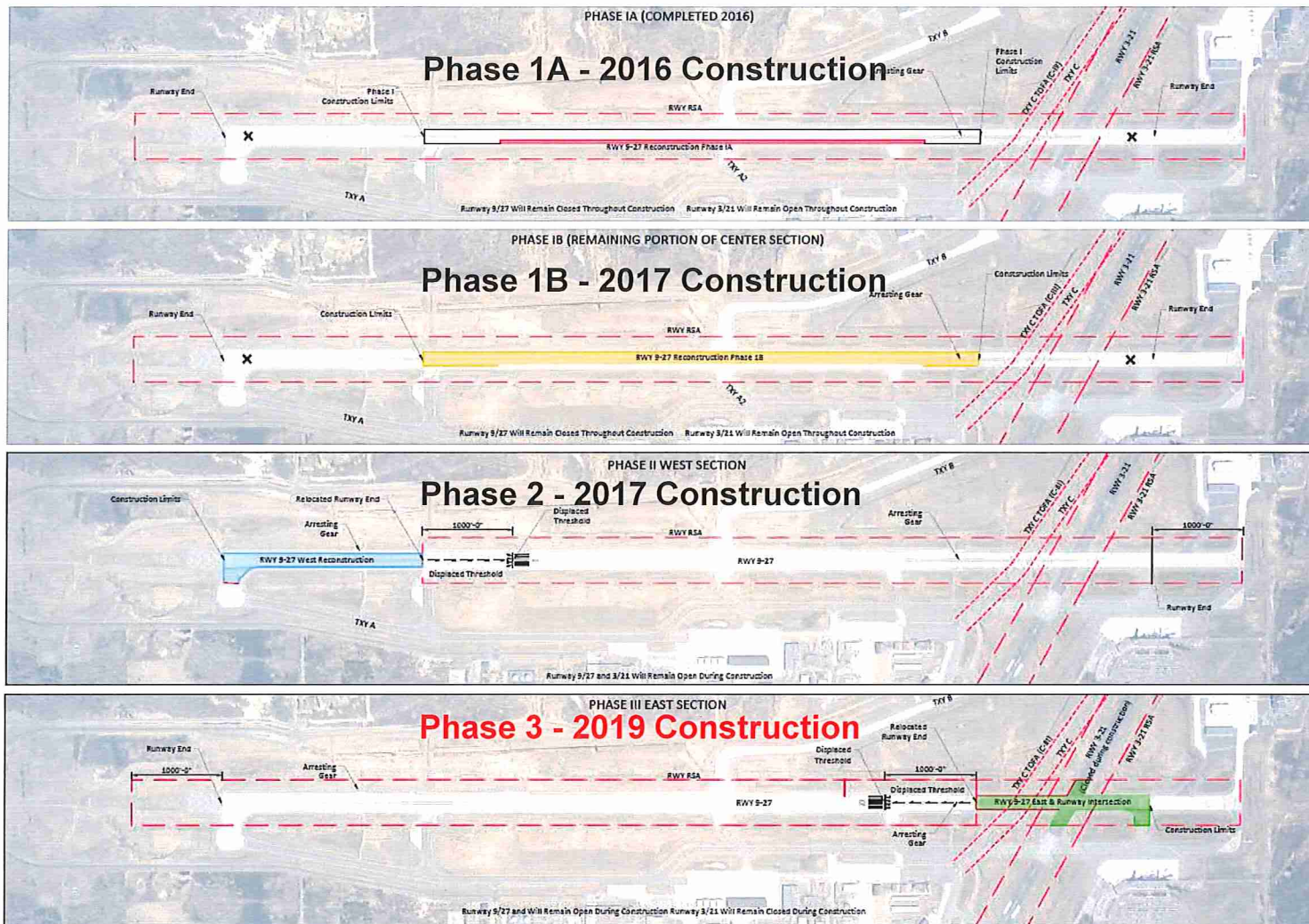


Construction Phases



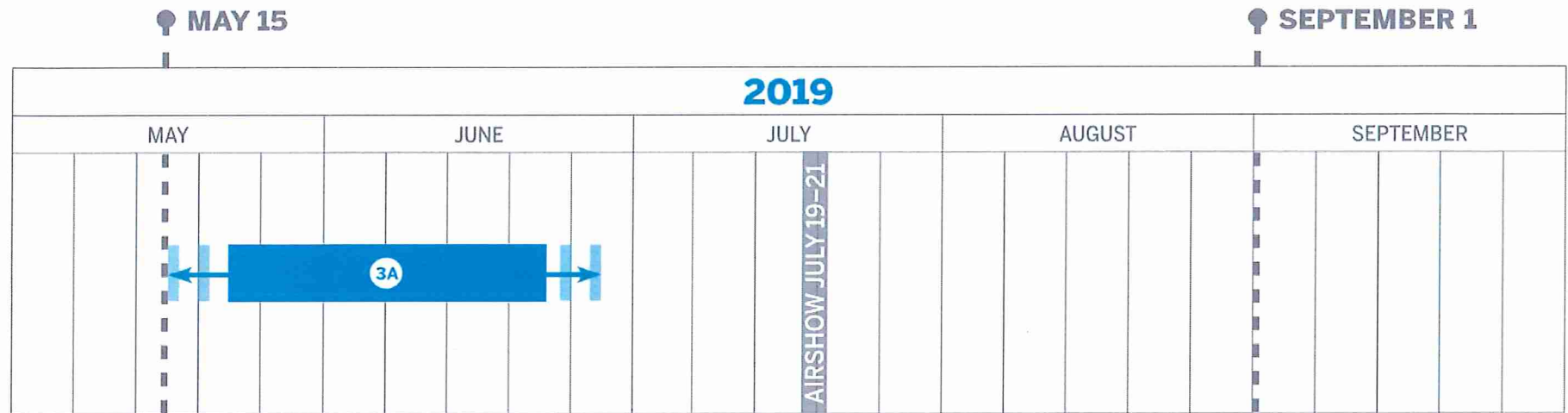
Runway 9/27 Reconstruction

Phase 3 – Phasing Overview



Runway 9/27 Reconstruction

Phase 3 Scheduling Overview



