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wsp
Airfield Lighting & Operational Continuity
SWIFT
VANCOUVER
SEPT 17–19 2024

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MATT FALCIONI

25 years experience in Airport/Airfield Operations

- Manager Operations, Airfield Ground Operations
- Manager, Airfield Maintenance Runways & Taxiways

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Balraj Parmar, P .Eng.,FMP

- **Principal, Aviation Electrical Engineer at WSP, based in BC**
- **Worked as Senior Electrical Engineer at Stantec, based in Vancouver, BC**
- **Worked as Senior Electrical Engineer at GTAA**
- **30+ Years of Experience**
  - Airfield lighting electrical design
  - Electrical Maintenance
  - Terminal Infrastructure
  - Construction site supervision
  - Canadian Airports Electrical Association, President

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Keeping Surfaces Available Day to Day…

Airfield Maintenance

- Operational Serviceability
- Preventative maintain of the surfaces
- Serviceability Inspection

Airfield Electrical

- Maintains lighting
- Preventative Maintenance on lights
- Maintenance Inspections

Airport Development & Technical Services

- Supports the Operational Teams with Infrastructure Strategies

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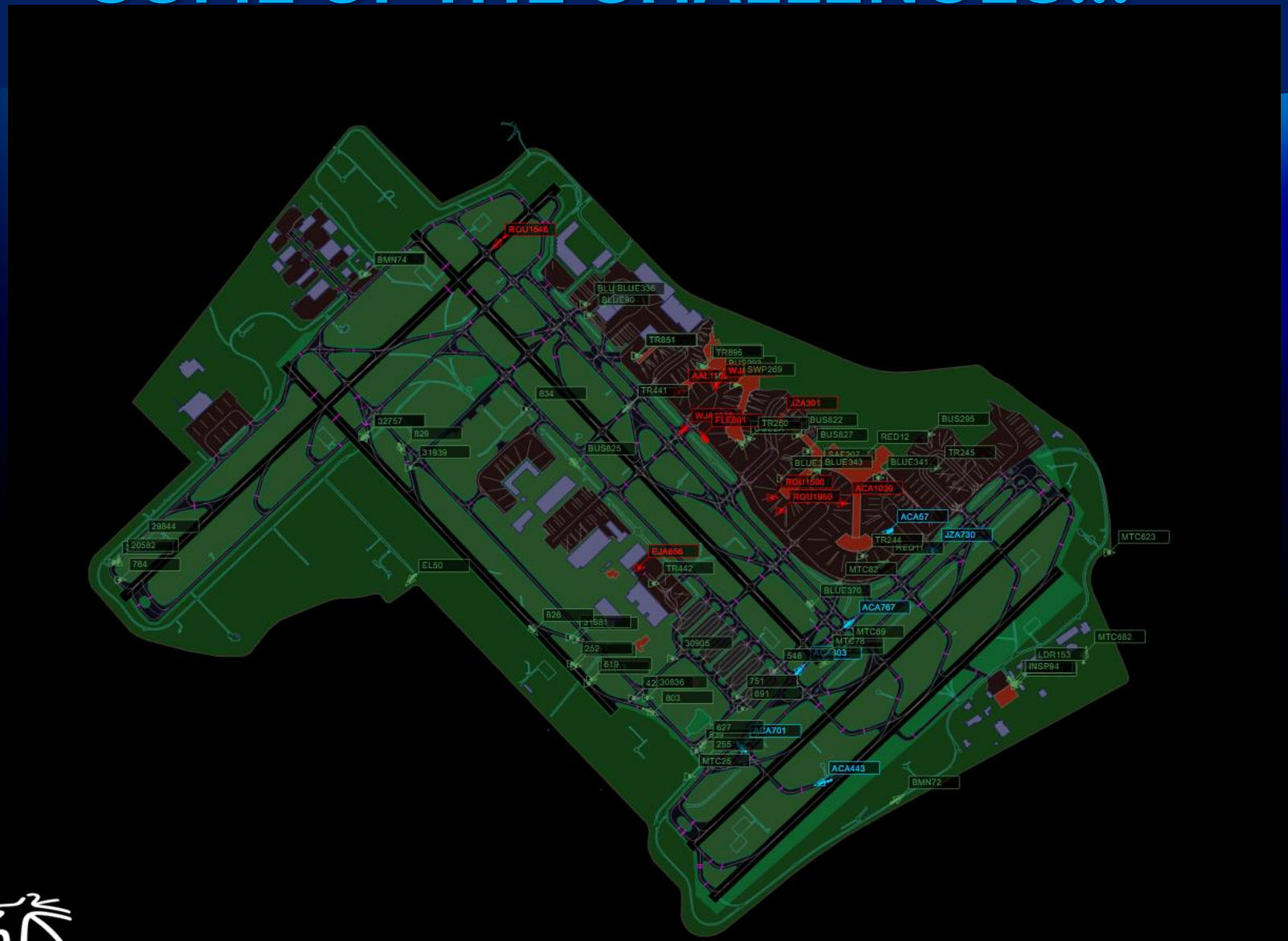
SOME OF THE CHALLENGES...



