



DIVISION OF THE STATE ARCHITECT

A DIVISION OF  DGS

DSA 101

An introduction to the Division of the State Architect: its organizational structure, responsibilities, and plans for the future

June 2007

DSA 101 Overview

- Organizational Structure
- Roles & Responsibilities
- Plan Review Process
- Construction Oversight
- Project Close-Out & Certification
- Project Inspector Program
- Laboratory Evaluations & Acceptance (LEA) Program

DSA 101 Overview (continued)

- Emergency Operations
- Collaborative Process for Project Development and Review
- DSA Academy
- Certified Access Specialist Program (CASp)
- New Directions
- Resources (Tracker, Project Submittal Guidelines, Publications, Forms, IRs, Circulars, Bulletins, Glossary of Terms, etc)

DSA Organization

- DSA Headquarters located in Sacramento
- Four DSA Regional Offices
 - San Francisco Bay Area
 - Sacramento
 - Los Angeles
 - San Diego
- Two DSA Satellite Offices
 - Bakersfield
 - Riverside



DSA Offices and the Regions They Serve



DSA Organization – Roles & Responsibilities

- DSA Headquarters
 - Statewide programs
 - Project Inspector certification
 - Training
 - Laboratory Evaluation and approval (LEA)
 - Code Development
 - Policies
 - Bulletins
 - Interpretations
 - Circulars

DSA Organization – Roles & Responsibilities

- DSA Regional Offices
 - Project plan review and approval
 - Construction oversight
 - Project Inspector approval
 - Project close-out
- DSA Satellite Offices
 - Services currently offered:
 - Pre-submittal meetings
 - “Over-the-counter” review
 - Other pre-arranged meetings

Projects Requiring DSA Review

- Schools:
 - K-12
 - Community Colleges
- Essential Services Buildings:
 - State-owned
 - State-leased
- Accessibility Only Reviews:
 - California State University System
 - University of California System
 - State Buildings and Facilities
 - Other projects utilizing State funding

Projects Requiring DSA Review (continued)

- New Construction
- Additions
- Alterations to existing school buildings and facilities if the project cost exceeds \$30,400 (amount adjusted annually)
- Relocations of Modular Buildings
- Reconstruction – the repair of damage to an existing certified school building such as fire damage
- Rehabilitation – retrofitting an existing non-conforming building

Projects Requiring DSA Review (continued)

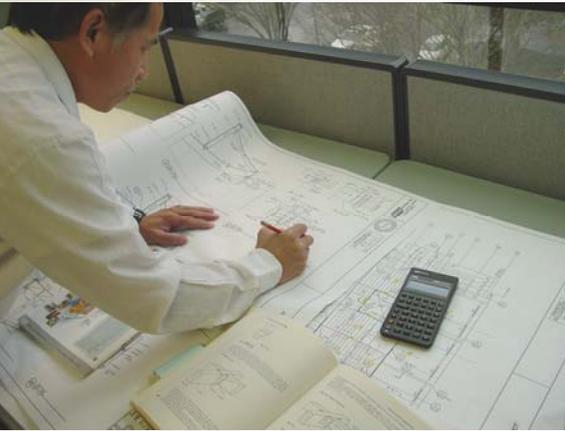
- **Miscellaneous Structure and Facilities**
 - Light poles 35 feet and higher
 - Retaining walls 4 feet and higher
 - Ballwalls 6 feet and taller
 - Signs and scoreboards 8 feet and higher above grade
 - See DSA website and T24, Part 1, Section 4-314 for a more complete list
- If uncertain, contact DSA Regional Office

Applicable Laws and Regulations



- Statutes – Ed. Code Sec. 17280 (Field Act – K-12)
- Statutes – Ed. Code Sec. 81130 (Field Act – Community College)
- Govt. Code Sec. 4450 (Accessibility)
- Regulations – Title 24 Parts 1-12
 - Part 1 - Administrative
 - Part 2 - Building Code
 - Parts 3, 4, 5, 6 – Electrical, Mechanical, Plumbing & Energy Codes
 - Part 9 - Fire Code

Scope of DSA Review



- Review of design for compliance with building regulations for:
 - Structural Safety (SS)
 - Fire & Life Safety (FLS)
 - Accessibility (AC)
 - Energy
 - Mechanical, Electrical, and Plumbing (MEP) (Future consideration)

- Construction documents must show ALL work (mechanical, electrical, and plumbing)

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DSA Plan Review & Approval of District Construction Projects

STEP 1:

Preliminary Review for Large Projects



- Recommended – not required
- Should take place early in the design phase during design development
- Architect contacts the DSA Regional Office to schedule
- Identify design problems prior to completion of plans – *saves time!*

STEP 2: Submitting Plans to DSA

- Complete plans & specifications (3 sets)
- Geologic Hazards Report & Soils Report
- Structural Calculations
- Site drawing signed by local fire authority approving fire access, gates, fire flow, and hydrants
- Site plan to show “Path of Travel” for site and building accessibility

STEP 2:

Submitting Plans to DSA (continued)

