

INVITATION TO BID

The School Board of Charlotte County, FL

SUBMIT BIDS TO:

CHARLOTTE COUNTY SCHOOLS
1016 EDUCATION AVE
PUNTA GORDA, FL 33950

BID No.11/12 924

Issue Date **February 21, 2012**

Bid Creator: **Mike Pershing**

Email michael_pershing@ccps.k12.fl.us

BID TITLE:

**Murdock Transportation CCTV
Installation**

Bid Close Date: March 12, 2012

Time 2:00 P.M.

Location: PURCHASING

F.O.B. DESTINATION POINT:

**CCPS Murdock Trans Facility
17490 Abbott Ave
Port Charlotte, FL 33954**

Mandatory Pre-Bid Meeting On-Site

Date: February 28, 2012

Time: 10:00 A.M.

Question Deadline

Date: March 1, 2012

Time: 3:00 P.M.

Purchases by Other Public Agencies (DOE. Regulation #6A1.012 (5): -With the consent and agreement of the successful bidder(s), purchases may be made under this bid by other governmental agencies within the State of Florida. Such purchases shall be governed by the same terms and conditions as stated herein.

Note to Bidder:

A signed bid submitted to the School Board obligates the bidder to all terms, conditions, and specifications stated in this bid document, unless exceptions are taken and clearly stated in the bidder's proposal. Bids received after the date & time specified will not be considered.

NON COLLUSION: The bidder, by affixing his signature to this proposal, certifies that his bid is made without previous understanding, agreement, or connection with any person, firm or corporation making a bid for the same item(s), and is in all respects fair, without outside control, collusion, fraud, or otherwise illegal action.

BIDDER MUST FILL IN THE INFORMATION LISTED BELOW AND SIGN WHERE INDICATED FOR BID TO BE CONSIDERED

Company Name: _____

FEIN: _____

Address: _____

Telephone: _____

Fax: _____

City, State _____

Zip _____

Signature of Owner or Authorized Officer/Agent _____

E-Mail Address: _____

Printed or Typed Name of Above: _____

NO BID: I hereby submit this as a "no bid" for the reasons checked below:

- | | |
|--|--|
| <input type="radio"/> Insufficient time to respond | <input type="radio"/> Could not meet insurance requirements |
| <input type="radio"/> Addenda were received too late to respond | <input type="radio"/> Could not meet bonding requirements |
| <input type="radio"/> Could not meet specifications | <input type="radio"/> We do not offer the product or service requested |
| <input type="radio"/> Specifications were unclear or restrictive | <input type="radio"/> Our schedule will not permit us to respond |
| <input type="radio"/> Terms & Conditions were unclear or restrictive | <input type="radio"/> We do not quote/bid directly |
| <input type="radio"/> Keep our company on District bid list | <input type="radio"/> Remove our company name from District bid list |

INSTRUCTIONS TO BIDDERS

1. Scope of the Work - The scope of the work consists of the furnishing all materials and services as necessary for the **Removal of all existing security cameras, equipment and cabling and the Installation of new security camera system, equipment and cabling at the Murdock Transportation Facility located at 17490 Abbot Ave Port Charlotte, FL 33954** as per the Bid Documents, MT Camera Plans Final Plan, MT Camera Surveillance Specs 012512 and terms and conditions.
2. No Bid Response - Any offeror that chooses not to bid at this time but wishes to remain on the bidder's list, shall complete the STATEMENT OF NO BID form herein, then return by the bid due date, to the attention of Gregory Herlean, Director of Purchasing. Otherwise, any offeror not submitting a bid that does not submit this form may be removed from the Bidder's List.
3. Familiarity with Laws - Each Bidder is assumed to be familiar with all Federal, Local Laws, State Board of Education Requirements SREF regulations October 1994, and ordinances relating to the type of work involved.
4. Public Entity Crime - Paragraph (2)(a) of Section 287.133, Florida Statutes - A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list. The bidder certifies by submission of this bid, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
5. Warranty - Manufacturer's standard form in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period and addition to extended warranties identified herein.
6. Jessica Lunsford Act - Any non-instructional school district personnel or contractual personnel who are permitted access on school grounds when students are present, as well as those who have direct contact with students or who have access to or control school funds must pass a level 2 screening (fingerprinting and FBI background check) and have a School Board issued identification card displayed. "Contractual personnel" has been defined as any vendor, individual or entity under contract with the school board. (Jessica Lunsford Act, 1012.465. F.S.)
 To comply with state law, all personnel who are contracted to work on school grounds where students may be present, must have obtained The School Board of Charlotte County, Florida Identification Badge and have it displayed prior to coming to or working at all school sites. All costs associated with background check and badge must be included in bid.
 To obtain The School Board of Charlotte County, Florida Level 2 Security Badge, please contact the Human Resources Department at 941-255-0808 for an appointment. If you have a badge with another school district, you will still need to contact the Human Resources Department to obtain The School Board of Charlotte County, Florida badge. Badges must be renewed annually.
7. Bonds – For any Firm Fixed Price valued at \$50,000 or less, no bonds are required. For any Firm Fixed Price exceeding \$50,000, the Bidder shall provide bonds as set forth below.

Bid Value	Bond Requirement	When Bidder Must Submit
\$50,000.00 or less	None	N/A
\$50,000.01 or more	Bid Bond	With Bid (Mandatory)
\$50,000.01 - \$200,000.00	Performance/Payment Bond	Within seven (7) days after Board approval, if requested by District
Over \$200,000.00	Performance/Payment Bond	Within seven (7) days after Board approval (mandatory)

(a) Bid Bond: A Bid Bond shall be written in a satisfactory form to the **BOARD**, or a certified or cashier's check in the amount of five percent (5%) of the maximum amount of Bid, as guarantee that the Bidder shall, if awarded the Contract, enter into a written Contract with the **BOARD**, satisfactory in form to the **BOARD**, containing a liquidated damages clause, requiring Workman's Compensation and Public Liability Insurance as required by the **BOARD**.

(b) Performance/Payment Bonds: The successful Bidder shall give a Performance Bond and Payment Bond satisfactory in form to the **BOARD**, in the full amount of the Contract Sum within seven (7) days after acceptance of the Bid by the **BOARD**. Bidder must be a licensed Florida Contractor ("Contractor") unless otherwise set forth in the Contract Documents.

THE SCHOOL BOARD OF CHARLOTTE COUNTY, FLORIDA
BID INVITATION NO. 11/12-924 – MURDOCK TRANSPORTATION FACILITY CCTV INSTALLATION

8. Certification Regarding Lobbying, Debarment, Suspension and other Responsibility Matters; and Drug Free Workplace Requirements - Certification form provided in this bid invitation package must be signed and presented with your bid.
9. Pre-Bid Meetings - There will be a **MANDATORY PRE-BID MEETING WITH MANDATORY SITE VISIT TO FOLLOW, date and time as stated on cover sheet**, to be held at Murdock Transportation Facility, 17490 Abbott Ave Port Charlotte, FL 33954. Question Cut-off date is March 1, 2012 @ 3:00 P.M.
10. Preparation & Submission of Bids
 - (a) Each bidder shall complete the Bid Proposal form and indicate his bid prices hereon in the proper spaces. All blanks shall be properly filled in.
 - (b) Each bid must give the full name and business address of the Bidder. Bids by a corporation must be signed with the legal name and seal of the corporation followed by the manual signature and designation of an officer, agent or other person authorized to bind the corporation. Proposals by partnerships shall show the names of all partners and must be signed in the partnership name by one of the partners or by an authorized representative. In every case, the name of the person signing, and his designation shall be typed or printed below his signature.
 - (c) Bid proposals shall be enclosed in a sealed envelope which shall be clearly marked:

SEALED BID FOR
BID NO. 11/12-924
CCTV INSTALLATION
MURDOCK TRANSPORTATION FACILITY
CLOSES 2 PM, MARCH 12, 2012

That sealed envelope shall be addressed to:

The School Board of Charlotte County
District Support Services-Punta Gorda Center
1016 Education Avenue - Purchasing Dept., Room #303
Punta Gorda, Florida 33950

11. Receipt of Bids - Bids will be received into the School Board of Charlotte County, Purchasing Office, Room #303, 1016 Education Avenue, Punta Gorda, Florida 33950, no later than **date and time stated herein**. No bids received thereafter will be considered. No responsibility will be attached to any officer for the premature opening of a bid not addressed and identified.
12. Opening of Bids - Bids will be opened publicly, **date and time stated herein**, in the School Board of Charlotte County, Florida, Public, Education Support Services-Punta Gorda Center, 1016 Education Avenue, Punta Gorda, Florida.
13. Bid Modifications - Bid modification will be accepted from Bidders, if received prior to the opening of bids. Modifications must be in printed form. Modifications will be read by a School Board Representative prior to opening formal bids.
14. Bid Tabulations - Bid Tabulations with recommended awards shall be posted for review by interested parties at the School Board of Charlotte County, Education Support Services, Punta Gorda Center at 1016 Education Avenue, Punta Gorda, Florida and remain for a period of seventy-two (72) hours. Failure to file a protest within the time prescribed in Section 120.53 (5), Florida Statutes, shall constitute a waiver of proceedings under Chapter 120, Florida Statutes. Bid protests shall be accompanied by a Bond as prescribed in Section 337.11 (5)(a) Paragraphs 1 & 2, Florida Statutes. Tabulations will also be posted on the website <http://www.yourcharlotteschools.net/employees/purchasing.cfm>
15. Award of Contract
 - (a) The contract will be awarded as soon as possible to the lowest responsive and responsible bidder; provided his bid is reasonable and it is in the best interest of the School Board to accept it. Both line items shall be awarded to a single bidder.
 - (b) The School Board reserves the right to waive any informality in bids received when such waiver is in the best interest of the School Board.
 - (c) Each bidder shall be prepared, if so requested by the School Board, to present evidence of his experience, qualifications and financial ability to carry out the terms of the contract.
 - (d) The School Board reserves the right to reject any and all bids when such rejection is in the best interest of the School Board, and to reject the bid of any bidder who is not in a position to perform the contract.