3A (TAXIWAY A AND E2)
30 DAYS- NO RUNWAY CLOSURE

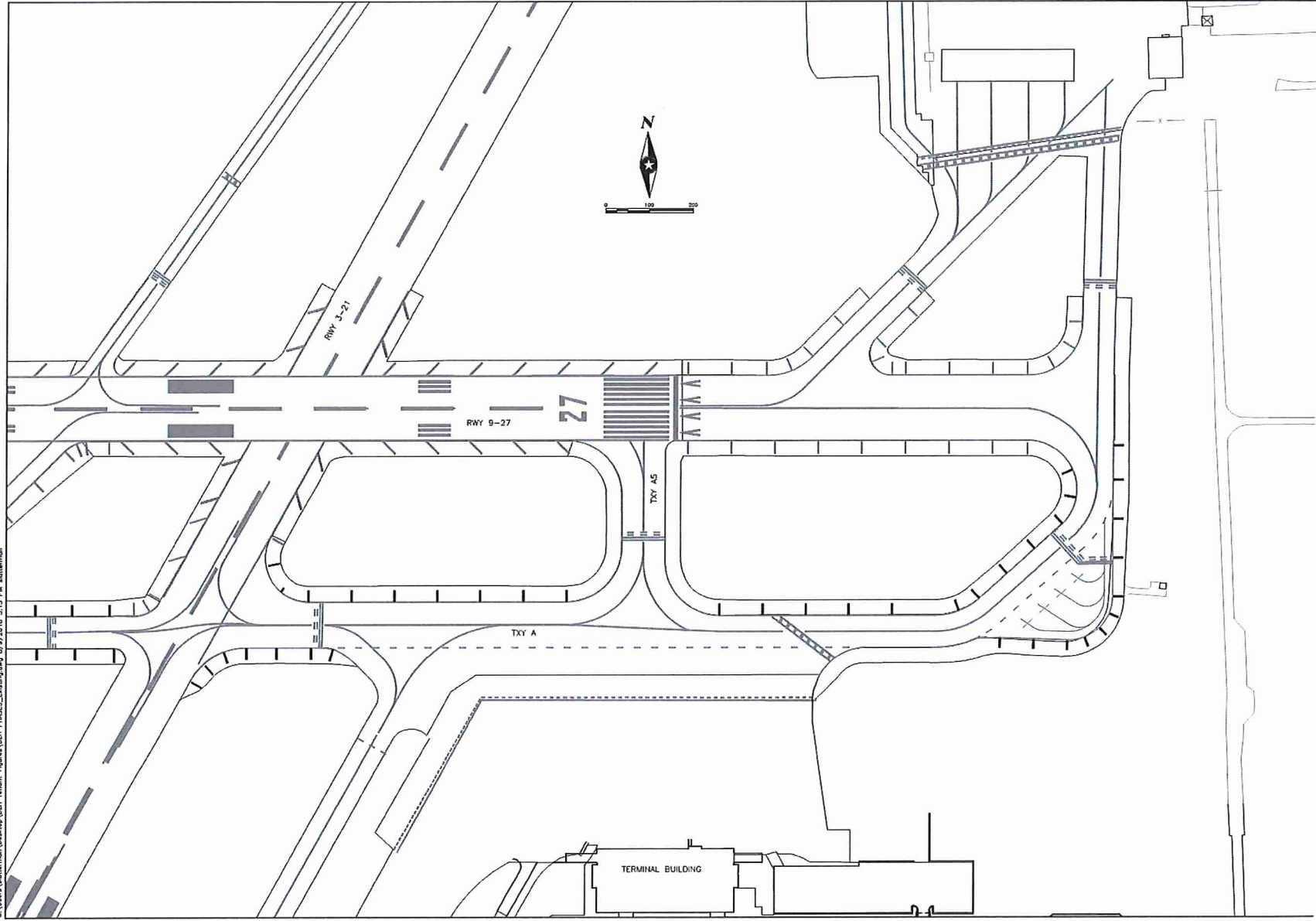
3B (TEMPORARY RUNWAY SET UP)
3 DAYS

3C (RUNWAY CONSTRUCTION)
60 DAYS

3D (TEMPORARY RUNWAY REMOVAL)
5 DAYS

3E (RUNWAY GROOVING)

