



# DETROIT AIRFIELD PROJECTS

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# Speakers



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## WILLOW RUN AIRPORT (YIP)

- Reliever/Cargo Airport
- \$123 Million to Southeast Michigan
- Supporting 950 jobs



## → DETROIT METROPOLITAN AIRPORT (DTW)

- Large Air Transportation Hub
- \$10.2 Billion to Southeast Michigan
- Supporting 86,000 jobs





## → DTW's Airfield

- Six Runways
- 6,200 Acres
- Two Terminals
- 131 Gates
- Land 112 planes per hour (1 plane every 30 seconds)





# MODERNIZING THE AIRFIELD

- 2008 – 5,500 Taxiway Edge Lights
- 2011 – 2013 – Converted 750 Signs LED
- 2013-14 – Runway 4R-22L & Associated Taxiways
- 2014-15 – Taxiways W & S
- 2016 – Runway 4R-22L Edge Lights
- 2016 – Runway 4L-22R & Associated Taxiways
- 2019-20 – Runway 3L-21R & Associated Taxiways
- 2023 – Runway 3R-21L (Runway center, edge, TDZ, Lead-in Lights)
- 2023 – 95% LED Lights and Signs
- 2025 – 100% LED Lights and Signs





# RUNWAY 4R-22L & ASSOCIATED TAXIWAYS

**680,000 CY of Unclassified Excavation**

**283,000 TN of Asphalt**

**518,000 SY of Concrete**

**32,000 LF of Reinforced Concrete Pipe**





# RUNWAY 4R-22L & ASSOCIATED TAXIWAYS

- Runway LED Centerline and TDZ Lights
- Runway Edge Lights – LED Not AIP eligible (WCAA decided not to install)
- Runway LED Guard Lights (Elevated and In-Pavement)
- Runway LED Stop Bar Lights (Elevated and In-Pavement)
- Taxiway LED Centerline, Edge, and Lead-On/Off
- LED Guidance Signs
- Junction Can Plaza System (First Project Used)
- New Pavement Surface Sensor System
- Upgrade ALCMS System
- Lighted 'X' Receptacles



# **RUNWAY 4R-22L & ASSOCIATED TAXIWAYS**

## **ELECTRICAL QUANTITIES**

- **OVER 1,600 NEW LED LIGHT FIXTURES**
  - **238 Runway Centerline Lights**
  - **180 TDZ Lights**
  - **269 Runway Guard Lights (In-Pavement and Elevated)**
  - **287 Taxiway Centerline Lights**
  - **635 Taxiway Edge Lights**
  - **24 Stop Bar Lights (In-Pavement and Elevated)**
- **141 NEW LED GUIDANCE SIGNS**
- **154 MILES OF AIRFIELD LIGHTING CABLE**
- **63,000 LF OF DUCTBANK**
- **OVER 7,000 LF OF DIRECTIONAL DRILLING**
- **58 JUNCTION CAN PLAZA SYSTEMS**
- **PAVEMENT SURFACE SENSOR SYSTEM**
- **29 NEW CCRS AND ALCMS MODIFICATIONS**



# RUNWAY 4R VISUAL SCREEN

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**708 FT in Length**

**19 FT in Height**

**509 FT Displaced Threshold**





# RUNWAY 4R VISUAL SCREEN

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- Shift ALSF-2 Light Lane
- Relocate Runway 4R Glides Slope Shelter and Antenna
- Relocate Runway 4R TD RVR
- Relocate Runway 4R Midfield RVR
- Relocate ASOS





# AIRFIELD LIGHTING VAULT

**120 FT x 46 FT**

**CCR PATCH PANELS**

**CUMMINGS DIESEL GENERATOR**





# AIRFIELD LIGHTING VAULT

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# RUNWAY 4L-22R & ASSOCIATED TAXIWAYS