THE SCHOOL BOARD OF CHARLOTTE COUNTY, FLORIDA
BID INVITATION NO. 11/12-924 – MURDOCK TRANSPORTATION FACILITY CCTV INSTALLATION

16. Work Hours – Work hours will be Monday-Friday, as determined by School Board representative. Saturday, Sunday and school holiday work hours if needed will be determined by the School Board representative.
17. Time of Completion - Bidder must agree to commence work promptly after execution of the Contract Agreement, and to fully complete the project in the specified time lines. Time of completion is considered to be of the essence of the contract.

If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time or as otherwise required by the Contract Documents, the School Board shall be entitled to retain or recover from the Contractor and/or its Surety, as liquidated damages and not as a penalty, the following per diem amounts commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the School Board would incur as a result of delayed completion of the work, and will result in liquidated damages at the rate of **\$1,000.00** per day.

- | | | |
|--------------------------|--|----------------------------------|
| 18. <u>Time Schedule</u> | Mandatory Pre-Bid Meeting with Site Visit | February 28, 2012 – 10 AM |
| | Bid Closing | March 12, 2012 - 2 PM |
| | Starting Date | April 17, 2012 |
| | Substantial completion | August 14, 2012 |
| | Final Completion | September 13, 2012 |

19. Form of Contract - The contract shall be in the form of a purchase order, which will be signed by personnel authorized by the School Board.
20. Examination of Specifications, Terms & Conditions - Before submitting their Bid, each bidder is hereby instructed to carefully examine the specifications and inform himself thoroughly regarding any and all conditions and requirements. Ignorance on the part of a Bidder will in no way relieve him of the obligations and responsibility undertaken contractually.
21. Records Access and Retention– The School Board of Charlotte County, Florida and the Comptroller General of the United States, or any of their authorized representatives, shall have the right of access to any pertinent books, documents, papers or other records of bidder in order to make audits, examinations, excerpts, and transcripts. Records must be retained for a minimum of 3 years from the completion of the bid project.
22. Termination – In the event the contractor violates any of the provisions of this bid, the Superintendent or his designee shall give written notice to the contractor stating the deficiencies and unless deficiencies are corrected within five (5) working days, recommendations will be made for immediate cancellation of the contract. Upon cancellation, the District may pursue any and all legal remedies as provided by law. On any occasion where the vendor fails to perform or defaults on any material provision of this order, the Buyer may procure the necessary supplies/services from other sources and hold the vendor financially responsible for any excess costs incurred. The difference in the bid price and the actual price paid may be deducted from funds owed to the non-performing vendor.

GENERAL CONDITIONS

1. INSURANCE PROVISIONS

The Contractor shall not commence work under this Contract until he has obtained all insurance required under this section and such insurance has been approved by the School Board's Representative.

Workers' Compensation - The Contractor shall take out and maintain during the life of this contract Workers' Compensation coverage for all employees meeting all statutory and federal requirements. Coverage shall include Employers Liability in the amount of \$1,000,000. Said coverage shall be written by offeror which is acceptable by the School Board.

Comprehensive General Liability - The Contractor shall take out and maintain during the life of this contract Comprehensive General Liability Insurance in a minimum amount of \$1,000,000 per occurrence, Combined Single Limit for bodily injury liability and property damage liability. Said coverage shall include Premises and/or Operations, Independent Contractors, Products and/or Completed Operations, Broad Form Property Damage and XCU coverage, and a Contractual Liability Endorsement.

Business Auto Policy - The Contractor shall also take out and maintain during the life of this contract Business Automobile Liability insurance against bodily injury, accidental death and property damage, in limits of not less than \$500,000 per claimant, \$1,000,000 per limits of not less than \$500,000 per claimant, \$1,000,000 per occurrence. Coverage shall be for all self-propelled vehicles used in connection with the contract, whether owned, non-owned or hired.

SPECIAL REQUIREMENTS – The School Board of Charlotte County Florida is to be included as an additional Insured on both the Comprehensive General Liability and Business Auto Liability Policies.

Current, valid insurance policies meeting the requirements herein identified shall be maintained during the duration of the named project. Renewal certificates shall be sent to the School Board 30 days prior to any expiration date. There shall also be a 30 day notification to the School Board in the event of cancellation or modification of any stipulated insurance coverage.

It shall be the responsibility of the contractor to insure that all subcontractors comply with the same insurance requirements that he is required to meet.

Certificates of Insurance meeting the required provisions shall be forwarded to the School Board Purchasing Department.

2. PAYMENTS TO CONTRACTOR

The Contractor shall submit a written request for payment to the School Board's representative for verification. Final payment will not become due until the completed work has been inspected and approved by the School Board.

3. PERSONNEL

All work under the contract shall be executed by skilled personnel under the direct supervision of a qualified person who shall have responsible charge over the work and represent the Contractor on the site.

4. USE OF PREMISES

The Contractor shall exercise due care to protect the School Board's property, and adjacent property, against damage. Any property damaged as a result of operations under this contract shall be repaired by the contractor at no additional expense to School Board.

5. LANGUAGE USED BY CONSTRUCTION WORKERS

Workers using language considered to be objectionable by the School Principal will not be tolerated. Any worker using such language, calls, or signs that are objectionable, shall be removed immediately from School Board property.

6. CHANGES IN THE CONTRACT

Changes in the contract can be made only by change order. The cost of the change order is to consider the cost of materials, salaries, etc. and be acceptable to the School Board's Representative.

7. CLEAN-UP

Remove all equipment, surplus material, trash and debris from the premises promptly upon completion.

8. SMOKE-FREE FACILITY

All School Board of Charlotte County facilities are smoke-free. No smoking is allowed inside or outside all buildings on school district property.

9. Terms and Conditions - Any award and resultant purchase order shall incorporate the terms and conditions of this ITB and the District's Purchase Order Terms and Conditions set forth in our website, www.yourcharlotteschools.net, go to "Vendor Information" in the "Quick Links".

BID PAGE

Having familiarized ourselves with the specifications, drawings, terms and conditions, nature and extent of the work, do hereby propose to furnish and deliver all materials, and services, as necessary for the Removal of old CCTV system and Installation of new CCTV System at Murdock Transportation Facility per specifications, drawing, terms and conditions. In the event of conflict between the written amount and the numeric amount, the written amount shall prevail.

OUR BID FOR THIS PROJECT IS AS FOLLOWS:

Firm Fixed Price, excluding Bond Costs:

_____ dollars (\$_____))
(Please enter the amount here)

Firm Fixed Price including Bond Costs:

_____ dollars (\$_____))
(Please enter the amount here)

Bid Price valid sixty (60) days after bid opening.

The Bidder hereby acknowledges receipt of the following addenda: Addenda _____
(Please acknowledge receipt of addenda and submit with bid, if applicable)

The following items are to be submitted with this bid.

- Signed Invitation to Bid Signature page
- Bid Bond is included with bid if over \$50,000.00
- Signed Certification Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements
- Addenda, if applicable

COMPANY _____

AUTHORIZED SIGNATURE _____

DATE _____

Exceptions to this Solicitation

Firm's Name: _____

List below any exceptions to this solicitation. If none are given, please state, "NONE" and the successful offeror shall present no subsequent exceptions in executing a final agreement. Violating such may be grounds for disqualification.

[illegible]



CERTIFICATIONS REGARDING LOBBYING; DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS; AND DRUG-FREE WORKPLACE REQUIREMENTS

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Nonprocurement) and Government-wide Requirements for Drug-Free Workplace (Grants)." The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Justice determines to award the covered transaction, grant, or cooperative agreement.

1. LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over \$100,000, as defined at 28 CFR Part 69, the applicant certifies that:

(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the making of any Federal grant, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant or cooperative agreement;

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions;

(c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, contracts under grants and cooperative agreements, and subcontracts) and that all sub-recipients shall certify and disclose accordingly.

2. DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS (DIRECT RECIPIENT)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510—

A. The applicant certifies that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a

public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. DRUG-FREE WORKPLACE (GRANTEES OTHER THAN INDIVIDUALS)

As required by the Drug-Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F, for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620—

A. The applicant certifies that it will or will continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an on-going drug-free awareness program to inform employees about—

(1) The dangers of drug abuse in the workplace;

(2) The grantee's policy of maintaining a drug-free workplace;

(3) Any available drug counseling, rehabilitation, and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will—

(1) Abide by the terms of the statement; and

(2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to: Department of Justice, Office of Justice Programs, ATTN: Control Desk, 633 Indiana Avenue, N.W., Washington, D.C. 20531. Notice shall include the identification number(s) of each affected grant;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted—

(1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e), and (f).

B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

Check ☐ if there are workplaces on file that are not identified here.

Section 67, 630 of the regulations provides that a grantee that is a State may elect to make one certification in each Federal fiscal year. A copy of which should be included with each application for Department of Justice funding. States and State agencies may elect to use OJP Form 4061/7.

Check ☐ if the State has elected to complete OJP Form 4061/7.

DRUG-FREE WORKPLACE (GRANTEES WHO ARE INDIVIDUALS)

As required by the Drug-Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F, for grantees, as defined at 28 CFR Part 67; Sections 67.615 and 67.620—

A. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

B. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to: Department of Justice, Office of Justice Programs, ATTN: Control Desk, 633 Indiana Avenue, N.W., Washington, D.C. 20531.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

1. Awardee Name and Address: _____

2. Bid/Quote Number and/or Project Name: _____

3. Typed Name and Title of Authorized Representative

4. Signature

5. Date

Murdock Maintenance Complex Surveillance System Design

Charlotte County Public Schools
Murdock Center, 1445 Education Way
Port Charlotte, Florida 33948



Board Members

Andrea Messina - Chairman

Ian Vincent - Vice Chairman

Lee Swift - Member

Alleen Miller - Member

Barbara Rendell - Member

Superintendent

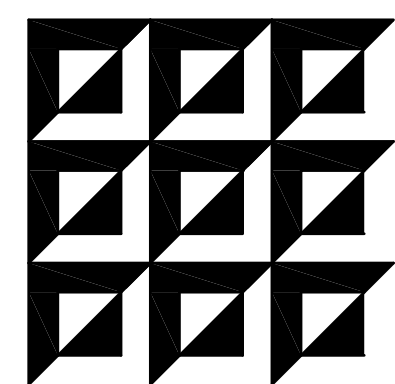
Dr. Doug Whittaker

Index of Sheets

Cover Sheet

- E1.0 SITE PLAN - SURVEILLANCE CAMERA SYSTEM
- E1.0A SITE PLAN - INITIAL CAMERA FIELDS OF VIEW
- E1.1 POWER AND SIGNAL INTERCONNECT DIAGRAMS
- E1.2 DETAILS

ISSUE DATE: 01/25/12



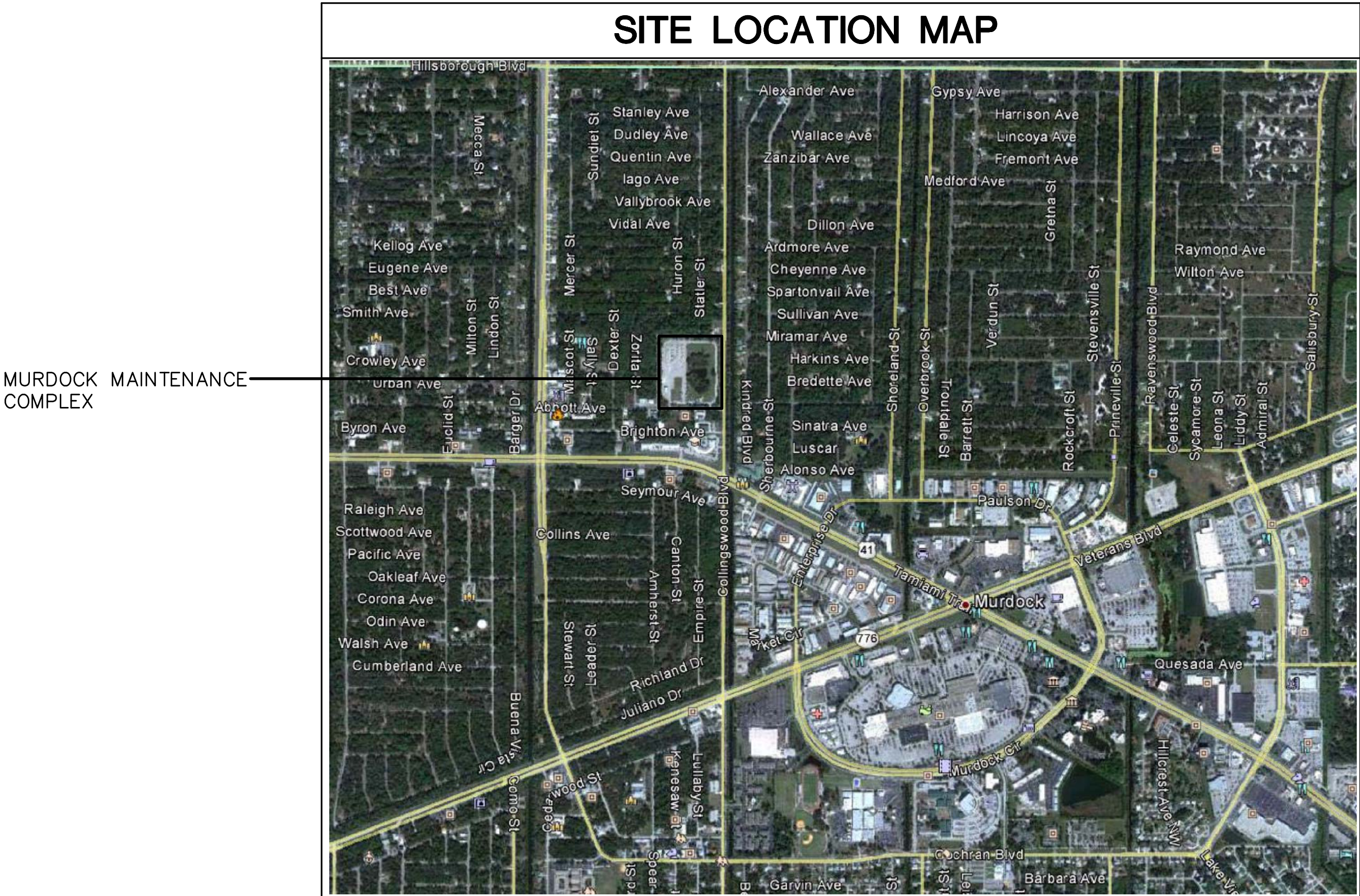
ENGINEERING MATRIX, INC.
CONSULTING ENGINEERS

2860 SCHERER DRIVE, SUITE 640
ST. PETERSBURG, FLORIDA 33716

(727) 573-4656 FAX:(727) 573-3902 EMAIL: email@engmtx.com

CERT. OF AUTHORIZATION NO. 4288
© 2012 Engineering Matrix, Inc.

EMI JOB NO. 11-0680





SCALE: 1" = 50'

1 INDICATES DESIGNATED CAMERA'S INITIAL FIELD OF VIEW (REFER TO "CAMERA LEGEND" ON E1.0 FOR INITIAL LENS SETTING). FOR CAMERAS VIEWING FENCE LINE, TOP OF FRAME SHALL BE SET TO APPROXIMATELY 4' ABOVE TOP OF FENCE. FOR CAMERA 10B, TOP OF FRAME SHALL BE SET TO APPROXIMATELY 4' ABOVE TOP OF FURTHEST BUS IN FRAME.

**SURVEILLANCE SYSTEM DESIGN
CONSTRUCTION DOCUMENTS**

REVISIONS

[illegible]

JOB NO.: 11-0680
DATE: 01/25/12
SCALE: AS NOTED
DRAWN: BWN
CHECKED: MSH

SHEET NO.

E1.0A

[illegible]

JOB NO.: 11-0680
DATE: 01/25/12
SCALE: AS NOTED
DRAWN: BWN
CHECKED: MSH



- N.T.S

- N.T.S.

- N.T.S

Murdock Maintenance Complex



Surveillance System

Construction Documents

January 25, 2012



Engineering Matrix, Inc.

2860 Scherer Drive, Suite 640
St. Petersburg, Florida 33716
(727) 573-4656 * www.engmtx.com

ELECTRICAL INDEX

16010.....BASIC ELECTRICAL REQUIREMENTS

16111.....CONDUIT

16120.....LOW VOLTAGE POWER CABLE

16160.....ENCLOSURES

16195.....ELECTRICAL IDENTIFICATION

16723.....SURVEILLANCE SYSTEM

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SECTION 16010

BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Basic Electrical Requirements specifically applicable to Division 16 Sections, in addition to Division 1—General Requirements.