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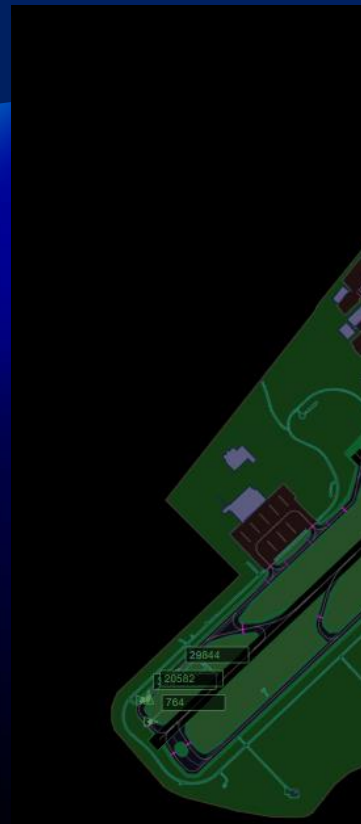

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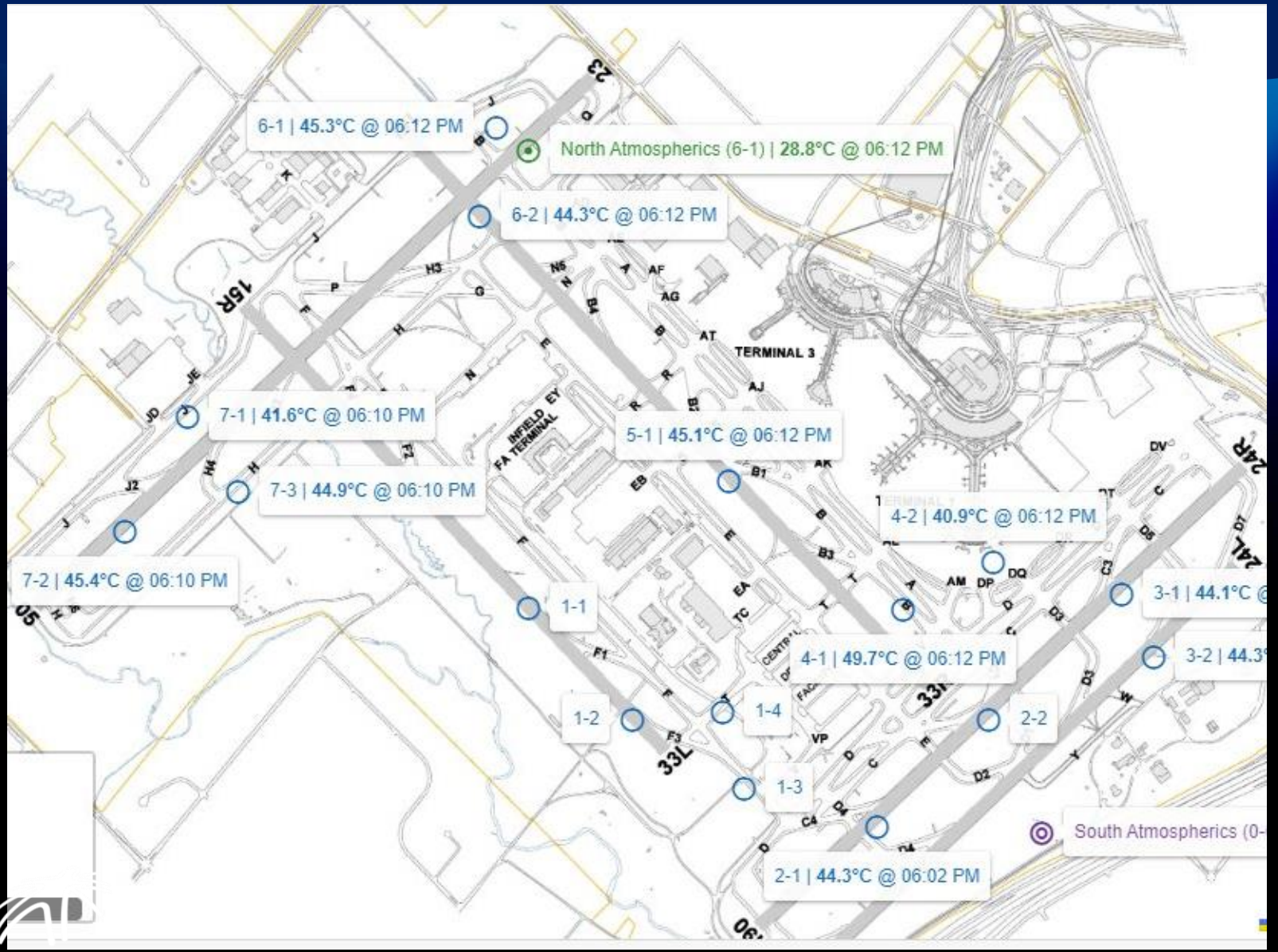

