. Atop the chain link fencing is 3 strands of barbed wire to prevent individuals from scaling these fences.

Signs indicating the following are posted at 200' intervals along the perimeter fencing:

RESTRICTED AREA
DO NOT ENTER
TRESPASSERS WILL BE PROSECUTED

Fencing at Lambert is constructed in such a way as to prevent inadvertent or accidental entries onto Airport Property and is designed to seriously hamper any attempts to breach Airport Perimeters.

In addition to the perimeter fencing, internal chain link fencing has also been erected at certain areas of the Airport. These areas are:

- A. ATS Jet center;
- B. At the Boeing complex at the northeast corner of the Airport;
- C. At the Signature FBO at the northeast corner of the Airport;
- D. At the airline cargo area at the southeast corner of the Airport;
- E. At the fuel farm vehicle storage and staging area.
- F. Contractor staging and snow dump areas.

All perimeter fencing will have gates incorporated for field access. These gates are kept chained, padlocked and are inspected daily by the Airport Police on their perimeter checks.

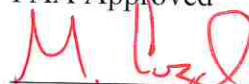
2. Field Access

Access to the Aircraft Movement Area is restricted to those individuals with an operational need for access. These individuals must attend the Airport Security Identification Display Class and an Airfield Familiarization Class to obtain a valid Airport Identification Badge which must be shown/worn. Access through perimeter fence gates is only authorized when personnel are complying with 49 CFR Part 1542. Access through perimeter fence gates will be controlled by the Airport Authority and the Director of Airports will have the final approval authority for all personnel desiring entrance into the Aircraft Movement Area.

All perimeter fence gates will be chained and locked each time an entry or exit is made through a gate. Perimeter fence gates will not be allowed to stand open unless an

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individual is stationed at the gate to monitor vehicle and personnel using the gate.

3. Inspection and Maintenance

Perimeter gates and fences are inspected on a daily basis by the Airport Police with at least one inspection per shift (A minimum of 3 perimeter fence and gate inspections daily). Personnel of the Operations Center and Airfield Maintenance also make periodic inspections of the perimeter fencing and gates. Fences will be checked for integrity and gates will be checked to ensure they are chained and locked.

Should a gate be found unlocked, it will be locked immediately and a report given to the Airport Police so they may follow-up and determine who left the gate unlocked and then take the appropriate disciplinary measures.

Should a section of fencing be found damaged, Airfield Maintenance personnel will be notified so that they can make immediate repairs as needed to reinstate the integrity of that section. If necessary, further required and permanent repairs will be scheduled at the soonest possible time should immediate repairs not be adequate to ensure final integrity of the fence in question.

4. Blast Fencing

At this time there are four areas at Lambert that have Blast Fences. These areas are:

- A. At the southwest corner of the Airline ramp between the Charlie pad and the Missouri Air National Guard ramp;
- B. At the south side of the "A" concourse at the connecting point with Terminal 1.
- C. At the south edge of the American Airlines Maintenance/Cargo ramp located at the southeast corner of the airport.
- D. Near the Southeast retention basin.

139.337 WILDLIFE HAZARD MANAGEMENT

Due to potential wildlife hazards to aircraft operations, a Wildlife Hazard Assessment (WHA) was completed for the St. Louis Airport Authority by the USDA-APHIS-Wildlife Services (WS). This comprehensive assessment identifies potential wildlife hazards at Lambert Airport. The WHA is based on data collected for the years 2003 through 2009, and was received by the airport in 2011. This Wildlife Hazard Management Plan (WHMP) has been developed in compliance with FAR Part 139.337 and Certalert 09-10. The recommendations found in the WHA are an effort to protect the traveling public from wildlife hazards.

1. Requirements

The St. Louis Lambert International Airport Authority will conduct an assessment in accordance with FAA requirements when any of the following events occur:

- A. Multiple bird strikes or engine ingestion experienced by an Air Carrier aircraft;
- B. Collision of an Air Carrier aircraft with wildlife, other than birds, resulting in aircraft damage;
- C. Observation of wildlife having access to aircraft operation areas or in flight patterns containing numbers or sizes capable of causing either of the above events.

In case any of the above events occur, the Assistant Director Operations & Maintenance will make a report to the FAA Regional Office and the U.S. Department of Agriculture, Wildlife Services Office.

2. Contents

The contents of the assessment conducted include, but are not limited to the following:

- A. Review and analysis of an event;
- B. Identification of the species and numbers of birds or animals involved in the event;
- C. Identification of the local movement areas of the involved species;
- D. Daily and seasonal occurrences of wildlife;
- E. Identification and location of features on and near the Airport that may attract wildlife;
- F. Description of the wildlife hazard to Air Carrier operations.

3. Responsibilities

- A. Airport Operations Supervisor
 - Responsible for all wildlife management activities that occur at Lambert Airport.

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- Provides resources and supplies required to support the provisions of the WHMP.
- Responsible for the annual cooperative service agreement between the STLAA and the USDA-APHIS-Wildlife Services.

B. Operations Center

- The on-duty Operations Supervisor or his/her designee has overall authority in the coordination of immediate wildlife issues at Lambert Airport.
- Inspect and monitor the airfield for significant wildlife activity.
- Disperse activity when necessary to protect life and property.
- Respond to wildlife strike notifications made by ATC, pilots, and other personnel. Take appropriate action as needed.
- Advise ATCT of significant wildlife activity that is observed on the airfield that may present an imminent danger to aircraft arriving at or departing from Lambert Airport.
- Document wildlife strikes involving known or unknown aircraft and any significant wildlife activity observed on, above, or in the vicinity of Lambert Airport in the Operations Center logbook.
- Complete Bird/Wildlife strike reports and observation reports as needed.
- Advise USDA Wildlife Service's personnel at Lambert of changes in wildlife activity.

C. Field Maintenance Department

- Provide the Operations Center with assistance as needed.
- Contact the Operations Center when large flocks of birds, dogs, or other wildlife are observed on or above the airport.

D. Airport Police Department

- Provide the Operations Center with assistance as needed.
- Contact the Operations Center when large flocks of birds, dogs, or other wildlife are observed on or above the airport.

E. Environment / Safety Department

- Provide the Operations Center with assistance as needed.
- Contact the Operations Center when large flocks of birds, dogs, other wildlife are observed on or above the airport.
- Conducts specific FAR Part 149 training classes.

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- F. Air Traffic Control Tower (FAA)
- Advise the Operations Center of significant wildlife activity that is observed on the airfield that may present an imminent danger to aircraft arriving at or departing from Lambert Airport.
 - Complete the STLATCT Form 7210-27 Wildlife Strike Form when applicable. The ATCT will advise the OPS Center when a wildlife Strike Form is completed.
A copy of each completed form will be provided to the Operations Center.
 - Place wildlife advisory statements on the ATIS recording as needing.
- G. USDA-APHIS-Wildlife Services
- Two fulltime USDA Wildlife Service's employees work at Lambert under a cooperative service agreement with the St. Louis Airport Authority. Wildlife Services will assist the Operations Center with wildlife issues as needed.
- H. Other Airport Authority Departments
- Assist the Operations Center with wildlife issues as needed.

4. Habitat Management Plans

Actions taken on a regular basis by Airport Authority personnel will include but not be limited to the following:

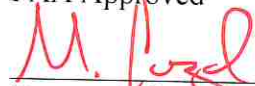
- A. Removal of food sources attractive to birds or wildlife, when possible;
- B. Removal of brush, woodlands and undergrowth, when possible;
- C. Systematic cutting of all grass areas on airport property before they go to seed;
- D. Agricultural areas adjacent to airport properties shall be restricted to the farming generally unattractive to birds or wildlife where the airport has jurisdiction;
- E. Fencing and maintenance of all Aircraft Movement Areas to prevent and discourage the entry and passage of animals;
- F. Utilization of appropriate government agencies for those areas outside airport control.
- G. Removal of pigeons and starlings from the airfield and terminal areas.
- H. Removal of waterfowl from the airfield and surrounding properties.

5. Federal Wildlife Control Permits

The USDA-APHIS-Wildlife Services coordinates all wildlife management activities with the Department of the Interior-US Fish and Wildlife Service. All necessary permits are maintained. Control of mammals and other wildlife covered by the Missouri Code of State

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regulations is coordinated through the Missouri Department of Conservation. If requested, the USDA-APHIS-Wildlife Services will assist the Lambert Airport Authority in obtaining the necessary permits required to carry out the Wildlife Hazard Management Plan.

The Lambert Airport Authority currently has a Depredation permit that is in compliance with 50 CFR Parts 13 and 21.41; see copy at the end of this section.

6. Supplies and Resources

Supplies maintained by the Operations Center:

- Beeman .177 Cal Model R9 Air Rifle
- 2, 6-Shot Pyrotechnic Pistols that shoot both bird bangers and screamers.

If necessary, assistance from one or more of the following agencies will be solicited:

- A. U.S. Department of Agriculture
- B. Missouri Department of Conservation
- C. St. Louis County Department of Community Health/Rabies Control
- D. Cities of Berkeley, Bridgeton, and Hazelwood Animal Control
- E. World Bird Sanctuaries
- F. Humane Society of Missouri
- G. Animal Protective Association of Missouri

7. Procedures to Be Followed During Air Carrier Operations

A. It shall be the responsibility of the carrier involved to maintain control at all times over animals being shipped. The carriers will be responsible for all shipped animals in their leasehold areas and will be responsible for the capture and retrieval of any animals which may escape and enter the Airline Ramp Area.

In the event an animal, wild or domestic, enters onto a runway or taxiway, Field Maintenance, the Operations Center and/or Airport Police personnel will attempt to either capture the animal or force it from Airport Property.

If necessary, Ops Center or Field Maintenance personnel will also collect and dispose of any bird or animal carcasses which may be found on Airport Property.

B. The Operations Center will inspect the airport for wildlife activity as needed. Priority will be given to those wildlife hazards which may pose an immediate danger to air carrier operations.

C. Wildlife management activities will be conducted on the airport as needed. Each situation will be evaluated and handled in an appropriate manner. The use of pyrotechnics will resolve most situations; however, lethal control is sometimes

necessary. When pyrotechnics, a pellet gun, and/or the use of a shotgun are used on the airfield, the Ops Center will notify Airport Police, and wildlife activities must be coordinated with ATCT. Ops Center personnel should remain in radio contact with ATCT to ensure that the dispersal activities do not create a hazard for aircraft operations.

8. Periodic Review

The Wildlife Hazard Management Plan will be reviewed annually to determine its effectiveness in dealing with wildlife issues. Topics to be reviewed will include, but not be limited to the previous year's recorded wildlife observations and strikes, future airport planning, and wildlife management procedures. The review of the plan should include representatives from the Lambert Airport Authority, the USDA-APHIS-Wildlife Services, ATCT, and interested airport tenants.

9. Training

The USDA-APHIS-Wildlife Services has made an initial and recurrent training course available, every 12 months, to Lambert Airport Authority personnel who will be involved in wildlife hazard management activities. The course consists of wildlife hazard recognition, laws and regulations, wildlife identification, wildlife deterrent techniques, and pyrotechnic safety and use.



Permit Number: MB841099-0
Effective: 04/01/2018 Expires 03/31/2019

Issuing Office:

Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Migratory Bird Permit Office
5600 American Blvd West, Suite 990
Bloomington, MN 55437-1458
Tel: 612-713-5436 Fax: 612-713-5393

CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 3

Permittee

CITY OF ST LOUIS AIRPORT AUTHORITY
C/O ALEC SONNEK
4780 ST ANDREW LANE
BRIDGETON, MO 63044
U.S.A.

Name and Title of Principal Officer:

ALEC C SONNEK - WILDLIFE BIOLOGIST

Authority: Statutes and Regulations: 16 USC 703-712; 50 CFR Part 13, 50 CFR 21.41.

Location where authorized activity may be conducted:

Lambert-St.Louis International Airport, St. Louis, MO, to include all properties leased, owned or managed by the City of St. Louis Airport Authority and properties where the airport has a right of entry agreement, with authorization of the land owner.

Reporting requirements:

ANNUAL REPORT DUE: 1/31

You must submit an annual report to your Regional Migratory Bird Permit Office each year, even if you had no activity. Form: www.fws.gov/forms/3-202-9.pdf

Authorizations and Conditions:

- A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED ABOVE ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.
- B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL OR OTHER FEDERAL LAW.
- C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. You are authorized to take, temporarily possess, and transport the migratory birds specified below to relieve or prevent injurious situations impacting public safety. All take must be done as part of an integrated wildlife damage management program that emphasizes nonlethal management techniques. You may not use this authority for situations in which migratory birds are merely causing a nuisance

Carcasses may be hung as effigies and displayed as an added deterrent.

(1) The following may be lethally taken:

50 American Robins	50 Barn Swallows	150 Canada Geese	10 Chimney Swifts
30 Eastern Meadowlarks	5 Great Blue Herons	10 Great Egrets	10 Green Herons
50 Horned Larks	350 Killdeer	100 Mallards	600 Mourning Doves
40 Turkey Vultures	10 House Finches	200 Red-Tailed Hawks	30 American Kestrels
30 Snow Geese	20 Cooper's Hawks	10 Cattle Egrets	
30 Herring Gulls and/or Ring-Billed Gulls in the aggregate		30 Blue and Green-Winged Teals in the aggregate	

(2) The following may be live-trapped and relocated:

100 Cooper's Hawks	150 American Kestrels	50 Great Horned Owls	300 Red-Tailed Hawks
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Date: AUG 16 2018



Permit Number: MB841099-0
Effective: 04/01/2018 Expires: 03/31/2019

(3) The following active nests (including eggs) may be destroyed:

- 10 Canada Geese nests with eggs
- 5 American Robin nests with eggs
- 10 Mourning Dove nests with eggs
- 10 Killdeer nests with eggs
- 20 Barn Swallow nests with eggs
- 5 House Finch nests with eggs

E. You are authorized in emergency situations only to take, trap, or relocate any migratory birds, nests and eggs, including species that are not listed in Condition D (except bald eagles, golden eagles, or endangered or threatened species) when the migratory birds, nests, or eggs are posing a direct threat to human safety. A direct threat to human safety is one which involves a threat of serious bodily injury or a risk to human life.

You must report any emergency take activity to your migratory bird permit issuing office email to permitsR3MB@fws.gov, within 72 hours after the emergency take action. Your report must include the species and number of birds taken, method, and a complete description of the circumstances warranting the emergency action.

F. You are authorized to salvage and temporarily possess migratory birds found dead or taken under this permit for (1) disposal, (2) transfer to the U.S. Department of Agriculture, (3) diagnostic purposes, (4) purposes of training airport personnel, (5) donation to a public scientific or educational institution as defined in 50 CFR 10.12, (6) donation to persons authorized by permit or regulation to possess them, or (7) donation of migratory game birds only to a public charity (those suitable for human consumption). Any dead bald eagles or golden eagles salvaged must be reported within 48 hours to the National Eagle Repository at (303) 287-2110 and to the migratory bird permit issuing office email to permitsR3MB@fws.gov. The Repository will provide directions for shipment of these specimens.

G. You may not salvage and must immediately report to U.S. Fish and Wildlife Service Office of Law Enforcement any dead or injured migratory birds that you encounter that appear to have been poisoned, shot, electrocuted, have collided with industrial power generation equipment, or were otherwise killed or injured as the result of potential criminal activity. See USFWS OLE contact information below.

H. You may use the following methods of take: (1) firearms; (2) nets; (3) registered animal drugs (excluding nicarbazin), pesticides and repellents, (4) falconry abatement; and (5) legal lethal and live traps (excluding pole traps). Birds caught live may be euthanized or transported and relocated to another site approved by the appropriate State wildlife agency, if required. When using firearms, you may use rifles or air rifles to shoot any bird when you determine that the use of a shotgun is inadequate to resolve the injurious situation. You may use paint ball guns to haze birds or deter birds only when other methods of hazing are ineffective.

Anyone who takes migratory birds under the authority of this permit must follow the American Veterinary Medical Association Guidelines on Euthanasia when euthanization of a bird is necessary (http://www.avma.org/issues/animal_welfare/euthanasia.pdf).

Pole traps may be used to capture raptors only when all other reasonable and appropriate methods of deterrence and management prove ineffective. Pole traps employed between sunrise and sunset must be checked at least every 2 hours. Pole traps employed between sunset and sunrise must be checked at least once during the night. Pole traps must be closed down during inclement weather (e.g., precipitation or extreme temperatures) unless they are monitored continuously. Birds captured using pole traps must be relocated a distance sufficient to minimize potential for return to the capture site (preferably at least 100 miles away), except as otherwise authorized by your migratory bird permit issuing office. If injured, the bird must be transferred immediately to a federally permitted migratory bird rehabilitator or licensed veterinarian for care at the permittee's expense.

I. You may temporarily possess and stabilize sick and injured migratory birds and immediately transport them to a federally licensed rehabilitator for care.

J. The following subpermittees are authorized: Designated agents of the permittee

In addition, any other person who is

- (1) employed by or under contract to you for the activities specified in this permit, or
- (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

K. You and any subpermittee(s) must comply with the attached Standard Conditions for Migratory Bird Depredation Permits. These standard conditions are a continuation of your permit conditions and must remain with your permit.

For suspected illegal activity, immediately contact USFWS Law Enforcement at: Springfield, IL at 217-793-9554

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Date: AUG 16 2018



DEPARTMENT OF THE INTERIOR
 U.S. FISH AND WILDLIFE SERVICE
 Migratory Bird Permit Office
 5600 American Blvd West, Suite 990 - Bloomington, MN 55437-1458
 Tel: 612-713-5436 Fax: 612-713-5393
 Email: permitsR3MB@fws.gov

FEDERAL FISH AND WILDLIFE PERMIT

1 PERMITTEE

CITY OF ST LOUIS AIRPORT AUTHORITY
 dba LAMBERT-ST LOUIS INTERNATIONAL AIRPORT
 C/O ALEC SONNEK
 4780 ST. ANDREW LANE
 BRIDGETON, MO 63044
 U.S.A.

2 AUTHORITY-STATUTES
 16 USC 668a

REGULATIONS
 50 CFR Part 13
 50 CFR 22.23

3 NUMBER
MB205601-2 AMENDMENT

4 RENEWABLE
 YES
 NO

5 MAY COPY
 YES
 NO

6 EFFECTIVE
 02/02/2016

7 EXPIRES
 03/31/2019

8 NAME AND TITLE OF PRINCIPAL OFFICER (if not a business)
 ALEC C SONNEK
 WILDLIFE BIOLOGIST

9 TYPE OF PERMIT
 EAGLE DEPREDAATION

10 LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
 Lambert-St Louis International Airport and adjacent properties owned, leased, or managed by the City of St Louis Airport Authority

11 CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL, OR OTHER FEDERAL LAW

C. VALID FOR USE BY PERMITTEE NAMED ABOVE

D. You are authorized to use non-lethal scare devices, scare tactics or frightening devices to move or disperse:

15 Bald Eagles

endangering human safety due to a high risk of a serious bird strike to landing and departing aircraft. You are authorized to use airhorns, pyrotechnics, and drive vehicles with horns as necessary to scare eagles. Pyrotechnics must not be shot directly at the eagles.

E. You must make a continuous effort to eliminate attractants and other physical properties that may draw eagles to airport property.

F. This permit does not authorize the killing, injury or capture of any eagle or the destruction of any young or nests.

G. This permit does not authorize the disturbance of eagles at active nest sites that contain eggs or young or nests.

H. You must notify the permit issuing office at <permitsR3MB@fws.gov> within 48 hours of any injury or death of any eagle during project activities.

ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12 REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 01/31

You must submit an annual report to your Regional Migratory Bird Permit Office each year, even if you had no activity. Form: <<http://www.fws.gov/forms/3-202-11.pdf>>

ISSUED BY:

[Signature]

TITLE

CHIEF - MIGRATORY BIRD PERMITS

DATE

02/02/2016

I. The following subpermittees are authorized:

Robert C. Alexander, Wildlife Services

USDA/APHIS/WS personnel in conjunction with designated City of St Louis Airport Authority airport operations personnel

In addition, any other person who is

- (1) employed by or under contract to you for the activities specified in this permit, or
- (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

J. You must submit a report of activities conducted under this permit to the USFWS, Migratory Bird Permit Office, by the Jan 31 date specified on the face of the permit. The report form, 3-202-11, is available at: <http://www.fws.gov/forms/3-202-11.pdf>.

K. You must comply with the attached Standard Conditions for Eagle Depredation Permits. These standard conditions are a continuation of your permit conditions *and must remain with your permit*.

For suspected illegal activity, immediately contact USFWS Law Enforcement at:
St. Peters MO LE office 636-441-1909

L. Amended 06/18/2015: Amended to clarify reporting requirements in Condition J above; an annual report is the only report required for this permit. See Block 12 for reporting due date and FWS form.

In the event of injury or death to any eagle, submit an email notification per Condition H.

M. Amended 2/2/2016: Amended Condition D to increase from 5 to 15 bald eagles for hazing and change principal officer per 2015 Annual Report and WS37 received 2/1/2016.

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Date: AUG 16 2018



Standard Conditions Eagle Depredation Permits 50 CFR 22.23

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 22.23 are conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. The standard conditions below are a continuation of your permit conditions and must remain with your permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: <http://www.fws.gov/migratorybirds/mbpermits.html>.

1. Unless otherwise specified on the face of this permit, you may not lethally take any bald eagle or golden eagle under this permit. Eagles may be taken only by the method(s) specified on the face of your permit. [Note: Explosive Pest Control Devices (EPCDs) are regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). If you plan to use EPCDs, you require a Federal explosives permit, unless you are exempt under 27 CFR 555.141. Information and contacts may be found at www.atf.gov/explosives/how-to/become-an-fel.htm.]
2. If you encounter an eagle with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND (2263) or <http://www.reportband.gov>.
3. This permit does not authorize take or release of any bald eagle or golden eagle on Federal lands without additional prior written authorization from the applicable Federal agency, or on State lands or other public or private property without prior written permission or permits from the landowner or custodian.
4. Unless otherwise specified on the face of the permit, any bald eagle or golden eagle taken under this permit must be promptly turned over to a U.S. Fish and Wildlife Service (Service) agent or other wildlife law enforcement officer designated on the face of the permit.
5. Any person exercising the authorities of this permit must carry a legible copy of this permit, including these Standard Conditions, and display it upon request to any State or Federal officer when exercising its authority.
6. You must maintain records as required in 50 CFR 13.46. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.
7. Acceptance of this permit authorizes the Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.
8. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(EADP 12/3/2011)

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Date: AUG 16 2018

139.339 AIRPORT CONDITION REPORTING

Conditions that may affect the safe operations of air carriers at St. Louis Lambert International Airport will be reported to the Assistant Director of Operations & Maintenance and/or the Operations Center. These personnel will then issue an amendment to the Airport Condition Report (ACR) by updating the report on the airport's public website and faxing said report to the FAA STL ATCT. All air carriers are encouraged to check the web link at any time to receive the most current field conditions at the airport. Additionally, the St. Louis Lambert International Airport utilizes the FAA direct entry Digital NOTAM System (DNS). Operations Center personnel will make the required entry into the DNS for any condition that may affect the safe operations of air carriers at the airport.

In the event of an internet network outage or failure of the DNS system, Operations Center will fax the ACR & DNS to all air carrier tenants and shall revert to the legacy system for NOTAM issuance. The Operations Center will convey required information to the ATCT and Air Carriers using the most expeditious means available during outages.

1. Collection of Airport Conditions

Conditions requiring amendments to the Airport Condition Report are compiled through a variety of means. Regardless of how they are received, all conditions requiring amendments are directed to the Deputy Director of Operations & Maintenance, Assistant Director of Operations & Maintenance and/or the Operations Center.

Methods used to collect airport conditions include but are not limited to the following:

- A. Reports from airline pilots
- B. Daily inspection results from Operations Center Personnel
- C. Halliday RT3 and/or Bowmonk Decelerometer

2. Personnel Authorized to Amend the Airport Condition Report

The following personnel are authorized to amend the Airport Condition Report:

- A. Deputy Director of Operations & Maintenance;
- B. Assistant Director of Operations & Maintenance;
- C. All personnel of the Operations Center;
- D. Authorized designee

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3. Record of Amendments to the Airport Condition Report

Current year amendments are kept on file in the Operations Center until year-end at which time these amendments are filed and a new year amendment file is begun. Filed amendments are kept in the Airport Operations Center for no less than 12 consecutive calendar months.

4. Conditions Requiring Amendments

Amendments will be issued by the personnel in Paragraph 2 of this Section when any of the following conditions occur on Lambert's property which may cause unsafe operations of air carriers or Airport operations:

- A. Construction or maintenance on movement areas, safety areas or ramp apron areas;
- B. Surface irregularities on movement areas, safety areas, or apron areas;
- C. Snow, ice, slush or water on movement areas or apron areas;
- D. Piled or drifting snow on or near movement areas at such heights that all air carrier aircraft propellers, engine pods, rotors and/or wingtips will not clear the snowdrift or snowbank as the aircraft's landing gear traverses any full strength portion of the movement area.
- E. Objects in safety areas, other than those required by function;
- F. Malfunction of any required lighting system, holding position signs, or ILS critical area signs;
- G. The following light outage conditions as described in AC 150/5340-26, current edition, Maintenance of Airport Visual Aid Facilities:
 - 1.) Less than 85% runway edge lights operable for Cat I runways.
 - 2.) Less than 95% runway edge lights operable for Cat II & III.
 - 3.) Runway light outages that alter the basic pattern of the lighting system.
 - 4.) Less than 95% runway centerline lights operable.
 - 5.) Less than 90% runway TDZ lights operable.
 - 6.) Less than 75% runway threshold lights operable (2 inoperable max. at any runway end).
 - 7.) Less than 85% taxiway edge lights operable.
 - 8.) Less than 90% taxiway centerline lights operable.
 - 9.) Runway guard lights:
 - a.) Elevated- no more than one light in a fixture inoperable.
 - b.) In-pavement- no more than three lights per location inoperable nor two adjacent lights inoperable.
- H. Unresolved wildlife hazards;

- I. Non-availability of any required aircraft rescue and firefighting vehicle or capability;
- J. Any other condition which may otherwise adversely affect the safe operations of the air carriers of the Airport operations at Lambert.

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FAA Approved



Date: AUG 16 2018

139.341 IDENTIFICATION, MARKING, AND LIGHTING CONSTRUCTION AND OTHER UNSERVICEABLE AREAS

1. Construction Coordination

Any and all construction projects done at St. Louis Lambert International Airport must be coordinated through a number of personnel and agencies to ensure minimum amount of interference or obstruction to both air carrier operations and airport operations.

Personnel and agencies involved in construction coordination will include but are not necessarily limited to the following:

- A. Director of Airports, or his/her designee;
- B. Deputy Director of Operations
- B. Deputy Director of Planning & Development;
- C. Assistant Director of Engineering, or his designee;
- D. Airport Properties Division Manager;
- E. Assistant Director of Operations & Maintenance
- F. FAA Air Traffic Control Tower Supervisor, if construction will affect air carrier operations;
- G. Airline managers, if construction will affect the airline and its operations;
- H. Airport Authority Operations and Maintenance Departments and/or Construction Contractor, and/or any agency involved in the actual construction.

The Assistant Director of Engineering will have the primary responsibility for coordinating construction on the aircraft movement area while the Airport Properties Manager has the primary responsibility for construction with Airport buildings.

2. Marking and Lighting of Construction Areas

Each construction area on the aircraft movement area will be prominently lighted and marked so as to provide clearly defined construction area perimeters, to prevent inadvertent or accidental entry into the construction area by vehicles or aircraft. Lighting and marking of construction areas will commence prior to the actual start of construction and will remain in place and effective until the construction is completed and the area in question is ready for use again.

Lighting and marking of construction areas will be in accordance with requirements of FAA Advisory Circular 150/5370-2, current edition, Operational Safety on Airports During Construction.

3. Marking and Lighting of Construction Equipment/Roadways

- A. Construction vehicles and related equipment used during construction projects at Lambert will be marked, and drivers of the vehicles will be instructed on proper

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airfield driving procedures. Vehicles/Equipment, if used after daylight hours, will be equipped with operational headlights, hazard flashers and, if so equipped, with an operational rotating beacon. Drivers of equipment will be instructed to use all lights when working after sunset.

Vehicle marking and lighting will be in accordance with FAA Advisory Circular 150/5370-2, current edition, Operational Safety on Airports During Construction.

- B. Construction roadways will be marked and lighted in such a way as to define the roadway adequately and in such a way as to not interfere with aircraft or Airport operations.

4. Marking of Unserviceable Areas

Marking of unserviceable areas will be much the same as the methods used for marking and lighting construction areas, Paragraph 2 of this section. Unserviceable areas will be marked and lighted to prominently define the unserviceable area boundaries and will be set up to prevent inadvertent or accidental entry of vehicles or aircraft into unserviceable areas.

Taxiways or runways which will be closed for an extended period of time will be marked and lighted in accordance with FAA Advisory Circular 150/5370-2, current edition, Operational Safety on Airports During Construction.

5. Marking/Lighting of Areas Adjacent To NAVAIDS

Construction areas in, near, or adjacent to NAVAIDS will be marked and lighted, in order to prevent vehicles or equipment from crossing NAVAID signal paths and thus causing interruptions or failures of NAVAID systems. Marking and lighting of such areas will be submitted to the Regional FAA office prior to construction start for approval by the FAA and to ensure compliance with any and all FAA requirements regarding marking and lighting of such areas.

The Assistant Director of Planning & Engineering and the Assistant Director of Operations & Maintenance will ensure contractors have in place all marking and lighting necessary prior to construction start and will ensure these markings and lightings remain operational and readily observable during construction. These individuals, or their designees, will ensure markings or lightings are not dismantled or obliterated until all construction completed.

6. Utilities Damage Avoidance Procedures.

Prior to construction start, contractors will be apprised of all utilities in or near construction areas which may be affected by their operations. Blueprints with utility locations are maintained in the Airport Authority Engineering office and are available to

all contractors for use prior to construction start. Personnel of the FAA Regional office will assist contractors with locations of NAVAID utility lines.

The Assistant Director of Planning & Engineering, the Assistant Director of Operations & Maintenance, and personnel of the Operations Center will monitor construction activities to ensure utility lines are maintained intact. In the event of utility lines becoming damaged or broken, all efforts will be made to return the utility to operation as expeditiously as possible. Should it be necessary to sever a utility line during construction, all efforts will be made to make temporary connections enabling the utility line to remain operational. The aforementioned personnel will monitor these temporary connections to ensure their continuing operation until permanent reconnections of utility lines can be made.

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Date: AUG 16 2018

139.343 NONCOMPLYING CONDITIONS

Unless otherwise authorized by the FAA Administrator, whenever the requirements of Part 139 cannot be met to the extent that uncorrected, unsafe conditions exist on the Airport, St. Louis Lambert International Airport will limit air carrier operations to those portions of the Airport that are determined to be unsafe.

1. Personnel Responsible For Closing Unsafe Airport Areas

The Director of Airports or, their designee(s), will have the authority and responsibility to close any area, section, or part of the aircraft movement area in the event an unsafe condition develops which may interfere, disrupt or halt air carrier operations.

Closures will be collected and disseminated in accordance with procedures outlined in Section 139.339, Airport Condition Reporting, of this certification manual.

In the event a closure of an area becomes necessary, all efforts will be made to return the affected area to full operational capacity as soon as possible.

2. Limitation of Air Carrier Operations in Unsafe Areas

Air carrier operations in areas deemed unsafe will be limited to those operations the area is capable of handling or operations in the affected area will be halted completely. Unsafe areas will be marked and lighted in accordance with Section 139.341 of this certification manual.



St. Louis Lambert International Airport
 Part 139 Airfield Inspection Report
 Daily Inspection

Inspection Duration:
 Inspector:
 Inspection ID:

INSPECTION COMMENTS

OPEN WORK ORDERS

COMPLETED WORK ORDERS

ACTIVE NOTAMS

I am qualified and trained in self-inspection procedures as defined in FAR Part 139.303 & 139.327. My signature below certifies that I have inspected the following facilities per the requirements of the Part 139 inspection process. The conditions evaluated for each facility are defined in FAA AC 150.5200-18C Appendix 1 and based on FAR Part 139 subpart D standards. An "S" under each facility indicates I have completed an inspection and I have found all the conditions meet Part 139 standards. A "U" under any facility indicates I have completed an inspection and I have found a condition of the facility unsatisfactory. S= Satisfactory; U = Unsatisfactory; N = Not Inspect

Pavement Areas: Runways & Taxiways	Safety Areas	Markings	Signs	Lighting	Navigational Aids	Ramp Area	Public Protection	Construction	Obstructions	Wildlife Hazards	Snow & Ice	Misc
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

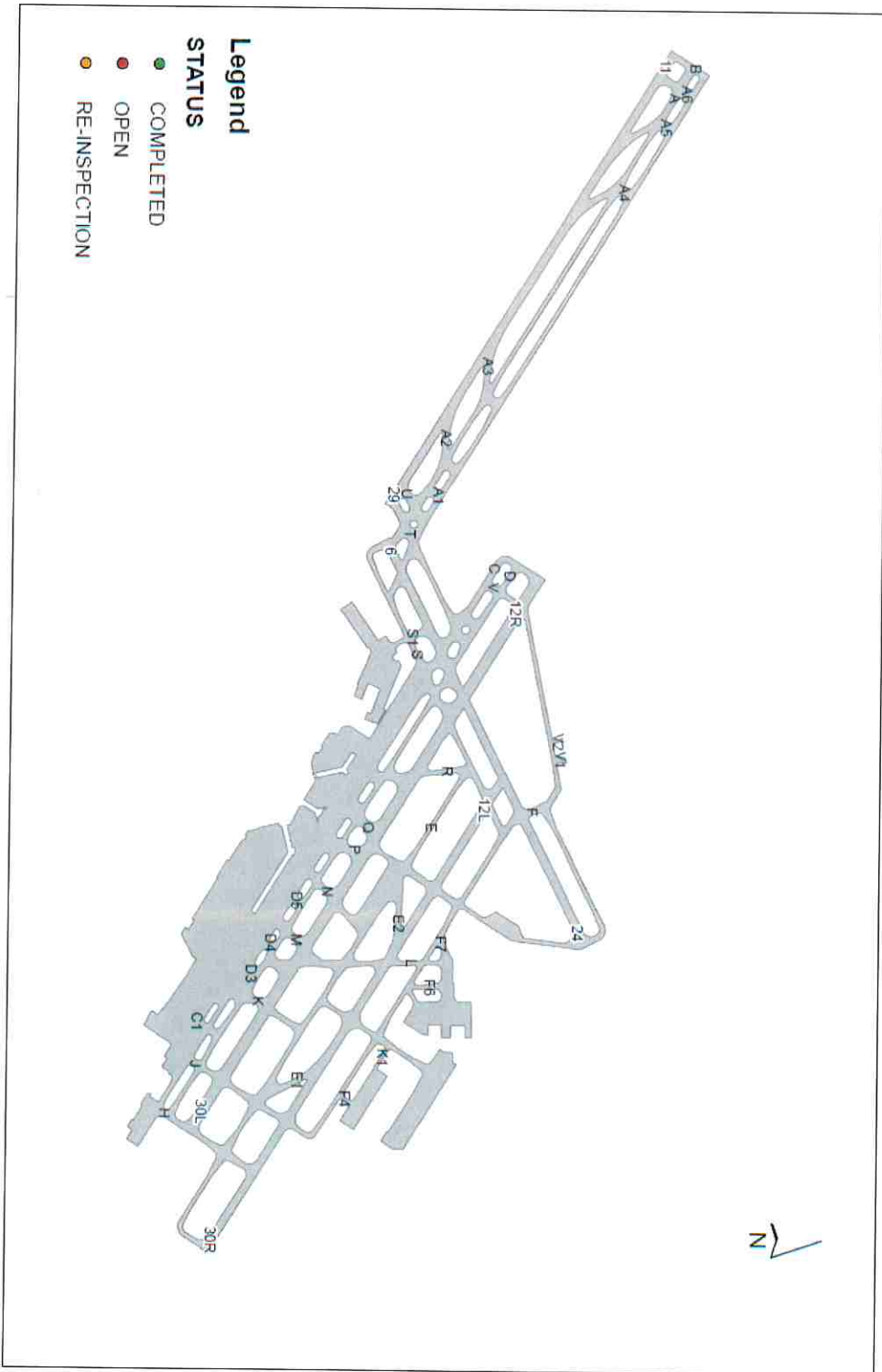
Signature: _____

AA-1

FAA Approved

Date: AUG 16 2018

Appendix A



PART 139 INSPECTION

Date

AA-1A

FAA Approved

Date: AUG 16 2018

ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
REGULARLY SCHEDULED INSPECTION CHECKLIST


DATE: _____ DAY: _____ TIME: _____ INSPECTOR(S): _____ /-Satisfactory M-Marginal
X-Unsatisfactory

FACILITIES	CONDITION	I	M	X	REMARKS
PAVEMENT AREAS: RUNWAYS & TAXIWAYS	Hole 5" Diam. 3" Deep				
	Crack Affecting Directional Control				
	Scaling/Spalling/Bumps/Low Spots				
	Pavement Lip over 3"				
	Vegetation Growth: In Cracks & Along Pavement Edges				
	Rubber Deposits				
	FOD: Gravel/Debris/Sand/Etc.				
SAFETY AREAS	Erosion/Ruts/Humps				
	Bases/Manholes Above Grade Level				
	Drainage: Sewer Drains Open/Standing Water				
	Obstructions				
MARKINGS	Visible & Standard				
	Runway Markings				
	Hold Position Markings				
	Taxiway Markings				
	SMGCS Markings				
SIGNS	Visible & Standard				
	Inoperable/Obscured				
	Damaged/Missing/Peeling/Flaking				
LIGHTING	Runway Lighting				
	Runway Guard Lights				
	Taxiway Lighting				
NAVIGATIONAL AIDS	Rotating Beacon				
	Wind Indicators				
RAMP AREA	Pavement/Marking/Lighting Condition				
PUBLIC PROTECTION	Fencing/Gates/Locks/Signs				
CONSTRUCTION	Barricades/Lights/Equipment Parking/Material Stockpiles				
	NOTAM's Issued				
MISCELLANEOUS	Wildlife/Obstruction Lighting/Other				
COMMENTS:					

SIC: _____

Airfield Map on Reverse Side

AA-1B

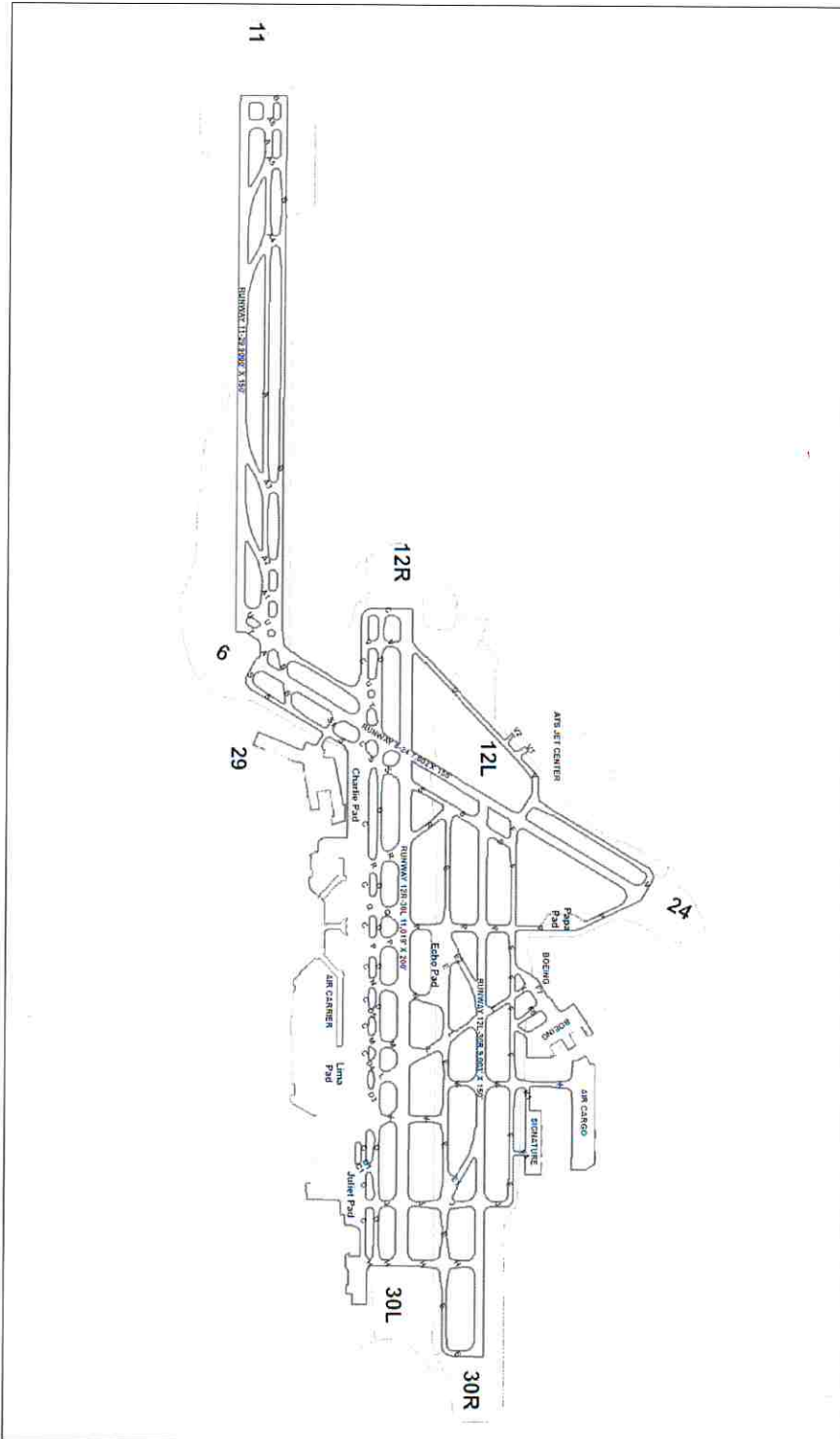
FAA Approved

 Date AUG 16 2018

The attached AA-1C is to be used for all operations at STL. It is a general information document and does not constitute a contract. It is subject to change without notice. It is the responsibility of the user to verify the accuracy of the information contained herein. It is not to be used for any other purpose.

Coordinate System:
North American Datum 1983 State Plane Feet

Prepared By:
Date: June 2018
Revised By:
Date:

Reviewed By:
Date:
Checked By:
Date:



FAA Approved

M. [Signature]

Date: AUG 16 2018



St. Louis Lambert International Airport
 Part 139 Airfield Inspection Report
 Continuous Surveillance Inspection

Inspection Duration:
 Inspectors:
 Inspection ID:

INSPECTION COMMENTS

OPEN WORK ORDERS

COMPLETED WORK ORDERS

ACTIVE NOTAMS

I am qualified and trained in self-inspection procedures as defined in FAR Part 139.303 & 139.317. My signature below certifies that I have inspected the following facilities per the requirements of the Part 139 inspection process. The conditions evaluated for each facility are defined in FAA AC 150.5200-10C Appendix 1 and based on FAR Part 139 subpart D standards. An 'S' under each facility indicates I have completed an inspection and I have found all the conditions meet Part 139 standards. A 'U' under any facility indicates I have completed an inspection and I have found a condition of the facility unsatisfactory. See Standards: U = Unsatisfactory; N = Not Inspect

Pavement Areas: Runways & Taxiways	Safety Areas	Margins	Signs	Lighting	Navigational Aids	Ramp Area	Public Protection	Construction	Obstructions	Wildlife Hazards	Snow & Ice	Misc
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____

AA-1D

FAA Approved

Date: AUG 16 2018



St. Louis Lambert International Airport
 Part 139 Airfield Inspection Report
 Special Inspection

Inspection Duration:
 Inspectors:
 Inspection ID:

INSPECTION COMMENTS

OPEN WORK ORDERS

COMPLETED WORK ORDERS

ACTIVE NOTAMS

I am qualified and trained in self-inspection procedures as defined in FAR Part 139.303 & 139.317. My signature below certifies that I have inspected the following facilities per the requirements of the Part 139 inspection process. The conditions evaluated for each facility are defined in FAA AC 150.5200-18C Appendix 1 and based on FAR Part 139 subpart D standards. An "S" under each facility indicates I have completed an inspection and I have found all the conditions meet Part 139 standards. A "U" under any facility indicates I have completed an inspection and I have found a condition of the facility unsatisfactory. S= Satisfactory; U = Unsatisfactory; N = Not Inspect

Pavement Areas: Runways & Taxiways	Safety Areas	Markings	Signs	Lighting	Navigational Aids	Ramp Area	Public Protection	Construction	Obstructions	Wildlife Hazards	Snow & Ice	Misc
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____

AA-1F

FAA Approved

Date: AUG 16 2018



St. Louis Lambert International Airport
 Part 139 Airfield Inspection Report
 Periodic Inspection

Inspection Duration:
 Inspectors:
 Inspection ID:

INSPECTION COMMENTS

OPEN WORK ORDERS

COMPLETED WORK ORDERS

ACTIVE NOTAMS

I am qualified and trained in self-inspection procedures as defined in FAR Part 139.303 & 139.317. My signature below certifies that I have inspected the following facilities per the requirements of the Part 139 inspection process. The conditions evaluated for each facility are defined in FAA AC 130.5200-18C Appendix 1 and based on FAR Part 139 subpart D standards. An "S" under each facility indicates I have completed an inspection and I have found all the conditions meet Part 139 standards. A "U" under any facility indicates I have completed an inspection and I have found a condition of the facility unsatisfactory. S= Satisfactory; U= Unsatisfactory; N= Not Inspect

Pavement Areas: Runways & Taxiways	Safety Areas	Markings	Signs	Lighting	Navigational Aids	Ramp Area	Public Protection	Construction	Obstructions	Wildlife Hazards	Snow & Ice	Misc
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____

AA-1E

FAA Approved

Date: AUG 16 2018

EFFECTIVE: July 22, 2018

SUBJECT: Revision to the Letter of Agreement, Airport Operations in Movement and Non-Movement Areas

1. **PURPOSE.** Amend the Letter of Agreement, Airport Operations in Movement and Non-Movement Areas, dated 12/17/10 to include updated airport diagrams.
2. **EXPLANATION OF CHANGES.** This Revision revises the airport diagrams in Attachments A and B to depict the relocation of taxiway Kilo and the removal of taxiway Foxtrot 5.
3. **PRECEDURES.** Replace pages 1 and 2 of Attachments A and B with the attached pages.



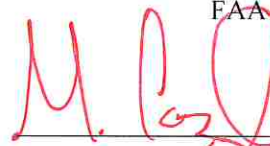
Ed Deuser
Air traffic Manager
St. Louis ATCT



Rhonda Hamm-Niebruegge
Director, Airport Authority
St. Louis Lambert International Airport

AA-2A

FAA Approved



Date: AUG 16 2018

**ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY**

LETTER OF AGREEMENT

EFFECTIVE: October 23, 2008

SUBJECT: AIRPORT OPERATIONS IN MOVEMENT AND NON-MOVEMENT AREAS

1. PURPOSE. Prescribes responsibilities and procedures for the operation of aircraft and/or vehicles on airport movement/non-movement areas.

2. CANCELLATION: St. Louis Airport Traffic Control Tower, Lambert-St. Louis International Airport Authority Letter of Agreement, subject: Airport Operations In Movement And Non-Movement Areas, dated April 13, 2006.

3. SCOPE.

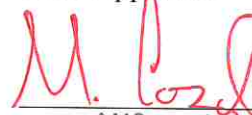
- a. Lambert-St. Louis International Airport Authority (AA).
- b. St. Louis Airport Traffic Control Tower (STL ATCT).

4. PROCEDURES

- a. The AA shall:
 - (1) Establish airport movement and non-movement areas.
 - (2) Keep current the Movement/Non-movement Area Chart as depicted in Attachment A.
 - (3) Provide and maintain standardized signs and markings that will indicate to all aircraft and vehicle operators the limits of the movement areas.
 - (4) Ensure that all vehicles:
 - (a) Operating on any movement area are equipped with a two-way radio capable of communications with STL ATCT on ground control frequency (121.9, or 118.925). No-radio vehicles shall be escorted by vehicles with two-way radio capability.
 - (b) Contact STL ATCT on ground control frequency prior to operating on any movement area, identifying the vehicle's location, destination on the airfield, and the specific route requested.
NOTE: In the absence of a requested route on the movement area, Ground Control will formulate and issue the specific route to the vehicle.
 - (c) Receive initial approval from STL ATCT on ground control frequency prior to operating on any movement area that has been closed by a NOTAM.
 - (d) When necessary, utilize island designators depicted in Attachment B to identify their position and/or intended area of operation in non-movement areas.

AA-2B

FAA-Approved



Date: AUG 16 2018

10/23/08

STL ATCT/STLAA LOA

(5) Manage/disseminate NOTAMs as follows:

(a) Issue a NOTAM concerning the closure of any movement/non-movement area. The duration of closure shall be specified if possible. If the duration of closure can not be determined, the duration will be shown as "until further notice" (UFN). If a runway closure is involved, coordination via telephone shall be accomplished at least 24 hours in advance of the closure (excluding emergency closures). Unless otherwise specified in the NOTAM, any closure of a runway that includes an intersection with another runway shall result in the intersection being closed for both runways. The NOTAM must specify what, if any, operations are authorized in the intersection, e.g., taxi only, all operations, etc.

(b) Ensure that any NOTAM issued by any means includes telephone notification to STL ATCT Operation Manager/Supervisor.

b. STL ATCT shall:


(1) Provide airport traffic control services to all aircraft and vehicles within the airport movement areas. Emergency response and airport maintenance vehicles responding to reported hazardous conditions shall be expedited to the extent feasible.