1.02 INTENT

- A. It is the intention of these specifications and drawings to call for finished work, tested, and ready for operation. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use."
- B. Minor details not usually shown or specified, but necessary for the proper installation and operation, shall be included in the work, the same as if herein specified or shown.

1.03 SURVEYS AND MEASUREMENTS

- A. Base all measurements, both horizontal and vertical from established bench marks. All work shall agree with these established lines and levels. Verify all measurements at site and check the correctness of same as related to the work. All material take-offs for the site shall be field measured prior to bids.

1.04 DRAWINGS

- A. Drawings are diagrammatic and indicate the general arrangement of systems and work included in the contract. Drawings are not to be scaled. The drawings and details shall be examined for exact location of fixtures and equipment. Where they are not definitely located, this information shall be obtained from the Engineer.
- B. If directed by the Engineer, the Contractor shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper execution of the work.
- C. At the time of each shop drawing submission, the Contractor shall call the Engineer's attention (in writing) to, and plainly mark on shop drawings, any deviations from the Contract Documents.

- D. Samples, drawings, specifications, catalogs, submitted for approval, shall be properly labeled indicating specific service for which material or equipment is to be used, location, section and article number of specifications governing, Contractor's name, and name of job. All equipment shall be labeled to match labeling on contract documents.
- E. Catalogs, pamphlets, or other documents submitted to describe items on which approval is being requested, shall be specific and identification in catalog, pamphlet, etc. of item submitted shall be clearly made in ink. Data of a general nature will not be accepted.
- F. Approval rendered on shop drawings shall not be considered as a guarantee of measurements or building conditions. Where drawings are approved, said approval does not mean that drawings have been checked in detail; said approval does not in any way relieve the Contractor from his responsibility or necessity of furnishing material or performing work as required by the contract drawings and specifications.
- G. All shop drawings shall be submitted to the A/E by Contractor no later than 30 days from the day of contract award.
- H. Failure of the Contractor to submit shop drawings in ample time for checking shall not entitle him to an extension of contract time, and no claim for extension by reason of such default will be allowed.
- I. Submit all Division 16 submittals at one time in one integral group. Piece-by-piece submission of individual items will not be acceptable. Engineer may check contents of each submittal set upon initial delivery; if not complete as set forth herein, submittal sets may be returned to Contractor without review and approval and will not be accepted until made complete.
- J. At the close of the job, prior to final review, five bound copies of the following shall be submitted by transmittal letter to the Engineer for review and acceptance.
 - 1. Equipment warranties.
 - 2. Contractor's warranty.
 - 3. Parts list and manuals for all equipment.
 - 4. Operating Instructions (in writing).
 - 5. Written instructions on maintenance and care of the system.
 - 6. Additional items listed in Section 16723.

1.05 REFERENCES

- A. ANSI/NFPA 70—National Electrical Code.

- B. State Requirements for Educational Facilities (SREF), Chapter 4, Section 423, of the Florida Building Code.
- C. Florida Department of Education Accessibility Guidelines and Requirements.

1.06 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Proposed Products List: Include Products specified in the following Sections, but not limited to:
 - 1. Section 16160.....Cabinets and Enclosures.
 - 2. Section 16723.....Surveillance System.
- C. It shall be understood that review of shop drawings by the Engineer does not supersede the requirement to provide a complete and functioning system in compliance with the Contract Documents.

1.07 SUBSTITUTIONS

- A. Materials and equipment are specified herein by a single or by multiple Manufacturers to indicate quality and performance required. The drawings are based upon equipment scheduled on drawings and specified. If another Manufacturer is considered for substitution during the bidding process, the Electrical Contractor shall be responsible for coordinating all changes. Manufacturers other than the basis of design shall submit a catalog information and 1/4" scale plan and section drawings showing proper fit and all clearances for maintenance items.
- B. Substitutions of other manufacturer's will be considered for use if, in the Engineers opinion, the item requested for substitution is equal to that specified. The Contractor shall provide to the Engineer a typed comparative list of the basis of design and the proposed substitute.

Request for approval of substitutions or equals prior to bid must be made in writing. The approval of any substitutions or equals prior to bid shall not be construed as a shop drawing approval. The substitute or equal must be submitted as described in the specifications and meet all the requirements of the specifications and drawings.

- C. All requests for substitutions shall be submitted as described in Paragraph 1.07, B., and specifically indicate any and all differences or omissions between the product specified as basis of design and the product proposed for substitution.
- D. Where the Contractor proposes to use an item of equipment other than that specified or detailed on the drawing, which requires any redesign of the structure, partitions, foundations, piping, wiring, or any other part of the mechanical or electrical, all such redesign, and all new drawings and detailing required therefore, shall be prepared by the Contractor at his own expense and submitted to the Engineer for approval.

- E. Where such approved deviation requires quantity and arrangement of equipment from that specified or indicated on the drawings, any other additional equipment required by the system, at no additional cost to the Owner.

1.08 COOPERATION WITH OTHER TRADES

- A. Give full cooperation to other trades and furnish in writing to the General Contractor, copy to the Engineer, any information necessary to permit the work of all trades to be installed satisfactorily and with the least possible interference or delay.
- B. When work installed under this Division will be in close proximity to, or will interfere with work of other trades, assist in working out space conditions to make a satisfactory adjustment. If so directed by the Engineer, prepare composite working drawings and sections at a suitable scale not less than $1/4" = 1'0"$, clearly showing how work is to be installed in relation to the work of other trades. If the work is installed before coordinating with other trades, or so as to cause any interference with work of other trades, make all the necessary changes in work to correct the condition without extra charge.
- C. Furnish to other trades, as required, all necessary templates, patterns, setting plans, and shop details for the proper installation of work and for the purpose of coordinating adjacent work.

1.09 PROTECTION

- A. Protect all work and material provided under this Division from damage. All damaged equipment work or material provided under this Division shall be replaced with new. Rebuilds are not acceptable.
- B. Protect all work and equipment until inspected, tested, and accepted. Protect work against theft, injury, or damage; and carefully store material and equipment received on site which are not immediately installed. Close open ends of work with temporary covers or plugs during storage and construction to prevent entry of obstructing material.

1.10 SCAFFOLDING, RIGGING, AND HOISTING

- A. Provide all scaffolding, rigging, hoisting, and services necessary for erection and delivery into the premises of any equipment and apparatus furnished. Remove same from premises when no longer required.

1.11 DAILY REMOVAL OF RUBBISH

- A. This Contractor shall at all times keep premises free from accumulations of waste materials or rubbish caused by his employees or work. At completion of work Contractor shall remove all tools, scaffolding, materials, and rubbish from the building and site. Daily, the Contractor shall leave the premises and his work in a clean, orderly, and acceptable condition.

1.12 SAFETY

- A. This Contractor shall comply with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.333), Title 29—Labor, Chapter XIII, Bureau of Standards, Department of Labor, Part 1518—Safety and Health Regulations for Construction; and that his housekeeping and equipment be maintained in such a manner that they comply with the Florida Industrial Commission Safety Code and Regulations of the Federal Williams—Steiger Occupational Safety and Health Act of 1970 (OSHA), wherein it states that the Contractor shall not require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety.

1.13 SUPERVISION

- A. This Contractor shall provide a competent, experienced superintendent who is acceptable to the Engineer and Owner and who is authorized to make decisions on behalf of the Contractor.

1.14 MATERIAL AND WORKMANSHIP

- A. All materials and apparatus required for the work, except as specifically specified otherwise, shall be new, of first-class quality, and shall be furnished, delivered, erected, connected and finished in every detail, and shall be so selected and arranged as to fit properly into the building spaces. Where no specific kind or quality of material is given, a first-class standard article as approved by the Engineer shall be furnished. Refer to substitutions in this Section.
- B. Unless otherwise specifically indicated on the plans or specifications, all equipment and materials shall be installed with the approval of the Engineer in accordance with the recommendations of the Manufacturer. This includes the performance of such tests as the Manufacturer recommends.

1.15 FOUNDATIONS, SUPPORTS, PIERS, ATTACHMENTS

- A. This Contractor shall furnish and install all necessary foundations, supports, pads, bases and piers required for all equipment furnished under this Division, and shall submit drawings to the Engineer for approval before purchase, fabrication or construction of same.
- B. All equipment, unless shown otherwise, shall be securely attached to the building structure in an approved manner. Attachments shall be of a strong and durable nature and any attachments that are, in the opinion of the Engineer, not strong enough shall be replaced as directed.

1.16 REGULATORY REQUIREMENTS

- A. Conform to applicable Codes and Standards as follows:

1. Standard:

- a. Certain standard materials and installation requirements are described by reference to standard specifications. These standards are as follows:

NEMANational Electrical Manufacturers Association.

UL.....Underwriters Laboratories.

ANSI.....American National Standards Institute.

For additional standards and requirements see other sections of the specifications.

Whenever a reference is made to a standard, installation and materials shall comply with the latest published edition at the time project is bid unless otherwise specified herein.

