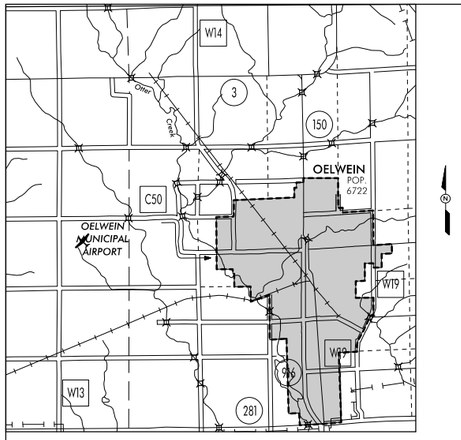
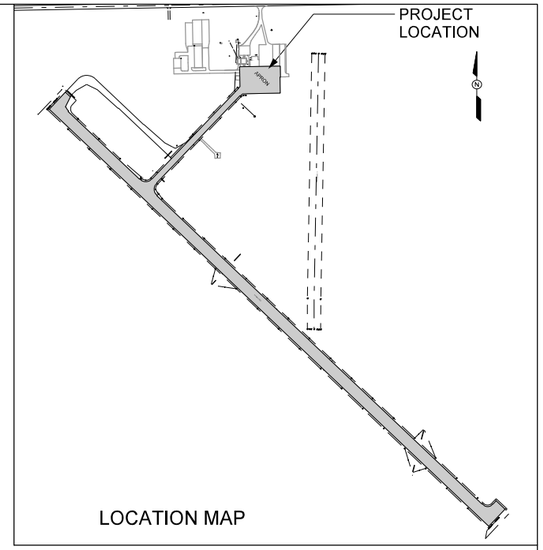



LOCATION MAP

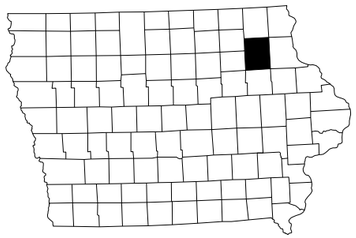



LOCATION MAP

IMPROVEMENTS TO

# THE
# OELWEIN MUNICIPAL AIRPORT
# OELWEIN, IOWA

## REHABILITATE RUNWAY, TAXIWAY, AND APRON
## FAA AIP PROJECT NO. 3-19-0067-012
## OWNER: CITY OF OELWEIN, IA



LOCATION MAP
FAYETTE COUNTY

| DESIGN CRITERIA |
| --- |
| CONNECTOR TAXIWAY IMPROVEMENTS ARE DESIGNED UTILIZING AIRCRAFT APPROACH CATEGORY B AND AIRPLANE DESIGN GROUP II. |

AECOM
500 S.W. 7th STREET
SUITE 301
DES MOINES, IOWA 50309
515-244-1470
TELFAX 515-244-4803

AECOM
501 SYCAMORE STREET
SUITE 222
WATERLOO, IOWA 50703
319-232-6531
TELFAX 319-232-0271

AECOM

LICENSED PROFESSIONAL ENGINEER
DAVID B. HUGHES
13037
IOWA

I hereby certify that this Engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

D B Hughes 3-15-2022

DAVID B. HUGHES Date

License number 13037

My license renewal date is December 31, 2023

Pages or sheets covered by this seal:

All sheets

# INDEX OF SHEETS

| SHEET NO. | SHEET TITLE |
|---|---|
| 1 | TITLE SHEET |
| 2 | INDEX OF SHEETS AND QUANTITIES |
| 3 | PHASING PLAN-PHASE 1 |
| 4 | PHASING PLAN-PHASE 2 |
| 5 | STAGING DETAILS |
| 6 | PAVEMENT REPAIRS |
| 7 | PAVEMENT REPAIRS |
| 8 | PAVEMENT REPAIRS |
| 9 | PAVEMENT REPAIRS |
| 10 | PAVEMENT REPAIRS |
| 11 | PAVEMENT REPAIRS |
| 12 | MARKING PLAN |
| 13 | MARKING PLAN |
| 14 | MARKING PLAN |
| 15 | MARKING PLAN |
| 16 | MARKING PLAN |
| 17 | MARKING PLAN |
| 18 | MARKING DETAILS |
| 19 | PATCHING DETAILS |
| 20 | PATCHING DETAILS |
| 21 | PATCHING DETAILS |
| 22 | PATCHING DETAILS |
| 23 | JOINTING DETAILS |

# ESTIMATED QUANTITIES

**BID PACKAGE #1 - RECONSTRUCT WEST TERMINAL APRON AND CLEAN/RESEAL JOINTS EAST TERMINAL**

| ITEM NO. | SPEC. NO. | DESCRIPTION | UNIT | PLAN QUANTITY | FINAL QUANTITY |
|---|---|---|---|---|---|
| 1 | C-105 | MOBILIZATION | LS | 1 | |
| 2 | GP 40-05 | TRAFFIC CONTROL | LS | 1 | |
| 3 | P-101-5.1 | PATCHES, FULL-DEPTH FINISH, FULL SLAB | SY | 120 | |
| 4 | P-101-5.1 | PATCHES, FULL-DEPTH FINISH, PARTIAL SLAB | SY | 35 | |
| 5 | P-101-5.1 | PATCHES, FULL-DEPTH FINISH, CORNER BREAK | SF | 450 | |
| 6 | P-101-5.2 | DIAMOND GRINDING | SF | 1020 | |
| 7 | P-101-5.3 | SAW AND SEAL JOINTS (APRON) | LFT | 8650 | |
| 8 | P-101-5.3 | SAW AND SEAL JOINTS (RUNWAY AND TAXIWAY) | LFT | 58000 | |
| 9 | P-101-5.3 | ROUTE AND SEAL CRACKS | LFT | 900 | |
| 10 | P-208-5.1 | CRUSHED AGGREGATE BASE COURSE - 6 INCH | SY | 150 | |
| 11 | P-620-5.1 | RUNWAY AND TAXIWAY MARKING | SF | 29400 | |
| 12 | P-620-5.2 | REFLECTIVE MEDIA (TYPE I, GRADATION A) | LB | 1375 | |
| 13 | P-620-5.3 | RUNWAY PAINT REMOVAL | SF | 3625 | |

DATE | CHK | DRN | NO | REVISIONS

DRN NOB
DES ADH
CHK DBH
APP



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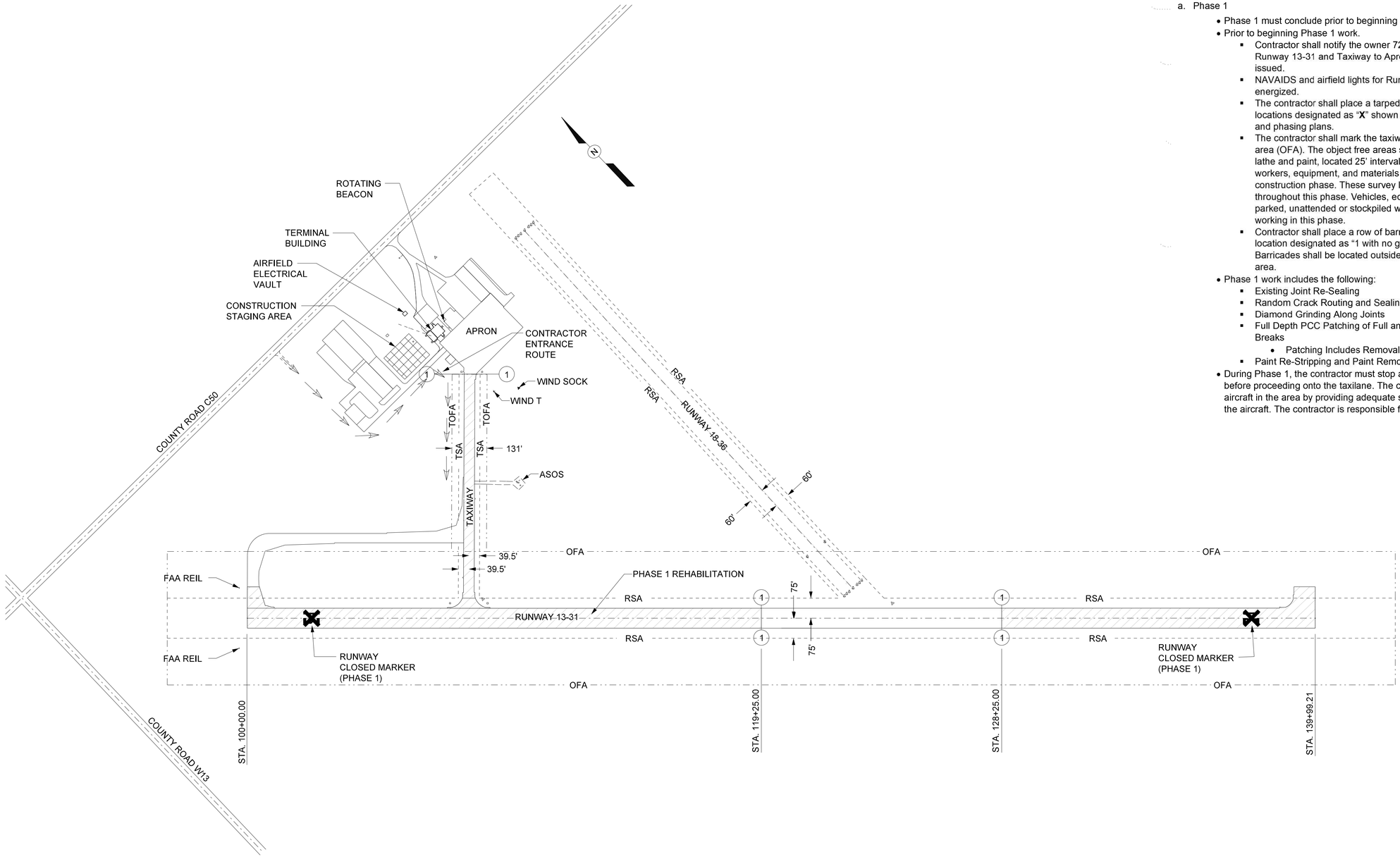
REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING DETAILS

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 2

$$USER$$
$$PRFS$$
$$DATES$$
$$DGNS$$




a. Phase 1

- Phase 1 must conclude prior to beginning Phase 2.
- Prior to beginning Phase 1 work.
  - Contractor shall notify the owner 72 hours in advance to close Runway 13-31 and Taxiway to Apron so that a NOTAM may be issued.
  - NAVAIDS and airfield lights for Runway 13-31 will be de-energized.
  - The contractor shall place a tarped closed runway marker at the locations designated as "**X**" shown in the safety and operations and phasing plans.
  - The contractor shall mark the taxiway and runway's object free area (OFA). The object free areas shall be marked with a survey lathe and paint, located 25' intervals. Contactor to keep all workers, equipment, and materials outside of these areas during construction phase. These survey lathes shall be maintained throughout this phase. Vehicles, equipment or materials cannot be parked, unattended or stockpiled within the object free areas while working in this phase.
  - Contractor shall place a row of barricades at each barricade location designated as "1 with no gaps greater that 4 feet. Barricades shall be located outside of the runways object free area.
- Phase 1 work includes the following:
  - Existing Joint Re-Sealing
  - Random Crack Routing and Sealing
  - Diamond Grinding Along Joints
  - Full Depth PCC Patching of Full and Half Panels and Corner Breaks
    - Patching Includes Removal of Pavement and Base
  - Paint Re-Stripping and Paint Removal.
- During Phase 1, the contractor must stop and determine the way is clear before proceeding onto the taxilane. The contractor shall give way to any aircraft in the area by providing adequate space between themselves and the aircraft. The contractor is responsible for immediately removing any

## LEGEND

1 — 1 BARRICADE LOCATION. NUMBER IN CIRCLE INDICATES PHASE BARRICADE IS REQUIRED.