C:\Users\slutterman\Desktop\DLH PHASE3_Existing.dwg 8/9/2018 3:13 PM slutterman



SHEET
B

ISSUE DATE _____
DESIGNED BY _____
DRAWN BY _____

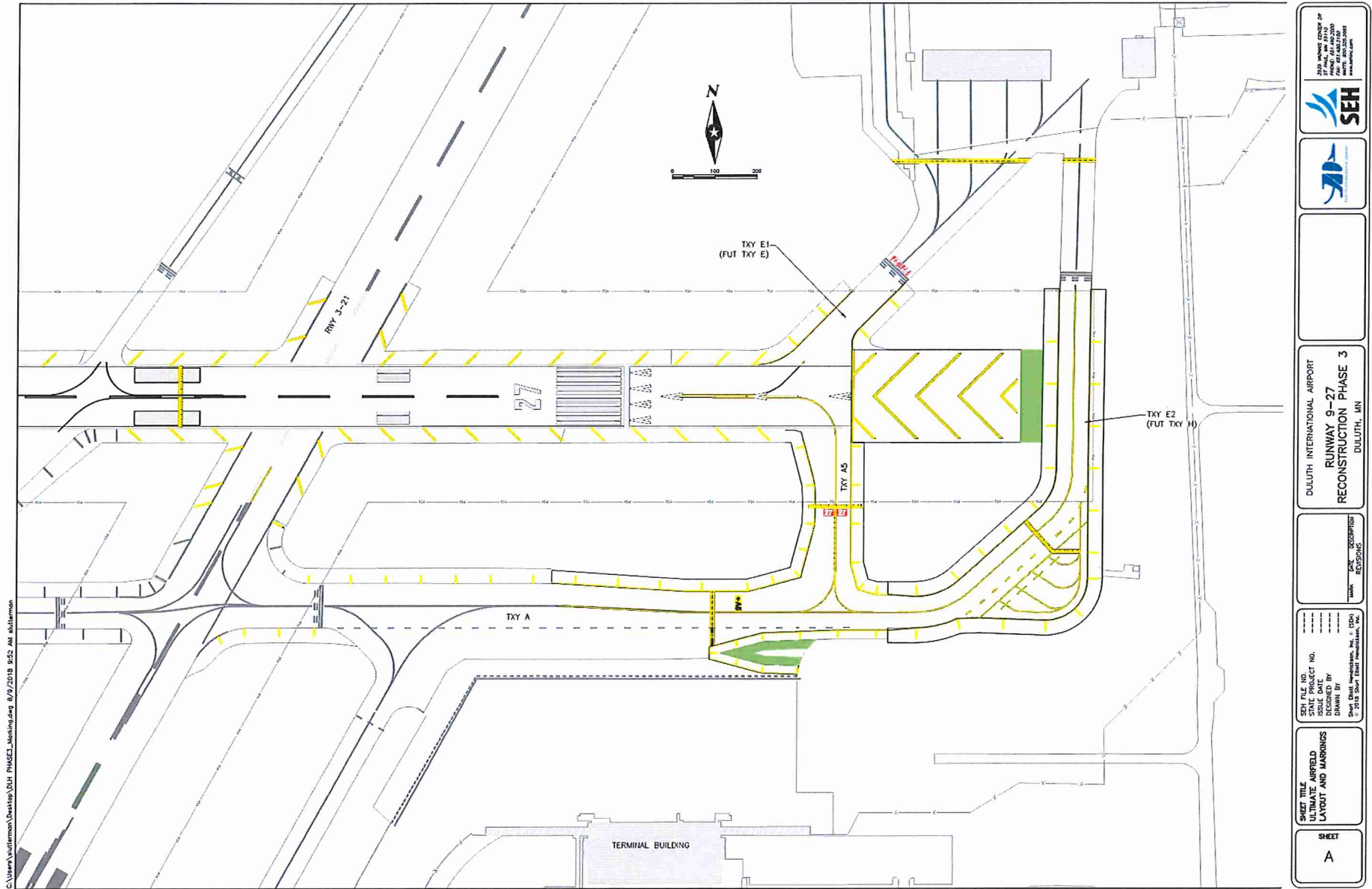
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2	10/2/20	...
3	10/3/20	...
4	10/4/20	...
5	10/5/20	...
6	10/6/20	...
7	10/7/20	...
8	10/8/20	...
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27	10/27/20	...
28	10/28/20	...
29	10/29/20	...
30	10/30/20	...
31	10/31/20	...

