



STATEMENT OF WORK

A. Installation Plan and Coverage Map

Installation Plan

SmartWave will perform the following Services:

- Review project requirements
- Develop propagation map identifying proposed node placements and expected coverage and capacity
- Perform an Active Site Survey for the wireless network
- Develop a network architecture to include wired and wireless components
- Work with the City to develop capacity metrics and finalize configuration of access points
- Modify design and review with the project stakeholders identifying issues, gaps in coverage and expectations
- Provide all wireless network equipment
- Configure, install, and test WiFi access points and controllers
- Installation, integration of all components and commissioning of the entire network
- Installation, configuration and integration of a WiFi network management device
- Identify a suitable method of mounting, routing and attachment for both power and cable to each radio location.
- Install all outdoor grade cable as required to support the radio implementation
- Execute test plan for wireless network
- Document the final implementation
 - Logical and physical diagrams
 - Design document
 - Produce test results for wireless coverage
- Transition network to operation support



Coverage Map and AP Placement





B. Project Pricing

Installation Costs

The following is the bill of materials included in this project and the total installation cost.

<u>MATERIAL / EQUIPMENT DESCRIPTION</u>	<u>MANF. PART #</u>	<u>QUANTITY</u>	
Materials/Equipment			
ZoneDirector 1106, Controller will handle up to 6 ZoneFlex Access Points.	901-1106-UN00	1	ea
ZoneDirector 1100 License Upgrade from supporting 6 to supporting 12 ZoneFlex Access Points	909-1112-Z000	1	ea
ZoneFlex T300, omni, outdoor access point, 802.11ac 2x2:2 internal BeamFlex+, dual band concurrent, one ethernet port, PoE input, includes mounting bracket and one year warranty.	901-T300-xx01	2	ea
ZoneFlex T301n, 30x30 deg, Outdoor 802.11ac 2x2:2, narrow beam, dual band concurrent access point, one ethernet port, PoE input includes adjustable mounting bracket and one year warranty.	901-T301-xx61	6	ea
CAT5e Cabling Materials for wiring APs	SWCAT5EID	8	ea
Rugged Network Switch, 5-port 100/1000Mbps, POE	SWTSP0E8	1	ea
POE Injector 100/1000Mbps, Outdoor Rated	SWPD9001GO	4	ea
POE Surge Protection 100/1000Mbps	SWCMJPOE8a	8	ea
Radio Mounting Hardware - Pole Mounts	SWMNTPL	8	ea
24x24x8 Outdoor NEMA 4 Steel Enclosure with Key Lock Handle. Wood Backplate and Solar Shield. Rack Angles Available - SKU SW397298.	SWTW24248WSS	1	ea
Signamax/AESP 065-1194 1000BaseT to 1000 BaseLX media converter SC Single Mode	SW0651197	1	ea
Shipping, grounding, weatherproofing, misc and consumable items	SWMISC	1	ea

PRICING

Materials/Equip	\$14,441.00
Professional Svcs	\$12,743.00
Tax (NA)	N/A
GRAND TOTAL	\$27,184.00



Manufacturer Support Options

1-Year Manufacturer Support		MANF. PART #	QUANTITY		UNIT PRICE	TOTAL PRICE
Partner WatchDog Support for ZoneDirector 1106, 1 Year	802-1106-1000	1	ea		\$240.00	\$240.00
Partner WatchDog Support for ZoneDirector License Upgrade from 1106 to 1112, 1 Year	802-1006-1100	1	ea		\$160.00	\$160.00
WatchDog Advanced Hardware Replacement for ZoneFlex T300 & T300e, 1 year	803-T300-1000	2	ea		\$78.00	\$156.00
WatchDog Advanced Hardware Replacement for ZoneFlex T301n & T301s, 1 year	803-T301-1000	6	ea		\$90.00	\$540.00
1-Year Support Option Total						\$1,096.00

3-Year Manufacturer Support		MANF. PART #	QUANTITY		UNIT PRICE	TOTAL PRICE
Partner WatchDog Support for ZoneDirector 1106, 3 Year	802-1106-3000	1	ea		\$515.00	\$515.00
Partner WatchDog Support for ZoneDirector License Upgrade from 1106 to 1112, 3 Year	802-1006-3100	1	ea		\$343.00	\$343.00
WatchDog Advanced Hardware Replacement for ZoneFlex T300 & T300e, 3 year	803-T300-3000	2	ea		\$156.00	\$312.00
WatchDog Advanced Hardware Replacement for ZoneFlex T301n & T301s, 3 year	803-T301-3000	6	ea		\$180.00	\$1,080.00
3-Year Support Option Total						\$2,250.00

5-Year Manufacturer Support		MANF. PART #	QUANTITY		UNIT PRICE	TOTAL PRICE
Partner WatchDog Support for ZoneDirector 1106, 5 Year	802-1106-5000	1	ea		\$686.00	\$686.00
Partner WatchDog Support for ZoneDirector License Upgrade from 1106 to 1112, 5 Year	802-1006-5100	1	ea		\$458.00	\$458.00
WatchDog Advanced Hardware Replacement for ZoneFlex T300 & T300e, 5 year	803-T300-5000	2	ea		\$234.00	\$468.00
WatchDog Advanced Hardware Replacement for ZoneFlex T301n & T301s, 5 year	803-T301-5000	6	ea		\$270.00	\$1,620.00
5-Year Support Option Total						\$3,232.00

