LIGHTING RETROFIT SERVICES AT THREE (3) SCHOOLS – ANIMO JACKIE ROBINSON CHARTER HIGH SCHOOL, ANIMO COLLEGE PREPARATORY ACADEMY, ANIMO WESTERN/WHEATLEY MIDDLE SCHOOL.

Issue Date: May 30th 2019

Mandatory Bidders Conference and Job Walk: June 7th 2019, Animo College Prep Academy; 11:00AM sharp
Address: 2265 E 103rd St, Los Angeles, CA 90002

Submit by: June 19th 2019 at 10:00 AM

Administrative Office: Alain LeRoy Locke College Prep Academy
ATTN: Dean Felton
1149 South Hill Street, Suite 600
Los Angeles, CA 90015

Contact:
Dean Felton
Director of Facilities
(323) 565-3287
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REQUEST FOR QUALIFICATIONS AND REQUEST FOR PROPOSALS

NOTICE IS HEREBY GIVEN that The Green Dot Public Schools California, acting by and through its Governing Board, hereinafter referred to as “District”, requests qualified Contractor firms (“Contractor”) to submit their qualifications and proposal for the following services (“Services”):

RFQ/RFP #20190521/PD
LIGHTING RETROFIT SERVICES AT THREE (3) SCHOOLS – ANIMO JACKIE ROBINSON CHARTER HIGH SCHOOL, ANIMO COLLEGE PREPARATORY ACADEMY, ANIMO WESTERN/WHEATLEY MIDDLE SCHOOL

Turn-key Construction services for Lighting Fixture Retrofit and Replacement projects including design, management, labor, materials, tools, equipment, supplies, and related services for the installation of high efficiency lighting equipment and controls in accordance with the Scope of Work (SOW) Attachment “A” and Detailed Lighting Audit Attachment “C”

Work shall be performed at the following school sites:
- Animo Jackie Robinson Charter High School: 3500 S. Hill Street Los Angeles, CA 90007
- Animo College Preparatory Academy: 2265 E. 103rd Street. Los Angeles, CA 90002
- Animo Western/Wheatley Middle School: 12226 S. Western Avenue, Los Angeles, CA 90047

The Contract time is 90 calendar days. This project is estimated at $542,000 with a bid allowance of 10%.

Proposal Deadline: All Proposals are due by 10:00 a.m., on Wednesday, June 19th 2019. Faxed, electronically transmitted, or late proposals will not be accepted. Please note, the RFQ/RFP will be reviewed after the bid submission date and will not be publicly opened.

Place of Proposal Receipt and Opening: Interested Firms should mail or deliver one (1) original Proposal and (4) copies in hardcopy and one (1) in electronic format on a CD or flash drive in a sealed box/package, as further described herein, to:

Alain LeRoy Locke College Prep Academy
Administrative Office
ATTN: Dean Felton
1149 South Hill Street, Suite 600
Los Angeles, CA 90015

Mandatory Job Walk: Firms must attend a Mandatory Job Walk on Friday, June 7th 2019 at 11:00am. Firms not in attendance for the entirety of the site walk will be deemed ineligible to propose on this RFQ/RFP. Site walk is expected to last a minimum of two (2) hours and a mandatory sign-in at both locations will be required.

The meeting location of that mandatory Pre-Bid Conference and Job Walk will start at Animo College Prepatory Academy: 2265 E. 103rd Street. Los Angeles, CA 90002. Contractors are to assemble at the inside gate of 103rd Street and Weigand Avenue by 10:45am and be signed in. Job site visits will be in the following order:
• Animo College Preparatory Academy: 2265 E. 103rd Street. Los Angeles, CA 90002
• Animo Western/Wheatley Middle School: 12226 S. Western Avenue, Los Angeles, CA 90047
• Animo Jackie Robinson Charter High School: 3500 S. Hill Street Los Angeles, CA 90007

Bidders Interview: District may invite firms submitting proposals to an interview on Friday, June 21st 2019. Notification will be made via phone or e-mail.

Request for Information/Substitutions: Pre-Bid Clarifications (RFI’s) regarding this Request for Qualifications and Request for Proposals (“RFQ/RFP”) must be received in writing to Peter Davi at pdavi@ccorpusa.com by 10:00 am, Thursday, June 13th 2019. Responses will be issued by June 14th 2019 via email and/or website posting.

Requests for material substitutions must be received in writing to Peter Davi at pdavi@ccorpusa.com by 10:00 am, Thursday, June 13th 2019. Responses will be issued by June 14th 2019 via email and/or website posting.
INSTRUCTIONS

This RFQ/RFP is not a formal request for bids, or an offer by the District to contract with Firm(s) responding to this RFQ/RFP. The District reserves the right to reject any and all Proposals. The District also reserves the right to amend this RFQ/RFP as necessary. All materials submitted to the District in response to this RFQ/RFP shall remain the property of the District. The District reserves the right to seek proposals from, or to contract with, any Firm not participating in this process. The District shall not be responsible for the costs of preparing any proposal in response to the RFQ/RFP.

