



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS  
1455 MARKET STREET  
SAN FRANCISCO, CALIFORNIA 94103-1399

South Pacific Division

August 17, 2015

The Honorable Sloan Gibson  
Deputy Secretary of Veterans Affairs  
810 Vermont Avenue NW  
Washington, DC 20420

Deputy Secretary Gibson:

It is with distinct privilege that I submit the US Army Corps of Engineers (USACE) Diagnostic Assessment for the Department of Veterans Affairs (DVA) Orlando Medical Center at Lake Nona. The enclosed report provides detailed evaluations of more than thirty (30) tactics, techniques, and procedures across the three specific phases of project delivery, namely, Planning-Programming, Engineering-Acquisition, and Construction Management-Commissioning. The enclosed submission concludes the requested cycle of USACE Diagnostic Assessments of the identified projects sites that also included Denver-Aurora, North Las Vegas and New Orleans; a summary matrix of findings and recommendations for all four sites assessed by the USACE Review Cadre accompanies this report.

Through direct engagements with your staff, the contractor, the designer of record, and key stakeholders at the project site from the period April through May 2015, strengths and weaknesses were assessed against comparable standards that Department of Defense (DOD) and USACE use for major medical infrastructure. It should be noted that all observations, analytics, and recommendations offered are based on informed and reasonably defensible conclusions; however, due to the scale, scope, and term of the effort, this assessment should not be construed as conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS).

Our USACE Review Cadre found the spirit of collaboration, candor, and professionalism from every member of the DVA workforce we engaged as exceptional. As also evident in our prior Diagnostic Assessments, conflicting lines of authority between requirements generation policies, programming decisions, engineering-construction protocol, and facilities management prerogatives are the main challenges to attaining defensible investment rigor, effective governance, and reasonable project outcomes. Accordingly, implementation of strategies that drive horizontal and vertical alignment, improve risk-informed acquisition protocol, effect specialized training for DVA engineering and contracting personnel, and conduct independent cost-benefit analyses to determine prudent costs, risks, and benefits in decision-making will greatly enhance the probability of predictable delivery of future medical infrastructure projects.

We look forward to any future opportunity to assist and advise your efforts supporting our Nation's Veterans. As always, I may be reached on 415-503-6550 or at [joseph.f.calcara@usace.army.mil](mailto:joseph.f.calcara@usace.army.mil) if you require any further engagement regarding this effort.

Very Respectfully,

A handwritten signature in black ink, appearing to read "Joseph F. Calcara".

Joseph F. Calcara, SES  
Director, Programs

2 Encl

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**MAJOR MEDICAL CONSTRUCTION  
UNITED STATES DEPARTMENT OF VETERANS AFFAIRS**

**A DIAGNOSTIC ASSESSMENT  
BY THE  
UNITED STATES ARMY CORPS OF ENGINEERS**

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**ORLANDO MEDICAL CENTER**

**17 AUGUST 2015**



**US Army Corps  
of Engineers®**

*Note: This USACE Report details in-depth observations, analytics, and diagnostics used to reach informed and reasonably defensible conclusions contained herein. It should be noted, however, that due to the scale, scope, and term of the effort, this assessment should not be construed as an audit conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS) and related Federal standards.*

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## ***EXECUTIVE SUMMARY***

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In April 2013, the Government Accountability Office (GAO) concluded that costs substantially increased and schedules were delayed for Department of Veterans Affairs' (DVA) largest medical-facilities construction projects located in Aurora, Colorado; Las Vegas, Nevada; New Orleans, Louisiana; and Orlando, Florida. In April 2014 Congressional testimony, GAO reported the cost increases for these projects were ranging from 66% to 427%, with schedule delays ranging from 14 to 86 months. In January 2015, DVA senior leadership approached the US Army Corps of Engineers (USACE) to evaluate the tactics, techniques, and procedures (TTPs) which had been used at these projects. USACE developed a detailed diagnostic screening tool to assess the TTPs used at those four projects. DVA strengths and weaknesses across the phases of a project delivery cycle were assessed against comparable standards that Department of Defense (DOD) and USACE use for major medical infrastructure construction program. A separate report is made for each of the four projects, and this report addresses the Orlando project.

Detailed diagnostic evaluations of more than thirty (30) line item inputs across the three specific phases of project delivery — Planning-Programming, Engineering-Acquisition, and Construction Management-Commissioning — were performed, and contractor, designer, and key stakeholder interviews were also conducted at the project site. Consensus observations and conclusions for the Orlando medical center project are as follows:

DVA met or exceeded a majority of standards in the Planning-Programming and Engineering-Acquisition phases. Facilities Criteria Requirements Validation, Adoption of Energy and Sustainability Goals, and Project Concept Development through 35% Design were consistent with typical DOD and USACE TTPs. Additionally, DVA met the Engineering-Acquisition standards for developing a Program Management Plan, medical functional criteria, and conceptual design development maturation protocol. Conversely, and representing the single biggest cost and schedule driver, was the risk-informed acquisition strategy that segregated foundation/superstructure and facilities fit-out/finishes into multiple contracts, as well as deficient electrical design issues that caused dysfunction and the majority of the construction modifications.

Lastly, while USACE was tasked with developing prescriptive recommendations on process, structures, and oversight controls to drive predictable cost and schedule performance, root causes driven by misalignment of organizational priorities, expectations, and accountability across all levels of DVA must be addressed first. Conflicting lines of authority between requirements generation policies, programming decisions, engineering/construction protocol, and facilities management prerogatives have proven to be detrimental to defensible standards, effective governance, and attaining reasonable project outcomes. At Orlando, design choices involved elaborate finishes and architectural features which greatly exacerbated both first cost and future Operations & Maintenance requirements, influenced by Evidence-Based Doctrine and emergent personnel recruitment/retention initiatives that are clearly circumspect for defensible investment rigor. The DVA has initiated evolving changes: e.g., locking budgets at 35% design, incorporating medical equipment planners earlier, enhancing on-site contract authority, and driving accountability through a vested project executive, which will certainly help; but transformative change in organizational processes that enfranchises engineering/construction proponents to manage with disciplined leadership at DVA will be necessary to avoid major delays and cost overruns in medical infrastructure delivery, regardless of adopting DOD-comparable process, structures, and oversight controls.



