

Construction Management of Multiple Projects within a Large Scale Program

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Agenda

- Overview of Port Columbus Airport (CMH)
- 10R/28L Replacement Program
- Planning the Program Execution
- Design for the Construction Program
- Standards/Specifications/Requirements
- Training, Safety & Security
- Field Work
- Questions

Tim Mentel, PMP

- Project Manager with Columbus Regional Airport Authority 2005-2014
- Responsible for all aspects of the Runway 10R/28L Replacement Program

Port Columbus International (CMH) 2008



CMH 2014



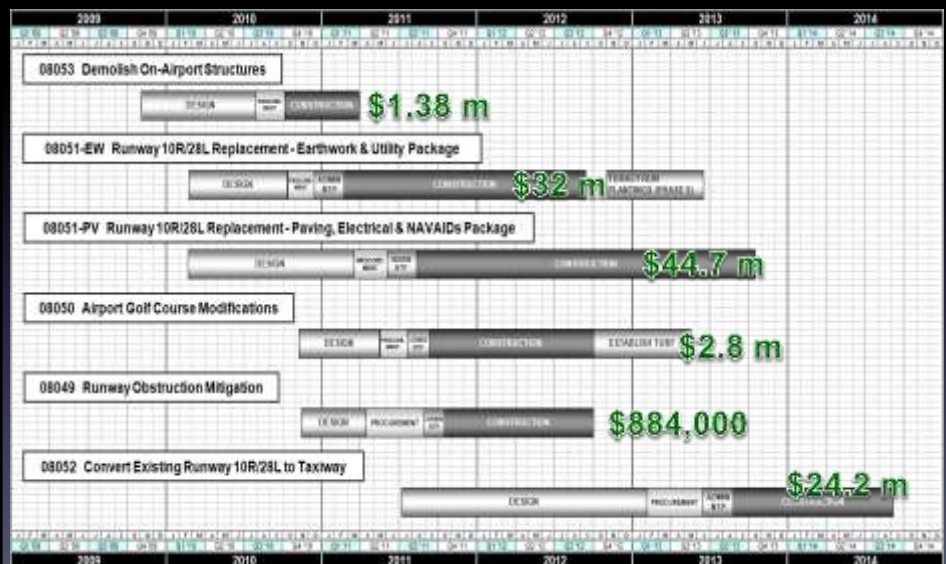
Multiple Projects within the Program



Program Execution Logic

- Demolish Structures first to find any “surprises”
- Earthwork & Utility next to prepare the site for paving and excavate Turkey Run basin
- Paving, Electrical & NAVAIDs have adequate work area due to head-start by Earthwork
- Golf Course work coordinated with city and to minimize loss of MALSR
- Obstruction Mitigation to avoid wildlife (Indiana Bat) issues
- Convert old runway to taxiway after new runway is commissioned

Projects, Schedules & Costs



Contracts by Specialty for Design

- Storm Water Master Plan Consultant designed Turkey Run Basin & assisted with review of Airfield drainage design
- Primary Airfield Engineering firm for all on-airfield work – including airside demolition. Led Permitting efforts to avoid or schedule around possible delays and meet permit conditions
- Residential removal was done “in-house” in coordination with city and utilities
- Specialized Golf Course Architect for re-design of the golf course
- Obstruction removal plans by the Airspace consultant
- NAVAIDs designed by consultant with FAA approval

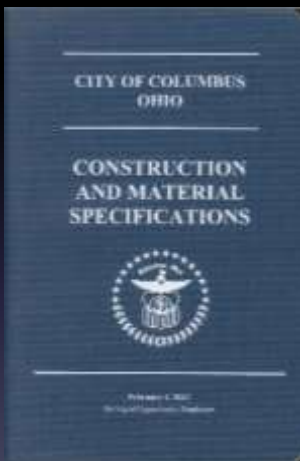
Design & Plan for Next Phases

- Dirt stockpiled on-site for use by future projects
- Complete electrical work to power lighting while future phases are under construction
- Minimize rework in future phases
- Future pavement connections brought up to base course
- Install temporary signs on permanent bases where possible

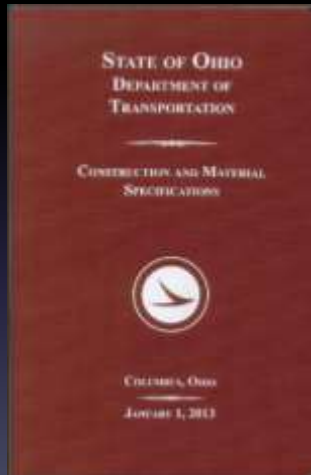
Specifications



Spec Management



Game Changers



- All new for 2013
- All projects that used ODOT Specs had been bid prior to 1/1/2013

FAA Game Changers

- *A/C 150/5370-10* – Standards for Specifying Construction of Airports
 - Design started under –E
 - Revision –F Effective 9/30/11
 - Revision –G Effective 7/21/14

FAA Changes

- Multiple Changes to Several A/C's
 - Pavement Markings
 - Lighting (LED)
 - Survey (5300 18, 18A & 18B)
 - Safety – 5370-2F Update created some confusion
 - Had to make sure everyone (OPS, Contractors, Inspectors) knew the rules that applied to project.
 - 5300-13A - Airport Design – Taxiway Design Changes

Other Hazards

- Local Utilities – Allow time for review & comment. Work out who pays for “options”.
- National Weather Service – NOT just a phone call. About 6 months to review the new site & provide comments. On-site during the work for inspections. Multiple visits for site approvals.
- FAA Inspector/RE – Make sure they have everything they need. Brief them on design considerations that may be “non-standard” but approved by Region or local reps.

