



Dahl, Robins & Associates, Inc.
Project Portfolio

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ABOUT OUR FIRM

DAHL, ROBINS & ASSOCIATES, INC. (DRA) is a civil engineering and land surveying firm experienced in the design of municipal and commercial development projects. Numerous street improvement projects, domestic water, sanitary sewer, storm drain, park designs, subdivision plats, traffic impact studies and traffic signal projects have been designed by the engineers of the firm over the past 20 years.

In support of this experience, the following summary represents design projects and work, which have been successfully completed by the principals and technical staff.



PROJECT PORTFOLIO



YUMA REGIONAL MEDICAL CENTER EXPANSION

YRMC

Bob Olsen (928) 336-7054

Yuma Regional Medical Center recently completed an extensive \$58.6 million renovation and expansion project including a six-floor addition located on the west side of the campus. This design-build project was completed in October 2004 and will provide enhanced capabilities for medical care in Yuma. McCarthy Construction Company was retained by YRMC as the general contractor for the project with The Stichler Group as the architect of record

and DRA as the civil consultant. The scope of work for DRA included utility relocations, retaining wall layout and re-grading of the site to provide for the building expansion and construction of an expanded parking lot. As the design of the project was nearing completion, DRA conceived an idea to save the project approximately \$1 million dollars. The City of Yuma completed a design of a 186 acre-foot storm water retention basin on the Smucker Park property adjacent to and south of the site. The storm water basin design had an excavation and export of approximately 250,000 cubic yards of fill material. Seeing that YRMC had the same import requirement, DRA facilitated the parties to enter into an agreement for YRMC to excavate the basin for the city and realize a tremendous savings to both the City and YRMC.



YUMA PALMS REGIONAL CENTER

WDP Partners, LLC

Wally Chester (602) 953-6233

Yuma Palms Regional Center, located at Interstate 8 and 16th Street, is under construction and will provide approximately 1,000,000 square feet of additional retail space to the City of Yuma. The design of the site included preparation of improvement plans for both onsite and offsite construction. The total cost of construction is estimated at \$70 million dollars. Work included preparation of a topographic survey, rezoning and entitlement processes, base plan mapping, geometric

layout of site improvements, site grading design for storm water management, domestic water and sanitary sewer design, sanitary sewer and storm drain lift stations and force mains, working with City of Yuma, Yuma County, State of Arizona agencies and private land owners, preliminary and final plat preparation, preparation of contract documents, special provisions, specifications and construction cost estimates.

PROJECT PORTFOLIO

CITY OF YUMA MUNICIPAL COMPLEX

City of Yuma

This \$35,000,000 design-build project combined a number of City departments under one roof. DRA was retained by both the architect, Carrier-Johnson and the developer, Lankford & Associates to develop engineering plans for the 150,000 square foot facility. The scope of work expanded during the project to include 3,600 feet of downtown street improvements, a traffic roundabout with water feature and additional parking lots for the facility. The project was completed in 2002 will provided downtown Yuma with attractive, focal point for many of the individual, development projects in the area.

YUMA COMMERCE CENTER

Ingold Family Limited Partnership

The owner of this industrial park has constructed approximately 200,000 square feet of industrial/warehouse buildings to date. Full build out will consist of 1,000,000 square feet. The design of site improvement plans for construction includes topographic surveys, base plan mapping, geometric layout of site improvements, site grading design for storm water management, domestic water and sanitary sewer design, irrigation and landscape design, coordination of security lighting layout and preparation of SWPPP and NOI documents.

I-8 / B-8 TRAFFIC INTERCHANGE

ADOT / Cielo Verde L.L.C.