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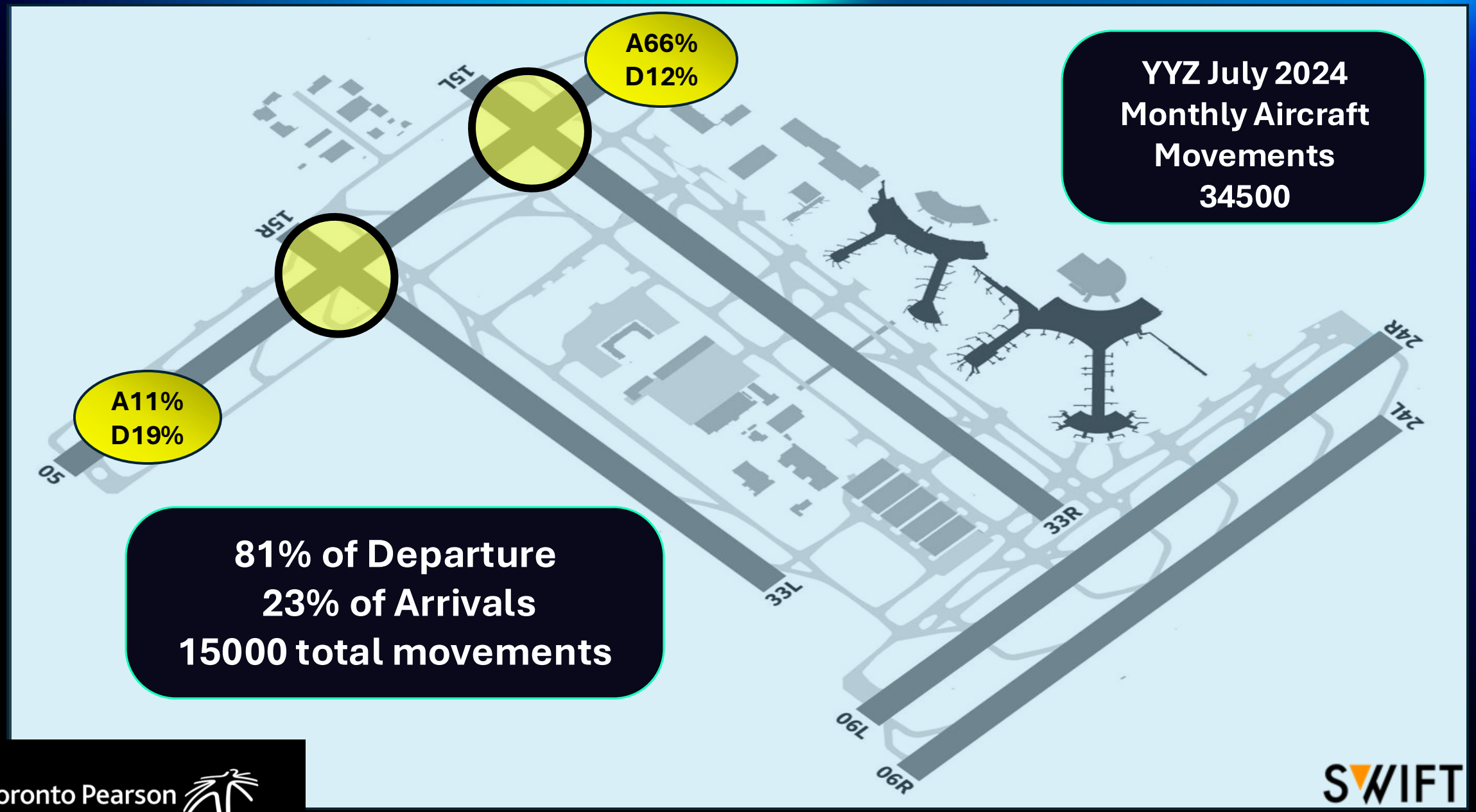

YYZ July 2024
Monthly Aircraft
Movements
34500

81% of Departure
23% of Arrivals
15000 total movements

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Aging Infrastructure

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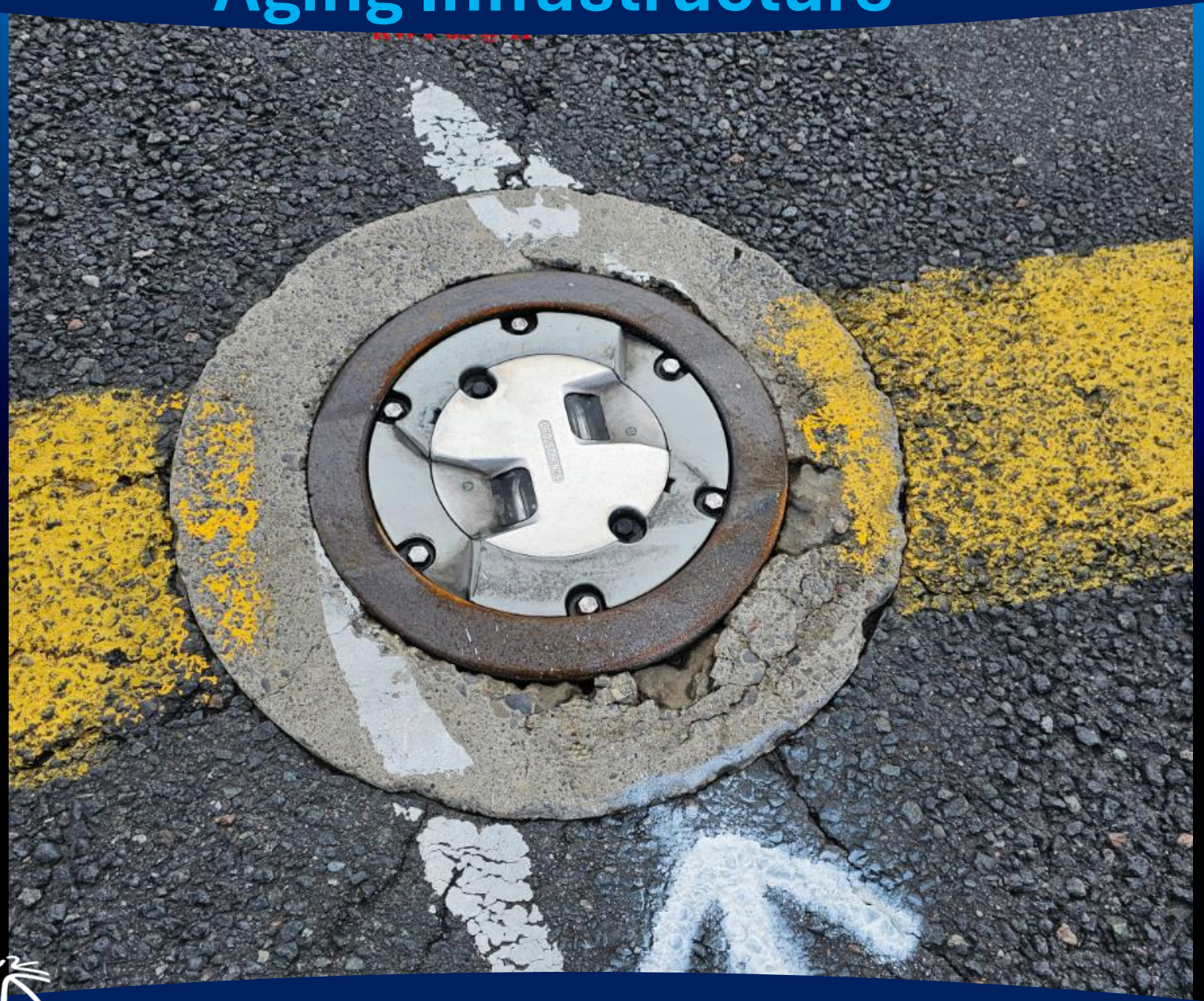