2. Codes and Rules:

- a. All material furnished and all work installed shall comply with the following codes as they apply to this project:

❖ NFPA 70 and NFPA 101.

❖ Regulations of the Florida Industrial Commission Concerning Safety.

❖ Applicable County, State, and Local Building Codes.

❖ Local and State Fire Marshal Rules and Regulations.

❖ Chapter 4A-47, Florida Administrative Code - Uniform Fire Safety Standards for Elevators.

❖ Occupational Safety and Health Agency Standards (OSHA).

❖ Florida State Board of Health Rules and Regulations.

❖ Florida Building Code.

❖ State Requirements for Educational Facilities (SREF), Chapter 4, Section 423, of the Florida Building Code.

Applicable codes shall be those adopted by the authority having jurisdiction at the time project is bid.

3. Permits, Fees and Inspections

- a. The Contractor shall give all necessary notices, obtain all permits and pay all government fees, sales taxes and other costs, including utility connections or extensions, in connection with this work; file all necessary approvals of all governmental departments having jurisdiction.

- b. Obtain all required certificates of inspection for his work and deliver to the Owner/Engineer the same certificates before request for acceptance and final payment for the work.
 - c. The Contractor shall include in the work, without extra cost to the Owner, any labor, materials, services, apparatus and drawings required to comply with all applicable laws, ordinances, rules and regulations.
 - d. The Contractor shall inform the Engineer of any work or materials which conflict with any of the applicable codes, standards, laws and regulations before submitting his bid.
- B. Conform to Florida Department of Education Accessibility Guidelines and Requirements.

1.17 PROJECT/SITE CONDITIONS

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Engineer before proceeding.
- C. The Contractor shall inform the Engineer of any work or materials which conflict with any of the applicable codes, standards, laws and regulations before submitting his bid.
- D. The scope of the work included under this Division of the Specifications shall include complete electrical systems as shown on the plans and as specified herein. The General Conditions and Special Conditions of these specifications shall form a part and be included under this Section of the Specifications. Provide all supervision, labor, material, equipment, machinery, factory trained personnel, and any and all other items necessary to complete the electrical systems. All items of equipment are specified in the singular; however, provide and install the number of items of equipment as indicated on the drawings, and as required for complete systems.

1.18 SEQUENCING AND SCHEDULING

- A. Construct Work in sequence under provisions of Division 1.

1.19 LICENSE

- A. The Contractor for the electrical and systems installation shall be licensed by the State of Florida and the local authorities, regularly engaged in the installation of electrical systems and other related equipment. This Contractor shall be familiar with all local conditions including interpretations, codes and shall have at least five years of successful installation experience on similar projects of the same magnitude and scope.

The Contractor shall list at least three projects it has successfully completed over the last five years for proof of experience of this caliber. This list shall be included with submittals for review by Engineer. The Contractor shall hold a Florida State Certified Electrical Contractor license for this project.

1.20 AS-BUILT DRAWINGS

- A. The Contractor shall provide three, full size AutoCAD as-built drawings and copies of each AutoCAD file on CD before final payment shall be issued. Reference other specification sections for additional requirements.

***** END OF SECTION *****

SECTION 16111

CONDUIT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal Conduit.
- B. Liquidtight Flexible Metal Conduit.
- C. Nonmetal Conduit.
- D. Fittings and Conduit Bodies.

1.02 RELATED SECTIONS

- A. Section 16130 Boxes.
- B. Section 16195 Electrical Identification.

1.03 REFERENCES

- A. ANSI C80.1—Rigid Steel Conduit, Zinc Coated.
- B. ANSI/NEMA FB 1—Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- C. ANSI/NFPA 70—National Electrical Code.
- D. NECA "Standard of Installation."
- E. NEMA TC 2—Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
- F. NEMA TC 3—PVC Fittings for Use with Rigid PVC Conduit and Tubing.

1.04 PROJECT RECORD DOCUMENTS

- A. Accurately record actual routing of all conduits. Provide dimensional information on all underground conduits.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle Products to site under provisions of Division 1.

- B. Accept conduit on site. Inspect for damage.
- C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- D. Protect PVC conduit from sunlight.

1.06 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on Drawings.
- B. Verify routing and termination locations of conduit prior to rough-in.
- C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

PART 2 PRODUCTS

2.01 CONDUIT REQUIREMENTS

- A. Minimum Size: 3/4 inch.
- B. Underground Installations: Use thickwall nonmetallic conduit, Schedule 40 PVC. Transition to galvanized rigid steel (GRC) at 1 foot below grade for all conduits extending above grade. Paint G.R.C. below grade with a coat of Bitumastic, continuously and up to 6" above grade. Install long radius elbows for all changes in direction.
- C. Outdoor Locations, Above Grade: GRC and liquidtight flexible metal conduit, as depicted on drawings.

2.02 METAL CONDUIT

- A. Rigid Steel Conduit: ANSI C80.1.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; all steel fittings.

2.03 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Description: Interlocked steel construction with PVC jacket.
- B. Fittings: ANSI/NEMA FB 1.

2.04 NONMETALLIC CONDUIT

- A. Description: NEMA TC 2; Schedule 40 PVC.
- B. Fittings and Conduit Bodies: NEMA TC 3.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install conduit in accordance with NECA "Standard of Installation."
- B. Install nonmetallic conduit in accordance with manufacturer's instructions.
- C. Arrange supports to prevent misalignment during wiring installation.
- D. Support conduit using coated steel straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- E. Fasten conduit supports to building structure and surfaces under provisions of Section 16190.
- F. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
- G. Route exposed conduit parallel and perpendicular to walls. Exposed conduits shall only be run in mechanical and electrical rooms.
- H. Cut conduit square using saw or pipecutter; de-burr cut ends.
- I. Bring conduit to shoulder of fittings; fasten securely.
- J. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.
- K. Use conduit hubs to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
- L. Install no more than equivalent of four 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use hydraulic one-shot bender or factory elbows for bends in metal conduit larger than two inch size.
- M. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- N. Provide fittings designed to accommodate expansion and deflection where conduit crosses, control, and expansion joints.

- O. Provide suitable pull string in each empty conduit.
- P. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- Q. Identify conduit under provisions of Section 16195.
- R. Exterior conduit stub-ups shall be rigid galvanized coated with Bitumastic.
- S. Maintain manufacturer's recommended minimum bending radius on flexible conduit.
- T. Install insulated bushing on all conduits.

3.02 INTERFACE WITH OTHER PRODUCTS

- A. Install conduit to preserve fire resistance rating of partitions and other elements, using materials and methods that are UL listed and tested.

***** END OF SECTION *****

SECTION 16120

LOW VOLTAGE POWER CABLE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Low Voltage Power Cable.

1.02 RELATED SECTIONS

- A. Section 16111 Conduit.
- B. Section 16130 Boxes.
- C. Section 16195 Electrical Identification.
- D. Section 16723 Surveillance System.

1.03 REFERENCES

- A. ANSI/NFPA 70—National Electrical Code.
- B. NEMA WC5—Thermoplastic-insulated wire and cable for the transmission and distribution of electrical energy.

1.04 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on Drawings.
- B. Conductor sizes are based on copper.
- C. Where wire and cable routing is not shown and destination only is indicated, determine exact routing and lengths required.

1.05 COORDINATION

- A. Coordinate work under provisions of Division 1.
- B. Determine required separation between cable and other work.
- C. Determine cable routing to avoid interference with other work.

PART 2 PRODUCTS

2.01 LOW VOLTAGE POWER CABLE

- A. Description: Stranded conductor insulated wire.
- B. Conductor: Copper, #10 minimum to poles and #14 from terminal box to camera. At power supplies, transition from #10 to #18 for connection to terminal.
- C. Insulation Voltage Rating: 600 volts.
- D. Insulation: ANSI/NFPA 70, Type THWN material rated 75 degrees C.

PART 3 EXECUTION

3.01 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

3.02 WIRING METHODS

- A. Use wiring methods indicated on Drawings.

3.03 INSTALLATION

- A. Install products in accordance with manufacturers instructions.
- B. Use stranded conductors for all low voltage power conductors.
- C. Grounding conductors shall be identified with a continuous outer finish that is either green, or green with one or more yellow stripe.
- D. Protect exposed cable from damage.
- E. Use suitable cable fittings and connectors.
- F. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- G. Clean conductor surfaces before installing lugs and connectors.
- H. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.

3.04 INTERFACE WITH OTHER PRODUCTS

- A. Identify wire and cable under provisions of Section 16195.

- B. Identify each conductor with its circuit number or other designation indicated on Drawings.

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Division 1.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.
- D. Verify continuity of each circuit conductor.

***** END OF SECTION *****

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SECTION 16160

ENCLOSURES

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Hinged Cover Enclosures.
- B. Terminal Blocks and Accessories.

1.02 REFERENCES

- A. NEMA 250—Enclosures for Electrical Equipment (1000 Volts Maximum).
- B. ANSI/NEMA ICS 1—Industrial Control and Systems.
- C. ANSI/NEMA ICS 4—Terminal Blocks for Industrial Control Equipment and Systems.
- D. ANSI/NEMA ICS 6—Enclosures for Industrial Control Equipment and Systems.