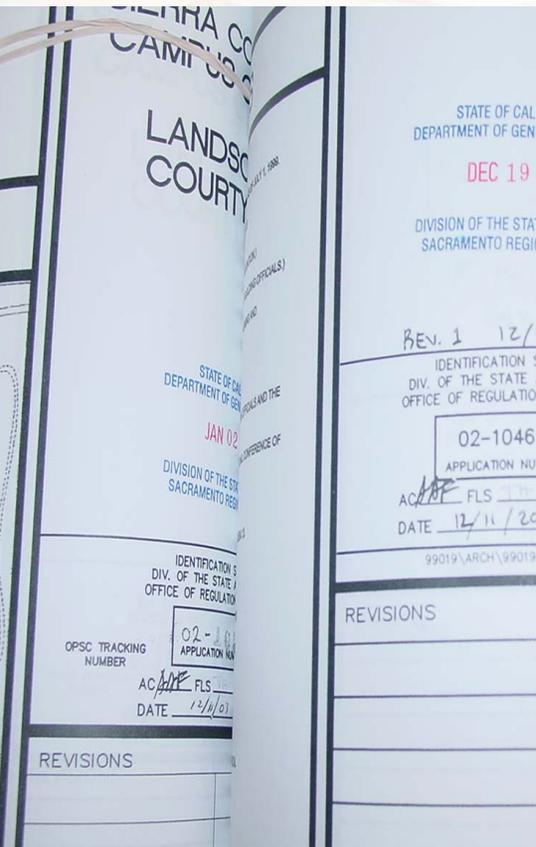
- Energy compliance documentation
- DSA Application Form (DSA-1)
- Fees - based on estimated construction cost

STEP 3:

DSA Intake Review

- DSA verifies that plans are complete
- DSA Application number assigned by DSA
- DSA determines review by “in-house” reviewer or consultant
- District and Architect notified by email “Notice of Progress” indicating:
 1. Project’s Application number
 2. Anticipated date review will start
 3. Referral to TRACKER (on website) for monitoring project status

STEP 4: Plan Review

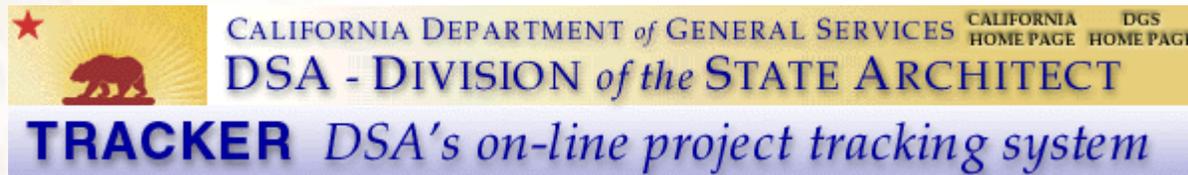


- Plans are reviewed in order received
- 3 concurrent reviews are conducted:
 1. Structural - Structural Engineer
 2. Fire & Life Safety - FLS Officer
 3. Accessibility - Access Architect
- Plans reviewed by first available plan reviewer (for all three disciplines)

STEP 5:

Reviewed Plans Returned to Architect

- Each of three “checksets” (SS, FLS, AC) returned to Architect when completed
- “TRACKER” indicates status of each review (SS, FLS, AC) including when review is complete and returned to the Architect



STEP 6: Design Professional Team Review of Checkset

- Architect coordinates Design Professional Team review of DSA comments
- Design Professional Team makes needed revisions to plans and supporting documents
- Architect schedules a “backcheck” appointment at DSA Regional Office

STEP 7:

“Backcheck” and Approval of Plans

- Architect and consultants bring corrected drawings and checksets to backcheck
- Architect and engineers must provide experienced staff at the backcheck
- DSA staff reviews drawings and 3 checksets with the architect & engineers

STEP 8:

Stamping Plans & Specs

- When backcheck is done, SS, FLS, AC initial & date DSA Identification Stamp

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

100678

AC AM FLS PA SS HB
DATE 2-23-00

STEP 9:

Approving Plans & Specs

- DSA makes a Record Set of plans and specifications
- DSA issues an Approval Letter as soon as plans are stamped approved
- The Approval Letter is sent out by email
- The date of the Approval Letter is the official DSA plan approval date.

Special Processes for Plan Review

- Rehabilitation of Existing Buildings
- Essential Services Buildings
- Modular School Buildings

Rehabilitation of Existing Buildings to Public Schools



- “The evaluation and retrofit of an existing non-conforming building to bring the building, or portion thereof, into full compliance with the safety standards of the currently effective regulations.”

Rehabilitation and the California Building Code



- Code Provisions Ensure Protection of Life and Property utilizing:
 - Performance based design analysis methods
 - Collaborative development of project design criteria
 - Existing materials assessment
 - Comprehensive plan review
 - Continuous construction inspection

Rehabilitation and the California Building Code *(continued)*



- Code provisions ensure compliance for:
 - Structural safety
 - Fire and Life safety
 - Accessibility
 - Mechanical, Plumbing and Electrical systems
 - Historic preservation

Rehabilitation of Existing Buildings

Published Regulations and Guidelines

- Structural Regulations approved January, 2004
Parts 1 and 2, Title 24, CCR (Division VI-R)
- Feasibility Guidelines “Adaptive Reuse: An Option for California’s Schools”
- “Procedural Guidelines for Rehabilitation of Existing Non-Conforming Buildings for Public Schools and California Community Colleges”

Essential Services Buildings Seismic Safety Act

Health and Safety Code Section 16000-16001 says:

- "It is the intent of the Legislature that essential services buildings, which shall be capable of providing essential services to the public after a disaster, shall be designed and constructed to minimize fire hazards and to resist, insofar as practical, the forces generated by earthquakes, gravity, and winds."

