CMAA National Conference – Orlando, Florida, October 25 – 27, 2009

Tina Millán Clegg, AICP, PMP – Owner Glenn Wilcox – Consultant Fernando Gavarrete, AIA – Design Manager Chris Carson, CCM, PSP – Moderator



Introduction

- Tina Millán Clegg, AICP, PMP, Director of Program Controls for Miami Dade Aviation, Owner
- Fernando Gavarrete, AIA, Program Manager for Heery/S&G, Design Manager
- Glenn Wilcox, Operations Manager, U.S. Cost
- Jim Thompson, Sr., Esq., Program Manager for Alpha Corporation, Claims Avoidance Project Controls Service Provider
- Chris Carson, CCM, PSP, Corporate Director of Project Controls for Alpha Corporation, Claims Avoidance Project Controls Service Provider

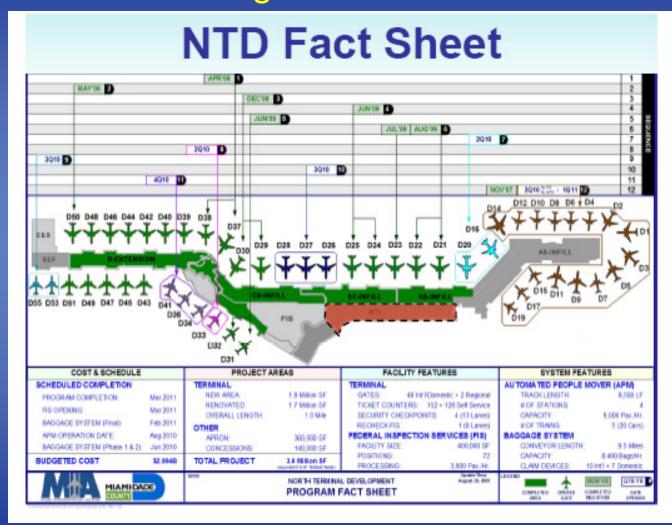








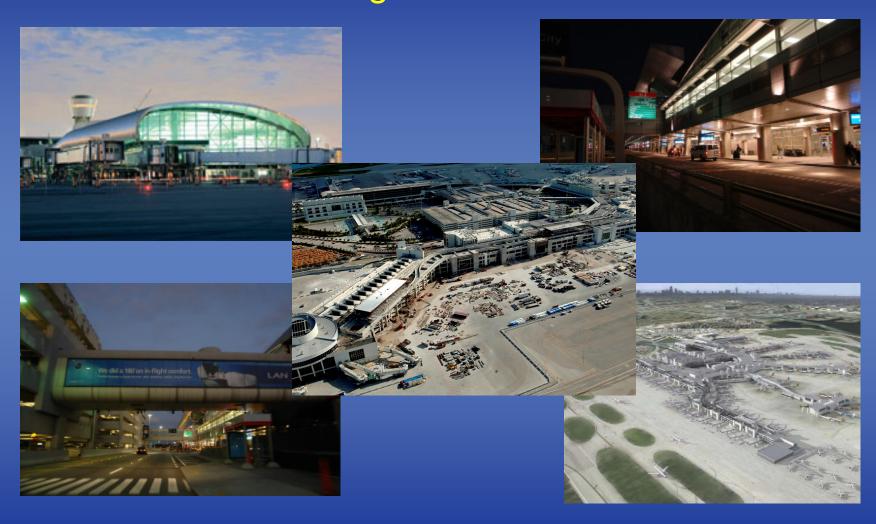






- Miami International Airport North Terminal
 - One of largest & most complex aviation programs in the world.
 - Over 10 years in the making
 - Unprecedented changes in Owner representation and Managing General Contractors
 - Challenges to reinstate the program
 - Planning and execution of work
 - Claims Management
 - Lessons Learned







Miami International Airport

- MDAD serves as Airport Authority for Miami-Dade County
- Operates MIA and 4 general aviation airports
- 3,230 acre land mass
- Busiest airport in the US for international freight & travel on US carriers
- Largest commercial service airport in Florida
- 650,000 passengers per week (NT)
- Large portion of passengers are transfer instead of terminating in Miami; conflicting terminal & concourse design needs
- Substantial current CIP budget of \$6.4B



