

AGREEMENT BETWEEN THE COUNTY OF SAN MATEO AND SMARTWAVE TECHNOLOGIES

This Agreement is entered into this _____ day of _____, 20_____, by and between the County of San Mateo, a political subdivision of the state of California, hereinafter called "County," and SmartWave Technologies, hereinafter called "Contractor."

* * *

Whereas, pursuant to Section 31000 of the California Government Code, County may contract with independent contractors for the furnishing of such services to or for County or any Department thereof; and

Whereas, it is necessary and desirable that Contractor be retained for the purpose of the installation, configuration, and testing of the required infrastructure for the "Smart City" technologies planned for the Middlefield Road Improvement Project.

Now, therefore, it is agreed by the parties to this Agreement as follows:

1. Exhibits and Attachments

The following exhibits and attachments are attached to this Agreement and incorporated into this Agreement by this reference:

Exhibit A—Services

Exhibit B—Payments and Rates

2. Services to be performed by Contractor

In consideration of the payments set forth in this Agreement and in Exhibit B, Contractor shall perform services for County in accordance with the terms, conditions, and specifications set forth in this Agreement and in Exhibit A.

3. Payments

In consideration of the services provided by Contractor in accordance with all terms, conditions, and specifications set forth in this Agreement and in Exhibit A, County shall make payment to Contractor based on the rates and in the manner specified in Exhibit B. County reserves the right to withhold payment if County determines that the quantity or quality of the work performed is unacceptable. In no event shall County's total fiscal obligation under this Agreement exceed Two hundred six thousand six hundred two dollars, (\$206,602.00). In the event that the County makes any advance payments, Contractor agrees to refund any amounts in excess of the amount owed by the County at the time of contract termination or expiration. Contractor is not entitled to payment for work not performed as required by this agreement.

4. Term

Subject to compliance with all terms and conditions, the term of this Agreement shall be from April 23, 2024 through June 30, 2025.

5. Termination

This Agreement may be terminated by Contractor or by the Director/Chief Information Officer or CIO's designee at any time without a requirement of good cause upon thirty (30) days' advance written notice to the other party. Subject to availability of funding, Contractor shall be entitled to receive payment for work/services provided prior to termination of the Agreement. Such payment shall be that prorated portion of the full payment determined by comparing the work/services actually completed to the work/services required by the Agreement.

County may terminate this Agreement or a portion of the services referenced in the Attachments and Exhibits based upon the unavailability of Federal, State, or County funds by providing written notice to Contractor as soon as is reasonably possible after County learns of said unavailability of outside funding.

County may terminate this Agreement for cause. In order to terminate for cause, County must first give Contractor notice of the alleged breach. Contractor shall have five business days after receipt of such notice to respond and a total of ten calendar days after receipt of such notice to cure the alleged breach. If Contractor fails to cure the breach within this period, County may immediately terminate this Agreement without further action. The option available in this paragraph is separate from the ability to terminate without cause with appropriate notice described above. In the event that County provides notice of an alleged breach pursuant to this section, County may, in extreme circumstances, immediately suspend performance of services and payment under this Agreement pending the resolution of the process described in this paragraph. County has sole discretion to determine what constitutes an extreme circumstance for purposes of this paragraph, and County shall use reasonable judgment in making that determination.

6. Contract Materials

At the end of this Agreement, or in the event of termination, all finished or unfinished documents, data, studies, maps, photographs, reports, and other written materials (collectively referred to as "contract materials") prepared by Contractor under this Agreement shall become the property of County and shall be promptly delivered to County. Upon termination, Contractor may make and retain a copy of such contract materials if permitted by law.

7. Relationship of Parties

Contractor agrees and understands that the work/services performed under this Agreement are performed as an independent contractor and not as an employee of County and that neither Contractor nor its employees acquire any of the rights, privileges, powers, or advantages of County employees.

8. Hold Harmless

a. General Hold Harmless

Contractor shall indemnify and save harmless County and its officers, agents, employees, and servants from all claims, suits, or actions of every name, kind, and description resulting from this Agreement, the performance of any work or services required of Contractor under this Agreement, or payments made pursuant to this Agreement brought for, or on account of, any of the following:

(A) injuries to or death of any person, including Contractor or its employees/officers/agents;

(B) damage to any property of any kind whatsoever and to whomsoever belonging;

(C) any sanctions, penalties, or claims of damages resulting from Contractor's failure to comply, if applicable, with the requirements set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and all Federal regulations promulgated thereunder, as amended; or

(D) any other loss or cost, including but not limited to that caused by the concurrent active or passive negligence of County and/or its officers, agents, employees, or servants. However, Contractor's duty to indemnify and save harmless under this Section shall not apply to injuries or damage for which County has been found in a court of competent jurisdiction to be solely liable by reason of its own negligence or willful misconduct.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

b. Intellectual Property Indemnification

Contractor hereby certifies that it owns, controls, and/or licenses and retains all right, title, and/or interest in and to any intellectual property it uses in relation to this Agreement, including the design, look, feel, features, source code, content, and/or other technology relating to any part of the services it provides under this Agreement and including all related patents, inventions, trademarks, and copyrights, all applications therefor, and all trade names, service marks, know how, and trade secrets (collectively referred to as "IP Rights") except as otherwise noted by this Agreement.

