REQUEST FOR QUOTATION

ORIGINAL

Monroe County School District
Archis Proposal # P19-05-031
MCSD DAS Upgrades
May 15, 2019

ARCHIS Technologies
TECHNOLOGY · ENGINEERING · CONSTRUCTION · HELPDESK

Submitted By:
Archis Inc. d/b/a Archis Technologies

Submitted To:
Monroe County School District
Douglas Pryor, Facilities Planner
1310 United Street, Key West, FL 33040

"ONE SOURCE FOR YOUR TECHNOLOGY SOLUTIONS

May 15, 2019

Mr. Douglas Pryor
Facilities Planner
Monroe County School District.
1310 United Street
Key West, FL 33040

RE: Quote for Archis Proposal # P19-05-031 Monroe County School District DAS Upgrades

Dear Mr. Pryor,

Archis Inc. d/b/a Archis Technologies respectfully submits this quote regarding DAS Projects for Gerald Adams Elementary, Plantation Key School, and the DAS Annunciator Panel for Monroe County School District.

Specializing in **Technology Systems and Solutions**, Archis Technologies is a **Master Systems Integrator** that offers **consulting, planning, design, implementation, management, and ongoing maintenance.**

Core Competencies:

- **Program and Project Management**
- Managed Service Provider (MSP)
- Information Technology (IT)
- **Wireless | Wi-Fi | Radio Frequency (RF) Engineering**
- **Distributed Antenna Systems (DAS)**
- Security Solutions (CCTV | Access Control)
- **Network Infrastructure | Low Voltage Cabling**
- Business Intelligence
- **Public Safety Solutions (EMR)**

As a Master Systems Integrator *we have **extensive experience in the design and implementation of DAS/RF systems. Archis is uniquely qualified to meet all the requirements in this scope of work***. Our team has in-depth experience working within a Florida Public School District, **Orange County Public Schools** (OCPS), and has **provided similar services** to small and large entities including *Walt Disney World, SeaWorld, Amway Center, Orlando's MLS Stadium, Daytona International Speedway,* and *American Airlines Arena***.**

Archis is a *certified minority-owned firm headquartered in Orange County, Florida.* We work diligently to maintain our core values of being **resourceful, reliable, knowledgeable, and punctual**. As a strategic technology partner, we will work diligently to provide you with the commitment, skills and experience to meet the deliverables and deadlines.

Sincerely,

Archis Inc. d/b/a Archis Technologies

Lildharry (Navin) Jiawan
President

Firm Summary

History

Established in March 2001, **Archis Technologies is a professional services firm that consults, research, plans, designs, manages, implements, and maintains Technology Systems and Solutions.** We help organizations get the most out of their technology. Over the years we've helped many businesses relieve their technology worries so that they can concentrate on growing and realizing their goals. Archis has grown into a diversified technology firm with **National and International experience** providing end to end services in **consulting, researching, master planning, design, management, implementation, and maintenance (Managed Services) of technology systems.**

"One source for your technology solutions" is one of the core values at Archis. Specializing in **Information Technology (IT), Network Infrastructure, Low Voltage Cabling, Wireless, Security Solutions, Distributed Antenna Systems, Public Safety and RF Testing, Business Phone Systems** and **Business Intelligence**, we have become an important asset and partner to our client's business strategy as a **Master Systems Integrator**. Our **Program, Project and Construction Management** services and experience allow us to excel in providing **Design-Build, Turn Key Technology Systems and Solutions.**

Partnering with companies such as **Microsoft, Cisco, Oracle, Fortinet, Ring Central, Crown Castle, Solid, Zinwave, ADRF, ICC, Corning, Commscope, Dell** and others, we deliver business solutions that are **secure, reliable** and **scalable.** Our **trained and certified**, engineers, technicians, project managers and business analysts, ensure **successful deployment, performance and continuous support** of the strategic systems and solutions. Our staff collaborates with our partners to design and test solutions that will **meet or exceed design expectations.** The communication and relationship with our partners are key parts of our success.

We develop strategic partnerships with our clients to use technology to improve their business processes and presence. Our managed service solutions enable us to monitor our clients' networks and systems 24/7/365. We are **proactive** in preventing and reducing threats and downtime. Our **custom solutions** are designed for individual business needs and are value engineered to **meet budget expectations**.

Archis Technologies has provided **continuous service to our clients for 18+ years** and will continue to provide excellent service to every client. We work diligently to maintain our core values of being **resourceful, reliable, knowledgeable,** and **punctual.** Our services are focused on providing solutions that businesses need to compete and accelerate performance. Our technology designs and solutions are based on our client's unique requirements. As a strategic technology partner, **Archis Technologies will deliver and exceed expectations**, while putting you in a position to prosper.

