IND Taxiway H Rehabilitation

2018 Purdue Road School, Aviation Track
IND Taxiway H Rehabilitation

- Project Background and Need
- Pavement Investigation/Recommendations
- Implementation of FAA Standards
- LED Lighting Plan Implementation
- Accelerated Design for Phase I
- Phasing Coordination with Airport Ops
- Lessons Learned
Project Background and Need
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- TXY H serves as the midfield spine
- *2015 Pavement Management Plan* indicated the need for rehabilitation of TXY H sections
Project Background and Need

- Several different lighting circuits in the project area
- Some Megger readings were not good
- Many existing circuits were co-located in single conduits
Pavement Investigation

- PCC, HMA and PCC/HMA composite pavements
- Various distresses
- Cohesive soils (CL)
- Non-Destructive Testing (NDT) and coring/boring program
Pavement Investigation

NDT data analysis with pavement structures obtained from 42 pavement cores

Impulse Stiffness Modulus (ISM) – a measure of overall pavement strength contributed from all influencing pavement and subgrade layers

Non-Destructive Testing Pavement Investigation

Exhibit 1: ISM Ranges and Existing Pavement Structures

ISM Intervals
- 2000kip/in. < ISM < 3000kip/in.
- 3000kip/in. < ISM < 4000kip/in.
- 4000kip/in. < ISM < 5000kip/in.
- 5000kip/in. < ISM < 6000kip/in.
- 6000kip/in. < ISM < 7000kip/in.
- ISM > 7000kip/in.

Legend
- NDT Location
- Core: AGSB=Crushed Stone; AGSBS=Sand & Gravel
- PMS Section 2015 PCI
- PMS Section

Graphic Scale (in feet)
Rehabilitation Recommendations

- 2012 traffic data
- 24,844 annual departures
Rehabilitation Recommendations

- Pavement Strength was sufficient – in most areas
Rehabilitation Recommendations

- 3” Mill and Overlay
- 7” Mill and Overlay

Taxiway R
Taxiway P
Taxiway N
Rehabilitation Recommendations

- PCC Reconstruction
- PCC Restoration
- 7” Mill and Overlay

Diagram showing:
- Taxiway M
- Taxiway H1
- Taxiway H2
- Old Terminal Apron
Rehabilitation Recommendations

7" Mill and Overlay
PCC Reconstruction
PCC Restoration
Implementation of FAA Standards

Abandoned Runway

Taxiway H

Taxiway H1

Old Terminal Apron
LED Lighting Plan Implementation

- 1st project to initiate the LED transition plan
- Some of Phase I work limits were not identified in the LED transition plan (beyond 2020)
Accelerated Design Schedule – Phase I

• Original design duration – **217 days**
• Original design scope – Phase II Area
• 5/19/2016 – began field work Phase I (new scope)
• 7/1/2016 – final plans issued Phase I
• 7/22/2016 – one bid received (0.78% lower than the engineer’s estimate)
• Accelerated design duration – **43 days**
Phasing Coordination

- Design review meetings
- Construction coordination meetings
- Temporary tug road
- Temporary AOA fence
- Concurrent projects
- Moratoriums
Lessons Learned

• Access routes – don’t change in the middle of a shift
• Security reps should attend the preconstruction conference, along with reps from all airport authority departments affected by construction
• Access maps – Contractor provides maps to each escort and guard