Essential Services Buildings (ESB)

- The following facilities are “Essential Services Facilities”:
 - Fire Station
 - Police Station
 - Emergency Operations Center
 - California Highway Patrol Office
 - Sheriff’s Office
 - Emergency Communication Dispatch Center

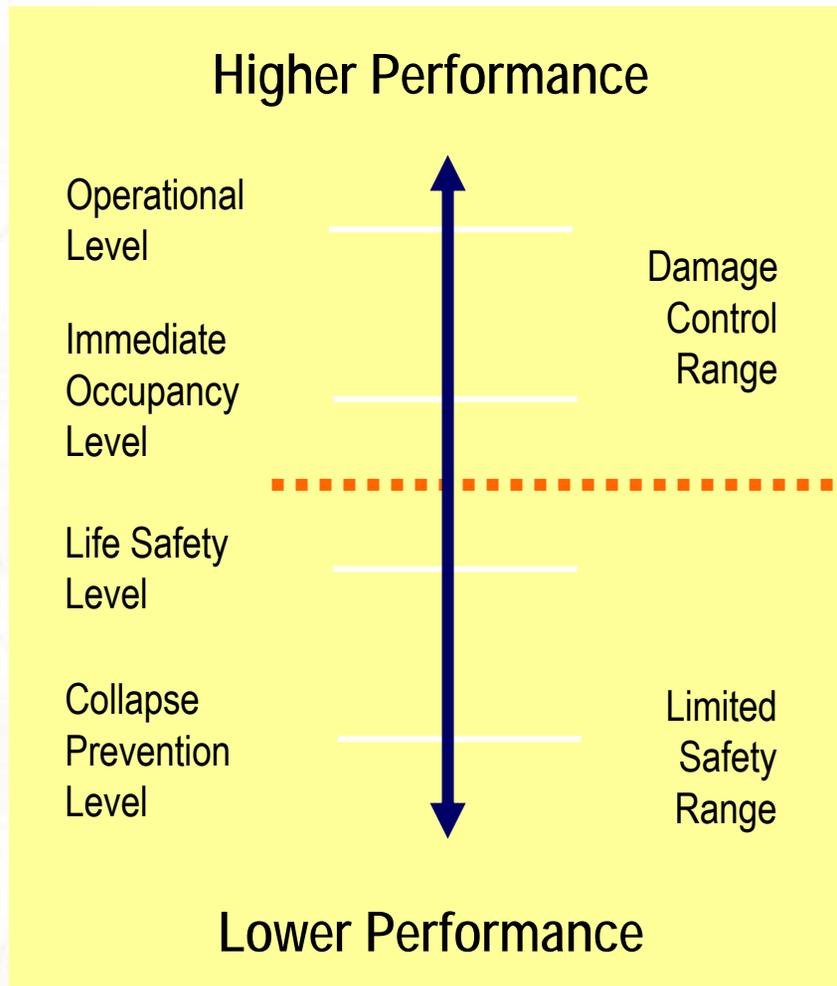
Essential Services Buildings (ESB)

In accordance with Title 24, Part 1

- DSA is the enforcement agency for State-owned and State-leased Essential Services Facilities
- Plans reviewed and approved (Article 1, Sections 4-206, 4-224)
- Designated Design Professional in General Responsible Charge (Section 4-209)
- Continuous inspection of construction (4-211)
- Verified reports by Design Professional, Project Inspector, Contractor (4-214)