Organization	Archis Inc. d/b/a Archis Technologies
Founded **Years in Business** **Address** **Corporate Telephone** **Website**	2001 18 350 E Crown Point Rd, Suite 1100, Winter Garden, FL 34787 888 324 2557 www.archistech.com
Contact **Email Address** **Telephone Number**	L. Navin Jiawan, President/Owner nj@archistech.com 407 383 5628
Type of Business **Business Size** **DBE Certifications**	S-Corporation Small Business with Primary NAICS 541512 MBE/LDB/DBE
Type of Ownership **Owner's Name** **Year Ownership Started** **Percentage of Ownership**	Privately Held Lildharry Jiawan 2001 100%
Full-Time Employees **Part-Time Employees** **Partners/Contractors**	20 4 10+
Cage Code	81PE7
DUNS Number	033476347

DAS Services and Experience

Summary of Services

Archis Technologies provides a variety of wireless infrastructure solutions for Distributed Antenna Systems (DAS). Our turnkey solutions include everything from design services to the network systems maintenance. We use industry's powerful software for design services – Atoll and iBwave. Archis employs iBwave Design Level 3 Certified RF Design Engineers to meet client's design requirements and deadlines. Our DAS services include Design and Review for Outdoor DAS and Small Cell Network Design, Large Venues, Indoor Stadiums and Malls, School Districts, and Hotels and Resorts; Data Collection; Data Analysis, Post Processing, and Reports; Network Optimization and Support; Network Maintenance; and Project Management.

Data Collection is a vital step in the RF design process that provides a solid validation to design objectives. At Archis, we perform tests, analyze data, and provide a full package of the Drive tests meeting your expectations and deadlines. We offer Drive Test services such as CW Testing (Drive and Walk); Baseline Testing; Shakedown Drives (Handover Testing); Network Pre-Launch Acceptance Drives; and Troubleshooting Drives with clients when required.

Archis uses one of the industry leading desktop-drive post processing tool for analysis – Nemo WindCatcher and MapInfo. They have extremely robust features for powerful data aggregation and analytical functionality, one-step analysis, and detailed reporting. Some of the Data Analysis Reports provided by our team includes DAS Data Analysis for oDas and iDAS; Call Test Analysis; Outdoor Macro Site Analysis; CW Data Analysis; and Data Throughput Analysis (DL and UL).

Archis also delivers maintenance and support for DAS. We provide well-trained and knowledgeable RF System Engineers for network troubleshooting and support services including Hub and Field Engineer Support for ATPs; and Commissioning of systems like TE and CommScope. Our engineers are vendor-certified with the following vendors: CommScope TE Systems, CommScope ION Systems, Corning ONE, SOLiD, and JMA Wireless.

Archis' team of over 20 full time employees, engineers and technicians, are professional and helpful, and highly trained with Atoll, iBwave, MapInfo, JDSU, PCTEL, and more.

In addition to DAS Engineering, Archis has skilled project managers to assist our customers in achieving their business objectives. Some of the project management services that we offer are Assisting Engineers with Project Planning and Deadlines; Assisting with and Providing Budgets for Projects; Co-coordinating and Managing Field Teams; Supporting Engineers; and Providing Weekly Project Updates to Clients.

PLANNING → DESIGN → CONSTRUCTION → IMPLEMENTATION → OPTIMIZATION → MAINTENANCE

Similar Project Experience

Name	
Sprint ATP & E911 Testing in the Greater Orlando Area	
Date	Contact
2019 to Ongoing	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900
Scope	
Act as a sub-contractor under Crown Castle International to perform ATP testing for the Greater Orlando Area for Sprint network. Perform Network Attach calls to verify if user equipment (UE) is able to attach to the mini macro. Conduct Ookla Speed Tests to compare and test the download/upload performance of devices; and Mobile Originating (MO) / Terminating Call (MT) CSFB/ECSFB testing to test that the mini macro supports the CSFB feature (Circuit Switch Fallback). Complete VoLTE MO and MT calls to test that the FDD/TDD macro supports the VoLTE feature. Document pass/fail criteria in result logs for all tests.	
Name	
Public Safety Testing For Emergency Responders, Orange County Public Schools (OCPS)	
Date	Contact
2018 to Ongoing	Richard Kirkham, Richard.kirkham@ocps.net , 407-317-3200 x 2003903