MIA North Terminal Program

- 7,400 passengers per hour
- Over 1 mile long
- 3.2 million square feet when complete
- Will contain 48 full use gates
- Design will allow double the number of daily flights per gate
- Complex Baggage Handling System over 10 miles of conveyors to move baggage from ticketing through security & sorting to planes – with limited human interaction
- Existing Airport Facility to remain fully functional during construction
- Half of existing terminal area between Terminals A and D is being reconfigured



- American Airlines needs
 - Re-routing of all American Airlines' Caribbean & Central/South America flight traffic through MIA
 - Required creation of an international passenger & cargo-connecting hub at MIA
 - AA's role was to function as Owner
 - MDAD's role was lender and approval authority
 - Drive the design and construction of the program
 - AA to remain fully functional



- Small work package strategy
- Increase minority & local participation
- Resulted in many different Architects, Engineers, Contractors
- Increased coordination needs
- Post 9/11 changes caused new TSA security mandates
- Changing construction market
- Increased costs of materials & labor 2003 2005
- Schedules slipped & costs mounted



- Problems escalated
- Funding increased in 2004 from \$975M to \$1.52B
- Program could not handle the challenges
- Management team lost public and MDAD confidence
- Funding is currently \$2.9B for NTD only

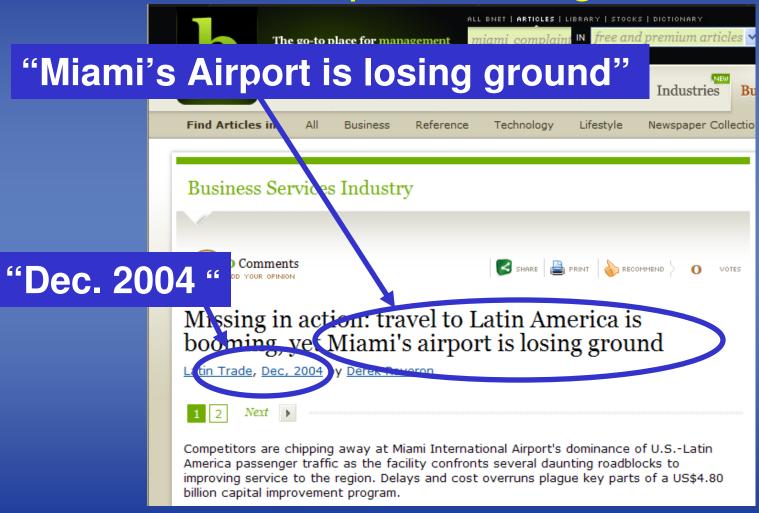




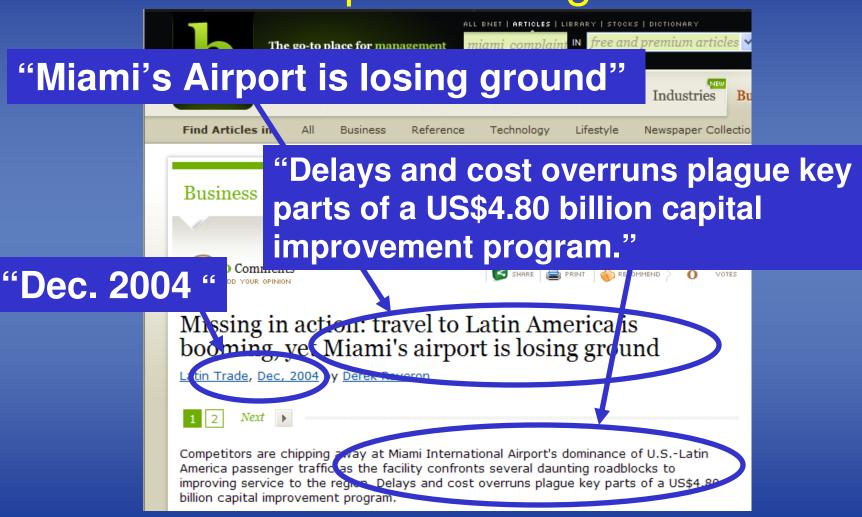














- MDAD took some potentially high risk steps:
 - Replace American Airlines in its role as Tenant Owner
 - Replace most team members
 - Further slowed program to evaluate and plan
 - Demobilized General Contractor
 - Evaluation halt & re-mobilization period added to the lack of progress



- Second half of 2004, MDAD & AA agreed to restructure
 - Replaced Program Manager
 - Construction Manager
 - MDAD re-assumed Owner's role from AA
 - MDAD established a claims resolution fund
 - Established claims resolution procedures