RUNWAY 9-27
RECONSTRUCTION PHASE 3
DULUTH, MN



3533 VICTORY CENTER DR
ST PAUL, MN 55110
PHONE: 651.480.2000
FAX: 651.480.2150
URL: 800.226.2003
www.bahnc.com

New Layout

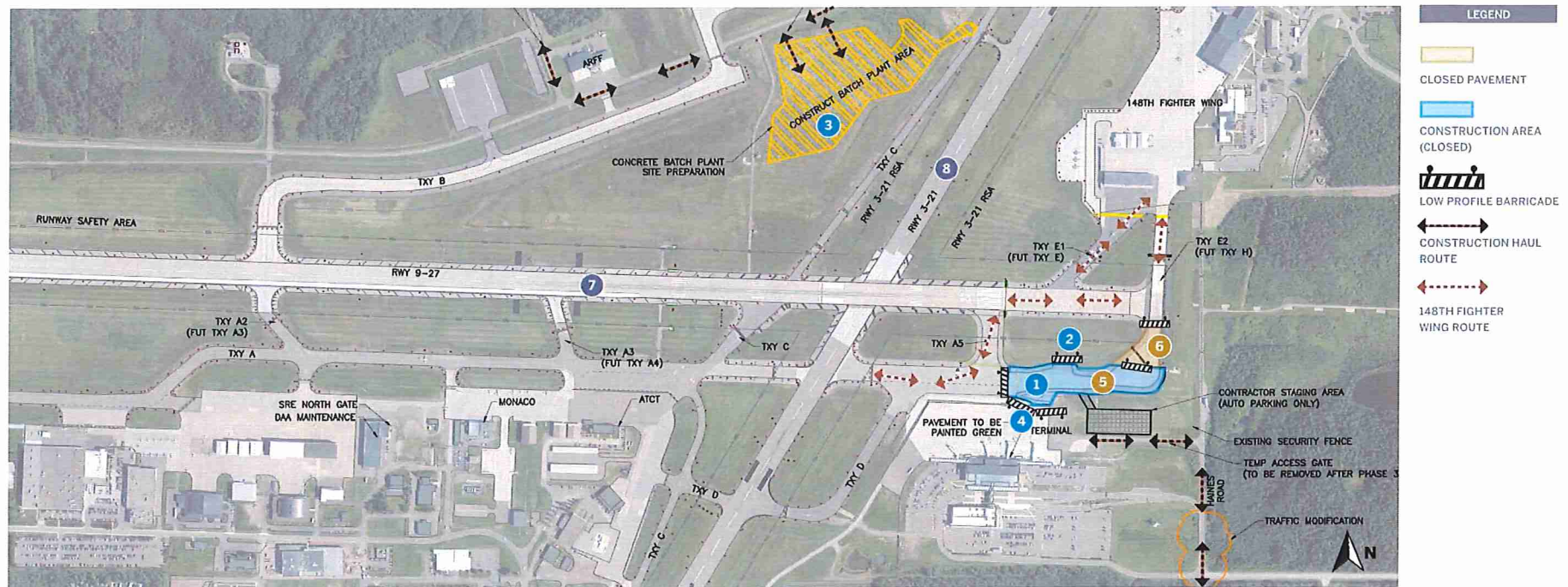


Runway 9/27 Reconstruction

Phase 3A – Taxiway A and Taxiway E2/Hotel Work

Duluth International Airport

PHASE 3A RUNWAY 9/27 RECONSTRUCTION



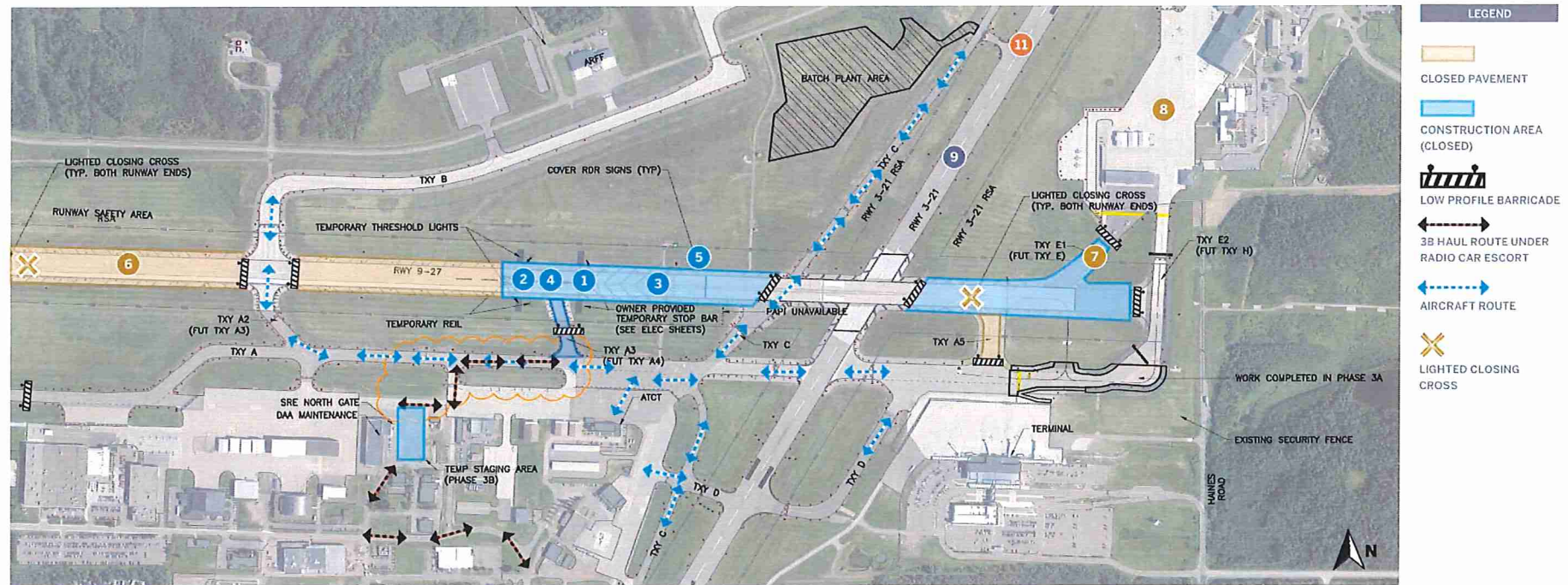
Ph3A PHASE INFORMATION	X CLOSURES	AVAILABLE AIRFIELD	IAP INSTRUMENT APPROACH PROCEDURE IMPACTS	DURATION
<p>Phase 3A includes completing work on Taxiway A and Taxiway E2.</p> <p>Work elements will include:</p> <ol style="list-style-type: none"> 1 Reconstruction of Taxiway A and installation of taxiway centerline lighting 2 Construct portions of new Taxiway A5 3 Concrete batch plant site prep 4 Paint "island" on commercial service apron 	<ol style="list-style-type: none"> 5 Taxiway A will be closed east of Taxiway A5 6 Taxiway E2 will be closed South of 9/27 	<ol style="list-style-type: none"> 7 Runway 9/27 Full Length 8 Runway 3/21 Full Length 9 All tenants have access to available airfield 	<ol style="list-style-type: none"> 10 There will be no impact to instrument approach procedures during Phase 3A 	<ol style="list-style-type: none"> 11 Phase 3A will be completed in 30 calendar days