1.03 SUBMITTALS

- A. Submit product data under provisions of Division 1.
- B. Shop Drawings for Equipment Enclosures: Product Cutsheet.

PART 2 PRODUCTS

2.01 ENCLOSURES

- A. NEMA 3R with continuous hinge, gasketed cover, and pad lockable latches, as depicted on drawings.

2.02 TERMINAL BLOCKS AND ACCESSORIES

- A. Terminal Blocks: ANSI/NEMA ICS 4; UL listed.
- B. Power Terminals: Unit construction type, closed-back type, with tubular pressure screw connectors, rated 600 volts.
- C. Signal and Control Terminals: Modular construction type, channel mounted; tubular pressure screw connectors, rated 300 volts.

- D. Copper Ground Bar Strip with #6 Copper Grounding: Electrode conductor to earth ground.

2.03 MANUFACTURERS

- A. Hoffman.
- B. Buss.
- C. Belden.

2.04 FABRICATION

- A. Shop assemble enclosures housing terminal blocks or electrical components in accordance with ANSI/NEMA ICS 6.
- B. Provide conduit hubs on enclosures.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install enclosures plumb; anchor securely as depicted on drawings, avoid rebar.

***** END OF SECTION *****

SECTION 16195

ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Nameplates and Tape Labels.
- B. Wire and Cable Markers.

1.02 SUBMITTALS

- A. Include schedule for nameplates and tape labels.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Nameplates: Engraved, 1/4" high, three-layer laminated plastic with black letters on a white background. Provide nameplate with Pole and Camera Numbers (i.e., Pole 1 – 1A, 1B). Install on exterior face of enclosure cover.
- B. Wire and Cable Markers: Cloth markers, split sleeve or tubing type.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Degrease and clean surfaces to receive nameplates.
- B. Install nameplates parallel to equipment lines.
- C. Secure nameplates to equipment fronts using two-part epoxy adhesive.
- D. Embossed tape shall not be permitted for any application.

3.02 WIRE IDENTIFICATION

- A. Provide wire markers on each conductor. Identify low voltage power conductors as indicated on drawings.

***** END OF SECTION *****

SECTION 16723

SURVEILLANCE SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. System Devices.
- B. Cabling/Rack.
- C. Equipment Mounting/Cross Connect.
- D. System Adjusting, Programming, and Testing.

1.02 SCOPE OF WORK

- A. This project provides for an IP surveillance system at the Murdock Maintenance Complex. There is an existing system that is to be removed. Existing, underground site conduit and poles are intended to be reused. The existing DVR, cameras, computer, etc. are to be turned over to the Owner.
- B. Contractor shall be responsible for providing a complete, functional surveillance system, whether ancillary devices/components are included in this specification or not.
- C. Contractor shall provide labor and any incidental material required for installation and adjustments (including camera height adjustments at poles, if desired by Owner). All new cable shall be terminated by this Contractor. Upon completion of installation, Contractor shall aim/adjust, program, and test the system.
- D. The work performed under this specification shall be of good quality and performed in a professional manner. In this context, "good quality" means the work shall meet industry technical standards and quality of appearance. The Owner/Engineer reserves the right to reject all or a portion of the work performed, either on technical or aesthetic grounds.
- E. This Contractor shall provide all related surveillance system devices and cross-connects. Coordinate all requirements with electrical trade prior to submitting shop drawings.

1.03 APPLICABLE STANDARDS

- A. NEC (NFPA).....National Electric Code (National Fire Protection Association)
- B. ANSI/EIA/TIA.....Electronic Industry Association

- C. NEMA.....National Electrical Manufacturers Association
- D. ULUnderwriters' Laboratories UL 294, UL 639, and UL 1037,
UL 1076
- E. ASIS.....American Society of Industrial Security
- F. FCCFederal Communications Commission 47 CRF Part 15 and
90
- G. BICSITIA/EIA 568-C.0, C.1, C.3; TIA/EIA 569-B; TIA-EIA 606-
B, as well as IEEE 802.3 FOIRL, IEEE 802.3 10BASE-F,
IEEE 802.3 1000BASE-SX/LX, and IEEE 802.3z.
- H. Applicable Federal, State, and Local Laws, Regulations, and Codes.

1.04 CONTRACTOR QUALIFICATIONS

- A. This Contractor shall be able to submit proof that they meet the following qualifications upon request from the Engineer.
 - 1. PERFORMANCE HISTORY: Contractor must have successfully performed at least five, local projects of similar scope and size, within five years of the date of this bid. If requested by Engineer, proof of performance shall be in the form of reference sheets which shall include a brief description of the project, the beginning and ending contract price, the project foreman or superintendent's name, and the name, address, and telephone number of a project contact. The Superintendent proposed for the project shall have been responsible for at least two of these projects under the employment of this Contractor.
 - 2. SURVEILLANCE EXPERIENCE: Contractor must be able to prove to the satisfaction of the Owner/Engineer that it has significant experience in the installation of surveillance systems. Installation must include cable, termination, a knowledge of interconnect equipment, and a thorough knowledge of testing procedures. Prior to installation, Contractor shall be required to have completed no less than four hours of training by the local GE manufacturer's representative on the specific equipment and provide certification of same.
 - 3. FIBER OPTICS EXPERIENCE: Contractor must be able to prove to the satisfaction of the Owner/Engineer that it has significant experience in the installation of fiber optics cable systems. Installation must include installation of fiber optics cable, fiber termination, a knowledge of interconnect equipment, and a thorough knowledge of testing procedures.
 - 4. TIME IN BUSINESS: Contractor must have been in business, under the current name, and in the business of installing security systems, continuously, for a period of at least five years, prior to the date of this bid.
 - 5. REQUIRED LICENSE: The Contractor shall possess a State of Florida Low Voltage License.

6. RCDD ON STAFF: The Contractor shall have a BICSI Registered Communication Distribution Designer on staff. Contract RCDDs shall not be acceptable. Contractor shall provide copy of RCDD certificate upon request.
7. OFFICE LOCATION: The Contractor shall maintain a permanent office within 50 miles of the project site.

1.05 DEFINITIONS

- A. Communications Closet (CC).
- B. Provide means to provide and install.

1.06 PRE-BID SUBSTITUTIONS

- A. Under provisions of Division 1 and Section 16010.
- B. Submit any requests for substitutions or deviations prior to bid opening. Only those requests that are complete and approved by the Engineer in written addendum form shall be accepted.

1.07 SHOP DRAWING SUBMITTALS

- A. The following items shall be submitted to the Engineer for review and approval. Submittals shall included, but not be limited to:
 1. Spreadsheet with product numbers and quantities marked for all equipment.
 2. Specifications and data sheets for each item.
 3. Scaled layout of mounted equipment showing locations and relationship.

PART 2 PRODUCTS

2.01 NETWORK VIDEO RECORDERS (NVRs)

- A. Provide rack mount, network video recorders to include the following features:
 1. IP video compression: H.264, MPEG-4.
 2. Type: 10/100/1000 Base-T, RJ-45.
 4. Protocol: TCP, IP, UDP, ARP, RARP, PPP, PPPoE, DHCP, SNMP.
 5. Recording modes: Continuous, Motion Activated, or Scheduled.
 6. 16 IP Video Channels.
 7. HD/Megapixel Recording.
 8. Local Backup: USB Hard Drive, eSATA.

9. 4.0 TB Storage Capacity.
 10. Swappable Hard Drive(s).
 11. Supported External Storage.
 12. Serial Communication: RS-232, RS-485.
 13. Acceptable Manufacturer:
 - a. UTC Fire & Security, GE Security (GES) TruVision TVN20. Model TVN-2016-4T. with software, TruVision Navigator including any licensing requirements/upgrades for the warranty period.
- B. Reference drawings for quantities and locations.

2.02 UPS—UNINTERRUPTIBLE POWER SUPPLY

- A. Provide rack mounted UPS unit to allow for continued system function in the event of loss of facility power (APC Model SUA750RM2U). Battery shall be maintenance-free sealed, leak proof, Lead-Acid battery with suspended electrolyte.
- B. UPS unit shall be connected to:
 1. Recorders.
 2. Switch.
 3. Power supplies.
- C. The number and size of UPS unit shall be as verified to allow full function of the system for a minimum of 20 minutes after loss of power to switch over to emergency power or to shut down. Submit battery calculations with equipment data and shop drawings.
- D. Reference drawings for quantities and locations.
- E. Provide four replacement batteries for storage at site and use by Owner.

2.03 EQUIPMENT MOUNTING

- A. Equipment shall be installed in designated rack or rack area identified for security surveillance equipment in Communications Closet. Confirm layout prior to installation for coordination with existing equipment.
- B. Any mounted equipment shall be organized and supported so that cable weight is not transferred to connectors and/or system devices.
- C. Provide shelving to accommodate equipment that cannot be rack mounted.
- D. Mount equipment with space to facilitate air circulation.