## ***TASK & PURPOSE***

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In late January 2015, Department of Veterans Affairs (DVA) senior leadership approached the US Army Corps of Engineers (USACE) acting by and through their Senior Executive at South Pacific Division in San Francisco to:

- (1) Devise and perform a diagnostic evaluation to determine strengths and weaknesses in Tactics, Techniques, and Procedures (TTPs) used by DVA in delivery of their medical facility and infrastructure construction projects;
- (2) Conduct project executive, designer, construction contractor, facility manager, and other key stakeholder interviews to refine and/or validate conclusions; and
- (3) Provide prescriptive recommendations on process, structures, and oversight controls to drive predictable cost and schedule performance in DVA medical facility and infrastructure construction projects.

## ***PROJECT SCOPE***

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The VA Medical Center in Orlando at Lake Nona consists of approximately 1,158,000 BGSF on 65 acres. Key components of the project include:

- *Inpatient bed unit for approximately 134 beds*
- *Outpatient Clinic*
- *Community Living Center for approximately 120 beds*
- *Ambulatory Care Center*
- *Mental Health Clinic*
- *Diagnostic and Treatment Center*
- *Geriatrics and Extended Care*
- *Chapel*
- *Surface parking for approximately 3100 cars (patient, visitors and staff)*
- *Central Energy Plant (Boilers, Chillers, Emergency Generators)*
- *SimLEARN Center*

## ***PROJECT BACKGROUND***

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With the steady growth in Veterans' population since the early 1980s, DVA needed increased services in the Central Florida region. After determining an originally proposed location at Lake Baldwin would be inadequate for renovation and expansion, a site formerly occupied by a Navy hospital became the preferred choice closed for a new DVA Medical Center. In 2004, the Capital Asset Realignment for Enhanced Services (CARES) Commission concurred with that assessment, and the Lake Baldwin site was approved by the Secretary of Veterans Affairs (SECVA). By 2007, however, the proposed location shifted yet again to the Lake Nona area of South Orlando, leveraging synergies with nearby medical teaching facilities at the University Central Florida College of Medicine.



Groundbreaking for the project at Lake Nona took place in late 2008, with construction underway in summer 2009. The project was executed and delivered in multiple phases to include parking structures, 2012; Central Energy Plant, 2012; Community Living Center, 2013; and Domiciliary, 2014. The Outpatient Clinic opened February 2015; and the Medical Center was formally dedicated in May 2015.

## **ASSESSMENT APPROACH & METHODOLOGY**

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Industry-authenticated TTPs have been adopted by DOD and utilized successfully by USACE in delivering medical facilities and infrastructure projects for the Defense Health Agency, and other military organizations. Based on DOD practices, a diagnostic screening tool was devised to evaluate strengths and weaknesses across three key phases of project delivery: Planning-Programming (see Tab 1), Engineering-Acquisition (see Tab 2), and Construction Management-Commissioning (see Tab 3). DVA Senior Leaders from the identified projects were briefed and concurred with the specifics and methodology of the diagnostics screening tool, which included more than thirty (30) Movements, Measures, & Milestones that are the key enablers to driving predictable cost and schedule results.

The USACE Review Cadre of highly qualified experts in engineering, construction, program management, and acquisition contracting conducted extensive on-board assessments through collaborative presentations and discussions that included documentation and other pertinent information from DVA, GAO, and other sources, including a site visit to interview contractors, facility managers, medical center directors, and other key stakeholders. The USACE Review Cadre asserts the enclosed information and observations contained herein has provided a reasonable basis for informed and defensible conclusions. Following are findings of the assessment arranged by three key phases of project delivery.

## **SUMMARY of FINDINGS**

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### ***PLANNING-PROGRAMMING***

#### **STRENGTHS**

- ***Facilities Criteria*** – *Planned functionality, square footage consistent from inception.*
- ***Planning Guidance*** – *Good rigor in development; availability of a robust technical library.*
- ***Requirements Validation*** – *No programmatic changes, with user meetings held.*
- ***Site Selection*** – *Site ultimately selected free of environmental concerns, negating need for SHPO and cultural certifications; site located in the UCF medical community.*
- ***Project Pricing*** – *Adequate for planned project scope.*
- ***NEPA / LEED*** – *LEED Silver equivalent.*
- ***Prioritization / Programming / Authorizations & Appropriations*** – *Federal funding fulfilled mission, with minor reprogramming.*

#### **WEAKNESSES**

- ***Requirements Validation*** – *Piecemeal planning process.*
- ***Site Selection*** – *Delay caused by site selection change from ex-Navy site to Lake Nona.*
- ***Medical Equipment Plan*** – *No clearly defined medical equipment plan.*
- ***Prioritization / Programming / Authorizations & Appropriations*** – *Federal funding phased across multiple appropriations.*



For the primary, interconnected hospital and clinic buildings, DVA used a Design-Bid-Build (DBB) acquisition methodology, leveraging work done by the Architect/Engineer (A/E) from the originally proposed Lake Nona site. Form and Functionality for the proposed facility remained intact in large part due to rigorous (though piecemeal) planning, and the extensive use of the available technical library. The exception to this otherwise positively executed way forward, however, came in medical equipment planning, which lacked specificity and forced multiple reconstructions late in the life of the project, a situation further compounded by a lack of disciplined change management. Another notable advantage of the Lake Nona site was that environmental, cultural, and historic preservation concerns were minimized, if not obviated. Federal funding was less than ideally appropriated in multiple phases, however.

In recognizing that a Change Management Plan is necessary in the Construction Management-Commissioning phase of a major construction project, a similar doctrine should be implemented in the Planning-Programming phase. Changes in planning, programming, and appropriations activities, along with the reasonably defensible 'next best idea' should be documented and evaluated for benchmarking costs, risks, and rewards. During the Planning-Programming phase, assumptions and facts must be documented and reviewed frequently to determine ongoing relevance.