Contractor warrants that the services it provides under this Agreement do not infringe, violate, trespass, or constitute the unauthorized use or misappropriation of any IP Rights of any third party. Contractor shall defend, indemnify, and hold harmless County from and against all liabilities, costs, damages, losses, and expenses (including reasonable attorney fees) arising out of or related to any claim by a third party that the services provided under this Agreement infringe or violate any third-party's IP Rights provided any such right is enforceable in the United States. Contractor's duty to defend, indemnify, and hold harmless under this Section applies only provided that: (a) County notifies Contractor promptly in writing of any notice of any such

third-party claim; (b) County cooperates with Contractor, at Contractor's expense, in all reasonable respects in connection with the investigation and defense of any such third-party claim; (c) Contractor retains sole control of the defense of any action on any such claim and all negotiations for its settlement or compromise (provided Contractor shall not have the right to settle any criminal action, suit, or proceeding without County's prior written consent, not to be unreasonably withheld, and provided further that any settlement permitted under this Section shall not impose any financial or other obligation on County, impair any right of County, or contain any stipulation, admission, or acknowledgement of wrongdoing on the part of County without County's prior written consent, not to be unreasonably withheld); and (d) should services under this Agreement become, or in Contractor's opinion be likely to become, the subject of such a claim, or in the event such a third party claim or threatened claim causes County's reasonable use of the services under this Agreement to be seriously endangered or disrupted, Contractor shall, at Contractor's option and expense, either: (i) procure for County the right to continue using the services without infringement or (ii) replace or modify the services so that they become non-infringing but remain functionally equivalent.

Notwithstanding anything in this Section to the contrary, Contractor will have no obligation or liability to County under this Section to the extent any otherwise covered claim is based upon: (a) any aspects of the services under this Agreement which have been modified by or for County (other than modification performed by, or at the direction of, Contractor) in such a way as to cause the alleged infringement at issue; and/or (b) any aspects of the services under this Agreement which have been used by County in a manner prohibited by this Agreement.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

9. Assignability and Subcontracting

Contractor shall not assign this Agreement or any portion of it to a third party or subcontract with a third party to provide services required by Contractor under this Agreement without the prior written consent of County. Any such assignment or subcontract without County's prior written consent shall give County the right to automatically and immediately terminate this Agreement without penalty or advance notice.

10. Insurance

a. General Requirements

Contractor shall not commence work or be required to commence work under this Agreement unless and until all insurance required under this Section has been obtained and such insurance has been approved by County's Risk Management, and Contractor shall use diligence to obtain such insurance and to obtain such approval. Contractor shall furnish County with certificates of insurance evidencing the required coverage, and there shall be a specific contractual liability endorsement extending Contractor's coverage to include the contractual liability assumed by Contractor pursuant to this Agreement. These certificates shall specify or be endorsed to

provide that thirty (30) days' notice must be given, in writing, to County of any pending change in the limits of liability or of any cancellation or modification of the policy.

b. Workers' Compensation and Employer's Liability Insurance

Contractor shall have in effect during the entire term of this Agreement workers' compensation and employer's liability insurance providing full statutory coverage. In signing this Agreement, Contractor certifies, as required by Section 1861 of the California Labor Code, that (a) it is aware of the provisions of Section 3700 of the California Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and (b) it will comply with such provisions before commencing the performance of work under this Agreement.

c. Liability Insurance

Contractor shall take out and maintain during the term of this Agreement such bodily injury liability and property damage liability insurance as shall protect Contractor and all of its employees/officers/agents while performing work covered by this Agreement from any and all claims for damages for bodily injury, including accidental death, as well as any and all claims for property damage which may arise from Contractor's operations under this Agreement, whether such operations be by Contractor, any subcontractor, anyone directly or indirectly employed by either of them, or an agent of either of them. Such insurance shall be combined single limit bodily injury and property damage for each occurrence and shall not be less than the amounts specified below:

- (a) Comprehensive General Liability.....\$1,000,000
- (b) Motor Vehicle Liability Insurance.....\$1,000,000
- (c) Professional Liability.....\$1,000,000
- (d) Cyber Liability..... \$5,000,000

County and its officers, agents, employees, and servants shall be named as additional insured on any such policies of insurance, which shall also contain a provision that (a) the insurance afforded thereby to County and its officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy and (b) if the County or its officers, agents, employees, and servants have other insurance against the loss covered by such a policy, such other insurance shall be excess insurance only.

In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, County, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work and payment pursuant to this Agreement.

11. Compliance With Laws

All services to be performed by Contractor pursuant to this Agreement shall be performed in accordance with all applicable Federal, State, County, and municipal laws, ordinances, regulations, and executive orders, including but not limited to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Federal Regulations promulgated thereunder, as amended (if applicable), the Business Associate requirements set forth in Attachment H (if attached), the Americans with Disabilities Act of 1990, as amended, and Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability in programs and activities receiving any Federal or County financial assistance, as well as any required economic or other sanctions imposed by the United States government or under state law in effect during the term of the Agreement. Such services shall also be performed in accordance with all applicable ordinances and regulations, including but not limited to appropriate licensure, certification regulations, provisions pertaining to confidentiality of records, and applicable quality assurance regulations. In the event of a conflict between the terms of this Agreement and any applicable State, Federal, County, or municipal law, regulation, or executive order, the requirements of the applicable law, regulation, or executive order will take precedence over the requirements set forth in this Agreement.

Contractor will timely and accurately complete, sign, and submit all necessary documentation of compliance.