(2) Consider a movement area closed at the time stated on the NOTAM and discontinue use of the closed area at that time. Specific approval is required from the Lambert Airport Operations Center prior to continued use of any movement area that has been closed by NOTAM.

(3) When requested by the pilot or vehicle operator, provide advisory service, to the extent possible, for operations in non-movement areas.

(4) Ensure that non-air carrier type aircraft have prior permission to park at a terminal gate. If not, issue taxi instructions to a fixed base operator.

c. The AA (owner/operator) covenants and agrees to indemnify and save harmless the UNITED STATES OF AMERICA, to the extent that it may be acting by and through its agents, employees, or designee against any and all loss, damage, costs and expense which it may hereafter incur, suffer, or pay by any reason of negligence, or the negligence of its agents, employees or designee arising out of the operation of vehicles owned and operated by the AA (excluding those operated by the ARFF and Airport Police), on all taxiways and airfield service roads pursuant to whenever the STL SMGCS Plan is initiated that vehicle access to the movement areas is limited to only those vehicles that are equipped with ground control radios.

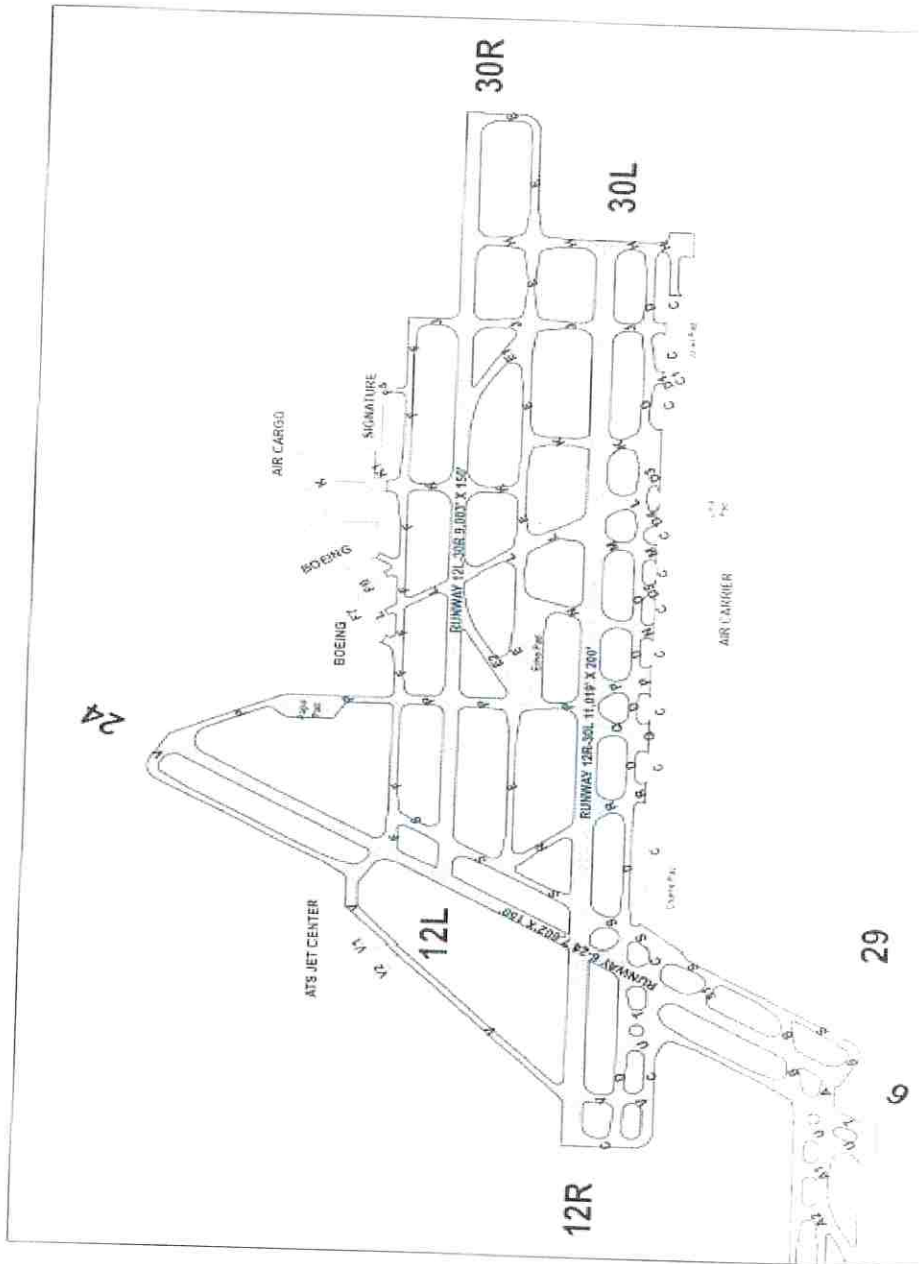

for Jeffrey C. Graves
Air Traffic Manager
St. Louis ATCT


Richard E. Hrabko
Director, Airport Authority
Lambert-St. Louis International Airport

AA-2C

FAA Approved


Date: AUG 16 2018



STL ST. LOUIS Lambert International Airport
 Movement Areas - East
 Coordinate System: NAD 83
 Vertical Datum: NAVD 83
 Horizontal Datum: NAD 83
 Vertical Datum: NAVD 83
 Horizontal Datum: NAD 83

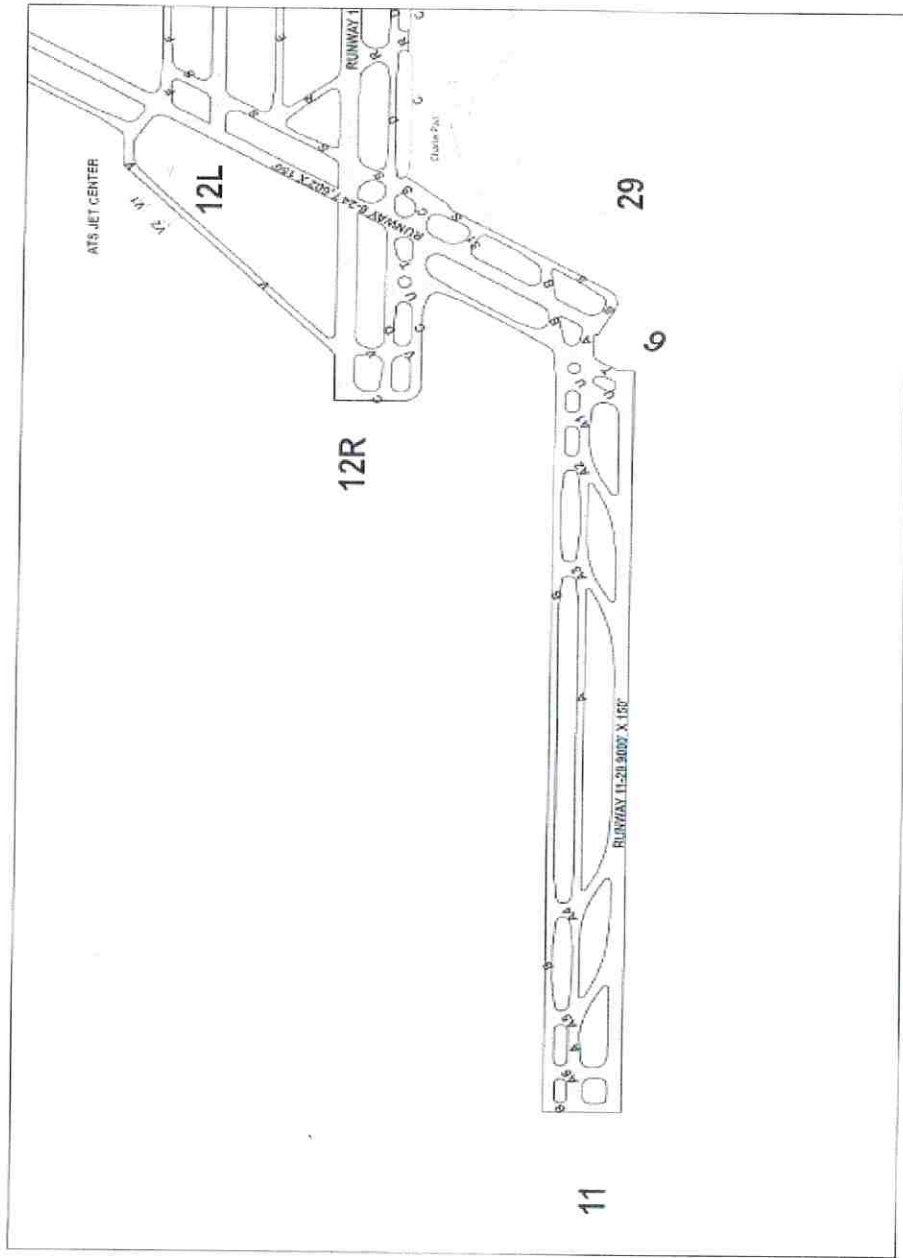
Revision 3
Page 1

AA-2D

FAA Approved

M. [Signature]

Date: AUG 16 2018



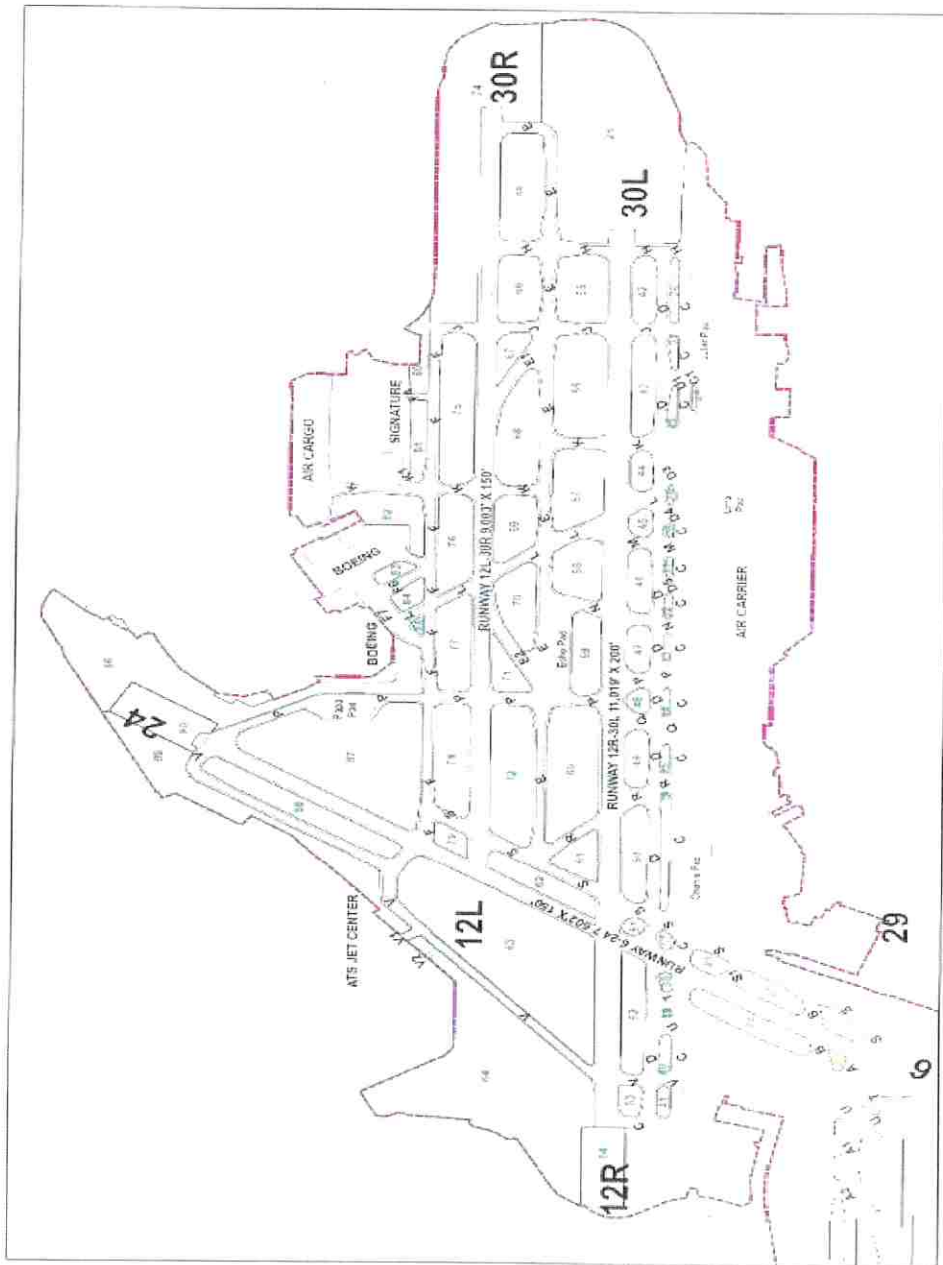
STL ST. LOUIS Lambert International Airport
Movement Areas - West
Coordinate System: NAD 83
Datum: NAD 83
Units: Feet
Scale: 1:1000
North Arrow: True
Projection: UTM
Zone: 18N

Revision 3
Page 2

AA-2E

FAA Approved

Date: AUG 16 2018



DATE: 08/16/18
BY: [Signature]

SCALE: 1/8" = 1'-0"

PROJECT: STL ATCT/AA LOA

DESIGNER: Island Designators - East

ST. LOUIS LAMBERT
INTERNATIONAL AIRPORT

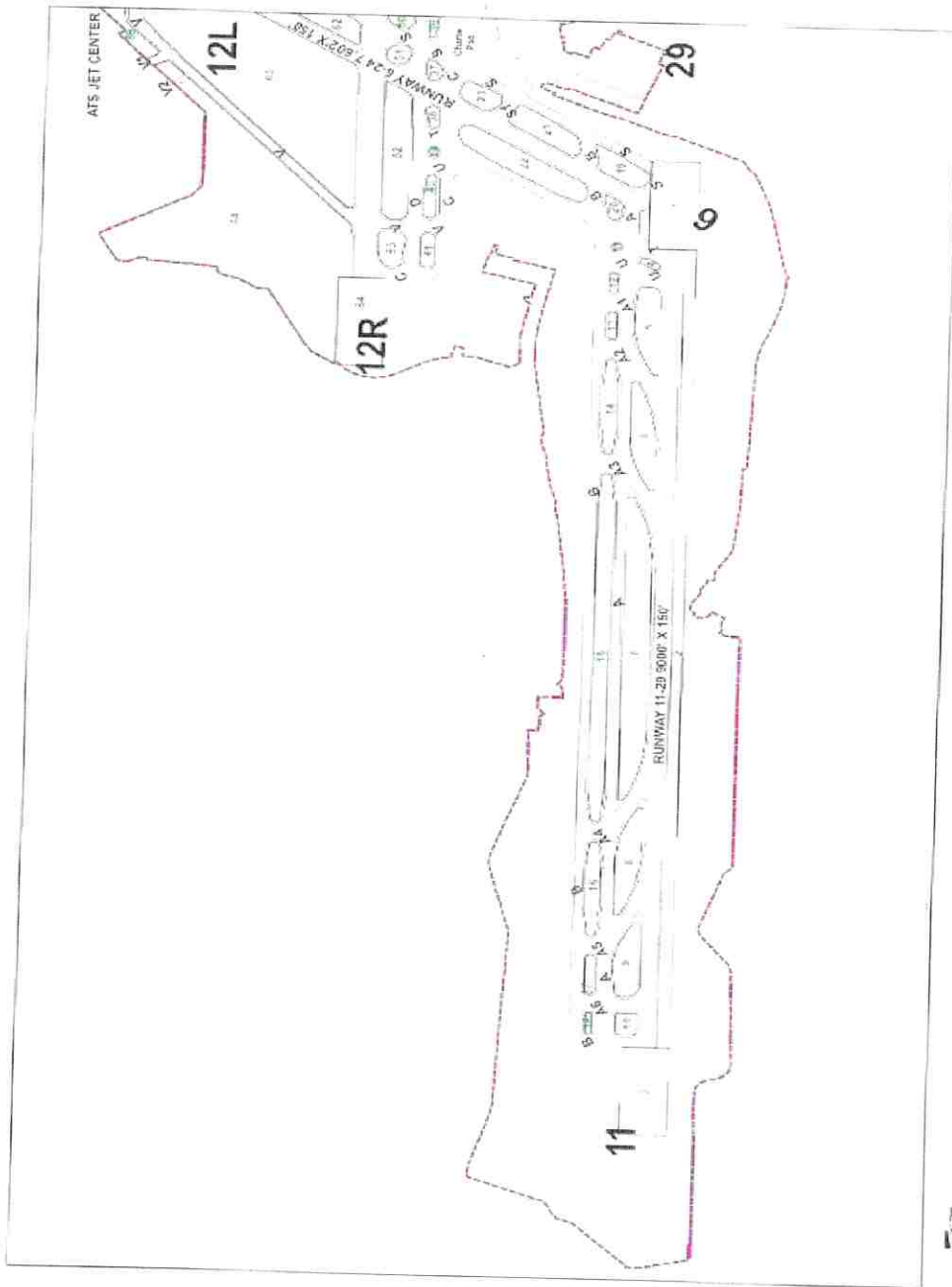
Revision 3
Page 1

AA-2F

FAA Approved

[Handwritten Signature]

Date: AUG 16 2018



Scale: 1" = 1000'
North Arrow

Coordinate System:
NAD 83, UTM Zone 18Q, Spheroid: WGS 84, Datum: NAD 83, Units: Meter, Contour Interval: 10'

Island Designators - West



Revision 3
Page 2

AA-2G

FAA Approved

Date: AUG 16 2018

ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY

LETTER OF AGREEMENT

EFFECTIVE: April 13, 2006

SUBJECT: AIRPORT OPERATIONS ON SPECIFIC AREAS

1. **PURPOSE.** Prescribes responsibilities and procedures for the operation of aircraft on specific areas of Lambert-St. Louis International Airport.

2. **CANCELLATION:** St. Louis Airport Traffic Control Tower, Lambert-St. Louis International Airport Authority Letter of Agreement, subject: Airport Operations on Specific Areas, dated 03/17/05.

3. **SCOPE.**

- a. Lambert-St. Louis International Airport Authority.
- b. St. Louis Air Traffic Control Tower.

4. **DEFINITIONS.**

- a. AA -St. Louis Airport Authority.
- b. STL ATCT - St. Louis Airport Traffic Control Tower.

5. **AIRCRAFT OPERATING RESTRICTIONS:**

a. The AA shall:

(1) Establish and publish aircraft operating restrictions concerning utilization of specific runways, taxiways, and apron areas.

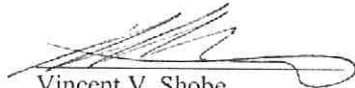
(2) Provide methods of notification to appropriate agencies of applicable restrictions defined within this agreement.

(3) Update and keep current the permanent restrictions listed in Attachments A & B to runways, taxiways, and apron/pad areas.

b. STL ATCT shall:

(1) Provide advisory service to pilots concerning operating restrictions to the extent possible.

(2) Provide notification to the AA of known violations in a timely manner.


Vincent V. Shobe
St. Louis ATCT
Air Traffic Manager


Kevin C. Dolliole
Director, Airport Authority
Lambert-St. Louis International Airport

AA-3A

FAA Approved



Date AUG 16 2018

Taxiway, and Apron Area Restrictions:

1. Taxiway Foxtrot shall not be used to taxi aircraft larger than a DC-9 (single wheel landing gear, 75,000 lbs. or dual wheel, 85,000 lbs.) between Taxiways Kilo and Foxtrot Five.
2. Taxiway Delta or Taxiway Charlie (east of the Airline Ramp): B-747's are not authorized to pass or be passed by L-1011, DC-10, or other larger aircraft operating on the parallel taxiway.
3. Taxiway Papa, east of the Papa Pad to Taxiway Foxtrot, restricted to aircraft with a wingspan of less than 79 feet, (JS-41 and E-120) when aircraft are parked on the Papa Pad. This area is restricted to all operations when aircraft are performing engine run-ups in the Papa Pad.
4. Taxiway Victor, north of Taxiway Foxtrot restricted to B-727 or smaller aircraft (wingspan less than 118 feet).
5. Taxiway Victor, underlying the Runway 12L final approach course is restricted to aircraft smaller than a DC-9 (25' or less), when aircraft are landing on Runway 12L.
6. Taxiway Echo, between Taxiway Papa and Taxiway November, restricted to B-767 or smaller aircraft (wingspan less than 171 feet) when aircraft are parked on the Echo Pad.
7. Taxiway Charlie, east of Taxiway Delta One to the approach end of Runway 30L, restricted to B-727 or smaller aircraft (wingspan of 118 feet or less) when aircraft are parked on the Juliet Pad.
8. Taxilane Charlie , from Taxiway Sierra to Taxiway Romeo, restricted to B-767 or smaller aircraft (156 feet available) when aircraft are parked in the Charlie Pad. Restriction is for taxiing aircraft, larger aircraft may be towed through the area
9. Taxiway Alpha East of Taxiway Tango, Taxiway Sierra and Runway 6/24 South of Taxiway Bravo, no aircraft or vehicle operations when arriving or departing Runway 11 or arriving Runway 29.

AA-3B

FAA Approved

Date:


AUG 16 2018

AIRCRAFT DESIGN GROUP – (Wingspans)

Group I:	Up to but not including 49 ft.
Group II:	49 ft. up to but not including 79 ft.
Group III:	79 ft. up to but not including 118 ft.
Group IV:	118 ft. up to but not including 171 ft.
Group V:	171 ft. up to but not including 214 ft.
Group VI:	214 ft. up to but not including 262 ft.

<u>AIRCRAFT</u>	<u>WINGSPAN</u>
A-300	147'
A-310	144'
A-319	112'
AN-124	240'
B-52	185'
B-707	146'
B-727	108'
B-737	95'
B-747	195'
B-757	125'
B-767	156'
B-777	199'
C-5A	223'
C-17	170'
C-141	160'
CRJ-2	70'
DC-8	149'
DC-9	93'
DC-10	166'
E-145	66'
E-170	85'
MD11	170'
MD-80	108'

AA-3C

FAA Approved



Date: AUG 16 2018



U.S. Department
of Transportation

**Federal Aviation
Administration**

St. Louis ATCT
10789 Lambert International Blvd.
St. Louis, Missouri 63044

Rhonda Hamm-Niebruegge
Director, Airport Authority
Lambert-St. Louis International Airport
P.O. Box 10212
St. Louis, MO 63145

June 9, 2011

Ms. Hamm-Niebruegge,

Mr. Korte has requested that we restrict aircraft northbound on Taxiway Lima from turning right (eastbound) on Taxiway Foxtrot.

Attached is a revised copy of "Attachment A" for the Letter of Agreement titled: Airport Operations on Specific Areas, dated 04/13/06. This revision adds the restriction described above.

Thank you for your continued support and assistance.

Duane D. Fant
Air Traffic Manager

AA-3D

FAA Approved

Date: AUG 16 2018

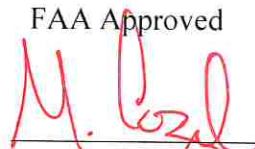
Taxiway and Apron Area Restrictions:

1. Taxiway Delta or Taxilane Charlie from Taxiway Sierra to Taxiway Hotel, B-747 or larger aircraft are not authorized to pass or be passed by B-767 or larger aircraft operating on the parallel taxiway/taxilane.
2. Taxiway Papa, east of the Papa Pad to Taxiway Foxtrot, restricted to aircraft with a wingspan of less than 79 feet, (JS-41 and E-120) when aircraft are parked on the Papa Pad. This area is restricted to all operations when aircraft are performing engine run-ups in the Papa Pad.
3. Taxiway Victor, underlying the Runway 12L final approach course is restricted to aircraft smaller than a DC-9 (25' or less), when aircraft are landing on Runway 12L.
4. Taxiway Echo, between Taxiway Papa and Taxiway November, restricted to B-767 or smaller aircraft (wingspan less than 171 feet) when aircraft are parked on the Echo Pad.
5. Taxiway Charlie, east of Taxiway Delta One to the approach end of Runway 30L, restricted to B-727 or smaller aircraft (wingspan of 118 feet or less) when aircraft are parked on the Juliet Pad.
6. Taxilane Charlie, from Taxiway Sierra to Taxiway Romeo, restricted to B-767 or smaller aircraft (156 feet available) when aircraft are parked in the Charlie Pad. Restriction is for taxiing aircraft, larger aircraft may be towed through the area.
7. Taxilane Charlie, from Taxiway Papa to Taxiway Quebec, restricted to a B-757 300 Series or smaller.
8. Taxilane Charlie from Taxiway Papa to Taxiway Lima, restricted to a B-757 300 Series or smaller when passing behind aircraft that have made the initial 10 foot pushback.
9. Taxiway Alpha East of Taxiway Tango, Taxiway Sierra and Runway 6/24 South of Taxiway Bravo, no aircraft or vehicle operations when arriving or departing Runway 11 or arriving Runway 29.
10. Taxiway Lima north of Rwy 12L/30R, aircraft taxiing northbound are prohibited from making a right turn eastbound on Taxiway Foxtrot.

Revision 3
06/20/11

AA-3E

FAA Approved


Date: AUG 18 2018

**ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY**

LETTER OF AGREEMENT

EFFECTIVE: 05/10/04

SUBJ.: Airport Training of Commercial Pilots

1. PURPOSE. Prescribes responsibilities and procedures for the safe utilization of runways during the training of commercial pilots.

2. CANCELLATION: St. Louis Airport Traffic Control Tower, Lambert-St. Louis International Airport Authority Letter of Agreement dated June 24, 1996.

3. SCOPE.

- a. Lambert-St. Louis International Airport Authority.
- b. St. Louis Air Traffic Control Tower.

4. DEFINITIONS.

- a. AA - St. Louis Airport Authority.
- b. STL ATCT - St. Louis Airport Traffic Control Tower.

5. PROCEDURES.

a. The AA shall notify all interested agencies concerning current field conditions (NOTAMs), and noise abatement procedures, where applicable, to the operations addressed in this agreement;

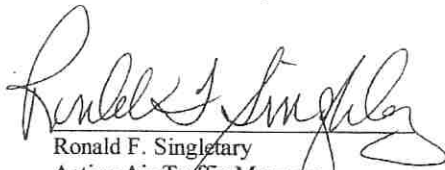
b. STL ATCT shall coordinate aircraft movement both in the air and on the ground, where applicable, to those operations addressed in this agreement.

c. Flight training of licensed commercial pilots shall be conducted between the hours of 11:00 p.m. and 6:00 a.m.

d. Flight training operations shall be conducted utilizing Runway 12L-30R. Exceptions to this requirement may be made when:

(1) Runway 12L-30R is closed;

(2) Air traffic operations preclude the use of Runway 12L-30R for training or a specific need to utilize one of the other runways arises.


Ronald F. Singletary
Acting Air Traffic Manager
St. Louis ATCT


Leonard L. Griggs
Director, Airport Authority
Lambert-St. Louis International Airport

AA-4

FAA Approved


Date: AUG 16 2010

ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT

LETTER OF AGREEMENT

EFFECTIVE : February 27, 2009

1. **PURPOSE:** Prescribes responsibilities and procedures for the communication and dissemination of braking action reports.
2. **CANCELLATION:** St. Louis Air Traffic Control Tower, Lambert-St. Louis International Airport Authority Letter of Agreement dated December 13-2008.
3. **SCOPE:**
 - a. Lambert-St. Louis International Airport Authority
 - b. St. Louis Air Traffic Control Tower
4. **DEFINITIONS:**
 - a. STL AA - St. Louis Airport Authority
 - b. OPS - STLAA Operations Center/ Snow Control Center
 - c. STL ATCT - St. Louis Airport Traffic Control Tower
5. **COMMUNICATION OF BRAKING ACTION REPORTS:**

STL ATCT

 - a. Shall solicit pilot reports of braking action during periods of deteriorating pavement conditions.
 - b. Shall be responsible for forwarding pilot braking action reports to OPS via the Ground Control frequency or telephone, giving runway number, braking action report and type aircraft.
 - c. Shall be responsible for reporting pilot braking action reports of FAIR, POOR and/or NIL immediately to OPS.
 - d. Shall cease operations on a runway with a pilot braking action report of NIL until the runway has been assessed and/or treated by STL AA.
 - e. Shall be responsible for forwarding reports to OPS where the braking has improved to GOOD.

STL AA

 - a. Shall monitor the Ground Control frequency on a continuous basis during periods of deteriorating pavement conditions.
 - b. Shall conduct runway assessments as detailed in the Airport Snow & Ice Control Plan.


AA-5A

FAA Approved




Date: AUG 16 2018

- c. Shall coordinate to conduct a runway assessment immediately upon receipt of a single pilot braking action of NIL, or ASAP when two (2) consecutive pilot braking action reports of POOR for the same runway.
- d. Shall be responsible for providing STL ATCT with vehicle braking action reports, mu values when a friction measuring device is used, and any adverse conditions that could affect aircraft braking and/or steering whenever a runway assessment is made via the Ground Control frequency or telephone.
- e. Shall conduct a runway assessment and provide the resulting information at any time when requested by STL ATCT.



Kathryn Slater
St. Louis ATCT
Acting Air Traffic Manager



Richard E. Hrabko
Director of Airports
St. Louis Airport Authority

AA-5B

FAA Approved



Date: AUG 16 2018

LETTER OF AGREEMENT (REVISED)

OPERATIONAL AGREEMENT FOR ARRESTING GEAR, LAMBERT - ST. LOUIS
INTERNATIONAL AIRPORT, ST. LOUIS, MISSOURI

1 The following operational agreement is entered into by or on behalf
2 of the Federal Aviation Administration, McDonnell-Douglas Corporation
3 (herein after known as McDonnell), the 131st Tactical Fighter Wing of
4 the Missouri Air National Guard, U. S. Air Force Plant Representative,
5 McDonnell-Douglas Corporation, St. Louis, Missouri and the City of
6 St. Louis for the operation and use of arresting gear equipment
7 installed on runways 12R/30L and 6/24 at Lambert-St. Louis International
8 Airport.

9 1. General:

- 10 a. McDonnell has installed aircraft arresting gear upon runways
11 12R/30L and 6/24 at the Lambert-St. Louis International
12 Airport with remote control equipment in the Airport Traffic
13 Control Tower. Detailed descriptions and operational functions
14 of the arresting gear installed on runways 30L and 24 are
15 contained in McDonnell Report Number 4103 dated 9 May 1955,
16 the gear on runway 12R and 06 are contained in MDC drawings
17 P.E. 9866 (C-1-2-3) dated 12 January 1972.
- 18 b. Other than for testing purposes, this equipment will be used
19 only for emergencies being experienced by pilots of military
20 aircraft and aircraft under the jurisdiction of McDonnell.
- 21 c. The Federal Aviation Administration agrees to operate the
22 aforesaid remote control equipment in the Airport Traffic
23 Control Tower, in accordance with the procedures set forth
24 in this Letter of Agreement.

AA-6A

FAA Approved


AUG 16 2018

Date:

- 25 d. McDonnell covenants and agrees to indemnify and save harmless
26 the UNITED STATES OF AMERICA to the extent that it may be acting
27 by and through the Federal Aviation Administration, and the
28 agents, employees, or designees of said agency, against any and
29 all loss, damage, costs and expenses which it or they may here-
30 after incur, suffer, or pay by reason of its or their negligence
31 in the operation of the said aircraft arresting gear; provided,
32 however, that the foregoing shall not be applicable to any incident
33 arising in connection with the operation of the equipment
34 by the Federal Aviation Administration personnel for aircraft
35 other than aircraft operated by McDonnell, its agents, and
36 employees.
- 37 e. McDonnell covenants and agrees that it shall undertake the
38 proper functioning of the said arresting gear and remote control
39 equipment and shall promptly perform all maintenance and repairs
40 required thereto.
- 41 f. It is mutually agreed by McDonnell and the Federal Aviation
42 Administration for and on behalf of the UNITED STATES OF AMERICA,
43 that this Agreement shall not serve to grant or confer upon
44 McDonnell any control of supervision over any employee, agent,
45 or designee of the agency or over the operation and management
46 of the St. Louis Airport Traffic Control Tower.
- 47 g. It is further mutually agreed that this agreement and the said
48 Letter of Agreement may be terminated by either McDonnell or the
49 Federal Aviation Administration by notice thereof in writing or
50 otherwise by mutual agreement.

AA-6B

 FAA Approved
AUG 16 2018 Date:

51 2. Procedures:

- 52 a. No aircraft shall be cleared for takeoff when the arresting
53 gear is in the raised position on the runway to be used.
- 54 b. Upon specific radio request from the pilot of the aircraft
55 concerned (or from McDonnell Flight Operations or Missouri
56 Air National Guard Mobile Control Officer when McDonnell or
57 National Guard aircraft are concerned), the arresting gear
58 will be activated for the appropriate runway by Control Tower
59 personnel through use of the control panels located in the
60 Tower. In case of conflicting desires or instructions between
61 the pilot and his respective operations agency, the final authority
62 or decision shall rest with the pilot.
- 63 c. Pilot phraseologies shall be as follows for raising the arresting
64 gear:
- 65 (1) "REQUEST - CABLE - CABLE - CABLE
- 66 (2) "RAISE CABLE, RUNWAY (number)." NOTE: Normally,
67 only the cable at the far end of the runway will
68 be raised unless otherwise requested by the pilot through
69 use of the following phraseologies:
- 70 (3) "RAISE CABLE (APPROACH END, BOTH ENDS, or ALL
71 RUNWAYS)."
- 72 d. After the control panels in the Tower indicate that the appro-
73 priate arresting gear has been activated, control tower personnel
74 shall confirm to the pilot and the emergency equipment personnel
75 which cable/cables have been raised by using the following

AA-6C



FAA Approved

AUG 16 2018

Date:

76 phraseology: "CABLE INDICATES RAISED, (FAR END,
77 APPROACH END, BOTH ENDS, ON ALL RUNWAYS) RUNWAY (number)."
78 e. Control Tower personnel will alert the appropriate emergency
79 equipment when arresting gear use is requested. The airport
80 emergency equipment attends all emergencies. The McDonnell
81 emergency equipment will normally attend only those emergencies
82 concerning McDonnell-built or owned aircraft. In addition,
83 McDonnell Flight Operations shall be immediately advised for
84 other than McDonnell aircraft.
85 f. Control Tower personnel shall notify McDonnell Flight Operations
86 immediately of any improper operation of the control lights,
87 proper light indications are as shown below:
88 (1) The green (cable down), white (air pressure),
89 yellow (lower) and blue (raise) light should be on at all
90 times when the cable is down.
91 (2) The red light should be on when the cable is completely
92 raised.
93 g. Under no circumstances will the arresting gear be raised for
94 civil and/or commercial aircraft.
95 3. Each agency participating in this agreement shall ensure that the
96 pilots and appropriate personnel under its jurisdiction are properly
97 indoctrinated in the characteristics, operation and use of the
98 arresting gear.
99 4. Recissions:
100 a. This Operations Agreement cancels and supersedes the following
101 agreements:

AA-6D

FAA Approved



AUG 16 2018

Date:

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(1) Operational Agreement for Arresting Gear, Lambert-
St. Louis International Airport, St. Louis, Missouri
dated 22 November 1971.

5. Dated this 1st day of April 1973.

For McDonnell-Douglas Corporation:

For the City of St. Louis:



R. D. SINGLETON
Director, Plant Engineering
McDonnell-Douglas Corporation

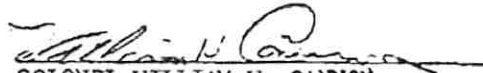


DAVID E. LEIGH
Acting Director
St. Louis Airport Authority

For the 131st Tactical Fighter
Group, Mo. Air National Guard:



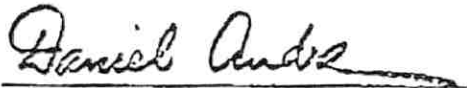
HENRY J. BROMSCHWIG
Airport Manager, Lambert-
St. Louis International Airport



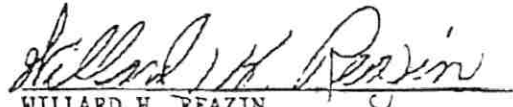
COLONEL WILLIAM W. CANNON
Missouri Air National Guard

For the United States Air Force:

For the Federal Aviation
Administration:



DANIEL ANDRE
Colonel, USAF
AFPRO, McDonnell-Douglas Corp.



WILLARD H. REAZIN
Chief, St. Louis Airport Traffic
Control Tower

AA-6E



FAA Approved

AUG 16 2018

Date:

FEDERAL AVIATION ADMINISTRATION
ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY

LETTER OF AGREEMENT

EFFECTIVE: 12/15/05

SUBJECT: Operation of Airport Lighting System

1. **PURPOSE.** This Agreement between the Federal Aviation Administration, St. Louis Airport Traffic Control Tower (STL ATCT) and the Lambert-St. Louis International Airport Authority (STLAA) prescribes procedures and responsibilities for utilizing the airport lighting system at Lambert-St. Louis International Airport.
2. **SCOPE.** This agreement applies to the operation of all airport lighting, including the computerized touch-screen airport lighting control system.
3. **RESPONSIBILITIES OF STLAA:** The STLAA shall maintain, in proper working order, all airport lighting system components. In addition, the STLAA shall:
 - a. Notify STL ATCT immediately of any active airport lighting system components that fail.
 - b. Conduct an initial airfield lighting inspection as soon as possible after notification that RVR values below 1200 feet exist, or are imminent. Advise STL ATCT when the inspection is completed.
 - c. Conduct periodic visual inspections of lighting systems as required by AC 120-57 while the SMGCS plan is in effect.
 - d. Contact the STL ATCT and coordinate the transfer of airport lighting control from the tower cab to the Airport Electric Shop.
 - e. When the Airport Electric Shop is in control of airport lighting, make changes to airport lighting system component settings when requested by STL ATCT.
 - f. Contact the STL ATCT and coordinate the transfer of airport lighting control from the Airport Electric Shop back to the tower cab.
4. **RESPONSIBILITIES OF STL ATCT:** The STL ATCT shall:

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Date: AUG 16 2018

12/15/05

STL ATCT/STLAA LOA

b. Notify the STLAA Operations Center (OPS Center) when RVR values below 1200 feet exist or are imminent and prior to implementing the SMGCS plan. Notify the OPS Center when the SMGCS plan is terminated.

c. Notify the OPS Center, whenever a problem exists with a component of the airport lighting system, or whenever the computerized touch-screen airport lighting control system in the tower fails.

d. When the airport lighting control system in the tower is disabled, coordinate changes to the lighting system components with the Airport Electric Shop.



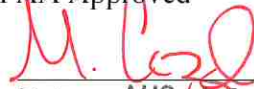
Vincent V. Shobe
Air Traffic Manager
St. Louis ATCT



Kevin C. Dolliole
Director, Airport Authority
Lambert-St. Louis International Airport

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Date: AUG 15 2019

**ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY,
LAMBERT-ST. LOUIS AIRPORT AIRCRAFT RESCUE AND FIRE FIGHTING UNIT
LETTER OF AGREEMENT**

EFFECTIVE: 04/20/00

SUBJ: Discrete Emergency Coordination Frequency (DECF) – Operating Procedures

1. PURPOSE: To establish operating procedures for direct radio communication between St. Louis ARFF emergency personnel, the aircraft flight crew, and the St. Louis Airport Traffic Control Tower.

2. SCOPE: The procedures outlined herein describe the authorization, use, and limitations of a Discrete Emergency Coordination Frequency (DECF). This Letter of Agreement (LOA) is used in conjunction with, and subordinate to, existing agreements between the St. Louis ATCT, the Lambert-St. Louis International Airport Authority, and the Lambert-St. Louis Airport Aircraft Rescue And Fire Fighting Unit to provide emergency services. This LOA may be terminated by any signatory, successor, or their designated representative by written notice to the other parties.

3. RESPONSIBILITIES: Each party to this agreement is responsible for compliance with the provisions contained herein by personnel under their authority. Training, both initial and recurrent, of involved personnel is also the responsibility of the signatories.

4. ST. LOUIS ATCT PROCEDURES:

- a. Upon initiating a call for emergency response, St. Louis ATCT shall utilize the Discrete Emergency Coordination Frequency (DECF) to the extent feasible. In cases where assignment of the DECF to the emergency aircraft is not possible, notify the ARFF that the aircraft is not on the DECF.

***NOTE:** Frequency 134.375 is the primary DECF frequency, and shall be utilized consistent with the availability of the frequency, as this also serves as a backup ATC frequency for the control tower.*

- b. The St. Louis ATCT Supervisor may elect to have a separate controller coordinate the emergency/incident.
- c. The controller assigned to coordinate the emergency shall coordinate (with all appropriate operating positions), for the arrival of the aircraft and the intent/request of responding vehicles to follow the emergency aircraft onto the active runway.
- d. In the event that the emergency/incident involves an arriving aircraft, St. Louis ATCT may direct the St. Louis Terminal RADAR Approach Control facility (T75 TRACON) to assign the aircraft the DECF when switching the inbound emergency to tower frequency. In this case, the DECF will serve as the 'tower frequency' for this aircraft.
- e. When it is known that the ARFF emergency personnel are utilizing, and standing by on, the same frequency as the emergency aircraft, St. Louis ATCT shall make this known to the emergency aircraft. Phrasology: "St. Louis ARFF UNIT is also on this frequency."

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Date:

- f. The controller assigned to coordinate the emergency may allow the ARFF Incident Commander (call sign: "Truck 42 or Truck 50") and/or the St. Louis Airport Authority representative to communicate directly with the flight crew of the emergency aircraft. Phraseology: "Truck 42 (or Truck 50), you have the frequency".

5. AIRCRAFT RESCUE AND FIRE FIGHTING UNIT PROCEDURES:

a. During ATC initiated airfield responses:

- (1) All emergency "command vehicles" responding to the emergency shall utilize the designated Discrete Emergency Coordination Frequency (DECF) to establish and maintain contact with the emergency aircraft. (Normal communications with the control tower shall remain on Ground Control frequency 121.9).

***NOTE:** The Discrete Emergency Coordination Frequency (DECF) will be assigned by St. Louis ATCT. Frequency 134.375 is the preferred frequency, and will be the frequency that will most often be utilized.*

- (2) If necessary, the ARFF Incident Commander, (in Truck 42 or Truck 50), and/or the St. Louis Airport Authority representative may request permission from St. Louis ATCT to convey emergency information to, or request vital information from, the flight crew of the aircraft involved in the emergency.

***NOTE:** To preclude blocking critical ATC instructions, the ARFF Incident Commander and the Airport Authority representative must request permission from the control tower prior to communicating with the emergency aircraft on the DECF.*

- (3) At no time during direct communication with an aircraft shall emergency personnel say anything that may be implied or misinterpreted as an ATC instruction or clearance.

b. During other than ATC initiated responses:

- (1) The Remote Fire House shall notify St. Louis ATCT on Ground Control frequency 121.9 as soon as possible, of all responses to the 'airfield' side of the Airline Terminals.
- (2) All emergency vehicles responding to an emergency from the Main Fire House shall establish contact with St. Louis ATCT utilizing Ground Control frequency 121.9, and ensure that an ATC clearance is received prior to proceeding onto, or crossing, any runway.

***NOTE:** Paragraph b. above primarily pertains to situations where fire-rescue vehicles are responding prior to the notification being made to the St. Louis ATCT Supervisor. In situations where notification to St. Louis ATCT can be made early enough to allow implementation of the DECF (i.e., notification is made before the vehicles have started to respond), the St. Louis Tower Supervisor has the option to utilize/implement the DECF procedures as outlined in this agreement.*

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Date:

6. AIRPORT AUTHORITY REPRESENTATIVE PROCEDURES:

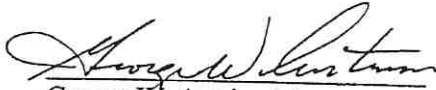
a. During ATC initiated airfield responses:

All Airport Authority command vehicles responding to the emergency shall utilize the designated Discrete Emergency Coordination Frequency (DECF) to monitor and establish necessary contact with the emergency aircraft. (Normal communications with the control tower shall remain on Ground Control frequency 121.9).

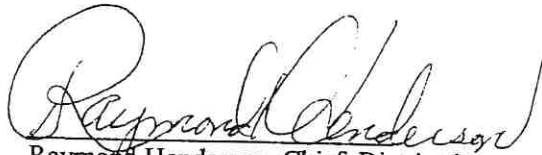
***NOTE:** The Discrete Emergency Coordination Frequency (DECF) will be assigned by St. Louis ATCT. Frequency 134.375 is the preferred frequency, and will be the frequency that will most often be utilized.*

b. During other than ATC initiated responses:

When responding to an emergency at one of the Airline Terminals, the St. Louis Airport Authority representative shall establish contact with St. Louis ATCT utilizing Ground Control frequency 121.9, and ensure that an ATC clearance is received prior to proceeding onto, or crossing, any runway.



George W. Antrim, Manager
St. Louis Airport Traffic Control Tower



Raymond Henderson, Chief, District 8
City of St. Louis Fire Department



Leonard L. Griggs, Director Airport Authority
Lambert-St. Louis International Airport

AA-8C

FAA Approved



AUG 16 2018

Date:

**LAMBERT - ST. LOUIS AIRPORT AUTHORITY AND
DISTRICT 8 OF THE CITY OF ST. LOUIS FIRE
DEPARTMENT**

LETTER OF AGREEMENT

SUBJECT: Arson Investigation

PURPOSE: To establish responsibilities and procedures for determining cause and origin of any incident requiring a fire suppression response by District 8 of the City of St. Louis Fire Department and subsequent investigation of suspected arson by the appropriate law enforcement agency.

SCOPE: The procedures outlined herein describe the Standard Operating Procedures for District 8, the Airport Authority and the Airport Authority Police to ensure an orderly notification of appropriate authorities, proper emergency response, security of the site and handling of evidence. The signatories, successors, or their designated representatives may terminate this Letter of Agreement by written notice to the other parties. Said notice, if initiated by any party, shall not in any way reduce the level of public safety at any time.

RESPONSIBILITIES: Each party to this agreement is responsible for compliance with the provisions contained herein as well as the training, both initial and recurrent, of personnel under their authority.

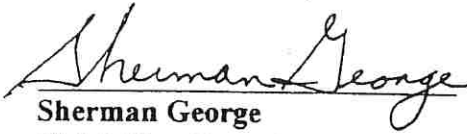
- a. The St. Louis Fire Department shall respond to requests for services and shall be responsible to determine cause and origin of any incident requiring a fire suppression response on property owned and/or maintained by the City of St. Louis at Lambert – St. Louis International Airport. Upon the determination that arson is suspected, the Incident Commander, (IC) shall notify the Airport Authority Police Department. The Incident Commander shall preserve all evidence and ensure site security until relieved by the responding Airport Authority Police Officer/ Watch Commander.
- b. The Airport Authority Police Department shall notify the appropriate Federal, State and/or local Law Enforcement Investigative Unit responsible for arson investigation at the site. The Airport Authority Police Watch Commander shall continue to preserve all evidence and take responsibility for site security until relieved by the appropriate Law Enforcement Investigative Unit.
- c. The St. Louis Airport Authority will provide any assistance and/or resources available to it, in support of the St. Louis Fire Department, the Airport Authority Police Department and the Law Enforcement Investigative Unit.

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Date: AUG 16 2018



Sherman George
Chief, Fire Department
City of St. Louis
Department of Public Safety



Leonard L. Griggs, Jr., RE
Director of Airports
City of St. Louis
Airport Authority

Effective this 26th day of October, 2000.

AA-9B

FAA Approved



Date: AUG 16 2018

ST. LOUIS LAMBERT INTERNATIONAL AIRPORT,
ST. LOUIS FAA AIRPORT TRAFFIC CONTROL TOWER,
ST. LOUIS LAMBERT INTERNATIONAL AIRPORT AIRCRAFT RESCUE AND FIRE
FIGHTING UNIT

LETTER OF AGREEMENT

EFFECTIVE: 07/28/2018

SUBJECT: Airport Emergency Service

1. PURPOSE. Prescribes responsibilities and procedures for handling of aircraft emergency Operations and associated emergency notification.

2. SCOPE: This agreement outlines responsibilities and procedures between St. Louis Lambert Airport, St. Louis Air Traffic Control Tower and St. Louis Lambert International Airport Aircraft Rescue and Fire Fighting Unit for emergency services.

3. CANCELLATION. St. Louis Airport Traffic Control Tower, St. Louis Lambert International Airport and St. Louis Lambert International Airport Aircraft Rescue and Fire Fighting Unit, Letter of Agreement dated August 29, 2011, subject: Airport Emergency Service.

4. DEFINITIONS.

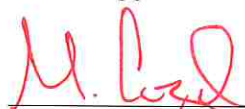
- a. ADOM -Assistant Director of Operations and Maintenance.
- b. STL AA -St. Louis Lambert Airport Authority.
- c. ARFF - District 8 of the City of St. Louis Fire Department, St. Louis Lambert International Airport, Aircraft Rescue Fire Fighting Unit.
- d. STL ATCT -St. Louis Airport Traffic Control Tower.
- e. Ops Center - Airport Operations/Communications Center.
- f. Set-Up – A code used to denote a warning of a situation that could result in an accident. This code requires that the emergency equipment standby adjacent to the STL ATCT designated Runway.
- g. Alert 3 – A code used to denote an actual accident or fire that requires immediate action by emergency rescue and firefighting personnel.

5. RESPONSIBILITIES.

- a. Emergencies must be classified using one of the following codes:
 - (1) Set-Up.