WORK AREA

0 200 400

SCALE IN FEET

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|
| | | | | |

DRN NOB
DES ADH
CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PHASING PLAN
PHASE 1

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 3

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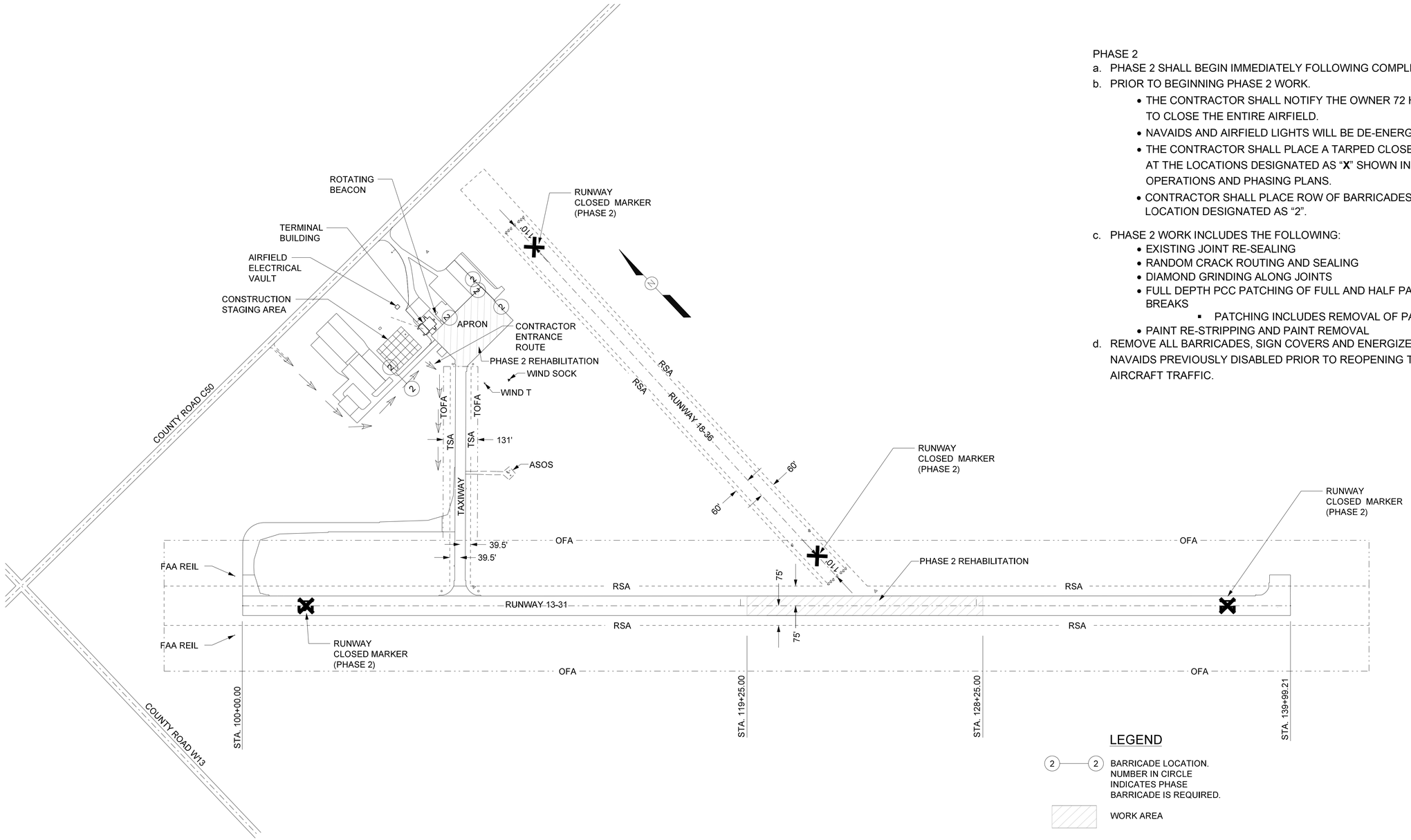


PHASE 2

a. PHASE 2 SHALL BEGIN IMMEDIATELY FOLLOWING COMPLETION OF PHASE 1.

b. PRIOR TO BEGINNING PHASE 2 WORK.
   - THE CONTRACTOR SHALL NOTIFY THE OWNER 72 HOURS IN ADVANCE TO CLOSE THE ENTIRE AIRFIELD.
   - NAVAIDS AND AIRFIELD LIGHTS WILL BE DE-ENERGIZED
   - THE CONTRACTOR SHALL PLACE A TARPED CLOSED RUNWAY MARKER AT THE LOCATIONS DESIGNATED AS "**X**" SHOWN IN THE SAFETY AND OPERATIONS AND PHASING PLANS.
   - CONTRACTOR SHALL PLACE ROW OF BARRICADES AT THE BARRICADE LOCATION DESIGNATED AS "2".

c. PHASE 2 WORK INCLUDES THE FOLLOWING:
   - EXISTING JOINT RE-SEALING
   - RANDOM CRACK ROUTING AND SEALING
   - DIAMOND GRINDING ALONG JOINTS
   - FULL DEPTH PCC PATCHING OF FULL AND HALF PANELS AND CORNER BREAKS
     - PATCHING INCLUDES REMOVAL OF PAVEMENT AND BASE
   - PAINT RE-STRIPPING AND PAINT REMOVAL

d. REMOVE ALL BARRICADES, SIGN COVERS AND ENERGIZE LIGHTING AND NAVAIDS PREVIOUSLY DISABLED PRIOR TO REOPENING THE AIRFIELD TO AIRCRAFT TRAFFIC.

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PHASING PLAN
PHASE 2

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 4

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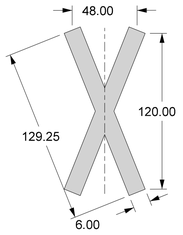
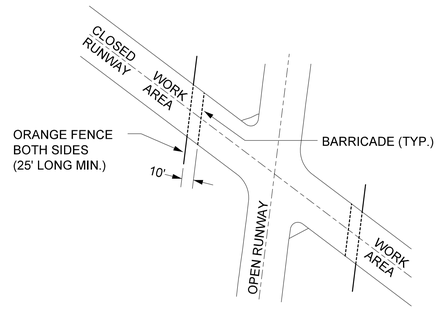
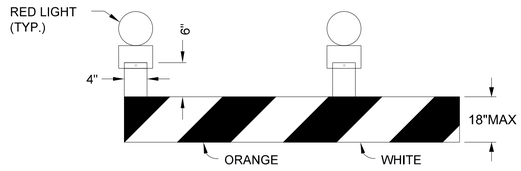



1 TEMPORARILY CLOSED RUNWAY MARKING DETAIL
NOT TO SCALE

NOTE: TEMPORARY MARKER FOR CLOSED RUNWAY TO BE CONSTRUCTED OF FABRIC, PLYWOOD, SNOW FENCE OR SUITABLE MATERIAL. SECURE THE MARKER IN PLACE AS NOTED TO DENOTE A CLOSED TAXIWAY. MARKER IS INCLUDED IN TRAFFIC CONTROL.




2 DETAIL A
NOT TO SCALE




4 TYPICAL BARRIACDE
NOT TO SCALE

BRACKETS TO ACCEPT 2 LIGHTS AND TWO FLAGS. FACE TO BE BI-DIRECTIONAL ORANGE AND WHITE MARKINGS.

## NOTES

1. BARRICADE BOARDS, OR ENGINEERING APPROVED LOW-PROFILE, LOW MASS IMPACT BARRICADES SHALL BE USED ON PAVEMENT.
2. LIGHTS SHALL BE SECURELY ANCHORED TO BARRICADES.
3. BARRICADE SHALL BE PROPERLY WEIGHED TO PREVENT MOVEMENT BY WIND, PROP WASH, OR JET BLAST OF UP TO 75 M.P.H.
4. CONTRACTORS SHALL BE REQUIRED TO INSPECT BARRICADES DAILY TO ENSURE THAT BARRICADES ARE INTACT AND IN PROPER WORKING ORDER IN ACCORDANCE WITH THIS SPECIFICATION.
5. LIGHT SHALL EITHER BE OMNIDIRECTIONAL, OR EVERY OTHER LIGHT SHALL BE ROTATED 90 DEGREES.
6. BARRICADE SHALL BE 10- FEET LONG WITH ALTERNATING 6" BANDS OF INTERNATIONAL ORANGE AND WHITE .
7. LIGHT SPACING SHALL NOT EXCEED 10 FEET, OPERATED BETWEEN SUNSET AND SUNRISE AND PERIODS DURING LOW VISIBILITY.
8. BARRICADES SHALL START 4 FEET FROM EDGE OF PAVEMENT AND SPACED 4 FEET MAXIMUM.

OPERATIONAL EFFECTS TABLE

| PROJECT | | REHABILITATE RUNWAY, TAXIWAY AND APRON | | |
|---|---|---|---|---|
| PHASE | | EXISTING | PHASE 1: TAXIWAY AND RUNWAY 13-31 OUTSIDE OF RUNWAY 18-36 OFA | PHASE 2: RUNWAY 13-31 INSIDE OF RUNWAY 18-36 OFA AND APRON |
| SCOPE OF WORK | | N/A | JOINT AND CRACK ROUTE AND SEALING AND PAVEMENT REPAIRS AND PAINT RESTRIPPING FOR TAXIWAY AND RUNWAY 13-31 OUTSIDE OF THE OFA FOR RUNWAY 18-36 | JOINT AND CRACK ROUTE AND SEALING AND PAVEMENT REPAIRS AND PAINT RESTRIPPING FOR RUNWAY 13-31 WITHIN THE OFA FOR RUNWAY 18-36 AND WORK WITHIN THE APRON AREA |
| EFFECTS OF CONSTRUCTION | | N/A | RUNWAY 13-31 CLOSED | AIRFIELD CLOSED |
| AIRCRAFT OPERATIONS | | | GA: 10/DAY | |
| RUNWAY 13 -31 CHARACTERISTICS | AIRPLANE DESIGN GROUP | B-II | CLOSED | CLOSED |
| | RSA WIDTH | 150' | | |
| | OFA WIDTH | 500' | | |
| | RSA AND OFA LENGTH BEYOND RUNWAY END | 300' | | |
| RUNWAY 18-36 CHARACTERISTICS (TURF RUNWAY) | AIRPLANE DESIGN GROUP | A-I | OPEN | CLOSED |
| | RSA WIDTH | 120' | | |
| | OFA WIDTH | 250' | | |
| | RSA AND OFA LENGTH BEYOND RUNWAY END | 240' | | |
| | TSA WIDTH | 79' | | |
| | TOFA WIDTH | 131' | | |
| INFORMATION FOR NOTAMS | | N/A | EQUIPMENT CROSSING TAXILANE BETWEEN HANGARS AND TERMINAL APRON. RUNWAY 13-31 CLOSED. NAVAIDS, LIGHTS DISABLED. | AIRFIELD CLOSED. NAVAIDS, LIGHTS DISABLED. |

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|
| | | | | |

DRN NOB
DES ADH
CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

STAGING DETAILS

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 5

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LEGEND:

FULL-DEPTH PATCHING

FULL-DEPTH CORNER PATCHING

ROUTE AND SEAL CRACKS

301+00

300+00

100+00

101+00

102+00

103+00

104+00

105+00

2'x2'

2'x2'

2'x2'

MATCHLINE (SEE SHEET 6B)

0 20 40

SCALE IN FEET

MATCHLINE (SEE SHEET 6A)

106+00

107+00

108+00

109+00

110+00

111+00

201+00

200+00

20'

20'

5'

PANEL SHALL BE REINFORCED WITH 12x12-W4xW4 WELDED WIRE FABRIC

7.99'

3.9'

3'

10.55'

2'x2'

2'x2'