2.04 SECURITY COMPUTER/KEYBOARD/MOUSE

- A. Provide one desk top with the following specifications. Desktop to be located in the designated office as indicated on drawings.
1. HP Compaq 8200 Elite Small Form Factor PC.
 2. Genuine Windows® 7 Professional 32-bit.
 3. Intel® Core i7-2600 Processor (SIPP Processor).
 4. Intel i7 2nd Gen CPU Label.
 5. Intel® Q67 Express Integrated.
 6. DASH 1.0 Management Protocol.
 7. 4GB DDR3 (PC3-1333) MHz non-ECC (2 x 2 GB DIMM).
 8. 500GB 7200RPM SATA 6.0 Gb/s NCQ, SMART IV.
 9. HP SATA SuperMulti DVD Writer Drive.
 10. NVIDIA Quadro NVS 295 (256MB) PCIe x 16.
 11. Integrated Intel 82579 GbE.
 12. HP USB Standard Keyboard.
 13. HP USB 2-Button Optical Scroll Mouse.
 14. HP Compaq 8200 Elite SFF 90% Chassis Single Unit (SFF) Packaging.
 15. HP 3-3-3 (parts/labor/next business day on-site) warranty.
 16. HP Compaq 8200 Elite Country Kit.
- B. Contractor shall confirm that the above listed specifications are the most current, prior to ordering.
- C. Install Owner provided software and necessary software for interface with equipment. Provide miscellaneous connection cabling in quantities, as necessary.
- D. **BID ALTERNATE:** Provide Bid Alternate Deduct to not provide the 2.04 Computer and to accept an Owner-provided similar computer and to provide integration of that computer for an operational system.

2.05 MONITOR AND PRINTER

- A. Provide 24", flat screen, color viewing monitor for use with computer in a desktop application, in location noted on drawings. Monitor shall be full screen and full screen programmable sequencing of camera views. Number of cameras that can be viewed on the monitor shall be definable, options are all cameras or selected cameras. All the cameras shall be viewed by default.

1. Acceptable Manufacturers:
 - a. Pelco PMCL524FL Flat Panel LCD Monitor.
 - b. Pre-Approved Equal.
- B. Provide local printing at the computer (HP Photosmart D7560).
- C. Connect to computer and make operational.

2.06 SWITCH AND SFPs (SMALL FORMAT PLUGGABLES)

- A. Provide managed, 24 Gigabit, Fiber Copper Stacking Switch and software with the following features:
 1. Copper Ports: 8 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X ports, shared with Port-1 to Port-8.
 2. SFP/Mini-GBIC Slots: 24 SFP interfaces, 1000Base-SX/LX and 100Base-FX SFP transceiver compatible.
 3. Store-and-Forward.
 4. Acceptable Manufacturers:
 - a. IFS #GE-DSSG-244, quantities as required.
 - b. Pre-Approved Equal.
- B. Provide SFP Transceiver Modules with the following features:
 1. Complies with SFP multi-source agreement and Class 1 laser safety standard IEC 60825
 2. Data rate 125 Mbps
 3. LC duplex receptacle
 4. Low power dissipation
 5. Plug-and-play capability for easy installation
 6. Acceptable Manufacturers:
 - a. IFS #SFP100FX1310-TSC-2km, quantities as required.
 - b. Pre-Approved Equal.

2.07 IP CAMERA/LENS (FIXED, EXTERIOR)

A. 1.3 MP Cameras/Lens shall be:

1. 1.3 MPX progressive scan CCD IP camera.
2. D/N camera with motorized IR cut filter.
3. POE/12VDC/24VAC.
4. NTSC camera with Color: 0.1 Lux @ F1.2, Mono: 0.01 Lux @ F1, Varifocal Autoiris lens 3.3-12MM (w/auto iris).
5. Edge recording with 8 or 16GB SDHC card for video playback.
6. Integrated motion detection with auto notification of intrusion in area of interest.
7. Vandal/Weather Resistant with Polycarbonate Dome.
8. Acceptable Manufacturer: UTC Fire & Security, GES Model TVD-M1120V-3-N.

B. Provide Pole Mount Adaptor (GE #TVD-M-PMA) and Outdoor Dome Wall Mount (GE #TVD-M-OWM), in quantities required and configurations as depicted on drawings and details.

C. Contractor shall load balance cameras across NVRs.

D. Provide sun shield for each dome camera.

E. Spares

1. Provide three, 1.3 MP cameras/lens, one NVR, two each media converters (at pole and at headend); and two of each type of surge protector. All items are to be stored on the site in a secure location for the Owner's use throughout the warranty period. Any time throughout the warranty period that one of the spares needs to be utilized to keep the system operating, this Contractor shall replace that item. At the end of the warranty, the Owner shall retain ownership of the spares.

G. Power Supplies

1. Provide wall-mountable, 24 VAC/100 VA power supply powered from a standard 110 VAC source. Reference drawings for cabling requirements.
2. Acceptable Manufacturers:
 - a. GE KTP-24, quantities as required.
 - b. Pre-Approved Equal.

2.08 SURVEILLANCE SYSTEM CABLING

- A. This Contractor shall furnish and install the surveillance system (CCTV) cable. Route camera power so as not to interfere with the video or data signals.
- B. This Contractor shall terminate cables at locations designated on drawings. For fiber optic cable, provide runs with no less than three feet slack at the headend and no less than three feet slack at the pole's junction box (coil as to not interfere with equipment). For category cabling, provide no less than three feet at the pole's junction box. Category cabling at switch shall be to size.
- C. Camera Power Cable: Refer to drawings and Division 16 specification sections.
- D. Video/Data Cable:
 - 1. 50/125 μ m Multi-Mode Fiber Optic Cable:
 - a. Comply with ICEA S-87-640 for mechanical properties.
 - b. Comply with TIA/EIA-568-C.3 for performance specifications.
 - c. Provide tight buffer, indoor/outdoor plant, two-strand fiber optic cable. Multi-mode 50/125 μ m fiber strands shall be laser optimized for vertical cavity surface emitting laser (VCSEL) based systems. Fiber strands shall exceed TIA/EIA 568-C.3, IEEE 802.3ae, and IEEE802.3z specifications.
 - d. Acceptable Manufacturers:
 - 1) Mohawk: M9C037T, OFNR
 - 2) Pre-Approved Equal.
 - e. Install fiber optic homerun cable through innerduct (MaxCell) from each junction box. Provide 2"-3 cell MaxCell with no more than three fibers per cell. Install a pull string in each cell for future.
 - f. At junction box, terminate on SC duplex connectors. At switch, terminate on LC duplex connectors. Coordinate termination with manufacturer's equipment.
 - 2. Category 6 Patch Cords/Cable:
 - a. Per recorder, provide a Category 6, copper patch cord, Leviton eXtreme® 6+ Patch Cord: #62460-03Y (Yellow). For bidding purposes, use: at least 3 feet lengths. This Contractor shall cross-connected patch cord from recorder to managed switch.

- b. Site Cameras:
 - 1) Per pole mounted camera, provide a Category 6, copper patch cord, Leviton eXtreme® 6+ Patch Cord: #62460-15Y (Yellow). For bidding purposes, use: 16 @ 15 feet. This Contractor shall cross-connected patch cord from camera to media converter.
 - 2) At trailer, for exterior wall mounted camera; provide a Category 6 cable, Leviton eXtreme CAT6+ U/UTP CMP, 4-pair Solid LAN Cable #UTP6P-MY (Yellow), at necessary length to allow for slack from camera to Communications Closet— field terminated with male RJ-45s. For bidding purposes, use 1 @ 35 feet. This Contractor shall cross-connected cable from camera to switch.
 - c. Verify optimum cord lengths prior to ordering. Allow for and manage slack.
 - d. Provide jacks as appropriate to installation requirements.
 - e. Acceptable Manufacturer: Leviton or Pre-Approved Equal.
- E. Media Converter (Ethernet to Fiber) – Provide media converter with the following features:
- 1. Complies with the IEEE 802.3, IEEE 802.3u, Fast Ethernet standard.
 - 2. Operating temperature from -10°~60°C.
 - 3. Auto-MDI/MDI-X detection and Auto-negotiation with half duplex/ full-duplex modes for all 10 /100Base-TX RJ-45 ports.
 - 4. Store-and-Forward switching architecture and mode with wire-speed filtering and forwarding rates.
 - 5. 4-Port 10/100Base-TX RJ-45 and 1-Port 100Base-FX interface for up to 2km (multi-mode fiber 50/125µm).
 - 6. Acceptable Manufacturers:
 - a. IFS #MC-4TX1FXMM-2Km, quantities as required.
 - b. Pre-Approved Equal.

2.09 LABELING

- A. Each cable shall be labeled with a unique identifier. All network system components shall be labeled, including cabinets, patch panels, individual ports in each patch panel, communications outlets, etc. The system identification administration shall meet the requirements of EIA/TIA 606.

- B. All fibers in each fiber optic cable shall be identified at each end on the interconnect point with permanent plastic labels.