While the GAO studies recognized the Orlando project as problematic due to delays in design and construction process, the USACE Review Cadre also concludes that the change in site selection contributed to schedule and cost growth.

## ***ENGINEERING-ACQUISITION***

### **STRENGTHS**

- ***Concept Design*** – Stakeholders jointly approved concept design.
- ***35% Design Approval*** – within anticipated program amount.
- ***Change Management*** – User-requested changes used formal process.

### **WEAKNESSES**

- ***Solicitation Documents*** – Design errors/omissions, ambiguity in specifications, limited Request for Information (RFI) responses; Drawing/design quality forced Request for Proposal (RFP) solicitation to be rescinded.
- ***Advertising & Award*** – Best Value (BV) became Lowest Price, Technically Acceptable (LPTA) based on multiple rounds of Best and Final Offer (BAFO).
- ***Schedule Discipline*** – Unreasonable schedule drivers impaired project success; Schedule discipline adverse to desired outcomes.
- ***Change Management*** – Rationale for some changes lacking/undocumented.
- ***Governance*** – User requests submitted directly to A/E, not vetted.

The focus of the USACE review was the Hospital and Clinic, as these elements are the bulk of the total cost, and account for most of the challenges faced by DVA at the site. The Orlando VAMC includes other smaller construction projects, using various contract types, and our review does not address and generalize performance across all of these smaller and more straightforward projects.

While the Orlando Hospital and Clinic were solicited as a Design-Bid-Build (DBB) contract, the advantages of a DBB contract were compromised by many design ambiguities in specifications and solicitation errors. Proposing in the absence of clarity proved overly challenging. It was reported that



voluminous pre-bid questions were coupled with significant delays in response from DVA. Furthermore, the decision to separate the foundation/super-structure work from the facilities fit-out/finishes posed a challenge for the general contractor; that is, performing these efforts jointly would likely have created a synergy of effort, whereas segregation brought further complications to the project.

Under pressure to make progress, Resident Engineer Staff and under resourced Contracting Staff attempted to solicit offers for the Hospital and Clinic using documents that had not been thoroughly reviewed and corrected. The number of questions, particularly with respect to electrical design requirements, became so voluminous that DVA ultimately suspended and reissued the solicitation, directing on-site staff to cease answering questions altogether. Subsequently, multiple requests for Best and Final Offers (BAFO) drove the evaluation methodology of the award from a Best Value selection to a Lowest Price, Technically Acceptable (LPTA) framework.

Onsite delegated authorities were also deemed inadequate to provide timely direction to the contractor. For Engineer Administrative Contracting Officers (ACOs), the delegated authority levels for onsite DVA staff were too low to be effective, both in terms of dollars per transaction, as well as in cumulative monthly authority limits. Contracting Officers also have requirements for VA Central Office (VACO) review and approval on most changes resulting in decreased authority at the project site. On-site staffing in general was viewed as being under-resourced to efficiently and effectively perform the required functions.

In addition, the DVA Resident Engineer Staff reports experiencing many of the same communication and change management issues also observed by their peers at Denver-Aurora, Las Vegas and New Orleans. It was noted that the rationale for some changes was either lacking or not documented, with some User Requests submitted directly to the A/E without vetting. The project did build momentum as new personnel brought on-board remediated what had been a contentious relationship between the contractor and DVA. At the time of the USACE Cadre Review in May 2015, significant change orders and contractor claims were pending; which later on were settled.

## **CONSTRUCTION MANAGEMENT-COMMISSIONING**

### **STRENGTHS**

- **Quality of Assurance** – High quality product delivered; use of CM Services to support quality assurance.
- **Final Acceptance** – Formal Red Zone plan in place for the project; DVA and CM contractor concerned they performed much of the contractor’s job to complete.

### **WEAKNESSES**

- **Contract Administration** – ACO on site but had limited authority; eventually a PCO added to onsite staff; all parties had limited authority to issue changes; Construction contractor filed large Requests for Equitable Adjustment and Claims.
- **Change Management** – DVA procedures required reviews and concurrence at multiple levels in the organization delaying processes.
- **Equipment Installation** – No integrated Master Schedule tying construction to medical equipment installation.
- **Architect Engineer** – The joint venture partners did not work well together.

DVA issued seven individual contracts for this project, in order to match the phased federal funding received. The main hospital and clinic buildings were further split into foundation/superstructure and fit-out and finish contracts. A full design was prepared by the Joint-Venture (JV) A/E. Concerns were discovered with design during the solicitation phase, primarily with the electrical design,



whose challenges continued to be confronted throughout the construction contract. During solicitation, DVA actually instructed the contractor that no further clarifications were to be provided for the design. The electrical design issues forced DVA to suspend work on the hospital phase for several months. Electrical changes/impacts accounted for ~75% of changes throughout construction. The A/E design was found to be dysfunctional, forcing the local JV partner to take over management and correct errors and omissions. On another matter of Equipment Installation, DVA considered it a failure on its part that no master integrated schedule was implemented to synchronize ongoing construction with the requirements of medical equipment installation to minimize the amount and cost of re-work.

As the pending modifications mounted on the project, the contractor increased staff to prepare proposals, while DVA did not increase its own staff, eventually finding itself overwhelmed at various times. There was simply not adequate DVA staff assigned to support the demands across seven construction contracts. Additionally, the first six contracts did not have constructability reviews. Facilitated partnering existed on the project, but did not provide measurable results during the construction process. Contract administration proved problematic. Most design changes involved changes to electrical design. Again, DVA staff was under-resourced to the Orlando project, and those who were on hand had limited authority in the field – a situation which did not change when a Contracting Officer was finally brought on board to supplement efforts. Limited authority continued to plague prosecution, with approval of DVA Central Office required on most changes. Regarding Change Management, many modifications were issued via unilateral (versus bilateral) agreement with the contractor. Schedules and cost were negotiated later, either as a Request for Equitable Adjustment (REA) or a Claim. Furthermore, it is anticipated that settlement of these large outstanding REAs and formal Claims may drive cost and schedule growth beyond originally stated quantum in the GAO report of 2013.