Essential Services Buildings Seismic Safety Act

Performance Level
appropriate for State
Essential Services
Buildings



Performance Level
appropriate for
Schools

Modular School Buildings

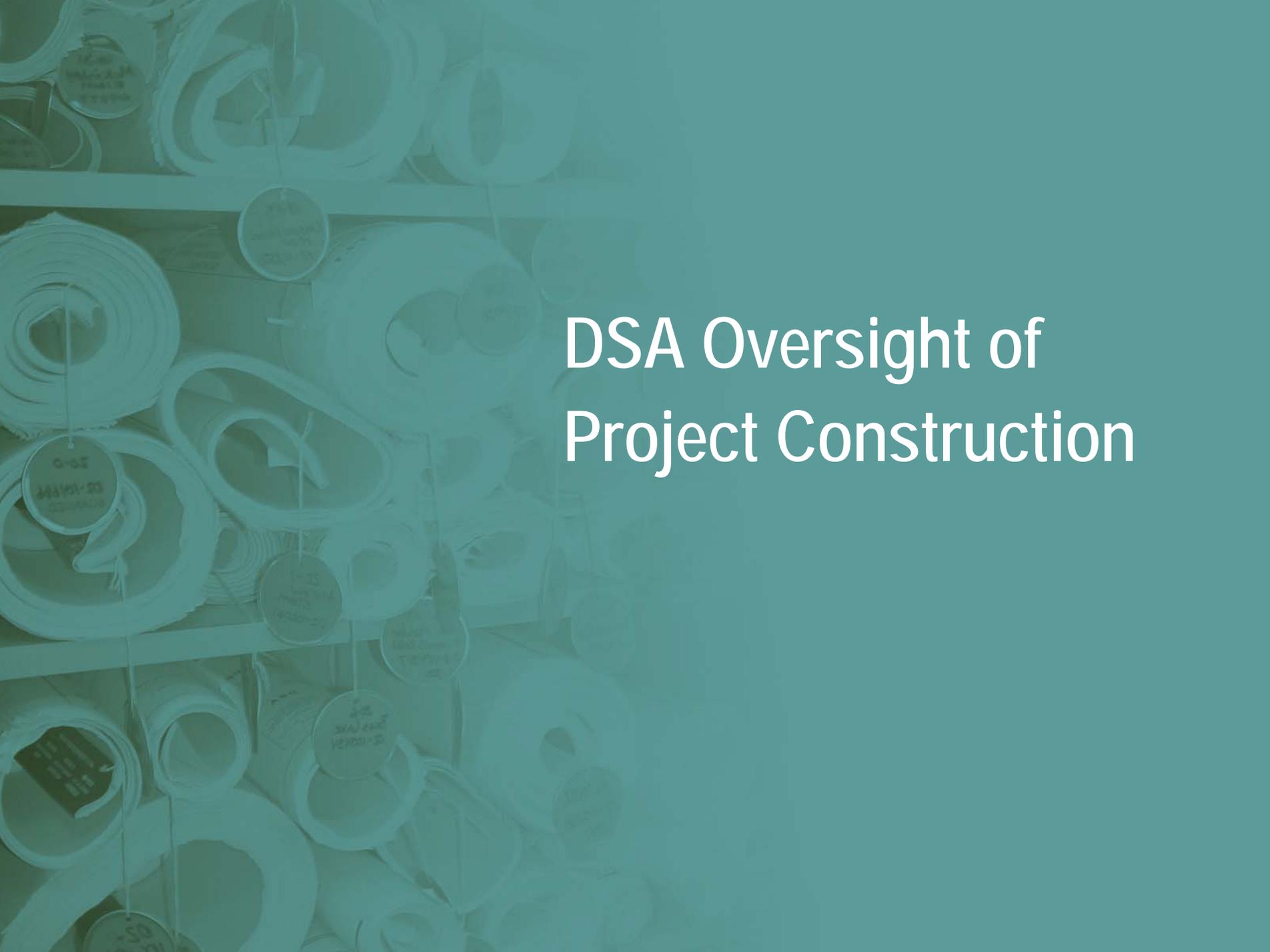
Pre-Check (PC) Approval Process

- The pre-check approval process is a preliminary review of drawings for a structure to serve as a “comparison set” for future school projects. The approval speeds up and simplifies project approval.
- Used by manufacturers of relocatable buildings, shade structures, light poles and other unusual and/or “repetitive use” structures.
- Manufacturer is charged for the PC plan review
- Compliance with Title 24 regulations required

Modular School Buildings

Over-the-Counter (OTC) Approval

- Unchanged Approved PC drawings are not re-reviewed
- Site conditions are reviewed
 - Access Compliance – path of travel, toilets, etc.
 - Fire & Life Safety – distances between buildings, alarms, etc.
 - Structural Safety – verify snow, wind, seismic loads match, etc.
 - Energy Issues – verify climate zone, building orientation, etc.
- Projects generally reviewed and stamped in one day

The background of the slide is a photograph of a library or archive. It shows several shelves filled with numerous small, circular items, likely CD-ROMs or DVD-ROMs, each with a small white label attached to it. The entire image is overlaid with a semi-transparent teal color. The text is positioned on the right side of the slide.

DSA Oversight of Project Construction

The Project Inspector and Test Laboratory



- District and Architect select DSA Certified Project Inspector – Requires DSA Approval
- Project Inspector must be DSA Approved for each individual project – Form DSA-5
- District and Architect must select a DSA approved (LEA) testing laboratory

Approval of the Project Inspector by DSA



- Architect submits Inspector Qualification Record Form DSA-5 to DSA for approval
- DSA Field Engineer evaluates and approves the Project Inspector
- Large projects may require utilization of DSA approved assistant inspector(s)

DSA Oversight of the Construction Process



- Field Engineer facilitates the construction process for code compliance
- Field Engineer makes periodic site visits during construction & reviews reports
- Field Engineer observes and evaluates Project Inspector performance
- Field Engineer communicates with Architect and District

Project Inspector's Responsibilities



- Provide personal, continuous inspection of all work.
- Maintain complete files of all project documents including change documents.
- Monitor the testing and special inspection programs.
- Notify the contractor of all deviations from DSA approved documents.

Project Inspector's Responsibilities

(continued)



- Provide reports twice a month to the Architect, with copies to the Structural Engineer, DSA and the District.
- File a final verified report.
- The Project Inspector works under the *direction of the Architect* although they are under the *supervision of DSA* and are *paid by the District*.

Architect's Responsibilities

- Evaluate and approve the Project Inspector. Submit form DSA-5 (Inspectors Qualification Record) to DSA at least ten days prior to start of construction.
- Submit form DSA-102 (Contract Information) to DSA indicating the contractor name, test lab name, contract amount and start date.
- Administer the testing program. Investigate and provide directions regarding deficient materials or deviations from the DSA approved documents.

Architect's Responsibilities (continued)



- Direct the Project Inspector.
- Observe the construction.
- Interpret the documents; issue clarifications as necessary in a timely manner.
- Submit all addenda, change orders and deferred approvals to DSA for approval prior to implementation.
- File a final verified report.

District's Responsibilities



- Hire the Architect and their consultants to provide project administration and construction observation (in addition to the design).
- Hire a Project Inspector certified by DSA in the "class" appropriate to the project. Lists of individuals who are certified in each class of construction are available on the DSA website.

District's Responsibilities (continued)



- Hire a LEA approved testing agency to provide materials testing.
- Sign all change orders.
- File a "Notice of Completion" at the end of the project.

Project Close-Out & Certification

- DSA's final role is the Certification of completed projects.
- Based on the approved plans and observation of the construction by DSA Field Engineers, Design Professionals and the Project Inspectors, DSA will issue a Certification attesting that the construction was in accordance with the minimum requirements established:
 - Current building codes
 - DSA approved plans and specifications

The Law

- California Education Code § 17315 (a) requires DSA to issue a letter of certification for a project “when all requirements have been met and documentation to that effect have been provided by the Architect in charge, Inspector of Record, and the School District owning the project”.
- California Education Code § 81147 (a) requires the same for Community College Districts.