C. Labeling Notes

1. Labels shall be made using a device which produces typewritten print.
2. Allow more characters if needed.

D. Fiber Labeling

1. A label shall be attached to the Fiber Switch at the headend and to the Media Converter at the pole (i.e., both ends) using the following format. Use Port 1 for Pole one and sequentially progress at switch.

Format:

P#..... Pole number the jack is serving.

E. Copper Labeling

1. A label shall be attached to the Category cable at the pole's junction box using the following format.

Format:

C# Camera number the cable is serving.

2.10 EQUIPMENT RACK

- A. Wall-mount rack shall be height, as specified, and provided with EIA 19" mounting. In locations indicated on drawings, securely mount designated wall-mount rack. Rack shall be constructed of extruded aluminum or cold rolled steel with standard EIA hole pattern on front and rear. Finish shall be anodized black. Provide rack with the following accessories/features:

1. Connect separate, solid, #4 AWG, insulated, grounding wire between the ground bus and the building's grounding system.
2. Provide rack with mounting hardware and all accessories required to complete installation of the rack. Provide support for rack, as required.
3. Provide Velcro tie wraps for cable management. Nylon tie wraps shall not be used.
4. Approved Manufacturers
 - a. Chatsworth #11480-736 (18 RUs).
 - b. Pre-Approved Equal.

2.11 MISCELLANEOUS EQUIPMENT

- A. As per the needs of the installation, miscellaneous equipment shall be provided at the Contractor's expense. It is the Contractor's responsibility to identify and bid all miscellaneous equipment necessary to provide a complete and properly functioning system.

PART 3 EXECUTION

3.01 GENERAL

- A. Contractor shall follow established guidelines for installation and termination of all cabling and equipment as established in Part 1 of this Specification.
- B. Work shall be of professional quality and shall not detract from the aesthetic qualities of the facility. Contractor shall ensure that the site is clean of construction debris prior to leaving the site unsupervised at the end of every work day.

3.02 PENETRATIONS

- A. Fire penetrations: Fire stop all fire penetrations I.A.W. published UL standards. It is this Contractor's responsibility to identify fire walls.
- B. Provide necessary sleeves and chases where conduits pass through walls. Wall sleeves shall be installed above ceiling and be supported on both sides of the wall with strut and beam clamps. Ream and bush both sides of sleeves.
- C. Entering conduit penetrations from the exterior, perpendicular to the wall, shall be sealed with UV resistant silicone and shall be water tight.
- D. Conduit entering the building shall be sealed with approved duct seal to prevent intrusion of gas, water, or pests from outside the building.

3.03 PAINTING OF DAMAGED AREAS

- A. Raceways, conduit supports, hangers, and surface raceway, where exposed, shall be painted to match mounting surface or surrounding surfaces. Panels and equipment with damaged painted surfaces shall be refinished to previous conditions.

3.04 FIBER TESTING (TO BE SUBMITTED AT SUBSTANTIAL COMPLETION)

- A. TESTING: Contractor shall test each fiber strand. The Owner/Engineer reserves the right to have a representative present during all or a portion of the testing. A testing schedule shall be planned and agreed upon beforehand.

1. FIBER-OPTIC BACKBONE CABLE: Each fiber in every backbone cable run shall be tested with a optical light source and power meter as manufactured by Noyes Fiber Systems or HP/Agilent Technologies. Each multimode fiber shall be tested at both 850 and 1,300nm. Maximum fiber strand attenuation shall be determined using the following link attenuation equation.
 2. Maximum Link Attenuation =
Connector Attenuation + Cable Attenuation + Splice Attenuation
 3. Maximum Attenuation Per Component:
Connector attenuation 0.75 dB/1 mated connector pair
Cable attenuation 3.5 dB/km @ 850nm and 1.5dB/km @ 1,300nm
Splice attenuation..... 0.3 dB/splice
 4. Contractor shall calculate the acceptance values for each fiber strand based on the above criteria. The fiber certification report shall be submitted listing the power loss budget dB value, the measured dB loss, and the dB margin of each measured fiber strand to the acceptance values per test limit: TIA Backbone Fiber Standard 568-C.
- B. Backbone lengths shall be verified with an OTDR or Light Source/Power Meter with length based standard testing as manufactured by Noyes Fiber Systems, Agilent, or pre-approved equal. Per this specification, maximum distance shall not exceed 500 meters to support LAN equipment operating at 850 nm and 1,000 meters to support LAN equipment operating at 1,300 nm. Optical power meter and OTDR results shall be in the form of tester report print outs, hand written results shall not be accepted. Photocopies of test results shall not be accepted, only original signed print outs shall be accepted. These results shall be submitted to the Engineer
1. Fiber backbone test results shall include:
 - a. Wavelength
 - b. Fiber Type
 - c. Cable Length
 - d. dB Loss
 - e. Power Loss Budget for measured cable length
 - f. Loss Margin
 - g. Continuity
 - h. Attenuation Specification
 - i. Bandwidth Specification
 - j. Fiber and Cable Number
 - k. Measurement Direction
 - l. Reference Set-up

- m. Test Equipment Model and Serial #'s
- n. Test Date
- o. Operator (Crew Members)

C. DOCUMENTATION: Contractor shall provide documentation to include test results and as-built drawings.

1. Drawings shall be developed in CAD (i.e., AutoCAD 2009 or higher). The following documents shall be provided to the Engineer:
 - a. A copy of the site's as-built drawing shall be affixed to an adjacent wall or located in an interior pouch for quick reference in the Communications Closet.
 - b. Three sets of black line, as-built drawing sets.
 - c. CD-ROM formatted disk(s) reflecting all the work with actual device and equipment locations. Drawings to be submitted in .dwg or .dxf format.
 - d. A bill of materials of all installed equipment.
2. Provide the fiber optic cable testing results database on CD-ROM for the completed job. The CD-ROM shall include the software tools required to view, inspect, and print any selection of test reports. Also, provide one hard copy of the fiber optic cabling test results. These results shall be submitted to the Engineer prior to the Contractor calling for substantial completion inspection.

3.05 ACCEPTANCE SUBMITTALS

A. Submit under provisions of Division 1.

B. System submittals shall include the following:

1. Service Manuals.
2. Parts Lists.
3. As-Built Drawings shall include cable routing, location of junctions, and any other revisions.
4. Owner accepted labeling of cameras and viewing of camera fields of view.
5. Completed set up per Part 4 of this section.
6. Letter agreeing the emergency repairs made by Owner's employees shall not void warranty.

3.06 TRAINING

- A. Provide a minimum of four hours at the site with the District's maintenance staff and the school's designated staff. Training shall cover the location, labeling scheme, documentation structure and contents. Training shall take place at time of Substantial Completion before building is occupied by Owner. Obtain a signed roster of all personnel that attend the training sessions and submit a copy of the roster to the Engineer and the Owner.

3.07 EMERGENCY SERVICE

- A. This Contractor shall maintain sales and service presence in the area of adequate size and quality to assure the Owner of rapid response to emergency service requests throughout the duration of the warranty period. Rapid emergency service response shall be held to mean arrival of service personnel at trouble site within eight hours of notice during normal business hours (i.e., 8:00 AM to 6:00 PM) and within 24 hours of said notice during all other hours on a 7-day per week basis. Service personnel shall arrive on site within 72 hours of receiving a request for routine or non-emergency service.
- B. Provide emergency service to restore operation of the system, replacing defective materials, and repairing faulty workmanship within 24 hours of notification. Make temporary repairs and provide loaner equipment at no charge if defective materials cannot be permanently replaced or repaired within this 24 hour time period. Failures to make repairs in the specified time and/or provide loaners will allow the Owner to receive services from other vendors and back charge this Contractor.

3.08 WARRANTY

- A. Equipment, parts, and labor shall be warranted to be free from defects in material and workmanship for a period of five years from date of substantial completion and acceptance of system by Owner.
- B. Warranty shall include damage from lightning and transients for the five year period.
- C. Failure to respond in time specified shall result in the Owner making repairs and charging warrantor and shall not affect the warranty.

PART 4 SYSTEM SET UP

4.01 SYSTEM SET UP

- A. Prior to Substantial Completion, Contractor shall submit the recommended NVR parameter values (with screen shots) for Owner/Engineer review and comment. These values shall be reviewed and, potentially modified, so that the Owner's recording requirements can be optimized. Contractor shall provide modifications.

- B. Contractor shall configure the NVRs to accept the cameras set at the high resolution frame rate, define areas of interest, and provide for motion activated recording in areas of interest. Contractor shall provide masking of areas with continued motion (i.e., trees, etc.) within the site.
- C. Contractor shall adjust and aim cameras to minimize solar glare and maximize Owner requested viewing. Drawings depict initial fields of view. Actual conditions will require equipment adjustments throughout the acceptance period.
- D. Contractor shall coordinate and integrate this site's surveillance system with the District's system through the District WAN including IP address assigned by District and any software installations to provide for seamless viewing and for changing of parameters remotely.

***** END OF SECTION *****

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