MATCHLINE (SEE SHEET 7A)

0 20 40

SCALE IN FEET

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PAVEMENT REPAIRS

DATE MARCH 15, 2022

PROJECT NO 60676643

FILENAME

SHEET NO

DRAWING NO 6

$$USER$$
$$SPRF$$
$$SDATE$$
$$SDGN$$

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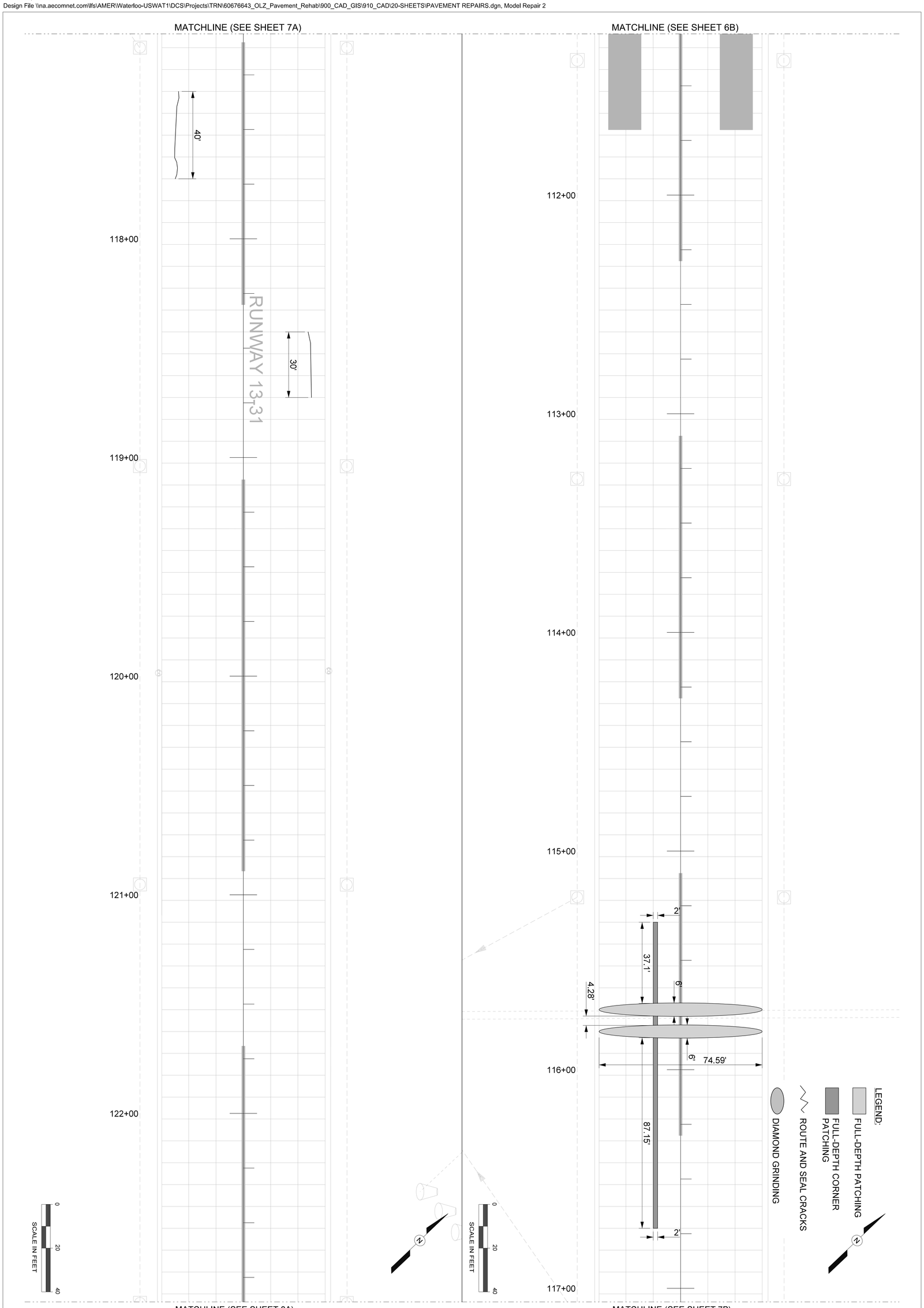


REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PAVEMENT REPAIRS

AECOM

| | |
|---|---|
| DRAWING NO | 7 |
| SHEET NO | |
| FILENAME | |
| PROJECT NO | 60676643 |
| DATE | MARCH 15, 2022 |

| | | |
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| DRN | NOB | |
| DES | ADH | |
| CHK | DBH | |
| APP | | |



| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

LEGEND:

FULL-DEPTH PATCHING

FULL-DEPTH CORNER PATCHING

ROUTE AND SEAL CRACKS

MATCHLINE (SEE SHEET 7B)

MATCHLINE (SEE SHEET 8B)

140'

123+00 124+00 125+00 126+00 127+00 128+00

0 20 40

SCALE IN FEET

MATCHLINE (SEE SHEET 8A)

MATCHLINE (SEE SHEET 9A)

2'x2'

2'

20'

140'

129+00 130+00 131+00 132+00 133+00 134+00

0 20 40

SCALE IN FEET

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
CHK DBH
APP



AECOM

REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PAVEMENT REPAIRS

DATE MARCH 15, 2022

PROJECT NO 60676643

FILENAME

SHEET NO

DRAWING NO 8

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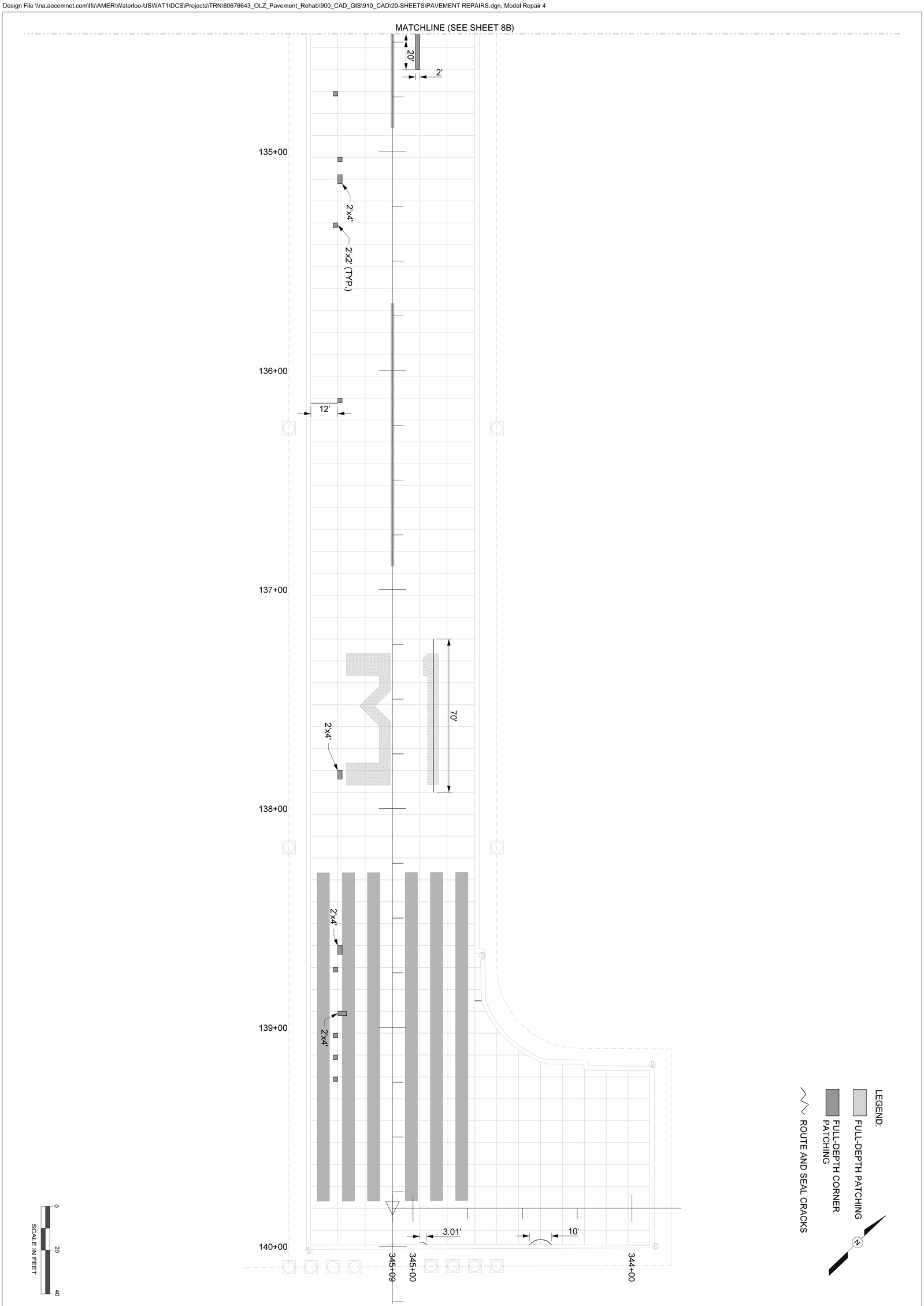


REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PAVEMENT REPAIRS

AECOM

| | |
|---|---|
| DRN | NOB |
| DES | ADH |
| CHK | DBH |
| APP | |



| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DATE: MARCH 15, 2022
PROJECT NO: 60676643
FILENAME:
SHEET NO: 9
DRAWING NO:

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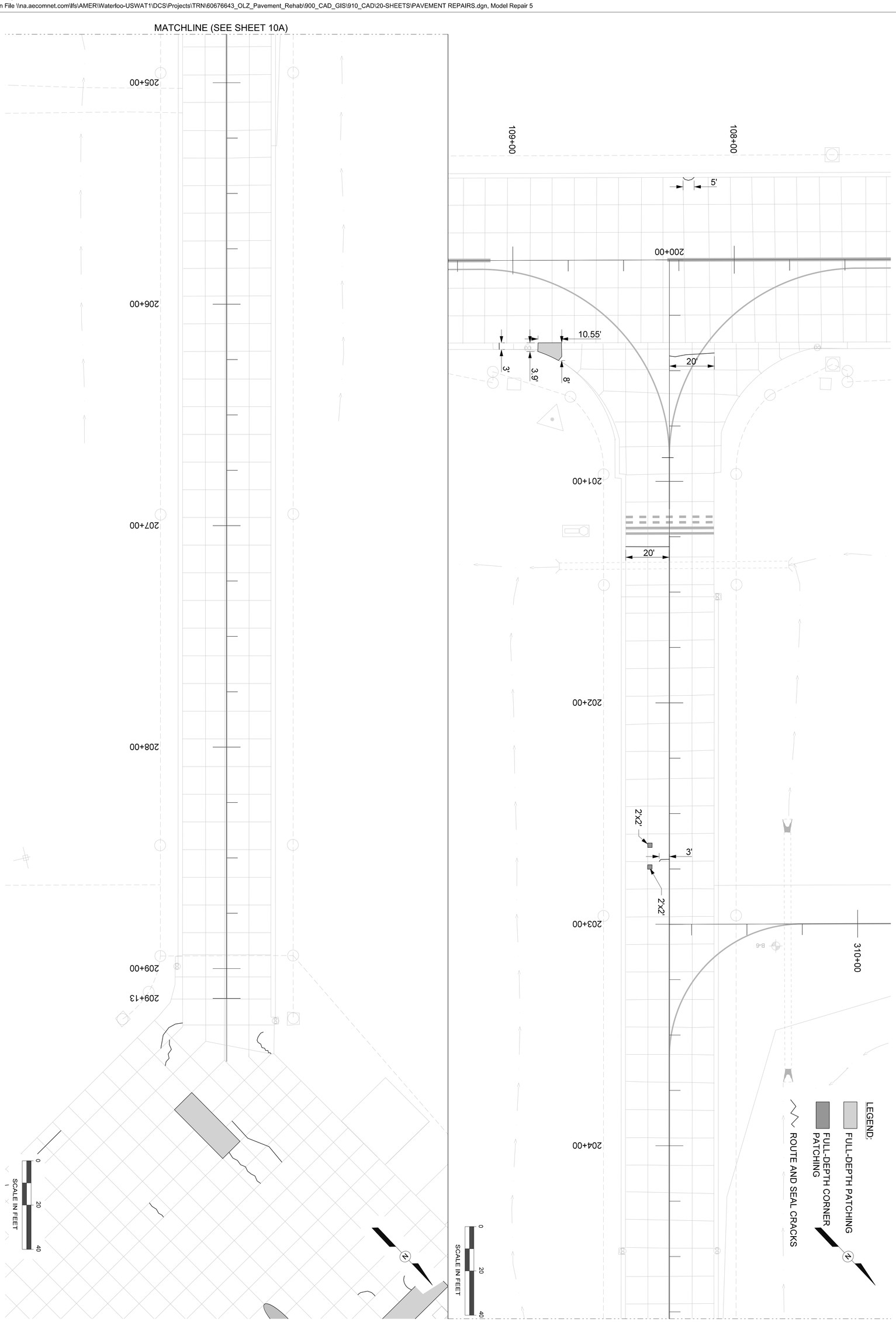