Scope

Assess public safety and school-based radio coverage in all OCPS facilities by testing radio frequency in building signal metrics throughout the 200+ facilities that make up OCPS. Testing includes frequencies used by first responders in emergency situations and by school personnel in daily use. Final reports include layout drawings for each floor of each building formatted in a testing grid, testing methods, testing results, and recommendations to correct radio coverage not meeting prevailing codes. Testing completed in accordance with Florida Fire Prevention Code ("FFPC"); National Fire Protection Agency ("NFPA") 72, IFC (2015); and Authority Having Jurisdiction ("AHJ"). Provide a Registered Communications Distribution Designer (RCDD) Certified Commissioning Report for Emergency Services Radio Frequencies to meet the requirements of NFPA.

Name

Resorts and Parks DAS Design, Walt Disney World

Date	Contact
2014 to Ongoing	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900

Scope

Provide design, optimization, and maintenance services for DAS design as a sub-contractor under Crown Castle International to complete DAS set up for All Star Sports Resort, Disney Boardwalk Resort, and Disney TTC Resort, Animal Kingdom Morpho and Hollywood Studios Muppets Disney Parks. Conduct CW drive / walk tests within the resort, roadways, and parking areas, test and calibrate equipment, and validate post-process data. Verify channel programmed numbers, validate data on maps, monitor baseline and CW frequencies, navigation, and troubleshoot issues. Complete final shakedown including programming test equipment and phones, performing drives and data collection, verifying correct data and providing post ATP RF support.

Name

Digital Curriculum Program Management, Orange County Public Schools

Date	Contact
2013 to Ongoing	Mark O'Connor, mark.oconnor@ocps.net, 321-948-1380

Scope

Provide project management support for OCPS digital curriculum, network infrastructure, and maintenance prediction models. Populate and maintain database of project costs and projections. Outfitted all instructional spaces in these schools with SMART panels, audio enhancement, and secure furniture.

Name

RF Integration Support, T-Mobile – American Airlines Arena

Date	Contact
Completed: 2018	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900

Scope

Provide onsite RF Services to T-Mobile as a sub-contractor under Crown Castle International. Support includes testing and calibrating equipment, troubleshooting, operation for data collection, and post ATP RF support. Assist with the final shakedown of nodes at various locations, program phones, perform drives, and verify correct data.

Name

In-Building DAS and Wi-Fi Design, Daytona International Speedway

Date	Contact
Completed: 2017	Greg Bauer, gbauer@smartlinkllc.com

Scope
Worked as a sub-contractor under SmartLink to assist American Tower Corporation with iDAS and Wi-Fi for the Speedway. Designed and evaluated in-building DAS and Wi-Fi. Conducted data collection with CW drive / walk tests, baseline testing, and acceptance drives. Created Cost evaluation worksheets to obtain Design approvals. Co-ordinated with construction team to evaluate the design possibilities. Co-ordinated with system performance engineer to optimize the network with Acceptance Test Procedure and troubleshooting. Worked on designing multiple systems like ION-B, ION-M, ION-U, Corning Mobile access, JMA, TE. Validated post-process data.

Name	
RF Integration Support, AT&T – Amway Center	
Date	Contact
Completed: 2017	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900
Scope	
Provide onsite RF Services to AT&T as a sub-contractor under Crown Castle International. Support includes testing and calibrating equipment, troubleshooting, operation for data collection, and post ATP RF support. Assist with the final shakedown of nodes at various locations, program phones, perform drives, and verify correct data.	

Name	
RF Integration Support, T-Mobile – Mall at Millenia	
Date	Contact
Completed: 2017	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900
Scope	
Provide onsite RF Services to T-Mobile as a sub-contractor under Crown Castle International. Support includes testing and calibrating equipment, troubleshooting, operation for data collection, and post ATP RF support. Assist with the final shakedown of nodes at various locations, program phones, perform drives, and verify correct data.	

Name	
RF Integration Support, Verizon Wireless – SW Florida Intl Airport	
Date	Contact
Completed: 2016	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900
Scope	
Provide onsite RF Services to Verizon as a sub-contractor under Crown Castle International. Support includes testing and calibrating equipment, troubleshooting, operation for data collection, and post ATP RF support. Assist with the final shakedown of nodes at various locations, program phones, perform drives, and verify correct data.	

Name	
RF Integration Support, Verizon Wireless – SeaWorld Orlando	
Date	Contact
Completed: 2015	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900
Scope	
Provide onsite RF Services to Verizon as a sub-contractor under Crown Castle International. Support includes testing and calibrating equipment, troubleshooting, operation for data collection, and post ATP RF support. Assist with the final shakedown of nodes at various locations, program phones, perform drives, and verify correct data.	