This project is a joint partnership agreement between ADOT and a developer to design and construct a new traffic interchange at B-8 (32nd Street) connection to I-8. Currently completed construction, the project includes a full-movement interchange with 2 miles of roadway improvements, 4 ramp movements, 3 traffic signals, geotechnical investigation, storm drainage, lighting, and landscaping. The B-8 (32nd Street) improvements were to the City of Yuma's arterial standards, similar to the criteria for this project. DRA was the prime consultant for the project. In addition to management of the project, DRA completed roadway design, drainage design, signing and pavement marking design, traffic signal design, and utility coordination in-house. DRA coordinated subconsultants for landscaping and irrigation design and geotechnical investigations. DRA provided full post design services in support of the construction activities.

I-8 / AVENUE 3E TRAFFIC INTERCHANGE & SR280 RECONSTRUCTION

Arizona Department of Transportation

This project reconstructs the existing Avenue 3E interchange with Interstate 8 and studies the possible improvements to SR280. Recently finished the design phase, the project includes a full-movement interchange with roadway improvements, 4 ramp movements, 3 traffic signals, geotechnical investigation, and storm drainage. DRA was responsible for Results of Survey, additional topographic survey information, utility coordination, and traffic signal design.

PROJECT PORTFOLIO

ON-CALL, STATEWIDE DISTRICT MINOR PROJECTS

Arizona Department of Transportation

DRA was selected to provide design services for the ADOT Yuma District through the ADOT District Minor Program. ADOT has recently extended the duration of the contract for the maximum allowable time extension. The following tasks orders have been issued under this on-call contract.

US 95 AT ABERDEEN ROAD AND YPG ENTRANCE INTERSECTION IMPROVEMENTS

Arizona Department of Transportation

To accommodate the traffic volumes at the United States Army Yuma Proving Grounds facility, a major employer for the Yuma community, the intersections of the YPG facility with US 95 need improvements to provide safe turning movements. This District Minor Project adds a much needed northbound right turn lane and southbound left turn lane at the Aberdeen Road intersection and a southbound right turn lane at the YPG Main Entrance to compliment an existing left turn lane. The project involves close coordination with the YPG staff from the Project Assessment level through final design. DRA provides the topographic survey, roadway design, drainage design, signing and pavement marking, along with utility and agencies coordination for both the PA and the final design effort.

I-8 ASBUILT SURVEYS

Arizona Department of Transportation

Recent single-vehicle accidents along Interstate 8 are consistently occurring at the same locations. As safety is a primary concern of ADOT, this District Minor Project investigates the existing superelevation of the travel lanes and analyzes it against the original design and current design standards to determine the cause of the single-vehicle accidents. DRA provides the topographic survey and roadway analysis for the determination of the cause of the accidents.

32nd STREET IMPROVEMENTS AND WATER TRANSMISSION LINE BETWEEN AVENUE A TO AVENUE B

City of Yuma

This project improved the existing prime arterial of 32nd Street to 5 lanes with raised medians. The cross section was designed to allow the addition of one more lane in each direction by narrowing the median to standard width. This prevented the reconstruction of sidewalk, storm drains, utilities and the need to acquire additional right of way. An alternative bridge concept provided for a separate bridge across the East Main Canal to accommodate westbound traffic and provide minimal disruption to existing traffic. A 20-inch water transmission main was brought three-quarters of a mile through the project and projected

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south a quarter of a mile for a future connection to the City's water tower. DRA is the prime consultant and provided roadway, storm drain, pavement marking, signage and utility design in addition to survey and right of way tasks. GTS provided geotechnical investigations for the bridge design and retaining wall design and provided the pavement designs.

24th STREET AND YRMC ENTRANCE TRAFFIC SIGNAL

City of Yuma

Fulfilling the needs of an ever-expanding medical facility this \$385,000 intersection and street improvement project provided safer and more convenient access for hospital staff and patients. This City of Yuma Capital Improvement Program project, a coordinated effort between the City and YRMC, involved relocating the main hospital entrance a safer distance from the existing alignment of Elks Lane. This new entrance was then signalized and reconstructed with exclusive left and right turn lanes and a central median on 24th Street. The design allowed for future development north of the hospital and the phased reconstruction of 24th Street from Avenue 'B' to the East Main Canal.