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|---|---|
| DATE | MARCH 15, 2022 |
| PROJECT NO | 60676643 |
| FILENAME | |
| SHEET NO | |
| DRAWING NO | 10 |

REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PAVEMENT REPAIRS

AECOM

| | |
|---|---|
| DRN | NOB |
| DES | ADH |
| CHK | DBH |
| APP | |



| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

LEGEND:

- FULL-DEPTH PATCHING
- FULL-DEPTH CORNER PATCHING
- ROUTE AND SEAL CRACKS
- DIAMOND GRINDING

N

LP

10.5' 32' 7' 9' 9'
12.5' 6' 10' 5' 22.5'
5' 5' 5' 4.93' 6' 10' 10' 10' 4' 10' 10' 8' 10' 5' 9' 2'x2'
80'
10'
11' 10.5' 10' 11' 3' 3' 3' 2'x2' 3' 3' 22' 10' 11' 2'x2'
20' 5'
30' 20' 10' 31' 11'
15' 13' 17'
80'
209+13 209+00 208+00

0 20 40
SCALE IN FEET

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PAVEMENT REPAIRS

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 11

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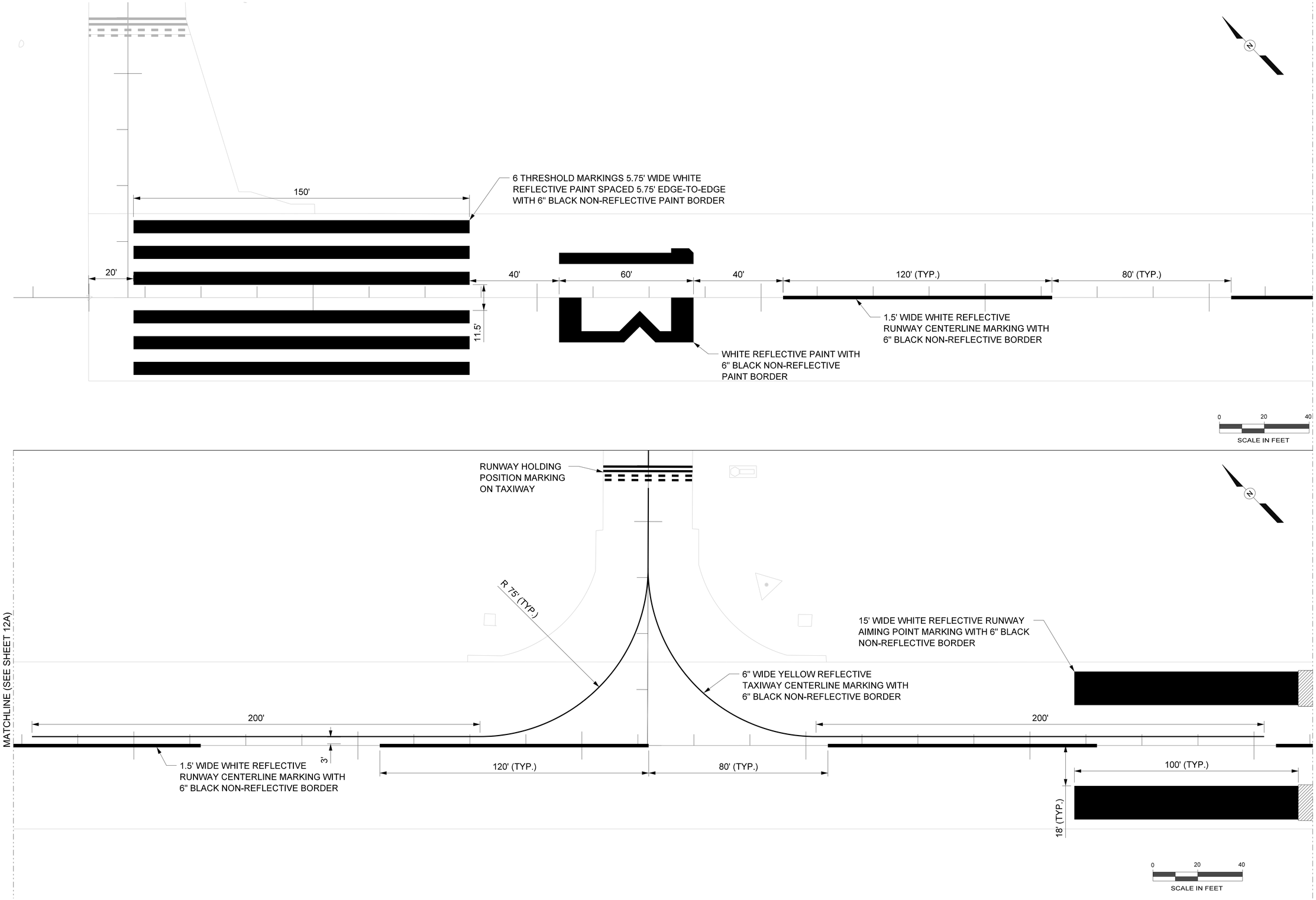


| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING PLAN

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 12

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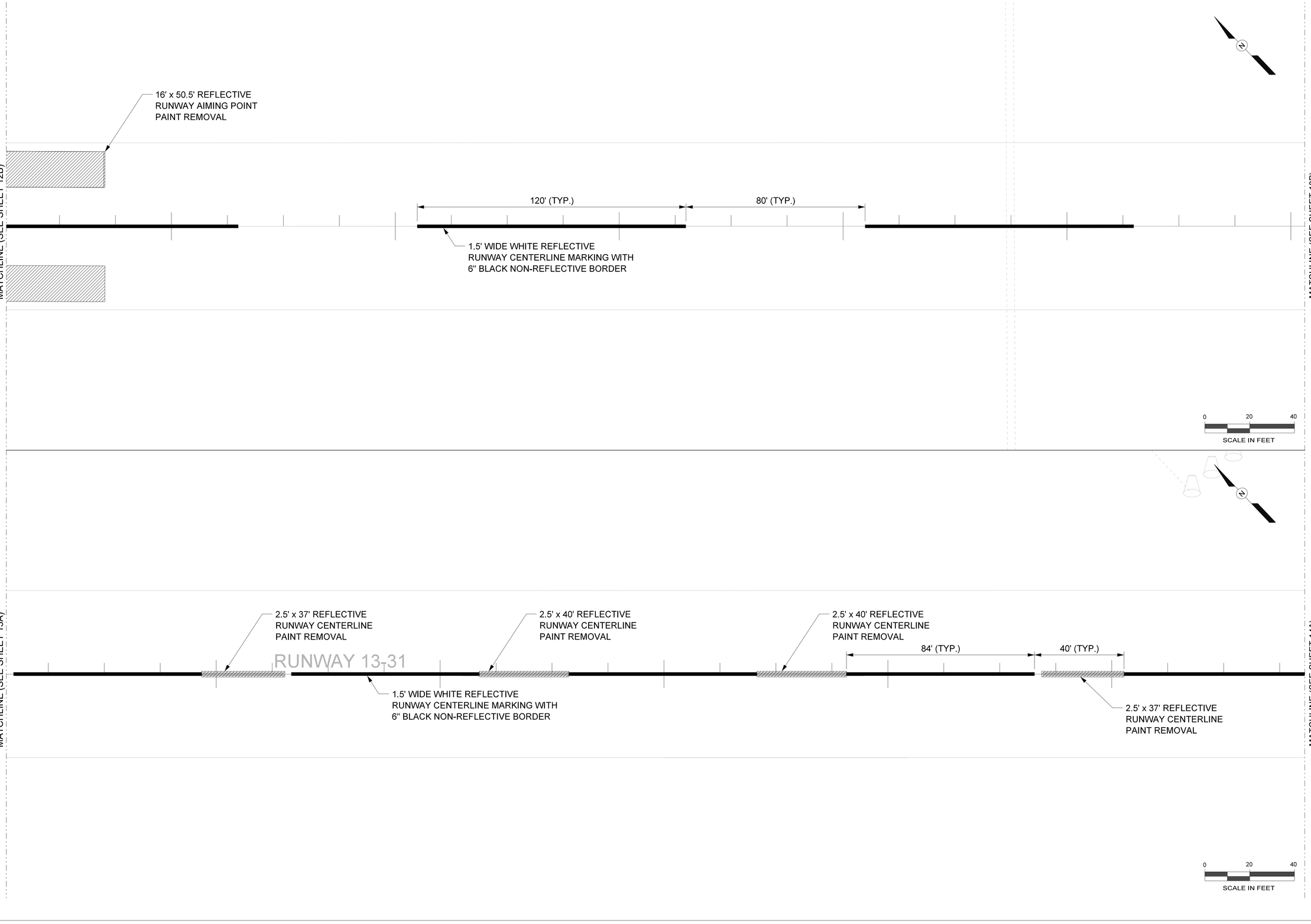


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DES ADH
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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING PLAN

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 13

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MATCHLINE (SEE SHEET 13B)

16' x 50.5' REFLECTIVE RUNWAY
AIMING POINT PAINT REMOVAL

120' (TYP.)

80' (TYP.)

1.5' WIDE WHITE REFLECTIVE
RUNWAY CENTERLINE MARKING WITH
6" BLACK NON-REFLECTIVE BORDER

MATCHLINE (SEE SHEET 14B)

0 20 40
SCALE IN FEET

MATCHLINE (SEE SHEET 14A)

100' (TYP.)

18' (TYP.)

15' WIDE WHITE REFLECTIVE RUNWAY
AIMING POINT MARKER WITH 6" WIDE
BLACK NON-REFLECTIVE BORDER

80' (TYP.)

120' (TYP.)