- June 2005, MDAD started the transition plan:
 - CM terminated for convenience
 - New management team in place
 - Started creation of a Program Controls Division
 - Established an Owner's Review Board
 - Started consolidation & procurement of remaining work



- Two major tasks upon assuming control of the NTD Program
 - Cleaning up existing contractual and financial problems
 - Finishing the construction of the North Terminal



Challenge 1 – Pre-existing claims issues & contractor community challenge

Problems

- Extra work performed without documentation or formal authorization
- Payments held up for months or years
- MDAD identified exposure to over 350 claims totaling over \$160M



Challenge 1 – Pre-existing claims issues & contractor community challenge

Solutions

- Paid all participants for work performed to date
- Established fair & transparent claims resolution process
- Created the Owner's Review Board (ORB)
- Brought in Alpha Corporation as an independent claims and claims avoidance project controls consultant
- MDAD issued solicitations for remaining work
- Completed procurement and contracting
- Used time to perform pre-construction work



Challenge 1 – Pre-existing claims issues & contractor community challenge

Results

- Generated claims resolution schedule
- Updated schedule MDAD public access website
- Held public contractor forums to explain process
- All certified claims resolved without a single dispute that required litigation
- Over 20 claimants that previously filed lawsuits suspended their suits & resolved claims
- Resolved \$160M worth of claims in 16 months



Challenge 2 – Replacement of Owner representative team

- Problems
 - MDAD needed to replace existing management team
 - Planned on far less outsourcing



Challenge 2 – Replacement of Owner representative team

- Solution MDAD assembled a new highly skilled
 & experienced management team
 - Core team:
 - Aviation Director, Mr. Jose Abreu, P.E.
 - Program Director, Mr. Juan Carlos Arteaga, AIA
 - Director Program Controls Division, Ms. Tina Millán Clegg, AICP, PMP
 - Design Manager, Mr. Fernando Gavarrete, AIA
 - Senior Construction Manager, Mr. Carl Zimmerman



- Aviation Director
 Mr. Jose Abreu, P.E.
 - Former Director of FDOT
 - His reputation made the Program reorganization acceptable to the Board of County Commissioners
 - Brought high-level management experience and leadership skills
 - Has deep roots in the State's transportation engineering and construction community



- NTD Program Director
 Juan Carlos Arteaga, AIA, NCARB, CBO, CGC, LEED AP
 - Former Building Official experience and knowledge fostered innovative thinking about project construction techniques
 - Responsible for oversight of over 110 architectural, engineering, planning and scheduling firms
 - Monitors, coordinates, and resolves all construction issues with prime contractors
 - Strong problem solving talents and background



- Director of Program Controls
 Tina Millán Clegg, AICP, PMP
 - No-nonsense approach to problem solving forced resolution of difficult issues preventing lingering impacts
 - Conducted full audit of the Capital Improvement Program (CIP) to identify strengths/weaknesses
 - Developed processes as Standard Operating Procedures
 - Established best practices for project controls



- Design Manager
 Fernando Gavarrete, AIA
 - Strong background in architecture management and extensive local relationships helped Program reorganization of design consultants
 - His firm was providing local office and administrative staffing for the previous Program Manger, so continuity was maintained
 - Offers a valuable historic perspective of the Program



- Senior Construction Manager
 Carl Zimmerman
 - Extensive experience in large aviation projects helped untangle complicated issues for resolution
 - Provides tough but fair management style
 - 25 years of Construction Management experience supports his overall coordination and management role



Challenge 2 – Replacement of Owner representative team

Results

- Created team dedicated to phasing plans
- Held meetings with permit/code compliance representatives to attain early approval
- Engaged outside design professionals to assess status of each project for completeness and constructability of plans
- Made decision to close Concourse A, a new operational concourse (Fall, 2007)



Major Challenges of the North Terminal Development Program





Major Challenges of the North Terminal Development Program





Major Challenges of the North Terminal Development Program





Challenge 3 – Security requirements

Problems

- Enhanced post 9/11 security requirements
- Reduced available labor force



Challenge 3 – Security requirements

Solutions

- Convert more airside construction area to landside
- Relocated ticketing & gate operations to South Terminal & Terminal E
- Relocated vendors to recently opened South Terminal, including re-negotiating leases