Checklist for Closing a Project

- ✓ Final verified reports (DSA-6 or DSA-6A/E) approved from Project Inspector, Architect, Engineer and Contractor verifying that all construction complies with DSA approved plans
- ✓ Laboratory final verified report approved
- ✓ Project Inspector Qualification Record (DSA-5) approved
- ✓ Contract information (DSA-102) approved
- ✓ All addenda and change orders approved

Checklist for Closing a Project (continued)

- ✓ All deferred approvals approved
- ✓ Notice of completion approved
- ✓ Special Inspection Verified Reports approved
- ✓ Issues related to construction deficiencies have been resolved
- ✓ Fees paid

Project Close-Out & Certification

- Once all the documents have been received and accepted, all fees due to DSA are paid and there are no outstanding issues related to construction pending . . .
- . . . DSA will issue a Certification Letter and close the project file

Project Inspector Program



- All Project Inspectors for projects under the jurisdiction of DSA must pass the DSA Project Inspector Examination to become certified
- Once certified, individuals must apply to the DSA Regional Office for approval for each specific project
- Exams are given four times per year in both Northern and Southern California
- Project Inspectors must be re-certified every four years

Project Inspector Program (continued)



- Project Inspectors are required to attend mandatory training to obtain re-certification
- Details on the Project Inspector Program are on the website
- Lists of Certified Inspectors are on the website

Laboratory Evaluations and Acceptance (LEA) Program:

- Testing laboratory must be employed on every project
- Labs are employed directly by the District
- Labs are evaluated, approved and monitored by DSA
- Approved labs are listed on the DSA website

Laboratory Duties

- Sample and test structural materials (concrete, masonry, etc.)
- Provide special inspectors for certain types of construction (welding, masonry, etc)
- Laboratory engineer evaluates test results and determines whether materials met requirements
- Report test and special inspection results to all parties
- Issue “final verified reports” certifying that all testing and inspection was performed

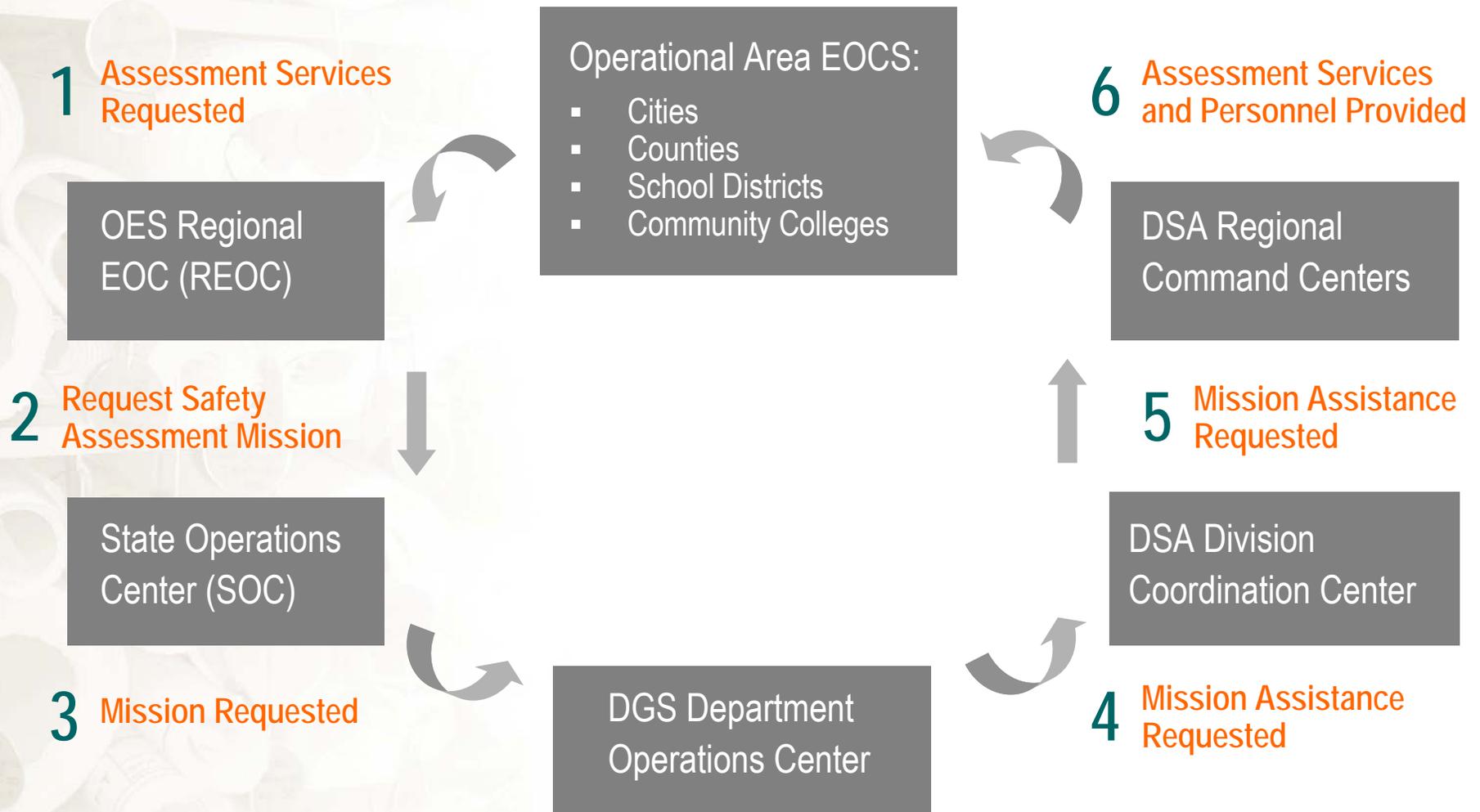
Emergency Operations

- The following flow chart depicts the operational relationships that must be maintained to achieve the anticipated missions forthcoming from the Office of Emergency Services (OES).
- There are two primary missions for the Division of the State Architect pursuant to this plan:

Emergency Operations (continued)

- Ensure continuity of government operations to include: maintain the ability to perform essential organizational functions, pre-delegation of authority, preservation of vital records, ensure the safety and well being of employees, and the integrity of facilities.
- Provide qualified personnel to perform safety assessments of K-12 and Community Colleges, state-owned buildings, and general structural assessments as requested by DGS or OES. DSA has over 100 people certified by OES to perform post disaster response.