1.5' WIDE WHITE REFLECTIVE
RUNWAY CENTERLINE MARKING WITH
6" BLACK NON-REFLECTIVE BORDER

MATCHLINE (SEE SHEET 15A)

0 20 40
SCALE IN FEET

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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING PLAN

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 14

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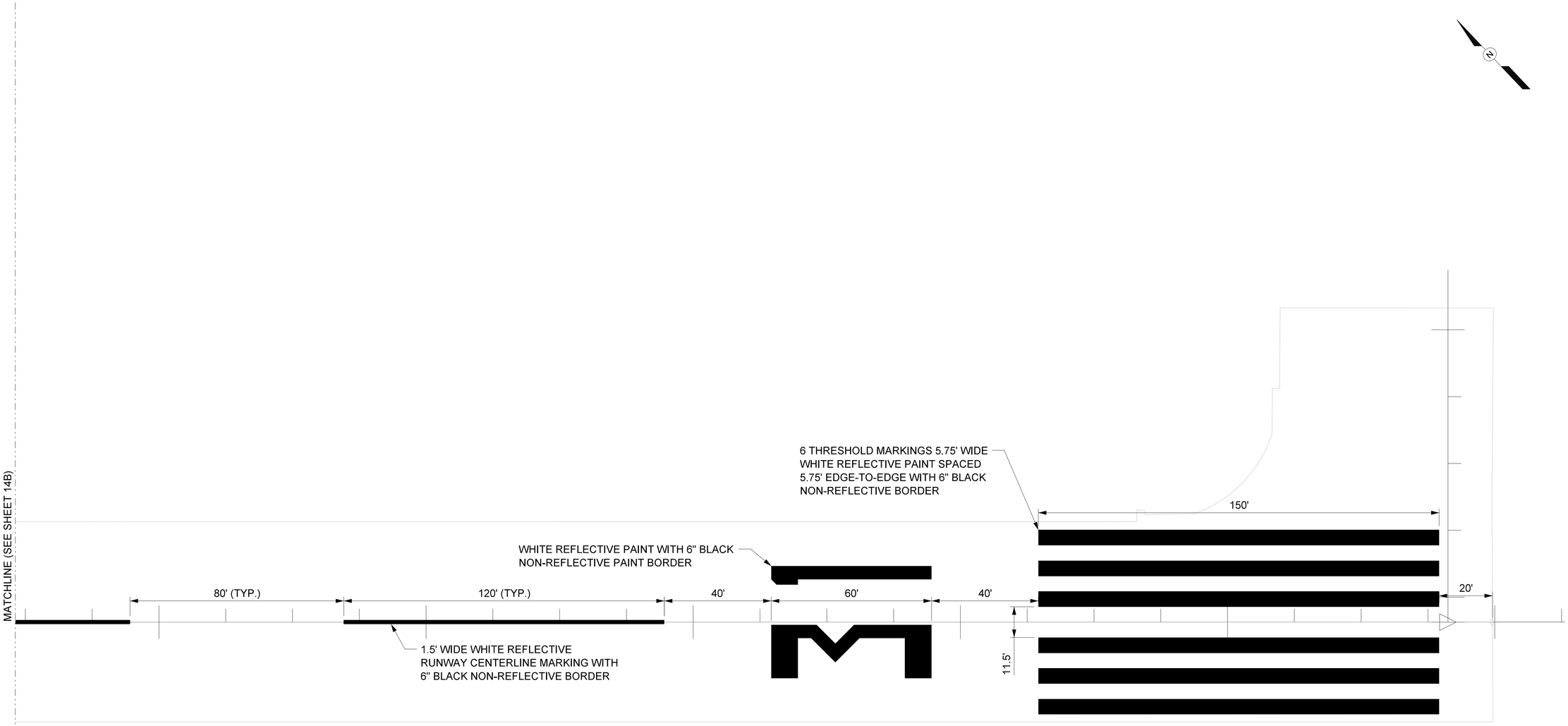


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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING PLAN

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 15

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1.5' WIDE WHITE REFLECTIVE RUNWAY CENTERLINE MARKING WITH 6" BLACK NON-REFLECTIVE BORDER

3' (TYP.)

120' (TYP.)

R 75' (TYP.)

RUNWAY HOLDING POSITION MARKING ON TAXIWAY

6" WIDE YELLOW REFLECTIVE TAXIWAY CENTERLINE MARKING WITH 6" BLACK NON-REFLECTIVE BORDER

R 60'

108+00

109+00

200+00

201+00

202+00

203+00

204+00

310+00

80' (TYP.)

MATCHLINE (SEE SHEET 16B)

0 20 40

SCALE IN FEET

MATCHLINE (SEE SHEET 16A)

6" WIDE YELLOW REFLECTIVE TAXIWAY CENTERLINE MARKING WITH 6" BLACK NON-REFLECTIVE BORDER

END AT EXISTING MARKING

205+00

206+00

207+00

208+00

209+00

209+13

0 20 40

SCALE IN FEET

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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING PLAN

DATE MARCH 15, 2022
PROJECT NO 60676643
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SHEET NO
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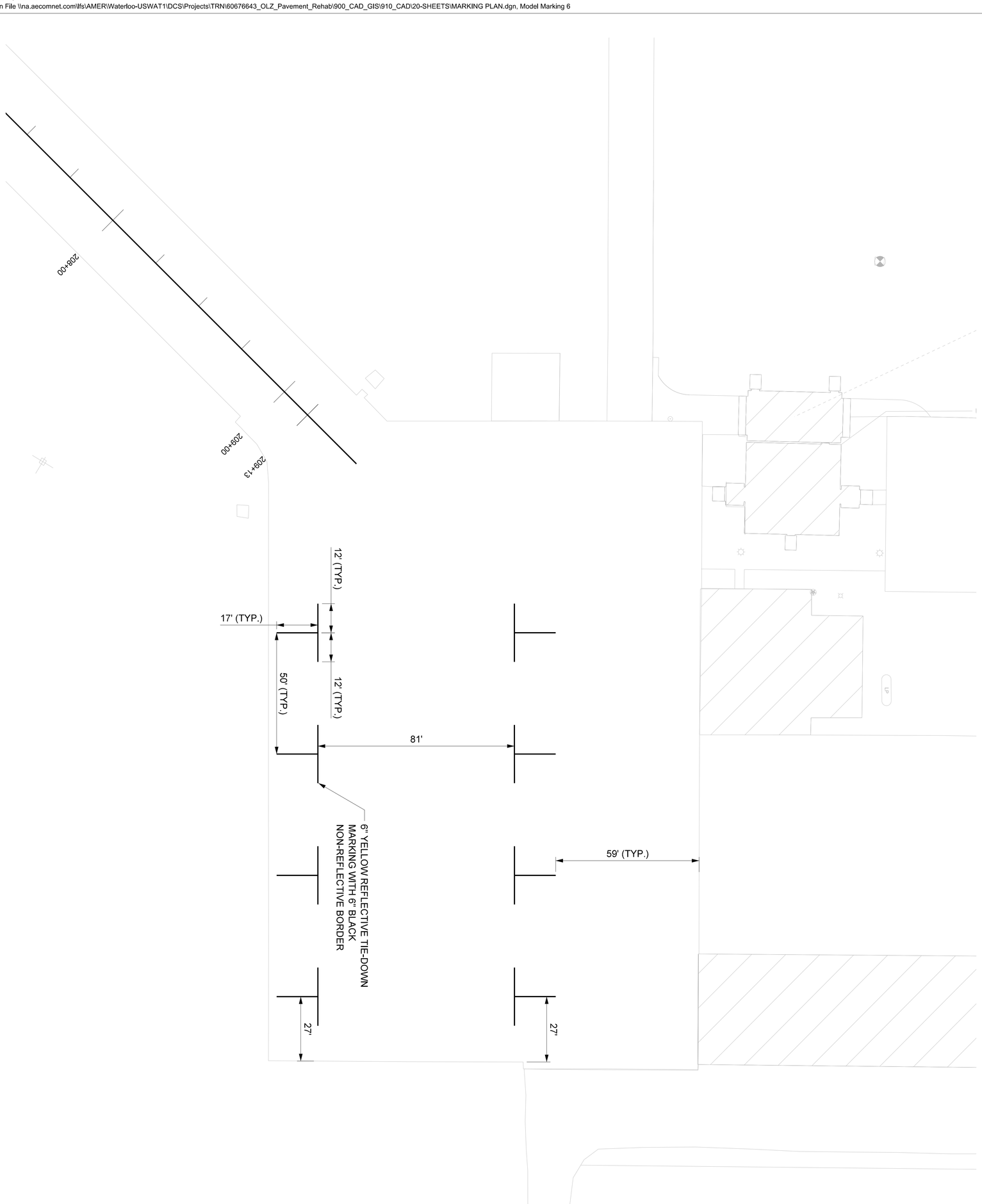


SCALE IN FEET
0
20
40

N

REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

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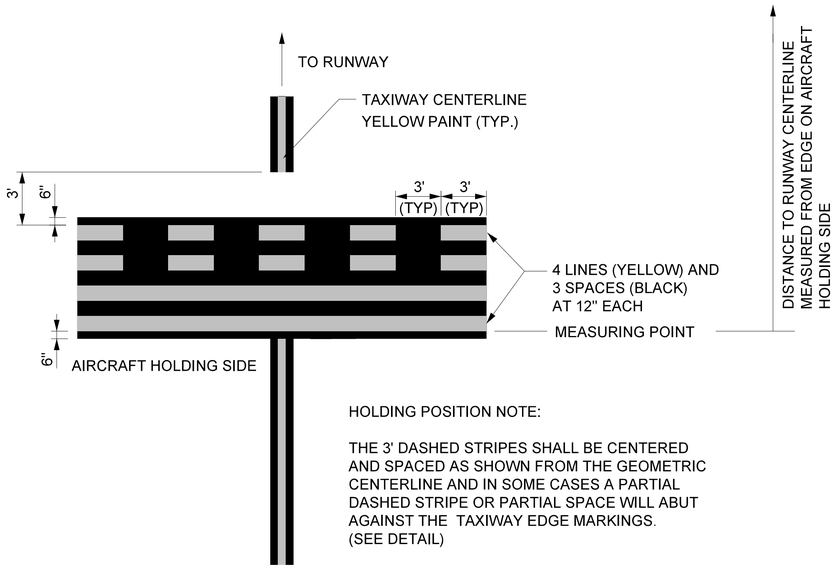
| PROJECT NO | 60676643 |
| DATE | MARCH 15, 2022 |

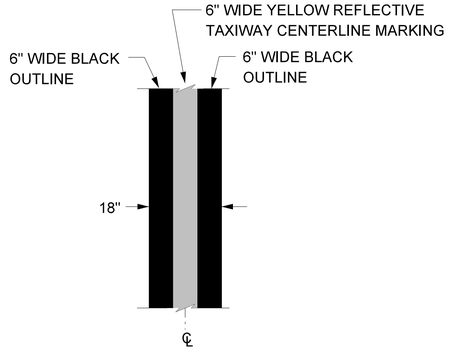



HOLDING POSITION NOTE:

THE 3' DASHED STRIPES SHALL BE CENTERED AND SPACED AS SHOWN FROM THE GEOMETRIC CENTERLINE AND IN SOME CASES A PARTIAL DASHED STRIPE OR PARTIAL SPACE WILL ABUT AGAINST THE TAXIWAY EDGE MARKINGS. (SEE DETAIL)

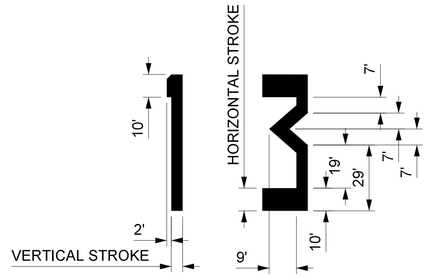
## RUNWAY HOLDING POSITION ON TAXIWAYS MARKING DETAIL

NOT TO SCALE




## TAXIWAY CENTERLINE MARKING DETAIL

NOT TO SCALE




NOTES:

1. DIMENSIONS ARE EXPRESSED IN FEET.
2. ALL CHARACTERS HAVE THESE CHARACTERISTICS (UNLESS OTHERWISE SPECIFIED):
   - 60 HIGH
   - 20 WIDE
   - VERTICAL STROKE OF 5
   - HORIZONTAL STROKE OF 10
   - DIAGONAL STROKE OF 5
3. FOR DOUBLE DESIGNATIONS, THE CENTER OF THE OUTER EDGES OF THE TWO NUMERALS IS CENTERED ON THE RUNWAY PAVEMENT CENTERLINE.