**580,000 CY of Unclassified Excavation**

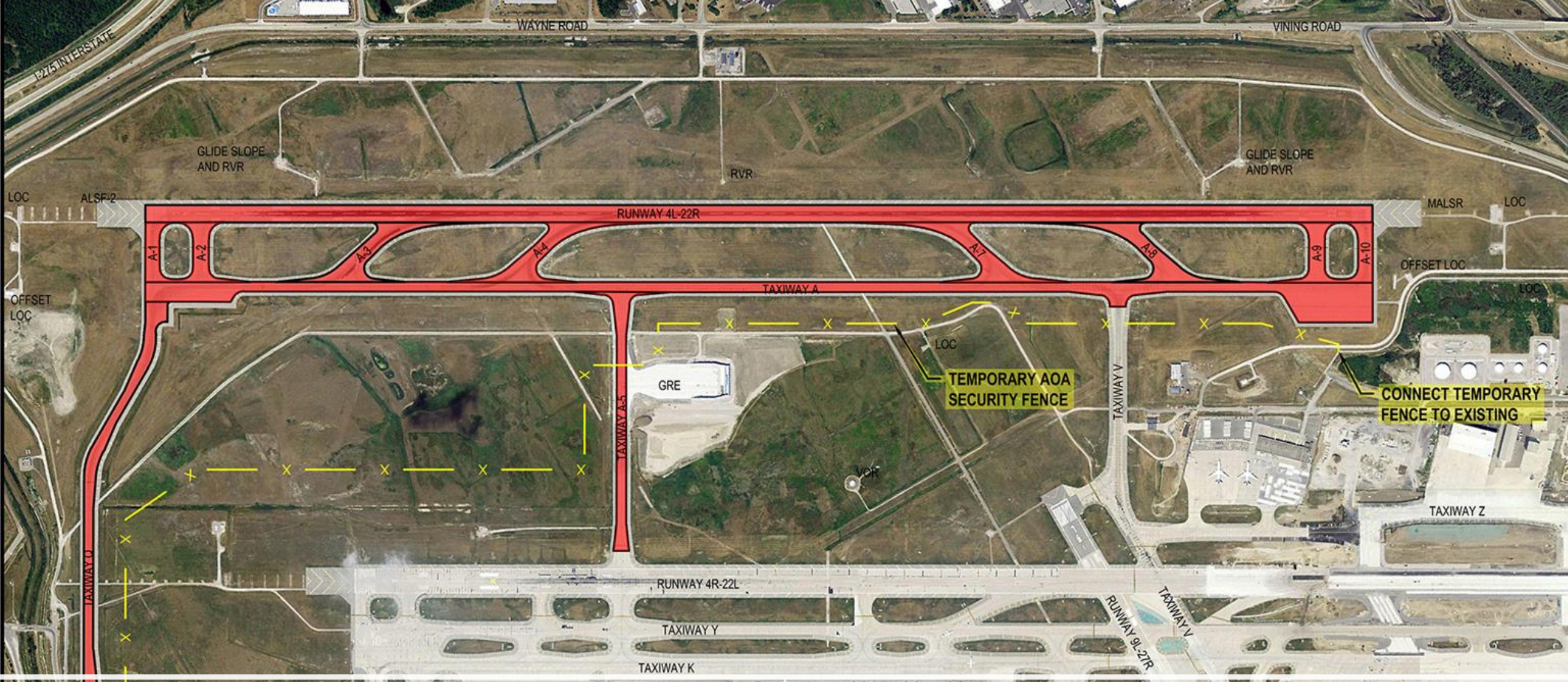
**200,000 TN of Asphalt**

**450,000 SY of Concrete**

**3 MI of Temporary AOA Fence**





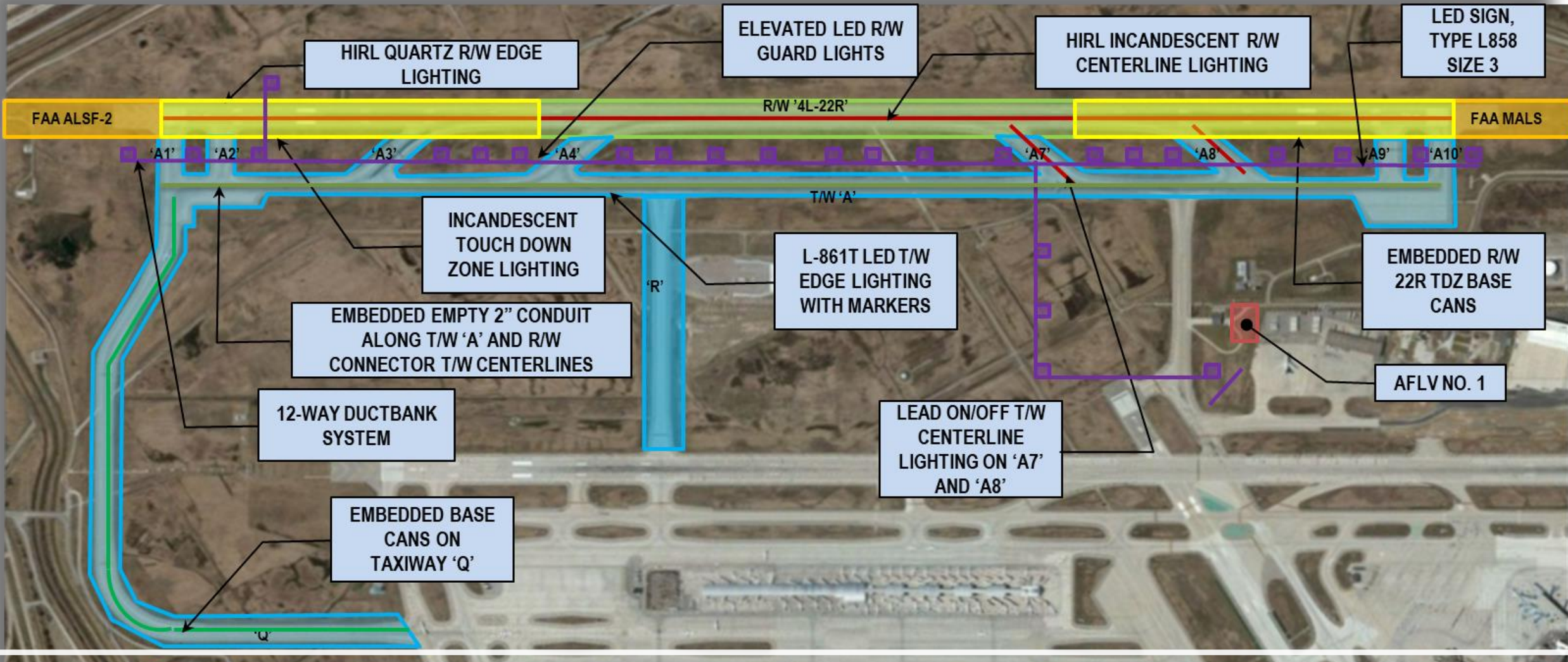


# RUNWAY 4L-22R & ASSOCIATED TAXIWAYS



FIGURE 1.1  
PHASING OPTION 1





## ELECTRICAL COMPONENTS





# **RUNWAY 4L-22R & ASSOCIATED TAXIWAYS**

## **ELECTRICAL QUANTITIES**

- **OVER 1300 NEW LED LIGHT FIXTURES**
  - **198 New Runway Centerline Lights**
  - **360 TDZ Lights**
  - **116 New LED Runway Edge Lights**
  - **43 New Runway Guard Lights**
  - **229 Taxiway Centerline Lights**
  - **550 Taxiway Edge Lights**
- **61 NEW LED GUIDANCE SIGNS**
- **72 MILES OF AIRFIELD LIGHTING CABLE**
- **21,000 LF OF DUCTBANK**
- **OVER 1,500 LF OF DIRECTIONAL DRILLING**
- **PAVEMENT SURFACE SENSOR SYSTEM (5 SENSORS)**
- **ALCMS MODIFICATIONS AND 15 NEW CCRS**



# RUNWAY 4L-22R & ASSOCIATED TAXIWAYS

- Runway Centerline, Edge, and TDZ
- Taxiway Centerline, Edge, and Lead-On/Off
- Runway LED Guard Lights (Elevated and In-Pavement)
- LED Guidance Signs
- Junction Can Plaza System
- New Pavement Surface Sensor System
- Upgrade ALCMS System
- Lighted 'X' Receptacles