Name
RF Integration Support, Verizon Wireless – Orlando MLS Stadium

Date	Contact
Completed: 2015	Sean Ramjas, sean.ramjas@crowncastle.com, 407-506-3900

Scope
Provide onsite RF Services to Verizon as a sub-contractor under Crown Castle International. Support includes testing and calibrating equipment, troubleshooting, operation for data collection, and post ATP RF support. Assist with the final shakedown of nodes at various locations, program phones, perform drives, and verify correct data.

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Winter Garden, FL 34787
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ARCHIS
Technologies
TECHNOLOGY ENGINEERING CONSTRUCTION HELPDESK

Gerald Adams Elementary School DAS Installation

Line #	Description of Work	Qty	Unit
	GENERAL CONDITIONS		
	EXAMPLE: (Install/Labor, Design, Supervision, Commissioning, etc.)		
1	Design Services, Commissioning & RSSI Grid Testing	1	EA
2	Installation of Indoor Antennas	10	EA
3	Installation of Donor Antenna (700/800 MHz)	1	EA
4	Installation & Configuration of BDA System (700/800 MHz)	1	EA
5	Installation & Configuration of DAS Annunciator Panel	1	EA
6	Coax Cable - Install, Terminate and Test	1550	FT.
7	Labor Warranty (1 Year)	1	EA
	Penetrations		
8	Concrete Wall Penetration	2	EA
	Grounding		
9	Grounding - BDA (L&M)	1	EA
10	Grounding - Donor Antenna (L&M)	1	EA
	Construction Repairs		
11	Miscellaneous Repairs	1	EA
	Travel		
12	Travel Time	2	EA
13	Mileage (2 Vehicles)	1700	EA
14	Expenses (Hotel & Per Diem)	5	EA
	RADIO FREQUENCY SYSTEM		
	EXAMPLE: (Materials & Equipment)		
	DAS Equipment		
15	ADRF PSR-78-9533 (700/800 MHz Public Safety BDA)	1	EA
16	Tower IQ (DAS Annunciator Panel)	1	EA
	Battery Backups		
17	ADRF-BBS-N4-24 (NEMA 4 Backup Battery For BDA)	1	EA
18	ADRF-BBX-CBL-21S (Backup Battery Cable)	1	EA
	Ancillary Equipment		
19	Commscope CMAX-EXT-CPUSEI53 (698-960/1710-270MHz) (Public Safety Donor Antenna)	1	EA
20	Laird Tech CMS38606P Omni Antenna (Indoor Antennas)	10	EA
21	PolyPhaser TSX-NFF (Donor Antenna)	1	EA
22	Microlab/FXR DN-34FN Splitter	10	EA
	Donor Antenna Installation		
23	Galvanized Steel Pipe	1	EA
24	63"x4-1/2" Sliding Pipe Mount	2	EA
25	WMA312 Angle Wall Mount Kits for 3.5'' OD Pipe (700/800 MHz Donor Antenna Mount)	1	EA
26	Lift Rentals (Inside & Outside)	2	EA
	Cables / Jumpers / Connectors: Coax		
27	RFS ICA12-50JPLR (1/2" Plenum Coax)	1550	FT.
28	RFS NM-LCF12-D01 (N Type Male Connectors)	24	EA
29	JMA UPL-4MT-12 (UPL 4.3-10 Male Torque Connector)	1	EA
30	RFS 716M-LCF78-D01 (7-16 DIN Male OMNI FIT)	1	EA
31	Microlab/FXR JA-10MZ Jumper Cable	1	EA
32	Microlab/FXR JA-10MN Jumper Cable	6	EA
	Cables / Jumpers / Connectors: Fiber		
33	Patch Cord, SC APC to SC APC Connectors, 1-Fiber Simplex Single-mode 3.0mm Jacketed, Riser Rated, 3 MT	6	EA
	Low Voltage Installation Materials		
34	EMT 1-1/4 Coupler (5 Pack)	2	EA
35	EMT 1-1/4 Connector (20 Pack)	5	EA
36	Flex 1-1/4 Connector (10 Pack)	2	EA
37	EMT 1-1/4 Compression Connector (5 Pack)	2	EA
38	EMT 1-1/4 Conduit	5	EA
39	2" J-Hooks (25 Pack)	18	EA
40	16x16x6 Hinged Junction Box	10	EA
41	12x12x4 Hinged Junction Box	2	EA
42	0.53" Firestop (10 Pack)	1	EA
43	2" Sleeve Kit	5	EA
44	Fire Putty	2	EA