I-8 / GISS PARKWAY / REDONDO CENTER DRIVE TRAFFIC INTERCHANGE

City of Yuma

This project reconstructs the existing eastbound ramps of the Giss Parkway interchange with Interstate 8. Currently under construction, the project includes 2 new ramp configurations, Redondo Center Drive extension to Giss Parkway, 1 traffic signal, geotechnical investigation, and storm drainage. DRA is responsible for additional topographic survey information and accommodations for a future traffic signal at the intersection of Redondo Center Drive and Giss Parkway. DRA also completed the traffic signal plans for the future intersection signalization project.

MAIDEN LANE WATERLINE AND RECONSTRUCTION

City of Yuma

This \$470,000 project was the first in series of major downtown street reconstruction projects to incorporate a theme of parking, landscaping and lighting determined in part by the City's Riverfront Development staff. Both a 30-inch water transmission line and an 8-inch main line were installed to serve the needs of a growing community. Street design incorporated a scheme of parallel parking, landscaped parkways, historic lighting and colored curb, gutter and sidewalks. The completion of this project had a tremendous impact on the appearance of this downtown area and compliments the construction of new facilities such as Main Street Cinemas and A New Leaf flower shop.

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1ST STREET WATERLINE AND RECONSTRUCTION

City of Yuma

Expanding from a pavement replacement project this portion of 1st Street was reconstructed in the same fashion as Maiden Lane. The scope of work included the construction of a 30-inch water transmission line providing a critical connection to the Yuma Valley. The \$700,000 reconstruction of this street provides the main access and gateway to the proposed development of 20 acres of high profile, retail and commercial facilities along the riverfront.

AVENUE C CONSTRUCTION PROJECT MANAGEMENT

City of Yuma

This project was in conjunction with the City of Yuma project to reconstruct Avenue C from 16th Street to 24th Street. DRA provided engineering consulting to the City of Yuma project manager for the resolution of design conflicts and field issues. Weekly meetings address the issues encountered in the field and provide the forum for issue resolutions.

FORTUNA ROAD RECONSTRUCTION

Yuma County Department of Development Services

This project reconstructs the existing roadway from the South Frontage Road to 40th Street to a County standard arterial street. The first phase Design Concept Report is submitted for review. The second phase will bring the concept to full construction documents. The five-lane street will have curb, gutter and sidewalk with a storm drain system. Analysis of the existing storm water runoff is essential to storm drain system design.

SOUTH FRONTAGE ROAD WIDENING

Yuma County Department of Development Services

This project widened the existing South Frontage Road from Desert Air Boulevard to Westwinds RV Resort to add a continuous median turn lane and left turn lanes at intersections. The project matched improvements to be built in the ADOT project I-8 / B-8 Traffic Interchange. Coordination between the two projects allowed for use of milled AC to be used as base for the frontage road and final friction course of pavement and final striping was delayed on the ADOT project to provide a smooth and homogeneous facility.

COUNTY 14TH STREET AND AVENUE 3E / COUNTY 14TH STREET AND AVENUE A INTERSECTION IMPROVEMENTS

Yuma County Department of Development Services

This project improved the existing County 14th Street intersections with Avenue 3E and Avenue A with traffic signal and left turn lanes. Considerations of the current operation of the signals while accommodating the future improvements to the overall roadway to five lanes were key elements in this design. DRA provided the survey and design of the improvements as well as the timing for the traffic signals.

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COUNTY 14TH STREET TOPOGRAPHIC SURVEY FROM AVENUE 7E TO AVENUE 13E

Yuma County Department of Development Services

This project provided a detailed topographic survey of the existing County 14th Street from Avenue 7E to Avenue 13E in support of a design effort by Yuma County staff. DRA provided the control, topographic survey, right of way determination, and CAD effort to produce the topographic survey and a record of survey for the right-of-way along the corridor.

