State Route 91
Improvement Project

Anaheim Regional
Transportation Intermodal
Center

San Diego City College
Mathmatics and Social
Sciences Building

Robert F. Kennedy
Community Schools

GROUP DELTA

Statement of Qualifications

Materials Testing & Inspections

Serving California Since 1986

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"Delta is the Difference"

GROUP DELTA

WHO WE ARE

Group Delta is a consulting geotechnical and environmental engineering firm with seven offices located in the counties of Orange, Los Angeles, San Bernardino, San Diego and Alameda. Our team consists of civil and geotechnical engineers, environmental engineers, engineering geologists, laboratory and field technicians, deputy inspectors, drafting/CADD technicians, and drilling and support personnel specialized in their respective fields. We offer a broad range of services to serve the needs of our clients.

TESTING AND INSPECTION SERVICES

Group Delta has two materials testing laboratories located in Anaheim and San Diego, California. Our laboratories are licensed as an approved testing facility by various agencies including the Division of the State Architect (DSA), City of Los Angeles, Caltrans, CCRL and AASHTO.

Soils Testing

- Classification & Index
- Strength Tests
- Volumetric Change
- Permeability
- Compaction
- Aggregate/Subgrade

Direct Shear, Consolidation & Sand Equivalent Testing

Materials Testing

- Asphalt Testing
- Concrete Aggregate
- Concrete Cylinders
- Concrete Beams
- Masonry

Asphalt & R-Value Testing

- Masonry Unit Cubes
- Masonry Prisms
- Grout/Mortar
- Dry Pack Blocks
- Shotcrete
- Batch Plant Inspections
- Reinforcing Steel
- Structural Steel
- Chemical Physical Properties
- AWS/CWI Welding
- Post-Tensioning
- Epoxy Dowels/ Drilled in Anchors
- Pull Testing
- Non Destructive Testing – UT/MT
- High Strength Bolting
- Fireproofing Inspections and Sampling
- Concrete & Masonry Coring and Extraction
- Mix Design Reviews & Trial Batched
- Fiber Wrap Inspection
- Vapor Emissions Testing

GROUP DELTA

Group Delta meets all the requirements as an approved testing agency with the following local and national accrediting/certification authorities:

- ISO 17025 (San Diego Laboratory)
- AASHTO (American Association of State Highway and Transportation Officials)
- ACI (American Concrete Institute)
- AMRL (AASHTO Materials Reference Laboratory)
- ANSI (American National Standards Institute)
- APWA (American Public Works Association)
- ASNT (American Society of Nondestructive Testing)
- ASTM (American Society for Testing and Materials)
- AWS/CWI (American Welding Society/Certified Welding Inspector)
- California Department of Transportation (Caltrans)
- CCRL (Cement and Concrete Reference Laboratory)

American Association of State Highway and Transportation Officials

AASHTO Accreditation Program Certificate of Accreditation

This is to signify that

Group Delta Consultants, Inc.

in

San Diego, California

has demonstrated proficiency for the testing of construction materials and has conformed to the minimum requirements established in AASHTO R 18 and ISO/IEC 17025. AASHTO R 18 requirements have been set forth by the AASHTO Highway Subcommittee on Materials (HSOM)

The scope of accreditation can be viewed on the AAP Directory of Accredited Laboratories on www.amrl.net

Bud Wright, Executive Director

Moe Jamshidi, AASHTO HSOM Chair

AASHTO THE VOICE OF TRANSPORTATION

AAP AASHTO R18

- City of Los Angeles
- DSA (Division of the State Architect)
- ICBO (International Conference of Building Officials)
- NICET (National Institute for Certification in Engineering Technologies
- UBC (Uniform Building Code

Inspection

Earthwork Inspection and Testing – Group Delta provides geotechnical observation and testing services for all stages of site grading. Our field compaction testing services are provided by experience soils technicians working under the supervision of licenses professional engineers.

Asphalt Inspection and Testing – Group Delta provides comprehensive asphalt testing and AC Mix Design Services.