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Aging Infrastructure

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Aging Infrastructure

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What are we doing…

- Increase Inspections Frequency
- LOWVIS Serviceability Inspection
- Cross Departmental Inspections
- Increased Access (Smaller Windows)
- Right Material for the Job
- Coordination between Nav, Carriers and Airport Authority for priority closures

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Identifying Deficiencies

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Small pieces of asphalt start missing around can.
This will create bigger issues if not addressed early.

This was likely caused by improper compaction around the inset light when it was initially installed.

Most likely didn’t have a solid concrete base underneath or a shallow inset can was installed

Concrete/Grout around inset can started breaking up

- Can Generate FOD
- Asphalt -> Concrete isn’t ideal or a good match

Material Options For Repairs

Mastic (Hot Applied)

Colas and Sand

Delpatch

Two-Part Epoxy Tubes

Material Options For Repairs

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Mastic (Hot Applied)

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Colas and Sand

Material Options For Repairs

Delpatch

Two-Part Epoxy Tubes

Mastic (Hot Applied)

Matic Repair

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Marathon
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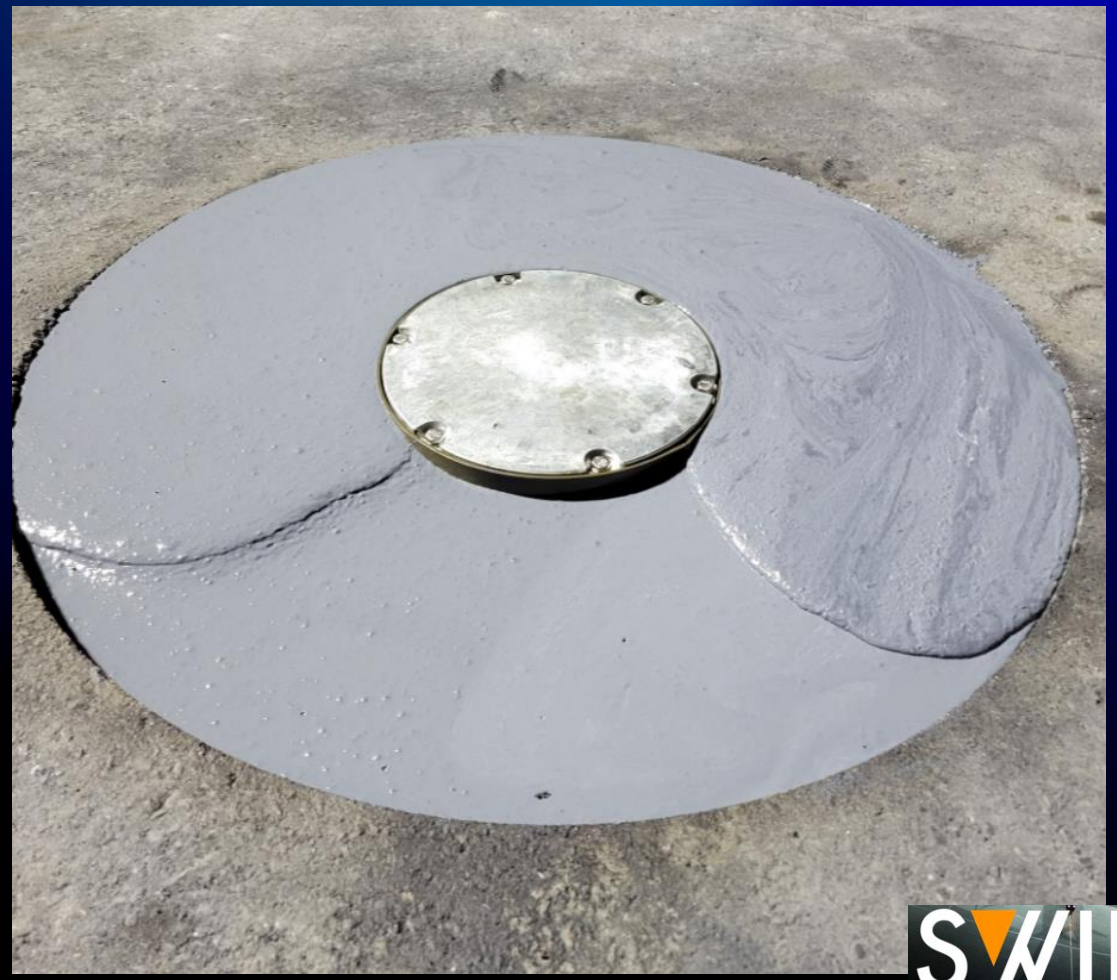
Delpatch Repair