SUB TOTAL:	$	116,852.80
TAX (0%):	$	-
TOTAL BID PRICE:	**$ 116,852.80**	
BOND AMOUNT:	3.00%	

Plantation Key School DAS Installation

Line #	Description of Work	Qty	Unit
	GENERAL CONDITIONS		
	EXAMPLE: (Install/Labor, Design, Supervision, Commissioning, etc.)		
1	Design Services, Commissioning & RSSI Grid Testing	1	EA
2	Installation of Indoor Antennas	13	EA
3	Installation of Donor Antenna (700/800 MHz)	1	EA
4	Installation & Configuration of BDA System (700/800 MHz)	1	EA
5	Installation & Configuration of DAS Annunciator Panel	1	EA
6	Coax Cable - Install, Terminate and Test	1650	FT.
7	Labor Warranty (1 Year)	1	EA
	Penetrations		
8	Concrete Wall Penetration	2	EA
	Grounding		
9	Grounding - BDA (L&M)	1	EA
10	Grounding - Donor Antenna (L&M)	1	EA
	Construction Repairs		
11	Miscellaneous Repairs	1	EA
	Travel		
12	Travel Time	2	EA
13	Mileage (2 Vehicles)	1350	EA
14	Expenses (Hotel & Per Diem)	5	EA
	RADIO FREQUENCY SYSTEM		
	EXAMPLE: (Materials & Equipment)		
	DAS Equipment		
15	ADRF PSR-78-9533 (700/800 MHz Public Safety BDA)	1	EA
16	Tower IQ (DAS Annunciator Panel)	1	EA
	Battery Backups		
17	ADRF-BBS-N4-24 (NEMA 4 Backup Battery For BDA)	1	EA
18	ADRF-BBX-CBL-21S (Backup Battery Cable)	1	EA
	Ancillary Equipment		
19	Commscope CMAX-EXT-CPUSEI53 (698-960/1710-270MHz) (Public Safety Donor Antenna)	1	EA
20	Laird Tech CMS38606P Omni Antenna (Indoor Antennas)	13	EA
21	PolyPhaser TSX-NFF (Donor Antenna)	1	EA
22	Microlab/FXR DN-34FN Splitter	13	EA
	Donor Antenna Installation		
23	Galvanized Steel Pipe	1	EA
24	63"x4-1/2" Sliding Pipe Mount	2	EA
25	WMA312 Angle Wall Mount Kits for 3.5'' OD Pipe (700/800 MHz Donor Antenna Mount)	1	EA
26	Lift Rentals (Inside & Outside)	2	EA
	Cables / Jumpers / Connectors: Coax		
27	RFS ICA12-50JPLR (1/2" Plenum Coax)	1650	FT.
28	RFS NM-LCF12-D01 (N Type Male Connectors)	34	EA
29	JMA UPL-4MT-12 (UPL 4.3-10 Male Torque Connector)	1	EA
30	RFS 716M-LCF78-D01 (7-16 DIN Male OMNI FIT)	1	EA
31	Microlab/FXR JA-10MZ Jumper Cable	1	EA
32	Microlab/FXR JA-10MN Jumper Cable	10	EA
	Cables / Jumpers / Connectors: Fiber		
33	Patch Cord, SC APC to SC APC Connectors, 1-Fiber Simplex Single-mode 3.0mm Jacketed, Riser Rated, 3 MT	6	EA
	Low Voltage Installation Materials		
34	EMT 1-1/4 Coupler (5 Pack)	2	EA
35	EMT 1-1/4 Connector (20 Pack)	5	EA
36	Flex 1-1/4 Connector (10 Pack)	2	EA
37	EMT 1-1/4 Compression Connector (5 Pack)	2	EA
38	EMT 1-1/4 Conduit	5	EA
39	2" J-Hooks (25 Pack)	20	EA
40	16x16x6 Hinged Junction Box	13	EA
41	12x12x4 Hinged Junction Box	2	EA
42	0.53" Firestop (10 Pack)	1	EA
43	2" Sleeve Kit	5	EA
44	Fire Putty	2	EA

SUB TOTAL:	$	119,036.85
TAX (0%):	$	-
TOTAL BID PRICE:	**$ 119,036.85**	
BOND AMOUNT:		3.00%

ARCHIS Technologies
TECHNOLOGY ENGINEERING CONSTRUCTION HELPDESK