# RUNWAY 3L-21R AND ASSOCIATED TAXIWAYS

**782,000 CY of Unclassified Excavation**

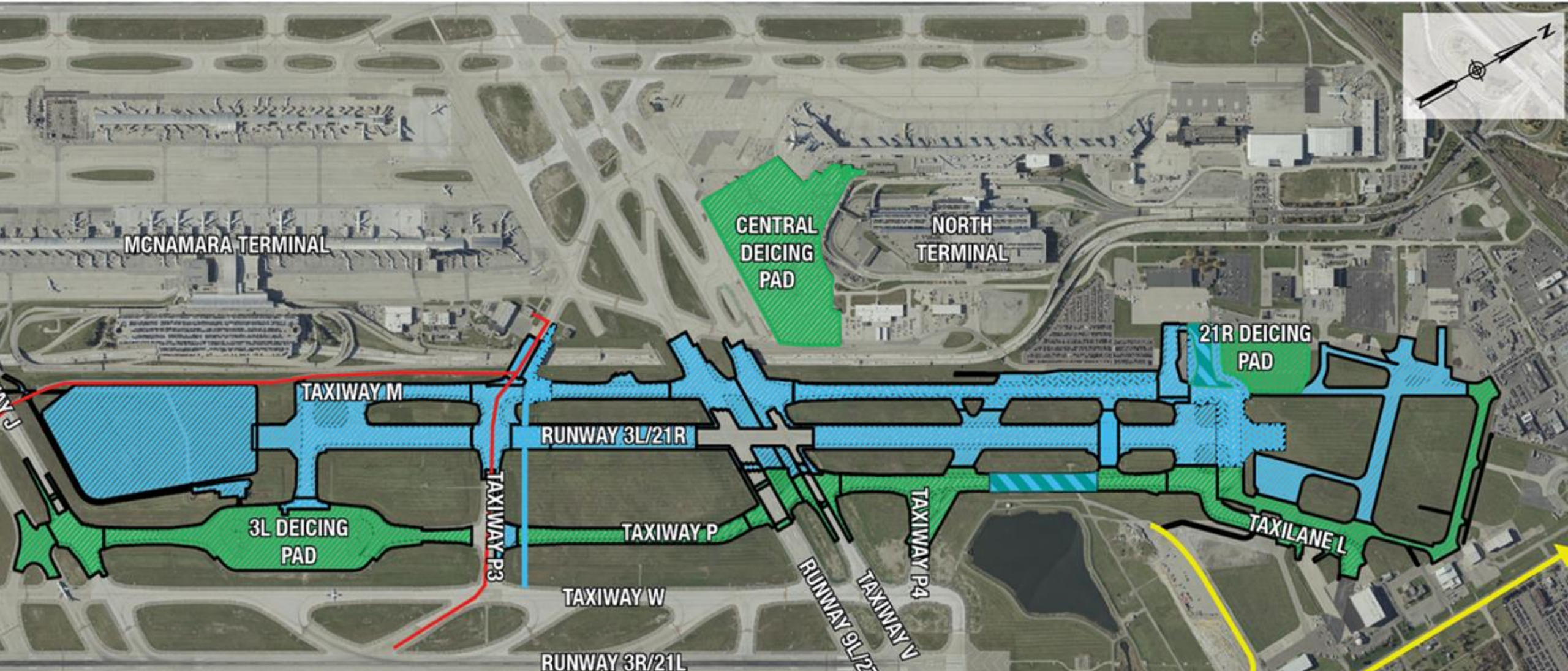
**235,000 TN of Asphalt**

**419,000 SY of Concrete**

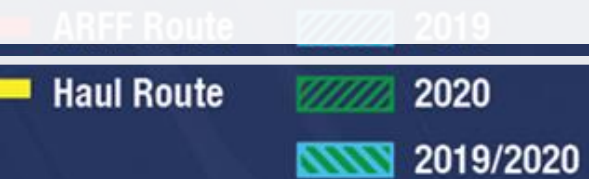
**39,000 LF of Reinforced Concrete Pipe**







## RUNWAY 3L-21R & ASSOCIATED TAXIWAYS





# RUNWAY 3L-21R & ASSOCIATED TAXIWAYS

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- **Utilities**
  - DTE Power / Natural Gas
  - AT&T
  - Watermain
- **Design Utility Verification**
  - Soft Digs
  - Ground Penetrating Radar