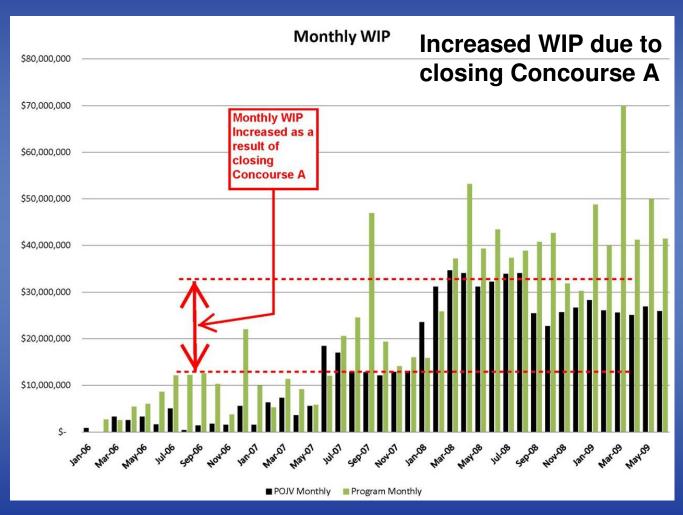


Challenge 3 – Security requirements

- Results
 - Provided landside construction instead of airside
 - Productivity increases due to security differences between landside and airside
 - Increased Work In Place due to landside work



Results of Closing Concourse A





Challenge 4 – Gate delivery

Problems

- Program required a gate-driven construction effort, much more complicated than turn-key Program
- Progress towards individual gate openings contingent upon:
 - Phasing of the gates
 - Work at adjacent gates
 - Public-use spaces that contain renovation components
 - Utilities work that may span multiple gates
 - Coordination of construction, operations, maintenance, and public safety concerns



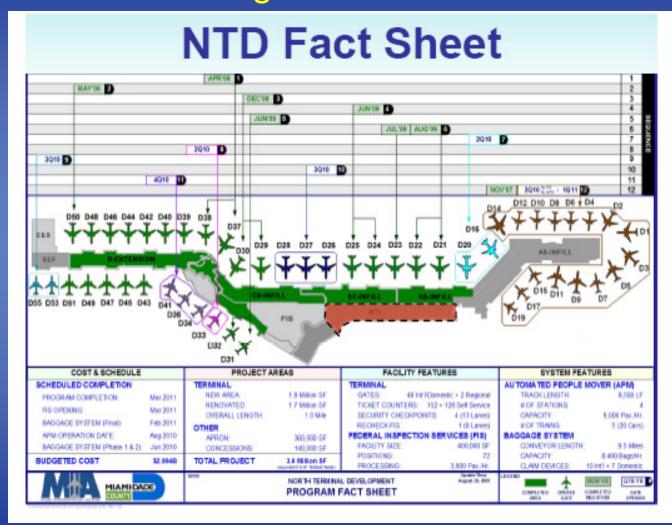
Challenge 4 – Gate delivery

Solutions

- All gates included in the consolidated work
- Extensive phasing plans coordinated with project plans
- Few bids received for new consolidated work
- MDAD reduced scope of work
- Program schedule required expedited procurement and mitigation strategies
- Mitigation plans required for every gate opening that predicted delay
- New procedures developed to close out projects after Substantial Completion



Innovative Program Delivery With Claims Avoidance Planning and Execution





Challenge 4 – Gate delivery

Results

- Current POJV contract amount, with approved changes to date, \$1,045B with performance and schedule risks
- Successful mitigation and progress resulted in on-time delivery of all finished gates
- 42 working gates were available to American from September 2008 in the program
- Ensure critical permits obtained
- Ensure as-built information is accurate and available for other gate interfaces
- Capture maintenance & operations information
- Resolve outstanding disputes
- Enable quicker release of final payments



Challenge 5 – Procurement & phasing

Problems

- Initial reorganization required new A/E teams to take over existing designs
- Reluctance of A/Es to take on risks of other professionals' work slowed initial design
- Procurement process was burdensome
- Phases required by need of AA to allow terminal to remain operational & revenue generating
- Phasing crucial to maintaining promised gate delivery



Challenge 5 – Procurement & phasing

Solutions

- Developed North Terminal Expedite Ordinance, allowing faster turnaround with changes
- High-level meetings scheduled with permit & code compliance divisions to attain early approval of revised plans
- Closing of Concourse A created landside areas
- Weekly meetings with contractors held to discuss issues, intended progress, options
- New procedures for claims avoidance
 - Proactive approach to resolution as issues arise



