

Collaborative Analytics

Fort Leonard Wood Hospital Replacement



AGENDA

FLW HOSPITAL
REPLACEMENT OVERVIEW

PARTNERING INITIATIVE

COLLABORATIVE ANALYTICS
OVERVIEW

ISSUE RESOLUTION
INCLUDING EXAMPLES

LESSONS LEARNED

PROJECT OVERVIEW

SCOPE Construct 235,376 SF Hospital; 193,332 SF Clinic; 5-Bay Ambulance Garage; Helipad; Central Utility Plant; & Supporting Facilities

DB TEAM JE Dunn Construction & RLF Architecture-Engineering-Interiors

CONSTRUCTION DURATION 48 Months

CURRENT COST \$302.5M

DESIGN: final design package released for construction

CONSTRUCTION – Sitework: mass excavation complete, utilities ~90% complete, public road re-alignment - in process; **CUP:** foundations complete, SOG ~95% complete, structural steel erection complete, fireproofing ~90% complete, Interior utility rough-in ~5%, precast skin – started. **Ambulance Garage:** SOG installation -100% complete, steel erection 100% complete. SOMD placement 100% complete. Precast erection upcoming; **Hospital:** foundations complete, structural steel erection ~75% complete, SOMD ~30% complete, 9 of 30 deck pours completed. **Clinic:** foundations complete, slab on grade is complete, structural steel erection ~10%



COLLABORATIVE ANALYTICS STAKEHOLDERS

138+/- Stakeholders

USACE – MANDATORY
CENTERS OF EXPERTISE

USACE – KANSAS CITY
DISTRICT

LEO A DALY

MILITARY HEALTH SERVICE
(MHS)

FORT LEONARD WOOD

JE DUNN CONSTRUCTION

RLF

APFULLER CONSULTANTS

LAND3 STUDIO

LYNCH MYKINS

OLSSON

POOLE FIRE PROTECTION

MMC CONTRACTORS

GUARANTEE ELECTRICAL

COASTAL ELECTRIC

ELIASON AND KNUTH

BLOOMSDALE EXCAVATING

SCI ENGINEERING, INC.

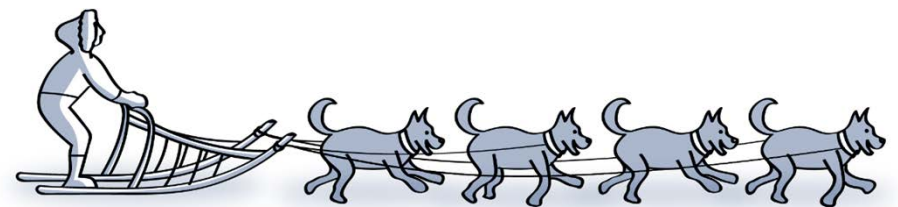
DOING STEEL

PARTNERING INITIATIVE

- **Collaborative Analytics**
- Formal partnering workshops (every 6 mo)
- Employee spotlight
- Formal process for on-off boarding
- Monthly social gatherings
- Kansas City District, JE Dunn & Defense Health Project Office co-located
- Recognition: Small Wins & Gold Bond Award
- Briefings of Sr. Leaders conducted jointly



Reality For Many Complex Project Teams...



OUR GOAL

Collaboration Program
 Ft. Leonard Wood Replacement Hospital
 December 2020

Individual collaboration view

Project state
 1 - On schedule
 2 - Behind schedule
 3 - At risk
 4 - Delayed
 5 - Cancelled

How people feel
 1 - Happy
 2 - Neutral
 3 - Sad
 4 - Frustrated
 5 - Angry

The team environment
 1 - Teamwork
 2 - Cooperation
 3 - Communication
 4 - Collaboration
 5 - Conflict



US Army Corps
 of Engineers



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COLLABORATIVE ANALYTICS OVERVIEW

- What is it?
- How does it work?
 - Conduct monthly survey
 - Data analysis
 - Reporting
 - Team leaders develop corrective actions
 - Results & corrective actions shared with the entire project team
- What Are The Resource Requirements?
 - What does It cost?
 - Labor required to manage?
 - What funds are used?

MONTHLY REPORTS

BEHAVIORS	OUTCOMES
Communication	Cost
Trust	Schedule
Coordination	Safety
Engagement	Quality
Eliminating Conflict	Creativity
Getting Along	Effectiveness
Honesty	Innovation
Counter-Productive Behavior	Efficiency
Utilization (Over/Under)	Design Changes/Reworks
	Accidents

BENEFITS

- “Spotlight Effect”: Encourages desired team member behaviors
- Focuses project team on importance of collaboration
- Requires leaders to be actively engaged
- Identifying and resolving collaboration issues before they impact quality, schedule, or budget

Points to communicate (based on our read of the data)

Things seem good this month. Participation may be low just because of the holidays and year end, but we will continue to monitor.

1. The main question is about Trade partners – they seem to have multiple low level indicators of problems. Meaning that nothing really sticks out, but there are multiple places of small concern. It may be good just to check in and see if everything is OK.