**DTE Energy**<sup>®</sup>  
Know Your Own Power<sup>®</sup>



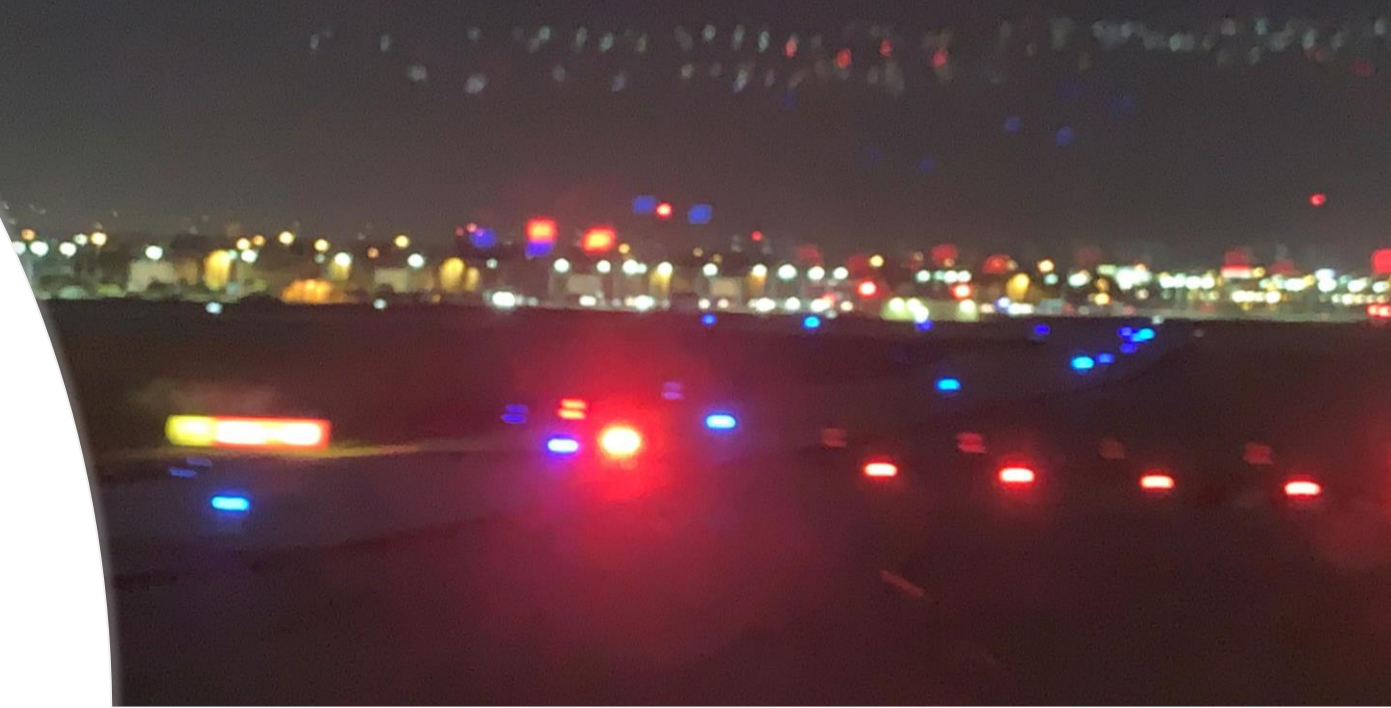
**AT&T**





# RUNWAY 3L-21R & ASSOCIATED TAXIWAYS

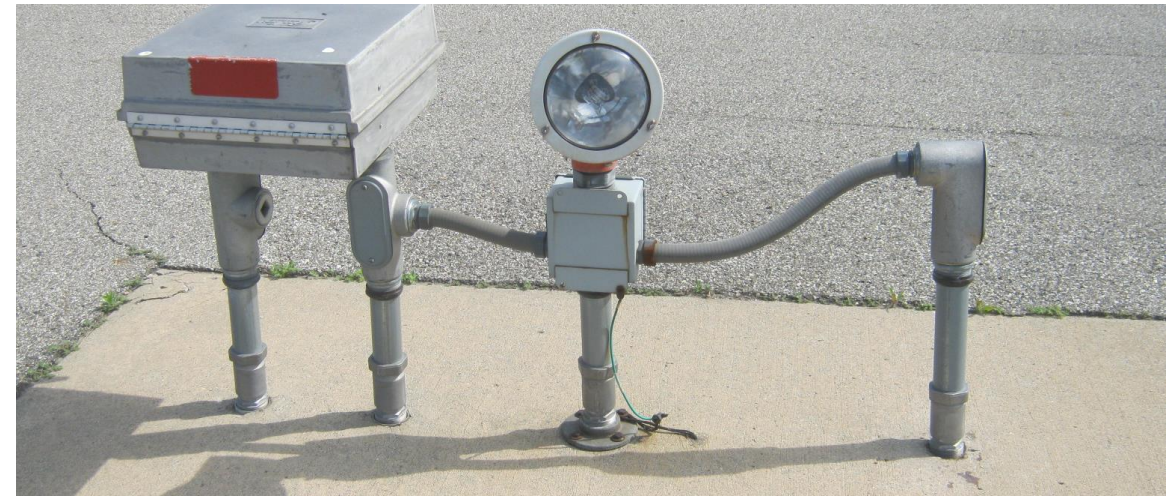
- Loop 2 Project
- Homeruns (2 Runways)
- LED lights and Signs
- Junction Can Plaza System
- New Pavement Surface Sensor System
- Upgrade ALCMS System
- Lighted 'X' Receptacles
- Runway stop bar lights (elevated and in-pavement)
- Maintenance pads for signs





# RUNWAY 3L-21R & ASSOCIATED TAXIWAYS NAVAIDS

- PAPIs
- REILs
- RVRs
- RWSLs
- Communication
- Weather Station (AWOS)





# **RUNWAY 3L-21R & ASSOCIATED TAXIWAYS**

## **ELECTRICAL QUANTITIES**

- **OVER 1400 NEW LED LIGHT FIXTURES**
  - 168 Runway Centerline Lights
  - 90 Runway Edge Lights
  - 258 Runway Guard Lights (In-Pavement and Elevated)
  - 178 Taxiway Centerline Lights
  - 674 Taxiway Edge Lights
  - 54 Stop Bar Lights (In-Pavement and Elevated)
- **84 LED GUIDANCE SIGNS**
- **117 MILES OF AIRFIELD LIGHTING CABLE**
- **55,000 LF OF DUCTBANK**
- **OVER 8,000 LF OF DIRECTIONAL DRILLING**
- **79 JUNCTION CAN PLAZA SYSTEMS**
- **PAVEMENT SURFACE SENSOR SYSTEM**
- **ALCMS MODIFICATIONS AND 15 NEW CCRS**