Challenge 5 – Procurement & phasing

Results

- New procedures for change management
 - Issuance of Special Work Authorization Tickets
 - Early involvement in senior decision-makers
 - More comprehensive approach to writing of work orders
 - Ensure capturing of full scope of work, schedule implications, contractual issues in narrative
- Temporary phasing plans were allowed to be managed in the field to avoid lengthy permitting
- Increased emphasis on Program schedule review allowed impacts to be avoided or mitigated
- Improved ability to open and close gates

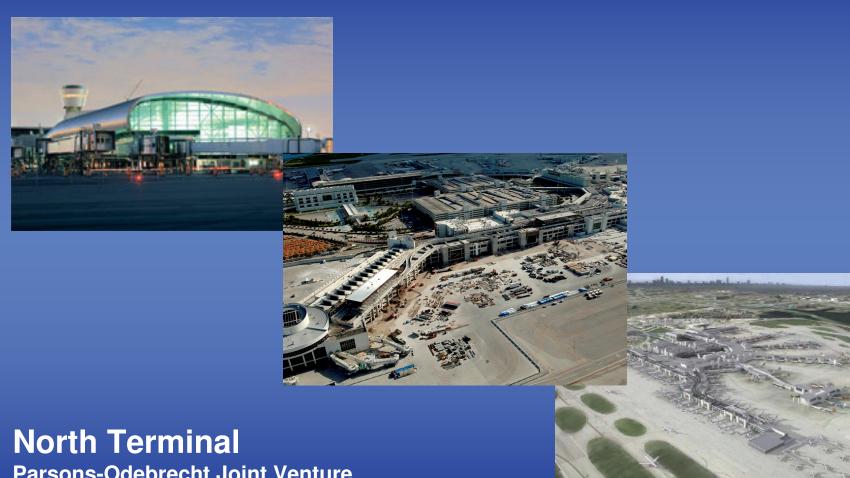


Other contracts in NTD

- North Terminal Improvements Package
- Baggage Handling System
- Automated Rooftop People Mover System
- Regional Commuter Facility