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Date: AUG 16 2018

- (2) ALERT 3.
- b. The authority to declare an emergency rests with the following agencies:
 - (1) The STL ATCT.
 - (2) The Pilot.
 - (3) The owner/ operator of the aircraft or designee.
 - (4) ARFF Commander.
 - (5) The ADOM or designee.
- c. STL ATCT must:
 - (1) Initiate a daily check of the Crash Phone at 0800 local time.
 - (2) Contact the ARFF via the Red Crash Phone for all known, reported, actual or potential emergencies and state the appropriate emergency code (Set-Up or Alert 3). When the Red Crash Phone is not operational, utilize the commercial line at 314-426-8133.
 - (3) In all cases involving aircraft, notification must contain the following information when known:
 - (a) Alert Status: Set-Up/Alert 3.
 - (b) Runway to be used or location of incident/accident.
 - (c) Aircraft call sign.
 - (d) Type of aircraft.
 - (e) Nature of emergency.
 - (f) Number of people on board.
 - (g) Fuel remaining in time.
 - (h) Estimated time of arrival.
 - (i) Presence of hazardous cargo or explosives aboard.
 - (j) Any other information that will aid the ARFF units.
 - (4) In the event of an actual crash (Alert 3) on the airport:
 - (a) Broadcast the following announcement on the ground control frequency as well as over the Red Crash Phone as stated in paragraph c2:



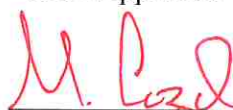
"CRASH (LOCATION), CRASH (LOCATION)."

EXAMPLE: "CRASH, APPROACH END OF RUNWAY THREE ZERO LEFT;
CRASH, APPROACH END OF RUNWAY THREE ZERO LEFT."

- (b) Activate the Emergency Crash Box located in the tower cab.
 - (5) Provide priority handling to all ARFF equipment responding to an emergency and route ARFF equipment to the scene of an emergency.
 - (6) Inform ARFF if the emergency aircraft requests to be followed down the runway.
 - (7) Inform ARFF when the emergency aircraft is next to land.
 - (8) In the event of an aircraft accident on or near the airport, STL ATCT must stop all operations at the airport until the ADOM, Ops Center or a designee advises which movement areas may be utilized for aircraft operations.
 - (9) Consider any movement/non-movement area (runway, taxiway, pad or ramp area) directly impacted by the emergency aircraft as closed. STL ATCT must not resume operations on a closed area until the ADOM, Ops Center or designee reopens the area.
 - (10) Route other aircraft/vehicles away from the emergency site.
 - (11) Comply with the provisions of the Discrete Emergency Communication Frequency Letter of Agreement (LOA).
 - (12) Direct all bomb threats or aircraft with suspicious/hazardous materials to the designated search area located on Taxiway Bravo between Taxiway A2 and Taxiway A3. If this area is not available, STL AA will designate another location.
- d. ARFF must:
- (1) Ensure that a person is on duty in the north fire house 24 hours daily to receive calls on the emergency telephone system, and to forward required information to the west house as well as the ADOM or designee.
 - (2) Monitor and maintain two-way radio communications with STL ATCT at all times while operating vehicles/equipment on the movement areas, and request clearance before crossing any runways.
 - (3) Not enter or cross an active runway without obtaining authorization from STL ATCT.
 - (4) Respond to emergencies on the airport as follows:
 - (a) Set-up – Emergency equipment must take up standby positions for the runway to be used as prescribed by ARFF (see Attachment A)
 - (b) Alert 3 – Emergency equipment will proceed directly to the scene via the most direct route authorized by STL ATCT. ARFF must receive STL ATCT clearance

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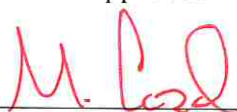
Date: AUG 16 2018

prior to entering or crossing a runway.

- (5) Determine the manner in which an emergency fire response is conducted.
 - (6) The Field Commander will determine if the aircraft will be followed down the runway based on the nature of the emergency or if the pilot in command requests.
 - (7) "Follow Me" Procedures.
 - (a) If the Pilot in Command (PIC) requests to be followed, STL ATCT must advise the Field Commander. This constitutes approval by STL ATCT for all ARFF units to access the runway and follow behind the aircraft after the aircraft passes their set up position.
 - (b) If the Field Commander makes a decision to follow the emergency aircraft, the Field Commander must advise STL ATCT of their intentions ahead of the aircraft arrival and request clearance to follow the emergency aircraft. This approval by STL ATCT allows all ARFF units to access the runway and follow behind the aircraft after the aircraft passes their set up position.
 - (c) The Field Commander must notify all ARFF trucks on the request to follow or decision to follow over ARFF frequency. Authorization to follow the emergency aircraft is only to follow behind the aircraft, which is typically the approach end set up positions (Truck 42 and company or Truck 49 and company) and the midpoint setup position ARFF vehicles (see Attachment A). ARFF vehicles must only access the runway after the aircraft passes their position.
 - (d) Depending on the nature of the emergency, the Field Commander may direct ARFF vehicles on the rollout end (opposite end) of the runway to access the runway, but in front of the aircraft. In this case, the ARFF Commander will provide direction and approval over ARFF frequencies for the rollout end ARFF vehicle (vehicle in front of the aircraft) to access the runway.
 - (e) The rollout end ARFF vehicle must only access the runway after receiving direction from the ARFF Field Commander (Truck 42 or Truck 49) over ARFF frequencies and when the emergency aircraft has come to a stop.
 - (8) Be responsible for requesting assistance from additional fire department units when needed.
 - (9) Comply with the provisions of the Discrete Emergency Communication Frequency LOA.
- e. **The ADOM must:**
- (1) Ensure that personnel are on duty 24 hours daily to receive and monitor calls on the emergency phone system and to disseminate the information to appropriate officials and response agencies.
 - (2) Determine the overall emergency response and coordinate with all STL AA Departments, supporting agencies and tenants.

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Date: AUG 16 2018

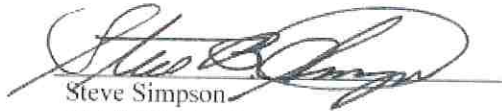
- (3) Ensure that all ARFF emergency vehicles comply with all applicable portions of FAR Part 139.
- (4) Ensure that the post incident/accident response and recovery is accomplished to expedite a return to service of affected runways or taxiways.
- (5) Authorize STL ATCT during a Set-Up to continue airport operations on movement areas which do not conflict with the emergency.
- (6) Release the movement area affected by a Set-Up or Alert 3 as soon as possible after the emergency has been resolved. The ADOM or the Ops Center are the only authorized personnel to open an affected area.
- (7) Comply with the provisions of the Discrete Emergency Communication Frequency LOA.



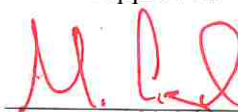
Ed. Deuser
Air Traffic Manager
STL ATCT



Rhonda Hamm-Niebruegge
Airport Director
St. Louis Lambert International Airport



Steve Simpson
Chief, District 8
City of St. Louis Fire Department



ARFF SET-UP POSITIONS FOR ALL RUNWAYS

NORTH FIRE STATION

RWY/ TRUCK	12L	30R	12R	30L	6	24	11	29
42	S/F	J/F	S/E	J/E	P/24	P/24	C-PAD	C-PAD
48	S/F	J/F	S/E	J/E	P/24	P/24	C-PAD	C-PAD
44	F/F6	F/F6	F/F6	F/F6	F/F6	F/F6	F/F6	F/F6
46	J/F	S/F	J/E	R/E	S/F	S/F	C-PAD	C-PAD
53*	F/F6	F/F6	F/F6	F/F6	F/F6	F/F6	F/F6	F/F6

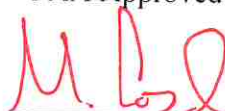
WEST FIRE STATION

RWY/ TRUCK	12L	30R	12R	30L	6	24	11	29
49	E/K	E/K	Q/C	Q/C	T/B	T/B	B/A4	B/A3
43	C/U	C/U	C/U	C/U	T/B	T/B	B/A2	B/A5
50	E/K	E/K	Q/C	Q/C	T/B	T/B	B/A4	B/A3
52	C/U	C/U	C/U	C/U	T/B	T/B	B/A5	B/A2

* ARFF Vehicles in service when available manpower permits.

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Date: AUG 16 2018

FEDERAL AVIATION ADMINISTRATION
ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY
LETTER OF AGREEMENT


EFFECTIVE 12/15/05

SUBJECT: Use of the Lambert-St. Louis International Airport Operations Center as a Temporary ATCT.

1. **Purpose:** Prescribe operating procedures for the utilization of the Lambert-St. Louis International Airport Operations Center (OPS Center) as a temporary ATCT in the event that the St. Louis Airport Traffic Control Tower (STL ATCT) is evacuated.
2. **Scope:** The procedures outlined herein are for use in the event that the STL ATCT is evacuated and a temporary ATCT is required to provide continuity of air traffic services.
3. **Procedures:**
 - a. The STL ATCT shall, if possible, notify the OPS Center of the tower evacuation and need for use of the OPS Center for a temporary ATCT via phone or radio.
 - b. If circumstances or time do not allow for notification, ATCT personnel will proceed to the OPS Center utilizing Door MTN-2174 in the terminal bypassing the security checkpoint and gaining immediate access to the OPS Center.
 - c. ATCT personnel will utilize the intercom at the OPS Center Door B-2090 for admission. In the event the OPS Center is unmanned or unable to answer the intercom, ATCT personnel will gain access using the key which the St. Louis Airport Authority (STLAA) has provided.
 - d. OPS Center equipment including the ACE-IDS shall be made available to ATCT personnel to the extent possible.
4. **Responsibilities:**
 - a. The STL ATCT shall annually conduct a practice evacuation exercise to familiarize ATCT personnel with these procedures.
 - b. ATCT personnel shall not utilize Door MTN-2174 or the OPS Center key for any other purpose than ATCT evacuation or the annual evacuation drill.
 - c. STL ATCT agrees to install and maintain two roof-mounted antennae for use with tower portable transceivers.
 - d. OPS Center personnel will notify the Airport Director when the STL ATCT has set up a temporary ATCT at the OPS Center.



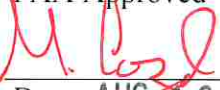
Vincent V. Shobe
Air Traffic Manager
St. Louis Air Traffic Control Tower



Kevin C. Dolliole
Director, Airport Authority
Lambert-St. Louis International Airport

AA-11

FAA Approved


Date: AUG 16 2018

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT AUTHORITY,
ST. LOUIS AIRPORT TRAFFIC CONTROL TOWER,
GATEWAY TERMINAL RADAR APPROACH CONTROL

LETTER OF AGREEMENT

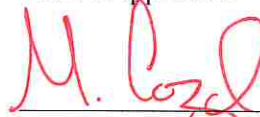
EFFECTIVE: _____

SUBJECT: Notification Process by the Airport for Surface Area NOTAMs

1. **PURPOSE.** This agreement identifies responsibility for notification of St. Louis Air Traffic Control Tower and Gateway TRACON of Surface Area Notices to Airmen (NOTAMs) created by the Lambert-St. Louis International Airport Authority.
2. **CANCELLATION:** This agreement does not cancel any agreements between the Lambert-St. Louis International Airport Authority and the St. Louis Air Traffic Control Tower related to NOTAMs.
3. **SCOPE.** The procedures outlined herein are to be used to standardize procedures between the St. Louis Airport Traffic Control Tower, Gateway Terminal Radar Approach Control, and Lambert-St. Louis International Airport Authority regarding the notification of Surface Area NOTAMs created and directly entered by the Airport Authority into the FAA Direct-Entry Digital NOTAM System.
4. **DEFINITIONS:** The Airport, for the purpose of the Agreement, will include the Airport Director, the Assistant Director of Operations and Maintenance, and the staff of the Airport Operations Center.
 - a. Lambert-St. Louis International Airport Authority (AA).
 - b. Airport Operations Center (AOC).
 - c. St. Louis Airport Traffic Control Tower (STL ATCT).
5. **RESPONSIBILITIES:** According to the NOTAM Manual (JO 7930.2) the AA is responsible for observing and reporting the condition of movement areas and other surface area NOTAMs associated with the Airport. The Surface Area NOTAMs include: Aerodrome, Runway, Taxiway, Apron, Ramp, Services and Obstruction.
6. **PROCEDURES:**
 - a. **NOTAMs:** Under the current legacy NOTAM system, the AOC contacts Flight Service (FSS) to initiate a Surface Area NOTAMs. FSS is responsible for the classification, accuracy, format, dissemination and cancellation of the NOTAM information from the AOC and also notifying STL ATCT.
 - b. **DIRECT-ENTRY DIGITAL NOTAMs:** The AOC will use FAA web-based software to directly enter Surface Area NOTAMs to the United States NOTAM System (USNS) and bypass FSS.
 - c. **NOTIFICATION:** Because the AOC is directly entering NOTAMs into the USNS and bypassing FSS, the AOC shall notify STL ATCT and Gateway TRACON of all issued and cancelled NOTAMs.

AA-12A

FAA Approved



Date: AUG 16 2018

(1) The AOC will notify STL ATCT and Gateway TRACON via phone, facsimile or radio and relay the following information:

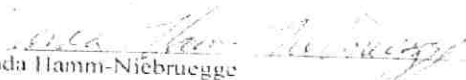
- a) NOTAM keywords: Aerodrome, Runway, Taxiway, Apron, Ramp, Services or Obstruction.
- b) Designator (ex: RWY30L/T2R or airline ramp)
- c) Reason/condition for the keyword NOTAMs:
- d) Start time and end time or the expected time period of the NOTAM.

Examples: "Taxiway Charlie closed until one six three zero UTC."
 "Aerodrome closed fro two one zero zero to two two zero zero UTC."
 "Runway one one/two nine thin loose snow swept full width at one eight one zero UTC "

(2) STL ATCT personnel receiving the NOTAM will respond with their operating initials.

(3) In the event the AOC is unable to deliver a facsimile to Gateway TRACON, AOC will advise STL ATCT. STL ATCT will then notify Gateway TRACON via phone of pertinent NOTAMs.


d. FAILURE OF THE DIRECT-ENTRY NOTAM SYSTEM: In the event there is a failure of the Direct-Entry NOTAM System, the AOC shall utilize the legacy NOTAM system. AOC shall advise STL ATCT and Gateway TRACON when the Direct-Entry NOTAM System is out of service and when it returns to service.


 Rhonda Hamm-Niebruegge
 Director, Airport Authority
 Lambert-St. Louis International Airport

Date 2/28/2011


 Duane D. Fant
 Air Traffic Manager
 St. Louis ATCT

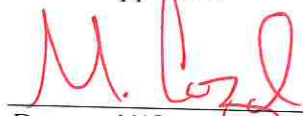
Date 2/17/11


 Timothy Shegitz
 Air Traffic District Manager
 Gateway TRACON

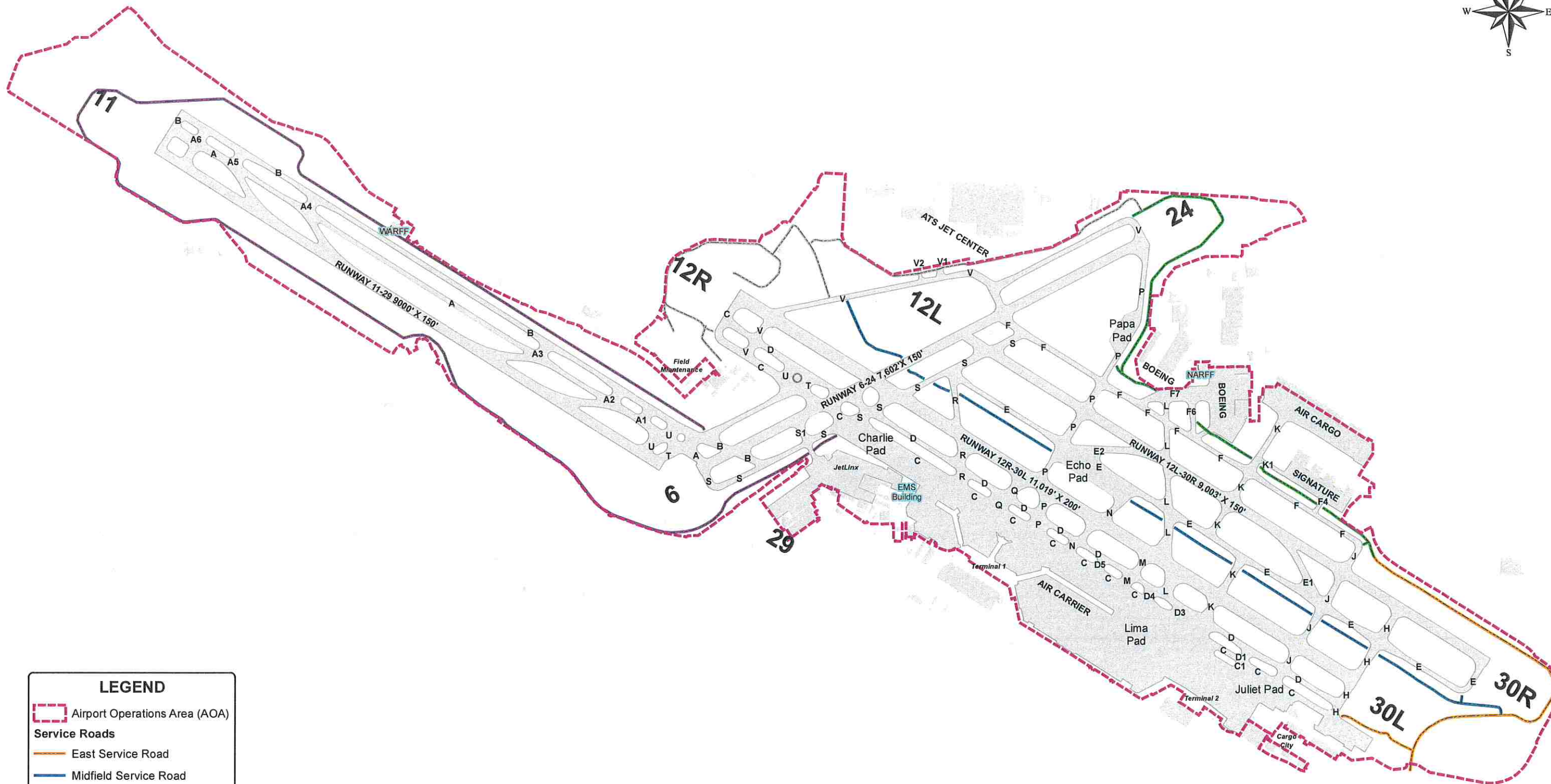
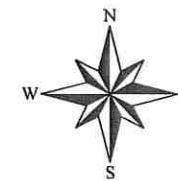
Date 3-1-2011

AA-12B

FAA Approved

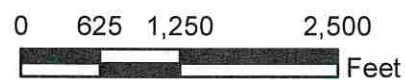


Date: AUG 16 2018

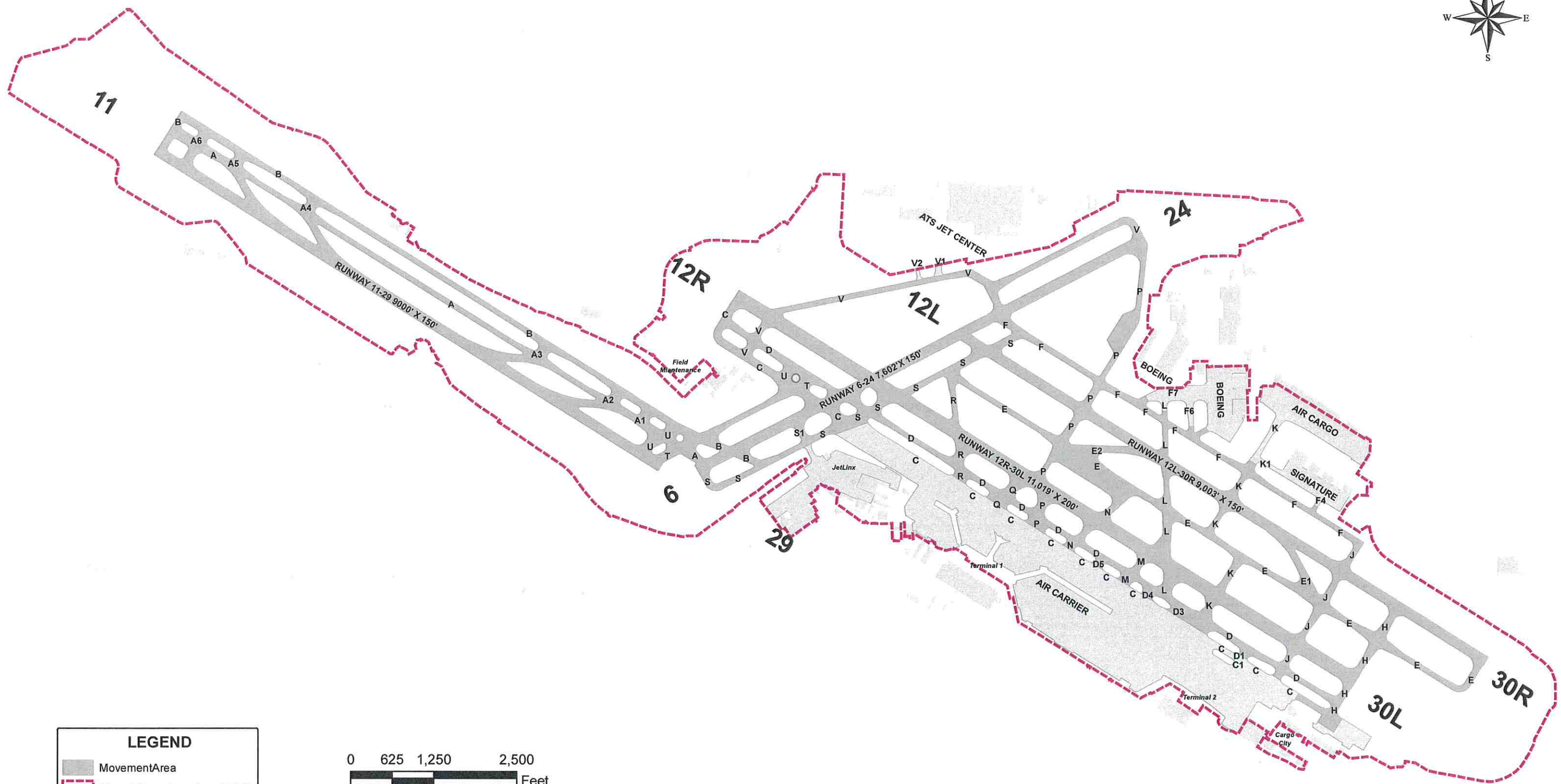
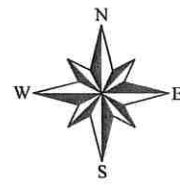


LEGEND

- Airport Operations Area (AOA)
- Service Roads**
- East Service Road
- Midfield Service Road
- North Service Road
- Tarmac Service Road
- West Service Road



M. Coyle
AUG 22 2018



LEGEND

- Movement Area
- Airport Operations Area (AOA)



M. Boyd
AUG 22 2018



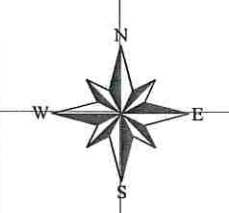
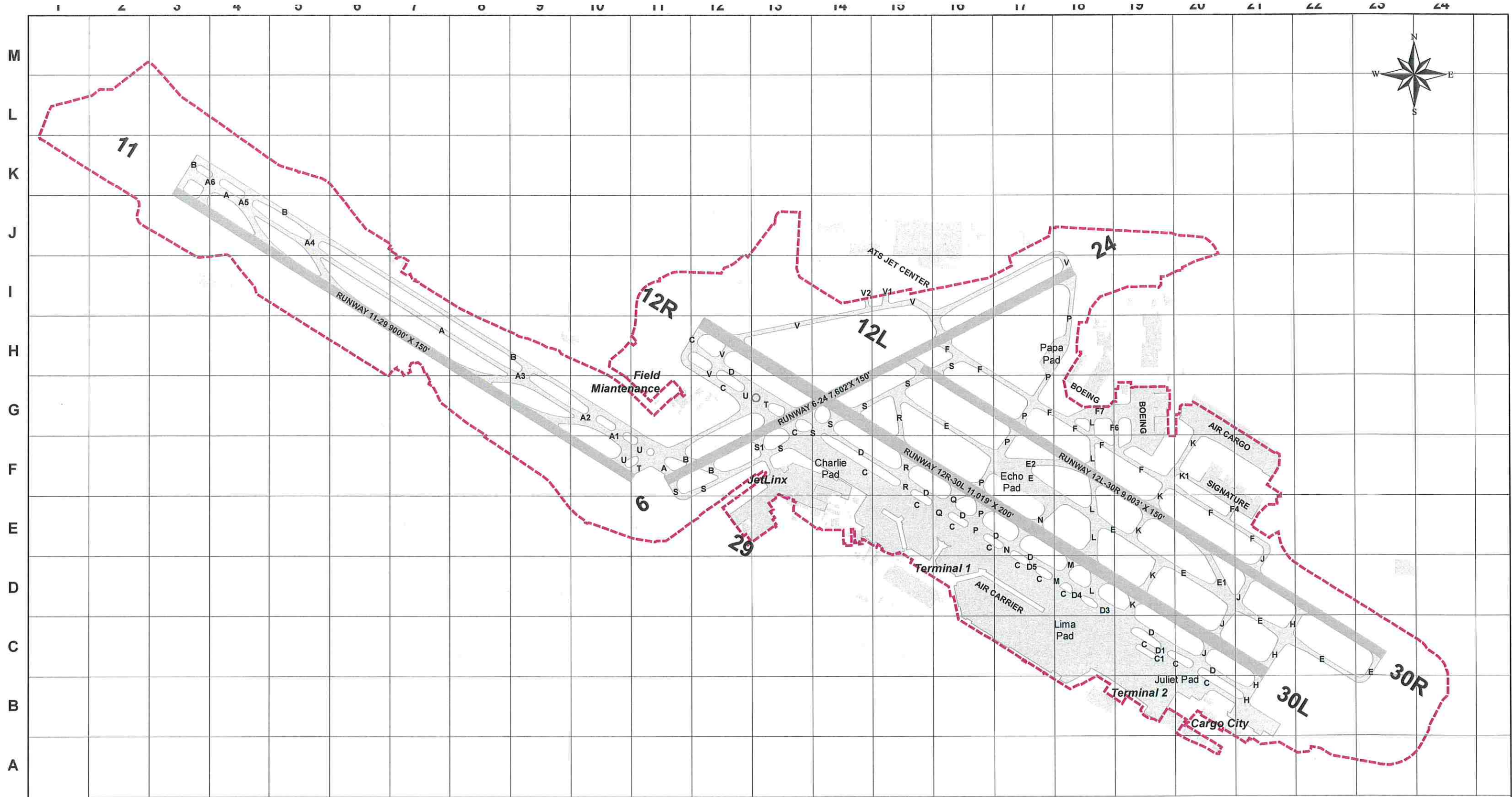
Coordinate System:
State Plane Coordinate, Missouri East Zone
North American Datum 1983 Survey Feet

Movement & Non-Movement Areas

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Prepared By:
Date: June 2018
Drawing ID:
ACM_AB-1A

Review and Approval By:
Date:
Sheet:
AB-1A

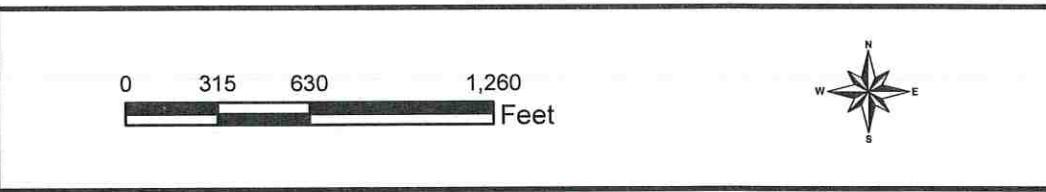
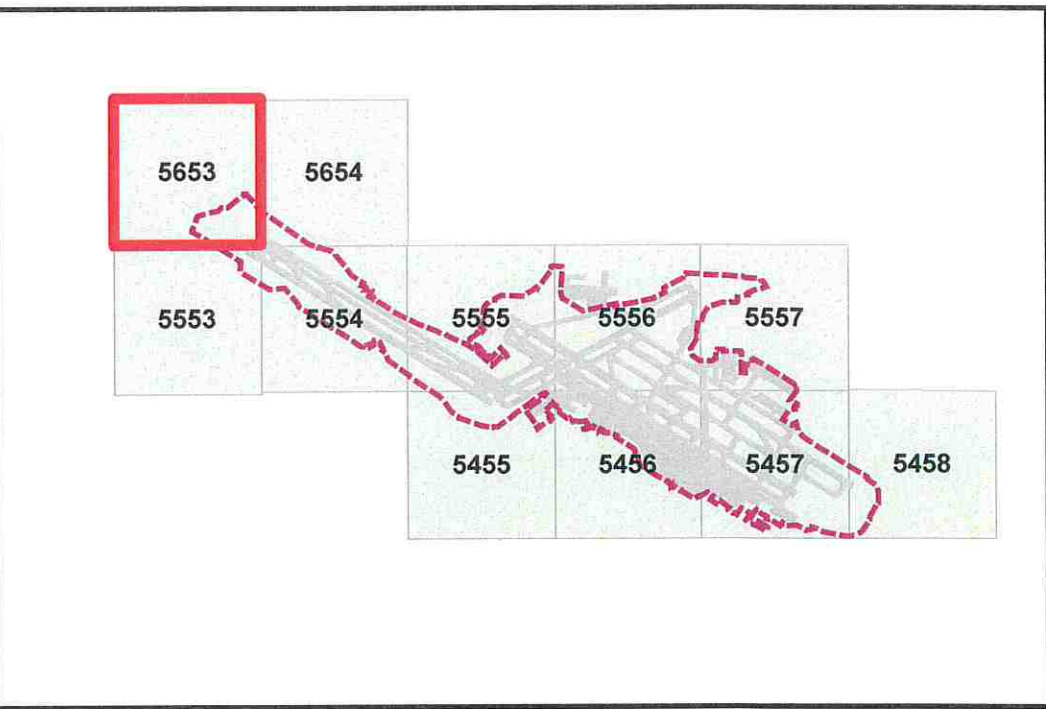


LEGEND

- OpsGrid
- Airport Operations Area (AOA)



M. Boyd
AUG 22 2018



Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

M. J. J.

AUG 22 2018

ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

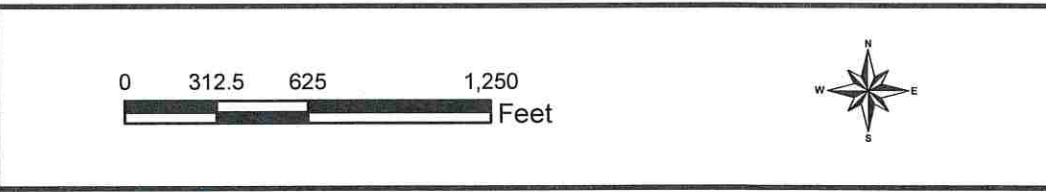
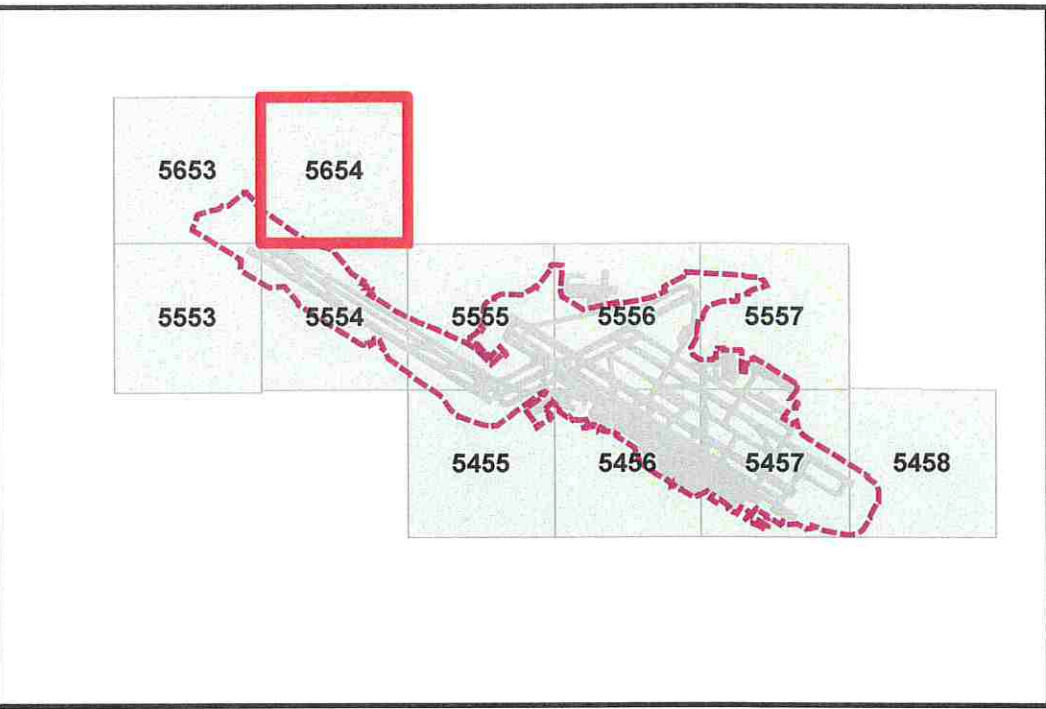
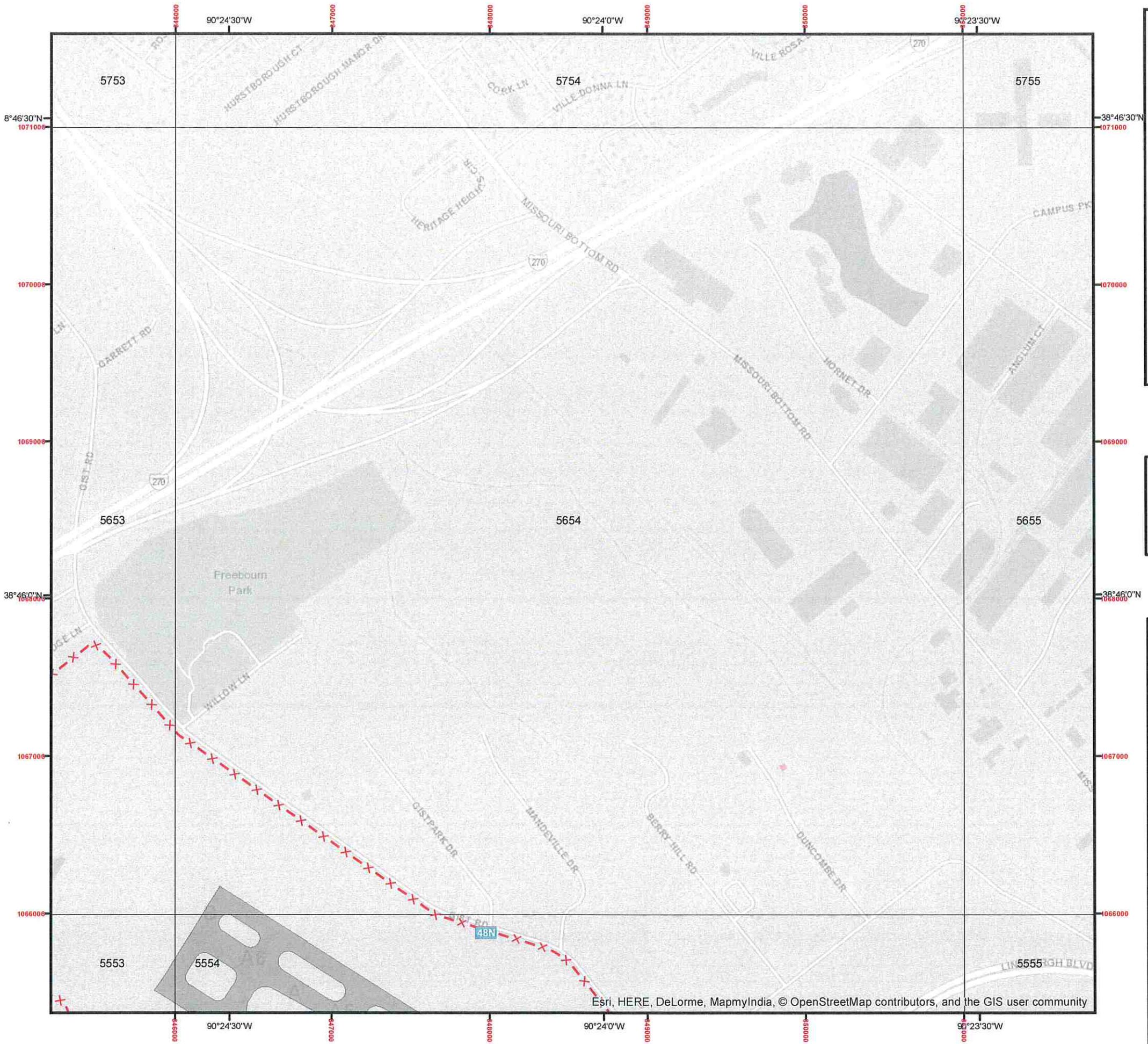
*STL Airport
Airfield Security Fence*

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
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5653



Legend:

- x - x Security Fence
- 88N Gate Number
- Airport Buildings

M. [Signature]

AUG 22 2018

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Airfield Security Fence*

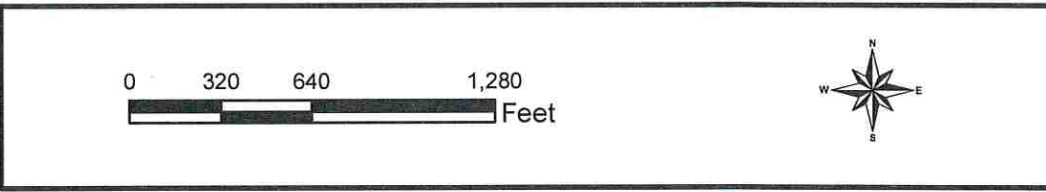
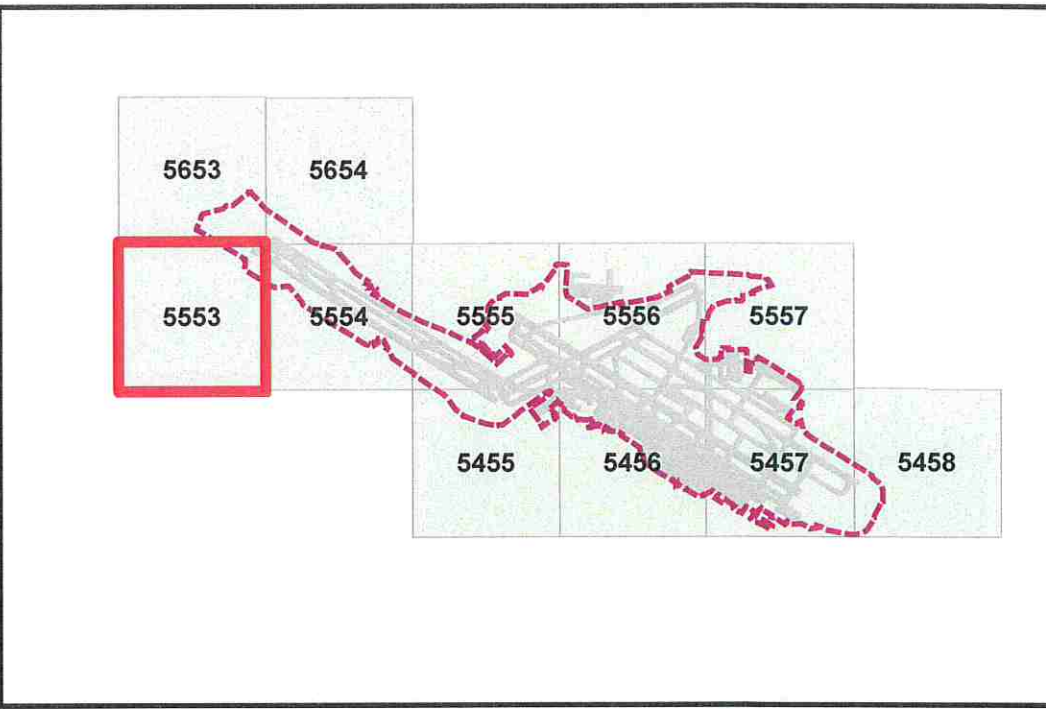
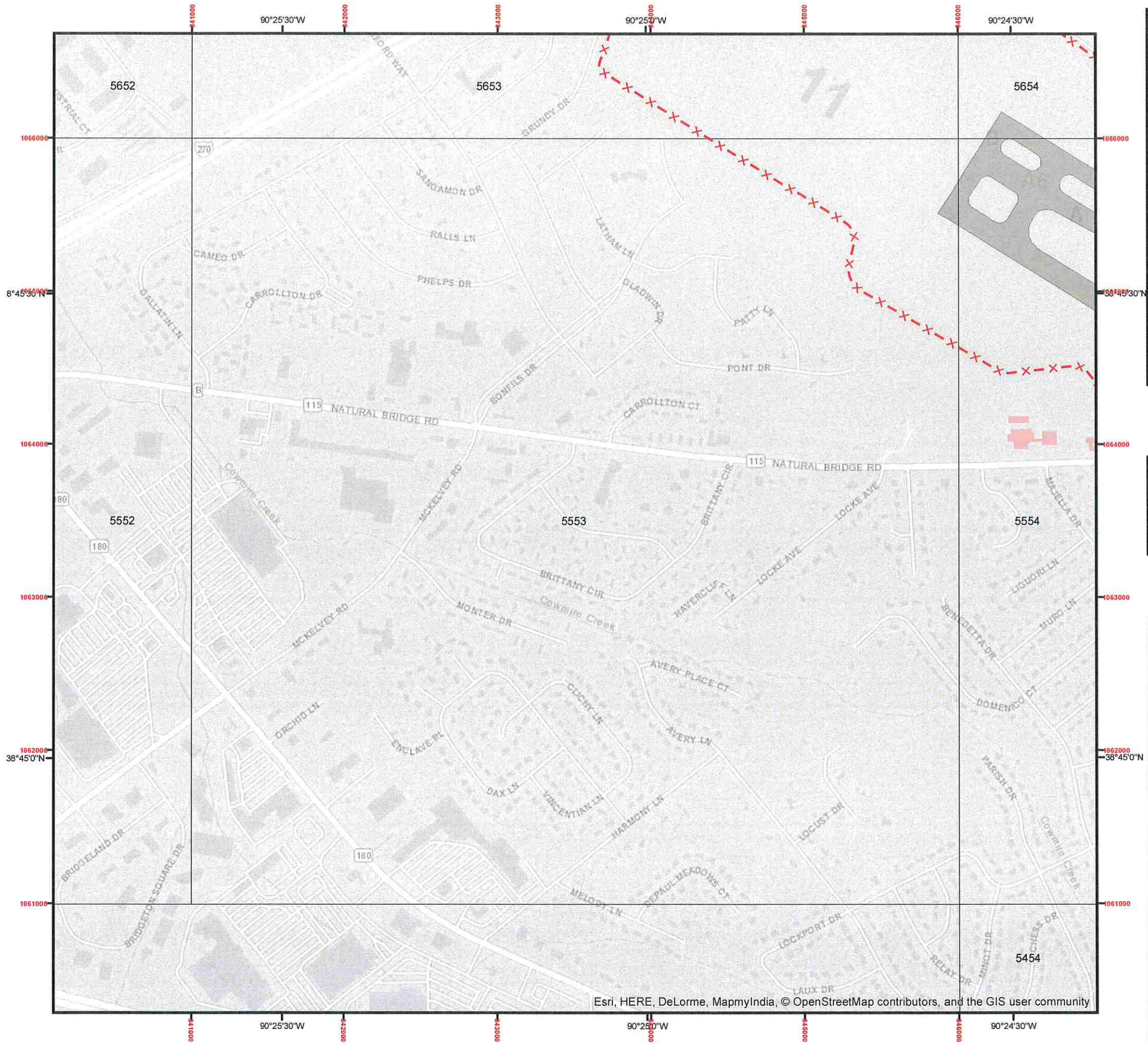
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5654

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Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

AUG 22 2018

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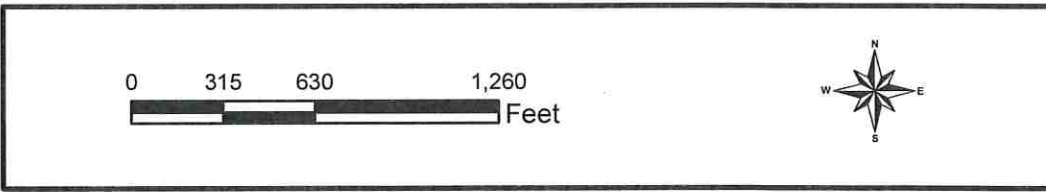
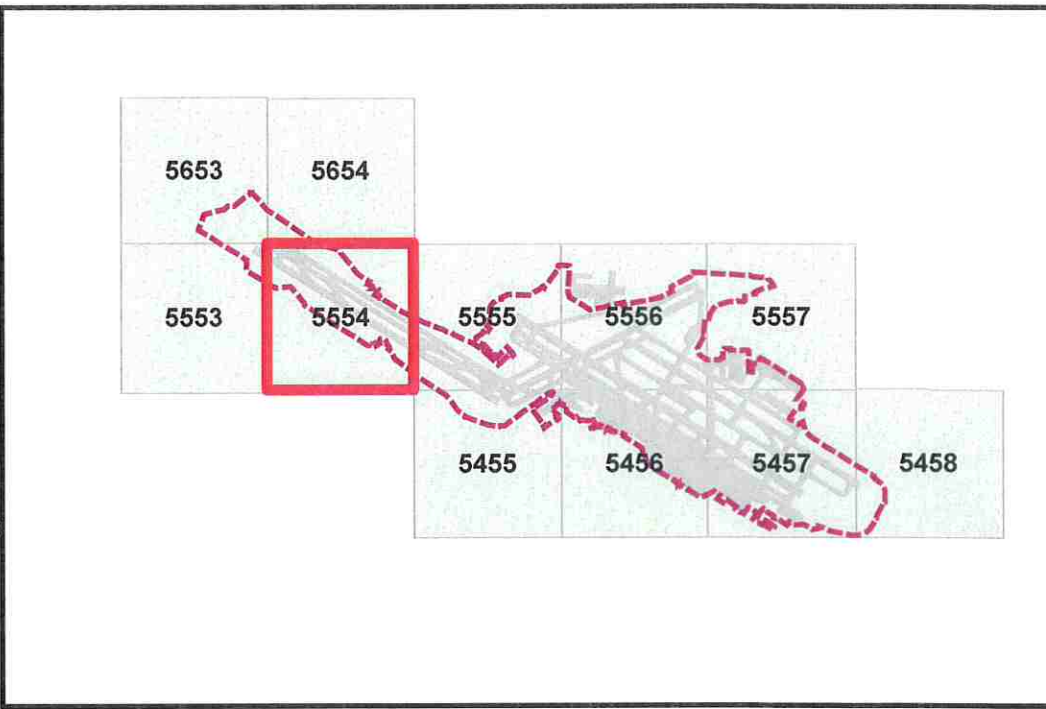
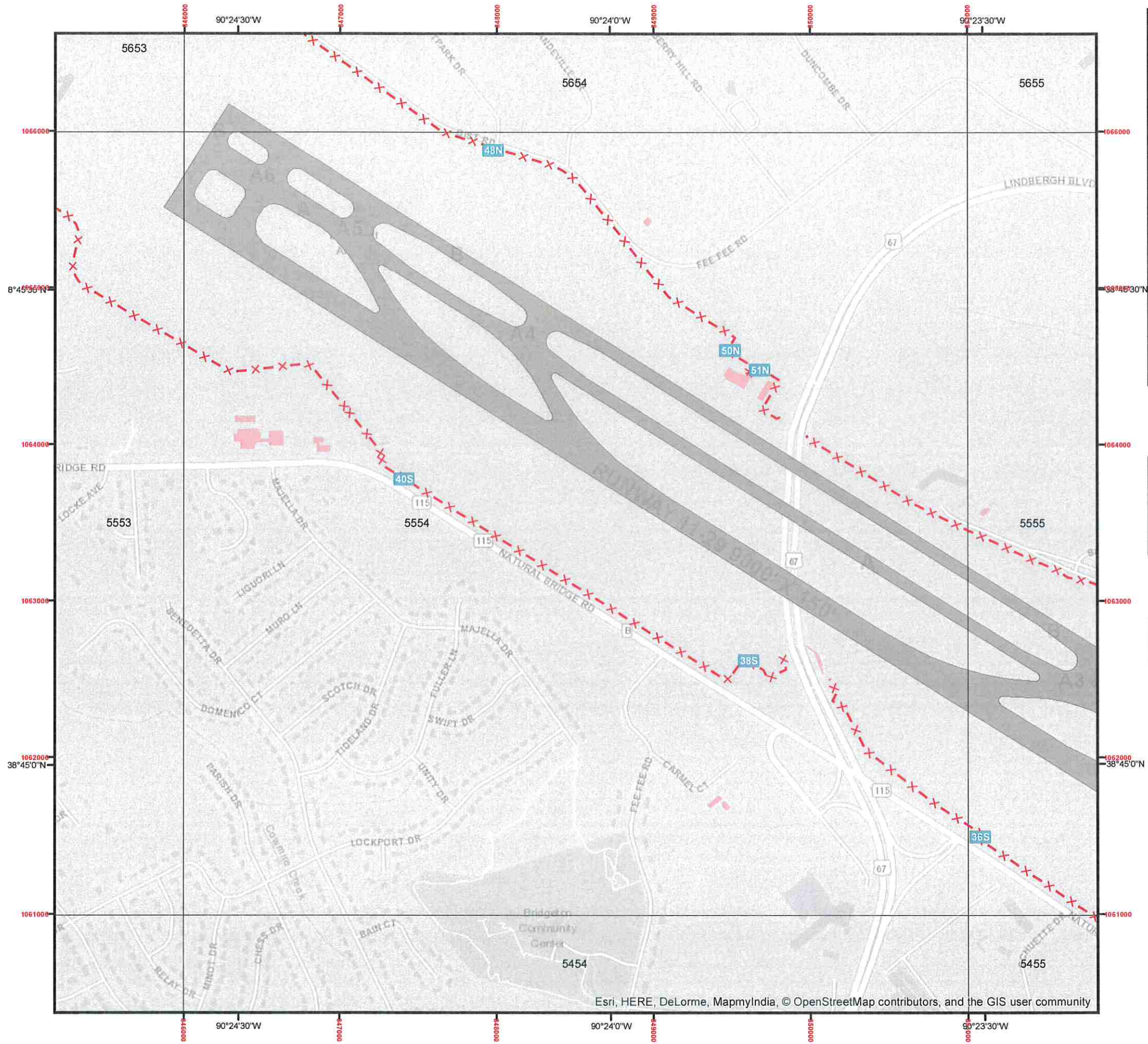
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5553



Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

M. Hagl
AUG 22 2018

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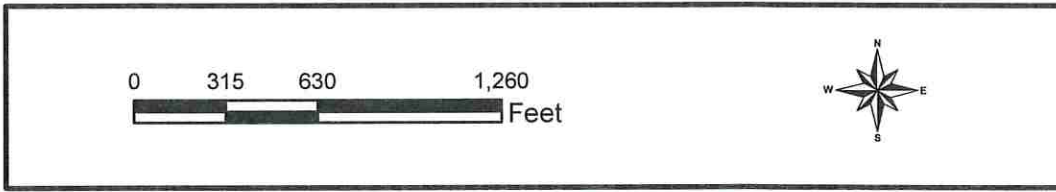
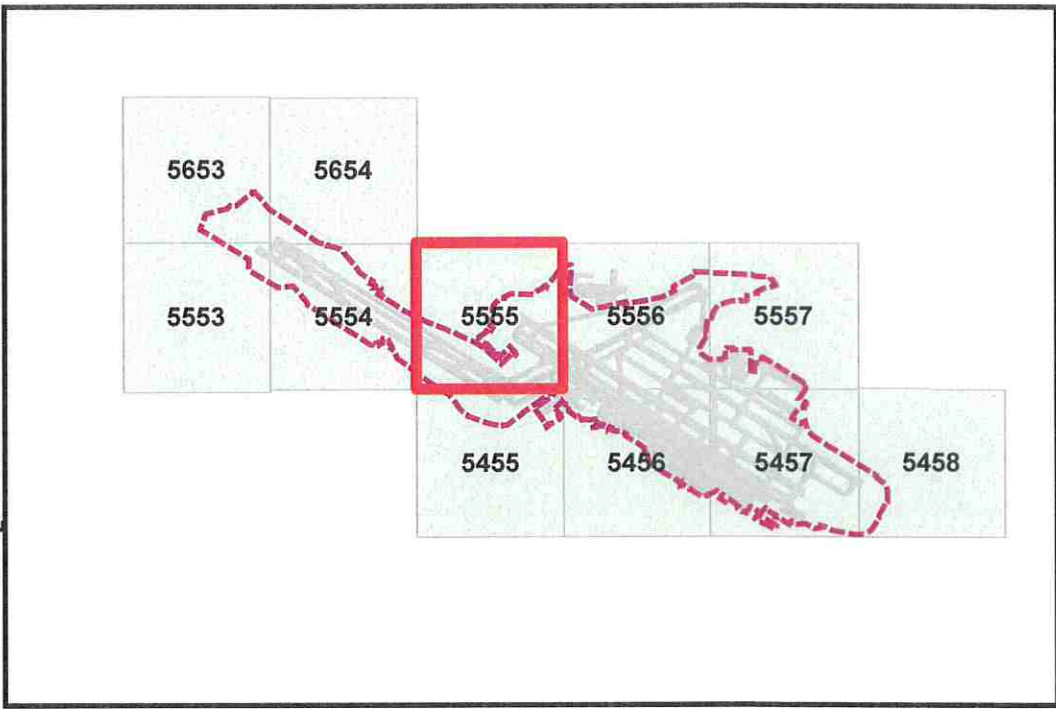
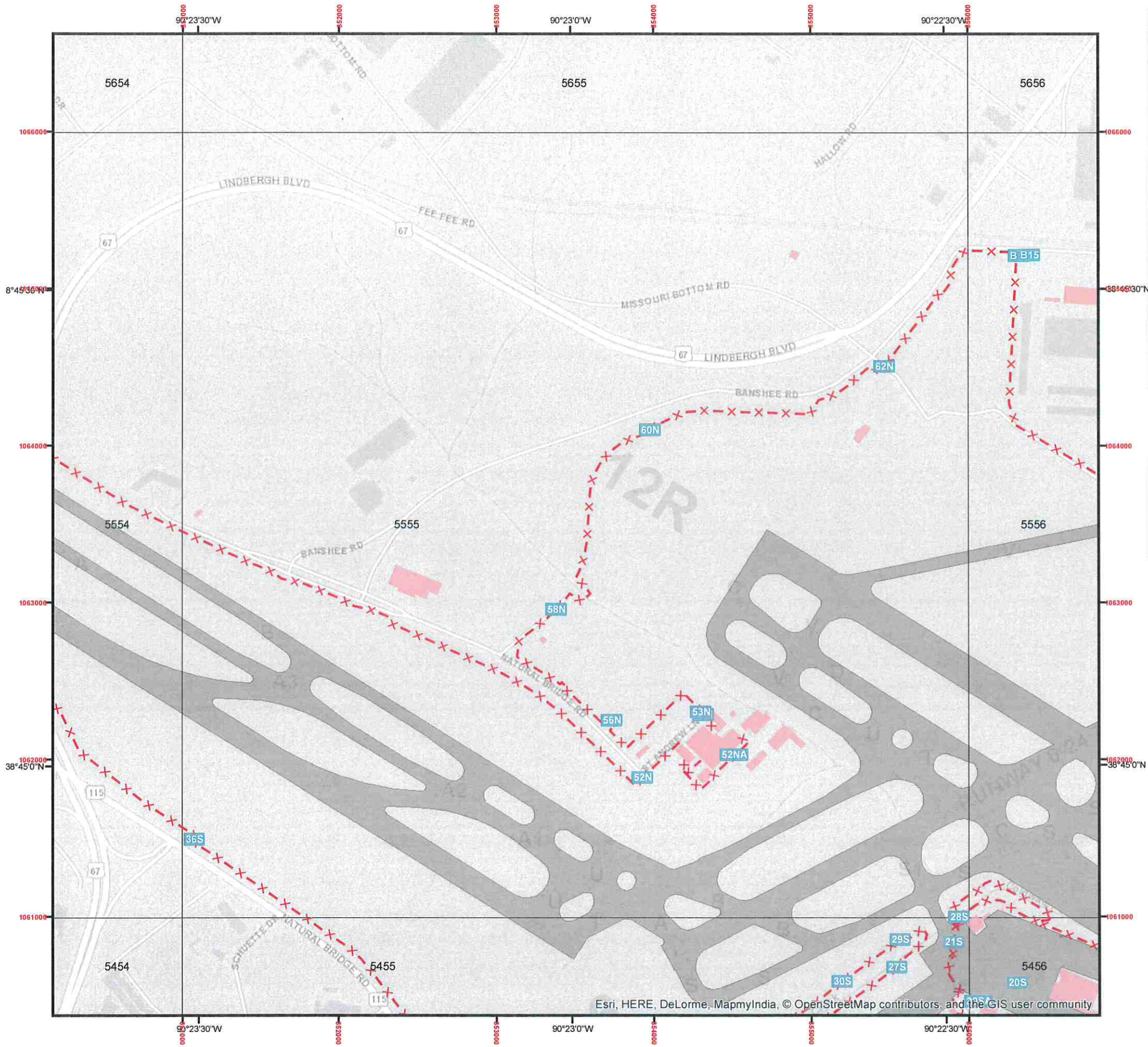
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5554



Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

M. Lopez
AUG 22 2018

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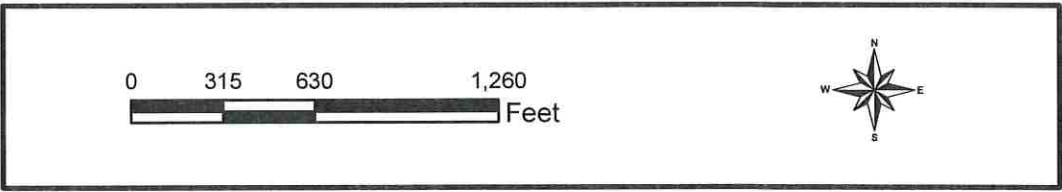
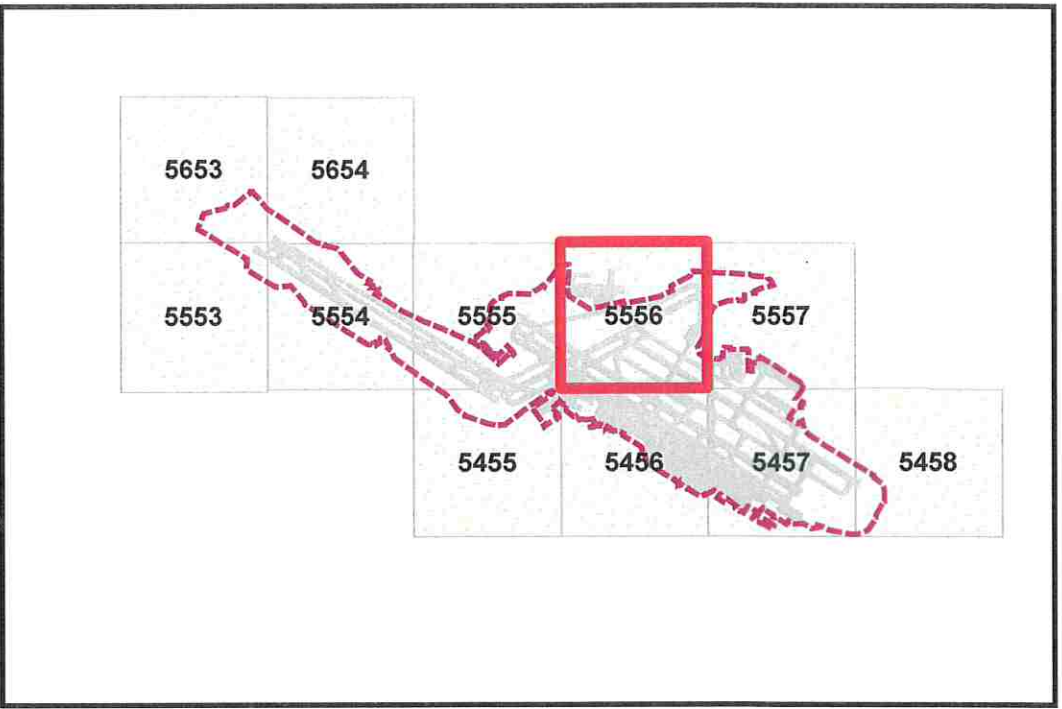
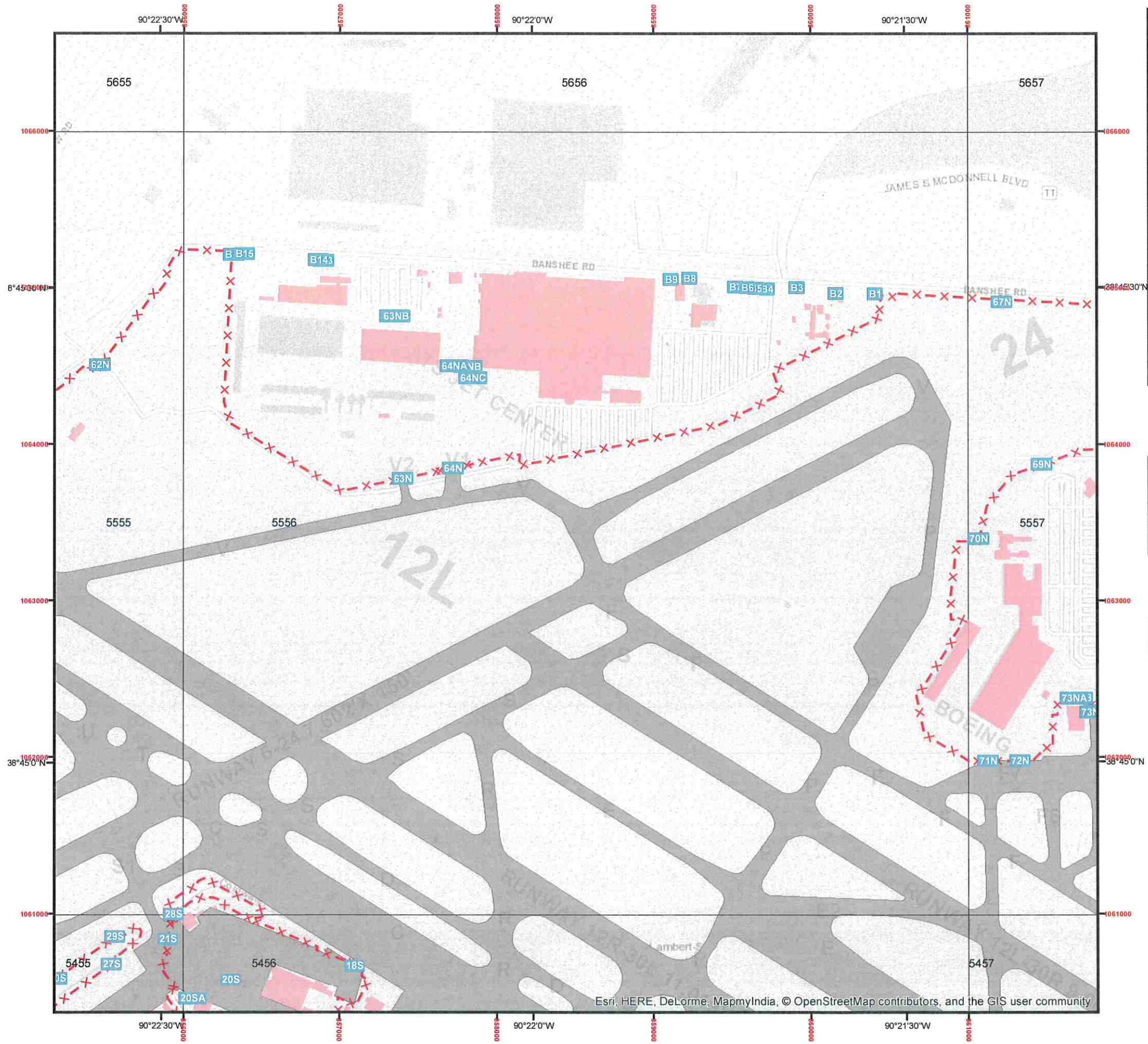
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5555



Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

M. Coz

AUG 22 2018

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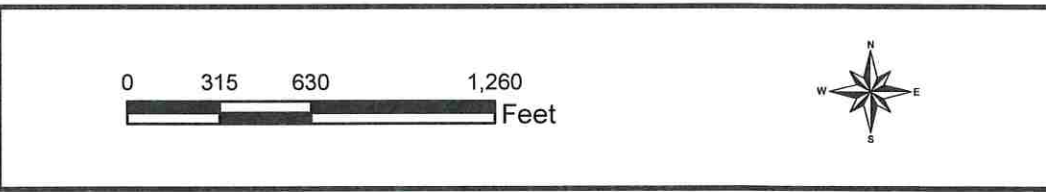
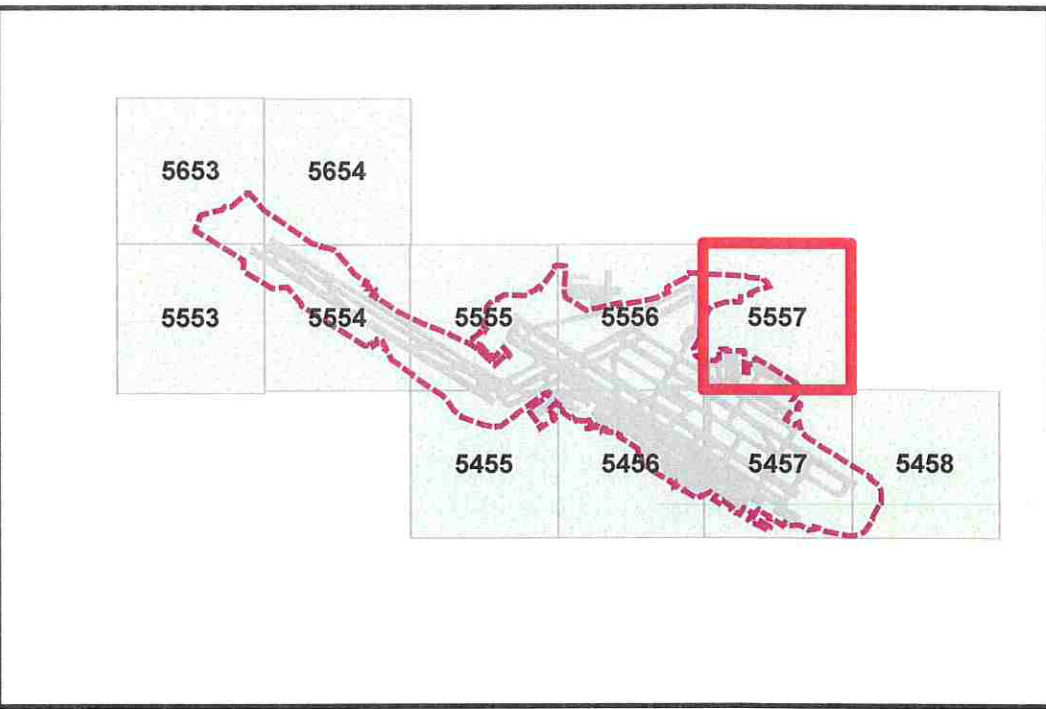
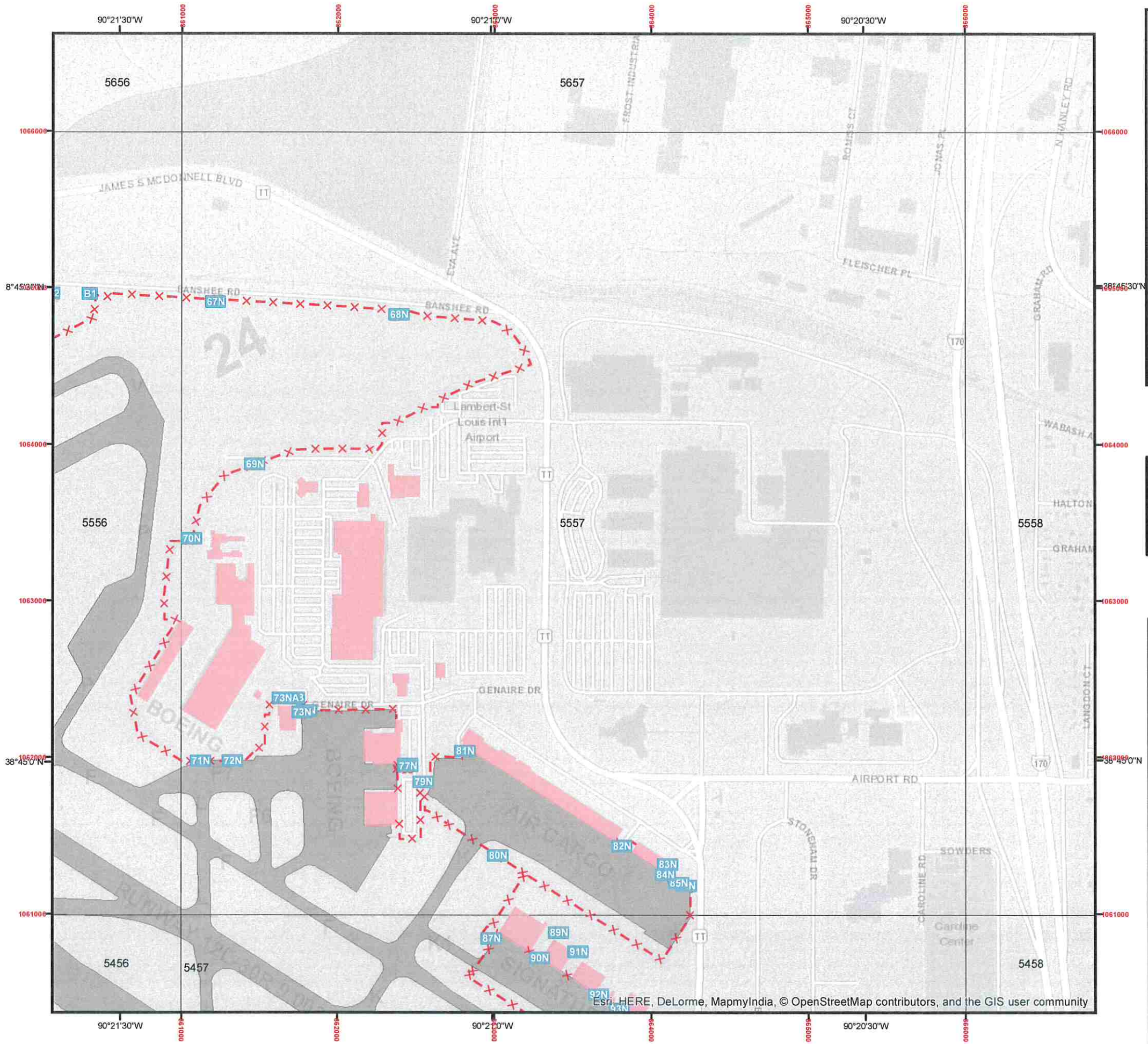
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5556



Legend:

- x - x Security Fence
- 88N Gate Number
- Airport Buildings

M. Bel
AUG 22 2018

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

**STL Airport
Airfield Security Fence**

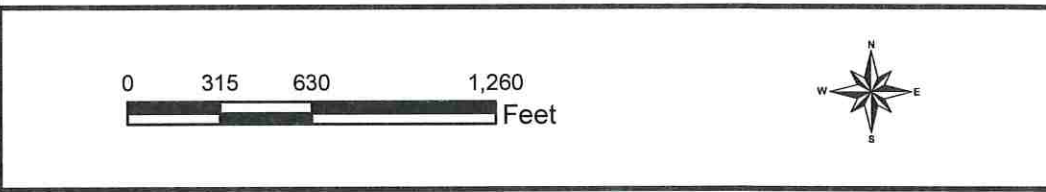
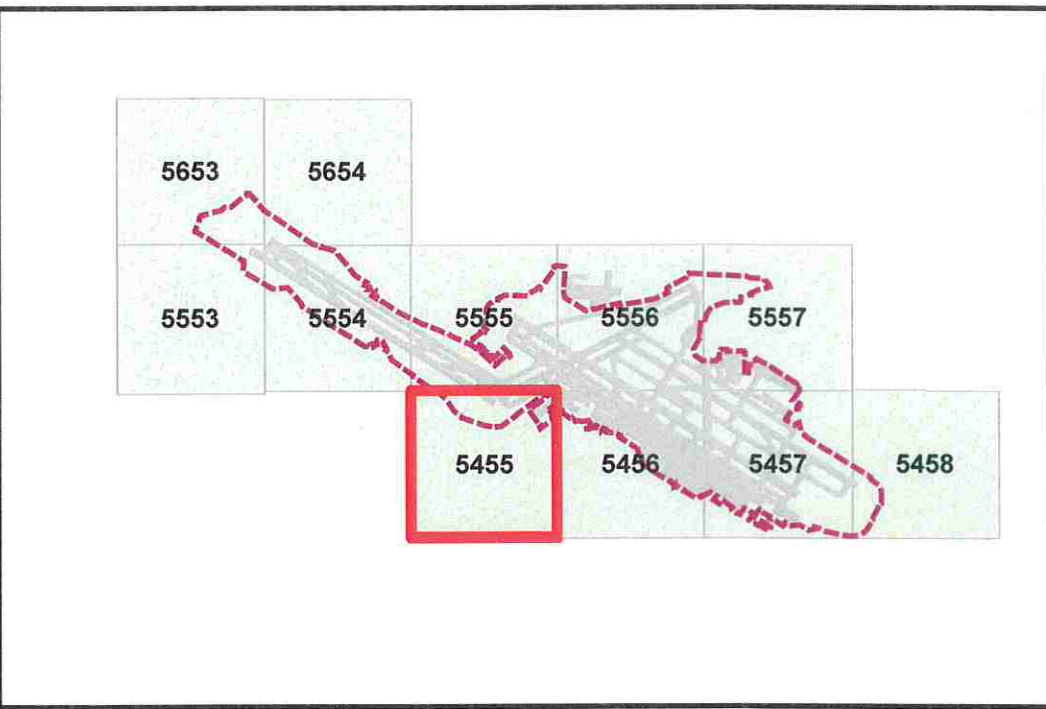
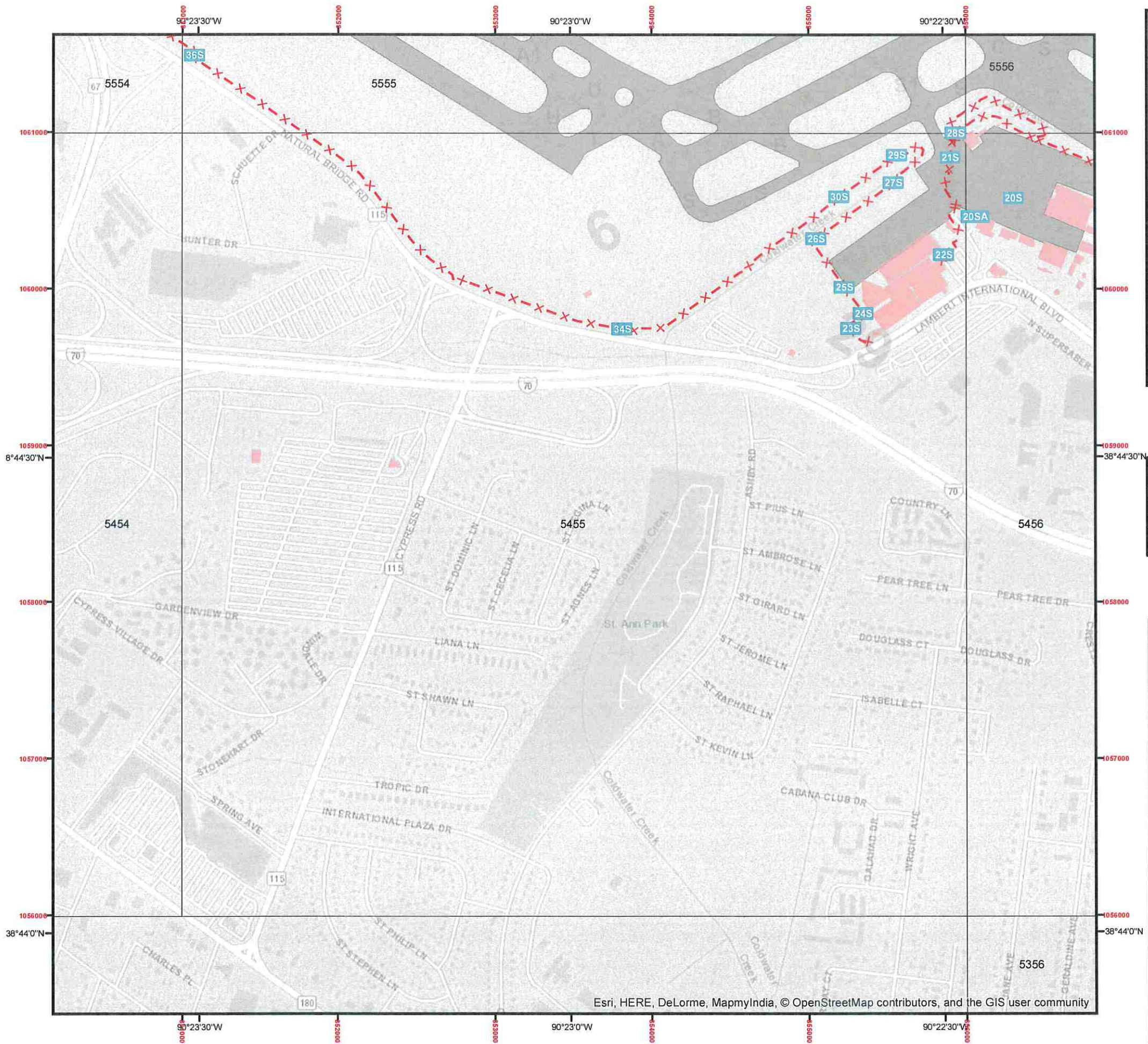
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Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

M. Boyd

AUG 22 2018

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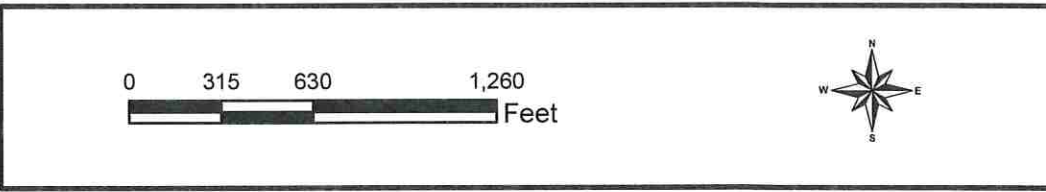
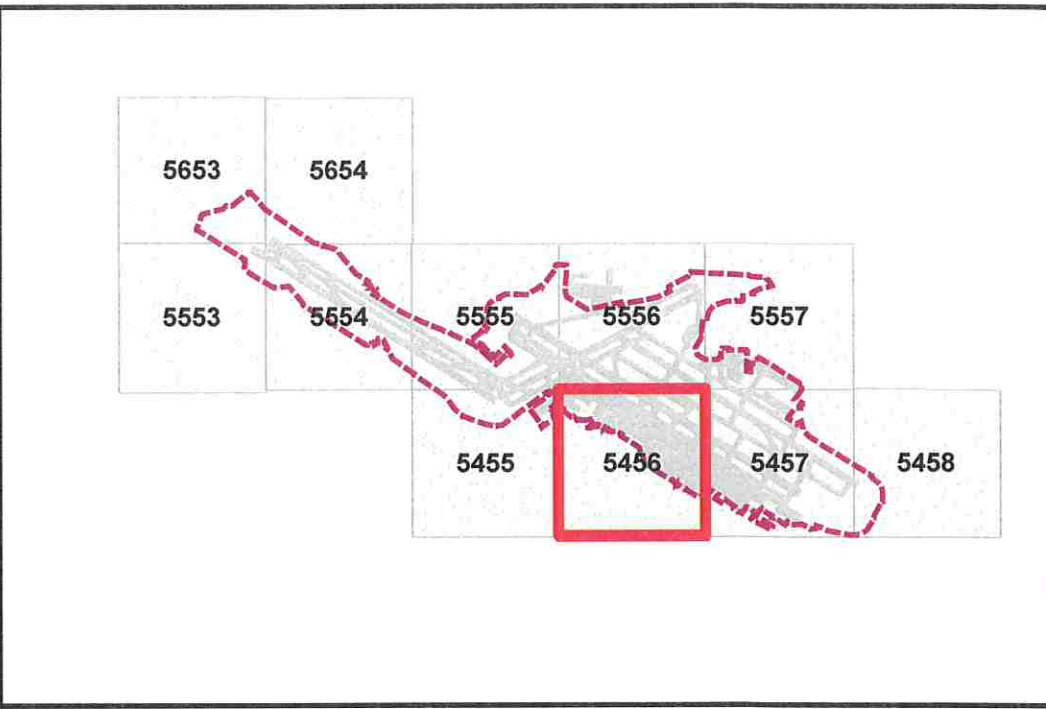
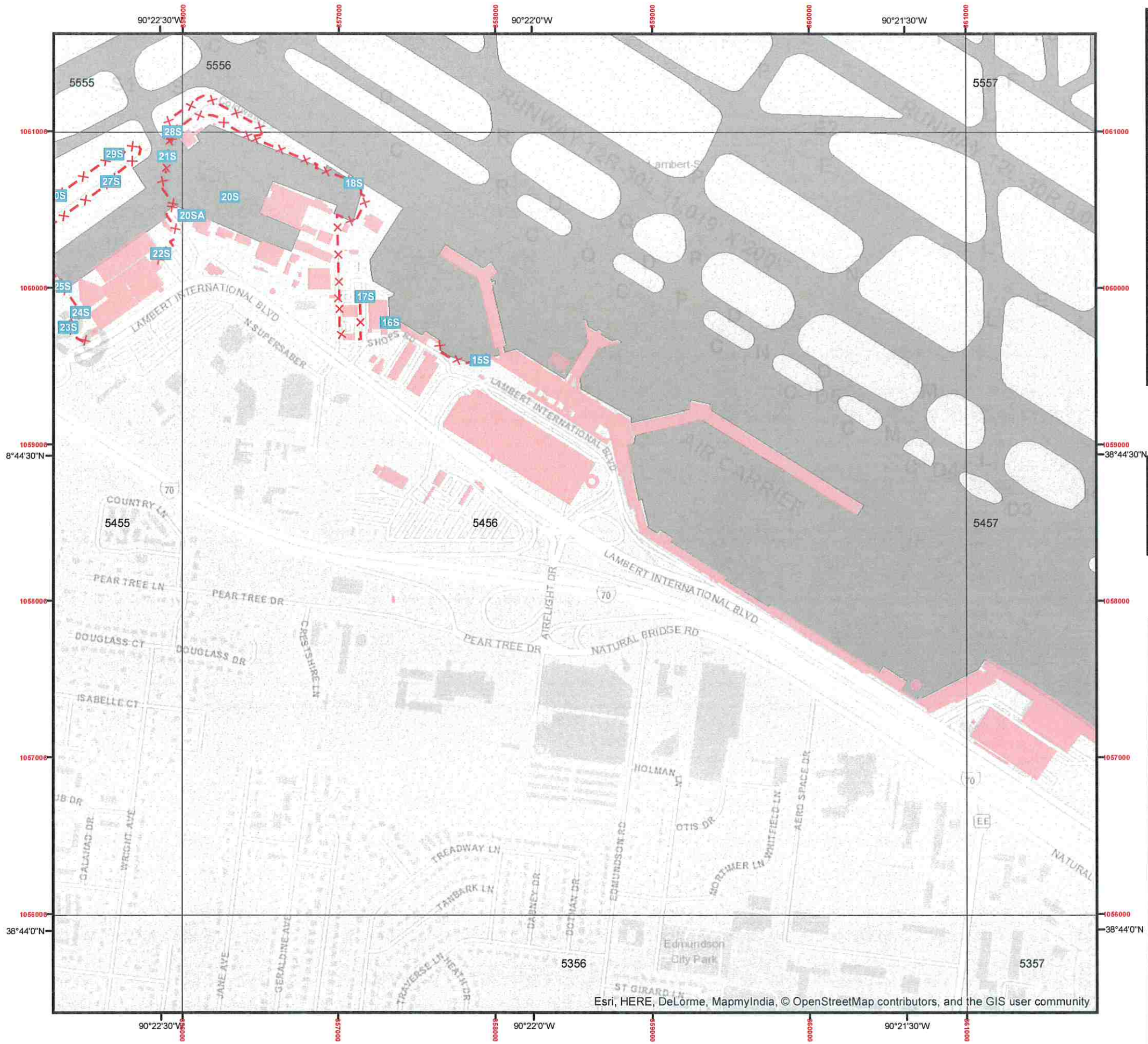
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5455



Legend:

- x-x Security Fence
- 88N Gate Number
- Airport Buildings

M. L. L.

AUG 2 2 2018

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

**STL Airport
Airfield Security Fence**

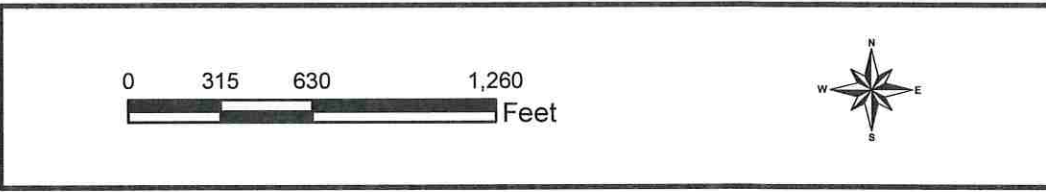
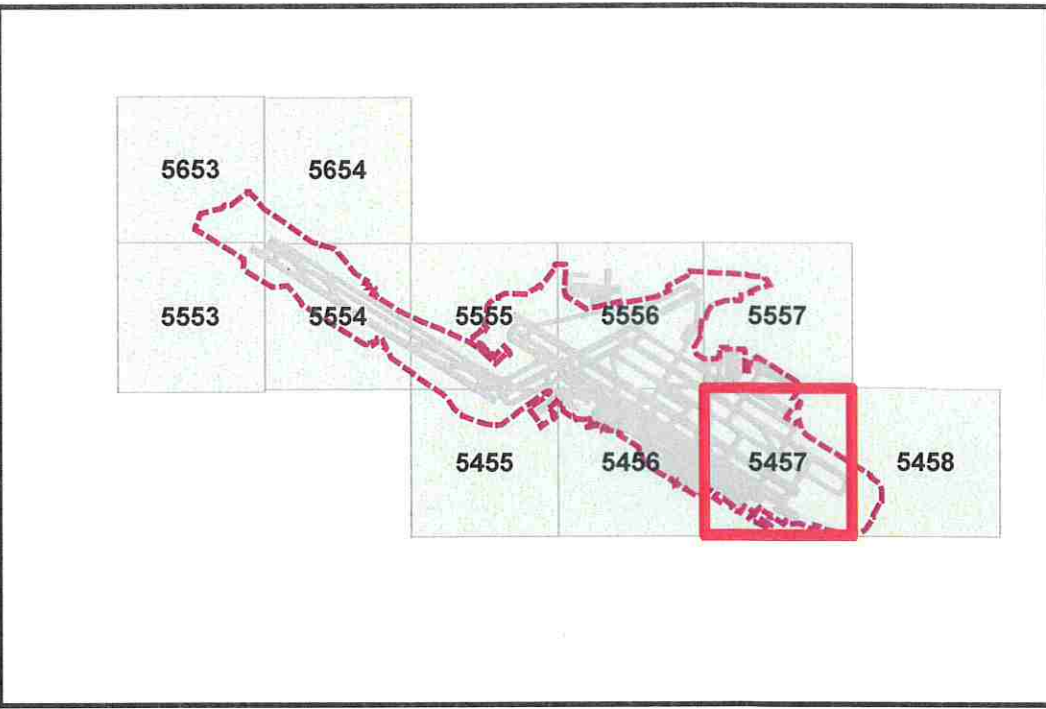
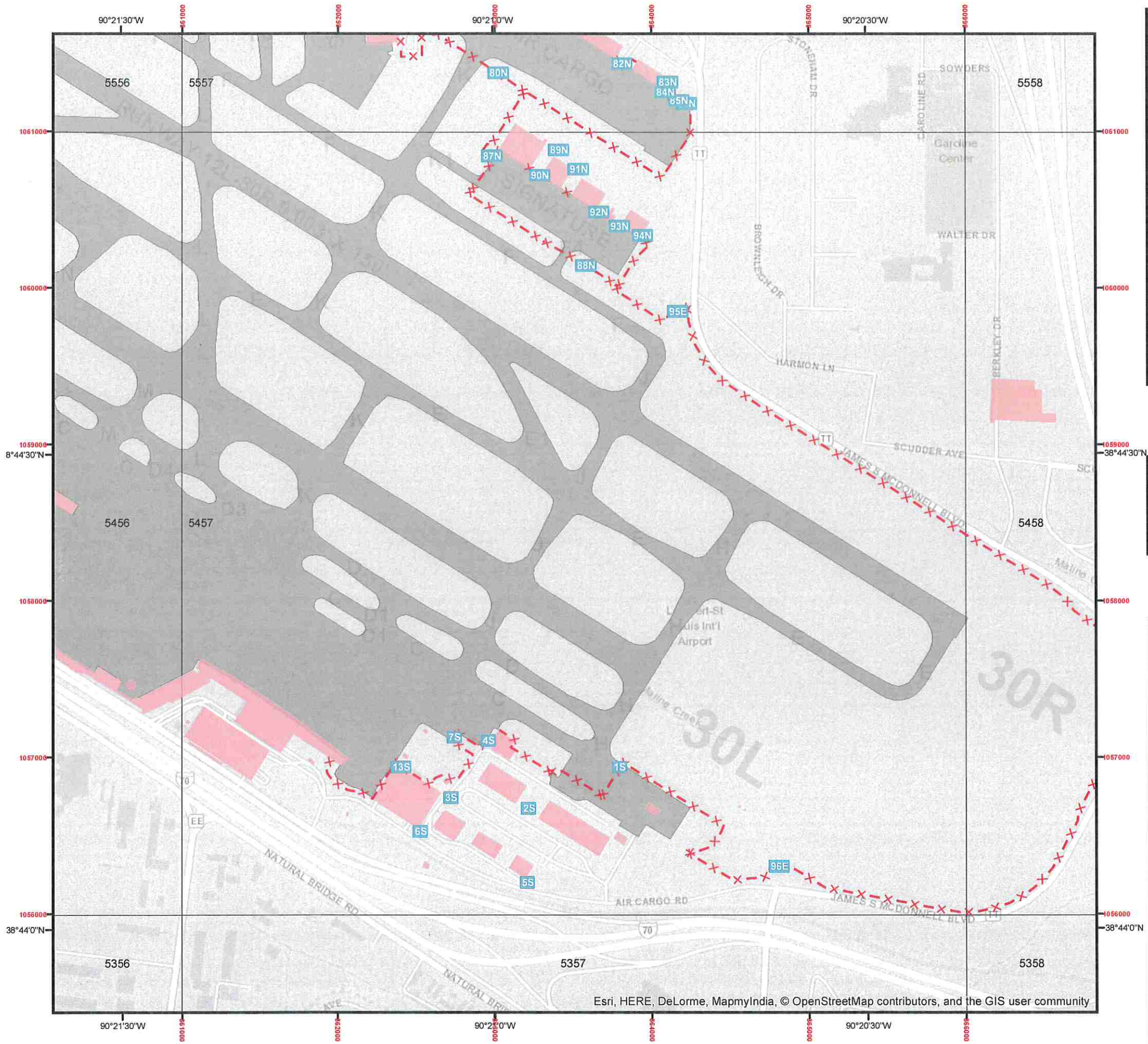
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5456

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Legend:

- x - x Security Fence
- 88N Gate Number
- Airport Buildings

M. [Signature]

AUG 22 2018

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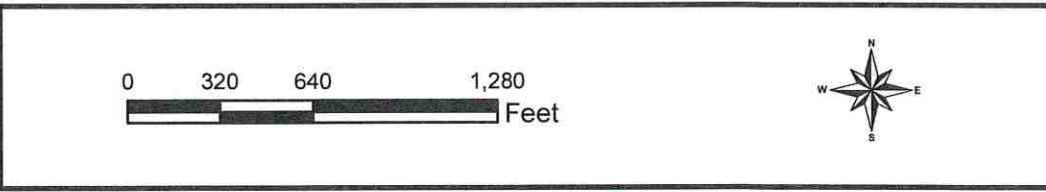
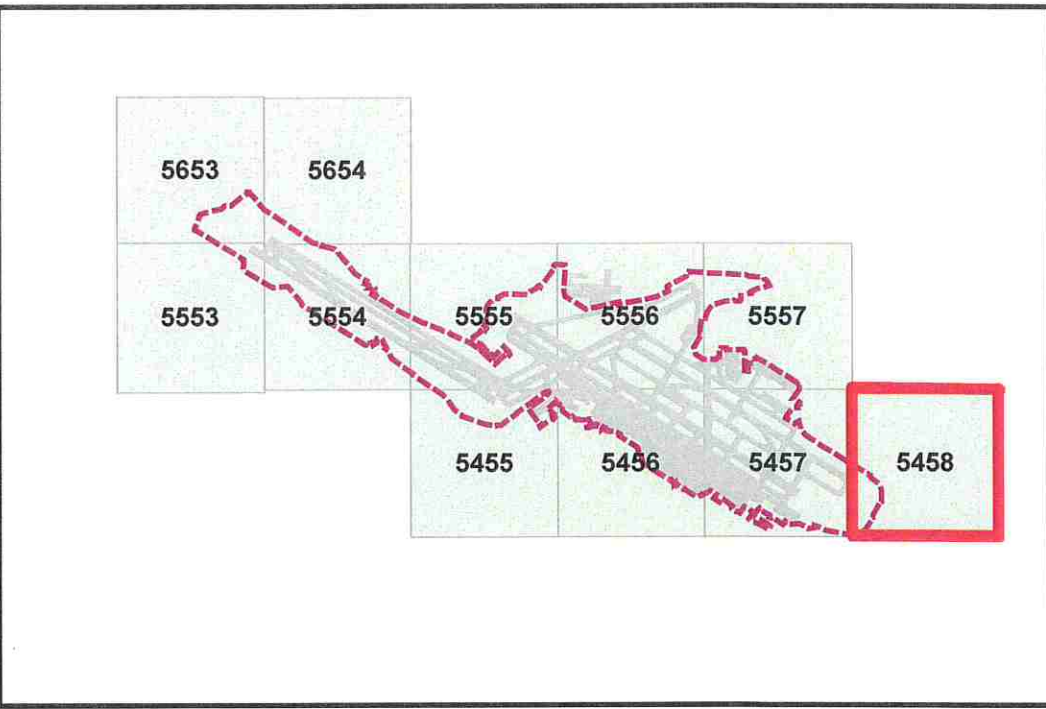
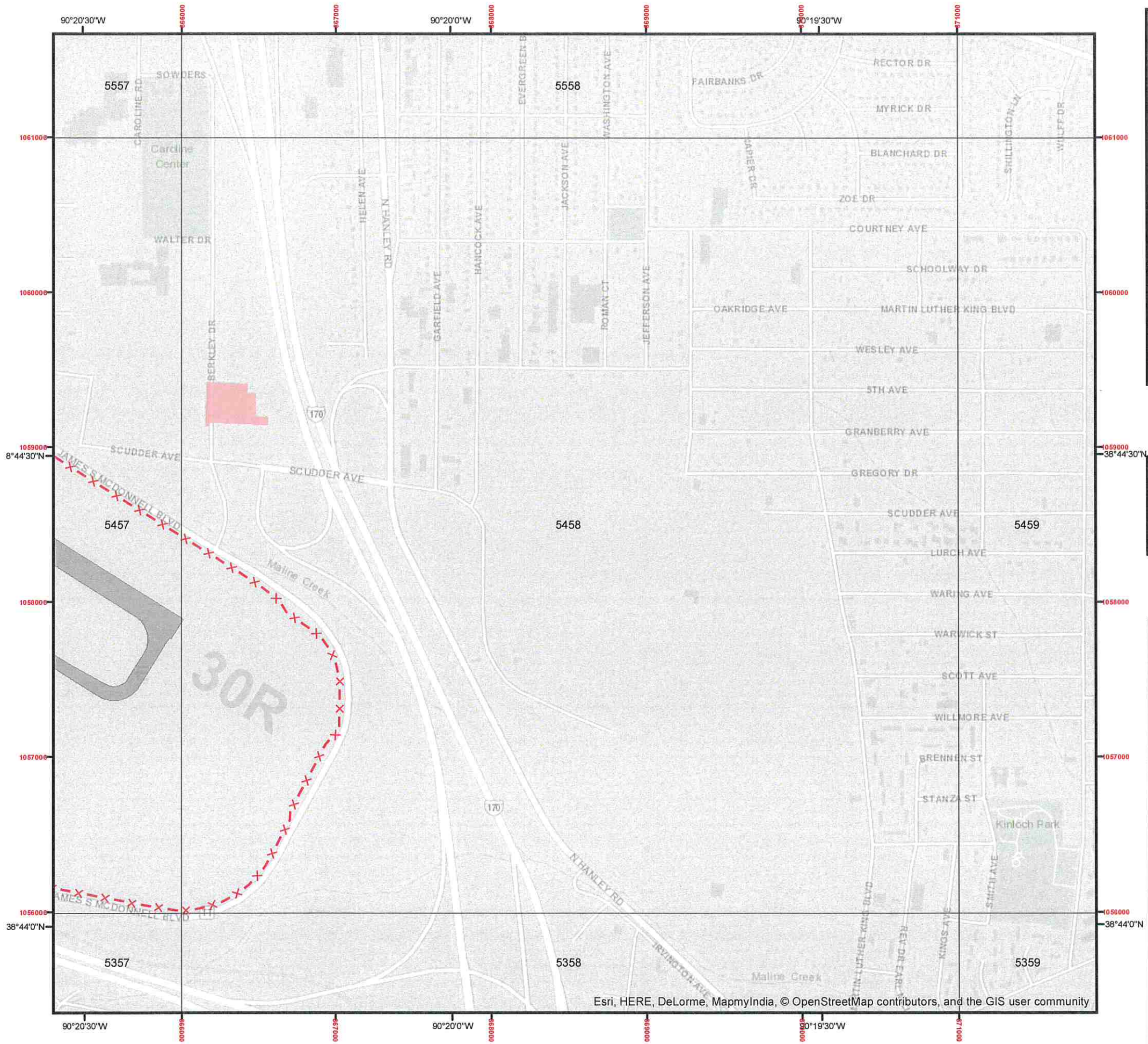
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5457



Legend:

- x - x Security Fence
- 88N Gate Number
- Airport Buildings

M. Coyle

AUG 22 2018

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

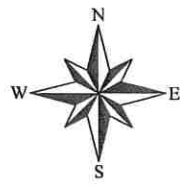
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6/11/2018	AB-3J