Runway 9/27 Reconstruction

Phase 3B

Duluth International Airport

PHASE 3B RUNWAY 9/27 RECONSTRUCTION



Ph3B PHASE INFORMATION	X CLOSURES	AVAILABLE AIRFIELD	IAP INSTRUMENT APPROACH PROCEDURE IMPACTS	DURATION
<p>Phase 3B includes installing the displaced threshold on Runway 9/27.</p> <p>Work elements will include:</p> <ol style="list-style-type: none"> 1 Install runway end stop bar 2 Install displaced threshold bar and REILs 3 Remove existing paint markings 4 Paint new displaced runway markings 5 Cover runway distance remaining signs and complete prep work for new signs 	<ol style="list-style-type: none"> 6 Runway 9/27 will be closed 7 Taxiway E1 will be closed 8 There will be no 148th Fighter Wing operations during Phase 3B 	<ol style="list-style-type: none"> 9 Runway 3/21 full length 10 All tenants have access to available airfield 	<ol style="list-style-type: none"> 11 All approach procedures to Runway 9 and 27 will be unavailable for Phase 3B 12 Available approaches include RNAV (GPS) Rwy 3, RNAV (GPS) Rwy 21, VOR or TACAN to Rwy 3, and VOR/DME or TACAN to Rwy 21 13 Approach minimums vary depending on aircraft size and capabilities. Approximately 400 ft ceiling and 11/8 mile visibility 	<ol style="list-style-type: none"> 14 Phase 3B will be completed in 3 calendar days