With respect to Quality Assurance, DVA assumed the Quality Control role, whereas it should have been exercised as contractor responsibility. DVA uses a Management Services Contractor to support them in this role, but Resident Engineer Staff feels this approach has inherent weakness in Quality Control. Notwithstanding, the overall quality of the project is judged as good, and considered a strength with respect to the delivered product. On-site DVA personnel, teaming with a very talented Construction Manager Consultant (Parsons), are largely responsible for the quality of the completed facility. Parsons also serves as Commissioning Agent, and DVA expressed a positive opinion that Final Acceptance was executed well by delivering a product that met the needs of its users, the medical staff of the facility. The Construction Contractor is responsible for Safety Management.



## ***INFORMED CONCLUSIONS***

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The key elements identified as adversely affecting the completion of the Orlando Medical Center Project are as follows:

**Risk-Informed Acquisition Strategy** — Use of multiple contracts, including the segregation of foundation/super-structure and facilities fit-out/finishes work for the hospital and clinic spaces was not an optimal solution and brought complication to the project.

**Change Management** — Voluminous and extensive errors and omissions in the design required numerous changes, impacting both cost and schedule. DVA staff was overwhelmed in facing these challenges. The burdensome VA Central Office review and approval process forced the local team to split changes into increments of scope and time. Furthermore, Engineer Administrative Contracting Officer (ACO) authority was limited in both size of modification, and in aggregate amount of changes issued on a monthly basis.

**Disciplined Governance** — Conflicting lines of authority level contributing to both horizontal and vertical misalignments and were detrimental to tiered, defensible governance. However, extraordinary effort by the local Resident Engineer Staff teaming with a very talented Construction Management Consultant significantly mitigated confusion and more delays.

**Contracting Capacity & Resources** — Size and quality of the onsite DVA staff were not accompanied by proper authorities. Greater local procurement authority would have improved the efficiency of project delivery at every stage.



## **EPILOGUE**

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GAO has reported in its April 2015 testimony before the Senate Committee on Veterans Affairs additional observations regarding DVA actions to address problems managing its major construction sites:

*“VA has taken actions to implement the recommendations in GAO’s April 2013 report. In that report, GAO identified systemic reasons that contributed to overall schedule delays and cost increases at one or more of four reviewed projects and recommended ways VA could improve its management of the construction of major medical facilities. In response, VA has*

- *issued guidance on assigning medical equipment planners to major medical facility projects who will be responsible for matching the equipment needed for the facility in order to avoid late design changes leading to cost increases and delays;*
- *developed and disseminated procedures for communicating to contractors clearly defined roles and responsibilities of the VA officials who manage major medical-facility projects to avoid confusion that can affect the relationship between VA and the contractor; and*
- *issued a handbook for construction contract modification (change-order) processing that includes milestones for completing processing of modifications based on their dollar value and took other actions to streamline the change order process to avoid project delays.*

*[...] VA had taken steps to improve its management of major medical-facility construction projects, including creating a construction-management review council. In April 2012, the Secretary of Veterans Affairs established the Construction Review Council to serve as the single point of oversight and performance accountability for the planning, budgeting, executing, and delivering of VA’s real property capital-asset program.*

*[...] In our April 2013 report we identified systemic reasons that contributed to overall schedule delays and cost increases, and recommended that VA take actions to improve its construction management of major medical facilities: including (1) developing guidance on the use of medical equipment planners; (2) sharing information on the roles and responsibilities of VA construction project management staff; and (3) streamlining the change order process. Our recommendations were aimed at addressing issues we identified at one or more of the four sites we visited during our review. VA has implemented our recommendations; however, the impact of these actions may take time to reflect improvements, especially for ongoing construction projects, depending on several issues, including the relationship between VA and the contractor. Since completing our April 2013 report, we have not reviewed the extent to which these actions have affected the four projects, or the extent to which these actions may have helped to avoid the cost overruns and delays that occurred on each specific project.”*

*[Source: “VA CONSTRUCTION: Actions to Address Cost Increases and Schedule Delays at Denver and Other VA Major Medical-Facility Projects,” GAO-15-564T, April 24, 2015]*

With respect to USACE tasking to develop prescriptive recommendations on process, structures, and oversight controls to drive predictable cost and schedule performance, root causes driven by misalignment of organizational priorities, expectations, and accountability across all levels of DVA must first be addressed. At Orlando, design choices involved elaborate finishes and architectural features which greatly exacerbated both first cost and future Operations & Maintenance requirements, influenced by Evidence-Based Doctrine and emergent personnel recruitment/retention initiatives that are clearly circumspect for defensible investment rigor. As in



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all other troubled DVA projects recognized by the GAO study, conflicting lines of authority between requirements generation policies, programming decisions, design/construction protocol, and facilities management prerogatives have proven to be detrimental to defensible standards, effective governance, and attaining predictable project outcomes. For example, ultimate decision authority in DVA is primarily vested with senior executives driven by medical service imperatives and other emergent personnel marketing doctrine that often conflict with risk-return and best value analytics typically considered in driving prudent engineering-construction governance. DVA further lacks a holistic process for managing user-driven changes within approved budget controls. Lastly, significant challenges in recruiting, training, and retention of quality professionals exists across Federal agencies whose core competencies are to deliver engineering and construction projects, not alone at DVA where the function operates in a smaller, adjunct specialty organization.