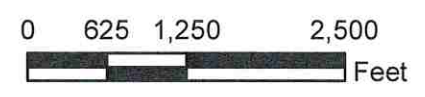
5458



LEGEND

Service Road

- Asphalt Road
- Gravel Road
- Stripping on Concrete



M. P. 20
AUG 22 2018



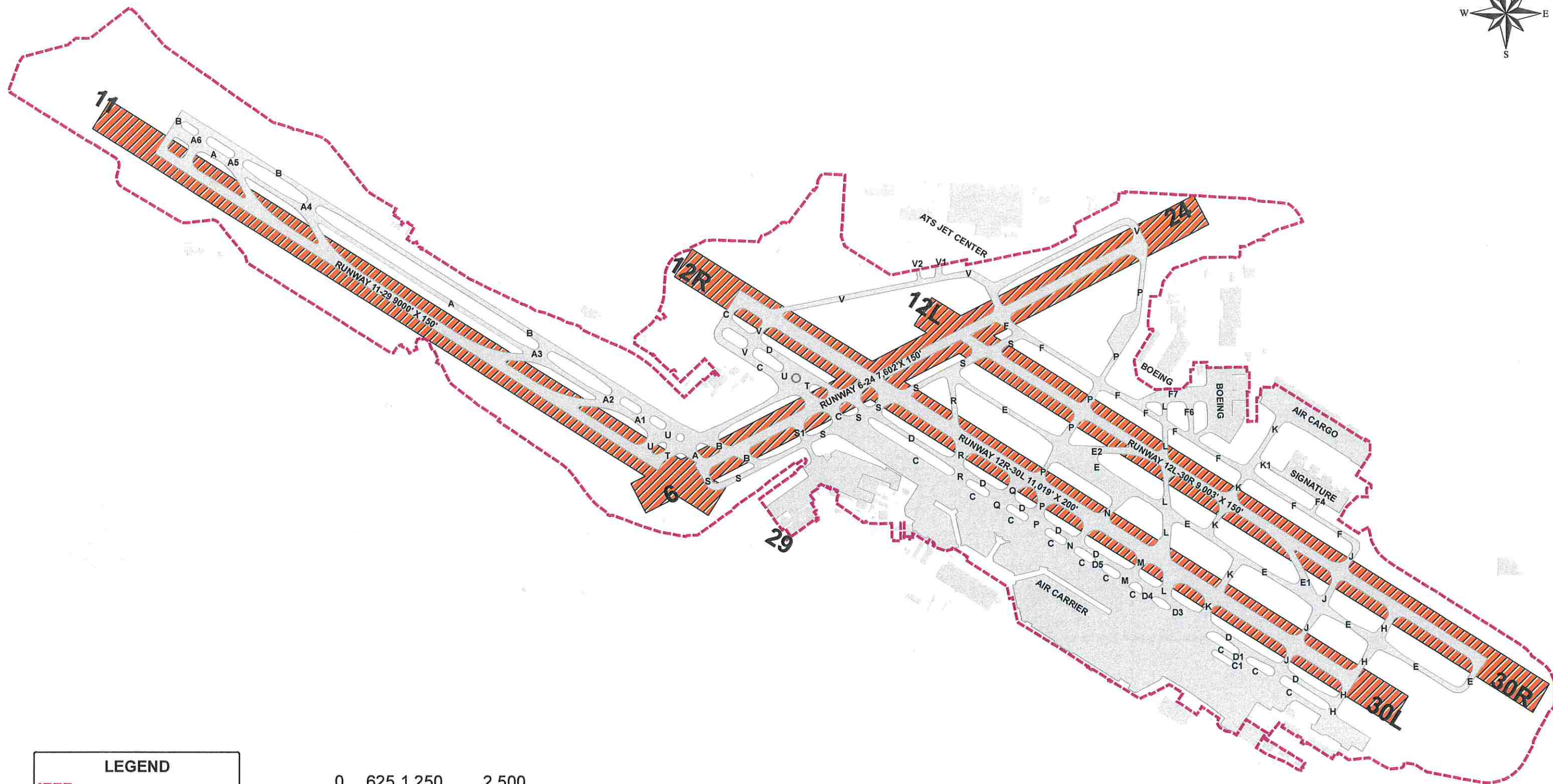
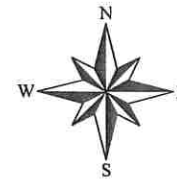
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North American Datum 1983 Survey Feet

Access and Service Roads

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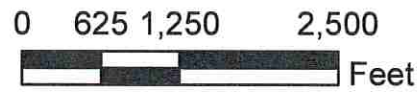
Prepared By:
Date: June 2018
Drawing ID:
ACM_AB-4

Review and Approval By:
Date:
Sheet:
AB-4



LEGEND

- Airport Operations Area (AOA)
- Runway Safety Areas



M. Boz
AUG 22 2018



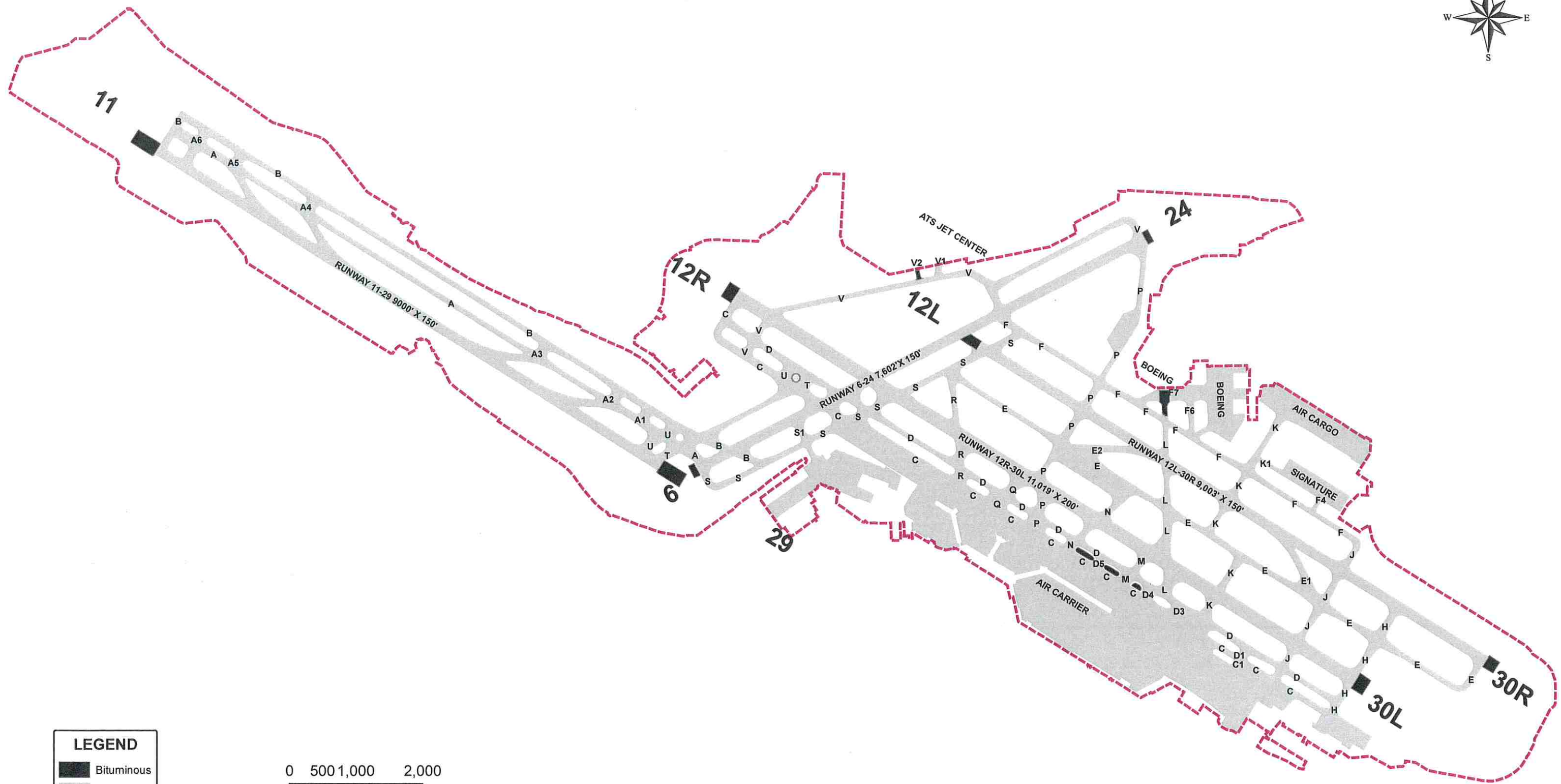
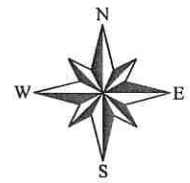
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State Plane Coordinate, Missouri East Zone
North American Datum 1983 Survey Feet

Runway and Taxiway Safety Areas

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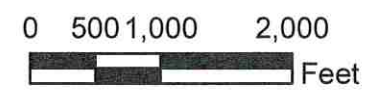
Prepared By:
Date: June 2018
Drawing ID:
ACM_AB-5

Review and Approval By:
Date:
Sheet:
AB-5



LEGEND

- Bituminous
- Concrete



M. Boz
AUG 22 2018



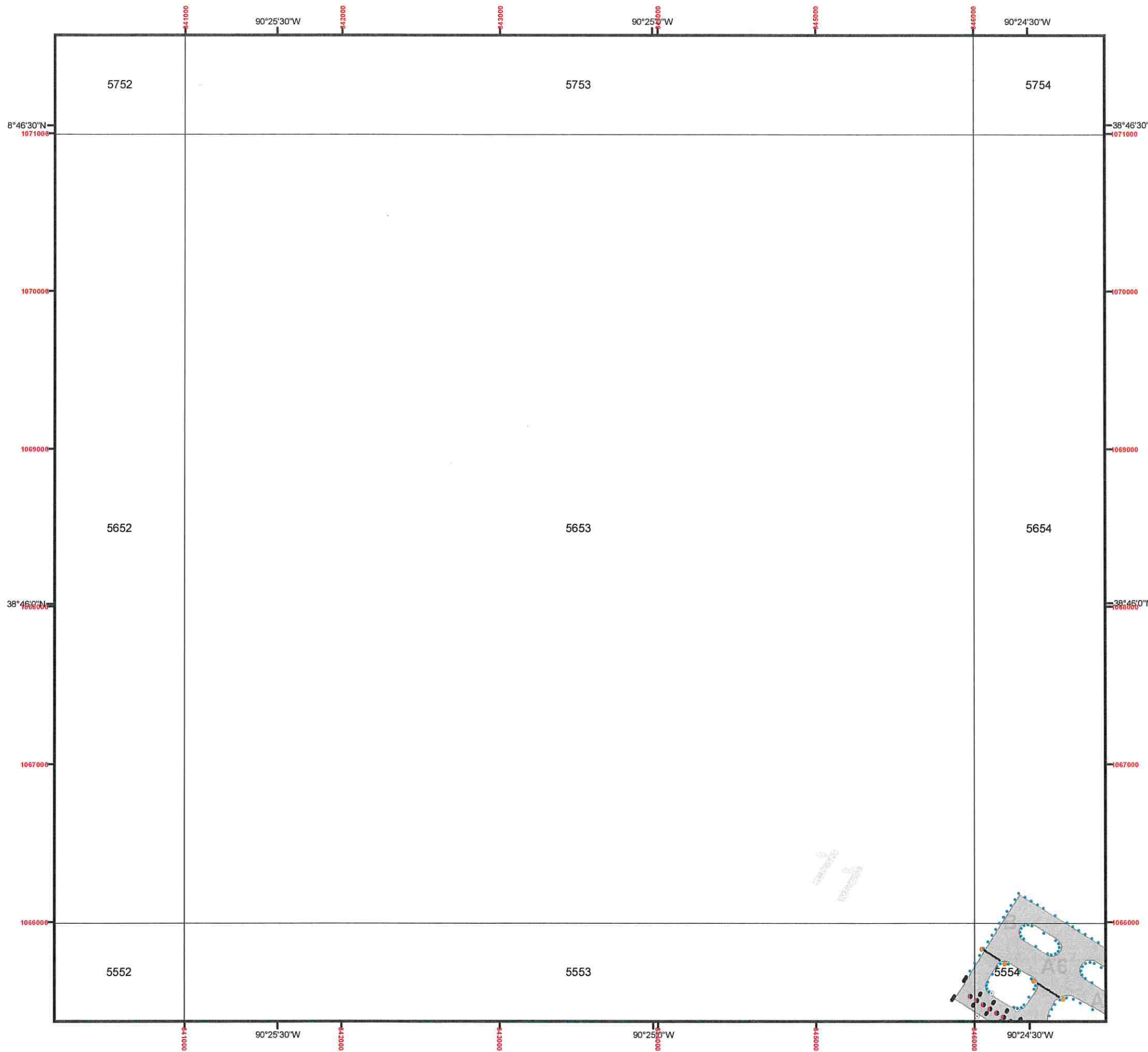
Coordinate System:
State Plane Coordinate, Missouri East Zone
North American Datum 1983 Survey Feet

Surface Types

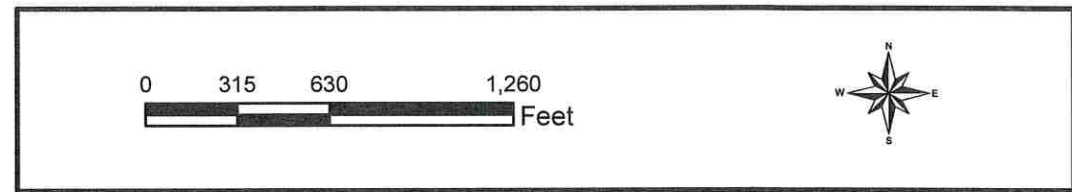
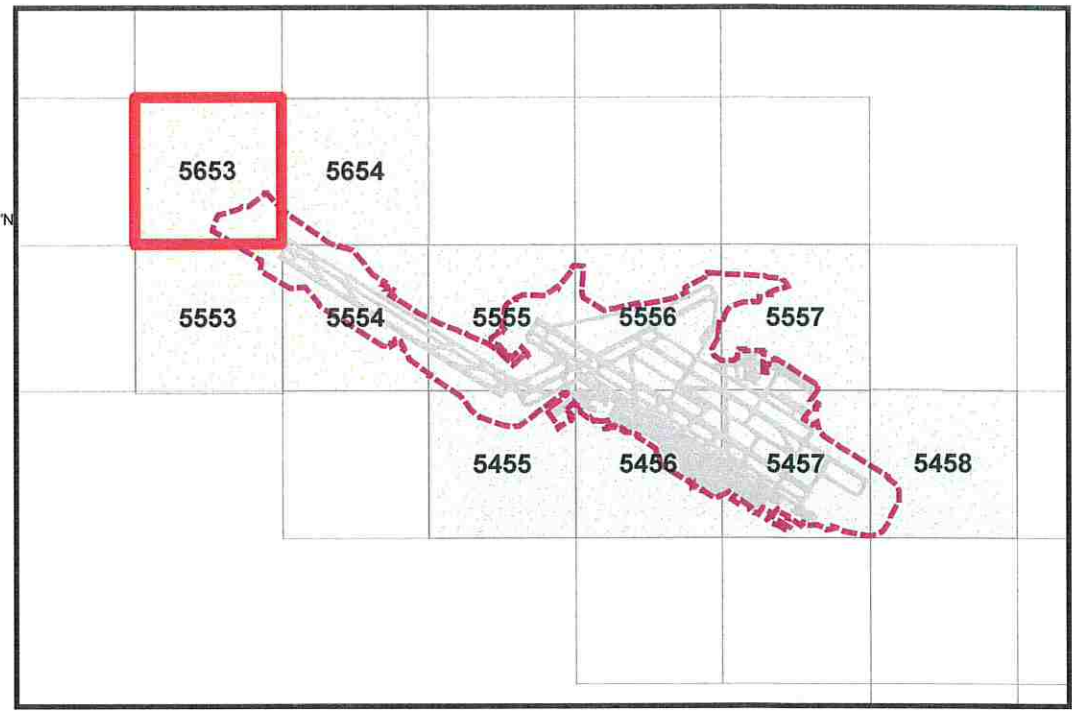
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Prepared By:
Date: June 2018
Drawing ID:
ACM_AB-6

Review and Approval By:
Date:
Sheet:
AB-6



5653



Legend:

- Elevated Runway Guard Lights
- In-Pavement Runway Guard Lights
- Runway Centerline Lights
- Runway Edge Lights
- Runway Threshold Bar Lights
- Runway Threshold End Lights
- Taxiway Centerline Lights
- Taxiway Edge Lights
- Touchdown Zone Lights

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

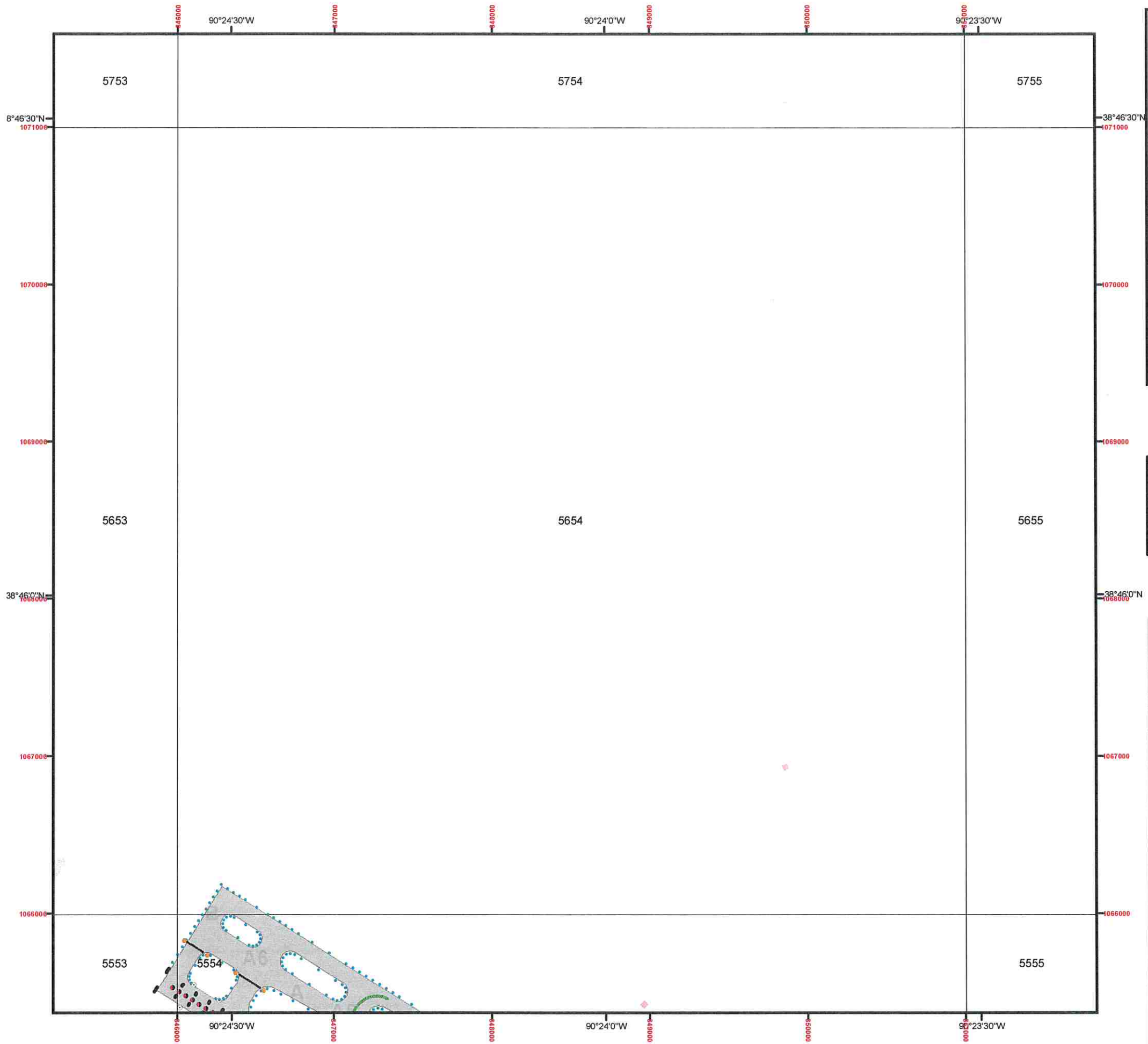
STL Airport Airfield Lighting

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS US_FEET NORTH AMERICAN

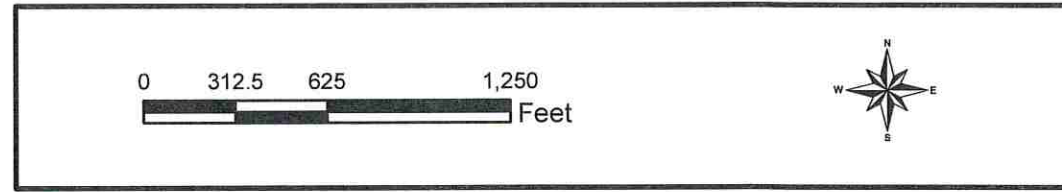
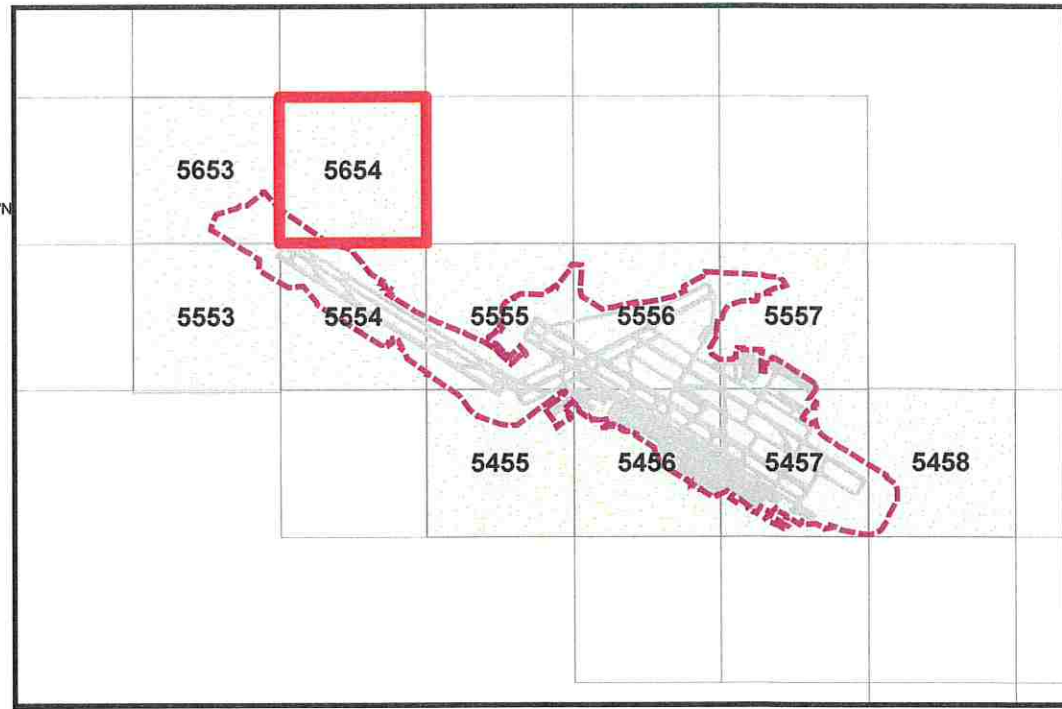
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Approval Date:	Drawing ID:
	ACM_AB-7
Print Date:	Sheet:
6/11/2018	AB-7


M. Boyd
AUG 27 2018



5654



- Legend:**
- Elevated Runway Guard Lights
 - In-Pavement Runway Guard Lights
 - Runway Centerline Lights
 - Runway Edge Lights
 - Runway Threshold Bar Lights
 - Runway Threshold End Lights
 - Taxiway Centerline Lights
 - Taxiway Edge Lights
 - Touchdown Zone Lights



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

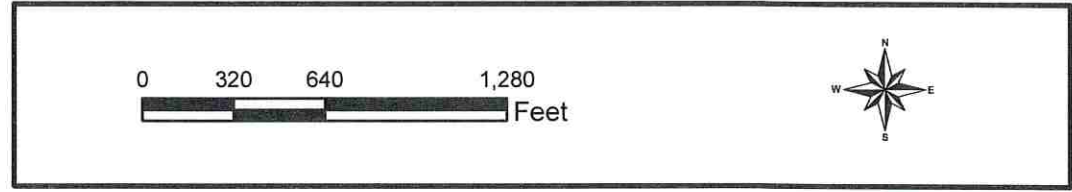
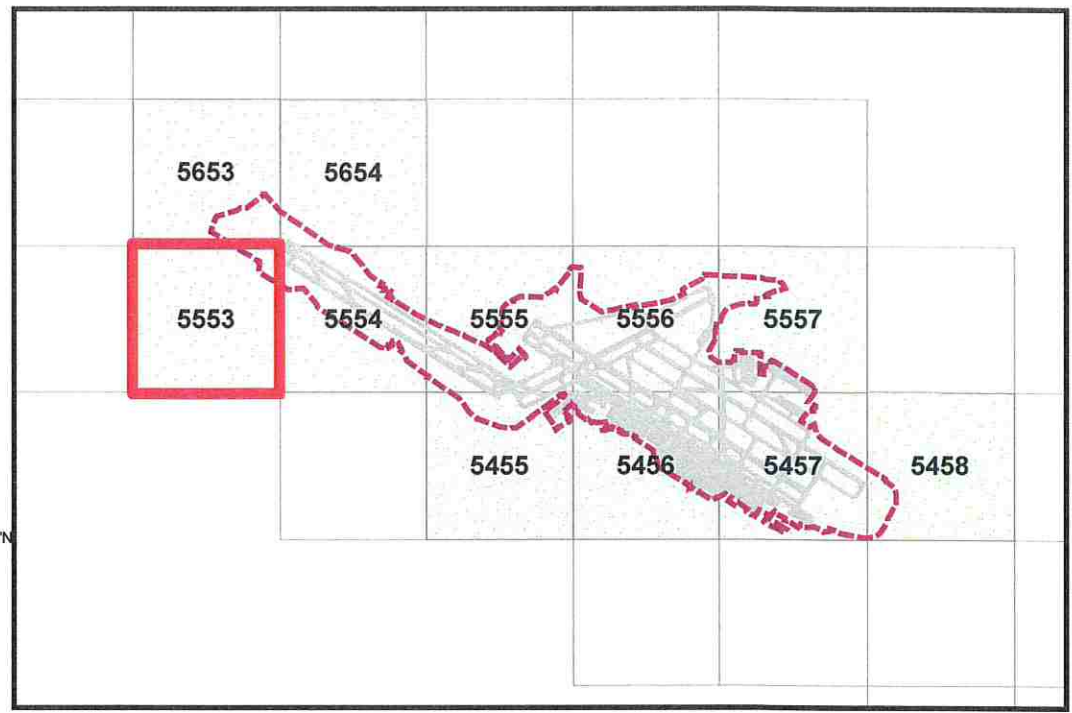
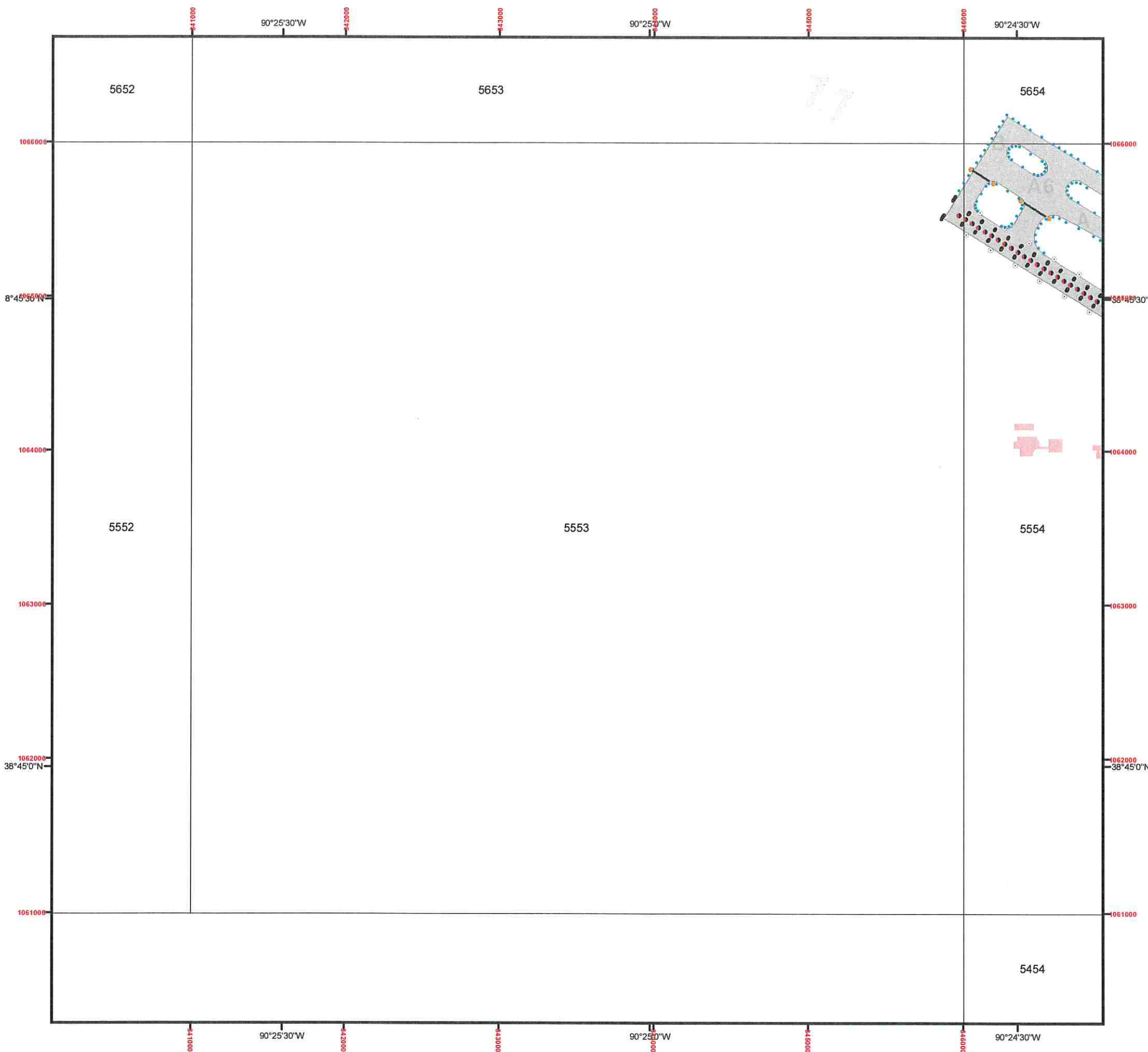
**STL Airport
Airfield Lighting**

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS US_FEET NORTH AMERICAN

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Approval Date:	Drawing ID:
	ACM_AB-7
Print Date:	Sheet:
6/11/2018	AB-7A

M. B. [Signature]
AUG 27 2018



- Legend:**
- Elevated Runway Guard Lights
 - In-Pavement Runway Guard Lights
 - Runway Centerline Lights
 - ⊙ Runway Edge Lights
 - Runway Threshold Bar Lights
 - Runway Thresold End Lights
 - Taxiway Centerline Lights
 - Taxiway Edge Lights
 - Touchdown Zone Lights

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

STL Airport Airfield Lighting

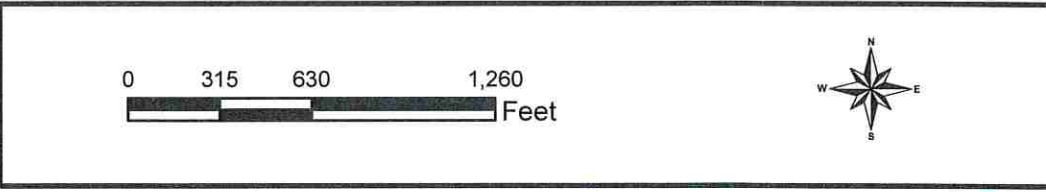
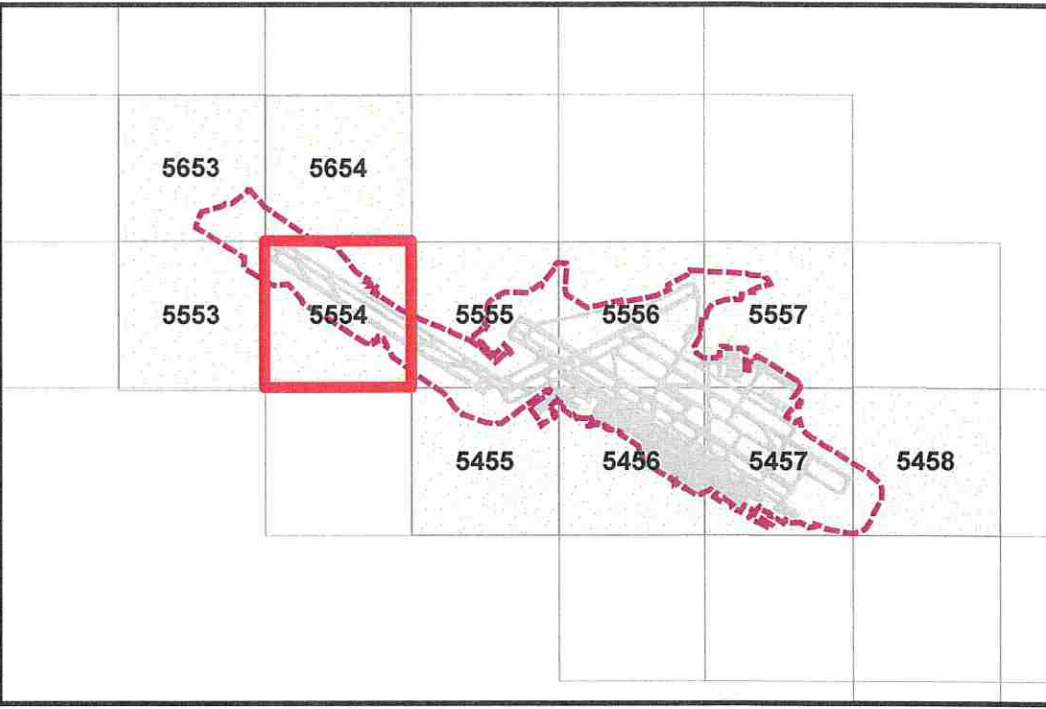
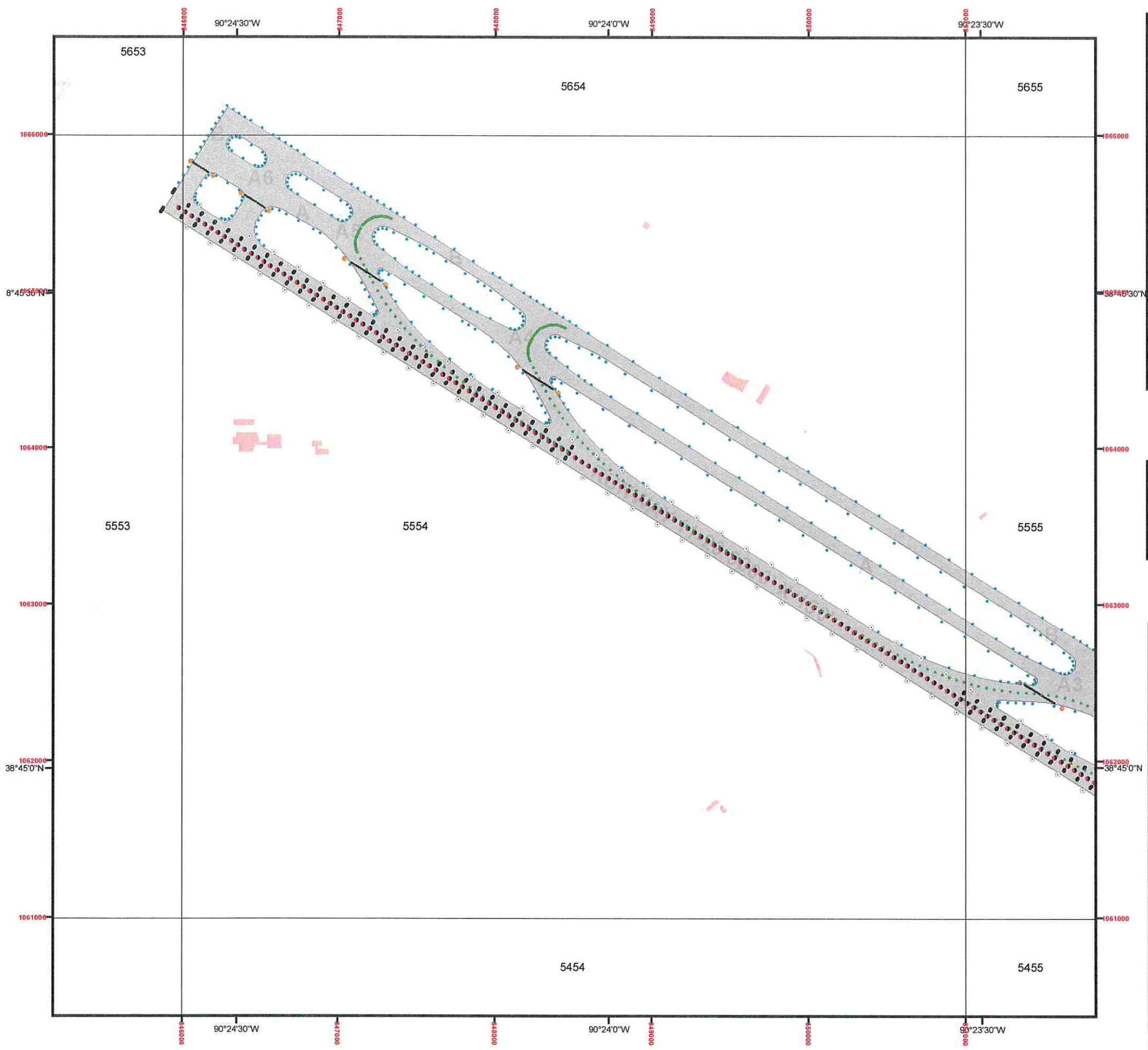
DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
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Approval Date:	Drawing ID:
	ACM_AB-7
Print Date:	Sheet:
6/11/2018	AB-7B


5553

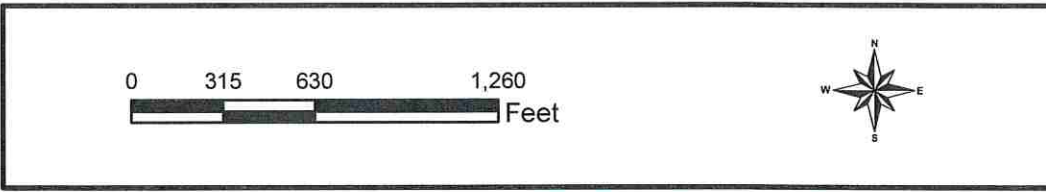
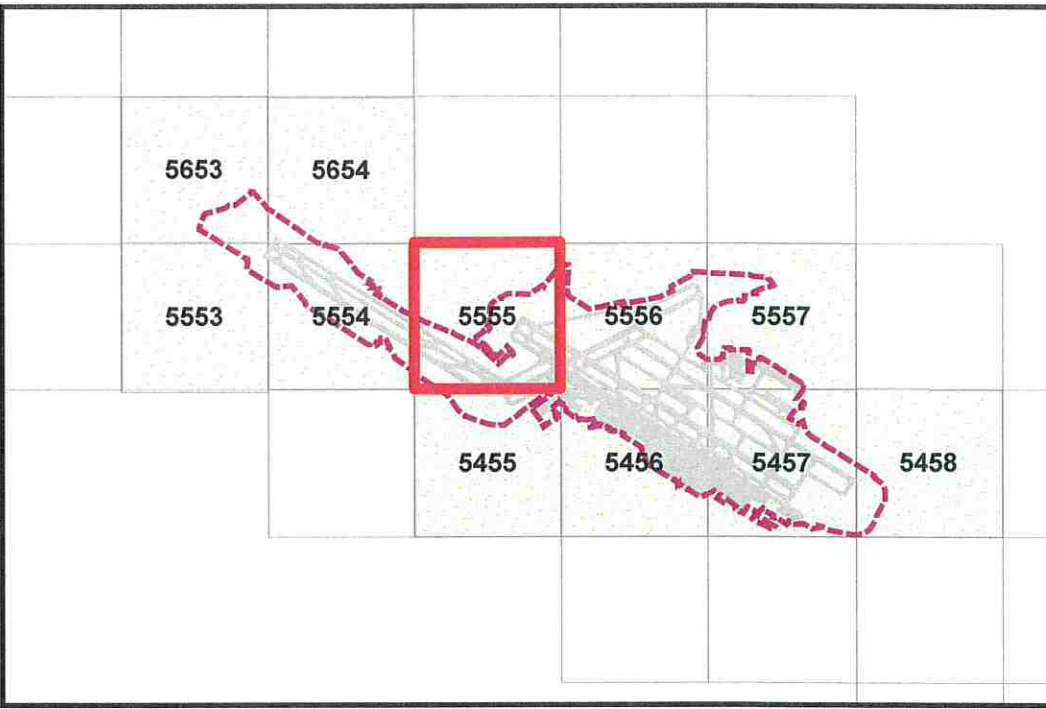
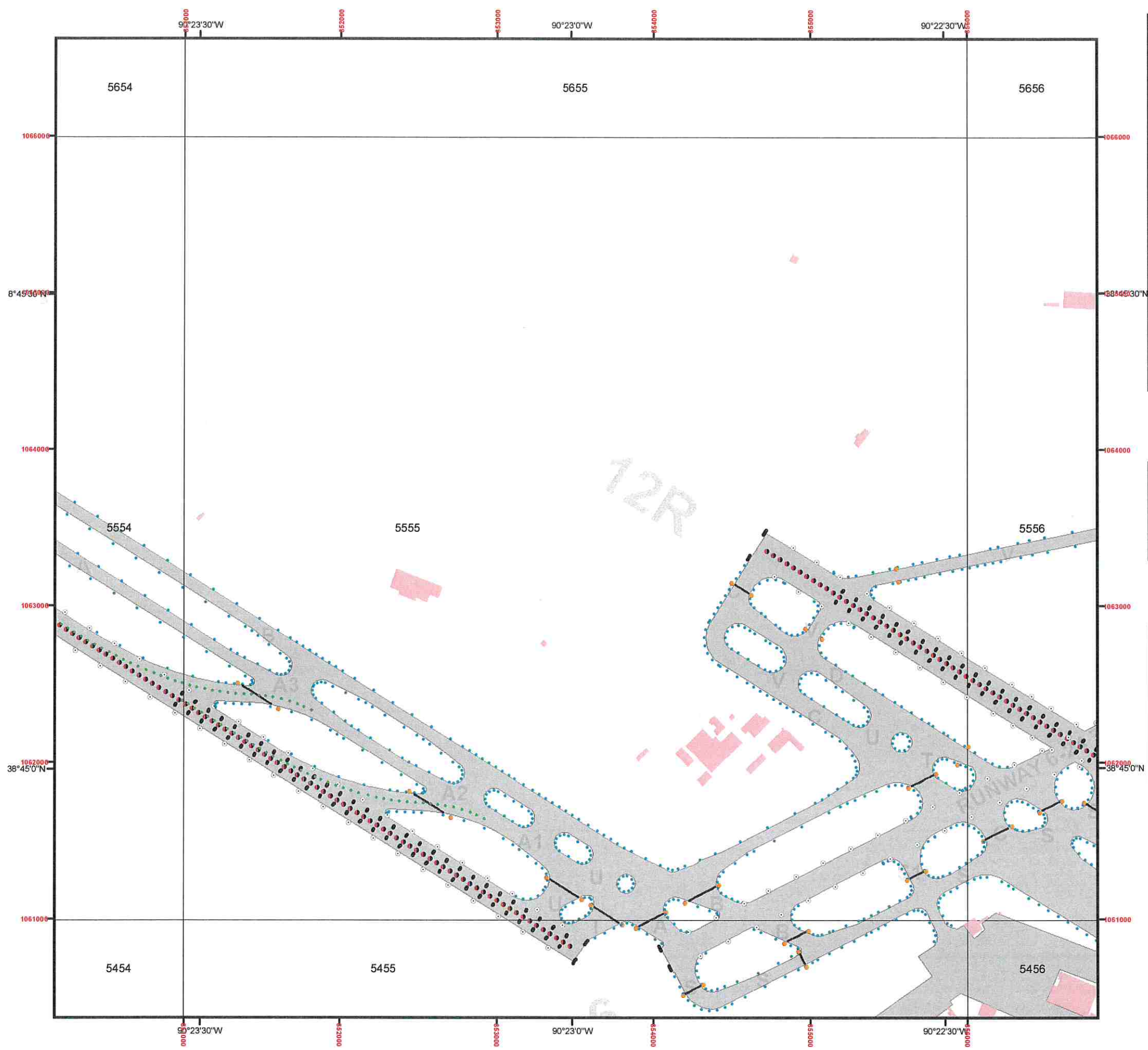
M. Bozel
AUG 22 2018



- Legend:**
- Elevated Runway Guard Lights
 - In-Pavement Runway Guard Lights
 - Runway Centerline Lights
 - Runway Edge Lights
 - Runway Threshold Bar Lights
 - Runway Threshold End Lights
 - Taxiway Centerline Lights
 - Taxiway Edge Lights
 - Touchdown Zone Lights

 ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.	
STL Airport Airfield Lighting	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM MISSOURI EAST ZONE UNITS US FEET NORTH AMERICAN</small>	
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Print Date:	Sheet:
6/11/2018	AB-7C

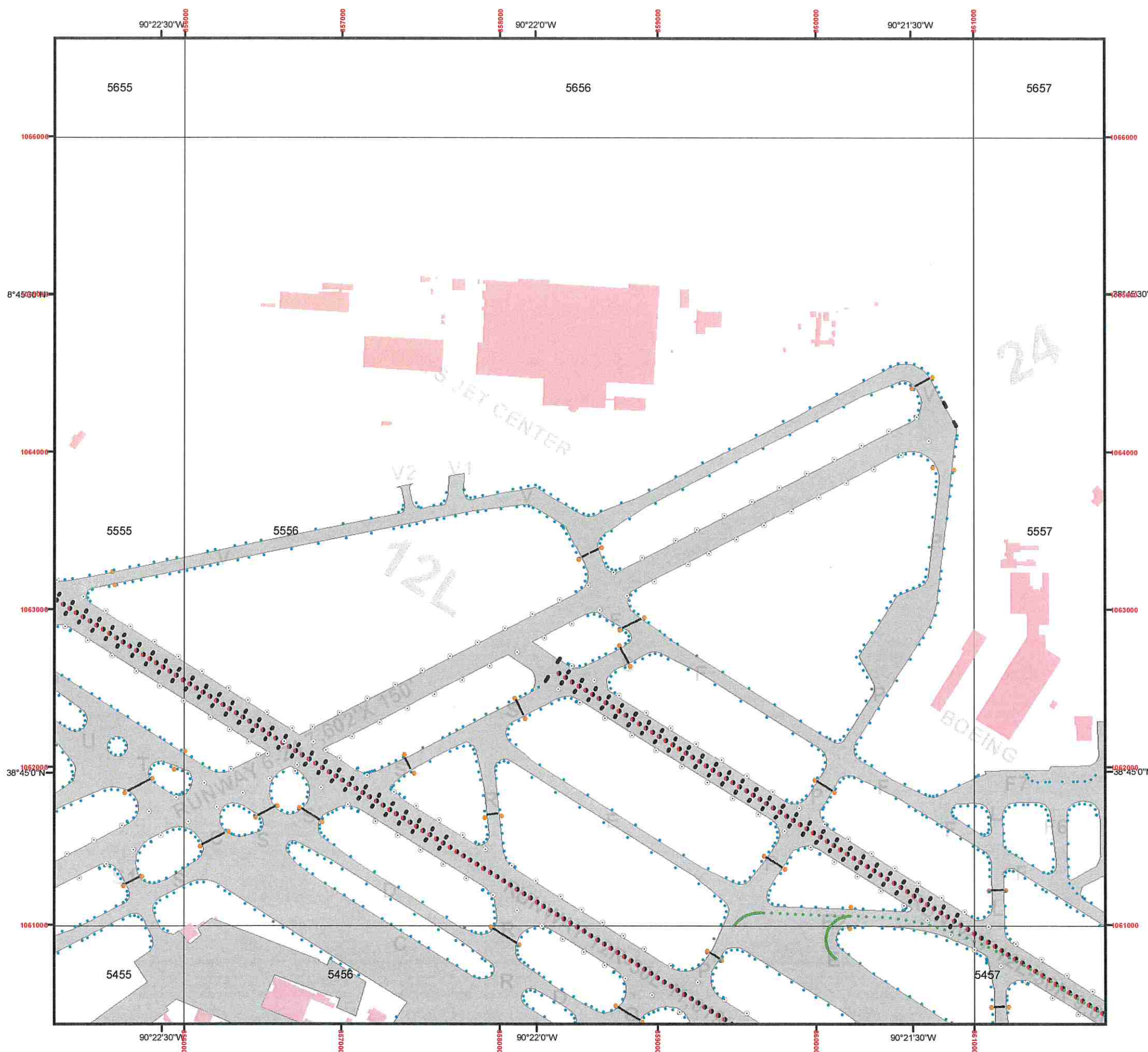

AUG 22 2018



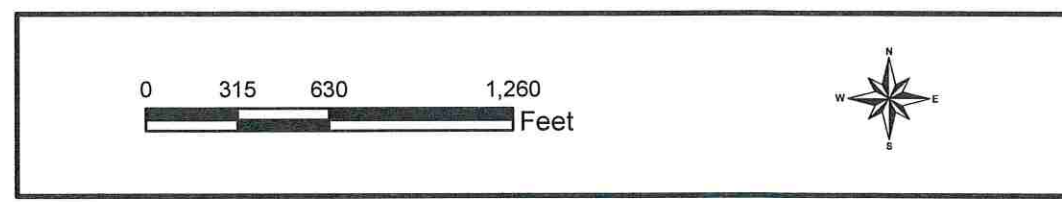
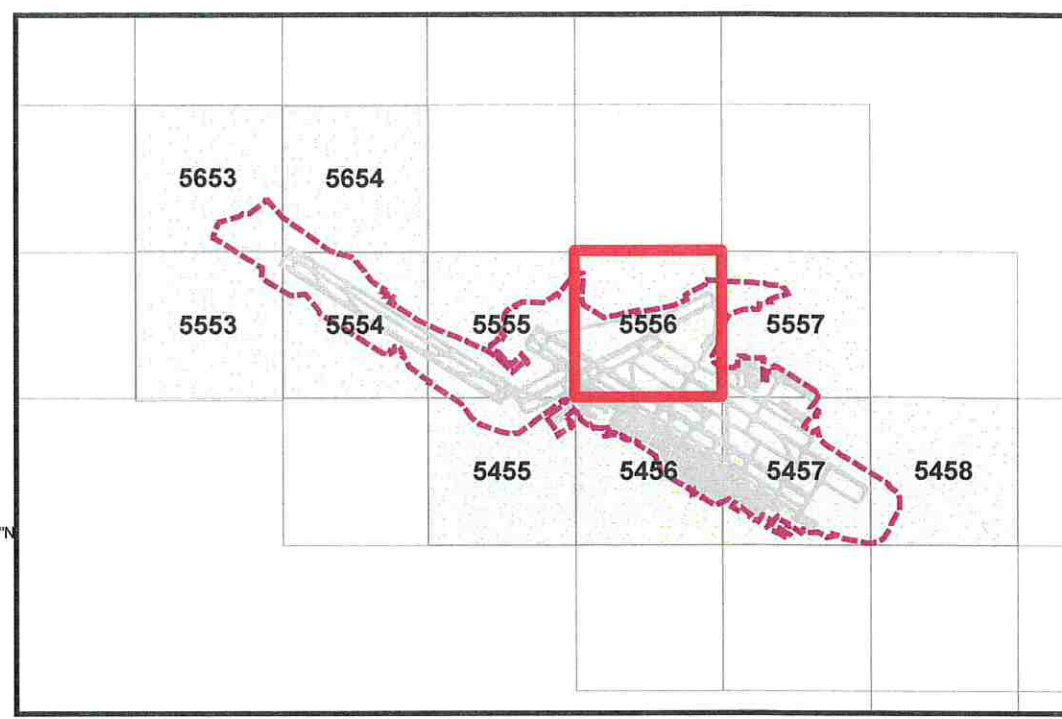
- Legend:**
- Elevated Runway Guard Lights
 - In-Pavement Runway Guard Lights
 - Runway Centerline Lights
 - Runway Edge Lights
 - Runway Threshold Bar Lights
 - Runway Threshold End Lights
 - Taxiway Centerline Lights
 - Taxiway Edge Lights
 - Touchdown Zone Lights