12. Non-Discrimination and Other Requirements

a. General Non-discrimination

No person shall be denied any services provided pursuant to this Agreement (except as limited by the scope of services) on the grounds of race, color, national origin, ancestry, age, disability (physical or mental), sex, sexual orientation, gender identity, marital or domestic partner status, religion, political beliefs or affiliation, familial or parental status (including pregnancy), medical condition (cancer-related), military service, or genetic information.

b. Equal Employment Opportunity

Contractor shall ensure equal employment opportunity based on objective standards of recruitment, classification, selection, promotion, compensation, performance evaluation, and management relations for all employees under this Agreement. Contractor's equal employment policies shall be made available to County upon request.

c. Section 504 of the Rehabilitation Act of 1973

Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended, which provides that no otherwise qualified individual with a disability shall, solely by reason of a disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in the performance of any services this Agreement. This Section applies only to contractors who are providing services to members of the public under this Agreement.

d. Compliance with County's Equal Benefits Ordinance

Contractor shall comply with all laws relating to the provision of benefits to its employees and their spouses or domestic partners, including, but not limited to, such laws prohibiting discrimination in the provision of such benefits on the basis that the spouse or domestic partner of the Contractor's employee is of the same or opposite sex as the employee.

e. Discrimination Against Individuals with Disabilities

The nondiscrimination requirements of 41 C.F.R. 60-741.5(a) are incorporated into this Agreement as if fully set forth here, and Contractor and any subcontractor shall abide by the requirements of 41 C.F.R. 60-741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.

f. History of Discrimination

Contractor certifies that no finding of discrimination has been issued in the past 365 days against Contractor by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or any other investigative entity. If any finding(s) of discrimination have been issued against Contractor within the past 365 days by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or other investigative entity, Contractor shall provide County with a written explanation of the outcome(s) or remedy for the discrimination prior to execution of this Agreement. Failure to comply with this Section shall constitute a material breach of this Agreement and subjects the Agreement to immediate termination at the sole option of the County.

g. Reporting; Violation of Non-discrimination Provisions

Contractor shall also report to the County the filing by any person in any court any complaint of discrimination or the filing by any person of any and all charges with the Equal Employment Opportunity Commission, the Fair Employment and Housing Commission, or any other entity charged with the investigation of allegations of discrimination within seventy-five (75) days of such filing, provided that within such seventy-five (75) days such entity has not notified contractor that such charges are dismissed or otherwise unfounded. Such notification to County shall include a general description of the allegations and the nature of specific claims being asserted. Contractor shall provide County with a statement regarding how it responded to the allegations within sixty (60) days of its response and shall update County regarding the nature of the final resolution of such allegations.

Violation of the non-discrimination provisions of this Agreement shall be considered a breach of this Agreement and subject the Contractor to penalties, to be determined by the County Executive Officer, including but not limited to the following:

- i. termination of this Agreement;

- ii. disqualification of the Contractor from being considered for or being awarded a County contract for a period of up to 3 years;
- iii. liquidated damages of \$2,500 per violation; and/or
- iv. imposition of other appropriate contractual and civil remedies and sanctions, as determined by the County Executive Officer.

To effectuate the provisions of this Section, the County Executive Officer shall have the authority to offset all or any portion of the amount described in this Section against amounts due to Contractor under this Agreement or any other agreement between Contractor and County.

h. Compliance with Living Wage Ordinance

As required by Chapter 2.88 of the San Mateo County Ordinance Code, Contractor certifies all contractor(s) and subcontractor(s) obligated under this contract shall fully comply with the provisions of the County of San Mateo Living Wage Ordinance, including, but not limited to, paying all Covered Employees the current Living Wage and providing notice to all Covered Employees and Subcontractors as required under the Ordinance.

13. Compliance with County Employee Jury Service Ordinance

Contractor shall comply with Chapter 2.85 of the County's Ordinance Code, which states that Contractor shall have and adhere to a written policy providing that its employees, to the extent they are full-time employees and live in San Mateo County, shall receive from the Contractor, on an annual basis, no fewer than five days of regular pay for jury service in San Mateo County, with jury pay being provided only for each day of actual jury service. The policy may provide that such employees deposit any fees received for such jury service with Contractor or that the Contractor may deduct from an employee's regular pay the fees received for jury service in San Mateo County. By signing this Agreement, Contractor certifies that it has and adheres to a policy consistent with Chapter 2.85. For purposes of this Section, if Contractor has no employees in San Mateo County, it is sufficient for Contractor to provide the following written statement to County: "For purposes of San Mateo County's jury service ordinance, Contractor certifies that it has no full-time employees who live in San Mateo County. To the extent that it hires any such employees during the term of its Agreement with San Mateo County, Contractor shall adopt a policy that complies with Chapter 2.85 of the County's Ordinance Code." The requirements of Chapter 2.85 do not apply unless this Agreement's total value listed in the Section titled "Payments", exceeds two-hundred thousand dollars (\$200,000); Contractor acknowledges that Chapter 2.85's requirements will apply if this Agreement is amended such that its total value exceeds that threshold amount.

14. Retention of Records; Right to Monitor and Audit

(a) Contractor shall maintain all required records relating to services provided under this Agreement for three (3) years after County makes final payment and all other pending matters are closed, and Contractor shall be subject to the examination and/or audit by County, a Federal grantor agency, and the State of California.

(b) Contractor shall comply with all program and fiscal reporting requirements set forth by applicable Federal, State, and local agencies and as required by County.

(c) Contractor agrees upon reasonable notice to provide to County, to any Federal or State department having monitoring or review authority, to County's authorized representative, and/or to any of their respective audit agencies access to and the right to examine all records and documents necessary to determine compliance with relevant Federal, State, and local statutes, rules, and regulations, to determine compliance with this Agreement, and to evaluate the quality, appropriateness, and timeliness of services performed.

15. Merger Clause; Amendments

This Agreement, including the Exhibits and Attachments attached to this Agreement and incorporated by reference, constitutes the sole Agreement of the parties to this Agreement and correctly states the rights, duties, and obligations of each party as of this document's date. In the event that any term, condition, provision, requirement, or specification set forth in the body of this Agreement conflicts with or is inconsistent with any term, condition, provision, requirement, or specification in any Exhibit and/or Attachment to this Agreement, the provisions of the body of the Agreement shall prevail. Any prior agreement, promises, negotiations, or representations between the parties not expressly stated in this document are not binding. All subsequent modifications or amendments shall be in writing and signed by the parties.