## RUNWAY DESIGNATION NUMERALS DETAIL

NOT TO SCALE

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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

MARKING DETAILS

DATE MARCH 15, 2022
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SHEET NO
DRAWING NO 18

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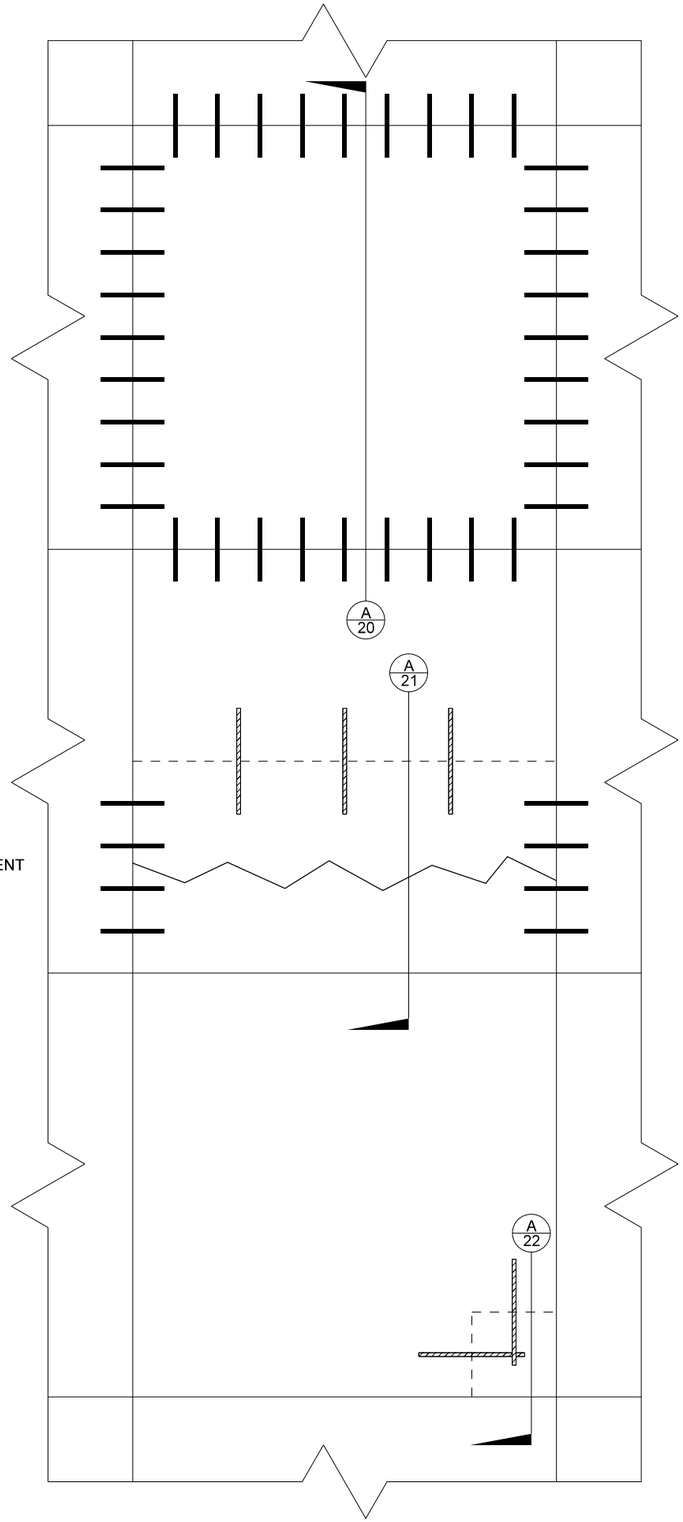
FULL SLAB REPLACEMENT




PARTIAL SLAB REPLACEMENT

CORNER BREAK

LEGEND:

30" LONG #4 TIE BAR SPACED 30"

18" LONG #5 DOWEL SPACED 12"

SAW CUT

CRACK

WEATHER AND TEMPERATURE REQUIREMENTS:

DO NOT BEGIN REPAIRS DURING INCLEMENT WEATHER.

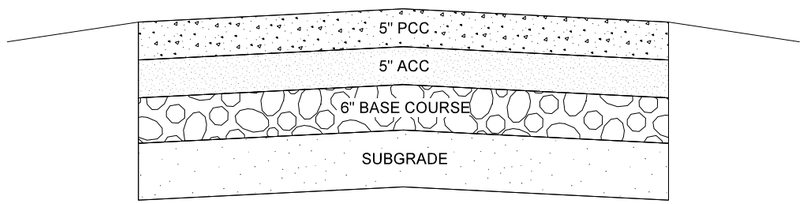
DO NOT PLACE CONCRETE UNLESS THE AMBIENT TEMPERATURE IS AT LEAST 40°F (4°C) AND RISING AND THE CONCRETE TEMPERATURE IS GREATER THAN OR EQUAL TO 50°F (10°C).

DO NOT PLACE CONCRETE ON FROZEN BASE, ICE, OR SNOW.

WHEN THE AMBIENT TEMPERATURE EXCEEDS 85°F (29°C), SPRINKLE THE ADJACENT CONCRETE AND BASE WITH WATER IMMEDIATELY BEFORE PLACING CONCRETE.

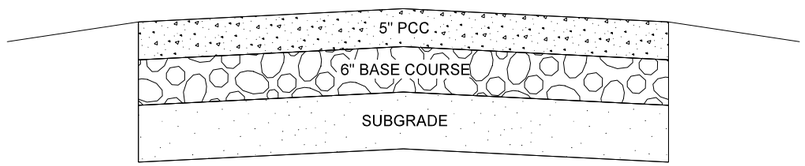
PLACE CONCRETE AT THE COOLEST TEMPERATURE PRACTICABLE, AND NEVER ALLOW THE PLACED CONCRETE TEMPERATURE TO EXCEED 90°F (32°C).

NOTE:
TRANSVERSE GROOVING IS REQUIRED. SEE IDOT SECTION 2301.16.




EXISTING PAVEMENT SECTION -
CONNECTOR TAXIWAY AND RUNWAY 13/31

NOT TO SCALE




EXISTING PAVEMENT SECTION - APRON

NOT TO SCALE

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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PATCHING DETAILS

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 19

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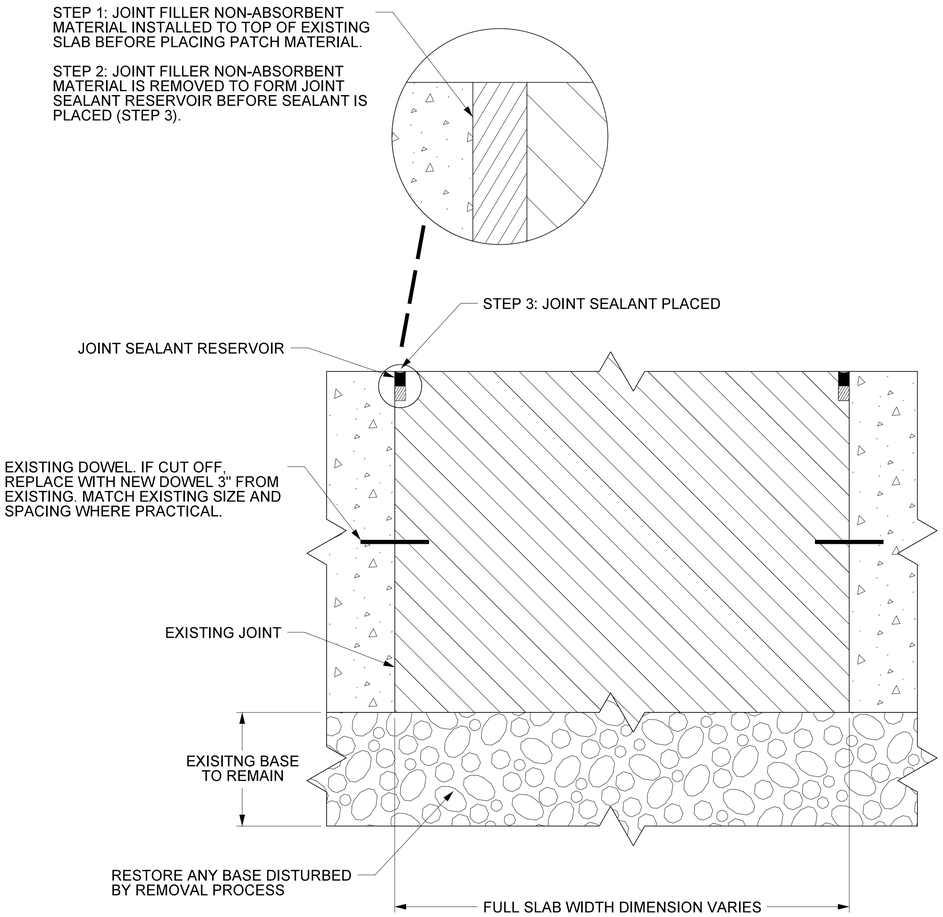
$$DATES$$
$$DGNS$$




# FULL DEPTH REPAIR IN RIGID PAVEMENT - FULL SLAB REPLACEMENT

A

NOT TO SCALE

REPAIR PROCEDURE:

1. REVIEW THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). ENSURE ALL PAVEMENT CLOSURES HAVE ALL REQUIRED ITEMS IN PLACE, SUCH AS LIGHTED XS, BARRICADES, ETC.; AND ALL NOTAMS HAVE BEEN ISSUED FOR AFFECTED AREAS OF THE AIRFIELD.
2. MARK THE LIMITS OF THE AREA TO BE REPAIRED.
3. MAKE A FULL-DEPTH SAW CUT ALONG THE CONSTRUCTED JOINTS AT LEAST 2 FEET (0.6 M) BEYOND THE LIMITS OF THE DAMAGED PAVEMENT AND MAKE A SAW CUT PERPENDICULAR TO THE CONSTRUCTED JOINTS FROM THESE POINTS ACROSS THE WIDTH OF THE PAVEMENT PANEL.
4. IF DOWELS OR TIE BARS ARE PRESENT ALONG ANY EDGES, EITHER OF THE FOLLOWING OPTIONS IS ACCEPTABLE:

   -IF DOWELS OR TIE BARS WILL BE EXPOSED AND SAVED, EDGES WILL BE SAWED FULL DEPTH JUST BEYOND THE END OF THE DOWELS OR TIE BARS. CAREFULLY SAW JOINTS ON THE JOINT LINE TO WITHIN 1 INCH (2.5 CM) OF THE DEPTH OF THE DOWEL OR TIE BAR. CAREFULLY BREAK UP THE NARROW STRIPS OF CONCRETE ALONG DOWELED EDGES USING LIGHT 30 POUND (14 KG) OR LESS JACKHAMMERS, OR OTHER APPROVED EQUIPMENT.