	Good	Things to watch	Things to fix
General trends	<ul style="list-style-type: none">• KCD and MHS improved a bit in participation• Collaboration is improved• In fact most teams seem more positive this month• JED and RLF discontented individuals seem better	<ul style="list-style-type: none">• RLF may be having some collaboration issues with others (this is very preliminary/slight) because they identified two other groups, and two groups identified them.	<ul style="list-style-type: none">• Participation is still low for MCX.
Project environment	<ul style="list-style-type: none">• On average, positive and attributes holding steady• MCX sees more listening and caring	<ul style="list-style-type: none">• TP trends in the wrong direction on some attributes (communication, disorganization, listening, innovativeness), but is still in the green	<ul style="list-style-type: none">• MHS still feeling financial pressure
How people feel	<ul style="list-style-type: none">• On average, ratings are in the green range• MCX is less burned out• Ft. LW is less frustrated, powerless		
Team environment	<ul style="list-style-type: none">• Most attributes and subteams are in the green range• Stress is generally down	<ul style="list-style-type: none">• TP feels team is less open to ideas, and adaptable	

NOTE: Items in bold were problematic last month as well

ISSUE RESOLUTION

Process:

- URI prepares reports including executive summary containing "Points To Communicate"
- Survey results forwarded to project team leaders
- Project team leaders meet & discuss survey results
- Countermeasures deployed as necessary
- Established formal process & project metrics using lean 6 sigma; Goal is to provide data indicating results of counter-measures (causality)

EXAMPLE

ISSUE RESOLUTION

Contractor, Designer of Record (DOR), and trade partners indicated frustration with government response time for submittals and RFIs

Kansas City District assigned dedicated resource and began utilizing schedule reminders for government reviewers

Defense Health Agency created team to accelerate medical-specific item responses



EXAMPLE

ISSUE RESOLUTION

Identified behavior by a government team member that was not collaborative >>>

Leadership engaged and started monitoring the situation >>>

Team member ultimately had to be removed



EXAMPLE

ISSUE RESOLUTION

Responses from trade and design partners noted concern about information flow to entire team from numerous meetings



JE Dunn initiated monthly meetings with trade and design partner teams to answer questions, note concerns and provide updates



EXAMPLE

ISSUE RESOLUTION

Designer of Record (DOR) and government quality assurance team responses indicated concern about meeting final design deliverable due date without adverse quality impact



Constructor and DOR met. Determined final design could slip two months without impact to project critical path



Partner Lessons Learned:

- Determine Engagement Strategy (CEO, Pres. etc)
- Focus on End-state (Quality Project not perfect Process)
- Be Able to Communicate “the Why”
- Jointly Determine Priorities, Risk and other Efforts
- Coach, Teach, Mentor Your Team

LESSONS LEARNED

- Begin partnering as soon as possible
- Obtain leader buy-in early
- Collaborative Analytics gives team members a forum to share concerns anonymously. Requires transparency that is uncomfortable
- Collaborative Analytics (CA) enables early issue identification and resolution
- Better understanding of each others' perspectives / perceptions
- Helped establish an environment of trust
- Emphasis on partnering is improving on-time & budget performance
 - Example: Resolution of unforeseen site conditions (\$1.5M credit; No delays)
- Creates a “settle things now” attitude



Bariatric ICU Room Mock-Up



Labor & Delivery Room Mock-Up

CONTRACTING & PROCESS:

- Contract placed with National Institute of Building Sciences (NIBS)
- University Research Institute (URI) is subcontractor to NIBS
- NIBS POC: Drew Rouland, VP Government Operations, (202) 787-3221, drouland@nibs.org
- URI POC: Joe Powell, Chairman, (713) 444-9363, joe.powell@universityresearchinstitute.org
- Standard Operating Procedure (SOP), Process Map, & Sample Scope of Work (SOW) available. POC: Kelly Miller, CENWK, (816) 830-3048, Kelly.b.miller@usace.army.mil

RESOURCES & COSTS:

- Contract Prep: 320 MH +/-
- PgM (Managing contract): 15-20 +/- MH/Month
- Team leaders (Managing contract): 2-4 +/- MH/Month
- Project team members: less than 1 MH/Month
- NIBS/URI contract cost: \$150K+/- annually (scalable)



WHAT'S NEXT?

Significant interest in Collaborative Analytics – multiple USACE divisions & districts planning to implement

Development of exportable templates & process for use by other project teams

Emphasis on process improvement

Use of metrics to help establish causality

Continue sharing best practices/lessons learned





CONTACT INFORMATION

USACE Kansas City District

Kelly Miller

816.830.3048

Kelly.b.miller@usace.army.mil

Clif Rope

816.389.3446

Clifton.j.rope@usace.army.mil

JE Dunn Construction

Bob Latas

816.292.8705

Bob.latas@jedunn.com

Tommy Turner

816.426.8857

Tommy.turner@jedunn.com