# CENTRALIZED DEICING FACILITY

**142,000 CY of Unclassified Excavation**

**100,000 TN of Asphalt**

**162,000 SY of Concrete**

**8,000 LF of Reinforced Concrete Pipe**





# **CENTRALIZED DEICING FACILITY**

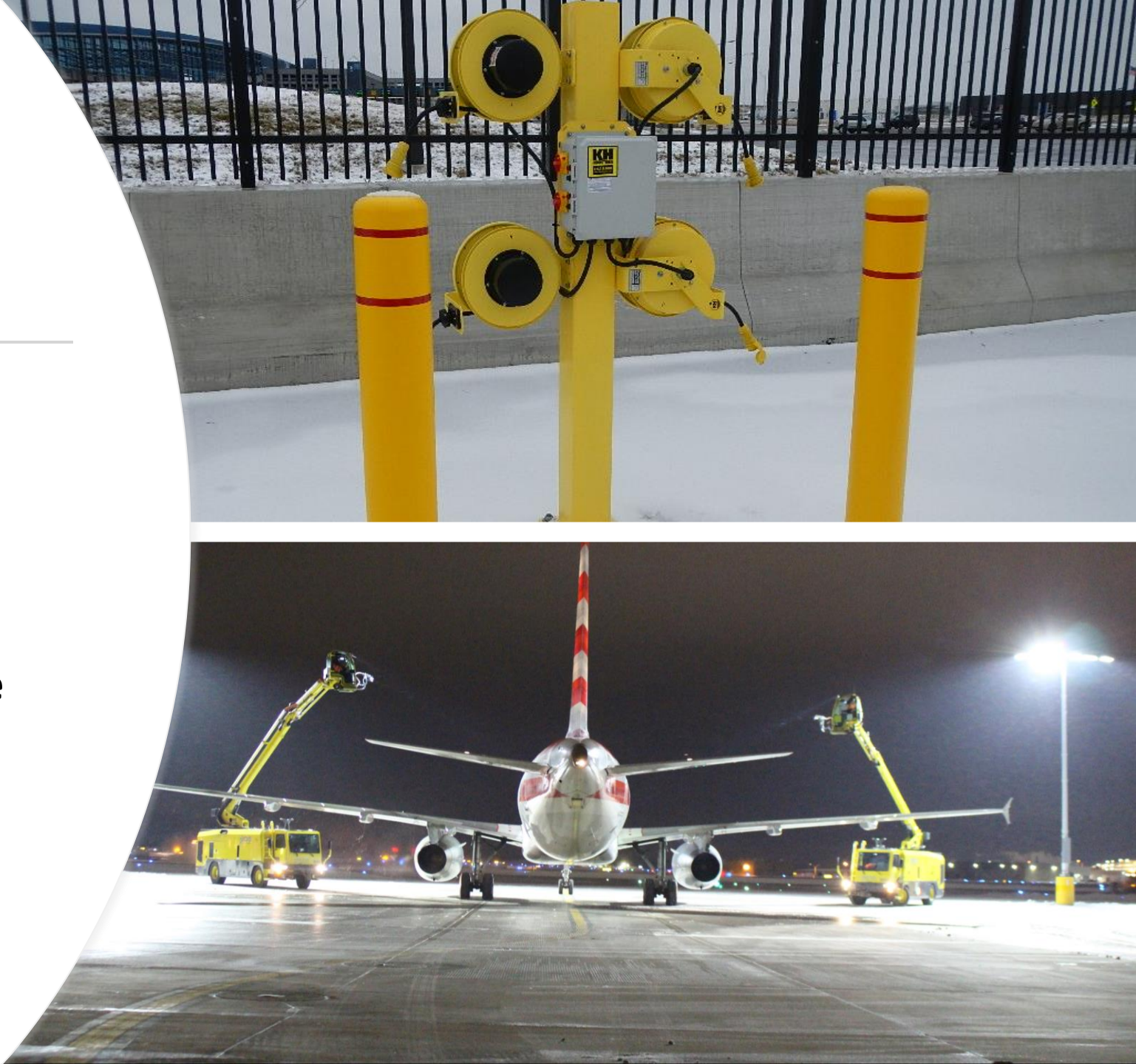
## **ELECTRICAL QUANTITIES**

- **OVER 175 NEW LED LIGHT FIXTURES**
  - **157 Taxiway Centerline Lights**
  - **18 Taxiway Edge Lights**
- **8 NEW GUIDANCE SIGNS**
- **12 MILES OF AIRFIELD LIGHTING CABLE**
- **5,300 LF OF DUCTBANK**
- **NEW HIGH MAST LIGHTING SYSTEM**
  - **3 LIGHTS PER POLE – 7 POLES @ 70 FT IN HEIGHT**
  - **5 LIGHTS PER POLE – 9 POLES @ 45 FT IN HEIGHT**
- **CORD REEL SYSTEMS**
- **ALCMS MODIFICATIONS**

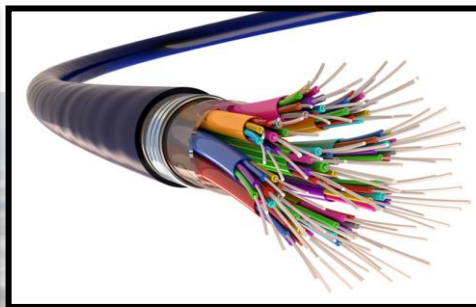
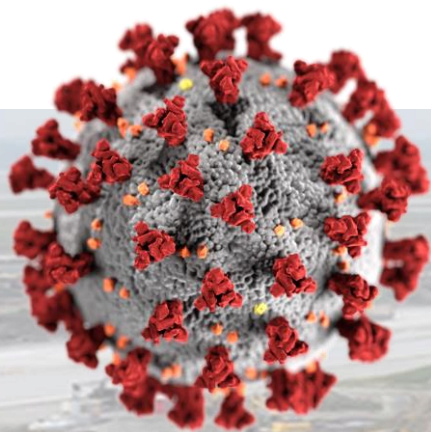


# CENTRALIZED DEICING FACILITY

- Taxiway In-Pavement Centerline Lights
- Taxiway Edge Lights
- High Mast Lights
- Cord Reels - Block Heaters Deice Trucks
- Infrastructure and Power Vault (Prefab Building) of GSE Power