In light of these observations by the USACE Review Cadre, reasonably defensible recommendations to preserve cost and schedule control on medical construction projects, include the following:

- (1) Incorporate into A/E design the latest advances in medical technology until the 35% design milestone is attained, at which time further changes in medical equipment planning (unless determined as medically required) must cease;
- (2) Cost/benefit analysis must be performed with independent peer review to determine reasonable, cost-effective interpretation of Planetree® and other Evidence-Based Design standards;
- (3) Implementation of facilities features and amenities must be commiserate with reasonably defensible cost-effective standards for attracting/retaining medical professionals to DVA;
- (4) DVA staff must be provided with focused, specialized training in engineering and construction contracting techniques that will foster greater risk-return outcomes; and
- (5) Review requirements for A/E selection, particularly the aspect for at least one Joint Venture partner (if selected) to be geographically proximate to the site.

In conclusion, many DVA evolving changes, such as locking budgets at 35% design, incorporating medical equipment planners earlier, enhancing onsite contract authority, and driving accountability through a vested project executive will certainly help; but a transformative change in organizational process that enfranchises engineering/construction proponents to manage with disciplined rigor at all levels of DVA will be necessary to avoid major delays and cost overruns in medical infrastructure delivery regardless of adopting USACE-comparable processes, structures, and oversight controls.



**APPENDIX**

Tab 1.

| <b>PLANNING-PROGRAMMING</b>                                    |  |          |          |          |          |
|--|--|----------|----------|----------|----------|
| <i>E ≡ EXCEEDED M ≡ MET F ≡ FAILED O ≡ OMITTED</i>             |  |          |          |          |          |
| <b>PROCESS POINT</b>   | <b>DESCRIPTION</b>   | <b>E</b> | <b>M</b> | <b>F</b> | <b>O</b> |
| FACILITIES CRITERIA  | Form – Fit – Functionality (DD 1391) and Real Property Planning, Analysis  |          | X        |          |          |
| PLANNING GUIDANCE  | Define & finalize medical clinical requirements. Walls, circulation, common area sitework / Amenities / Size / Room placement. Planning Charrette. | X        |          |          |          |
| REQUIREMENTS VALIDATION  | Integration of scope & scale (Criteria Tracking System) and Value-Based Charrette, Project Definition  |          | X        |          |          |
| SITE SELECTION   | Validates site approval (Real Estate issues, Environmental Considerations, SHPO/Cultural)  |          | X        |          |          |
| PROJECT PRICING  | Parametric PLUS USI augments (Documentation). Determine impact, contingency funding requirements.  |          | X        |          |          |
| NEPA / LEED  | HQVA (VACO) signatory  | X        |          |          |          |
| MEDICAL EQUIPMENT PLAN   | Scale, Scope & Timing  |          |          | X        |          |
| PRIORITIZATION / PROGRAMMING / AUTHORIZATIONS & APPROPRIATIONS | Traditional DVA PPBES  |          | X        |          |          |

Tab 2.

| <b>ENGINEERING-ACQUISITION</b>                     |   |              |          |          |          |
|--|---|--------------|----------|----------|----------|
| <i>E ≡ EXCEEDED M ≡ MET F ≡ FAILED O ≡ OMITTED</i> |   |              |          |          |          |
| <b>PROCESS POINT</b>                               | <b>DESCRIPTION</b>                        | <b>E</b>     | <b>M</b> | <b>F</b> | <b>O</b> |
| ACQUISITION STRATEGY                               | DBB <\$300M; DB vs ECI vs CM/Risk >\$300M |              |          | X        |          |
| DEVELOP PROJECT MGT PLAN                           | Detailed R & R; Schedule Integration      |              |          | X        |          |
| MEDICAL FUNCTIONAL CRITERIA                        | Med Standards & Functional Practices      |              | X        |          |          |
| PRE-DESIGN CONFERENCE                              | Infrastructure & Medical                  | Undetermined |          |          |          |
| CONCEPT DESIGN                                     | Single Line Form & Fit                    |              | X        |          |          |
| 35% DESIGN APPROVAL                                | Trigger for Final CWE                     |              | X        |          |          |
| SOLICITATION DOCUMENTS                             | RFP Source Selection                      |              |          | X        |          |
| AUTHORITY TO ADVERTISE                             | HQVA (VACO) Authorization                 |              | X        |          |          |
| ADVERTISING & AWARD                                | Best Value Selection                      |              |          | X        |          |
| SCHEDULE DISCIPLINE                                | Timely Decision & Action                  |              |          | X        |          |
| CHANGE MANAGEMENT                                  | Formal Process Followed                   |              | X        |          |          |
| GOVERNANCE   | Senior Project Executive, authority       |              |          | X        |          |

Tab 3.

| <b>CONSTRUCTION MANAGEMENT-COMMISSIONING</b>       |   |          |          |          |          |
|--|---|----------|----------|----------|----------|
| <i>E ≡ EXCEEDED M ≡ MET F ≡ FAILED O ≡ OMITTED</i> |   |          |          |          |          |
| <b>PROCESS POINT</b>                               | <b>DESCRIPTION</b>  | <b>E</b> | <b>M</b> | <b>F</b> | <b>O</b> |
| CONSTRUCTABILITY REVIEW                            | Design-Build Deliverables   |          | X        |          |          |
| FINAL CRITERIA REVISIONS                           | Formal process and adherence  |          | X        |          |          |
| PARTNERING RESOLUTION                              | Facilitated Formal Construction Partnering                                      |          | X        |          |          |
| CONTRACT ADMINISTRATION                            | Onsite Professional Engineer / Administrative Contracting Officer               |          |          | X        |          |
| CHANGE MANAGEMENT                                  | Timely/effective process  |          |          | X        |          |
| QUALITY ASSURANCE                                  | Document Process with Independent Checks & Internal Verification                | X        |          |          |          |
| SAFETY MANAGEMENT                                  | Construction Safety Manual (EM 385-1-1, or similar OSHA)                        |          | X        |          |          |
| EQUIPMENT INSTALLATION                             | Integrated Master Schedule & Building Integration Model (BIM) to avoid conflict |          |          | X        |          |
| COMMISSIONING                                      | Medical Center of Expertise and Bench of Internal and AE Support Contracts      |          | X        |          |          |
| FINAL ACCEPTANCE                                   | Red-Zone Protocol   | X        |          |          |          |



## **USACE REVIEW CADRE BIOGRAPHICAL INFORMATION**

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Possessing more than 200 years of cumulative experience in engineering, construction, acquisition contracting, program management, and legislative expertise, the following individuals participated in the development of this report:

### **JOSEPH F. CALCARA, SES, USACE South Pacific Division**

Selected to Senior Executive Service in 2005, Mr. Calcara currently serves as the Programs Director for the U.S. Army Corps of Engineers (USACE) South Pacific Division (SPD). He is responsible for regional direction and management of a \$1.5 billion annual military, civil works, real estate, and environmental program. SPD is one of eight USACE regional commands. SPD oversees four operating districts, which are headquartered in Albuquerque, Los Angeles, Sacramento, and San Francisco, to provide Federal and military engineering support in California, Arizona, Nevada, Utah, New Mexico, and in parts of Colorado, Oregon, Idaho, Wyoming, and Texas.