COUNTY 14TH STREET AND AVENUE 4E / COUNTY 14TH STREET AND AVENUE 5E TOPOGRAPHIC SURVEY

Yuma County Department of Development Services

This project provided a detailed topographic survey of the existing County 14th Street at the Avenue 4E and Avenue 5E intersections. DRA provided the control, topographic survey, right of way determination, and CAD effort to produce the topographic survey.

SAN LUIS HIGH SCHOOL

Yuma Union High School District

The design of site improvement plans for construction included a topographic survey, base plan mapping, geometric layout of site improvements, site grading design for storm water management, domestic water and sanitary sewer design, sanitary sewer lift station and force main design, coordination of security lighting layout, working with Bureau of Land Management, State of Arizona and private land owners to coordinate and secure access to the site, legal description preparation for additional right of way requirements, preparation of contract documents, special provisions, specifications and construction cost estimates.

YPG MISCELLANEOUS ROAD REPAIRS

YPG AIRCRAFT APRON STAKING

Zeller's Excavating and Paving

These projects were in support of the general contractor and provided surveying services for the aircraft apron and miscellaneous roads around the YPG facilities. DRA was responsible for establishing project control, coordinating project control with YPG control, designing grades in the field and providing construction staking services.

YPG MISCELLANEOUS SURVEYS / ENGINEERING CENTER STAKING / RANGE IMPROVEMENTS

Baldi Brothers Constructors

These projects are part of a design/build contract between the general contractor and YPG. DRA is responsible for establishing project control, developing design-quality topographic surveys, coordinating with YPG control, and providing construction staking.

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STREET IMPROVEMENT PROJECTS

- 32nd Street - Avenue C to Avenue C½
- 24th Street - Avenue 2E to Avenue 2½E
- 18th Street - Pacific Avenue to Sunridge Drive
- 14th Avenue Improvement Project - 9th Street to 10th Street
- 24th Avenue Construction - 5th Place to 8th Street
- 20th Street Improvements - Thacker Lateral to Avenue C

These street improvement projects involve the construction and reconstruction of roadways according to City of Yuma standards based on the Major Roadways Plan - Circulation Element. Work completed is represented by street reconstruction and widening plans including vertical curb and sidewalk, bike lanes, gravity storm drain line sizing, retention basin design, storm water lift station design, force main design, hazardous material reports - Phase I and Phase II Environmental reports and hazardous waste control implementation plans, legal description preparation for additional right of way requirements and property fee appraisal preparation, modification to existing traffic signals, topographic surveys, preparation of contract documents, special provisions, specifications and construction cost estimates.

INTERSECTION TRAFFIC SIGNAL DESIGNS

City of Yuma

- 16th Street and Redondo Center Drive
- 24th Street and Araby Road

Typical designs include intersection channelization to include bike lanes, center turn lanes with medians and tapers, drainage facilities, utility research, legal description preparation for additional right-of-way requirements, signal pole placement, mast arm sizing, signal head placement, conductor schedule and phasing diagrams.

WATERLINE DESIGNS

- Maiden Lane 30"/8" Water Main Installation
- 1st Street 30" Water Main Installation
- 32nd Street 20" Water Main Installation from Avenue 8½E to Avenue 9E
- 32nd Street 20" Water Main Installation from Avenue 7¾E to Avenue 8½E

These projects involved the replacement of outdated waterlines and installation of new waterlines within the City of Yuma water distribution network. Work completed is represented by topographic surveys of existing streets, utility research, construction improvement plan preparation, submittals to ADEQ and the City of Yuma for securing project approval, contract documents, special provisions and specifications, construction cost estimates, construction management services including construction inspection, bidding assistance, preparation of ADEQ Certificate of Completion and preparation of As-Built plans.

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YUMA WEST WETLANDS PHASE I

City of Yuma

DRA provided survey support for the Master Planning of this project. The survey elements included the investigation of utilities and boundary research. A full site topographic survey was performed to provide detailed site information.