Emergency Operations (continued)



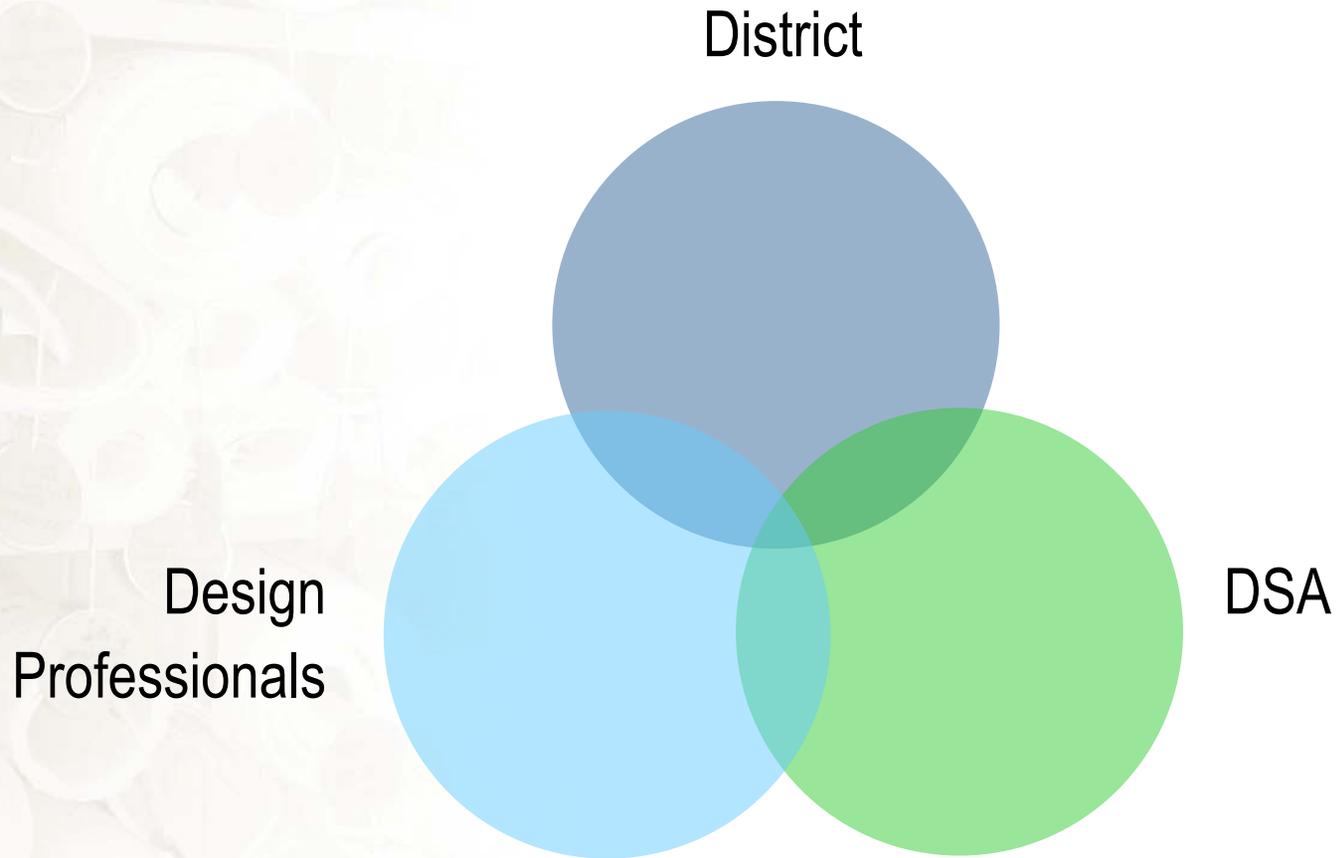
New Directions

- Collaborative Process for Project Development and Review
- DSA Academy
- Certified Access Specialist Program (CASp)
- Recruitment Plan
- Electronic Documents
- Statewide Teams
- Project Close-Out Initiative
- Client Relations

Collaborative Process (CP) for Project Development and Review

- Ensure public safety of community college and school district facilities through the implementation of a *collaborative, consistent* and *timely* project development and review process in a regulatory environment

Collaborative Partnership



Traditional Process



- Project submitted at Intake Phase
- Intake may be the first point of communication between all parties—district, design professional, and DSA

Collaborative Process



- All parties—district, design professional, and DSA—work collaboratively, beginning at Schematic Design Phase

Benefits of the Collaborative Process

- Design decisions committed to early in design process, minimizing schedule delays and changes to technical requirements
- Commitment to schedules
- Technical issues identified and resolved early
- Time reductions for intake, plan review and back check

Major Features of the Collaborative Process

- All parties—DSA, district, designer—commit to technical requirements and schedules throughout project development and review phases
- Preliminary review meetings conducted between all parties—DSA, district, designer—to coordinate project-specific technical requirements and schedules
- External DSA plan review consultants secured at district request and participate in preliminary review meetings
- Review and acceptance of geotechnical and geohazards reports by California Geological Survey and DSA

Major Features of the Collaborative Process (continued)

- Internal reviews—constructability, construction cost estimate, value engineering—conducted by district/designer and incorporated into project prior to DSA submittal
- 100% complete construction documents and specifications submitted to DSA
- Certification that constructability, construction cost estimate, value engineering results incorporated into construction documents

Status of Collaborative Process Implementation

- Governor's approval of AB 162 in September, authorizing CP
- Strategic Partnering efforts with LAUSD, LACCD and SFUSD providing opportunities for initial development and implementation
 - Roles and responsibilities clarified
 - Preliminary review meetings conducted
 - Project schedules coordinated
 - Construction documents of higher quality
 - Specialized DSA team

DSA Academy

Mission

- To promote quality design and construction of educational facilities and other governmental buildings in California by providing centralized training.