Concrete Inspection and Testing – Group Delta's concrete inspection and testing staff is re-certified bi-annually by the Cement and Concrete Reference Laboratory (CCRL) and annually by Caltrans. Our ACI certified concrete technicians perform field and batch plan sampling of concrete materials to assure compliance with project specifications.

Specialty Construction Inspection – Group Delta provides experience special inspectors license by the International Code Counsel (ICC) for Sprayed Applied Fireproofing, Structural Masonry, Structural Steel Bolting and Welding, Pre-Stressed Concrete, and Reinforced Concrete. Group Delta can also provide Certified Welding Inspectors (CWI) licensed by the American Welding Society (AWS) and non-destructive testing such as mag-particle and ultra-sonic testing.

Group Delta Technicians & Inspectors hold the following certifications:

ICC Inspection
- Masonry
- Structural Steel/Welding
- Concrete
- Fireproofing
- Pre-Stressed
- Concrete

Caltrans Certified
- Materials Testing
- Soils Testing
- Nuclear Gauge Safety
- ACI Certified Concrete
- Soils

City of LA Deputy Inspector

GROUP DELTA

GEOTECHNICAL ENGINEERING AND GEOLOGIC SERVICES

- Feasibility studies
- Third Party Reviews
- Foundation design
- Earth Retaining Structures Design
- Pavement Design
- Earthwork and Grading
- Earthquake and Fault Studies
- Geologic Hazard Evaluations
- Numerical Modeling Analyses
- Seismic Design & Hazard Assessments
- Hydrogeologic Evaluations
- Dewatering
- Ground Improvement Analysis & Design
- Laboratory Testing
- Slope Stability & Landslide Investigation & Mitigation
- Instrumentation and Ground Monitoring

Hollywood Fault Study

- Pile Drivability & Load Tests
- Seismic Retrofitting Design
- Geologic Reconnaissance & Mapping
- Geophysical Investigations
- Trenching Investigations

ENVIRONMENTAL SERVICES

Tank/Hazardous Materials Sampling

- Phase I Initial Site
- Assessments (ISAs) / Environmental Site Assessments (ESAs)
- Hazardous Materials Management & Industrial Hygiene
  - Surveys and Investigations
  - Technical Abatement Specifications and Work Plans
  - Abatement and Remediation Monitoring Services
- Phase II Site Investigations (SIs)
- Construction Environmental Compliance
- Phase III Site Remediation
- Stormwater

FORENSIC SERVICES

- Earthquake Damage Assessments: Causation studies and preparation of repair recommendations.
- Landslide Investigations: Causation studies and/or development of stabilization schemes.
- Construction Vibrations: Vibration monitoring and geotechnical testing.
- Dam Investigations
- Settlement Analyses: Floor level surveys, causation studies and/or preparation of repair recommendations.
- Expansive Soils: Subsurface investigations, preparation of repair recommendations.
- Groundwater: Subsurface investigations, preparation of subsurface drainage recommendation.

GROUP DELTA

STATE ROUTE 91 IMPROVEMENT PROJECT
Riverside County, CA

DESIGN-BUILD
$1.4 BILLION

Project Highlights

- Corridor improvements focused on existing 14-miles of congestion
- Improvements to 6-mile boundary that runs from SR-241 toll road to the SR-91
- Project includes major improvements to I-15 Freeway Corridor
- Project to relieve major daily congestion

Group Delta Highlights

- Developed post advanced planning study geotechnical data reports for bridges
- Provided daily review of design-build contractors submittals
- Providing quality assurance materials testing and special inspection for multiple parcels within expanding Caltrans right of way

Project Information

Client:	Parsons
Owner:	Riverside County Transportation Commission/ Caltrans
Total Cost:	$1.4 Billion
Completed:	Ongoing

GROUP DELTA

DESIGN-BUILD
$587 MILLION

I-805 HOV/BRT
San Diego, CA

Project Highlights

- Project adds an HOV/BRT lane in each direction of travel for approximately 3.5 miles
- Lanes help alleviate congestion on the I-805 and extends the I-5 HOV Corridor
- Additional lanes required median widening, widening of bridges and a new direct access ramp (DAR) bridge
- Provides 14 miles of continuous HOV lanes