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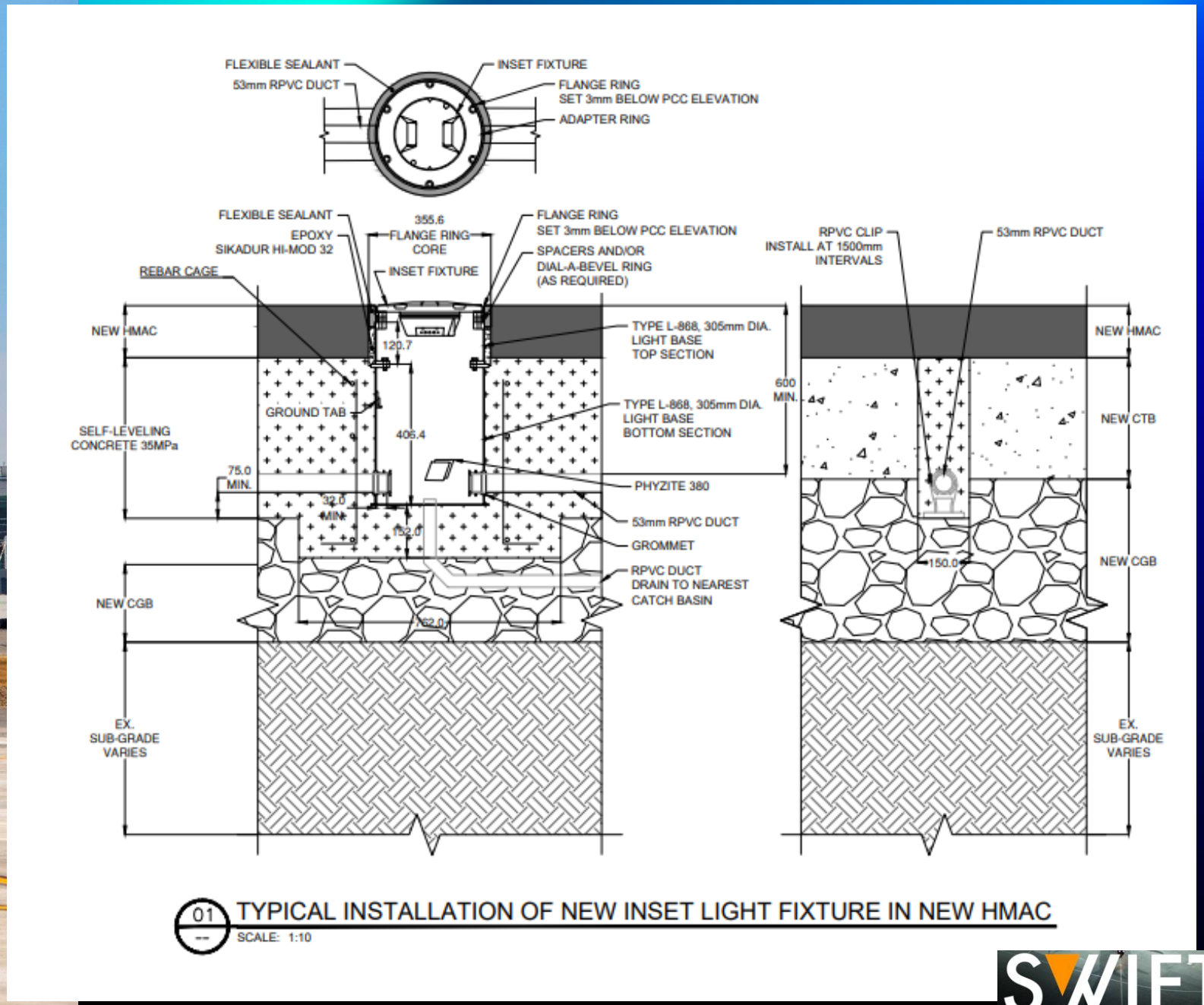