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Approval Date: _____	Drawing ID: ACM_AB-7
Print Date: 6/11/2018	Sheet: AB-7D

AUG 22 2018



5556



Legend:

- Elevated Runway Guard Lights
- In-Pavement Runway Guard Lights
- Runway Centerline Lights
- Runway Edge Lights
- Runway Threshold Bar Lights
- Runway Threshold End Lights
- Taxiway Centerline Lights
- Taxiway Edge Lights
- Touchdown Zone Lights

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

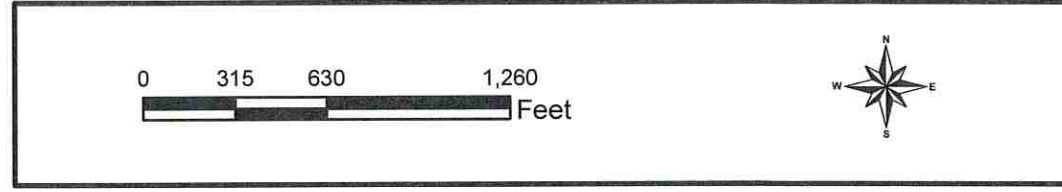
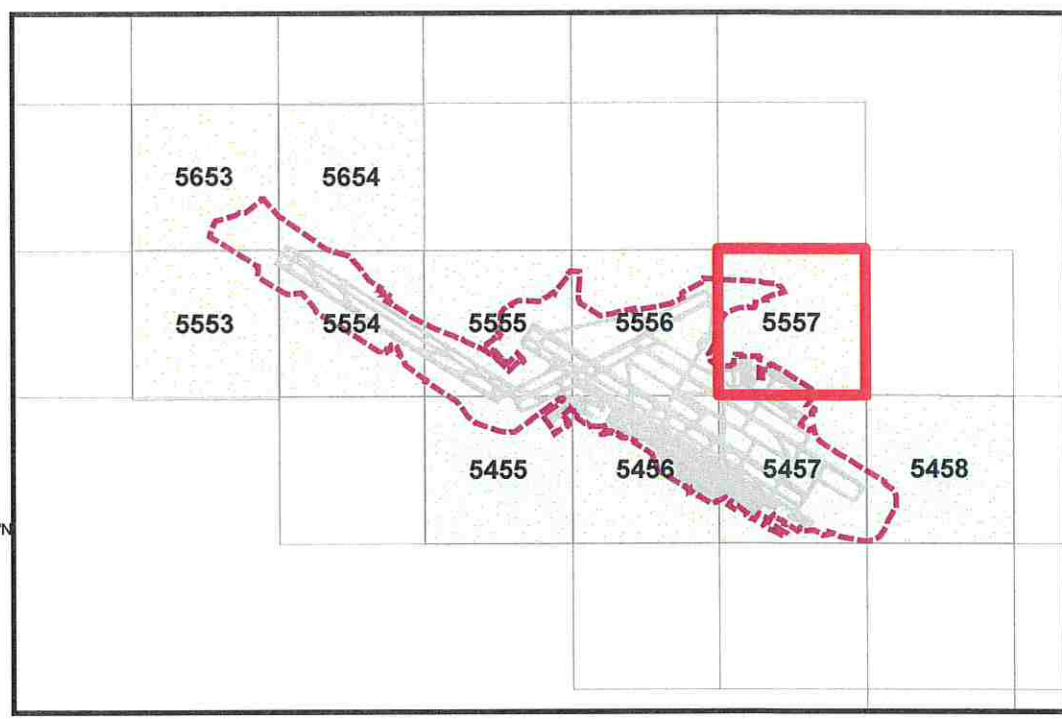
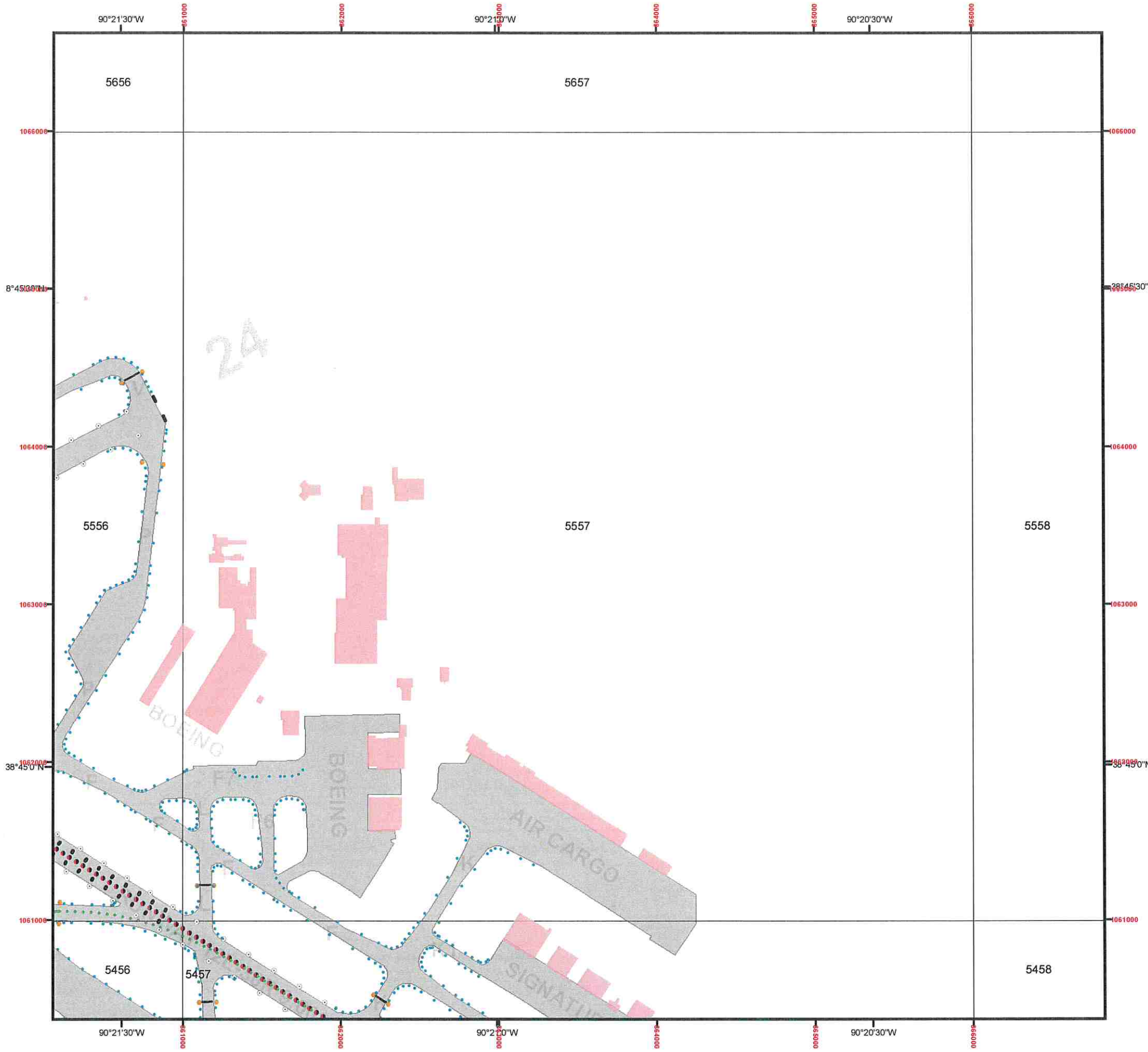
STL Airport Airfield Lighting

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
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6/11/2018	AB-7E

M. Daryl
AUG 27 2018



Legend:

- Elevated Runway Guard Lights
- In-Pavement Runway Guard Lights
- Runway Centerline Lights
- Runway Edge Lights
- Runway Threshold Bar Lights
- Runway Threshold End Lights
- Taxiway Centerline Lights
- Taxiway Edge Lights
- Touchdown Zone Lights

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

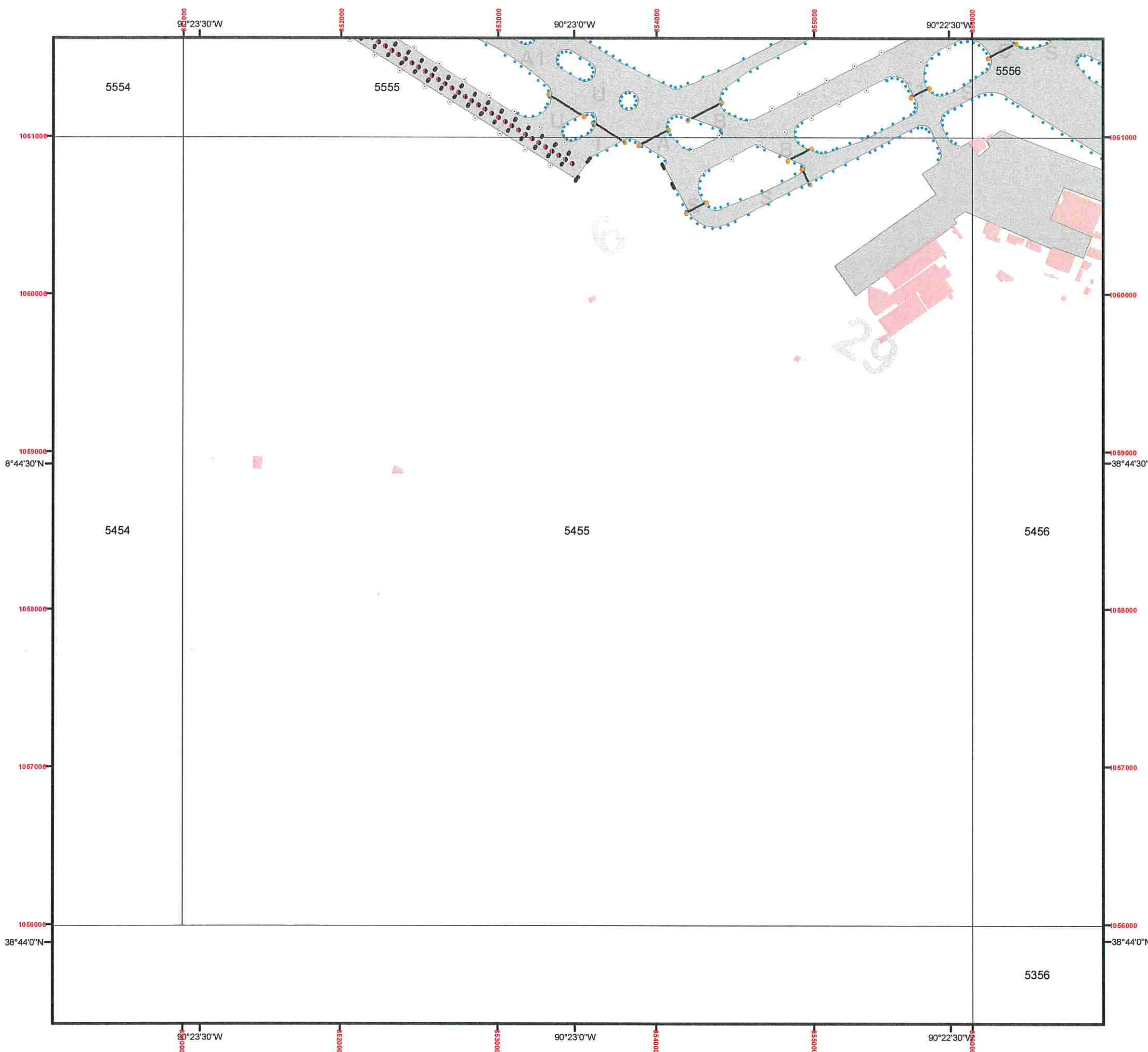
STL Airport Airfield Lighting

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS US_FEET NORTH AMERICAN

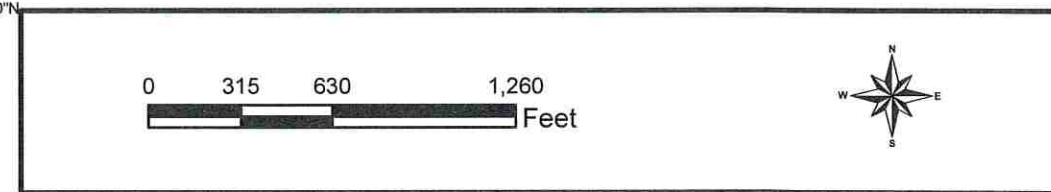
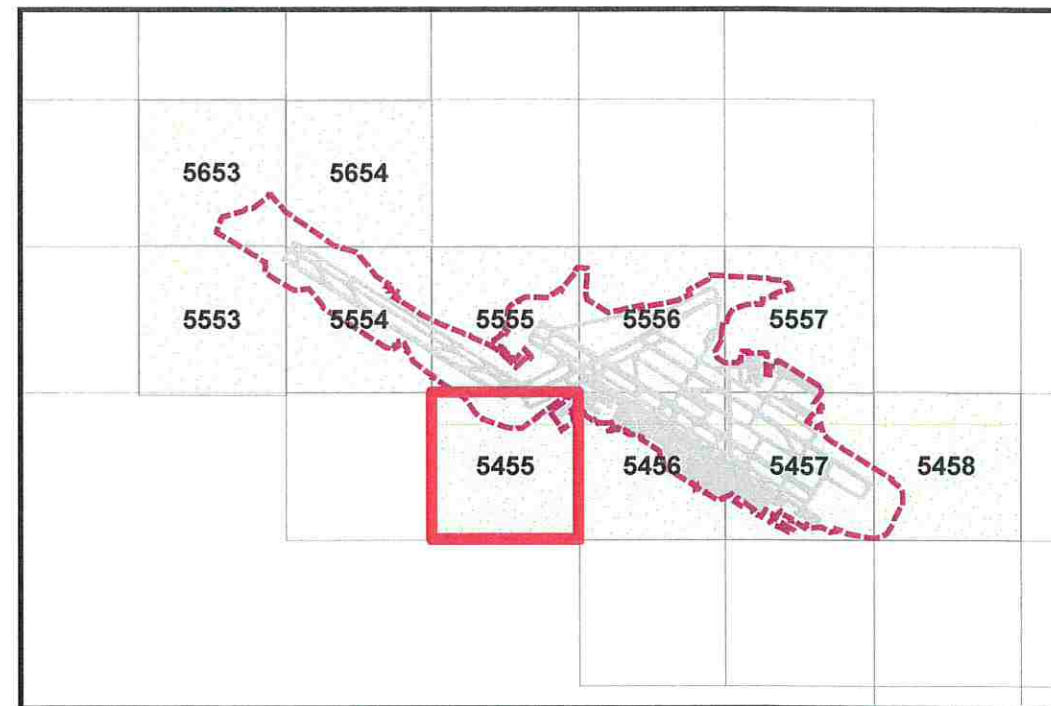
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Approval Date:	Drawing ID:
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Print Date:	Sheet:
6/11/2018	AB-7F


M. Boyd
AUG 22 2018

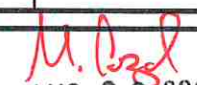


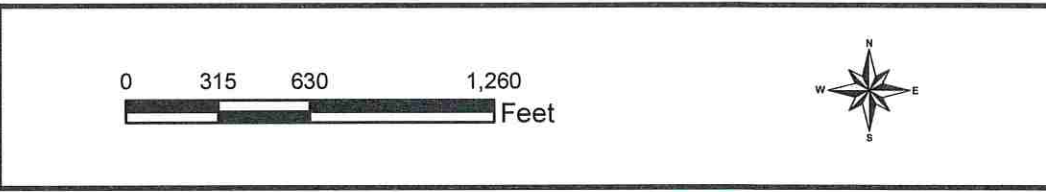
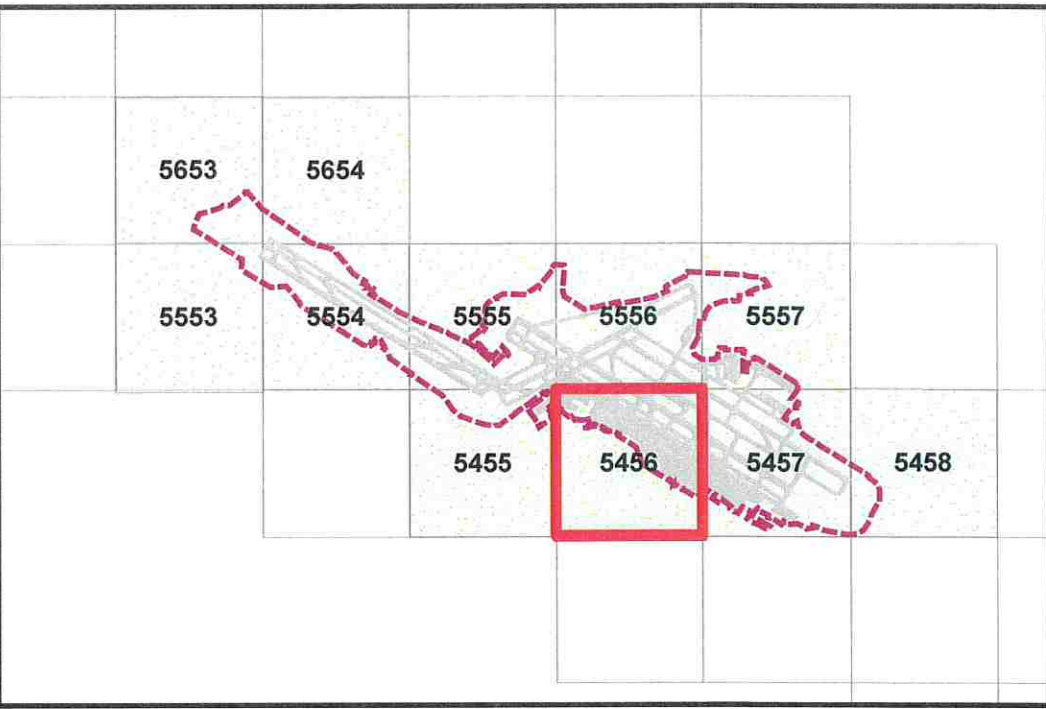
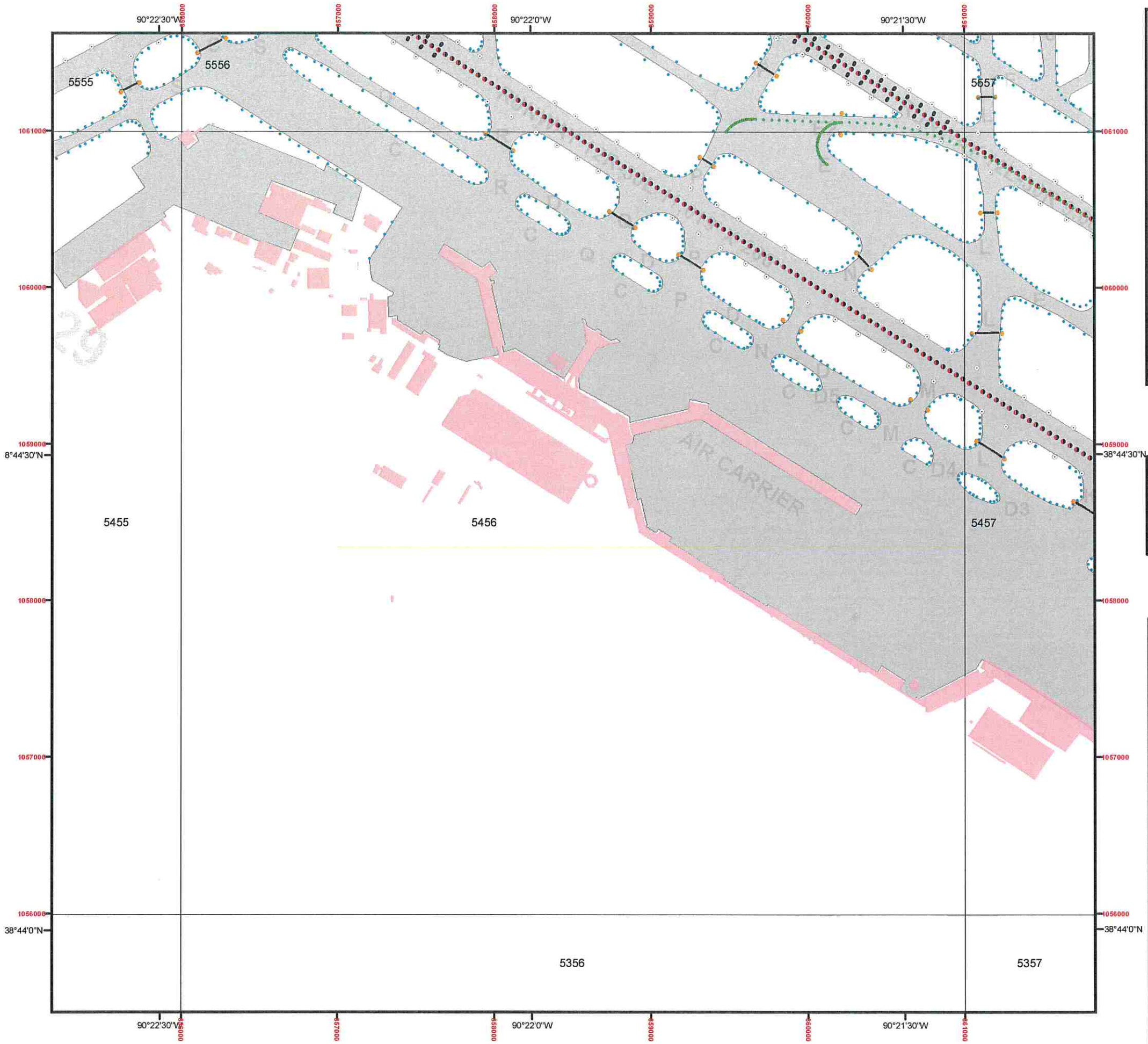
5455



- Legend:**
- Elevated Runway Guard Lights
 - In-Pavement Runway Guard Lights
 - Runway Centerline Lights
 - Runway Edge Lights
 - Runway Threshold Bar Lights
 - Runway Threshold End Lights
 - Taxiway Centerline Lights
 - Taxiway Edge Lights
 - Touchdown Zone Lights

 ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.	
STL Airport Airfield Lighting	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM MISSOURI EAST ZONE UNITS US_FEET NORTH AMERICAN</small>	
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	ACM_AB-7
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6/11/2018	AB-7G


AUG 22 2018



Legend:

- Elevated Runway Guard Lights
- In-Pavement Runway Guard Lights
- Runway Centerline Lights
- Runway Edge Lights
- Runway Threshold Bar Lights
- Runway Threshold End Lights
- Taxiway Centerline Lights
- Taxiway Edge Lights
- Touchdown Zone Lights

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

STL Airport Airfield Lighting

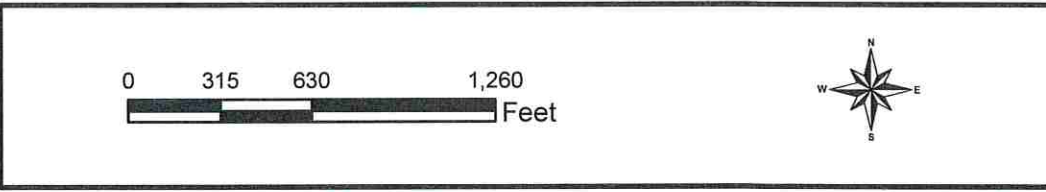
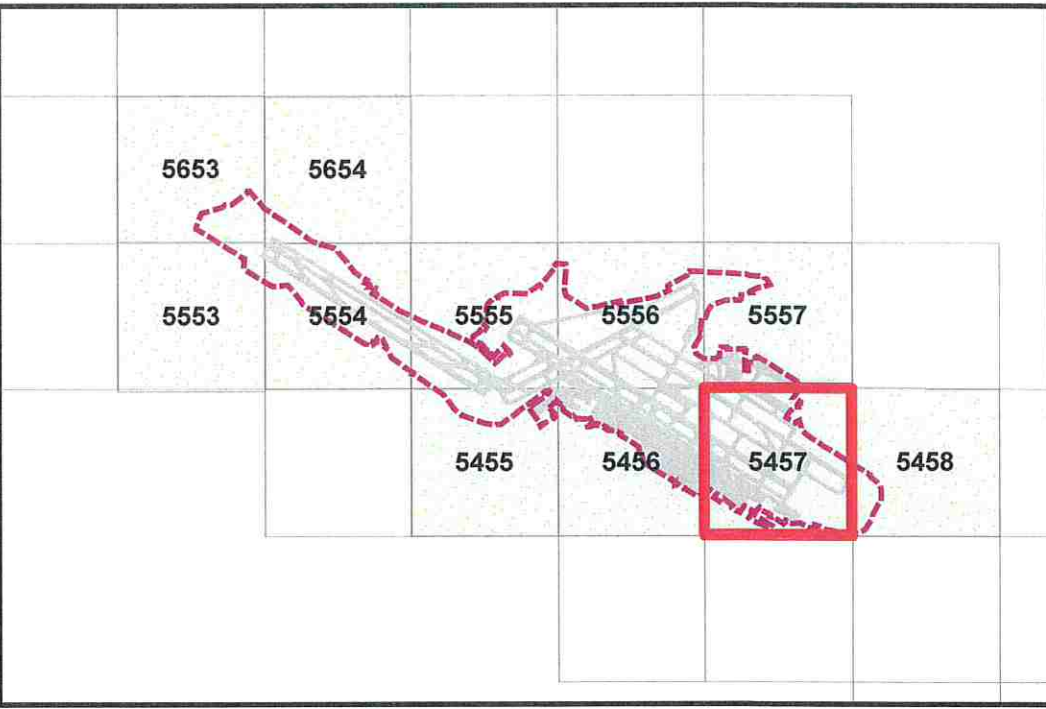
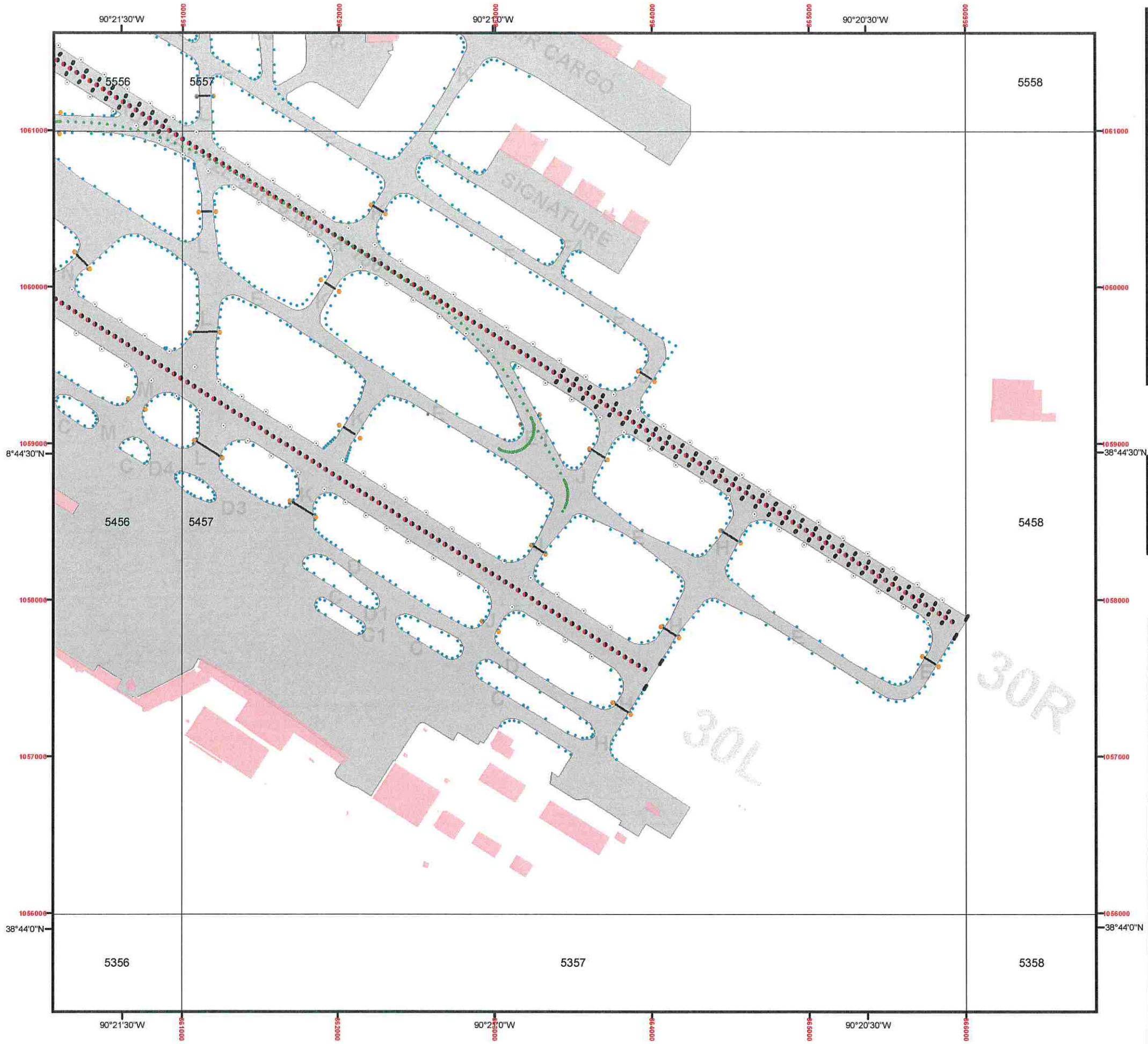
DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
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	ACM_AB-7
Print Date:	Sheet:
6/11/2018	AB-7H

5456

M. Lopez
AUG 22 2018



Legend:

- Elevated Runway Guard Lights
- In-Pavement Runway Guard Lights
- Runway Centerline Lights
- Runway Edge Lights
- Runway Threshold Bar Lights
- Runway Threshold End Lights
- Taxiway Centerline Lights
- Taxiway Edge Lights
- Touchdown Zone Lights

ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

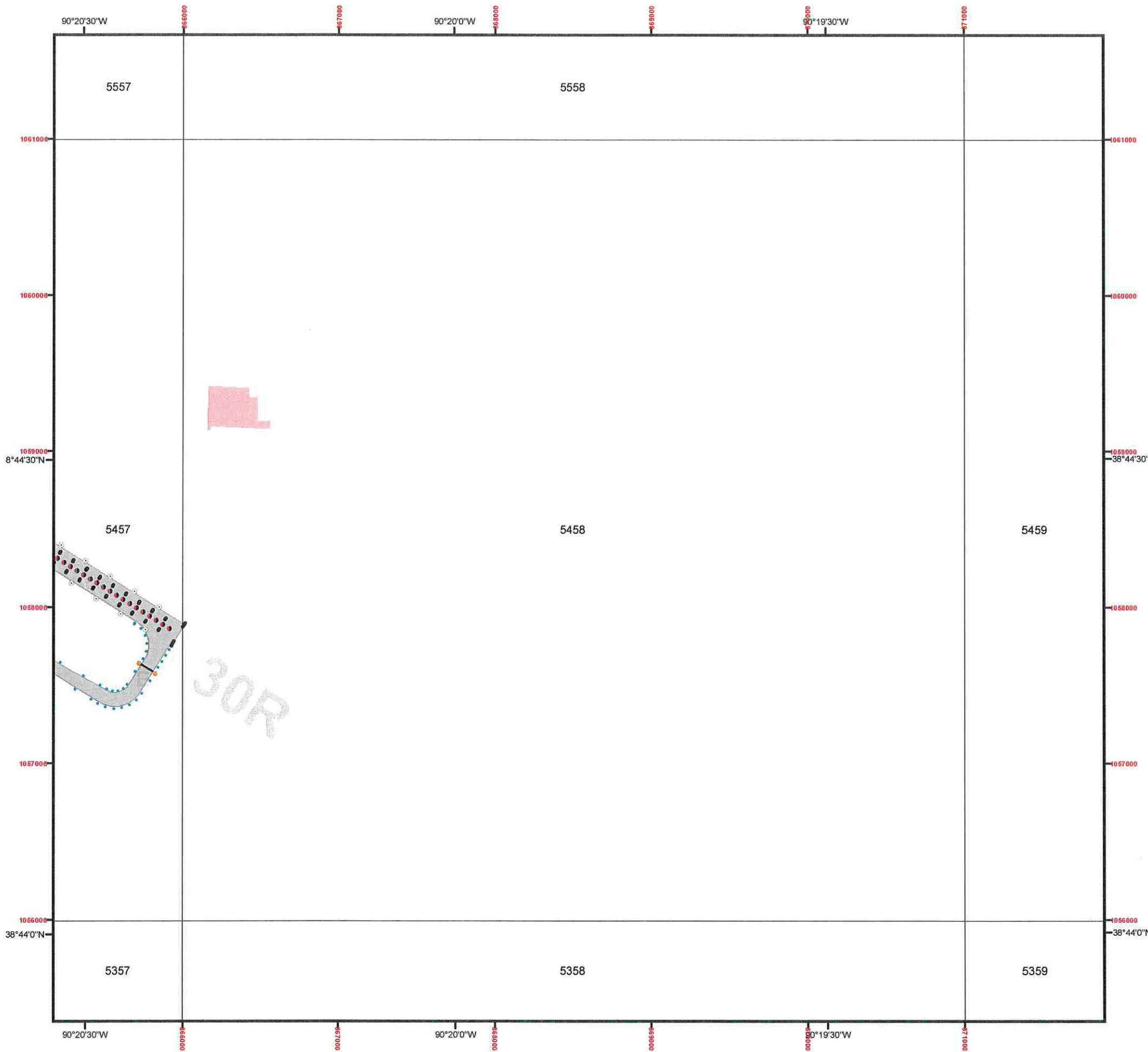
**STL Airport
Airfield Lighting**

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS US_FEET NORTH AMERICAN

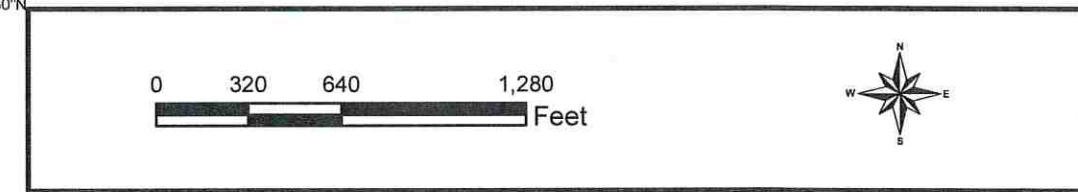
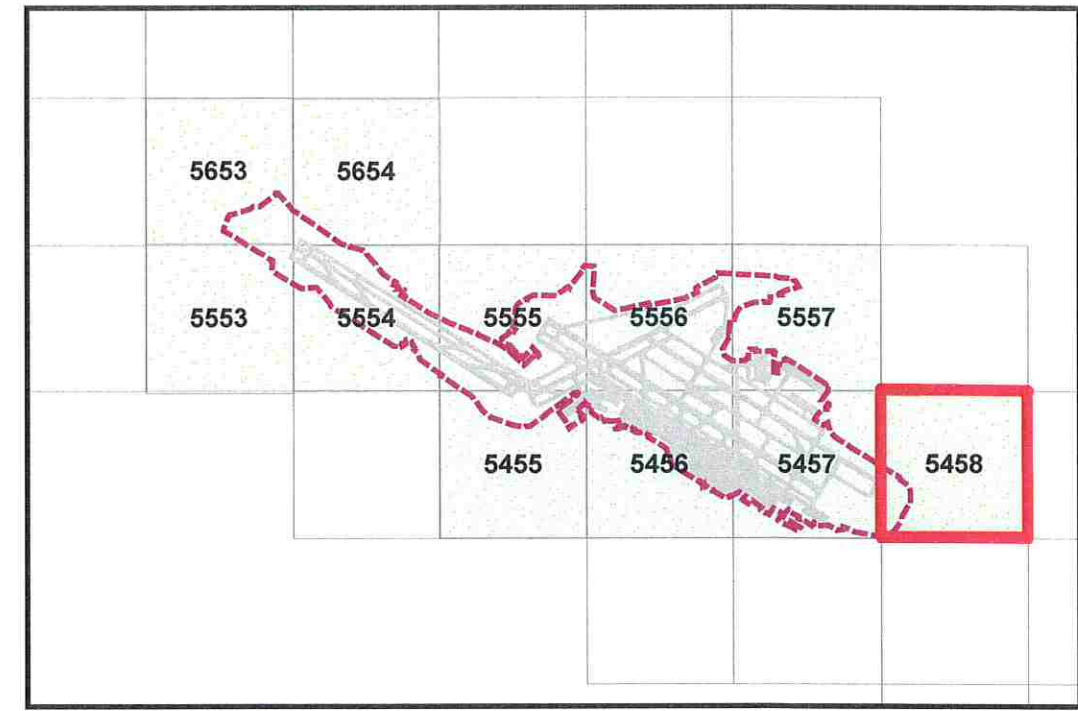
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<small>Print Date:</small> 6/11/2018	<small>Sheet:</small> AB-7I

M. Boyd
AUG 22 2018



5458



- Legend:**
- Elevated Runway Guard Lights
 - In-Pavement Runway Guard Lights
 - Runway Centerline Lights
 - ◊ Runway Edge Lights
 - Runway Threshold Bar Lights
 - Runway Threshold End Lights
 - Taxiway Centerline Lights
 - Taxiway Edge Lights
 - Touchdown Zone Lights

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.

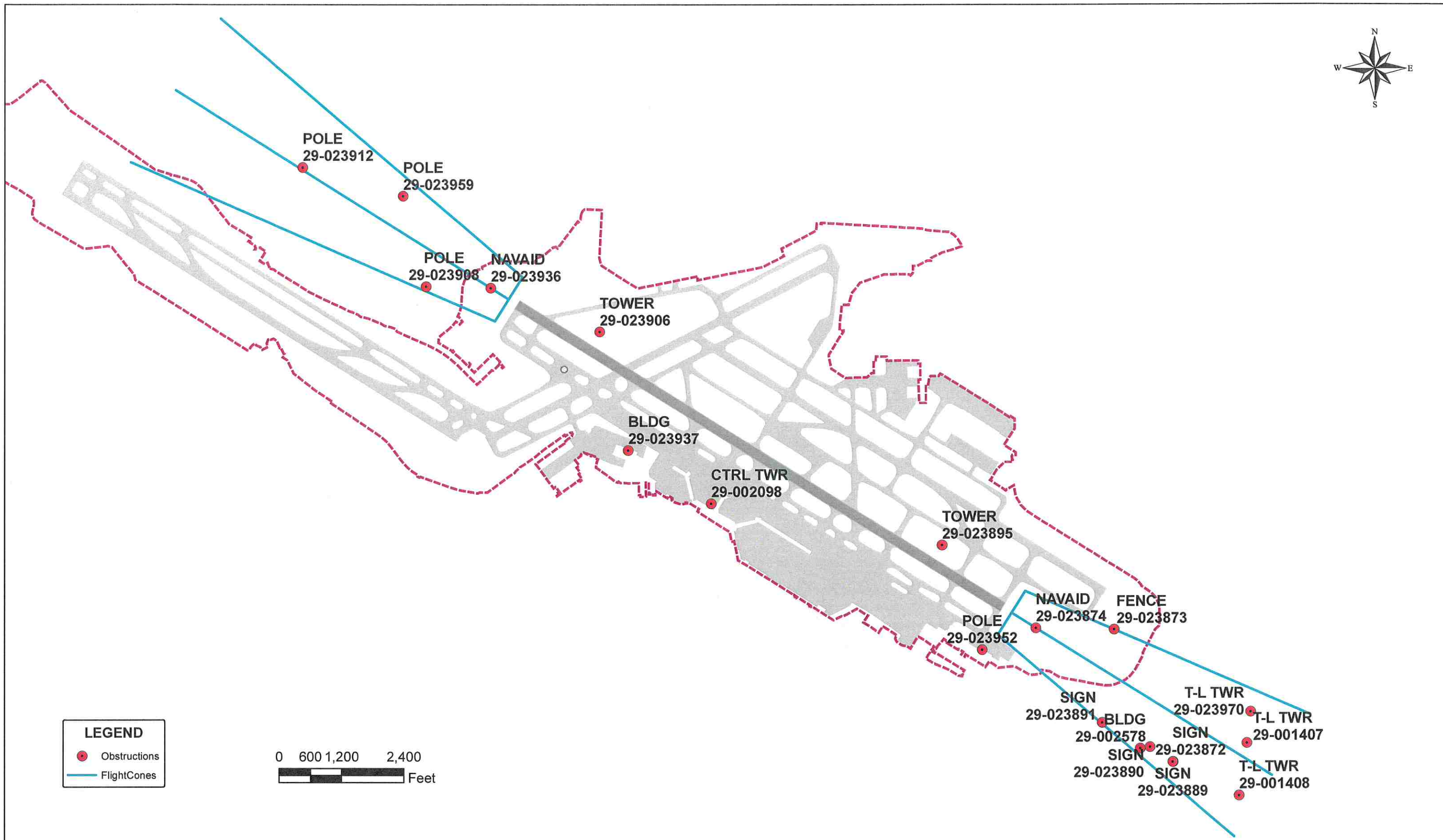
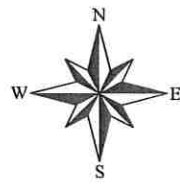
STL Airport Airfield Lighting

DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS US_FEET NORTH AMERICAN

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Approval Date:	Drawing ID:
	ACM_AB-7
Print Date:	Sheet:
6/11/2018	AB-7J

M. [Signature]
AUG 22 2018



LEGEND

- Obstructions
- FlightCones

0 600 1,200 2,400
Feet



Coordinate System:
State Plane Coordinate, Missouri East Zone
North American Datum 1983 Survey Feet

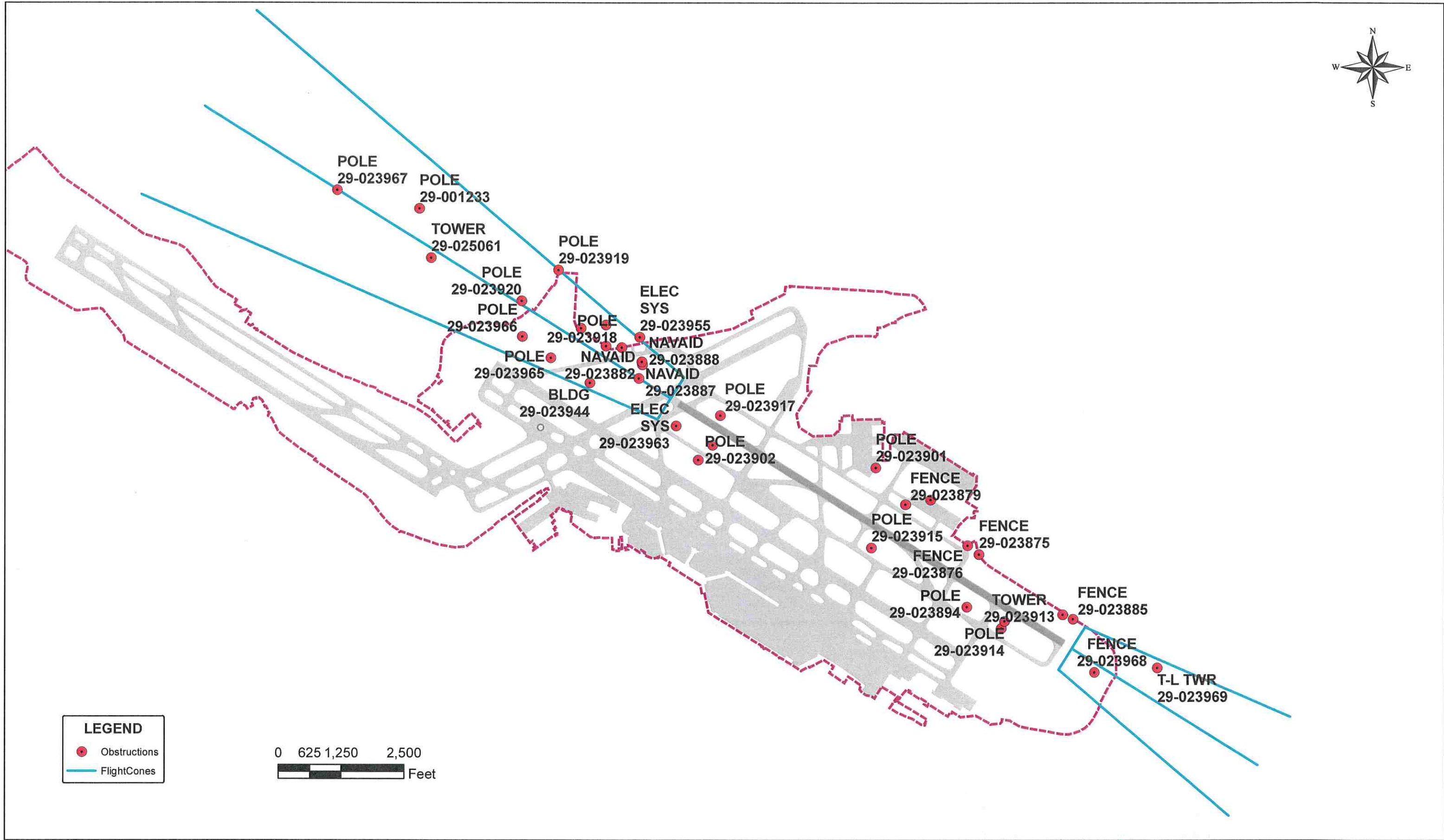
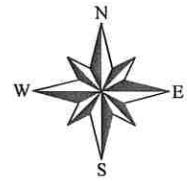
Runway 12R-30L Obstructions Remaining as of November 2017

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Prepared By:
Date: June 2018
Drawing ID:
ACM_AB-8

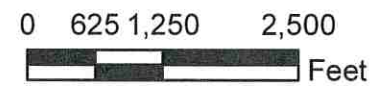
Review and Approval By:
Date:
Sheet:
AB-8

M. Boyd
AUG 22 2018



LEGEND

- Obstructions
- FlightCones



Coordinate System:
 State Plane Coordinate, Missouri East Zone
 North American Datum 1983 Survey Feet