16. Controlling Law; Venue

The validity of this Agreement and of its terms, the rights and duties of the parties under this Agreement, the interpretation of this Agreement, the performance of this Agreement, and any other dispute of any nature arising out of this Agreement shall be governed by the laws of the State of California without regard to its choice of law or conflict of law rules. Any dispute arising out of this Agreement shall be venued either in the San Mateo County Superior Court or in the United States District Court for the Northern District of California.

17. Notices

Any notice, request, demand, or other communication required or permitted under this Agreement shall be deemed to be properly given when both: (1) transmitted via facsimile to the telephone number listed below or transmitted via email to the email address listed below; and (2) sent to the physical address listed below by either being deposited in the United States mail, postage prepaid, or deposited for overnight delivery, charges prepaid, with an established overnight courier that provides a tracking number showing confirmation of receipt.

In the case of County, to:

Name/Title:	Michael Wentworth, Director/CIO
Address:	455 County Center, 3 rd Floor, Redwood City, CA 94063
Telephone:	(650) 363-4710
Facsimile:	(650) 363-7800
Email:	mwentworth@smcgov.org

In the case of Contractor, to:

Name/Title: Al Brown, Chief Executive Officer
Address: 2662 Holcomb Bridge RD #340 Alpharetta, GA 30022
Telephone: (404) 731-9580
Facsimile: (678) 730-1954
Email: Al.Brown@smartwave.us

18. Electronic Signature

Both County and Contractor wish to permit this Agreement and future documents relating to this Agreement to be digitally signed in accordance with California law and County's Electronic Signature Administrative Memo. Any party to this Agreement may revoke such agreement to permit electronic signatures at any time in relation to all future documents by providing notice pursuant to this Agreement.

19. Payment of Permits/Licenses

Contractor bears responsibility to obtain any license, permit, or approval required from any agency for work/services to be performed under this Agreement at Contractor's own expense prior to commencement of said work/services. Failure to do so will result in forfeit of any right to compensation under this Agreement.

20. Prevailing Wage

When applicable, Contractor hereby agrees to pay not less than prevailing rates of wages and be responsible for compliance with all the provisions of the California Labor Code, Article 2- Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at www.dir.ca.gov/DLSR or by phone at 415-703-4774. California Labor Code Section 1776(a) requires each contractor and subcontractor keep accurate payroll records of trades workers on all public works projects and to submit copies of certified payroll records upon request.

Additionally,

- No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
- No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations

* * *

In witness of and in agreement with this Agreement's terms, the parties, by their duly authorized representatives, affix their respective signatures:

For Contractor: Smartwave Technologies LLC



Contractor Signature

4/4/2024

Date

Al Brown

Contractor Name (please print)

COUNTY OF SAN MATEO

By:

President, Board of Supervisors, San Mateo County

Date:

ATTEST:

By:

Clerk of Said Board

Exhibit A

In consideration of the payments set forth in Exhibit B, Contractor shall provide the following services:

Introduction

Contractor shall provide professional services and installation of the required infrastructure for the “Smart City” technologies planned for the Middlefield Road Improvement Project. The equipment and materials to be installed by the Contractor will be procured separately by the County.

- Installation of both OSP and indoor fiber optic cabling cable, splicing, and connectors.
- Installation of enclosures for housing technology components.
- Installation and configuration of Ethernet switches, routers, and associated network components.
- Pulling of wiring for powering devices, splicing, and performing connections/terminations.

In addition to County staff, the work will be overseen by specialized personnel, including Senior RF/Network Engineers and Technicians, who will lend their expertise to various facets of the project. Additionally, a dedicated Project Manager will assume responsibility for project management, coordination, status meetings, resource planning, and documentation.

Project deliverables include the installation of equipment and materials, tested fiber and power infrastructure, comprehensive documentation of all work completed with notes for any changes to the project specifications, and regular progress reports. The Contractor will provide operational turnover documentation to transition the installed network to Maintenance and Support as well as an equipment inventory to include Serial Numbers and MAC Addresses.

Milestones

Project Initialization: Formal approval of the project, including defining objectives, scope, stakeholders, kickoff meeting, project schedule and resources.

Installation: Physically installing network components such as routers, switches, access points, and electrician wiring infrastructure.

Testing and Quality Assurance: Conducting tests to ensure the network and power meets performance, security, and reliability standards as provided for in agreement and AECOM power and network documents. Provide detailed report of successful power and network testing.

Documentation: Creating comprehensive documentation including updating existing power and network diagrams, configurations, operational procedures, details of equipment location, and details of equipment serial numbers. Annotate any place where installation didn't match AECOM specs e.g., field modifications.

Project Close: Formal acceptance of the completed network project, punch lists, and conducting a project review to capture lessons learned.

Project deliverables include the installation of equipment and materials, tested fiber and power infrastructure, comprehensive documentation of all work completed with notes for any changes to the project specifications, and regular progress reports. The Contractor will provide operational turnover documentation to transition the installed network to Maintenance and Support as well as an equipment inventory to include Serial Numbers and MAC Addresses.

Scope of Work

Project Management and Professional Services

Contractor shall provide project management and professional services for the staging, configuration, installation and testing of the power and network infrastructure for “smart city” technology to be deployed as part of the Middlefield Road Improvement Project.

Installation, testing, integration and launch support

The solution will be installed, integrated, tested, optimized, and stabilized. This includes County procured hardware, software, mobile applications (if any), and other related system components.

Contractor shall oversee the proper placement and installation of fiber cable through new conduit from the County Health Center Telecom Room to the streetside vault on Middlefield Road and furnish, install, configure, and test core network components.

The infrastructure will support multiple sensor and network technologies to improve public convenience, safety, and improve traffic conditions. The project design calls for a single mode fiber optic outside plant design extending from the Fair Oaks Health Center on Middlefield Road to the last fiber optic hand hole located on the corner of Middlefield Road and Fifth Avenue. Also included is placement of electrical supply wiring to power each planned device along Middlefield Road.