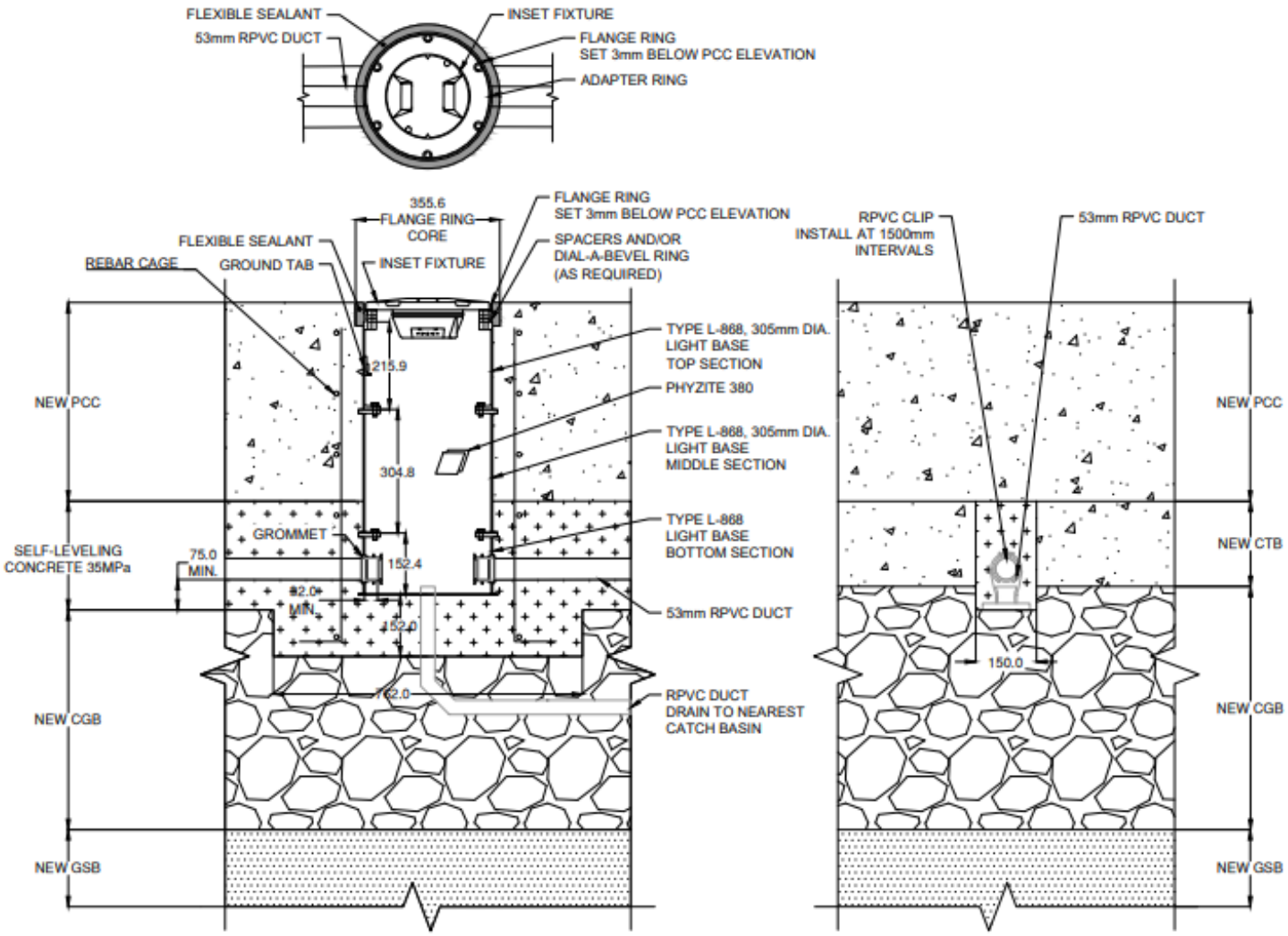
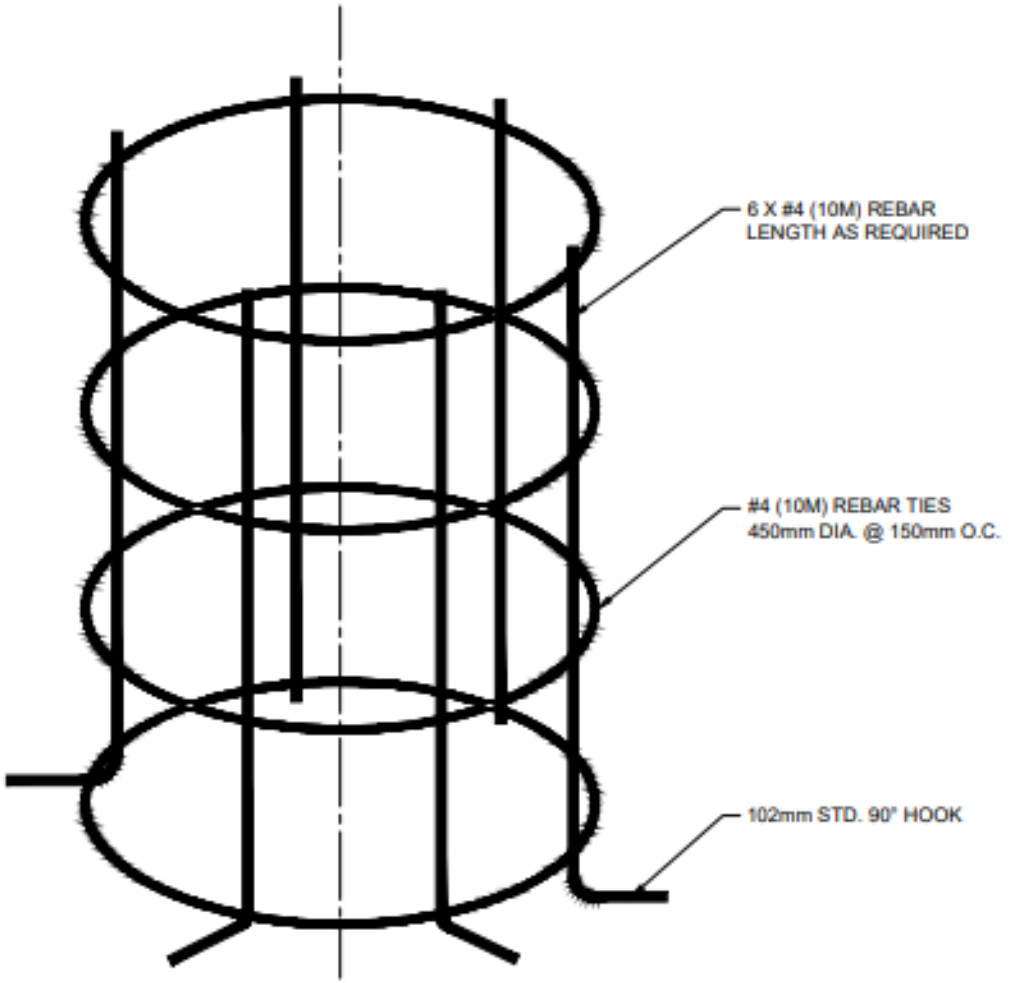
As-Builts/Base Plan Drawings