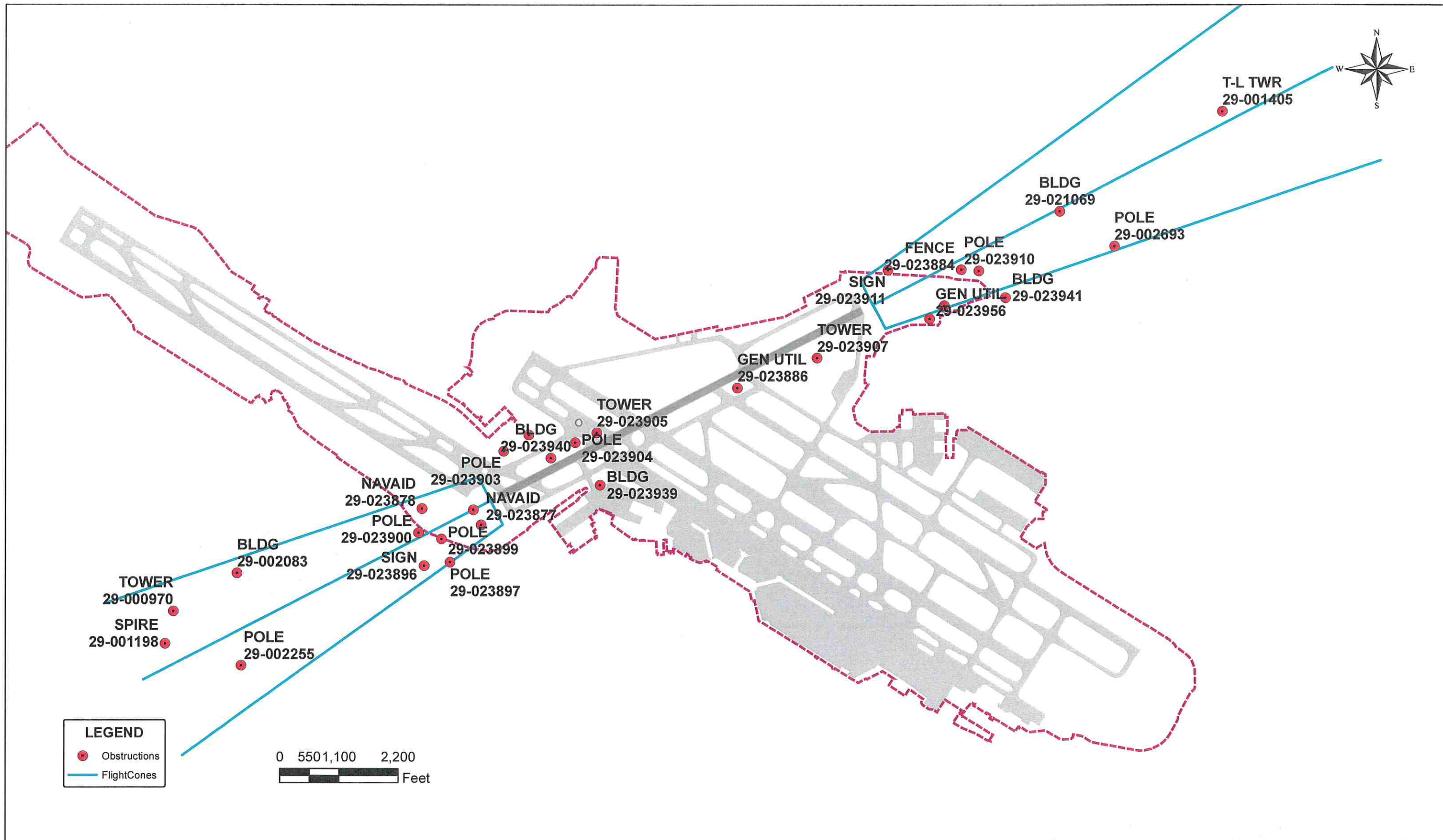
Runway 12L-30R Obstructions Remaining as of November 2017

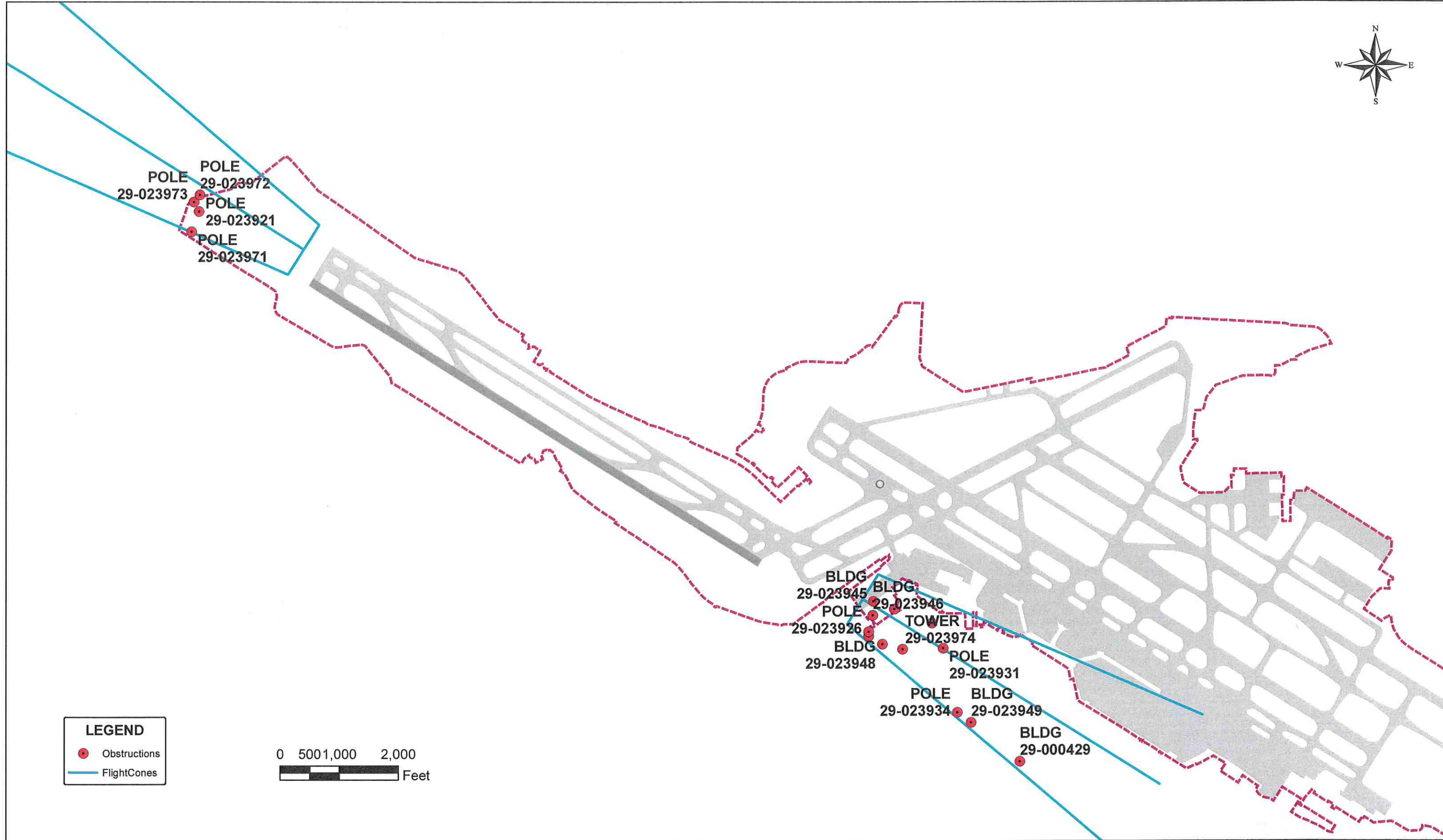
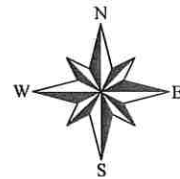
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Prepared By:
 Date: June 2018
 Drawing ID:
 ACM_AB-8A

Review and Approval By:
 Date:
 Sheet:
AB-8A

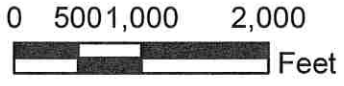
M. [Signature]
 AUG 27 2018





LEGEND

- Obstructions
- FlightCones



Coordinate System:
 State Plane Coordinate, Missouri East Zone
 North American Datum 1983 Survey Feet

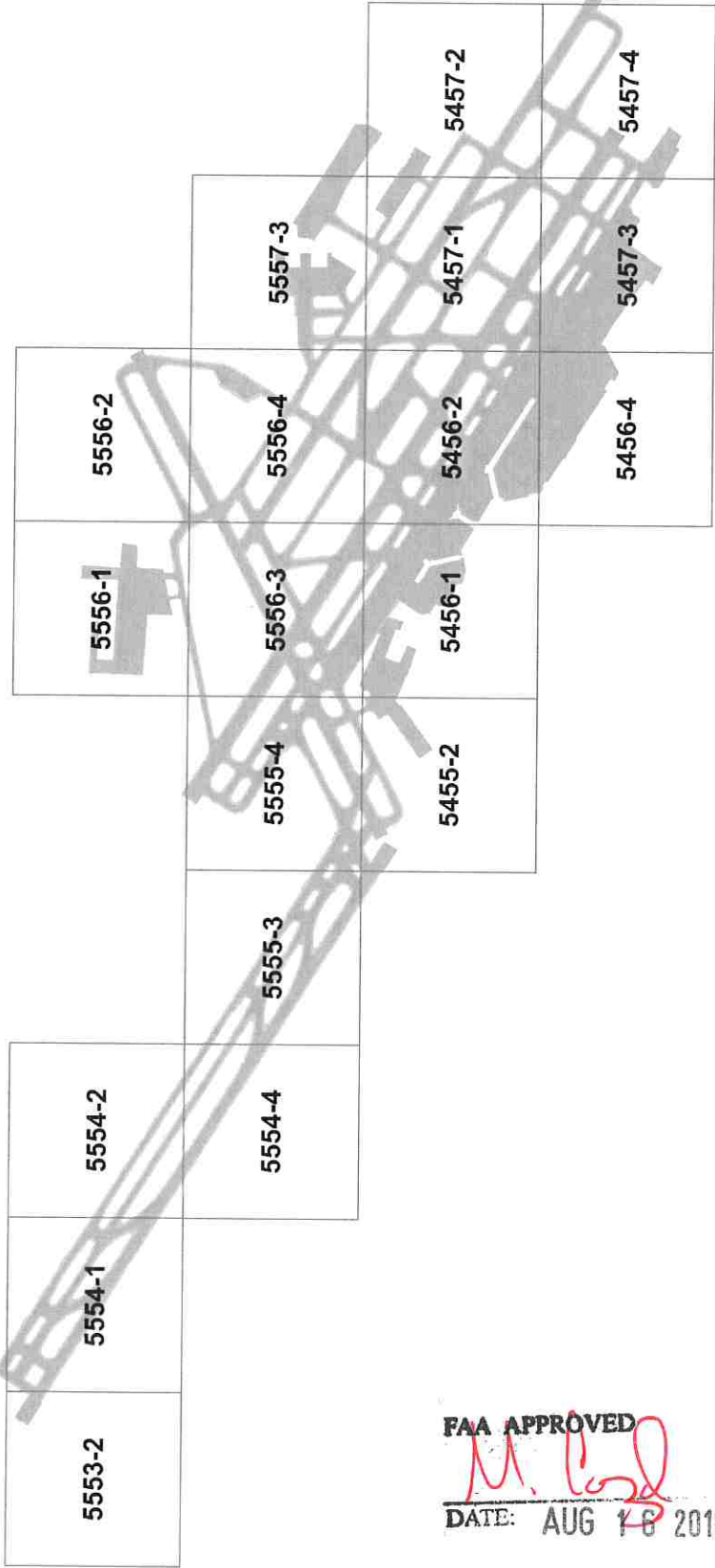
Runway 11-29 Obstructions Remaining as of November 2017

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Prepared By:
 Date: June 2018
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Review and Approval By:
 Date:
 Sheet:
AB-8C

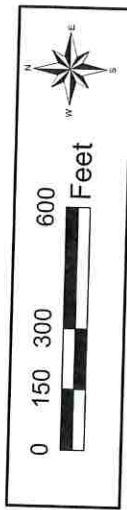
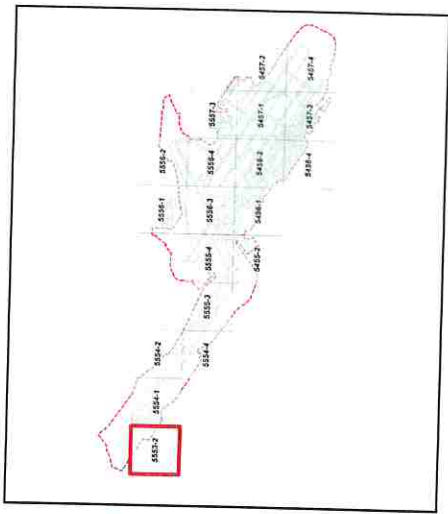
M. [Signature]
 AUG 22 2018





FAA APPROVED
M. [Signature]
 DATE: AUG 18 2018

 ST. LOUIS LAMBERT INTERNATIONAL AIRPORT	
STL Airport Sign and Marking Plan	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM HORIZONTAL FEET ZONE UNITS US FEET NORTH AMERICAN</small>	
Approval Date:	Drawing ID:
Print Date:	Sign & Marking Plan
	Map Area ID:
	6/72018

St. Louis Lambert International Airport Sign and Marking Plan



Legend:

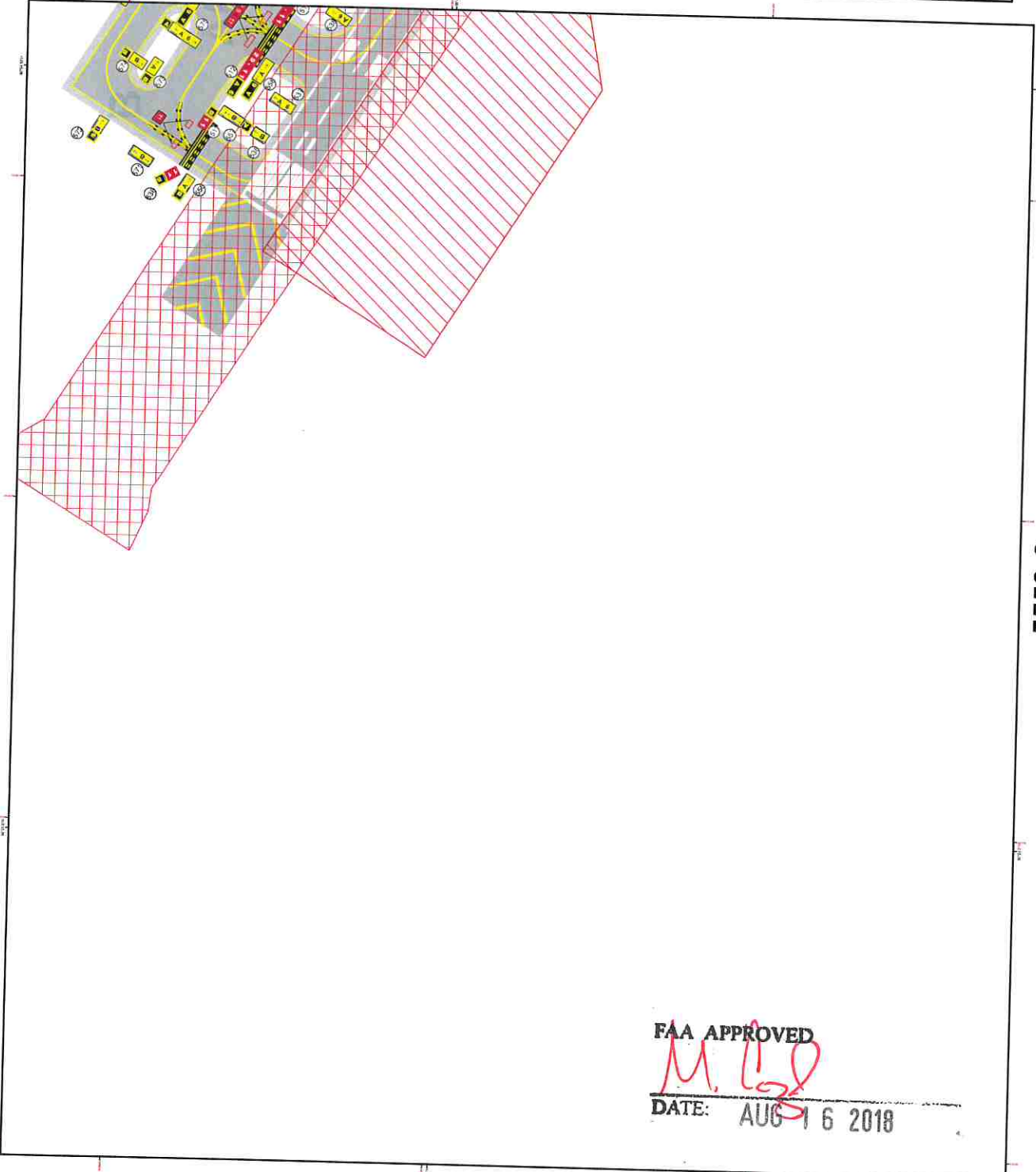
-  Localizer
-  GlideSlope

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT

STL Airport Sign and Marking Plan

DATUM 1983
SYSTEM NAD 83
MISCELLANEOUS COORDINATE SYSTEM
UNITS US FEET NORTH AMERICAN

Approval Date: _____ Drawing ID: _____
 Signs & Marking
 Print Date: 8/7/2018 Sheet: 5553-2

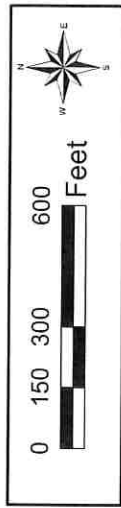
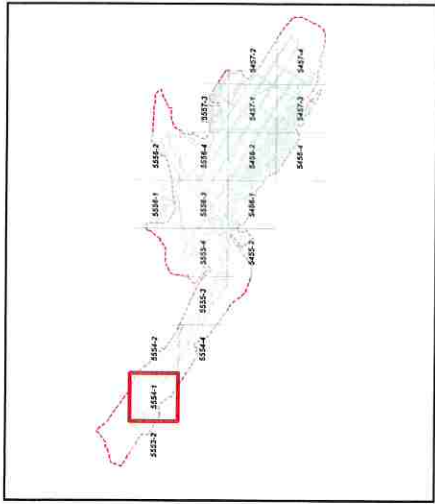


5553-2

FAA APPROVED

M. G. [Signature]

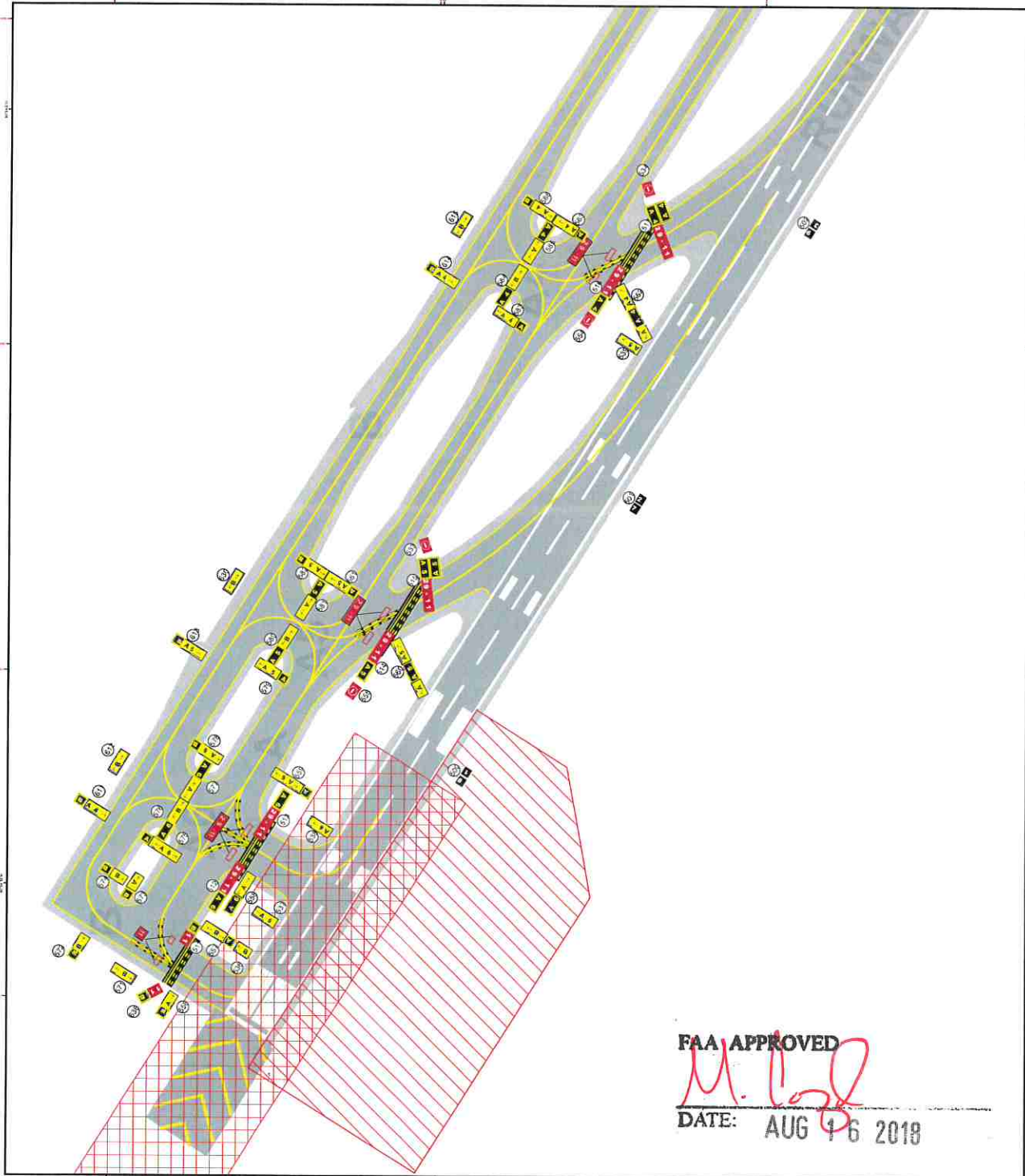
DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT STL Airport Sign and Marking Plan	
DATUM 1983 STATE PLANE COORDINATE SYSTEM NORTH AMERICAN UNITS US FEET NORTH AMERICAN	
Approval Date:	Drawing ID:
Print Date: 8/7/2018	Signs & Marking Sheet: 5554-1

Legend:

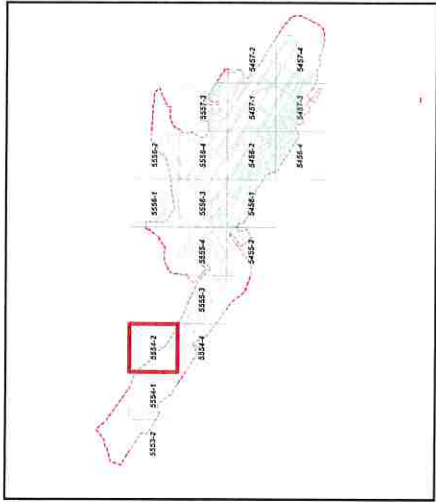
	Localizer
	GlideSlope



5554-1

FAA APPROVED

 DATE: AUG 16 2018



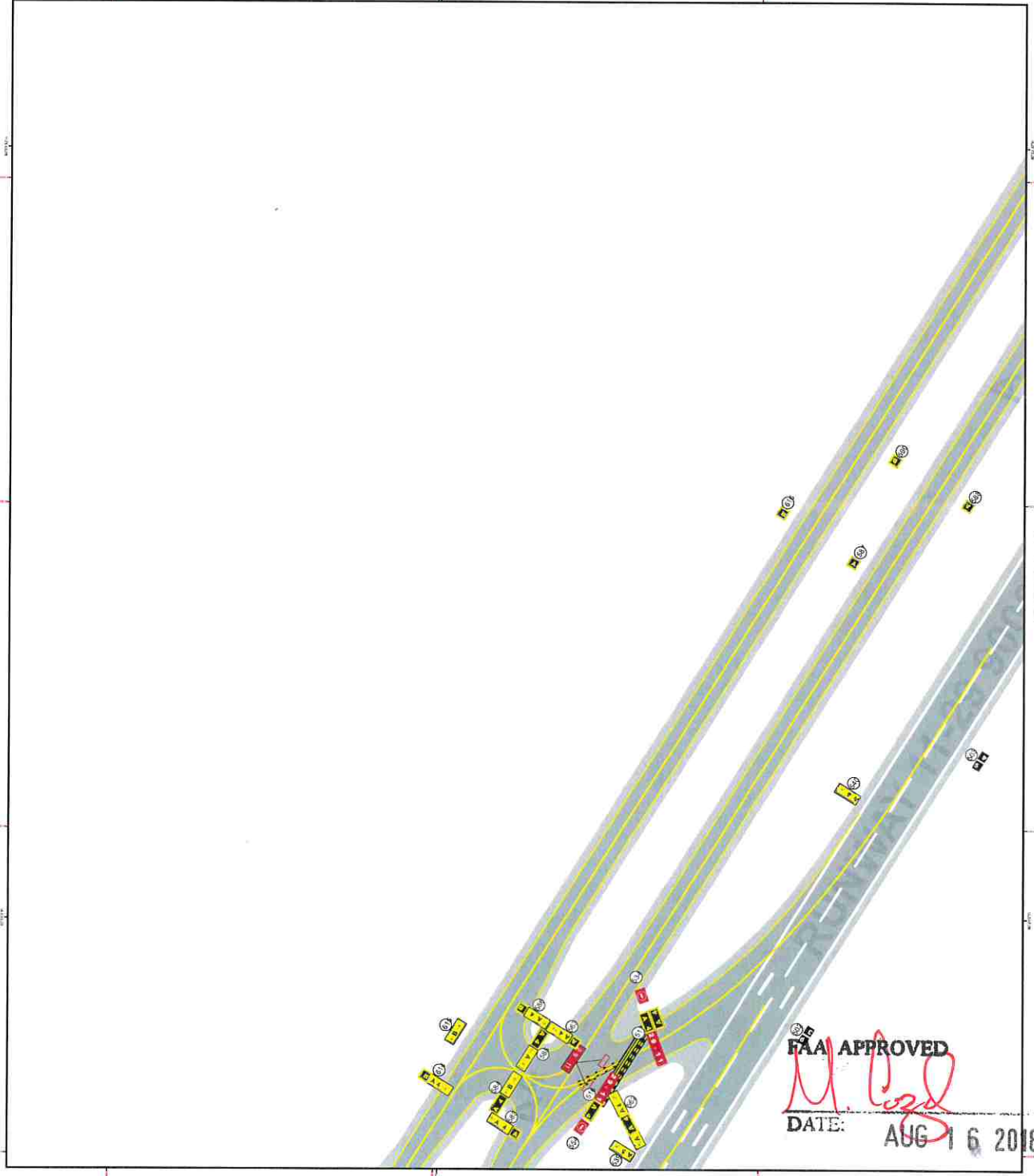
STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
STL Airport Sign and Marking Plan

DATUM 1983
STATE PLANE COORDINATE SYSTEM
NAD 83
UNITS US FEET NORTH AMERICAN

Approval Date: _____ Drawing ID: _____
Signs & Marking
Print Date: 6/7/2018 Sheet: 5554-2

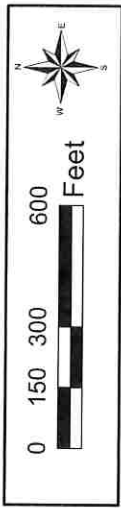
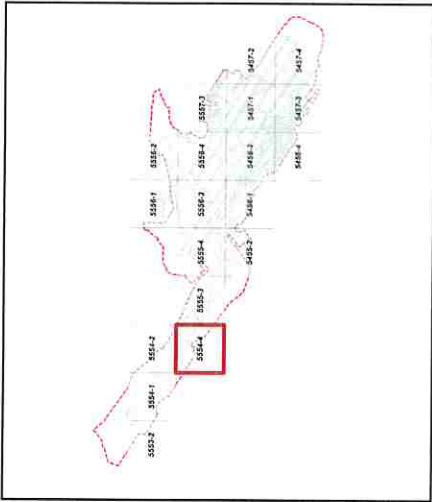
Legend:

- Localizer (represented by a grid pattern)
- GlideSlope (represented by a diagonal line pattern)



FAA APPROVED

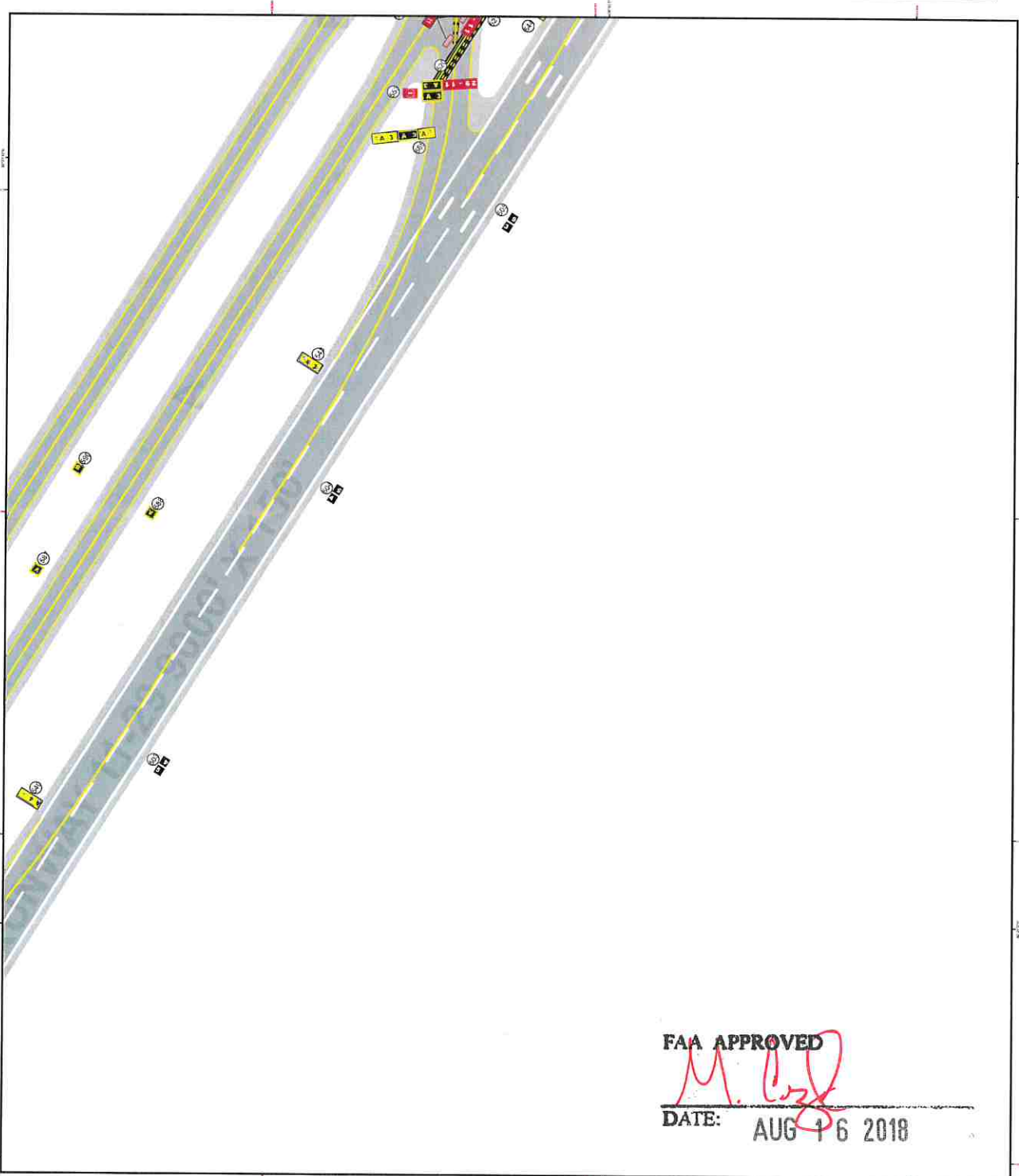
DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT STL Airport Sign and Marking Plan	
DATUM 1983 STATE PLANE COORDINATE SYSTEM MISSOURI EAST ZONE UNIT'S U.S. FEET INTERNATIONAL	
Approval Date:	Drawing ID:
Print Date:	Signs & Marking
8/7/2018	Sheet:
	5554-4

Legend:

	Localizer
	GlideSlope

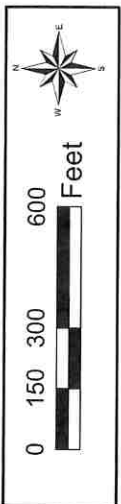
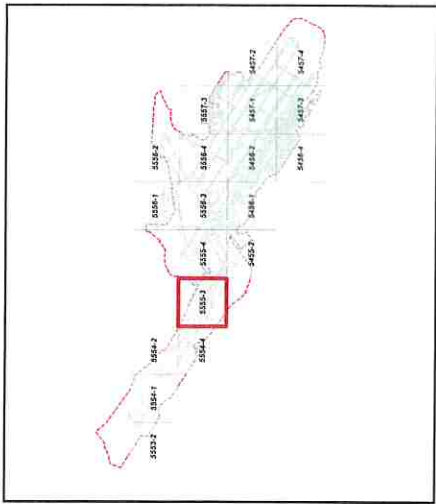


5554-4

FAA APPROVED

M. [Signature]

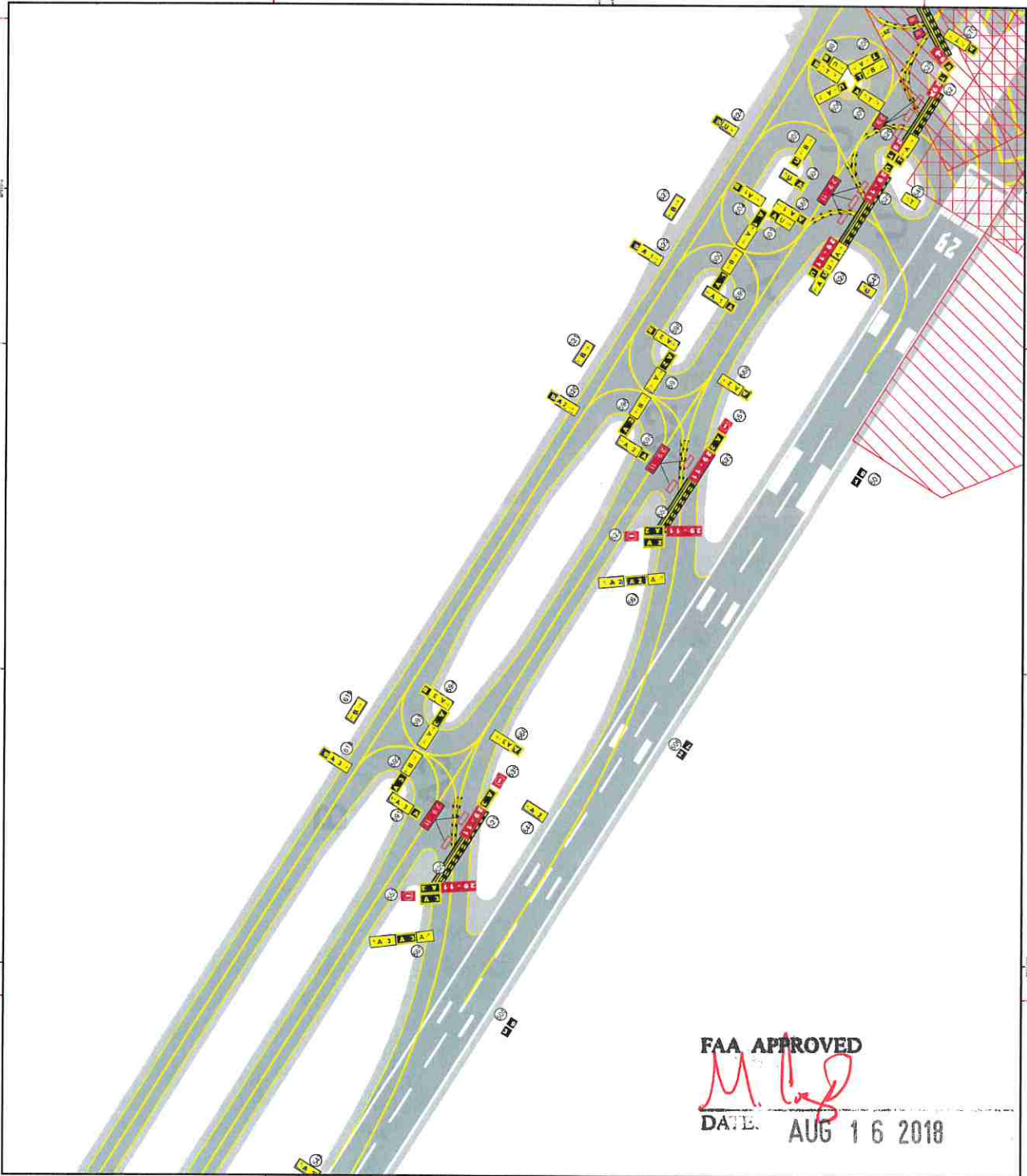
DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT	
STL Airport Sign and Marking Plan	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM NAD 83 UNITS US FEET NORTH AMERICAN</small>	
Approval Date:	Drawing ID:
Print Date:	Signs & Marking Sheet:
8/7/2018	5555-3

Legend:

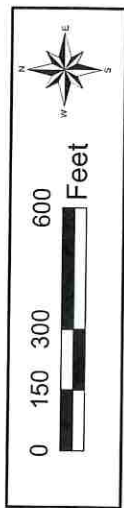
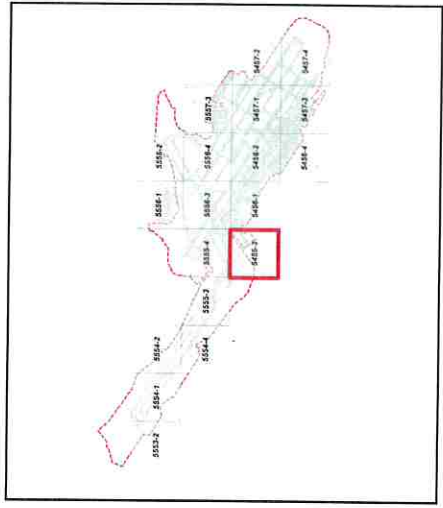
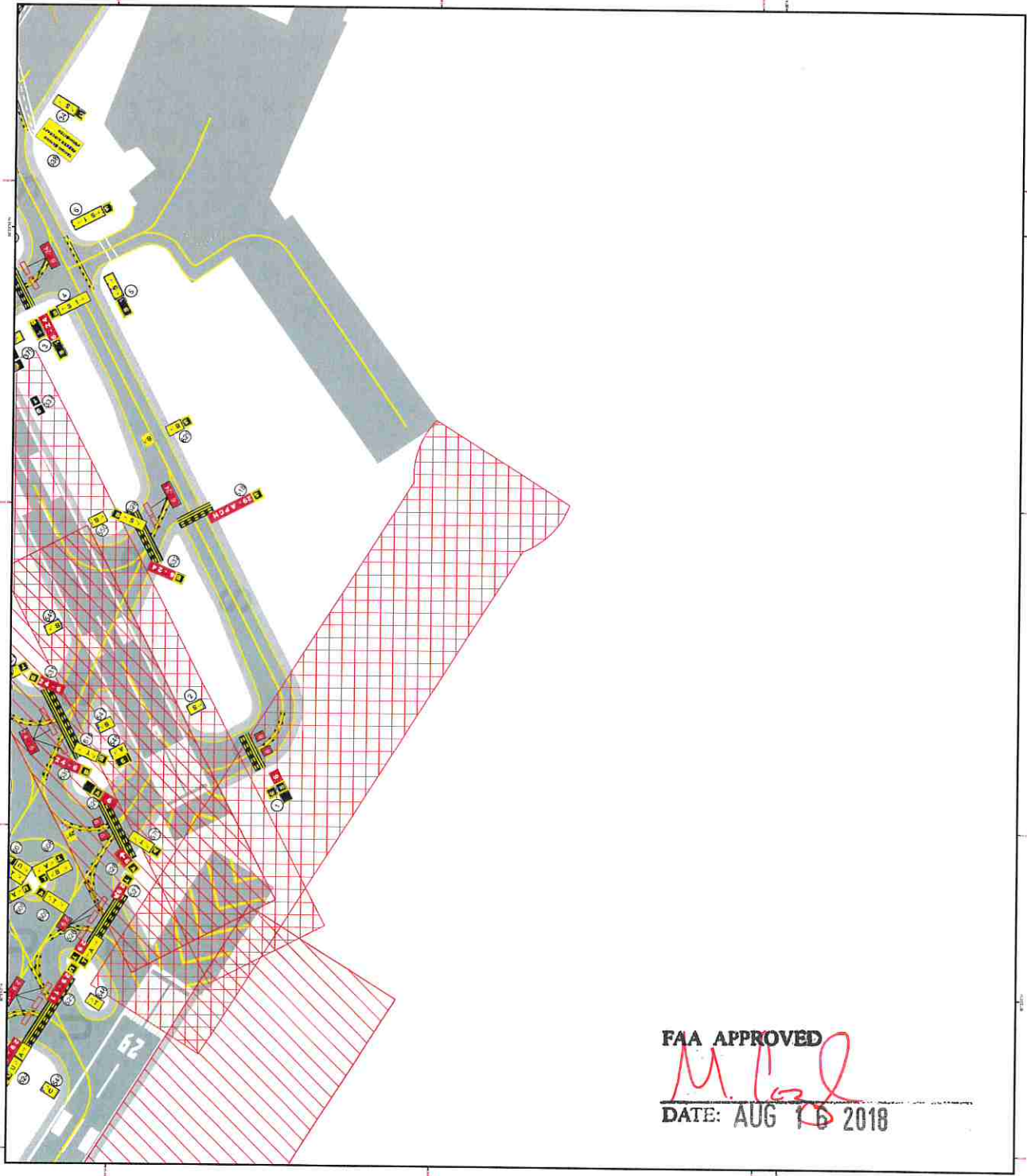
	Localizer
	GlideSlope





5555-3

FAA APPROVED

 DATE: AUG 16 2018



Legend:

-  Localizer
-  GlideSlope

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
STL Airport Sign and Marking Plan

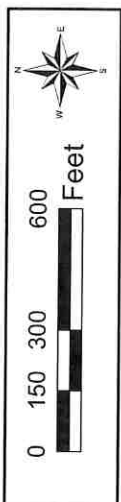
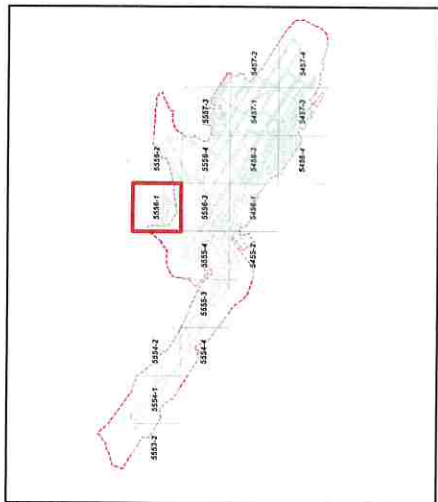
DATUM 1983
NAD 83
MISSOURI EAST ZONE
UNITS US FEET NORTH AMERICAN

Approval Date: _____
Drawing ID: _____
Signs & Marking

Print Date: 6/7/2018
Sheet: 5455-2

5455-2

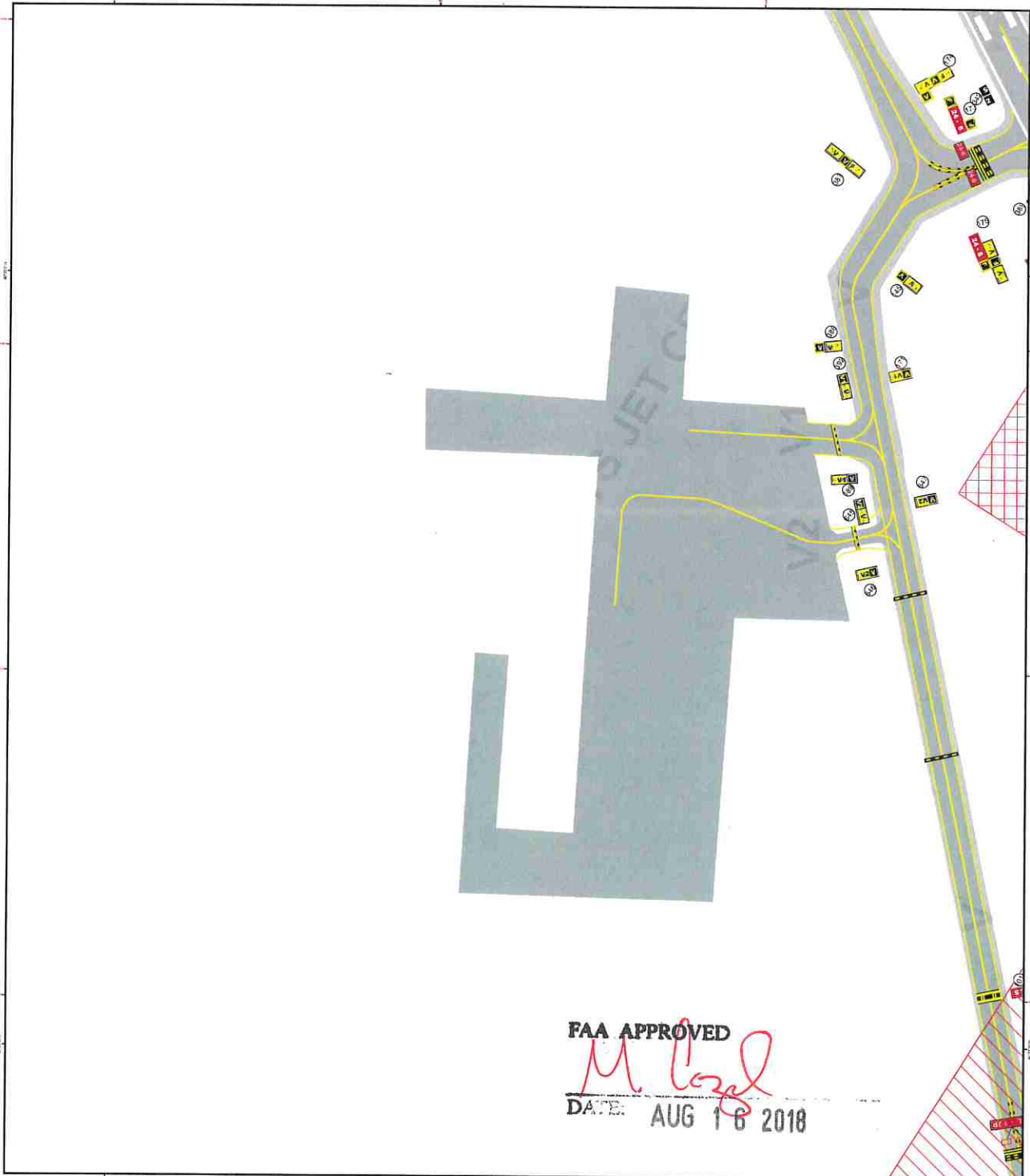
FAA APPROVED
M. L. L.
DATE: AUG 10 2018



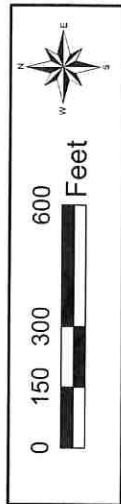
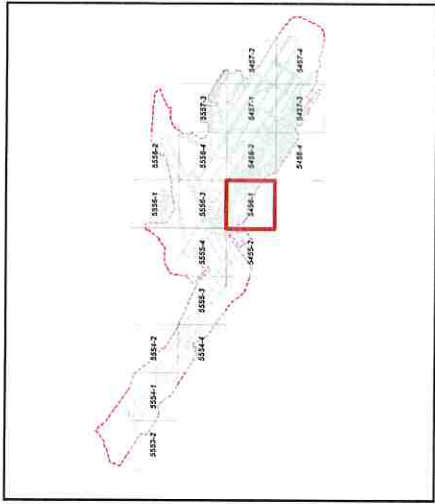
ST. LOUIS LAMBERT INTERNATIONAL AIRPORT	
STL Airport Sign and Marking Plan	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM MISSOURI EAST ZONE NAD 83 - FEET NORTH AMERICAN</small>	
Approval Date:	Drawing ID:
Print Date:	Signs & Marking
8/7/2018	Sheet:
	5556-1

Legend:

	Localizer
	GlideSlope



FAA APPROVED
M. Coz
 DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT	
STL Airport Sign and Marking Plan	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM NAD 83 UNIT: US FEET NORTH AMERICAN</small>	
Approval Date:	Drawing ID:
Print Date: 6/7/2018	Signs & Marking Sheet: 5456-1

Legend:

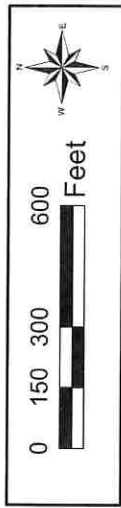
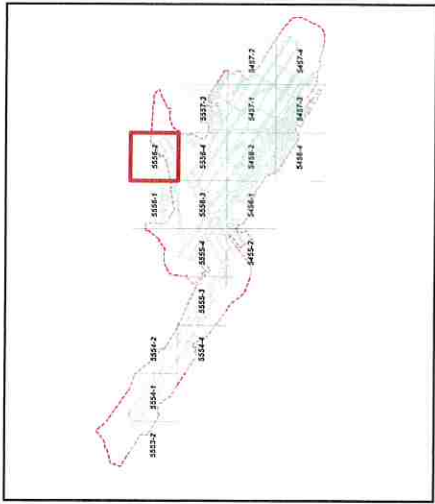
	Localizer
	GlideSlope