Goal

- To serve as a major learning resource for all parties involved in the planning, design and construction process.

DSA Academy (continued)

Objectives

- Through the training, certification and educational programs, the Academy will promote a uniform understanding and knowledge of application of processes, procedures and interpretations of code and regulations needed for successful plan review and approval and construction.
- Serve as a primary source for collaborative policy determination and oversight for educational facilities and other governmental buildings.

DSA Academy — Audiences



- DSA Staff
- Consultant DSA Plan Reviewers
- School District Staff
- Community College Staff
- Architects
- Engineers
- Inspectors
- Contractors and Project/Construction Managers

Phase I and Phase II

- Training is held at Northern and Southern California sites
- Classes range from one to six days, depending on the subject matter
- Classes are open to the public and designed for anyone involved in the planning, design and construction of educational facilities and other governmental buildings in California

Phase I: Course Offerings—Current

Access Plan Review

- Two-day course
- Offered at least four times per year
- through June, 2007:
 - 232 students trained
 - Students include State government (including DSA), city government, Community colleges and private consultants

Phase I: Course Offerings—Current

Project Inspector Overview

- Two-day course
- Offered four times per year
- through June, 2007:
 - 497 students trained
 - Students are primarily Certified Project Inspectors

Phase I: Course Offerings—Planned

Structural Plan Review

- Two-day course
- Offered four times per year
- through June, 2007:
 - 172 students trained
 - Students include DSA employees, school districts, Community colleges and private consultants

Phase I: Course Offerings—Planned

Fire & Life Safety Plan Review

- Three-day course
- Offered four times per year
- through June, 2007:
 - 92 students trained
 - Students include DSA employees and private consultants

Phase I: Course Offerings—Planned

FEMA 356 Plan Review

- This nine-day course was offered once and professionally videotaped for future training
- Open to DSA employees only

Phase I: Course Offerings—Planned

Planned Project Inspector Courses:

- Fire & Life Safety
 - “InDepth Project Inspector: Fire & Life Safety”
 - Scheduled: Sept 20 & 21 and Dec 13 & 14, 2007
- Electrical
 - “InDepth Project Inspector: Electrical”
 - Scheduled: Oct 24 & 25, 2007
- Access
- Structural
- Administrative
- Plumbing & Mechanical

Phase II Timeline

Planned Accessibility Classes:

- Access Amendments to the California Building Code
“2007 CBC Amendments: Accessibility”
 - Scheduled: Aug 9, Sept 12, Oct 4, Nov 14, 2007

Project Scoping – Determining Applicable Accessibility Requirements

- Field Investigations – Facility Surveys, Mitigation Plans & Accessibility Reports
- Design Strategies for Accessibility Based on Performance Obligations

Phase II Timeline

Planned Accessibility Classes (continued)

- Plan Review of Accessible Features in Construction Documents
- Blending Universal Design with Performance Based Design Methods

Phase II Timeline

Planned Structural Classes

- Tests & Inspections Laboratory Evaluations & Acceptance
- Amendments to the California Building Code
 - “2007 CBC Amendments: Structural”
 - Scheduled: Aug 28 & 29, Sept 5 & 6, Oct 2 & 3, Nov 15 & 16, 2007
- Existing Policies & Procedures

Phase II Timeline

Planned Fire & Life Safety Classes

- Existing Policies & Procedures

Other Classes

- On-Line Electronic Plan Review

Certified Access Specialist Program (CASp)

- Senate Bill 262, enacted in late 2003, called for “the State Architect to establish ... a program for voluntary state certification of access specialists.”
- DSA convened an advisory committee consisting of a broad spectrum of leaders and key stakeholders in accessibility to assist in developing minimum criteria for certification of access specialists.

Certified Access Specialist Program (CASp)

- The advisory committee collaborated with DSA staff architects to identify three program objectives. These goals, for increased Consistency, Clarity and Collaboration, form the underlying principles of the CASp program, and will facilitate accessible construction and the removal of access barriers.
- DSA staff are currently finalizing a complete rulemaking package to establish program regulation, authority and limits.

Certified Access Specialist Program (CASp)

- DSA also assembled Subject Matter Experts for assistance in test development. Their challenge was to articulate the body of knowledge of access specialists and develop hundreds of multiple choice questions for use in several versions of the exam(s).
- The first certification exam for Access Specialist is slated for late 2007. Additional certification exams will follow in 2008.

Recruitment Plan

- DSA's ongoing comprehensive plan to fill critical Structural Engineer, Architect, and Fire & Life Safety Officer vacancies

Plan involves:

- Advertisement in major newspapers, trade publications, journals and on the internet
- Direct Mail Campaigns
- Personal Contact

Recruitment Plan

(Plan continued)

- Trade show booth participation at major industry events
 - Coalition for Adequate School Housing (CASH)
 - Community Colleges Facilities Coalition (CCFC)
 - Engineering and Tech Expo
 - Structural Engineers Association of California (SEAOC)
 - California Fire Prevention Institute
 - AIACC Annual Conference
 - AIA Los Angeles Mobius Conference and Expo
 - Green California Schools Summit and Expo
 - EcoBuild