Post launch customer and technical support

Once the solution goes live, the system will be monitored and operated by the County stakeholders. Contractor will provide support for any needs that may arise for the duration of the contract period. These needs include, but not limited to, operational and technical support of the network configuration support.

Contractor’s Responsibilities

- Manage and supervise Bear Electric, Contractor's Sub-Contractor supplying labor to complete the electrical scope of work.
- Contractor to coordinate with the County prior to the designated installation schedule.
- When applicable, Contractor shall comply with all applicable County Safety, Security Policies and Procedures during this engagement.

- Contractor shall not charge the following expenses to this engagement namely: airfare, lodging, mileage, meals, shipping, photocopies, tolls and parking, nor travel time.
- Contractor to attend all mutually agreed upon, required project meetings.

Technical Solution Requirements

This section details the technical requirements for both passive and active components of the project.

High Level Scope

The high-level scope of work is summarized below and confirmed in detail within this document:

- Install fiber cabling, splicing, and connectors in both the headend telecommunications room and the OSP environment.
- Install, configure, and provide test coordination for the Ethernet switch solution.
- Support cross-connect cabling (patch cabling) and integration of Wi-Fi and IoT sensors.

Existing Equipment Room

An existing 19-inch telecommunications rack is available within the headend equipment room for the project. This rack is installed within the Fair Oaks Health Center located at 2710 Middlefield Rd, Redwood City, CA 94063. The technologies to be deployed within the rack are depicted in the figure below:

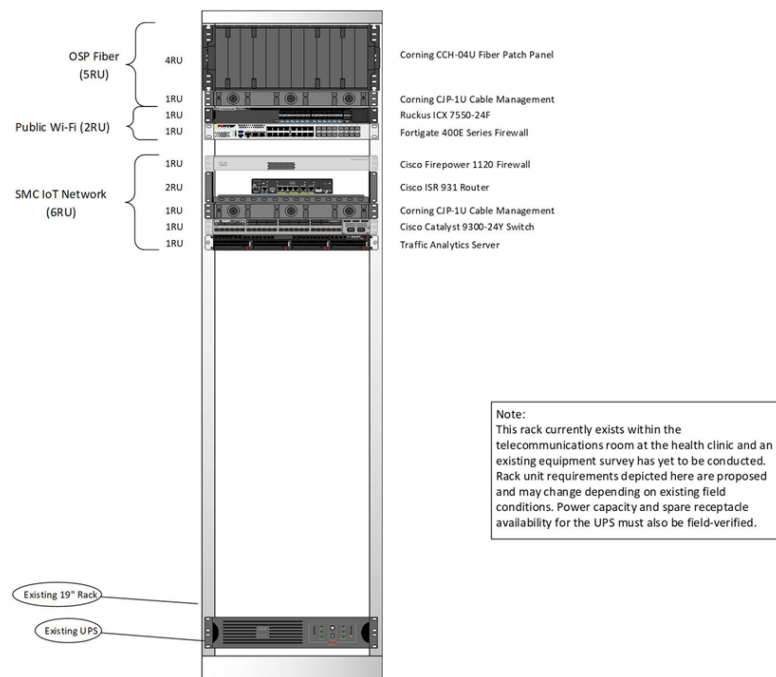


Figure 1: SMC Smart Corridor Headend Equipment Rack

Note that technology products depicted in Figure 1 are for reference purposes only. The rack-mount equipment to be deployed for this particular scope includes only the following components:

1. Fiber connector housing
2. Fiber patch cables
3. Fiber cable management hardware
4. 24 Port fiber Ethernet switch and associated SFP optics, licensing, and power supplies

Network Topology

The network will be composed of fiber-optic-based Ethernet switches interconnected in a star topology. The headend location will include a single Ethernet switch with up to 24 single mode pluggable optics connecting to the outside plant fiber. At select locations throughout the Middlefield Road project area, four-port hardened Ethernet switches will be installed within polycarbonate NEMA 4X/IP66 hinged door enclosures. From there, fiber optic and CAT 6 copper patch cables will connect to smart corridor devices such as Kiosks, parking sensors, traffic analytic sensors, and digital signage. Wi-Fi access points will connect directly to a separate headend Ethernet switch (provided by another project) via patch cables within designated handholes.

Electrical Power Supply

There are two electrical meters and associated panels designed to provide power to the planned devices. A circuit breaker is available at the existing electrical panel at southwest corner of Pacific Avenue to power the devices planned for north of Dumbarton Avenue on the west side of Middlefield Road. All other equipment is to be powered from a 150 Amp electrical panel located on the west side of Middlefield Road between First and Second Avenues. The Contractor will confirm field conditions for routing of electrical supply wiring to the planned equipment enclosures, handholes and poles for each circuit, pull wire to each equipment location and make terminations at each piece of equipment.

Ethernet Switch Specifications

The Contractor will install and interconnect an Ethernet switch solution including all required optical pluggables, patch cables, power and cable management materials will be provided to ensure a complete working solution.

Ethernet Switches

The Contractor will install and configure a quantity of eight (8) four-port managed Ethernet switches providing a quantity of two (2) GE SFP uplinks and four (4) PoE+ 10/100/1000BASE-T ports. The switches will be capable of being DIN rail mounted.

- Hardware: DRAM: 128 MB DDR2 without ECC, Onboard flash memory: 160 MB

- Dimensions: 5.0" high, 1.8" wide, 5.3" deep (including DIN rail)
- Power Consumption: without PoE 8.6 Watts, with Poe 72-140.4 Watts
- Weight: 1.7 lbs

Reference model number: Cisco IE-1000-4P2S-LM.

Enclosures

For any handhole location served by a four-port Ethernet switch, an outdoor enclosure will be used to house and protect the electronics to be deployed within.