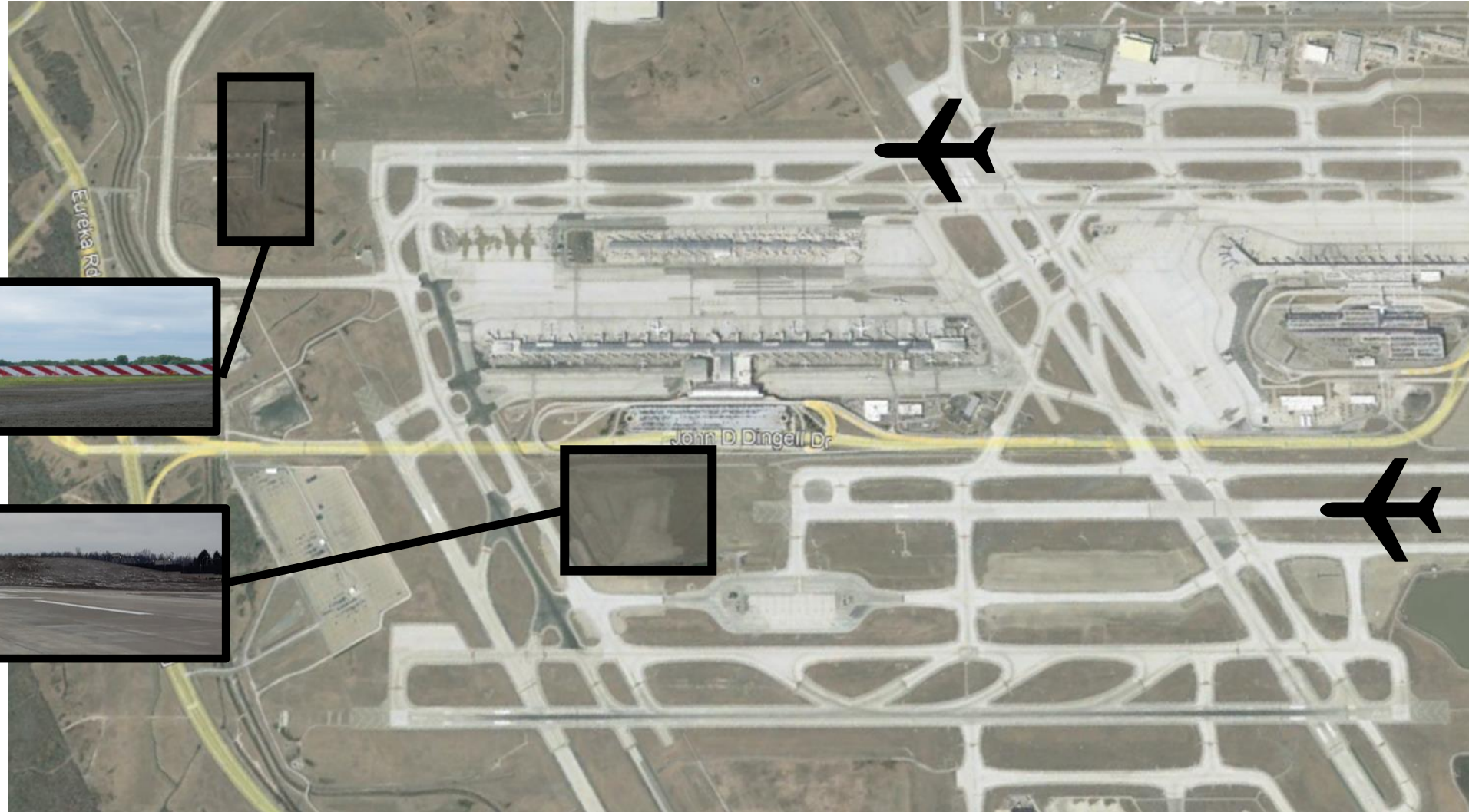




Overcoming  
Adversity



# VISUAL SCREENS



## VISUAL SCREEN BERM

- 1,800 FT x 1,000 FT x 20 FT
- 960,000 CYDS of Earthwork Diverted from a Landfill





# THANK YOU

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