5456-1

FAA APPROVED

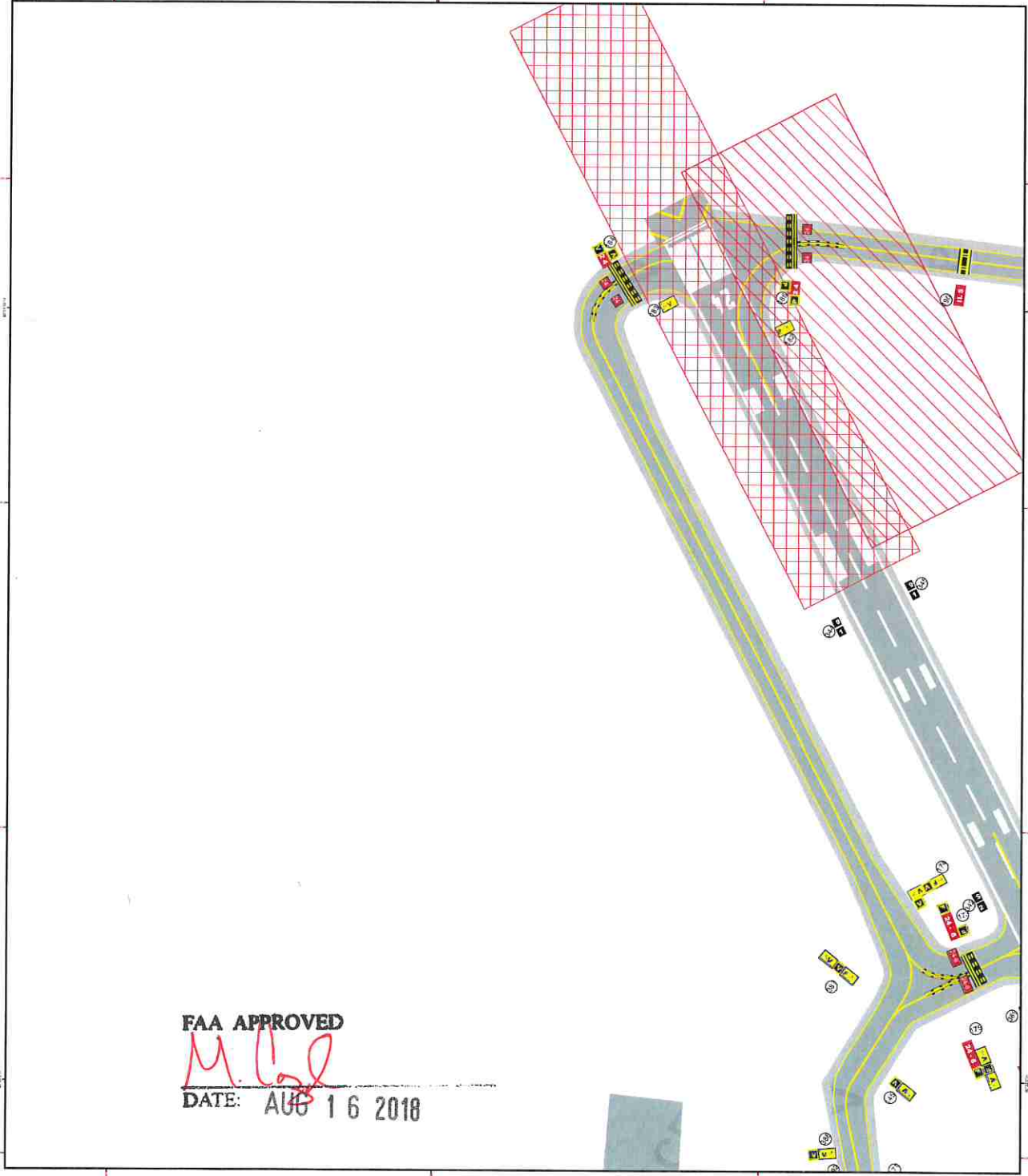
 DATE: AUG 16 2018



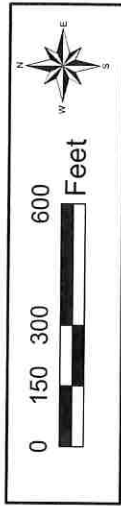
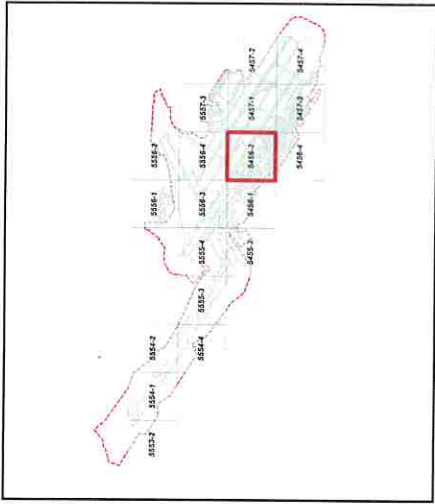
ST. LOUIS LAMBERT INTERNATIONAL AIRPORT STL Airport Sign and Marking Plan	
DATUM 1983 STATE PLANE COORDINATE SYSTEM UNITS US FEET NORTH AMERICAN	
Approval Date:	Drawing ID:
Print Date: 8/7/2018	Signs & Marking Sheet: 5556-2

Legend:

	Localizer
	Glide Slope

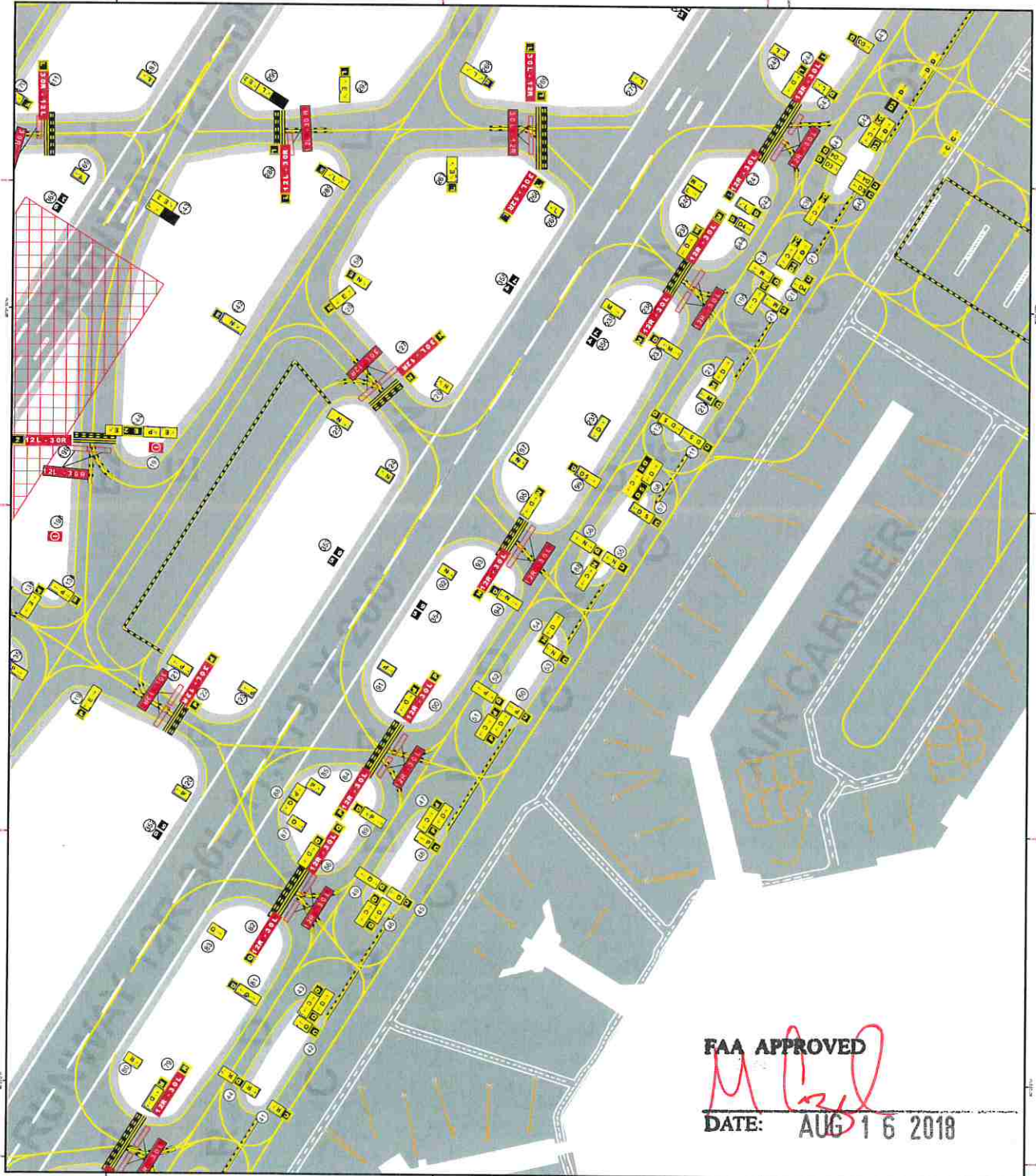


FAA APPROVED
M. Co
 DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT STL Airport Sign and Marking Plan	
<small>DATUM: 1983 STATE PLANE COORDINATE SYSTEM MISSOURI EAST ZONE UNITS: US FEET NORTH AMERICAN</small>	
Approval Date:	Drawing ID:
Print Date:	Signs & Marking
6/7/2018	Sheet:
	5456-2

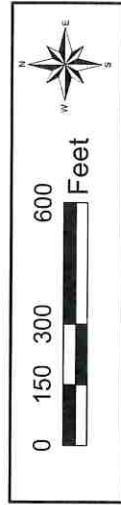
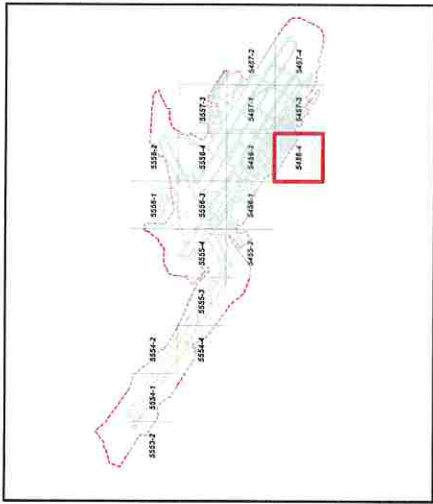
Legend:	
	Localizer
	GlideSlope



5456-2

FAA APPROVED

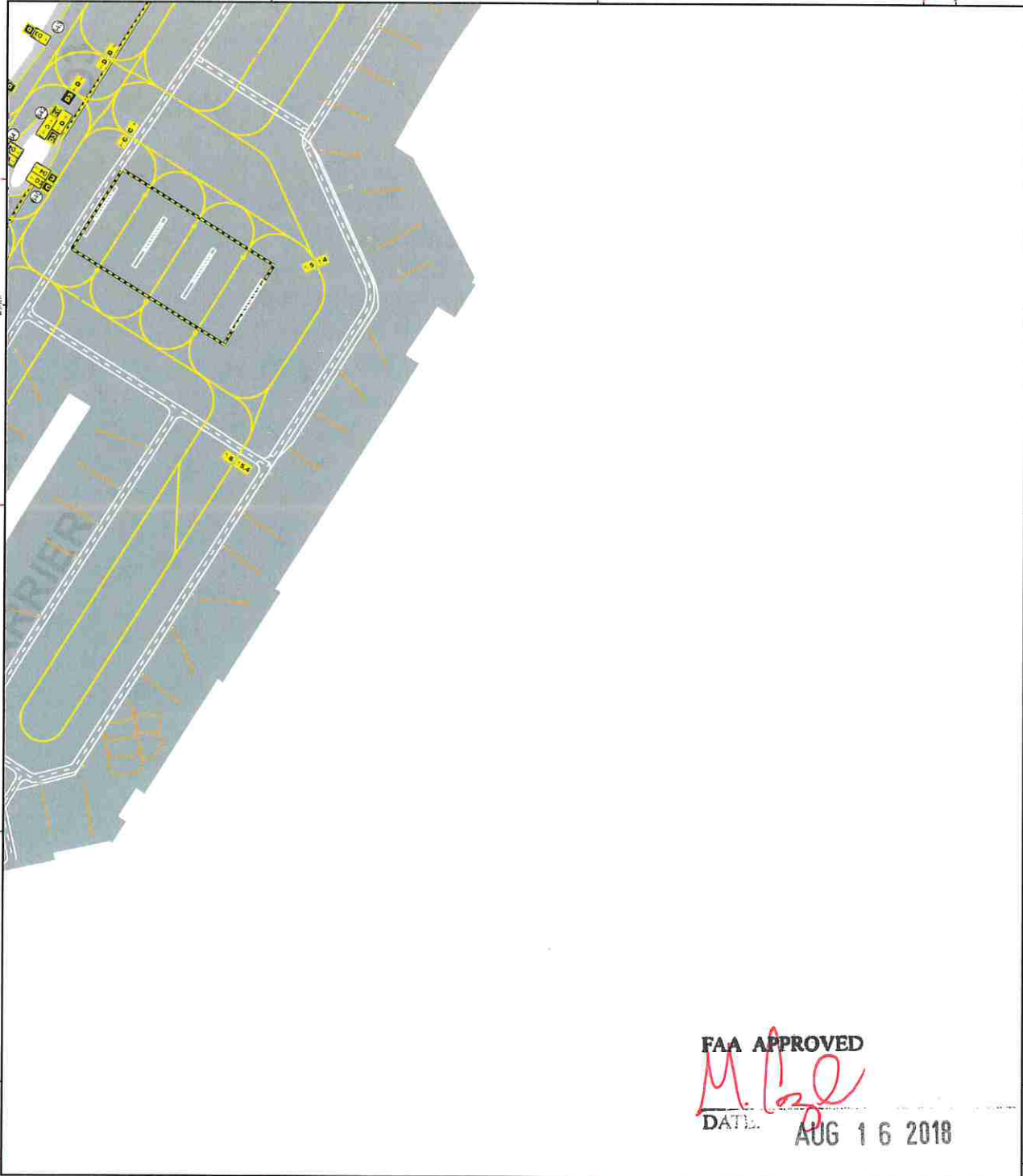
DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT	
STL Airport Sign and Marking Plan	
<small>DATUM 1983 NORTH AMERICAN HORIZONTAL COORDINATE SYSTEM UNITS M, FEET NORTH AMERICAN</small>	
<small>Approval Date:</small> 8/7/2018	<small>Drawing ID:</small> Signs & Marking Sheet: 5456-4

Legend:

- Localizer
- GlideSlope

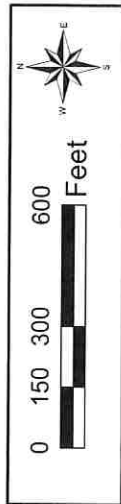
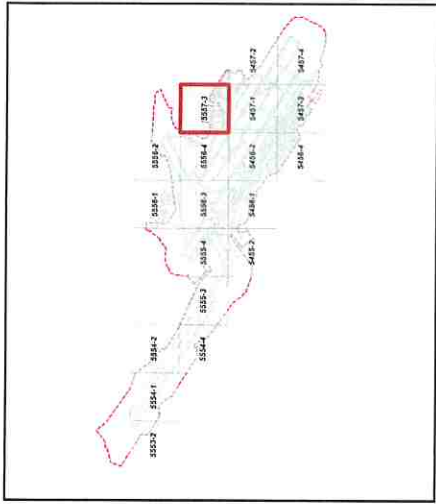


5456-4

FAA APPROVED

M. Be

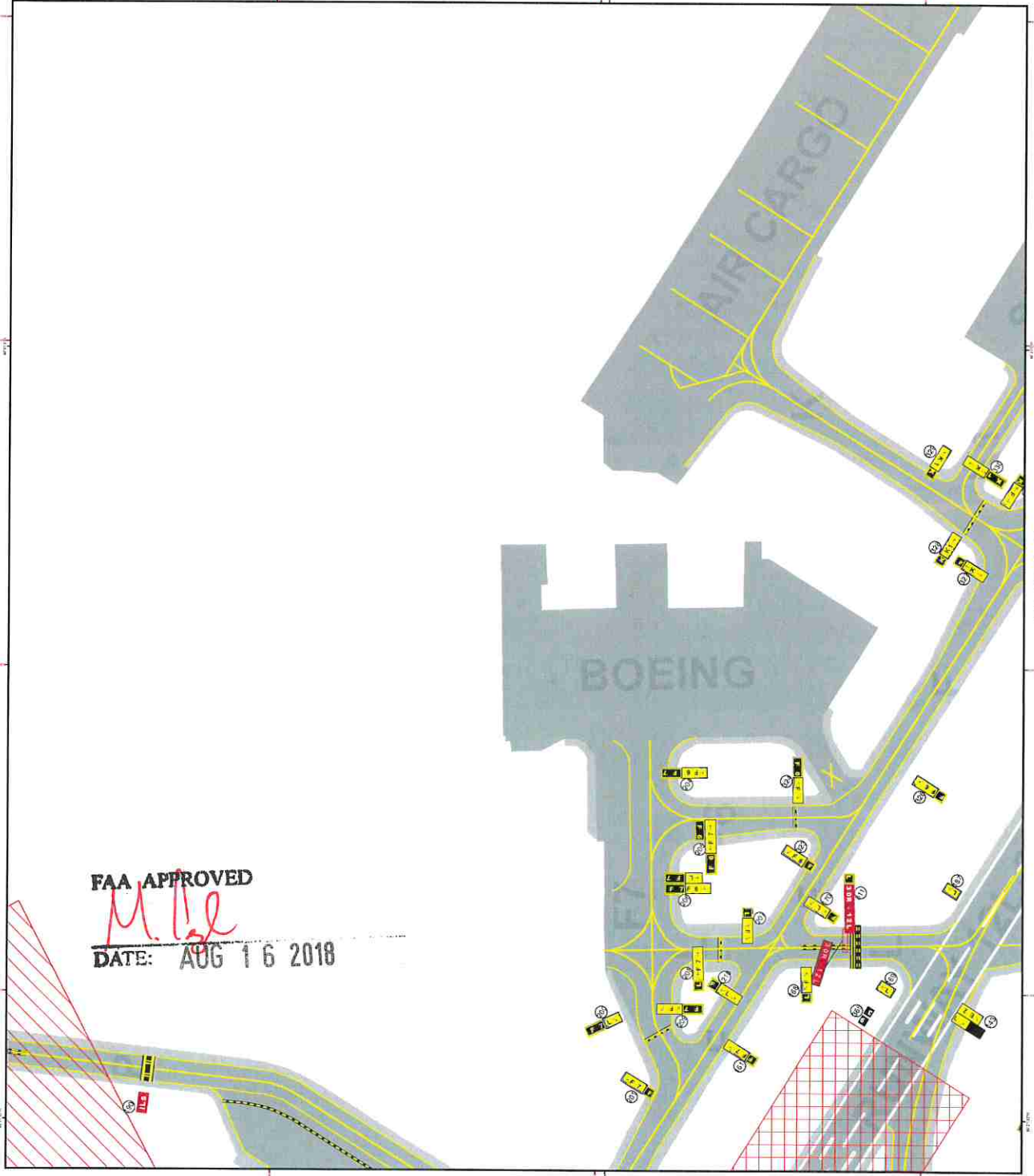
DATE: **AUG 16 2018**



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT STL Airport Sign and Marking Plan	
DATUM 1983 STATE PLANE COORDINATE SYSTEM NORTH AMERICAN UNITS US FEET NORTH AMERICAN	
Approval Date:	Drawing ID: Signs & Marking
Print Date: 8/7/2018	Sheet: 5557-3

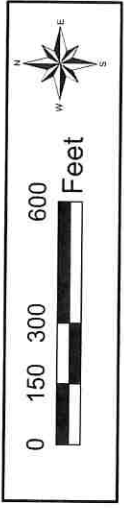
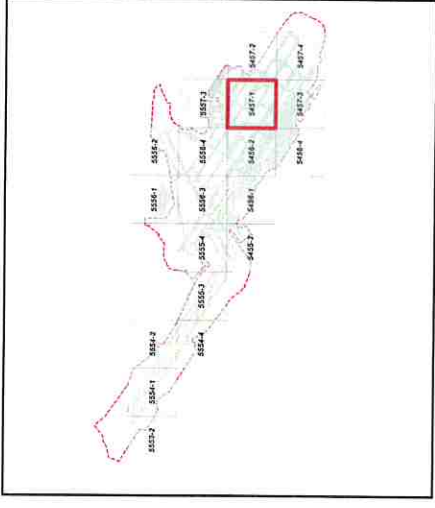
Legend:

- Localizer
- GlideSlope



FAA APPROVED
M. Lee
DATE: AUG 16 2018

5557-3



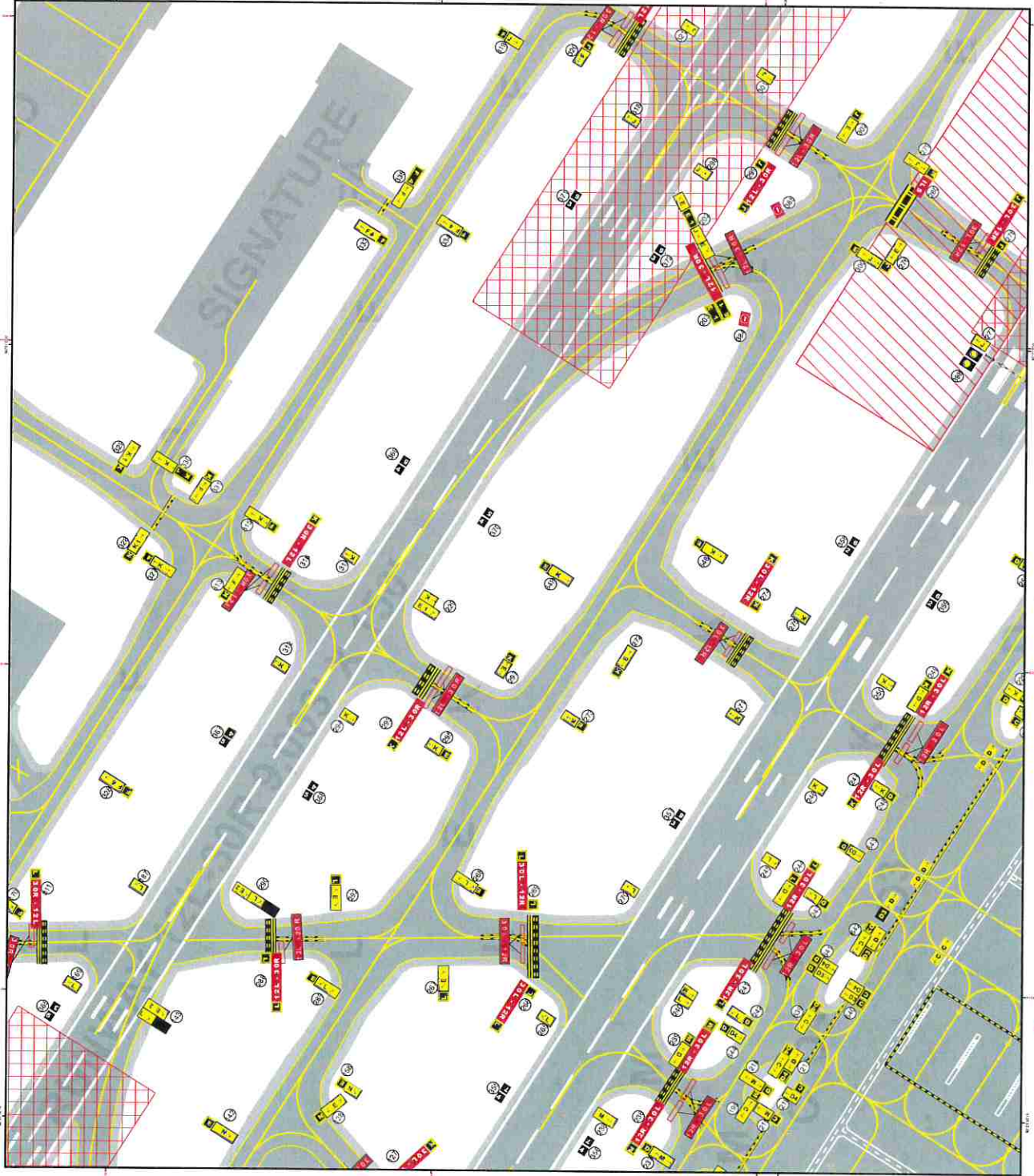
STL ST LOUIS LAMBERT INTERNATIONAL AIRPORT
STL Airport Sign and Marking Plan

DATUM: 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS: US FEET NORTH AMERICAN

Approval Date: _____ Drawing ID: _____
Signs & Marking
Print Date: 6/7/2018 Sheet: 5457-1

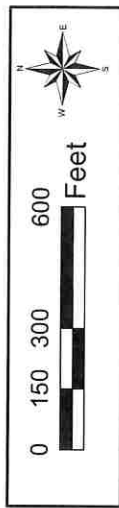
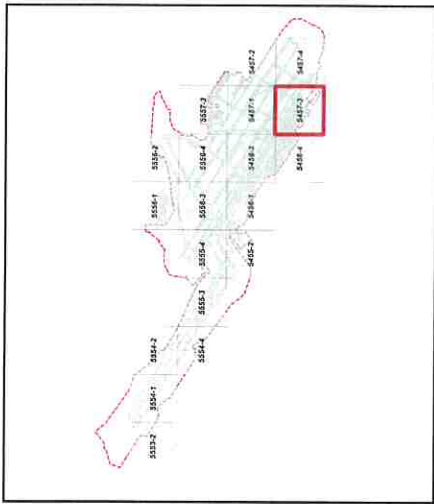
Legend:

- Localizer (represented by a grid pattern)
- Glideslope (represented by diagonal lines)



5457-1

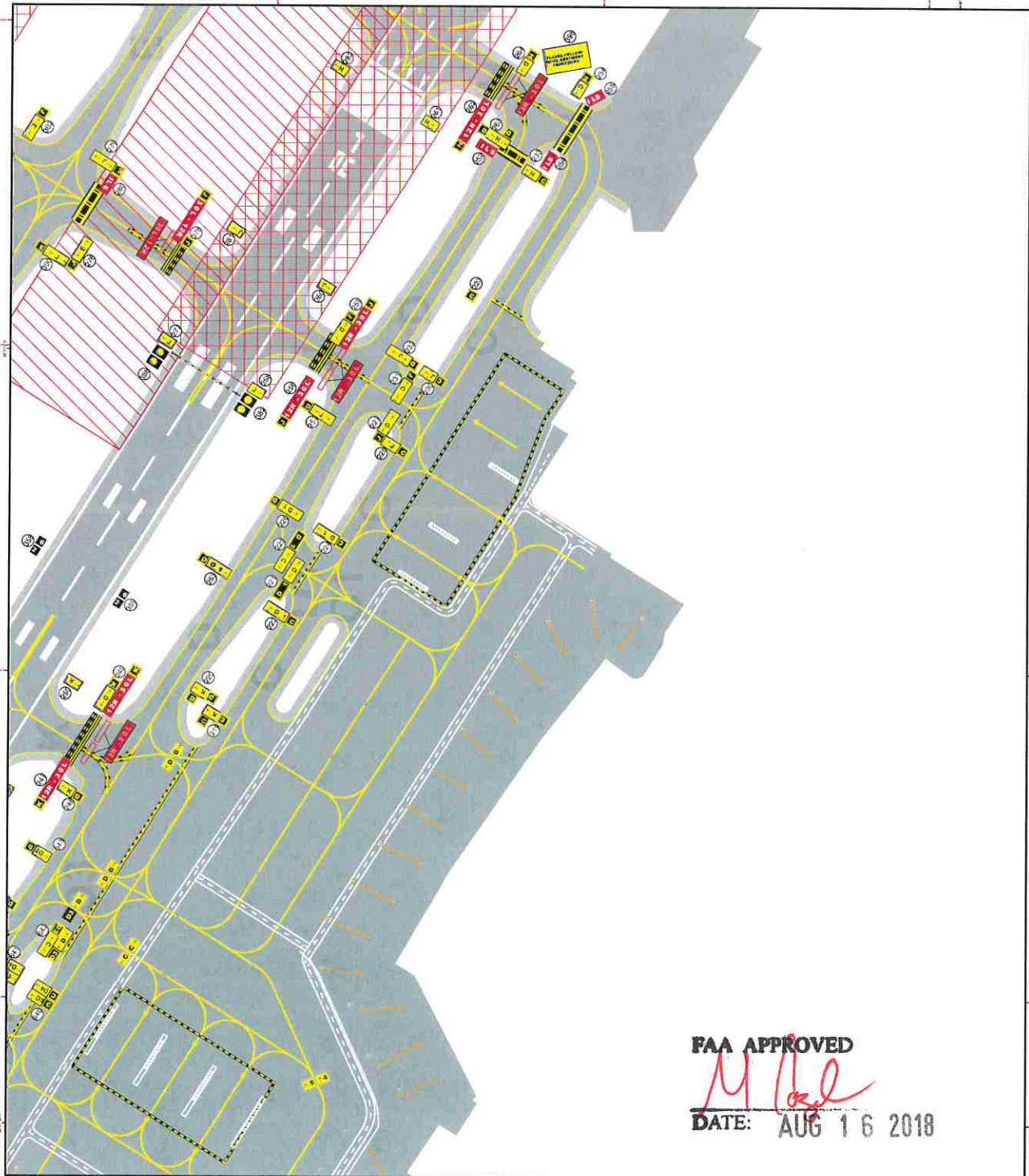
FAA APPROVED
M. L. L.
DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT	
STL Airport Sign and Marking Plan	
<small>DATUM 1983 STATE PLANE COORDINATE SYSTEM NAD 83 UNIT: FEET NORTH AMERICAN</small>	
Approval Date:	Drawing ID: Signs & Marking
Print Date: 6/7/2018	Sheet: 5457-3

Legend:

	Localizer
	GlideSlope

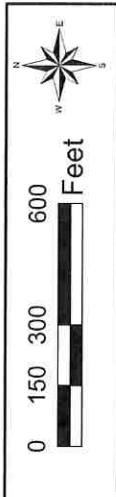
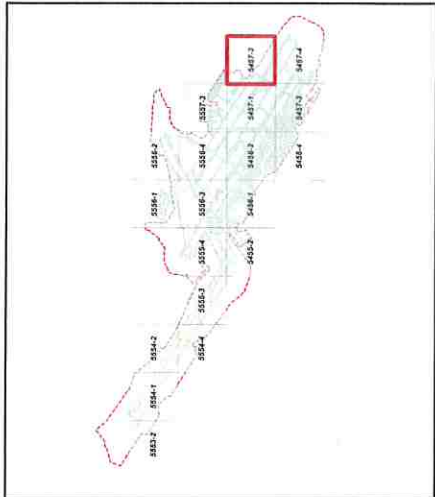
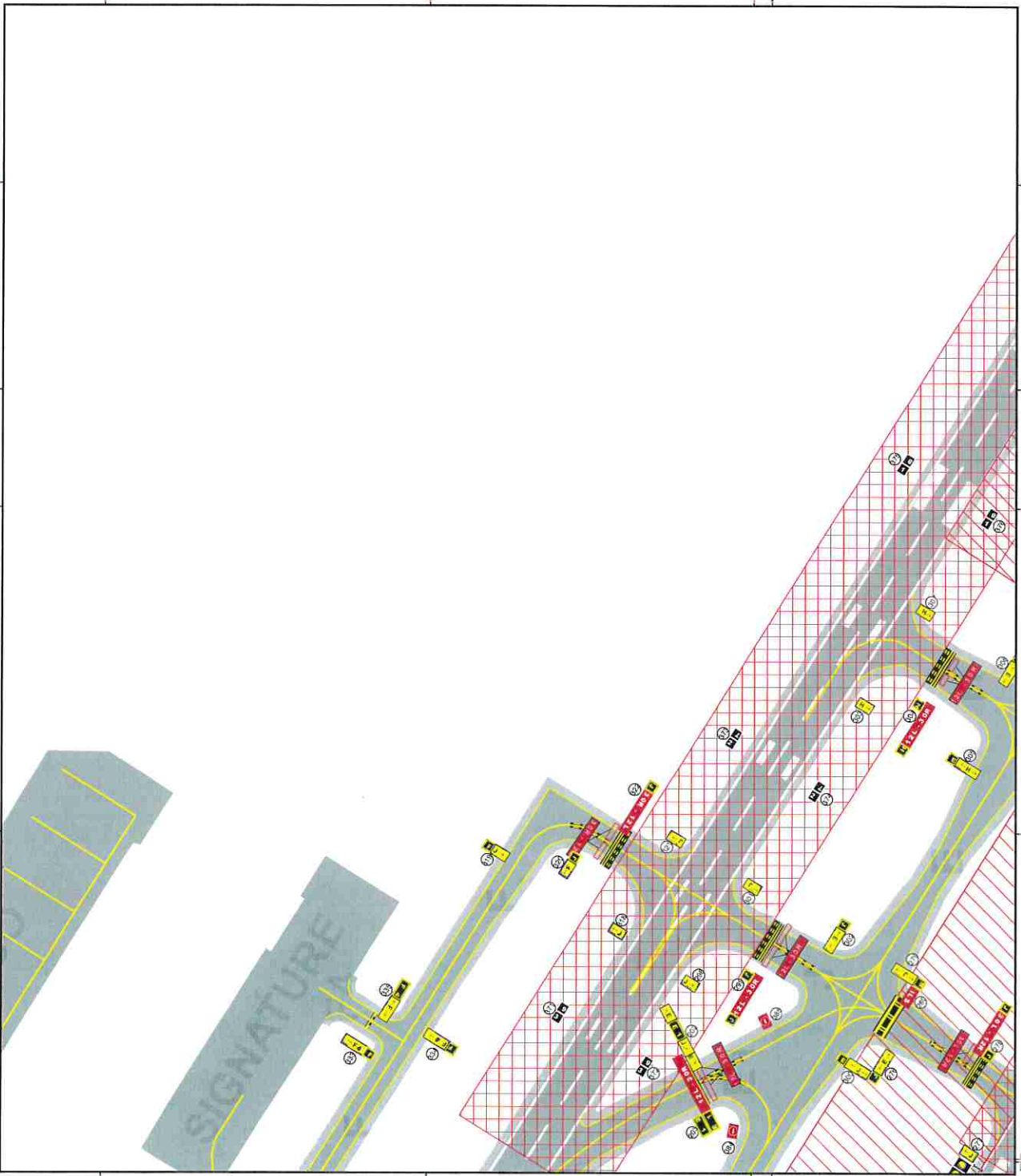


5457-3

FAA APPROVED

M. [Signature]

DATE: AUG 16 2018



Legend:

- Localizer
- GlideSlope

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT

STL Airport Sign and Marking Plan

DATUM 1983 COORDINATE SYSTEM MISSOURI EAST ZONE UNITS US FEET NORTH AMERICAN

Approval Date: 8/7/2018

Drawing ID: Signs & Marking

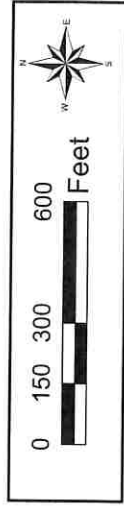
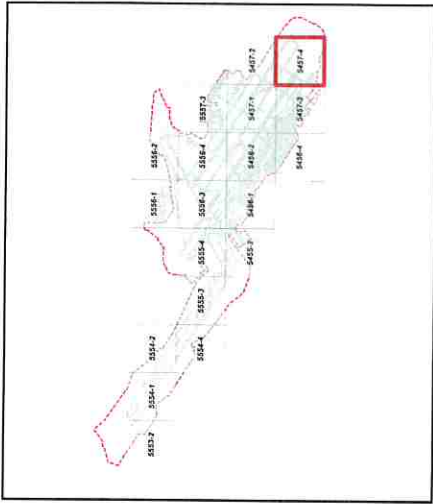
Print Date: 8/7/2018

Sheet: 5457-2

5457-2

FAA APPROVED

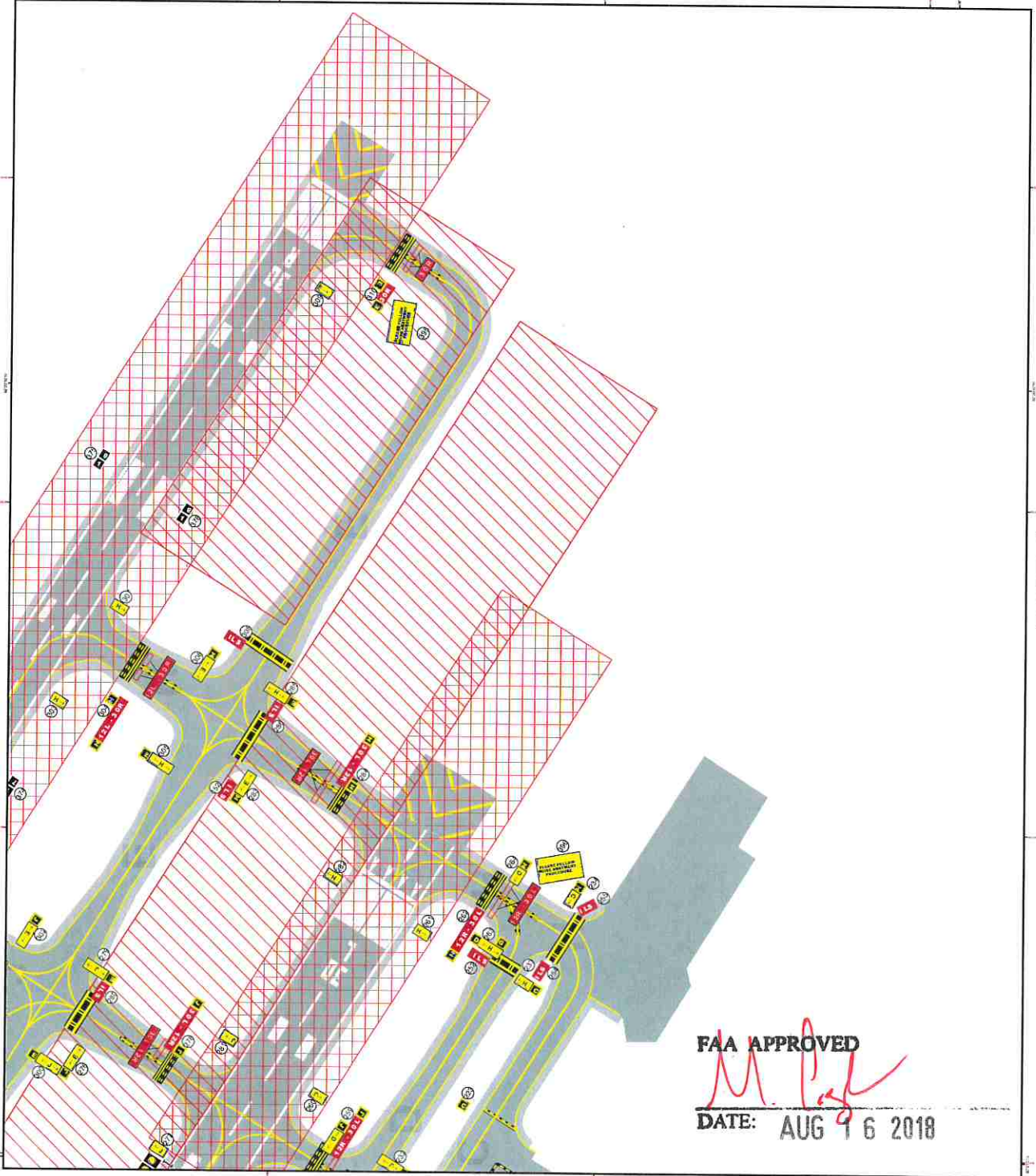
DATE: AUG 16 2018



ST. LOUIS LAMBERT INTERNATIONAL AIRPORT STL Airport Sign and Marking Plan	
DATUM: NAD 83 STATE PLANE COORDINATE SYSTEM MISSOURI EAST ZONE UNITS: US FEET NORTH AMERICAN	
Approval Date:	Drawing ID:
Print Date:	Signs & Marking Sheet:
6/7/2018	5457-4

Legend:

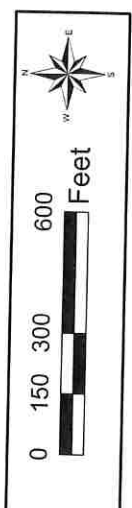
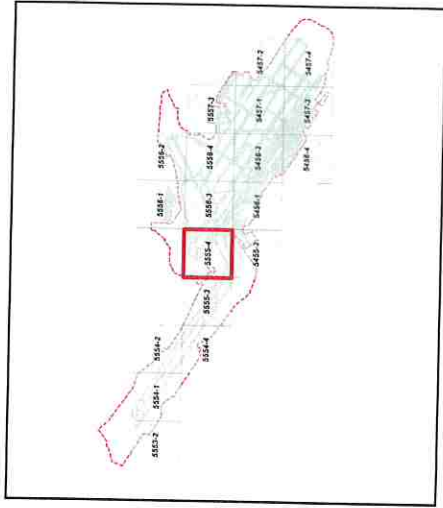
	Localizer
	GlideSlope



5457-4

FAA APPROVED

DATE: AUG 16 2018



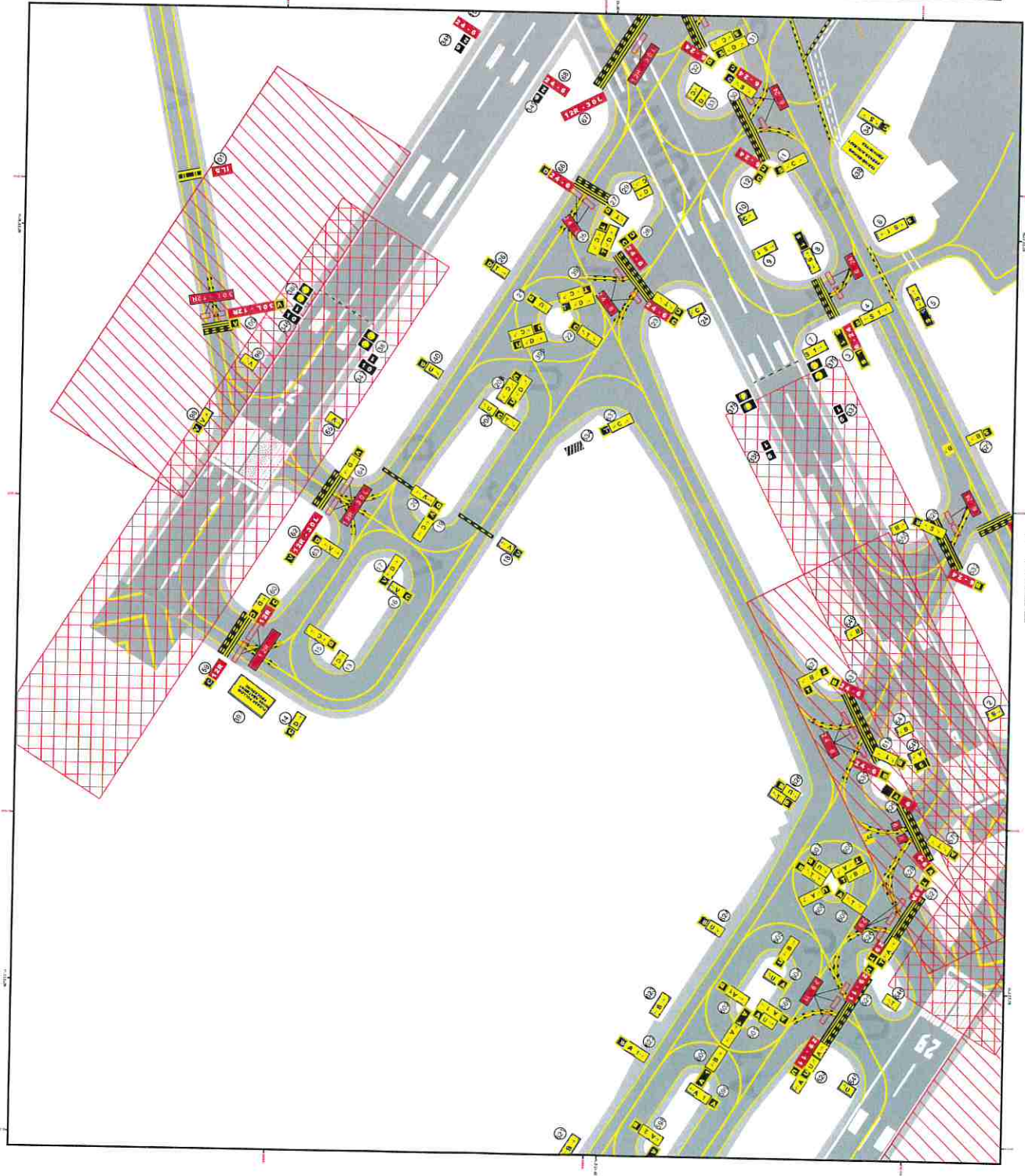
Legend:

- Localizer
- Glide Slope

STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT.
STL Airport Sign and Marking Plan

DATUM 1983
NAD 83 COORDINATE SYSTEM
MISSOURI PLATS ZONE
UNITS US FEET NORTH AMERICAN

Approval Date: _____ Drawing ID: _____
Signs & Marking
Print Date: 6/7/2018 Sheet: 5555-4

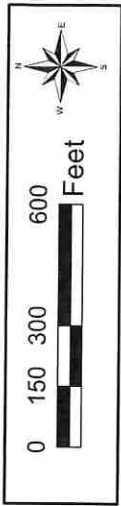
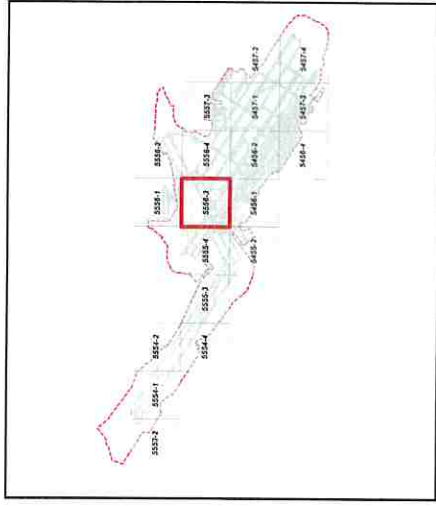


5555-4

FAA APPROVED

DATE:

AUG 16 2018



STL ST. LOUIS LAMBERT INTERNATIONAL AIRPORT
STL Airport Sign and Marking Plan

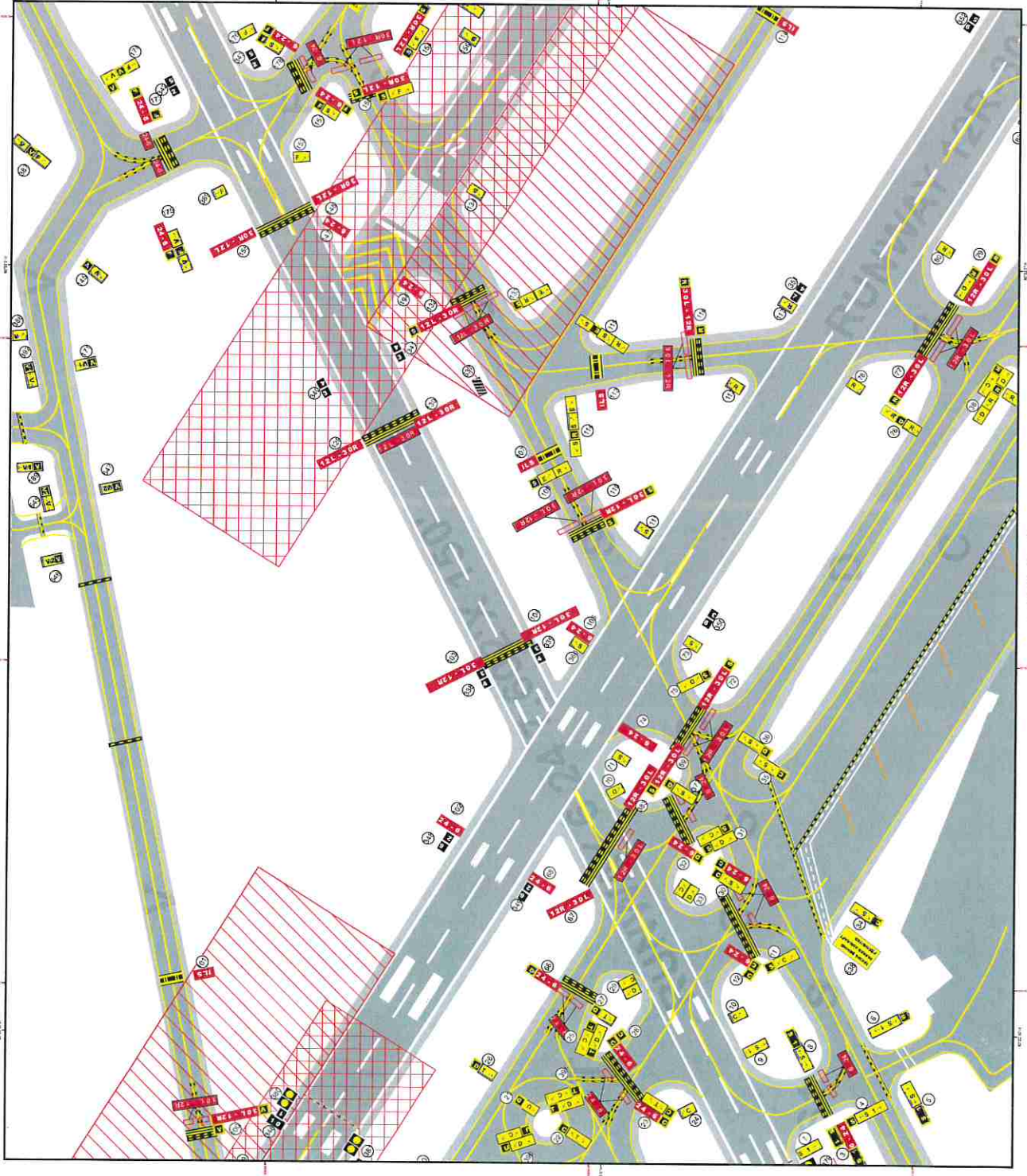
DATUM 1983
STATE PLANE COORDINATE SYSTEM
MISSOURI EAST ZONE
UNITS US FEET NORTH AMERICAN

Approval Date: _____ Drawing ID: _____
Signs & Marking

Print Date: 8/7/2018 Sheet: **5556-3**

Legend:

- Localizer (represented by a grid pattern)
- Glideslope (represented by a diagonal line pattern)



5556-3

FAA APPROVED 
DATE: AUG 16 2018