Payment Terms and Assumptions

SmartWave made the following assumptions regarding this proposal:

- All invoices are due Net-30 upon receipt of an invoice.
- Pricing assumes that all City owned street lights, traffic signals and buildings can be used for AP mounting locations.
- The City of San Leandro is responsible for extending fiber to the Pelton Plaza sign location. All other locations will mesh to the Pelton Plaza sign location.
- The City of San Leandro will provide a single point of contact with authority to make decisions on behalf of the Installation Project.
- Preliminary design is based on initial propagation models and subject to change upon completion of a site survey and spectrum sweep.
- Preliminary design assumes access to mounting assets as identified. If owners do not allow access, coverage areas and costs could be impacted.
- Material list and quantities are subject to change upon completion of an active site survey.
- Design assumes that adequate power at AP mounting locations.
- Design assumes the City will provide Internet services to Gateway radio locations.



C. Experience with Similar Projects

Our Experiences

SmartWave is a wireless centric firm with a sound reputation of providing award winning networks to municipalities. The reasons we've been successful include:

- Focus – Unlike others responding, we are truly a Wireless “centric” company, focused on the full suite of wireless network services and application solutions
- History - Proven history of successful wireless-based solutions improving public safety and public services, saving taxpayer dollars and enhancing the services to the community
- Experience - Experienced with WiMAX Technologies, Point to Point Technologies, Mesh Technologies, Licensed and Unlicensed Networks. We take a hardware, software and technology agnostic approach to enhancing our client’s networks
- Investment - Investment in Toolset, Training and Proven Methodology
- Reputation – The market recognizes us as “Well respected Systems Integrator” in the following press article: <http://www.networkcomputing.com/wireless/can-ruckus-san-jose-revive-municipal-wi-240151200#.UUniK3qYKGg>.
- Award Winning and Market First - Over 15 years of proven experience designing and deploying complex outdoor wireless networks, with a Solid Resume, and capabilities
 - Wickedly Fast WiFi in San Jose
 - Advanced Telemedicine Network in Tucson
 - Extensive Regional Traffic Control Network in Southern Arizona
 - Wireless Video to enhance Community Redevelopment and Public Safety
 - Providing Internet Access to the un- and underserved areas in the Delta
 - Wireless Design and Installation services for Public Utilities

A sample of Municipal governments where we have provided similar products and services to in just over the past 6 months include:

- San Jose CA
- Mountain View CA
- San Mateo County CA (Pescadero WiFi Initiative)
- Greenville NC
- Roswell SC
- Atlanta GA
- Bristol VA
- Austin TX





In concert with our unique wireless skillsets, experience and qualifications, we are also extremely well versed with the Ruckus Product Line proposed:

- Ruckus Channel Advisory Council Member – 2009 through Current
- Ruckus Customer Support Inaugural Council - 2010
- 2011 Partner of the Year Recipient
- 2013 Partner of the Year Recipient
- 2014 Partner of the Year Recipient
- Ruckus Alpha Dog Certification (1 of 10 Partners in US - Highest Level)
- Largest Ruckus Wireless Municipal Deployment in the U.S.



As a result of the aforementioned, and unmatched levels of involvement with Ruckus Wireless, we have tremendous CxO relationships throughout Ruckus, which will provide tremendous value to the City for additional support, if required, for Engineering, Operations, and Marketing.

Our References

Although we provided design and installation services for a variety of customers and environments, using a variety of different products, we felt the references listed are the most relevant because they are for municipal government clients with similar needs, using WiFi and Mesh wireless products similar to the ones proposed in this solution:

Customer Name: City of San Jose – Downtown, Airport and Convention Center

Customer Address: 200 East Santa Clara Street
San Jose, CA 95113

Capacity: Design, installed and manage the wireless network. Over 10,000 users on network daily. Network includes a combination of indoor and outdoor coverage areas.

Contact Name: Vijay Sammeta
408-793-6810
vijay.sammata@sanjoseca.gov

Customer Name: City of Mountain View – City Hall and Library

Customer Address: 500 Castro Street
Mountain View, CA 94039

Capacity: Design, Deploy and Manage the wireless network. WiFi deployment within the City Hall facilities and Council Chambers, as well as the Library. Additional sites in the design phase include the Teen, Senior and Community Centers, Police Department, Center for Performing Arts, and other municipal venues.

Contact Name: Steve Rodriguez



650-903-6667
steve.rodriguez@mountainview.gov

Customer Name: City of Tucson, Arizona – Municipal Applications and Operation

Customer Address: 201 N. Stone Avenue
Tucson, AZ 85701

Capacity: Design, deploy and manage the wireless network. Multi-purpose wireless network providing connectivity of over 600 traffic signals, connectivity to water sites and pump stations, and various municipal facilities.

Contact Info: Mike Hicks
520-837-6666
michael.hicks@tucsonaz.gov

Customer Name: City of Bristol, Virginia

Customer Address: 15022 Lee Highway
Bristol, VA 24202

Capacity: Provide WiFi Implementation consulting, design, training and installation services for Bristol's Utility Broadband group. WiFi deployment includes over 120 outdoor APs at Parks, the downtown area, and shopping center locations throughout the City.

Contact Name: Mark Lane
276-821-6160
mlane@bvub.com