The outdoor cabinet assembly will consist of a high impact resistant polycarbonate enclosure with a hinged cover that permits a 225° door swing and allows for easy door removal during installation or maintenance. The door will be secured by two stainless steel latches that are bolted in place and can be further secured with pad locks. The dimensions of the cabinet enclosure will be approximately 18" x 16" x 10" cabinet is deep enough to protect the bend radius of fiber cables connected to a single four-port Ethernet switch when mounted in the enclosure. A liquid tight vent plug will be included to prevent condensation inside the enclosure. Inside the cabinet, two 15" DIN rails for mounting switches, and their power supplies will be provided. The cabinet will provide a single-entry port for routing power wires and up to 10 data cable entry ports with cord grips. The enclosure will also include a ground terminal block with four push-in connections on each DIN rail to protect against lightning or other surges in power to the enclosure. Red and black feed-through terminal blocks will be used for terminating low voltage DC positive and negative wires within the enclosure. Blue and white feed-through terminal blocks will be used for AC mains line and neutral/ line connections. Wiring end caps will also be included for added safety. The enclosure will include a DIN-rail-mounted dual industrial +56VDC power supply capable of powering up to 345 Watts. Detailed specifications are as follows:

- Dimensions: 16.91" wide, 11.5" deep, 19.69" high
- Weight: 15.15 lbs.
- DIN Rails (2): 35 mm DIN (1.39" x 15")
- Environment: Operating: -40° to +70°C, External Operating: -40° to +50°C
- Certifications:
 - Consists of UL compliant components.
 - Cabinet UL 50/cUL listed File E229365/E207562.
 - NEMA 4X/IP66.
 - Vent plug UL/cUL recognized File E330194.
 - Approved for use in IP65/67/68 applications.
 - Wire glands UL/cUL recognized File E51579.
 - Approved for NEMA 4, 4X, 6 and 6P applications.
 - Ground terminal blocks UL/cUL recognized.



Figure 2: Outdoor Enclosure

Reference model numbers: Transition Networks OCA-P181610 (Enclosure), PS-DC-DUAL-5624T (Power Supply)

Fiber Optic Cabling Specifications

The Contractor will install and interconnect a standards-based fiber optic plant within the project headend telecommunications room and the outside plant along the smart corridor project area. The installation will include all required fiber, tracer wire, termination panels/enclosures, optical connectors, full termination/testing, patch cables, power and cable management materials to ensure a complete working solution. The Contractor will install tracer wire with installed fiber for locating purposes in accordance with AHJ requirements. Hard and soft copies of the testing and inspection reports will be provided to the County. The Contractor will comply with all applicable ANSI/TIA standards and local codes, following the strictest application.

Install three fiber laterals from pedestal outside Health Center, each 144 strand fiber, see Figure 3 below. Each hand hole requires a minimum of 50' cable service loop. If fibers are spliced in handhole, 75' cable service loop is required. Coordinate 48 strand fiber backbone cabling entering existing equipment room from pedestal outside Health Center and connection to OSP fiber panel in the SMC Smart Corridor Headend Equipment Rack. Outdoor rated cable will be installed in conduit or terminated within 50' of building entrance penetration. Plenum rated cabling will be utilized, as required. Install cables in raceways and cable trays except within cabinet. Bundle, lace, and train cables within enclosures. Connect to terminal points with required expansion loops and without exceeding manufacturer's limitations on bending radii. Contractor will use lacing bars and distribution spools, as needed.

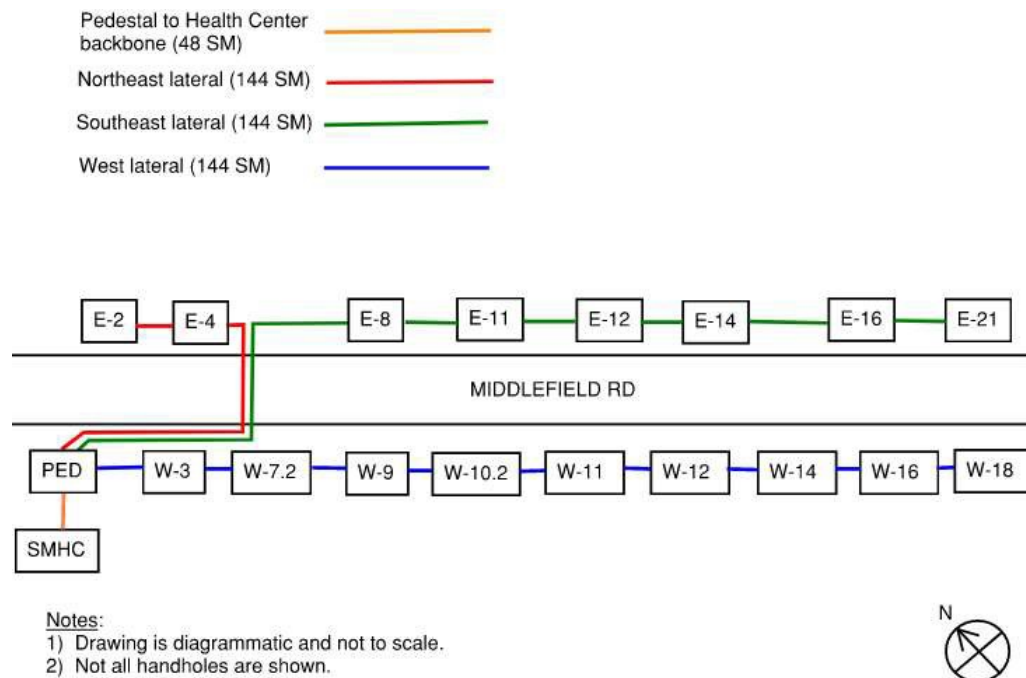


Figure 3: Middlefield OSP fiber later riser diagram

Indoor Fiber Optic Components

Tight Buffered ISP Fiber

The Contractor will install, terminate, interconnect and test all fiber optic cabling. Do not exceed pulling tensions and cable bending radii during installation per manufacturer specifications. The Contractor will install plenum rated cable, as required. ISP Fiber optic LC type connectors will be installed with insertion loss not more than 0.75dB.