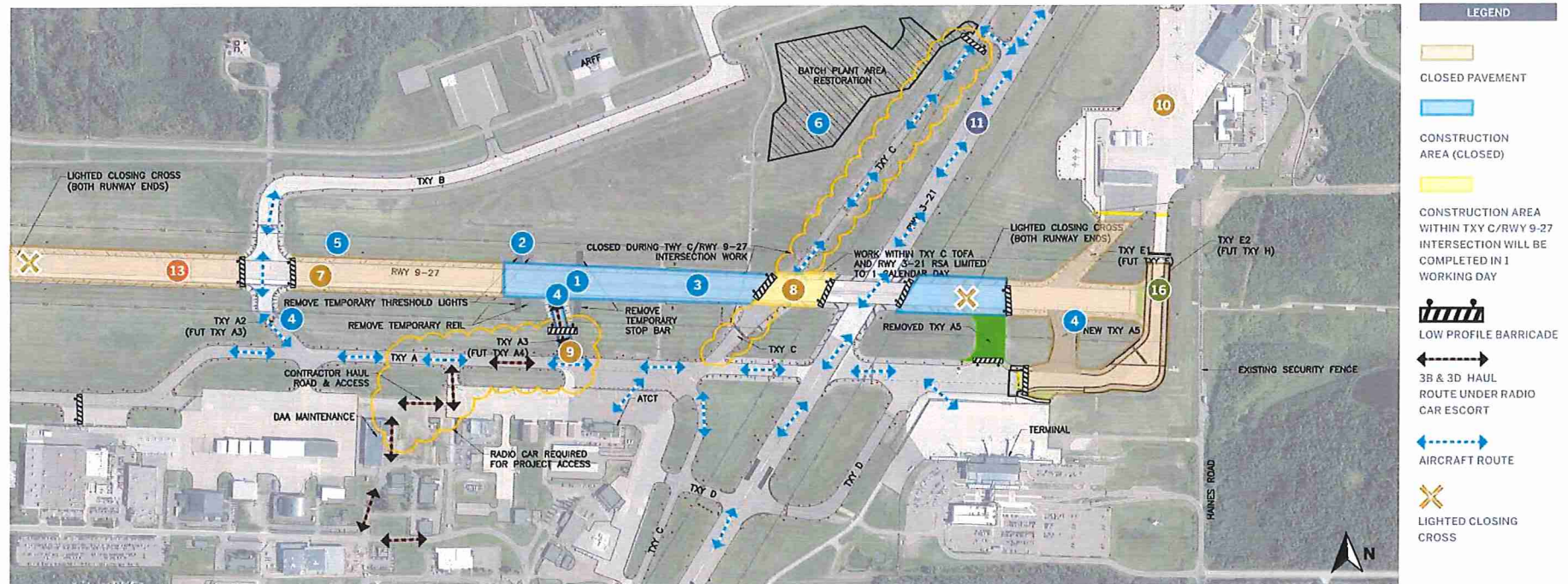
PHASE 3C RUNWAY 9/27 RECONSTRUCTION



Runway 9/27 Reconstruction - Phase 3D

Duluth International Airport

PHASE 3D RUNWAY 9/27 RECONSTRUCTION



PHASE INFORMATION

Phase 3D includes the removal of the temporary displaced threshold on Runway 27.

Work elements will include:

- 1 Remove displaced threshold markings on Runway 27
- 2 Remove temporary lighting
- 3 Paint Runway 27 markings
- 4 Install new guidance sign panels for Runway 9/27 connectors (A1-A5)

- 5 Install distance remaining signs along Runway 9/27
- 6 Dismantle and restore batch plant area



CLOSURES

- 7 Runway 9/27 will be closed for Phase 3D
- 8 Taxiway C / Runway 9/27 intersection will be closed for 1 calendar day
- 9 Taxiway A3 will be closed for Phase 3D
- 10 No 148th FW air field access or operations during phase 3D



AVAILABLE AIRFIELD

- 11 Runway 3/21 full length
- 12 All tenant access, except 148th fighter jet access



INSTRUMENT APPROACH PROCEDURE IMPACTS

- 13 All approach procedures for Runways 9 and 27 will be unavailable during Phase 3D
- 14 Available approaches for Runway 3/21 include RNAV (GPS) Rwy 3, RNAV (GPS) Rwy 21, VOR or TACAN to Rwy 3, and VOR/DME or TACAN to Rwy 21
- 15 Approach minimums vary depending on aircraft size and capabilities. Approximately 400 ft ceiling and 1 1/8 mile visibility



DURATION

- 16 Phase 3D will be completed in 3 calendar days
- 17 The work inside the Taxiway C / Runway 9/27 intersection will be completed in 1 calendar day



DULUTH INTERNATIONAL AIRPORT
Travel Globally. Fly Locally.