Group Delta Highlights

- Provided quality assurance testing for the SANDAG construction management firm
- Services included laboratory testing of soils, aggregate base, aggregate and recycled asphalt product (RAP), HMA product, Portland cement concrete, mechanically spliced and hooped reinforcing steel

Project Information

Client:	Caltrop
Owner:	SANDAG
Total Cost:	$587 Million
Completed:	Ongoing

GROUP DELTA

PLAYA VISTA DEVELOPMENT
Los Angeles, CA

Project Highlights

- Awarded the Gold Nugget Award in the single-family detached home category at the Pacific Coast Builders Conference
- Newly developed runway office, retail and housing project that will serve as Playa Vista's downtown
- Newly developed 66,000 sf $45 Million, IMAX Headquarters

Group Delta Highlights

- Lead Geotechnical Engineering firm during both the design and construction phase
- Implemented multiple surcharge programs to mitigate large settlements
- Observed the installation of over 10,000 piles and hundreds of acres of grading
- Performed over 50 static axial pile load test

Project Information

Client:	Various
Owner:	Playa Vista LLC
Total Cost:	$12 Billion
Completed:	On-Going

GROUP DELTA

LA FITNESS
Southern California

Project Highlights

- Establishment of new fitness facilities throughout Southern California
- Remodeling of existing fitness centers and big box buildings
- Projects generally operate on a “fast track” basis

Group Delta Highlights

- Providing construction support services for new and remodeled facilities
- Inspection and testing services include reinforced steel and concrete construction, CMU wall construction, roof diaphragm, structural steel erection and ultra-sonic testing
- Providing field sampling and laboratory testing of construction materials

Project Information

Client:	LA Fitness International LLC
Owner:	LA Fitness International LLC
Completed:	On-Going

GROUP DELTA

YUCCA LOMA BRIDGE OVER MOJAVE RIVER
Apple Valley, CA

Project Highlights

- Bridge is a Cast-In-Place/Prestressed (CIP/PS) Box Girder Structure
- Bridge measures 1600-feet long and 100-feet wide
- Abutments supported by 6-foot diameter CIDH piles and piers
- Piles and piers supported by 10-foot diameter CIDH pile

Group Delta Highlights

- Identified deficiencies in standard special provisions with regard to risks
- Provided additional language to ensure care was taken to mitigate risk
- Provided expert geotechnical engineering services
- Provided quality assurance materials testing and inspection services

Project Information

Client:	Parsons Transportation Group
Owner:	Town of Apple Valley
Total Cost:	$37 Million
Completed:	2015

GROUP DELTA

GLEN HELEN PARKWAY GRADE SEPARATION
Devore, CA

Project Highlights

- Project raised Glen Helen Parkway over the Union Pacific and Burlington Northern Santa Fe railroads
- Separates the existing roadway from the existing railroad
- Improves traffic flow and safety

Group Delta Highlights

- Prior to proceeding with materials testing and inspection services, Group Delta coordinated with Harris & Associates, UPRR and BNSF to review safety requirements and other logistics
- Staff were properly trained and certified by the required safety organizations.
- Providing full service quality assurance materials testing

Project Information

Client:	Harris & Associates
Owner:	County of San Bernardino
Total Cost:	$25 Million
Completed:	2014

GROUP DELTA

DESIGN-BUILD
$28 MILLION

DORSEY HIGH SCHOOL
Los Angeles, CA

Project Highlights

- First Los Angeles Unified School District (LAUSD) Design-Build Project which included a new gymnasium and ninth grade academy classroom building
- Low noise/vibration pile installed on an active school campus
- First auger cast piles project for LAUSD

Group Delta Highlights

- Provided materials testing for Los Angeles Unified School District's First Design-Build Project
- Geotechnical oversight provided through construction
- Quality control inspection services