As-Builts/Base Plan Drawings, cont'd



As-Builts/Base Plan Drawings, cont'd



ISOMETRIC VIEW

NOTES:

- MAINTAIN 75mm MIN. COVER ON REBAR.

03 TYPICAL DETAIL FOR REBAR CAGE

SCALE: NTS

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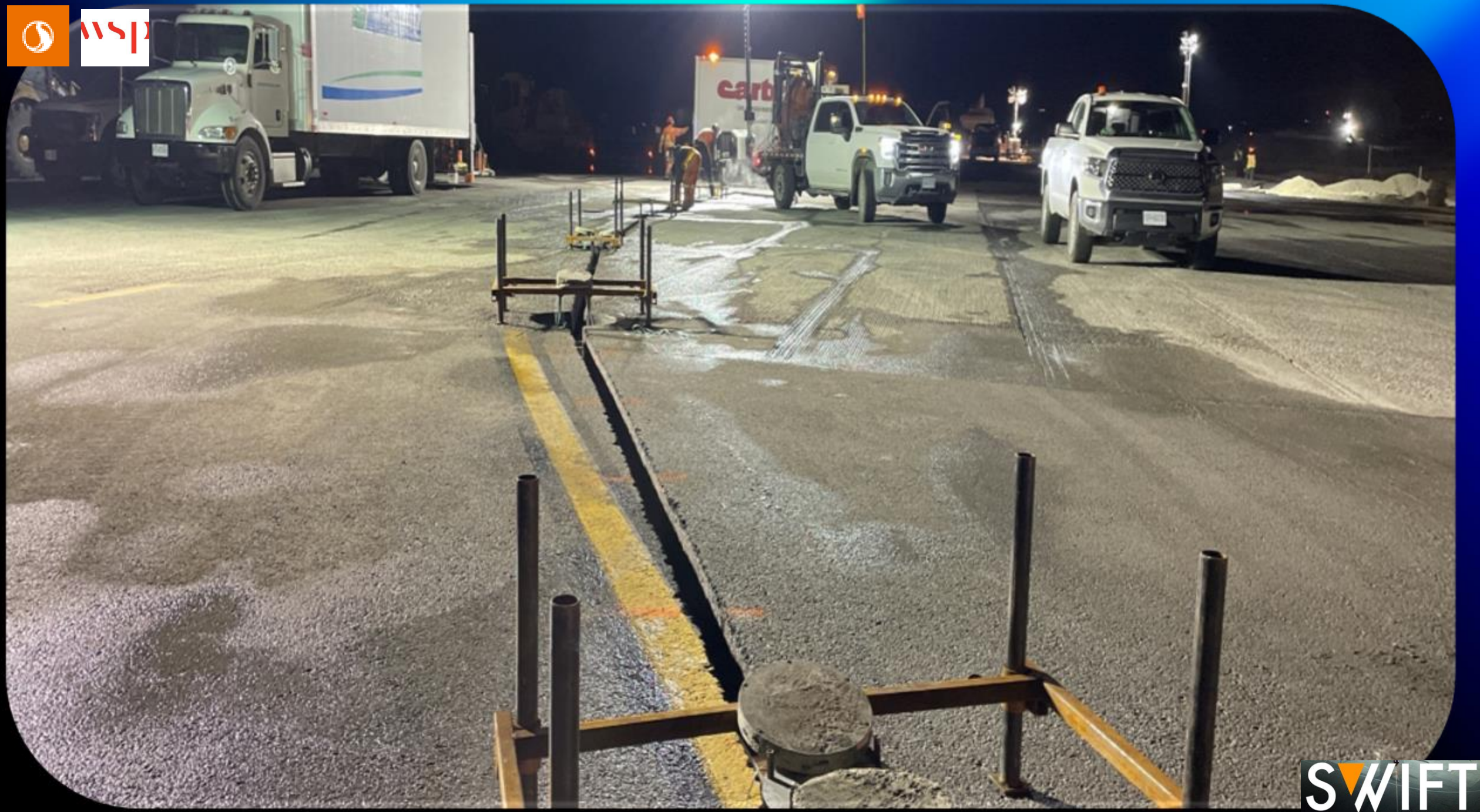
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YVR SOUTH AIRFIELD PAVEMENT REHABILITATION