   -IF DOWELS OR TIE BARS ARE TO BE CUT AND REPLACED, MAKE A FULL DEPTH SAW CUT ALONG THE CONSTRUCTED JOINT CUTTING THE DOWELS AND TIE BARS.
5. TAKE CARE TO PREVENT DAMAGE TO THE DOWELS, TIE BARS, OR TO CONCRETE THAT REMAINS IN PLACE.
6. MAKE ADDITIONAL SAW CUTS WITHIN THE LIMITS OF THE REPAIR AREA DIVIDING THE REPAIR AREA INTO QUARTERS.
7. USE LIGHT WEIGHT EQUIPMENT, I.E., JACKHAMMERS LESS THAN 30 POUNDS (14 KG), HAND TOOLS, ETC., TO REMOVE THE DAMAGED PCC PAVEMENT. WORK FROM INSIDE THE SAW CUT TOWARD THE INTERIOR OF THE AREA BEING REMOVED TO PREVENT DAMAGE TO THE PAVEMENT REMAINING.
8. REMOVE BY HAND ALL LOOSE MATERIAL AND VACUUM TO MINIMIZE ANY DISTURBANCE TO THE SUBGRADE OR BASE MATERIALS.
9. RESTORE SUBGRADE OR BASE MATERIAL IF REQUIRED.
10. IF EXISTING DOWEL BARS HAVE BEEN CUT AND REMOVED, INSTALL DOWEL BARS OF THE TYPE AND SIZE OF THE EXISTING DOWEL BARS IN THE JOINTS THAT ARE PARALLEL TO THE DIRECTION OF TRAFFIC. ON APRONS AND AREAS WHERE TRAFFIC MAY BE OBLIQUE TO JOINTS, INSTALL DOWELS IN BOTH JOINT FACES.
11. INSTALL DOWELS BY DRILLING AND EPOXYING INTO THE PCC PAVEMENT AT LEAST 3 INCHES (8 CM) FROM THE LOCATION OF THE EXISTING DOWELS WHICH WERE CUT OFF. SPACE DOWEL BARS AT LEAST 3 INCHES (8 CM) FROM THE EDGE OF THE REPAIR AREA AND AT LEAST ONE BAR SPACING APART AT CORNERS OF INTERSECTING JOINTS.
12. OIL THE EXPOSED ENDS OF DOWEL BARS PRIOR TO BACKFILLING REPAIR AREA WITH CONCRETE.
13. INSTALL NONABSORBENT BOARD OR OTHER APPROVED MATERIAL WITHIN THE LIMITS OF THE JOINT SEAL RESERVOIR (STEP 1). THE NONABSORBENT BOARD WILL BE A STANDARD ½INCH (13 MM) ASPHALT IMPREGNATED FIBER-BOARD. FOR JOINTS WIDER THAN ½ INCH (13 MM), ADJUST THE WIDTH OF THE NONABSORBENT BOARD TO FIT THE JOINT WIDTH.
14. FILL THE REPAIR AREA WITH CONCRETE AND CONSOLIDATE WITH A VIBRATOR. USE CONCRETE MEETING THE REQUIREMENTS OF IDOT M-4 PCC MAINTENANCE MIX FOR PAVEMENTS.
15. FINISH THE SURFACE TO MATCH THE EXISTING SURFACE.
16. SPRAY WITH CURING COMPOUND PER ASTM C309.
17. REMOVE THE NONABSORBENT BOARD OR OTHER APPROVED MATERIAL (STEP 2) AND PLACE JOINT SEALANT PER ASTM D6690 (STEP 3).
18. THOROUGHLY CLEAN THE WORK AREA BEFORE OPENING THE PAVEMENT TO AIRCRAFT TRAFFIC.
19. DO NOT ALLOW TRAFFIC UNTIL THE CONCRETE HAS CURED.

| NO | REVISIONS | DRN | CHK | DATE |
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CHK DBH
APP



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REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PATCHING DETAILS

DATE MARCH 15, 2022
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DRAWING NO 20

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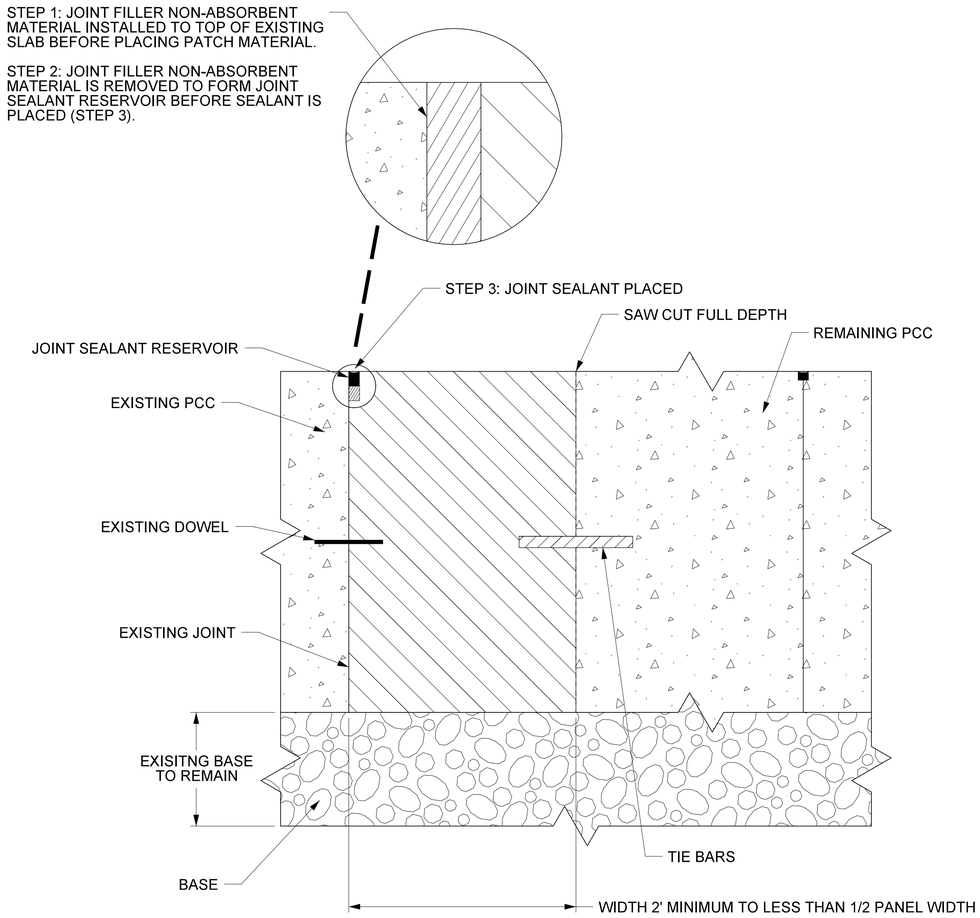


# FULL DEPTH REPAIR IN RIGID PAVEMENT - PARTIAL SLAB REPLACEMENT

A

NOT TO SCALE

REPAIR PROCEDURE:

1. REVIEW THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). ENSURE ALL PAVEMENT CLOSURES HAVE ALL REQUIRED ITEMS IN PLACE, SUCH AS LIGHTED XS, BARRICADES, ETC.; AND ALL NOTAMS HAVE BEEN ISSUED FOR AFFECTED AREAS OF THE AIRFIELD.
2. MARK THE LIMITS OF THE AREA TO BE REPAIRED.
3. MAKE A FULL-DEPTH SAW CUT ALONG THE CONSTRUCTED JOINTS AT LEAST 2 FEET (0.6 M) BEYOND THE LIMITS OF THE DAMAGED PAVEMENT AND MAKE A SAW CUT PERPENDICULAR TO THE CONSTRUCTED JOINTS FROM THESE POINTS ACROSS THE WIDTH OF THE PAVEMENT PANEL. SEE FIGURE A-4.
4. IF DOWELS OR TIE BARS ARE PRESENT ALONG ANY EDGES, EITHER OF THE FOLLOWING OPTIONS IS ACCEPTABLE:

   -IF DOWELS OR TIE BARS WILL BE EXPOSED AND SAVED, SAW EDGES FULL DEPTH JUST BEYOND THE END OF THE DOWELS OR TIE BARS. CAREFULLY SAW JOINTS ON THE JOINT LINE TO WITHIN 1 INCH (2.5 CM) OF THE DEPTH OF THE DOWEL OR TIE BAR. CAREFULLY BREAK UP AND REMOVE THE NARROW STRIPS OF CONCRETE ALONG DOWELED EDGES USING LIGHT 30 POUND (14 KG) OR LESS JACKHAMMERS, OR OTHER APPROVED EQUIPMENT.

   -IF DOWELS OR TIE BARS ARE TO BE CUT AND REPLACED, MAKE A FULL DEPTH SAW CUT ALONG THE CONSTRUCTED JOINT CUTTING THE DOWELS AND TIE BARS.
5. TAKE CARE TO PREVENT DAMAGE TO THE DOWELS, TIE BARS, OR TO CONCRETE THAT REMAINS IN PLACE.
6. MAKE ADDITIONAL SAW CUTS WITHIN THE LIMITS OF THE REPAIR AREA, DIVIDING THE REPAIR AREA INTO QUARTERS.
7. USE LIGHT WEIGHT EQUIPMENT, I.E., JACKHAMMERS LESS THAN 30 POUNDS (14 KG), HAND TOOLS, ETC., TO REMOVE THE DAMAGED PCC PAVEMENT. WORK FROM INSIDE THE SAW CUT TOWARD THE INTERIOR OF THE AREA BEING REMOVED TO PREVENT DAMAGE TO THE PAVEMENT REMAINING.
8. REMOVE BY HAND ALL LOOSE MATERIAL AND VACUUM TO MINIMIZE ANY DISTURBANCE TO THE SUBGRADE OR BASE MATERIALS.
9. RESTORE SUBGRADE OR BASE MATERIAL IF REQUIRED.
10. INSTALL DEFORMED TIE-BARS IN THE FACE OF THE PARENT PANEL BY DRILLING HORIZONTAL HOLES IN TO THE FACE AND USING AN EPOXY BONDING AGENT.
11. IF EXISTING DOWEL BARS HAVE BEEN CUT AND REMOVED, INSTALL DOWEL BARS OF THE TYPE AND SIZE OF THE EXISTING DOWEL BARS IN THE JOINTS THAT ARE PARALLEL TO THE DIRECTION OF TRAFFIC. ON APRONS AND AREAS WHERE TRAFFIC MAY BE OBLIQUE TO JOINTS, INSTALL DOWELS IN BOTH JOINT FACES.
12. INSTALL DOWELS BY DRILLING AND EPOXYING INTO THE PCC PAVEMENT AT LEAST 3 INCHES (8 CM) FROM THE LOCATION OF THE EXISTING CUT DOWELS. SPACE DOWEL BARS AT LEAST 3 INCHES (8 CM) FROM THE EDGE OF THE REPAIR AREA AND AT LEAST ONE BAR SPACING APART AT CORNERS OF INTERSECTING JOINTS.
13. OIL THE EXPOSED ENDS OF DOWEL BARS PRIOR TO BACKFILLING REPAIR AREA WITH CONCRETE.
14. INSTALL NONABSORBENT BOARD OR OTHER APPROVED MATERIAL WITHIN THE LIMITS OF THE JOINT SEAL RESERVOIR (STEP 1). THE NONABSORBENT BOARD WILL BE A STANDARD ½INCH (13 MM) ASPHALT IMPREGNATED FIBER-BOARD. FOR JOINTS WIDER THAN ½ INCH (13 MM), ADJUST THE WIDTH OF THE NONABSORBENT BOARD TO FIT THE JOINT WIDTH.
15. FILL THE REPAIR AREA WITH CONCRETE AND CONSOLIDATE WITH A VIBRATOR. USE CONCRETE MEETING THE REQUIREMENTS OF IDOT M-4 PCC MAINTENANCE MIX FOR PAVEMENTS.
16. FINISH THE SURFACE TO MATCH THE EXISTING SURFACE.
17. SPRAY WITH CURING COMPOUND PER ASTM C309.
18. REMOVE THE NONABSORBENT BOARD OR OTHER APPROVED MATERIAL (STEP 2) AND PLACE JOINT SEALANT PER ASTM D6690 (STEP 3).
19. THOROUGHLY CLEAN THE WORK AREA BEFORE OPENING THE PAVEMENT TO AIRCRAFT TRAFFIC.
20. DO NOT ALLOW TRAFFIC UNTIL THE CONCRETE HAS CURED.

| NO | REVISIONS | DRN | CHK | DATE |
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FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PATCHING DETAILS