From February 2008 through January 2012, Mr. Calcara served as the Deputy Assistant Secretary of the Army (Installations, Housing, & Partnerships) at the Pentagon in Washington DC. In this capacity, Mr. Calcara was the senior career executive responsible for worldwide policy, programming, and oversight of Army real estate, engineering and construction, housing privatization, base realignments and closures, energy conservation, and military infrastructure and facilities. During his tenure, Mr. Calcara enabled the largest transformation in Army history to proceed with successful stewardship over more than \$72 billion in capital investments driven by Global Defense Posture Realignments, Base Realignments and Closures, Army Modular Force, Grow the Force, Army Force Generation, Korea Transformation, Joint Basing, Army Soldier-Family Action Plan, and Army Medical Programs.

Additionally, Mr. Calcara steered the unprecedented transfer of over 22,000 acres of excess real property to further the goal of \$1.4 billion annual recurring savings to the Army. He also served as the Senior Executive for the Army Residential Communities Initiative, managing more than \$12 billion in capital construction and renovation for 84,000 housing units at more than 40 locations in the public/private portfolio.

Mr. Calcara served previously in Headquarters, U.S. Army Corps of Engineers from 2006 to 2008 as Director of Army Real Estate. He was accountable for worldwide program execution, policy, and technical expertise in realty acquisition, asset management, and property disposal for 24 million acres of Army-controlled land and improvements valued in excess of \$600 billion. He also served concurrently as the Chief of the South Pacific Division Regional Integration Team, a multi-disciplined vertical cadre charged with integrating regional infrastructure and facilities, products and services valued at more than \$1.5 billion in annual civil works, military, and environmental projects across ten western states.

From 1983 to 2006, Mr. Calcara served in various capacities with the Naval Facilities Engineering Command at its Headquarters in Washington, D.C., and their component commands at Pearl Harbor, San Diego, and Philadelphia, and in the Office of the Assistant Secretary of the Navy. For 23 years, Mr. Calcara supported delivery of global shore installation management products and services for real estate, mechanical engineering and design, housing, asset privatization, base closure and realignment, military construction, energy conservation, and facilities sustainment, restoration and modernization programs.



**JAMES PATRICK MOORE, P.E., CCM, *Lead and Senior Civil Engineer for Construction Management, HQ USACE***

Jim is the Lead and Senior Civil Engineer for Construction Management, developing and implementing policy for USACE Mega Project Management, Design-Construction Evaluations (DCE) for civil works and military construction programs and projects throughout the Corps. Jim is also the USACE Subject Matter Expert (SME) for earth and rockfill embankments; complex mechanical and HVAC systems, concrete; and standard, modular and panelized building systems. A voting member of the USACE Dam Safety Senior Oversight Group, Jim also performs evaluations of risk-based and risk-informed models, guidance, and applications, developing and analyzing causal factor analysis tools for cost and time growth of civil works projects.

Jim earlier served as Director of Public Works, Tobyhanna Army Depot (2002-2003); at USACE Baltimore District (1978-2002); and Lane Construction Corporation, Binghamton NY/Princeton WV (1976-78).

Jim holds a Master of Science, Management of Technology, Lehigh University (1999) and Bachelor of Science, Civil Engineering, The Pennsylvania State University (1976).

**JOHN A. KEEVER, P.E., *Chief, Construction Division, USACE Los Angeles District***

John A. Keever joined the staff at the U.S. Army Corps of Engineers, Los Angeles District in June 1980 as an engineering intern and was selected for Chief of Construction Division in April 2007. As Chief of the Construction Division, John is responsible to the District Engineer for managing a large, complex and diverse construction program. The mission assigned to the Construction Division includes planning, coordinating and directing a construction program in support of civil works, military and environmental remediation, and Interagency support. Construction division Budget is approximately \$600,000,000 with over 210 employees in Southern California, Arizona, the southwestern tip of Utah and southern Nevada.

In 1980 John began as an Engineer Intern for the Los Angeles District. Once he had completed the intern program he elected to go into Construction Operations Division where he has held positions of increasing responsibility (Quality Assurance, Office Engineer, Project Engineer, Area Engineer and now Chief of Construction Division). John has worked on all programs assigned to SPL (Civil Works, Military, Environmental, and IIS) and has been at a number of Field Offices in California, Arizona, and Nevada. John has also served on details as the Chief of Construction Branch (120 days), Chief of Military & Environmental Programs Branch in PPMD (1 year), E-Rate Program Manager for LAUSD (90 days), and 1st Calvary Division Area Engineer for GRC in Baghdad (120 days).

John was selected to attend USACE Sponsored Long Term Training and attended Washington University in St. Louis and obtained a Master's Degree in Construction Management. He is a registered civil engineer in California. John was selected for the SPD Construction Management Excellence Award in 1993.



**ROD MARKUTEN, P.E., *Regional Civil Engineer for Construction, USACE South Pacific Division***

Rod Markuten is the Regional Civil Engineer for Construction and the Dam and Levee Safety Officer for the South Pacific Division. He's held this position since 2009 when he transferred from the Chief, Engineering and Construction for the Pacific Ocean Division position where he was responsible to provide technical leadership and support to the region for high quality cost-effective design and construction services throughout the Pacific-rim. Rod will be become the Chief of Construction for the Japan Engineer District in May.