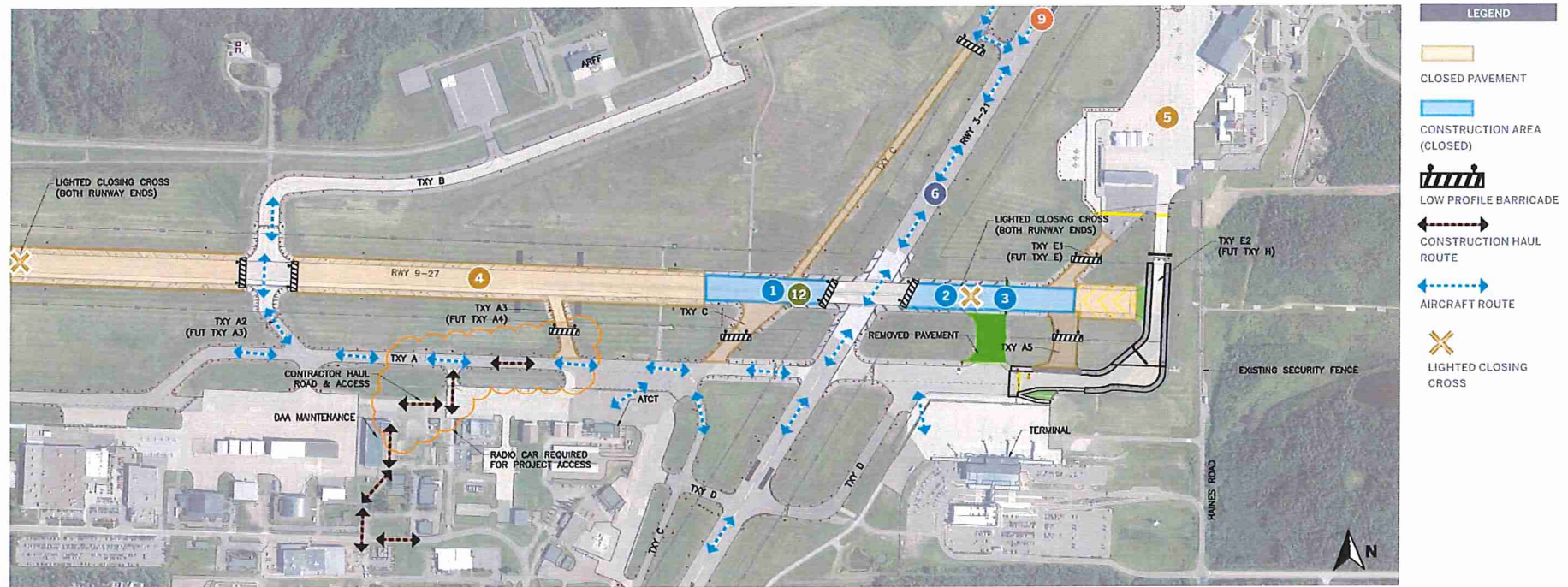


Runway 9/27 Reconstruction

Phase 3E(A)

Duluth International Airport

PHASE 3E(A) RUNWAY 9/27 RECONSTRUCTION



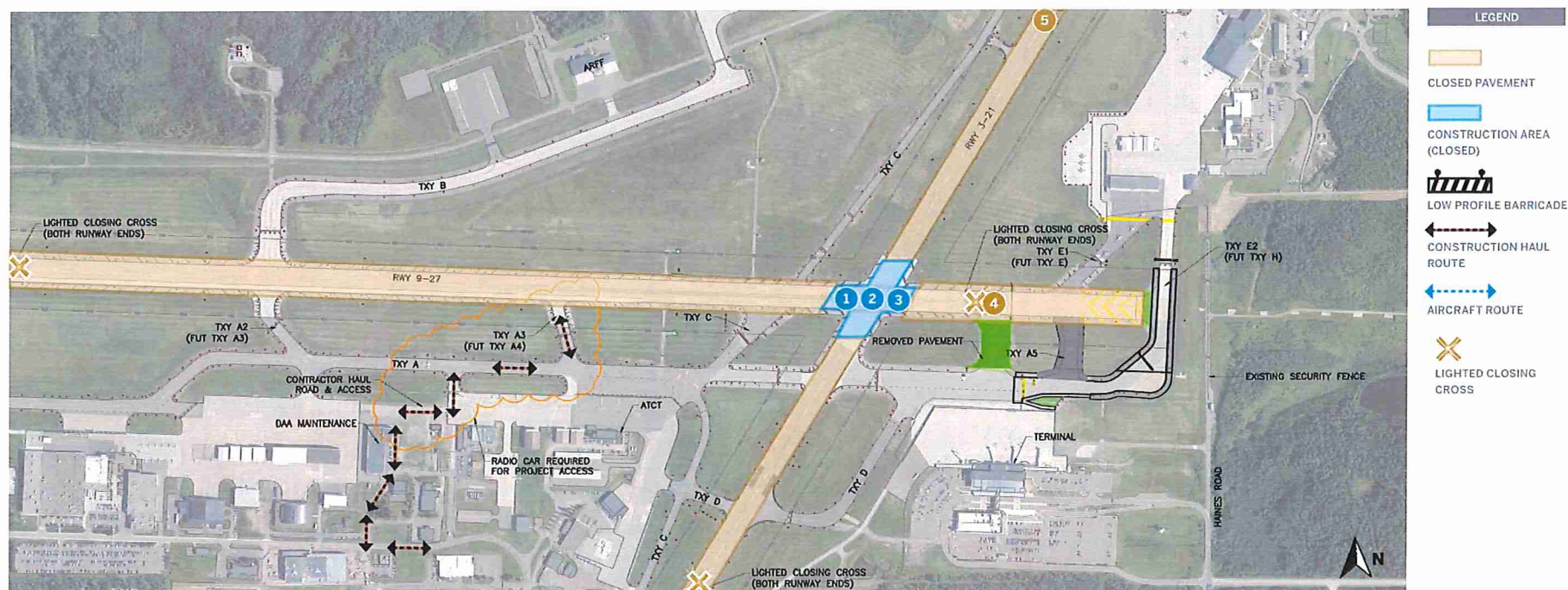
Ph3Ea	PHASE INFORMATION	X	CLOSURES		AVAILABLE AIRFIELD	IAP	INSTRUMENT APPROACH PROCEDURE IMPACTS		DURATION
	Phase 3E-A includes grooving and jointing work on Runway 9/27. Work elements will include: <div><div>1</div>Sawcut and seal pavement joints</div> <div><div>2</div>Groove new concrete pavement</div> <div><div>3</div>Paint runway pavement</div>	<div><div>4</div>Runway 9/27 will be closed</div> <div><div>5</div>No 148th FW operations during the phase</div>	<div><div>6</div>Runway 3/21 full length</div> <div><div>7</div>All tenants have access to available airfield</div>	<div><div>8</div>All approach procedures to Runway 9 and 27 will be unavailable for Phase 3E</div> <div><div>9</div>Available approaches include RNAV (GPS) Rwy 3, RNAV (GPS) Rwy 21, VOR or TACAN to Rwy 3, and VOR/DME or TACAN to Rwy 21 (Phase 3E-A only)</div> <div><div>10</div>Approach minimums vary depending on aircraft size and capabilities. Approximately 400 ft ceiling and 11/8 mile visibility.</div>	<div><div>11</div>Phase 3E-A will be completed October 1 through 7, 2019</div> <div><div>12</div>Taxiway C/Runway 9/27 intersection will be reopened once work is completed</div>				