YRMC CORPORATE CENTER

Yuma Regional Medical Center

The Tanner Companies recently completed this project for YRMC. Our firm provided the design and construction staking for the project. The scope of work included office preparation of survey calculations, establish horizontal and vertical control, construction staking including light pole foundations, subgrade, aggregate base course, vertical curb planters and basins and trash enclosure.

YUMA RIVERTOWN

City of Yuma

DRA is providing the civil engineering and surveying services for this project. The elements of work currently have included preliminary property boundary surveys, a topographic survey, preliminary construction cost estimate, and earthwork estimate for the master plan.

SAN LUIS / SOMERTON AERIAL MAPPING

Yuma County

This project was to provide aerial mapping for 4 square miles of Yuma County for the Flood Control District. This area encompasses the San Luis area. Horizontal and vertical control was vital in establishing useful aerial information. Extensive knowledge of the area monumentation was utilized for the control.

SUBDIVISION PLATTING

- Yuma Lumber Lot Split
- Tamarack Unit No. 4
- Pioneer Park Unit Nos. 2, 3 & 4
- Ponderosa Valley Estates Unit Nos. 3 & 4
- Cielo Verde
- Lakes of Yuma ALTA
- Cibola Heights Unit Nos. 1 through 5
- Parkway Place Unit Nos. 1 through 5
- Mountain View Unit Nos. 1 through 3
- Falls Ranch Unit Nos. 2 through 7

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DRA has completed numerous boundary surveys and plats in accordance with City of Yuma Subdivision Regulations using both conventional technology and GPS.

STORMWATER DRAINAGE FACILITIES

- 20th Street Storm Water Basin and Lift Station
- Elk's Area Storm Water Improvements
- Hacienda Estates Retention Basin
- 12th Street Storm Drain
- Pecan Grove Storm Drain

These storm water drainage facility projects included topographic surveys, base plan mapping, utility research, basin capacity calculations, inlet/outlet head wall design, lift station design, force main design, gravity storm drain and catch basin design, preparation of contract documents, special provisions, specifications and construction cost estimates.

SCHOOL IMPROVEMENT PROJECTS

DRA has provided civil engineering and surveying services for the following school improvement projects:

- YESD No. 1 K-5 Elementary School
- Ron Watson Middle School
- Gary Knox Elementary School
- O.C. Johnson Elementary School Drop-off Lane
- Woodard Jr. High School Parking Lot
- Rancho Viejo Elementary School
- Salida Del Sol Elementary School
- Kofa High School Parking Lot Improvements
- Pueblo Elementary School Survey
- Reagan School Bus Loop
- Alice Byrne Elementary School
- Kofa High School Track
- Yuma Catholic High School
- Yuma High School Building Addition
- Yuma Catholic High School Athletic Complex
- Sentinel Elementary School
- Dateland Elementary School

COMMERCIAL SITE PROJECTS

- The Home Depot – Yuma, AZ
- The Home Depot – Mesa, AZ
- The Home Depot – Bullhead City, AZ
- The Home Depot – SRP-MIC, AZ

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- The Home Depot – Phoenix, AZ
- The Home Depot – El Centro, CA
- The Home Depot – Chula Vista, CA
- The Home Depot – Porterville, CA
- South Somerton Elementary School
- Microtel Inn & Suites Motel
- Barney’s Texaco (2 sites)
- Jack-in-the-Box #1138
- El Nino Car Wash
- Precious Treasures
- Cousins Subs
- Pioneer Center Major ‘A’
- Santa Fe Office Complex
- Desert Transportation
- Misenhimer & Associates Office
- ARCO Gas Station & Convenience Mart
- Excel Development
- Yuma Catholic High School
- Fairfield Inn

The design of site improvement plans for construction includes topographic surveys, base plan mapping, geometric layout of site improvements, site grading design for storm water management, domestic water and sanitary sewer design, irrigation and landscape design, coordination of security lighting layout, Traffic Impact Studies, legal description preparation for additional right of way requirements, preparation of contract documents, special provisions, specifications and construction cost estimates.