Rod has 40 years of service with the Army Corps of Engineers. His first assignment was with the New Orleans District as a Hydraulic Engineer. In 1978 he transferred to the Europe Division where he served for 13 years in various positions in Germany and Italy. First, as Project Manager for NATO projects throughout Europe, then as Senior Program Manager for the Air Force design program, and finally as Resident Engineer for the Ground Launched Cruise Missile (GLCM) bed-down in Germany and construction at the Hahn, Bitburg and Spangdahlem Air Force Bases.

He was assigned to the South Atlantic Division in 1991 as the construction technical lead for the Military and Civil Works Programs. In 1996, he became the first Corps' Resident Engineer in Russia for construction of the Fissile Material Storage Facility. After two years in Russia, he returned to the Atlanta, and then transferred to the Pacific Ocean Division, Honolulu Hawaii as the construction lead. April 2007 he was promoted to Chief of Engineering and Construction for the Division.

Awards include; DeFlurey Medal (Bronze), Society of Military Engineers' Ralph A. Tudor Medal for Construction Achievements, Superior Civilian Service Award (Iraq), Joint Civilian Service Medal, Commander's Awards.

Native of Pennsylvania and a graduate in Civil Engineering from the University of Miami with a Masters' in Civil Engineering from Tulane University. Rod is a registered professional engineer in the state of Florida and member of the Army Acquisition Corps.

**JAMES D. BARTHA, *Regional Chief of Contracts, USACE South Pacific Division***

James D. Bartha is the Region Chief of Contracts for the South Pacific Division of the Army Corps of Engineers. He is responsible for the management of four District contracting offices, and the award and administration of all contracts issued by the South Pacific Division

Before joining the Army Corps, he was the Western Region Chief of Contracts for the United States Department of Transportation, Maritime Administration. In this capacity, he was responsible for the Region's acquisition program, including the administration of ship management contracts for the operation and maintenance of 22 ships in the Ready Reserve Force program for military sealift. Mr. Bartha was selected for the inaugural Maritime Administration Transportation Senior Leadership Program.

Prior to joining the Maritime Administration, he was a Contracting Officer with the Naval Sea Systems Command. His career at NAVSEA began in 1988, and included assignments at the Naval Surface Weapons Center, White Oak, Maryland (research and development) NAVSEA headquarters, Ship Construction, Coastal Mine Hunter Program) , and the Naval Surface Warfare Center, Port Hueneme, California (Head, Combat and Weapons Systems Contracts).



**US Army Corps  
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He started his career in Washington D.C. as a congressional intern for Representatives Clarence Long (D-MD) and Don Ritter (R-PA). He joined the Federal Government in 1985, as an analyst for the General Accounting Office, where he studied the Navy's Strategic Homeport Plan and other Government programs. His career in acquisition and contracting began at the Federal Aviation Administration, where he negotiated a wide variety of contracts in the areas of aviation security and air traffic control systems. In 1988, he was detailed to the Executive Office of the President, Office of Management and Budget, where he helped prepare the President's FY90.

He received a Bachelor of Sciences degree from the American University in December 1983, majoring in Economics and Political Science, and in 1985 a Master of Public Administration degree from American University, concentrating in Procurement and Grants Management. He graduated in June 1991 from the Naval War College, Newport Rhode Island, College of Command and Staff, where he graduated with a Diploma in National Security and Strategic Studies. He is a 2011 graduate of the Federal Executive Institute Leadership for a Democratic Society Executive Leadership Program.

Professional certifications include Certified Professional Contracts Manager, Certified Professional Supply Manager, and certification in the career fields of Contracting and Program Management by the Defense Acquisition University. He is member of the Army Acquisition Corps, and a lifetime member of the Navy League, Naval Order, Naval War College Foundation, the National Contact Management Association, and the National Defense Transportation Association. Publications include Army Acquisition, Logistics and Technology Journal, September 2010, "U.S. Army Corps of Engineers (USACE) Recovery Project Presented at International Workshop"

### **CESAR YABOR, *Chief, Interagency & International Services, USACE South Pacific Division***

Mr. Yabor is the Chief and Program Manager for the Army Corps of Engineers' South Pacific Division (SPD) Interagency and International Services (IIS) programs, serving as regional team leader for execution of intergovernmental relationship building and strategic communications (STRATCOM) planning. As IIS chief, Mr. Yabor promotes Federal partner outreach, development of Interagency Agreements, and provides guidance to Corps of Engineers districts for local/regional 'One Door To The Corps' support for the Division's portfolio of Federal and State partners, managing a broad portfolio USACE partnerships which includes DVA, EPA, DOE, DHS, NASA, the United States Coast Guard, the National Park Service, NASA, and the Native American Tribal Nations of the Southwest.

Prior to joining USACE, Mr. Yabor served as a Legislative Affairs and Regional Public Affairs Officer for the United States Department of Veterans Affairs in Washington, DC and Atlanta, Georgia (2002-2009), and served as Senior Professional Staff on the Senate Committee on the Judiciary (1995-2002) under former Chairman Orrin Hatch (R-UT) as well as on the personal staffs of former Senate Armed Services Committee Chairman Sam Nunn (D-GA) and Rep. Ileana Ros-Lehtinen (R-FL) during his 15 years of service on Capitol Hill.



**ROBERT KLEIN, DVA Program Manager, USACE Los Angeles District**

Bob Klein is the Program Manager for the Veterans Affairs program at the Los Angeles District and has worked for the Corps of Engineers for over six years. Current responsibilities include managing over a hundred projects at five VA Medical Centers in two states and overseeing the budget for the entire DVA program. He manages five Project Managers who have over the last six years executed over 250 projects worth more than \$ 500 million.