Innovative Program Delivery With Claims Avoidance Planning and Execution

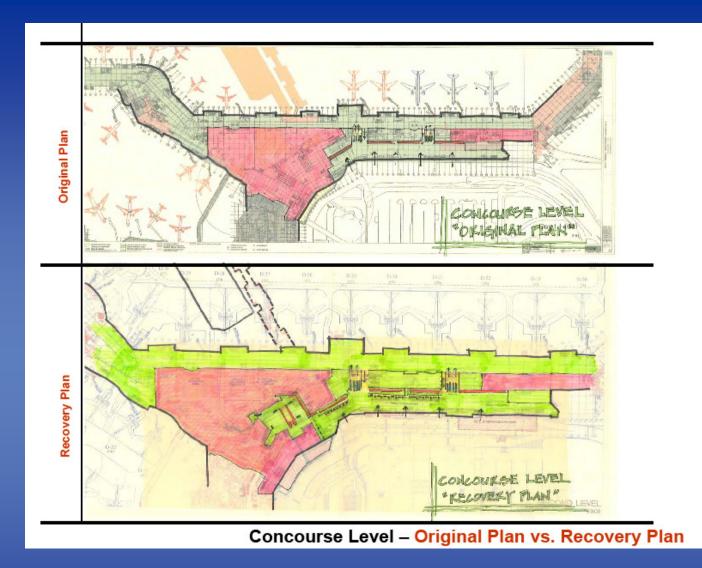


Parsons-Odebrecht Joint Venture









Baggage Handling System Mitigation of delay



Mitigation for BHS Schedule Delays





Mitigation for BHS Schedule Delays





Mitigation for BHS Schedule Delays







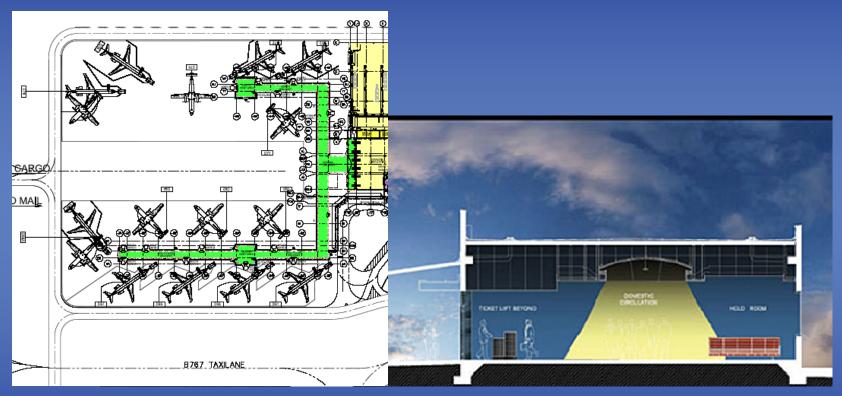
Automated People Mover

Sumitomo Corporation of America









Regional Commuter Facility

Beauchamp Construction Company, Inc.



- Specialty specifications language
 - Detailed CPM schedule specification
 - Mandated schedule as planning & analysis tool
 - Required identification of impacts and mitigation
 - Required experienced & trained scheduling staff
 - AACEi's Planning & Scheduling Professional (PSP) certification held by many involved in scheduling and analysis



- Specialty specifications language
 - Detailed CPM schedule specification
 - Required identification of planned and actual resource consumption

Work so that it is substantially completed within the Contract Time. The Manpower Management Process will consist of the following:

- Within Ninety Days (90) of the issuance of the NTP, the Managing General Contractor shall provide to the Owner MGC's manpower projections.
- The manpower projections shall estimate, by month, the number of persons projected to be working on the site for the primary Trade Contractors on a Project by Project basis.
- MGC will track the actual Manpower for each first-tier Trade Contractor on a Project by Project basis and compare it with the manpower projections. Comparison charts will be submitted to Owner monthly with the schedule update and will be updated with revised projections by MGC, as appropriate.



- Specialty specifications language
 - Change management process
 - Fair & reasonable interpretation of contract
 - Weekly meetings to review changes
 - Regular & detailed analysis of changes and progress impacts on schedule
 - Appropriate payments contingent on progress



Specialty specifications language

Change management process

10.1.6 Proposed time extensions must include a time impact analysis (TIA), clearly showing the impact on the current schedules, and conclusively proving the validity of the proposed extension.

The TIA shall demonstrate the time impact of each change or delay based on the date of the change or start of delay on the Managing General Contractor's current approved construction schedule. Each TIA shall include how the Managing General Contractor or Trade Contractor proposes to incorporate the changes or delays into its construction schedule. Failure to submit the TIA in accordance with this paragraph shall constitute a waiver and abandonment of any claims for time related issues.

- A. The TIA shall be submitted within thirty (30) days after completion of the Work that gives rise to the delay.
- B. Where a TIA for a specific change or delay is not submitted within the period of time specified herein, then it is expressly understood

North Terminal Development Consolidation Program – First Amended and Restated Contract Provisions
CP - 75 of 94



- Specialty specifications language
 - Dealing with delay/disruption claims
 - Created system to review claims or potential claims
 - Timely response to change notification
 - Developed credibility with contractor community
 - Dispute Resolution Board in place to help resolve stalled negotiations if necessary



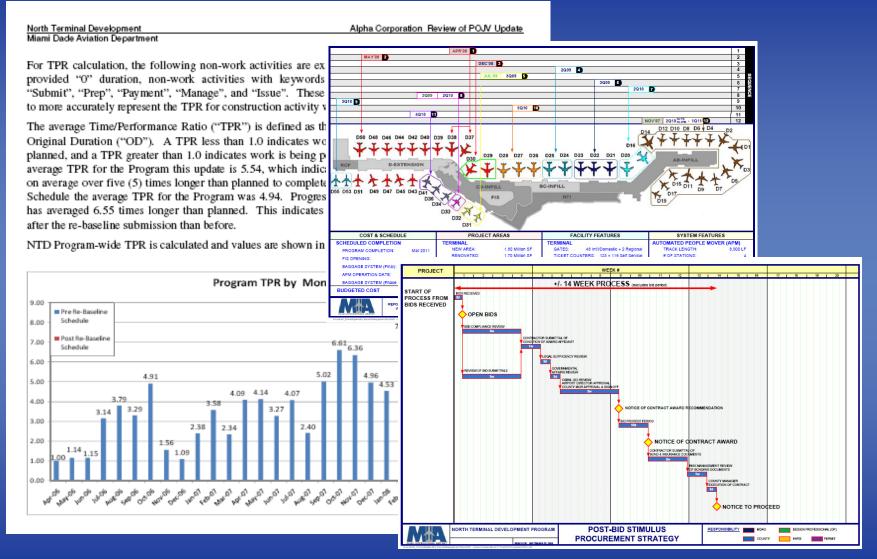
- Claims avoidance schedule review
 - In-depth review & approval by highly qualified schedulers & analysts
 - Schedulers and analysts involved have a high level of experience in schedule analysis and review for dispute resolution in all types of forums, negotiation to litigation
 - Detailed review comments transmitted to contractors