**2023 (TAXIWAY L, L2, L4, D3) **

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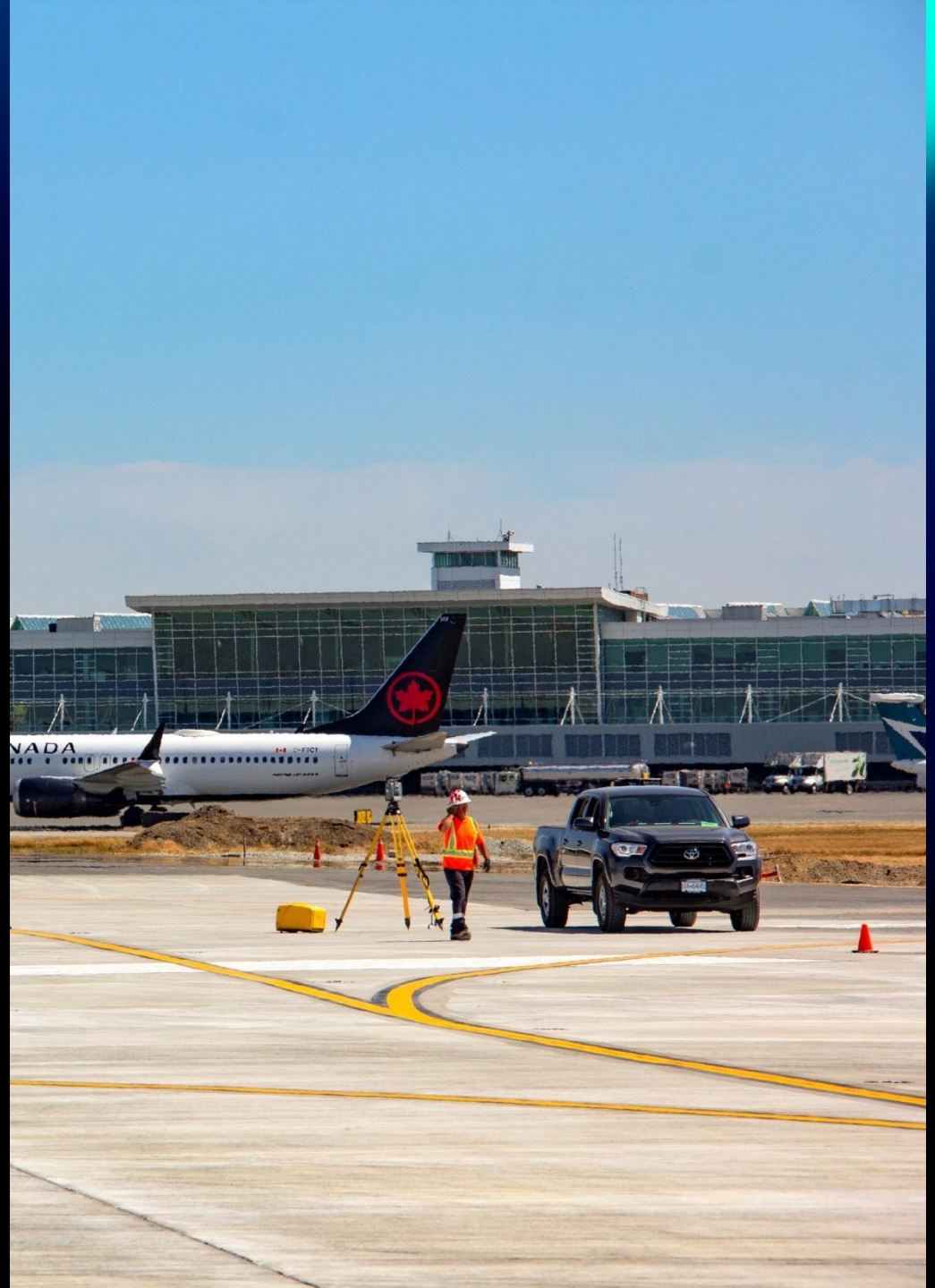
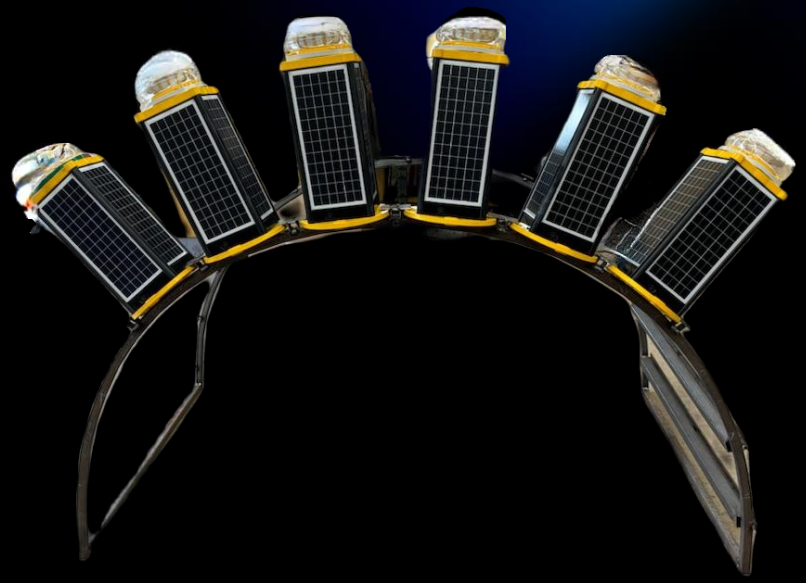


As-Builts/Base Plan Drawings, cont'd

- **As-Built Drawing Update**
  - Maintain a central database of base cans, extension rings and spacers etc..
  - Get a good experienced design consultant & contractor for the project
  - Pre-design survey of the site to find issues with inset light/cans.

What next?

- Emergency Temporary Lighting
- Proof of Concept – AI Feasibility
- Full Infrastructure Upgrade



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