Project Information

Client:	Los Angeles Unified School District (LAUSD)
Owner:	LAUSD
Total Cost:	$28 Million
Completed:	2014

GROUP DELTA

THE VILLAGE
Santa Monica, CA

Project Highlights

- Project is a mixed use, mixed income development that is the final piece in the Revitalization of the Civic Hub in downtown Santa Monica
- Urban mix of 318 luxury condominiums and affordable rental apartments
- Includes 20,000 sq. ft. of retail shops, restaurants, and walkable plazas

Group Delta Highlights

- Provided geotechnical investigation and recommendations for the preliminary design
- Provided seismic recommendations and foundation recommendations
- Construction support services including soil inspection and testing

Project Information

Client:	Related Companies of California
Owner:	Santa Monica Redevelopment Agency
Total Cost:	$350 Million
Completed:	2014

GROUP DELTA

ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER
Anaheim, CA

Project Highlights

- New architectural iconic terminal building 117 ft. tall with an approximate footprint of 48,000 sf.
- 68,000 sf steel-framed tubular structure with Ethylene Tetrafluoroethylene (ETFE) and glass cladding as part of the terminal
- One of the largest welding projects in California

Group Delta Highlights

- Managed all project inspection and testing
- Coordinated welding Non Destructive Testing (NDT) Inspection
- Deep Dynamic Soil Compaction, ETFE roof installation, monolithic mat foundation
- 54-hr railroad closure for construction

Project Information

Client:	City of Anaheim
Owner:	Orange County Transportation Authority (OCTA)
Total Cost:	$220 Million
Completed:	2014

GROUP DELTA

I-5/GENE AUTRY WEST INTERCHANGE
Anaheim, CA

Project Highlights

- Awarded 2014 Bridge Project of the Year by American Society of Civil Engineers
- New westerly access to I-5 High Occupancy Vehicle (HOV) lanes
- Project Stakeholders include City of Anaheim, OCTA and Caltrans District 12
- Project connects Disneyland Resort with Angel Stadium

Group Delta Highlights

- Provided quality assurance materials testing and inspection for construction management firm
- Inspection and testing was provided in strict accordance with Caltrans' right-of-way and Greenbook specifications for City of Anaheim right-of-way

Project Information

Client:	Hill International
Owner:	Orange County Transportation Authority/Caltrans/ City of Anaheim
Total Cost:	$45 Million
Completed:	2013

GROUP DELTA

ELEVE'
Glendale, CA

Project Highlights

- Four-story residential wood framed structure consisting of podium decks with a 1-level subterranean parking structure
- Development includes a ground floor level for retail and 208 lofts and apartments
- Development was originally named "Broadway Lofts"

Group Delta Highlights

- Provided initial geotechnical investigation and reports for development
- During construction provided shoring observations, materials testing and inspection services

Project Information

Client:	American Multi-Family Development
Owner:	American Multi-Family Development
Completed:	2013

GROUP DELTA

DESIGN-BUILD
$81 MILLION

MATHEMATICS & SOCIAL SCIENCES BLDG
San Diego, CA

Project Highlights

- Project consists of a 5-story, 73,000 sf, general purpose building at San Diego City College
- Building contains classrooms, health center, corporate education center, associated support space with a 7-tier, 400-car parking garage

Group Delta Highlights

- Provided testing services for reinforcing steel, reinforced concrete, post-tensioned concrete, structural steel, bolts, welding, masonry, anchors and fire proofing
- Geotechnical parameters for foundation design
- Provided construction testing, materials testing and special inspection

Project Information

Client:	San Diego Community College District (SDCCD)
Owner:	SDCCD
Total Cost:	$81 Million
Completed:	2012

GROUP DELTA

ROBERT F. KENNEDY COMMUNITY SCHOOLS
Los Angeles, CA

Project Highlights

- **Largest capital project expenditure** for Los Angeles Unified School District at $575 Million
- **First** DSA approved use of a soil nail wall for a LAUSD project
- Original Ambassador Hotel site and Cocoanut Grove Night Club
- Three campuses – K-5, middle school and high school