- Claims avoidance schedule review
 - Reviews identified multiple issues
 - Legitimacy of continuing plan for construction
 - Critical Path delay, Near-Critical Path slippage
 - Non-Critical Path missed start & finish dates
 - Review of individual trade contractor performance compared to plan
 - Risk management incorporated into reviews



Claims Avoidance Schedule Review





- Claims avoidance schedule review
 - Schedule delay requires mitigation efforts by contractor
 - Must submit mitigation plan to recover lost time
 - MDAD provides detailed technical review of plans
 - U.S. Cost reviews cost consequences of plans
 - Alpha Corporation reviews for reasonableness and other opportunities to regain time





ALPHA CORPORATION

Memo

Date: February 10, 2009 Subject: Comments for BC Pricing

The information submitted by POJV ha to mitigate delay to the openings of Gat alleged 55 Work Day delay and does n support for the execution of PWO 74 submission are as follows:

- Gate Impacts Alleged by POJV.
 - a. Work Order 1-781 (10CD I IM10, UP10, IM11 and UP11 which gave POJV the directiv stated in the schedule. The PROOF BEAM @ PHASE 1 an expected completion date December Update UP11 show and the UP11 shows false mit 26, 2008. This would indic November 26, 2008 not Dece the impact is shown is that mitigation, when in fact MDA the milestone.
 - b. Open Changes Pending Exe of information provided in t "individually evaluate and i were inserted into a schedul

MGC AB Mitigation Plan

February 10, 2009

INTRODUCTION

performed. POJV has submitted a MG During the weekly schedule partnering meeting on January 12, 2 mitigation plan relating to delays experienced at APM Station A ar December 2008 Schedule Update (MGC_RB1C_UP11), Project 7471 34 calendar days. As MDAD is aware, POJV has been working tow D21 / D22 / D23 and 747B TCO #1 by July 29, 2009. As discussed wi target date of July 29, 2009 for Gates D21 / D22 / D23 and Projec was executed on the Novemb 2010, the contract completion date.

> Currently POJV has a dozen unresolved bulletins, several of which the MGC construction schedule. Seven of these have been receive seven are less than two weeks old. The following is a list of the 74:

<u>Bulletin</u>	Issued	
Bulletin #03 – Escalator Revisions	3/25/08	
Bulletin #04 – Card Access Matrix Security	6/23/08	
Bulletin #05 – 12" Fire Main Ramp Level	7/29/08	
Bulletin #06 – Curbside Baggage Relocation	8/11/08	
Bulletin #07 – Building Management System	8/7/08	4
Bulletin #08 – FIDS	8/22/08	,
Bulletin NO9 Checkpoint B and Concessions	11/19/08	,
Bulletin #10 - Electric Tug Chargers & ETD Rooms	11/4/08	
Bulletin #11 – Plumbing	1/30/09	;
Bulletin #12 – Fire Protection	1/30/09	,
Bulletin #13 PDS Conduits	1/30/09	
Bulletin #14 APM Catwalk	1/30/09	4
Bulletin #15 – Life Safety Master Plan	1/30/09	