DATE MARCH 15, 2022
PROJECT NO 60676643
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SHEET NO
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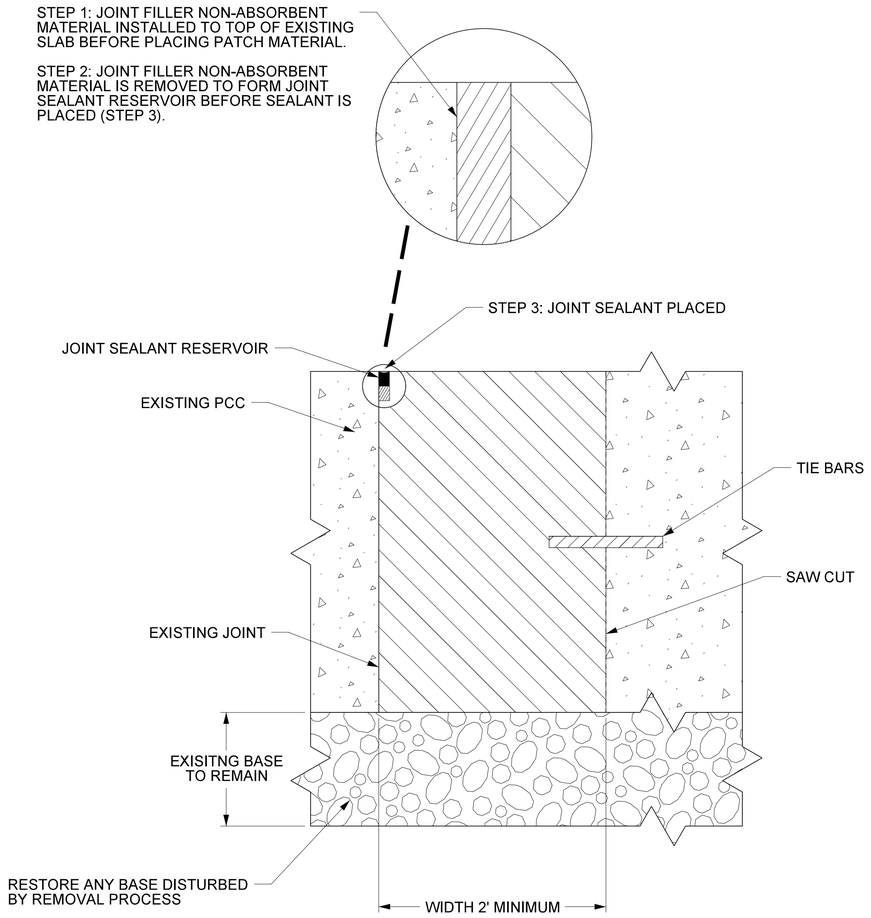


## FULL DEPTH REPAIR IN RIGID PAVEMENT - CORNER BREAK

A

NOT TO SCALE

REPAIR PROCEDURE:

1. REVIEW THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). ENSURE ALL PAVEMENT CLOSURES HAVE ALL REQUIRED ITEMS IN PLACE, SUCH AS LIGHTED XS, BARRICADES, ETC.; AND ALL NOTAMS HAVE BEEN ISSUED FOR AFFECTED AREAS OF THE AIRFIELD.
2. MARK THE LIMITS OF THE AREA TO BE REPAIRED. FOR CORNER BREAKS THE REPAIR AREA SHOULD BE SQUARE.
3. MAKE A FULL-DEPTH SAW CUT ALONG THE CONSTRUCTED JOINTS AT LEAST 2 FEET (0.6 M) BEYOND THE LIMITS OF THE BREAK AND MAKE SAW CUTS PERPENDICULAR TO THE CONSTRUCTED JOINTS FROM THESE POINTS UNTIL THEY INTERSECT. SEE FIGURE A-4.
4. IF DOWELS OR TIE BARS PRESENT ALONG ANY EDGES ARE CUT AND REPLACED, MAKE A FULL DEPTH SAW CUT ALONG THE CONSTRUCTED JOINT CUTTING THE DOWELS AND TIE BARS.
5. TAKE CARE TO PREVENT DAMAGE TO REMAINING DOWELS, TIE BARS, OR CONCRETE.
6. USE LIGHT WEIGHT EQUIPMENT, I.E., JACKHAMMERS LESS THAN 30 POUNDS (14 KG), HAND TOOLS, ETC., TO REMOVE THE REMAINING DAMAGED PCC PAVEMENT. WORK FROM INSIDE THE SAW CUT TOWARD THE EDGE OF THE SLAB OF THE AREA BEING REMOVED TO PREVENT DAMAGE TO THE PAVEMENT REMAINING.
7. REMOVE BY HAND ALL LOOSE MATERIAL AND VACUUM TO MINIMIZE ANY DISTURBANCE TO THE SUBGRADE OR BASE MATERIALS.
8. RESTORE SUBGRADE OR BASE MATERIAL IF REQUIRED.
9. INSTALL DEFORMED TIE-BARS IN EACH FACE OF THE PARENT PANEL BY DRILLING HORIZONTAL HOLES INTO THE FACE AND USING AN EPOXY BONDING AGENT.
10. INSTALL NONABSORBENT BOARD OR OTHER APPROVED MATERIAL WITHIN THE LIMITS OF THE JOINT SEAL RESERVOIR (STEP 1). THE NONABSORBENT BOARD WILL BE A STANDARD ½INCH (13 MM) ASPHALT IMPREGNATED FIBER-BOARD OR OTHER APPROVED MATERIAL. FOR JOINTS WIDER THAN ½INCH (13 MM), ADJUST THE WIDTH OF THE NONABSORBENT BOARD TO FIT THE JOINT WIDTH.
11. FILL THE REPAIR AREA WITH CONCRETE AND CONSOLIDATE WITH A VIBRATOR. CONCRETE SHOULD MEET THE REQUIREMENTS OF IDOT M-4 PCC MAINTENANCE MIX FOR PAVEMENTS.
12. FINISH THE SURFACE TO MATCH EXISTING PAVEMENT.
13. SPRAY WITH CURING COMPOUND PER ASTM C309.
14. REMOVE THE NONABSORBENT BOARD (STEP 2) AND PLACE JOINT SEALANT PER ASTM D6690 AND MANUFACTURER'S REQUIREMENTS (STEP 3).
15. DO NOT ALLOW TRAFFIC UNTIL THE PATCH HAS CURED.
16. COMPLETELY CLEAN THE WORK AREA BEFORE OPENING THE PAVEMENT TO AIRCRAFT TRAFFIC.

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
CHK DBH
APP



AECOM

REHABILITATE RUNWAY, TAXIWAY, AND APRON
FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

PATCHING DETAILS

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 22

Plotted by: AECOM Des Moines, Iowa
Printed from MicroStation V8i
3/15/2022, 10:11:57 AM
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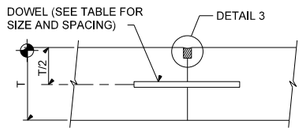
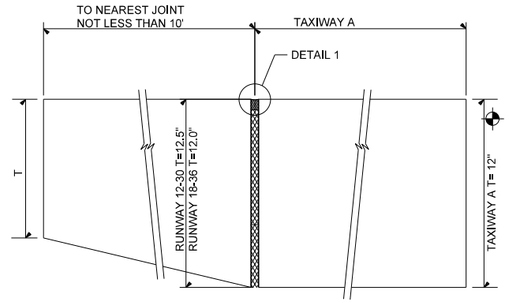
## CONSTRUCTION JOINTS



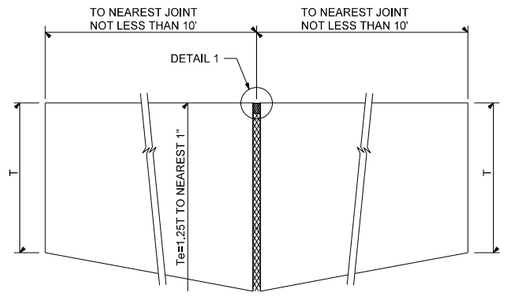

### TYPE E - DOWELED*
NOT TO SCALE

* JOINT TYPE TO BE USED AS TRANSVERSE JOINT AT END OF EACH DAYS POUR OR WHERE ANY HEADER HAS BEEN REQUIRED.

## ISOLATION JOINTS

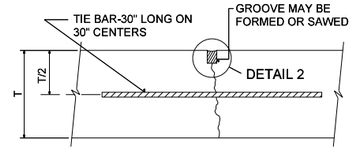



### TYPE 1/2 A - EXPANSION
NOT TO SCALE

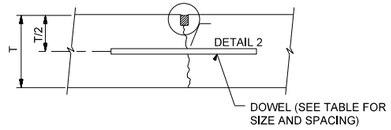



### TYPE A - EXPANSION
NOT TO SCALE

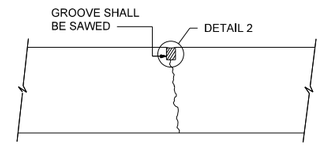
## CONTRACTION JOINTS



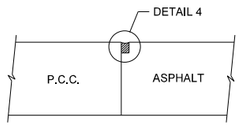

### TYPE B - HINGED
NOT TO SCALE



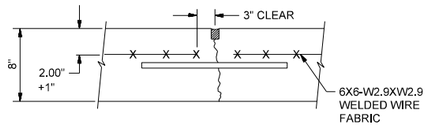

### TYPE C - DOWELED
NOT TO SCALE



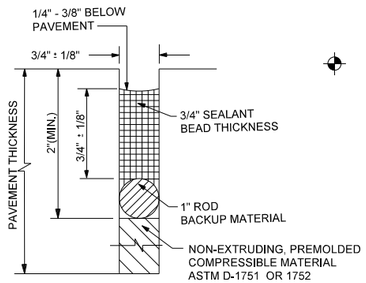

### TYPE D - DUMMY
NOT TO SCALE



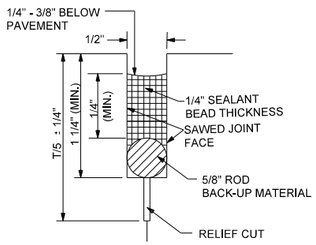

### P.C.C. TO ASPHALT
NOT TO SCALE



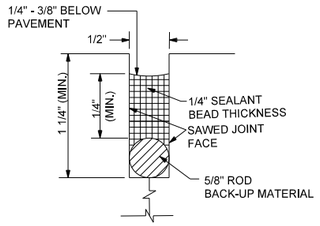

### WELDED WIRE FABRIC DETAIL
NOT TO SCALE



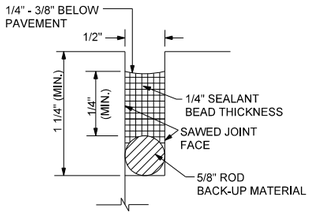

### DETAIL 1
NOT TO SCALE




### DETAIL 2
NOT TO SCALE




### DETAIL 3
NOT TO SCALE




### DETAIL 4
NOT TO SCALE

NOTE: ALL DOWEL BARS AND DEFORMED TIE BARS SHALL BE EPOXY COATED.

NOTE:
ACTUAL JOINT ASPECT RATIO SHOULD BE ADJUSTED TO MEET SPECIFIC JOINT SEALANT MANUFACTURER'S REQUIREMENTS.

### DOWEL TABLE

| PAVEMENT THICKNESS T(IN.) | DOWEL SIZE AND SPACING | | |
|---|---|---|---|
| | DIAMETER | LENGTH | SPACING |
| 5.0" | 5/8" | 18" | 12" |
| | | | |

### PCC THICKNESS

| | |
|---|---|
| ALL | T = 5.0" |
| | |
| | |
| | |
| | |

| NO | REVISIONS | DRN | CHK | DATE |
|---|---|---|---|---|

DRN NOB
DES ADH
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FAA AIP PROJECT NO. 3-19-0067-012
OELWEIN MUNICIPAL AIRPORT
OELWEIN, IOWA

JOINTING DETAILS

DATE MARCH 15, 2022
PROJECT NO 60676643
FILENAME
SHEET NO
DRAWING NO 23

$$USER$$
$$SPRF$$
$$DATE$$
$$DGN$$