Runway 9/27 Reconstruction

Phase 3E(B)

Duluth International Airport

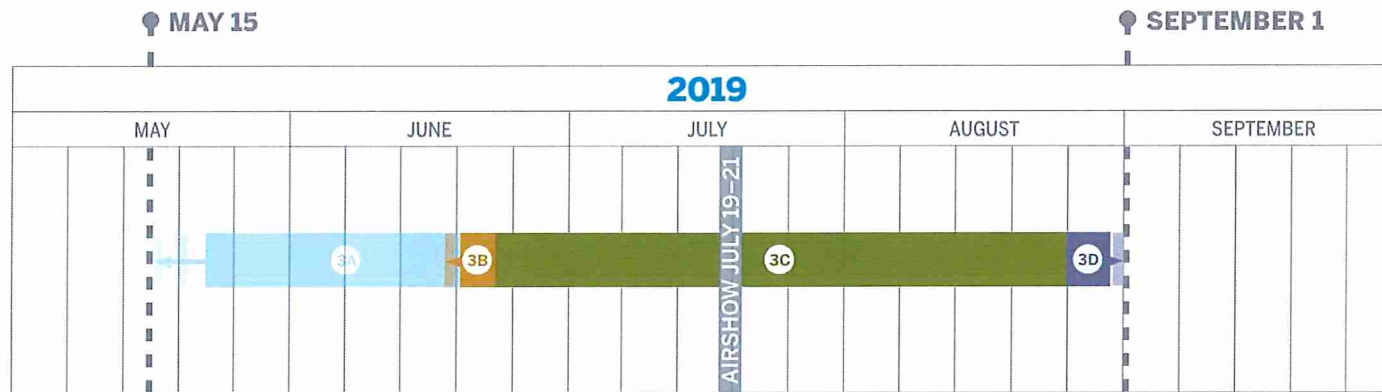
PHASE 3E(B) RUNWAY 9/27 RECONSTRUCTION



Ph3Eb	PHASE INFORMATION	X	CLOSURES	AVAILABLE AIRFIELD	IAP	INSTRUMENT APPROACH PROCEDURE IMPACTS	DURATION
Phase 3E-B includes grooving and jointing work in the Runway 9/27 and Runway 3/21 intersection.		4 Runway 9/27 will be closed		6 Select taxiways only		10 Phase 3E-B will be completed October 1 - 7, 2019 during 6 nighttime closures (11pm-5am).	
Work elements will include:		5 Runway 3/21 will be closed		7 All tenants have access to available taxiways			
1 Sawcut and seal pavement joints				8 Helicopter operations remain available			
2 Groove new concrete pavement							
3 Paint runway pavement							

Runway 9/27 Reconstruction

Phase 3 Scheduling Overview



*Airshow can happen during phase 3 but construction must stop for 3 days.

3A (TAXIWAY A AND E2)
30 DAYS- NO RUNWAY CLOSURE

3B (TEMPORARY RUNWAY SET UP)
3 DAYS

3C (RUNWAY CONSTRUCTION)
60 DAYS

3D (TEMPORARY RUNWAY REMOVAL)
5 DAYS

3E (RUNWAY GROOVING)