Group Delta Highlights

- Provided geologic seismic hazard evaluations and reports
- Design-level geotechnical investigation, reports and design recommendations
- Materials investigation of the historic hotel and quality control inspection services for construction materials

Project Information

Client:	Los Angeles Unified School District
Owner:	LAUSD
Total Cost:	$575 Million
Completed:	2012

GROUP DELTA

CARLSBAD HILTON OCEANFRONT RESORT
Carlsbad, CA

Project Highlights

- Resort is located just east of Pacific Coast Highway, 500 feet from coastal bluffs of Carlsbad State Beach
- Development included the construction of a three-story wood-framed hotel with separate three-story parking garage, both with basement areas

Group Delta Highlights

- Provided geotechnical investigations for site development
- During construction provided grading oversight and testing
- Construction support services included materials testing and inspection services

Project Information

Client:	Wave Crest Oceanfront LLC
Owner:	Hilton Hotels
Total Cost:	$75 Million
Completed:	2012

GROUP DELTA

SAN VICENTE DAM RAISE
San Diego County, CA

Project Highlights

- San Diego County Water Authority Emergency Storage Project
- Dam raise increased height 117 feet, making it the tallest dam in the United States
- Project more than doubled the capacity with an additional 152,000 acre-feet
- Dam originally stood at 220-feet and stored up to 90,000 acre-feet of water

Group Delta Highlights

- Provided on-site laboratory for materials testing and inspection services
- Provided laboratory and field testing for on-site crushing of 1.1 million tons of mass aggregate
- Provided compaction testing of 650,000 cubic yards of roller compacted concrete
- Crews worked around the clock for 6 months, seven days/week, for placement of RCC

Project Information

Client:	Shimmick/Obayashi
Owner:	San Diego County Water Authority
Total Cost:	$145 Million
Completed:	2012

GROUP DELTA

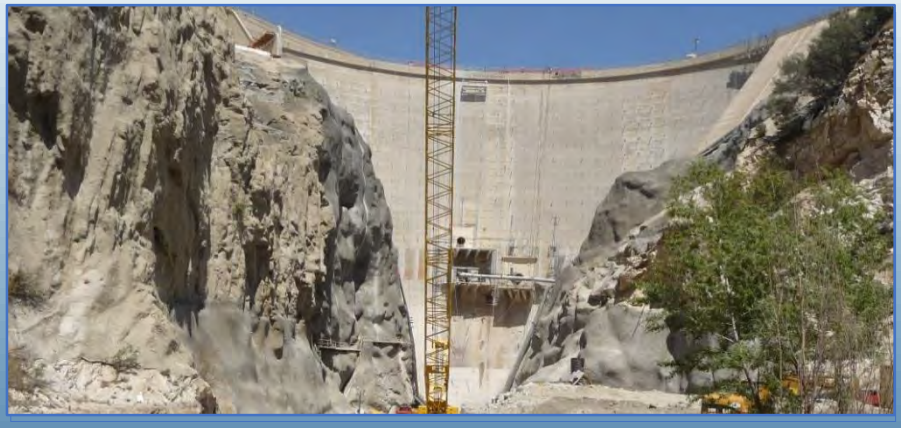
BIG TUJUNGA DAM SEISMIC RETROFIT
Los Angeles, CA

Project Highlights

- Largest infrastructure project in Los Angeles County history
- To limit thermal expansion, all concrete placements were performed at night
- Project included the addition of 80,000 cubic yards of concrete
- Complete seismic retrofitting of the dam was completed

Group Delta Highlights

- Provided on-site materials evaluation and testing during construction of the retrofit
- Provided coring of the existing 1930 concrete for final materials evaluation
- Provided as-built materials analysis for the project site
- Provided all quality control for the project which was reviewed by the Division of Safety of Dams (DOSD)



Project Information

Client:	Shimmick Construction
Owner:	County of Los Angeles
Total Cost:	$100 Million
Completed:	2012