Funding

- Majority funded through AIP LOI (61.3%)
- Most of the remainder funded through PFC's
- Non-eligible items (LED HIRLs) funded by the airport
- Make sure eligible vs non are clearly agreed to with the ADO!

Construction Management

- Single CM Firm selected for majority of the projects
 - Sub consultants for survey Q/A and testing Q/A
 - CM assisted with program communications
 - Designer provided CM services for Conversion Package

Contractors

- Demolition
 - Airside – Single contract to specialty Demo contractor
 - Residential – 3 firms on a Job Order Contract basis. Single firm for abatements
- Earthwork & Utility – Earthwork firm
- Golf Course – Specialty Golf Course Contractor
- Obstruction Mitigation – Bid won by Earthwork firm with a “clearing” sub
- Paving, Electrical & NAVAIDs – Paving firm with same electrical sub from Earthwork
- Conversion – Earthwork firm returned – Same Electrical sub

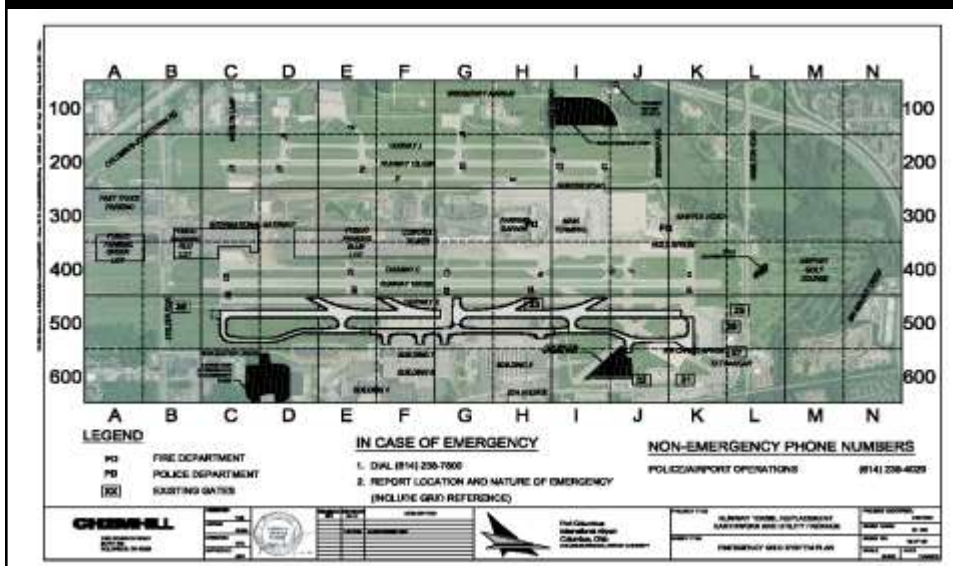
Program Team

			
		Runway Design/Conversion CM	Construction Manager
			
Pavement Design/CM	Survey/GeoTech	Survey/Obstructions	Storm Water Design
			
Golf Course Design	Paving/Electrical/NAVAIDs	CAD/Graphic & Admin Support	Earthwork & Conversion
			
Asphalt Paving	Airfield Demo	Electric/Data/NAVAIDs	Airfield Lighting & Signs

Program Continuity

- It was recognized early that multiple firms would be working on multiple projects across a three square mile construction site. The need for a common safety and security training program became clear

Common Location Reference



Common Safety Training



Locally Produced with Site and Program Specific Details

- TTD Orientations: 868
- Annual Renewal
- Site Access with Sticker
- Required for ALL Projects
- No Exceptions



Security Training

- Site specific training provided all Gate Guards
- Vehicle search procedures
- Emergency Contacts
- Training program for Crossing Guards stationed where construction equipment cross active taxiways
- Security for Golf Course – Blocked access to keep the public out

Rick Hines, P.E.

- Construction Manager
- Responsible for Field Operations and Inspections of the Runway 10R/28L Replacement Program

Managing The Program During Construction



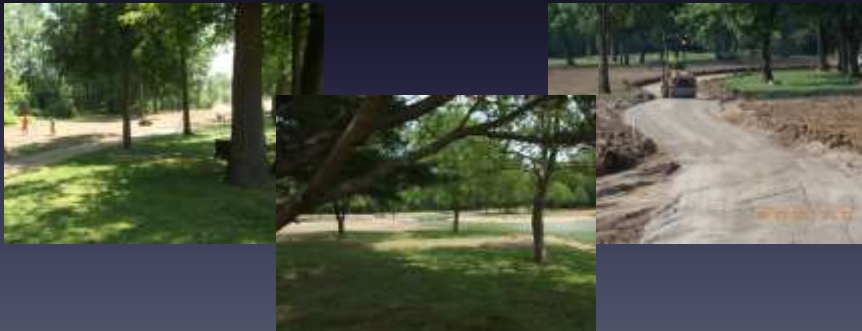
Demolition Project

- First construction project of the program
- Multiple structures
- Abatement
- Utility Coordination



Golf Course Project

- City Owned Facility
- Different Construction Method



Turkey Run Detention Basin

- 26 Acre Site



Earthwork Project

- Preparing the site



Earthwork Project

- Unforeseen Obstructions



Earthwork Project

- Infrastructure Installation



Paving Project

- Major Paving Operation



Paving Project

- NAVAID & Electrical Installations



Conversion Project

- Final Project of the Program



Issues

- Light Base Epoxy Coating
- P-606 Sealant
- Longitudinal Paving Joints
- Detention Basin Vegetation

Conclusion

Communication & Coordination