- Environment: Indoor/Outdoor.
- Strand count: 2 to 24 strands.
- Cable Type: 9 micrometer single-mode OS2.
- Buffer Type: Tight Buffered.
- Max. Attenuation: 1.0 dB/km at 1310 nm; 1.0 dB/km at 1550nm.
- Temp. Range: 0° to 70°C (operation).
- Note: Fiber will meet or exceed the above specification.

Outside Plant Fiber Optic Components Handholes

The Contractor will install handholes including all required cable racks, pulling-in irons, knockout panels, sump pump and ground rods. Duct entrances will mate with entering duct for secure, fixed installation in enclosure wall. All penetration into handhole will be sealed and watertight. The handhole cover will have an anti-slip tread pattern and be stamped with the word "COMMUNICATIONS". Cover will be weatherproof, secured by tamper-resistant locking devices

and have a structural load rating consistent with enclosure. Handhole will be made of high-density polyethylene. Handholes will be grounded, as required per AHJ.

- Dimensions: 24" wide, 36" deep, 24" high (open floor).
- Assembly Weight: Not to exceed 120 lbs.

Performance Testing:

- ANSI/SCTE 77: 2013 – TIER 22 Rated (33,750 lbs).
- AS3996 – Class C.
- EN124 Class B125.
- ASTM C1028-07 & AS-4586 (Slip Resistance).
- 10,000 Hour Xenon-Arc Exposure (No fiber-bloom).
- ASTM D635-06 (Flammability).

Loose Tube OSP Fiber

The Contractor will install, terminate and test all single-mode fiber optic cables. Testing and inspection reports will be provided. Do not exceed pulling tension and cable bending radii during installation per manufacturer specifications. OSP Fiber optic LC type connectors will be hardened with insertion loss not more than 0.75dB.

- Environment: Outdoor.
- Strand count: 144 strand.
- Cable Type: 9 micrometer single-mode fiber OS2.
- Buffer Type: Loose tube.
- Max. Attenuation: 1.0 dB/km at 1310 nm; 1.0 dB/km at 1550nm.
- Temp. Range: -15° to 60°C (installation), -40° to 70°C (operation).
- Note: Fiber shall meet or exceed the above specification.

Fiber Optic Splice Enclosure

For every handhole location served by a WiFi access point and/or an Ethernet Switch, a splice enclosure will be used to provide 6 connection points for fiber drop cables. Fiber drop cables will connect to Wi-Fi access points and Ethernet switches, see Table 1: Handhole Technology Requirements. The remaining connection points will be considered spare to be utilized in the future. Splice enclosures shall be grounded, as required per AHJ. Splice enclosures will be installed per IFC drawing locations.

The Contractor will install and interconnect fiber optic splice enclosures including all required splice trays, grommets, adapters and pigtails to ensure a complete working solution.

- Application: Below grade Ingress Protection: Underground; IP68
- Size: 10.0" wide, 18.7" long, 5.1" high
- Organizer Type: Buffer Tube Adapter Quantity: Minimum 6
- Basis of design: PLP Coyote 8006954

- Note: Splice enclosures will meet or exceed the above specification.

Fiber Optic Patch Cables

The Contractor will install, terminate and test a quantity of fiber optic patch cables per County requirements for spares. Testing and inspection reports will be provided. OSP Fiber optic LC type connectors will be hardened with insertion loss not more than 0.75dB.

- Environment: Outdoor
- Cable Type: 9 micrometer single-mode fiber OS2
- Buffer Type: Loose tube
- Max. Attenuation: 1.0 dB/km at 1310 nm; 1.0 dB/km at 1550nm
- Temp. Range: -15° to 60°C (installation), -40° to 70°C (operation)
- Note: Fiber shall meet or exceed the above specification.

Electrical Supply Specifications

The Contractor will install wiring as-needed for the identified circuits to power the planned equipment. Contractor to confirm pulling tensions are acceptable.

Electrical Supply Components Handholes

The Contractor will confirm placement of existing handholes will accommodate the planned project equipment and circuit(s) layout and intended component(s) function. Where handholes are not positioned or connected to poles or other handholes or other structures as shown, Contractor will provide recommendation(s) on approach(es) to address the issue (e.g., reallocation of existing conduits, handholes or installation of new conduits/handholes as may be needed).

Wiring

The Contractor will install outdoor-rated wire types RHW-2, THWN-2, XHHW-2. Contractor to use lubrication compatible with the cable jacket and conduit type for each pull. Wiring to not exceed (3) 90-degree turns unless approved by the County. Terminations at each piece of equipment to be rated for outdoor use in wet locations, Including use of GFCI weather-resistant receptacles.

Grounding

The contractor must follow the NEC for grounding and bonding requirements for electrical equipment, for example the 150A panel and the kiosk(s) to have a ground rod at each kiosk.

Disconnecting Means - A means to disconnect each portable structure from all ungrounded conductors will be provided. Enclosures for disconnect switches and circuit breakers installed outdoors must be rainproof unless otherwise protected from the weather by location. Where accessible to unqualified persons, the disconnecting means will be lockable.

Equipment Bonding - The following equipment connected to the same source will be bonded: 1) Metal raceways and metal-sheathed cable, 2) Metal enclosures of electrical equipment, 3) Metal frames and metal parts of portable structures, or other equipment that contain or support electrical equipment. The equipment grounding conductor of the circuit supplying the equipment in items 1, 2 or 3 that is likely to energize the metal frame or part will be permitted to serve as the bonding means.