GROUP DELTA

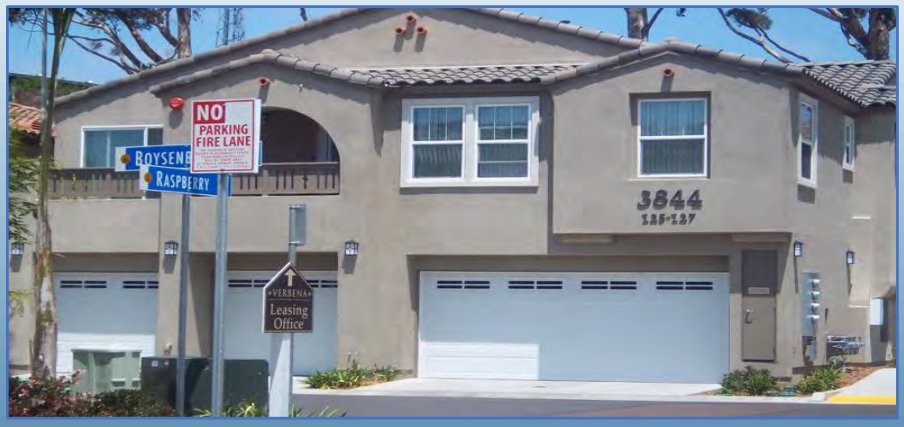
VERBENA FAMILY APARTMENTS
San Ysidro, CA

Project Highlights

- Project includes 80 low income apartments consisting of 27 two-bedroom flats and 53 three-bedroom townhouses
- 177 parking spaces including closed garage spaces
- Amenities include community room, recreation/picnic space, tot lot, laundry facilities and on-site management

Group Delta Highlights

- Provided geotechnical investigations and report for project design
- Construction support services included quality control materials testing, inspection and geotechnical engineering oversight



Project Information

Client:	Emmerson Construction
Owner:	San Diego Redevelopment Agency
Total Cost:	$26 Million
Completed:	2011

GROUP DELTA

TERRANEA RESORT
Rancho Palos Verdes, CA

Project Highlights

- Project is the largest construction of this type in the history of the city
- Sits on the cliffs overlooking the Pacific Ocean on 102 acres providing a spectacular view
- Hotel is 400,000 sf and includes 50 casitas, 32 villas and 20 bungalows
- Amenities include spa, three swimming pools, 1,075 parking spaces and 9-hole golf course

Group Delta Highlights

- Provided services to the City as the project Inspector of Record
- Provided subsurface investigations and reviewed safety requirements
- Conducted daily building inspections included electrical, plumbing, fire sprinklers, HVAC systems as well as overseeing all special inspections and materials sampling

Project Information

Client:	City of Rancho Palos Verdes
Owner:	Lowe Enterprises
Total Cost:	$480 Million
Completed:	2009

GROUP DELTA

DESIGN-BUILD
$490 MILLION

STATE ROUTE 22 IMPROVEMENTS
Orange County, CA

Project Highlights

- Project was awarded the ACEC 2006 Project of the Year
- Improvements were made for approximately 12 miles and extended through four cities
- Included 32 bridge structures, 83 retaining walls and sound walls, 51 ramps and 317 utility crossings

Group Delta Highlights

- Developed 33 post advanced planning study geotechnical data reports for 33 bridges
- Work performed under a formal QA/QC program in accordance with the ISO 9000
- Provided construction support services including material testing and inspection
- Moderate seismic accelerations and shallow groundwater

Project Information

Client:	Parsons
Owner:	Orange County Transportation Authority (OCTA) & Caltrans
Total Cost:	$490 Million
Completed:	2006

GROUP DELTA

TRADEWINDS SENIOR HOUSING
Torrance, CA

Project Highlights

- Affordable senior housing unit includes 100 condominium units
- Parking provided in a 40,000 sq. ft. subterranean concrete parking structure

Group Delta Highlights

- Provided quality control materials testing and inspection during construction
- Geotechnical engineering oversight

Project Information

Client:	Related Companies of California
Owner:	Torrance Redevelopment Agency
Completed:	2003