He joined the Corps after retiring as a Colonel from the Army with over 44 years of service. He was branched qualified and commanded in three different branches (Infantry, Engineer and Signal), serving in combat as an Infantry officer in three wars (Afghanistan, Iraq and Panama). He also commanded a Counter-drug task force. He is a graduate of the Army War College, the Command General Staff College, the Engineer Advance Course and the Engineer Basic Course (Honor Graduate) as well as being a DEA Fellow. He is also a graduate of the FEMA Institute and the United Nations Institute for Training and Research. He holds a Bachelor's in Business and a Master's in Religion. He has his PMP certification.

He was an engineer company commander and an engineer brigade commander as well as a commander for a battalion-size engineer task force on active duty. His awards include: USACE Program Manager of the year (2013), Bronze Star, Defense Meritorious Service Medal, Meritorious Service Medal (6 OLC) 7th Award, Army Commendation Medal (5 OLC) 6th Award, Army Achievement Medal (1 OLC) 2nd Award, German Armed Forces Badge (Bronze), and the Army Corps of Engineer's Order of the de Fleury medal (Bronze).

**TASHA L. PARGALI, Deputy Regional Chief of Contracts, USACE South Pacific Division**

Tasha L. Pargali is the Deputy Regional Chief of Contracts for the South Pacific Division of the Army Corps of Engineers, serving as the regional team leader and technical authority for assuring acquisition compliance of contracts issued and administered by the South Pacific Division.

Before joining USACE, Ms. Pargali was the Management Support and Administration Division Chief for Defense Logistics Agency Aviation (DLA) at Oklahoma City. In this capacity, she was responsible for Policy, Pricing, Post Award Administration and served as the Ombudsman, Competition Advocate, and Small Business Program Manager. Ms. Pargali also served as the DLA Aviation Best Practices Team Lead identifying and standardizing contracting best practices across DLA, Air Force, Army and Navy detachments that were realigned to DLA Aviation as a result of the 2005 Base Realignment and Closure.

Ms. Pargali began her career as a Defense Career Intern at Tinker Air Force Base in 2005 where she negotiated a wide variety of aviation service and supply contracts. She has also worked as a Contract Negotiator and Procurement Contracting Officer with an unlimited warrant.

She has a BBA in Finance and a M.Ed. with an emphasis in Workforce Learning & Development from the University of Oklahoma. Ms. Pargali is a member of the Army Acquisition Corps and is Level III Certified in Contracting by the Defense Acquisition University. She is also a Certified Federal Contracts Manager (CFCM).



# DIAGNOSTIC SUMMARY

| <b>STRENGTHS</b>   | <b>DENVER<br/>AURORA</b> | <b>NORTH<br/>LAS VEGAS</b> | <b>NEW<br/>ORLEANS</b> | <b>ORLANDO<br/>LAKE NONA</b> |
|--|--------------------------|----------------------------|------------------------|------------------------------|
| FACILITIES CRITERIA  | X                        |                            |                        | X                            |
| PLANNING GUIDANCE  |                          |                            | X                      | X                            |
| REQUIREMENTS VALIDATION  | X                        |                            | X                      | X                            |
| SITE SELECTION   | X                        |                            | X                      | X                            |
| PROJECT PRICING  |                          |                            | X                      | X                            |
| NEPA / LEED  | X                        | X                          | X                      | X                            |
| MEDICAL EQUIPMENT PLAN   |                          | X                          |                        |                              |
| PRIORITIZATION / PROGRAMMING / APPROPRIATIONS & AUTHORIZATIONS |                          | X                          | X                      | X                            |
| DEVELOP PROJECT MANAGEMENT PLAN                                | X                        | X                          | X                      |                              |
| MEDICAL FUNCTIONAL CRITERIA                                    | X                        | X                          | X                      | X                            |
| CONCEPT DESIGN   | X                        | X                          | X                      | X                            |
| SD2 (35%) DESIGN APPROVAL                                      | X                        |                            |                        | X                            |
| SCHEDULE DISCIPLINE  |                          |                            | X                      |                              |
| CONSTRUCTABILITY REVIEW  | X                        |                            | X                      | X                            |
| PARTNERING RESOLUTION  |                          | X                          | X                      | X                            |
| QUALITY ASSURANCE  | X                        | X                          | X                      | X                            |
| EQUIPMENT INSTALLATION   |                          | X                          | X                      |                              |

| <b>WEAKNESSES</b>                  | <b>DENVER<br/>AURORA</b> | <b>NORTH<br/>LAS VEGAS</b> | <b>NEW<br/>ORLEANS</b> | <b>ORLANDO<br/>LAKE NONA</b> |
|------------------------------------|--------------------------|----------------------------|------------------------|------------------------------|
| RISK-INFORMED ACQUISITION STRATEGY | X                        |                            | X                      | X                            |
| CHANGE MANAGEMENT                  | X                        |                            | X                      | X                            |
| DISCIPLINED GOVERNANCE             | X                        |                            | X                      | X                            |
| CONTRACTING CAPACITY & RESOURCES   | X                        | X                          | X                      | X                            |

| <b>RECOMMENDATIONS</b>  | <b>DENVER<br/>AURORA</b> | <b>NORTH<br/>LAS VEGAS</b> | <b>NEW<br/>ORLEANS</b> | <b>ORLANDO<br/>LAKE NONA</b> |
|---|--------------------------|----------------------------|------------------------|------------------------------|
| Incorporate medical technology NLT SD2 (35%) unless critical for required certification   | X                        | X                          | X                      | X                            |
| Cost / Benefit analyses must be performed with independent peer review determining defensible interpretation of Evidence-Based Design standards | X                        | X                          | X                      | X                            |
| Facilities features/amenities for recruiting/retaining medical professionals must be commensurate with defensible analytics                     | X                        | X                          | X                      | X                            |
| Staff must be provided comprehensive E&C contracting techniques training (DB vs DBB vs IDC) fostering increased risk-return outcomes            | X                        |                            | X                      | X                            |
| Review A/E selection policy requiring one Joint Venture partner to be geographically proximate to project site                                  |                          |                            |                        | X                            |