Equipment grounding conductors will be run with all feeders and branch circuits. Exposed metal parts of electrical equipment will be bonded, and if cord connected, the cord will have a grounding conductor and grounding type attachment plug. Equipment that is listed and labeled as double insulated is permitted. All grounding conductors in an enclosure will terminate in a common grounding bus or lugs. The equipment grounding bar or lug(s) will be secured to the electrical enclosure with screws or bolts used for no other purpose. Approved means will be used to connect equipment grounding conductors to enclosures. Equipment grounding conductors will be isolated from grounded circuit conductors.

The NEC requires the grounded conductor(s) to be routed with the ungrounded conductors to the service entrance equipment and it will connect to the grounded conductor(s) terminal or bus. The grounded service conductor is required to be connected to a grounding electrode conductor at each service.

Rod and pipe electrodes must be driven into the earth to establish the best contact. When a grounding rod or pipe electrode is installed, it is required to be in direct contact with the earth for a distance of no less than 8 feet.

Testing

The testing of the Ethernet switch solution will be a continuous process throughout the life of the project. Documented evidence of the testing successfully completed at each key stage, will be provided as the project progresses and compiled into a single document as part of the “As Built” documentation.

As the project progresses the testing becomes more detailed as initially the test criteria is at component level (i.e. has the equipment powered on and booted up correctly) but will eventually encompass the complete solution. Throughout this process the Contractor will create various test scenarios to demonstrate the required performance levels and functionality are achieved.

The Contractor will engage with the County team and actively involve them in the various testing being carried out, as such these time periods will be clearly detailed within the overall project plan.

Testing will be carried out under the four main categories listed below:

- Equipment Received Acceptance testing.
- In-rack Acceptance testing.
- Disaster Recovery testing.

The Contractor will provide a Test Plan in their response which shall be developed in collaboration with the County team during the detailed design phase.

Documentation

The Contractor will develop and maintain an accurate Site File. The Site File will contain the following elements of information as a minimum:

- Details of equipment location.
- Details of equipment serial numbers.
- Update existing power and network diagrams.
- Configurations of equipment.
- Operational procedures.

The Site File will be presented to San Mateo County in pdf format.

Out of Scope

The following services are explicitly excluded from this agreement:

- Plugging in and testing the individual IOT devices.
- Trunkline cabling
- Excavation and conduit installation

Any additional services and change orders, requested, and approved by the County, not included in this Agreement, shall be quoted on an as needed basis. Such additional services will require a fully executed Amendment prior to the commencement of the additional services.

Exhibit B

In consideration of the services provided by Contractor described in Exhibit A and subject to the terms of the Agreement, County shall pay Contractor based on the following fee schedule and terms:

The not to exceed amount of this agreement is \$206,602.

PAYMENT SCHEDULE

Milestone #1: Project Initialization - \$20,660

- **Project Initialization:** Formal approval of the project, including defining objectives, scope, stakeholders, kickoff meeting, project schedule and resources.

Milestone #2: Installation/Testing - \$154,952

- **Installation:** Physically installing network components such as routers, switches, access points, and electrician wiring infrastructure.
- **Testing and Quality Assurance:** Conducting tests to ensure the network and power meets performance, security, and reliability standards as provided for in agreement and AECOM power and network documents. Provide detailed report of successful power and network testing.

Milestone #4: Documentation - \$20,660

- **Documentation:** Creating comprehensive documentation including updating existing power and network diagrams, configurations, operational procedures, details of equipment Location, and details of equipment serial numbers. Annotate any place where installation didn't match AECOM specs e.g., Field modifications

Milestone #5: Project Close - \$10,330

- **Project Close:** Formal acceptance of the completed network project, punch lists, and conducting a project review to capture lessons learned.

Milestones are based on the following:

SmartWAVE Professional Services				
Senior RF/Network Engineer Hourly Rate (Staging, Configuration, Design, and Testing Services)	SWENGR	80	HR	\$ 225.00
RF/Network Technician Hourly Rate (Installation Services)	SWTECH	40	HR	\$ 125.00
Project Manager Hourly Rate (Project Management, Coordination, Status Meeting, Resource Planning, Documentation)	SWPM	80	HR	\$ 175.00
Transportation, Parking, etc	SWEXP	1	LT	\$ 150.00
BEAR Professional Services				
Mobilization and Investigation	BEAR	1	LT	\$ 6,471.00
288F Cable Placement	BEAR	1	LT	\$ 8,177.00
Installation of Termination Panel with Cassettes	BEAR	1	LT	\$ 8,883.00
Splicing of 288F to (3) 144F with Installation of Splice Enclosure	BEAR	1	LT	\$ 7,648.00
Installation 6F Trunkline Laterals	BEAR	18	LT	\$ 2,295.00
Installation of Nema 4x Enclosures	BEAR	18	LT	\$ 2,648.00
Install (18) Fiber Splice Enclosures	BEAR	18	LT	\$ 2,412.00
Testing and Commissioning	BEAR	1	LT	\$ 5,883.00

INVOICING

Upon completion of each listed milestone, the Contractor shall request approval/confirmation via email to the County's designated Project Manager (PM) by submitting a completed Certificate of Milestone Completion indicating completed services/deliverables indicated in this Agreement. Once approval/confirmation has been secured, Contractor shall send an invoice together with the Approved Certificate of Milestone Completion.

Each invoice submitted must include the following information, at a minimum:

- Invoice Number and Date
- Agreement Number and/or Purchase Order Number
- Detailed statement of actual services
- Total amount of invoice

Invoices must be sent to ISD-Vendor-Invoices@smcgov.org. Processing time may be delayed if invoices are not submitted electronically and without written approval/confirmation (Approved Milestone Completion Certificate) from designated County PM.

The County shall submit payment within net thirty (30) days of receipt of invoice, for services rendered conditioned upon the approval of services performed during the billing cycle.