North Termin Miami Interna	e Improvement Packages al Development Project \$756A & \$756D Reported Ilvation Department	From: TERM		DETAIL I IMPROVEMENTS Report Total:	Ш
LEVEL	×000000×000.★ 00×00000	QTY	UOM	UNIT COST	U.S. C
LEVEL		ult	ООМ	UNITCOST	TOTAL
	Estimate Tree Structure Monage				
	INTERIOR CONSTRUCTION				\$1,851,441
	UGH CARPENTRY				
390 GE1802830	Blocking, miscellaneous, to wood	10,000	BF	\$5.00	\$60,08
Subtotal Prime Contrac Escalation (Ta	for - Home Office Overhead, Profit, Bond (Table 1.1, Item 84) bite 1.1, Item #5)				\$95,96 \$25,83 \$21,31
TOTAL 0601	ROUGH CARPENTRY	1	LS		\$143,11
	Estimate Tree Structure Richips				
	MIA 8756 A INTERIOR FINISHES				\$94,056,001 \$17,072,010
	ALL FINISHES	72122			
399 663128136 313 668240216	Ceramic wall tie Ext painting	3,128	SF	\$13.69	\$42,83 \$4,55
DIT CONDUCTO	int painting	40,647	SF	\$1.08	543.73
312 1036c000	Clear anod, alum, extrusion corner guard	2,005	LF	534.02	\$90,16
313 671310456	Interior Aluminum/Stainless Steel Wall	9,199	SF	\$70.78	\$651,08
514 6753×0450	Interior Painted Metal Wall Panel MPS-4	6,818	SF	\$27.40	\$186,82
315 6783×0×56	Fluted SS Wall Panel Walnscot MPS-5	7,100	SF	\$87.53	\$621,45
315 678340450 317 692150100	Interior Stainless Steel Wall Panel MPS- 3/6" Stucco	1,365	SF	\$70.78	\$96,61
917 042150100 918 423542350	2 w stucco Corner quards stainless steel, wlanchors	4,760	LF	\$2.13 \$42.55	\$10,11 \$21,27
Prime Contrac Escalation (Ta	r - Field Overbead, Home Office Overhead, Profit & Bond (Table 1.1, liter for - Home Office Overhead, Profit, Bond (Table 1.1, Item #4) bit 1.1, Item #5)				\$1,776,64 \$695,21 \$662,77 \$546,81
TOTAL 0906	WALL FINISHES	77,835	SF	\$47.17	\$3,671,44
	Estinate Disc Structure Rolling				
	MIA 8756 A INTERIOR FINISHES				\$17,072,010
	OOR FINISHES Ceramic tile	1,248	SF	\$13.69	
319 063123130 329 063120170	Ceramic tile Ceramic tile, base	1,248	LF.	\$13.69	\$17,08
339 063128170 321 069662710	Resilient, 1/8" vinyl plastic base, 6" H.	406	LF	\$3.56	51,44
322 068961100	Carpet file, furted, 18" x 18" or 24" x	694	SY	\$44.44	\$30,84
325 044070330	Sealed concrete	4,993	SF	\$0.41	\$2,06
324 6763×6456	Stainless Steel base	3,006	LF	\$47.35	\$142,27
325 09862400	Resilient, vinyl composition tile, 1/8"	1,347	SF	\$3.49	\$4,69
326 094142750 327 094142750	Epoxy Terrazzo foor cast in place Exterior rustic terrazzo foor cast in	103,565	SF	\$28.06	\$2,905,41
227 (Sect-02750)	Exterior rustic terrazzo noor cast el	19,949	8*	\$15.53	\$310,04

Total ≈ \$5,600,000



- Claims avoidance schedule review
 - Special monitoring of types of potential claims
 - Perform risk assessment for potential claims
 - Specific event impact delays
 - Concurrent delays (multiple CP delays)
 - Directed & constructive acceleration
 - Inefficiency & disruption
 - Cumulative effect of changes



- Claims avoidance schedule review
 - Risk assessment & monitoring of scheduling traps
 - Review of logic & duration changes
 - Review of potential float suppression through constraints & preferential logic
 - Review of Critical Path and mid-period shifts
 - Tracking of Remaining Duration and Percent Complete separately (allowing EVMS metrics)



- Claims avoidance schedule review
 - Training and hiring
 - Team involvement in hiring interviews
 - CPM methodology training, not just software training
 - Claims avoidance training sessions with project management personnel
 - Certified Primavera software training and follow up support
 - Support for earning certifications



Conclusion – Lessons Learned

- How to relate these successes to other projects
 - Choose the right team for deep owner involvement
 - Evaluate carefully and keep all options on the table
 - Professional project controls
 - Contractual requirements for accurate and maintained schedule, costs & resources
 - Proactive claims avoidance in schedule and costs through detailed, thorough reviews
 - Team approach for identification of impact events and mitigation
 - Professional project management training & continuing education
 - Certifications for construction, planning, and scheduling management team members – CCM, AICP, PSP, PMP



Innovative Program Delivery With Claims Avoidance Planning and Execution

Questions, Comments?

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