Electronic Plan Review

- Intent that all project plans to be submitted and reviewed electronically.
 - Electronic submission (on CD or via ftp site)
 - Review of project in paperless mode
 - Web-conferencing for backcheck
 - Digital signatures and stamps upon approval
- Procedures for e-plan review posted on DSA website
- All DSA regional offices conducting e-plan reviews
- Initial focus on small and “over-the-counter” projects
- Web conferencing software installed and testing for use during backcheck underway
- Training in use of e-plan review for architects available

Electronic Document Project

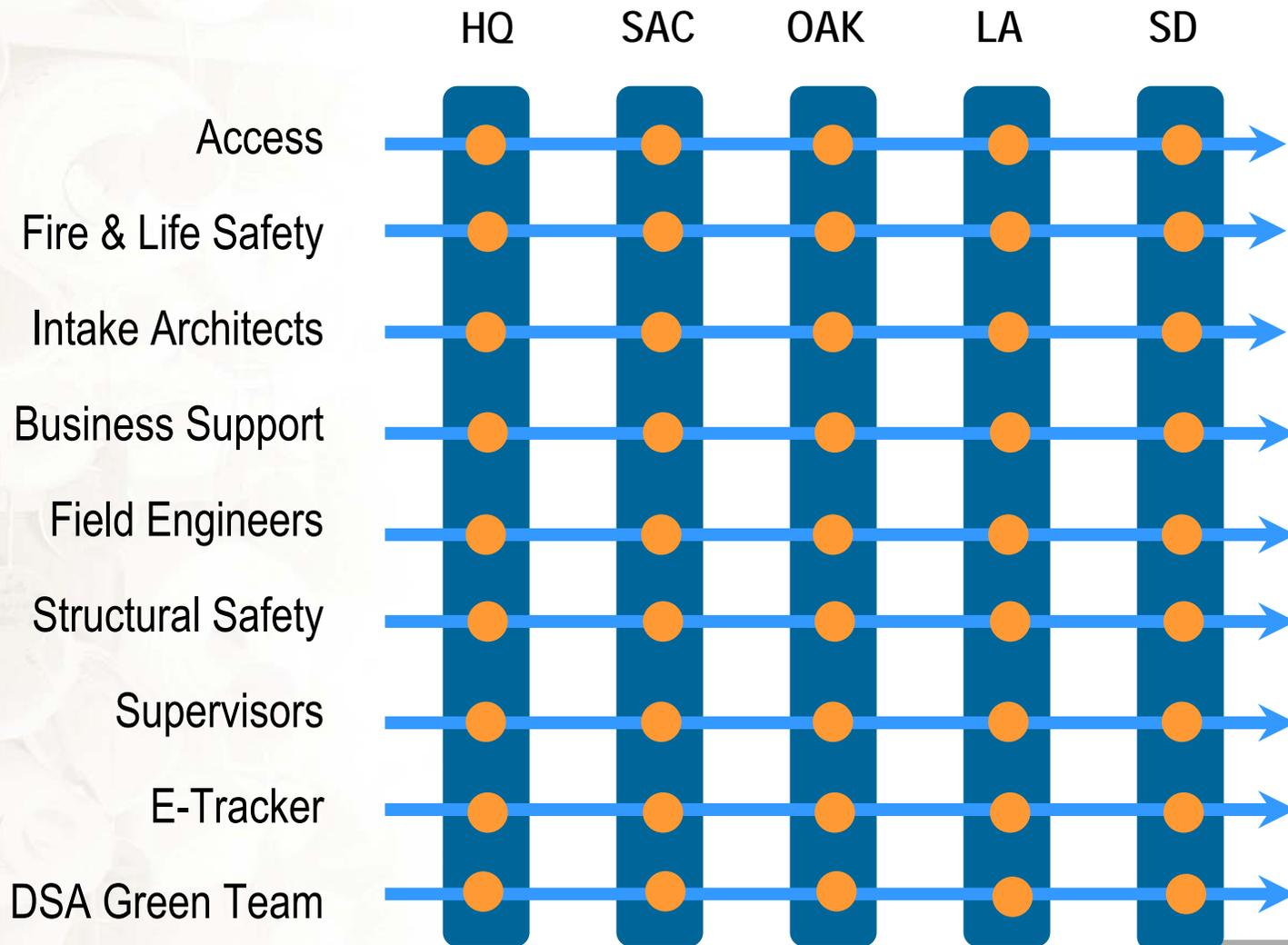
- All documents required for project certification submitted and managed electronically
 - Project documents submitted via Internet
 - DSA project files on Internet with secure log-in and accessible by DSA clients
 - Reporting capabilities for DSA management and clients
 - Pilot project underway at San Diego Regional Office

DSA Statewide Teams

Purpose:

- To focus on the technical review of plans and construction for consistency, accuracy, timeliness and interpretation of code.

DSA Statewide Teams



Project Close-Out Initiative

- Hired additional temporary closing staff to close backlog. Plans for hiring additional temporary closing staff.
- Developed a Closing Manual to standardize and streamline closing procedures statewide
- Implemented significant improvements to e-Tracker database to improve close-out process and information available to clients
- Plans to develop closing training for district personnel and design professionals to be offered by the DSA Academy

Project Close-Out Initiative

- Backlog has been reduced from 6,850 projects in 2006 to 6,405 projects in June 2007
- Goal to eliminate backlog by June 2008

Client Relations

- Plan is to revitalize and cement our communication network with education and business community stakeholders through the DSA Advisory Board and other organizations

DSA's Website — www.dsa.dgs.ca.gov

- Project Status – “TRACKER”
- Project Submittal Guidelines
- DSA's Publications and Forms
- DSA's Project Inspector and Lab Programs
- Certified Access Specialist Program
- DSA Academy
- Contact information





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THANK YOU!

DSA 101 ▪ June 2007