General Information/Instruction for Statement of Qualifications and Proposals.

1. The District invites qualified Firms to submit a Statement of Qualifications and Proposal (together, “Proposal(s)”) related to its ability to provide the Services as indicated herein.

2. The District is currently seeking Proposals to provide construction services for the lighting retrofit and replacement projects three District school sites. Through this RFQ/RFP, the District intends to procure and implement energy conservation, cogeneration, and/or alternate energy supply sources via the procurement process as prescribed by Government Code section 4217.10 et seq.

• Description of Site(s).

Work shall be performed at the following school sites

- Animo Jackie Robinson Charter High School: 3500 S. Hill Street Los Angeles, CA 90007
- Animo College Preparatory Academy: 2265 E. 103rd Street. Los Angeles, CA 90002
- Animo Western/Wheatley Middle School: 12226 S. Western Avenue, Los Angeles, CA 90047

• Description of Services.

1. District intends to award Services of this RFQ/RFP per the contract as follows:

   1. Construction Services Pursuant to the Contract and General Conditions.
      a. The selected Firm shall perform the Services of the Contract and General Conditions, including the performance of the following services, without limitation: engineering, design, procurement, construction management, installation, construction, and training services related to the Lighting Retrofit and Replacement projects.

2. Firm shall provide in its Proposal a detailed Statement of Services that it proposes to provide.

• Content of Proposals. Proposals must be concise, well organized, and demonstrate Firm’s qualifications. Proposals shall be formatted as outlined below. Proposals shall be no longer than twenty-five (24) double-sided pages, 8½” x 11” paper, inclusive of résumés, forms, and pictures, (Exclusive of Forms), and tabbed according to the numbering system reflected below. If any of the information required in sections below are not included in the submission, proposal can be deemed non-responsive.

Proposals shall be delivered in a sealed envelope or box with the RFP Number, Project Title, Due Date, Due Time, and Firm Name.
1. **Letter of Interest.** A dated Letter of Interest must be submitted, including the legal name of the Firm, address, telephone and fax numbers, and the name, title, and signature of the person(s) authorized to submit the Proposal on behalf of the Firm. The Letter of Interest should provide a brief statement of Firm’s experience indicating the unique background and qualities of the Firm, its personnel, and what will make the Firm qualified to provide the Services.

2. **Firm Information.** Provide a comprehensive narrative of the Services offered by Firm. The narrative should include the following:

   1. Provide a brief history of Firm, and, if a joint venture, of each participating Firm. Identify legal form, ownership, and senior officials of company(ies). Describe number of years in business and types of business conducted.

   2. Describe Firm’s philosophy and how Firm intends to work with District administration officials to perform the Services.

   3. Include resumes of key personnel who would be performing Services for the District. Specifically, define the role of each person and outline his or her individual experience and responsibilities. Indicate personnel who will serve as primary contact(s) for the District. Indicate Firm’s and personnel’s availability to provide the Services.

   4. Provide a list of all Firm licenses and certifications held. Must have a Class B license or C-10 for electrical work.

   5. Provide a statement of Firm’s financial resources. Include a certification of correctness of Firm’s statement of financial resources and a current Profit and Loss Statement.

   6. Describe your Firm’s safety program. Include proof of your firm’s safety Experience Modification Rating (EMR) or equivalent.

   7. Provide a statement of ALL claim(s) filed against Firm in the past five (5) years. Briefly indicate the nature of the claim and the resolution, if any, of the claim(s).

   8. Include letters of reference or testimonials, if available. Firm should limit letters of references or testimonials to no more than five (5).

   9. Any other data that may assist the District in understanding Firm’s qualifications and expertise.

3. **Prior Relevant Experience.**

   1. Provide a list of K-12 and Community College Districts for which Firm has provided the same or similar Services to in the past two (2) years. Limit your response to no more than the five (5) most recent districts. Include the names of the district, a description of services provided, and the name of the contact person and telephone number at the district. Also, indicate the Firm’s personnel that performed services for each district.

   2. List any other public entities that the Firm would like the District to consider in its evaluation.
4. **Schedule**
   1. Provide a schedule of the work to meet required Project Milestones, in the following table. Contractor should submit its schedule based on 2nd Shift working hours in order to minimize disruptions to school in session.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice to Proceed (NTP)</td>
<td>Expected NTP by June 24th 2019</td>
</tr>
<tr>
<td>Material Product Submittals</td>
<td>7 Calendar Days from NTP</td>
</tr>
<tr>
<td>Mobilization (Milestone per site)</td>
<td>July 8th 2019</td>
</tr>
<tr>
<td>Construction (Milestone per site)</td>
<td>September 30th 2019</td>
</tr>
<tr>
<td>Commissioning (Milestone per site)</td>
<td>10 days prior to Completion</td>
</tr>
<tr>
<td>Completion</td>
<td>October 10th 2019</td>
</tr>
</tbody>
</table>

   *Table 1: Milestone Dates*

5. **Compensation.** Provide Firm’s proposed fee for performance of the Services indicated below

   1. **Pricing Sheets.** Provide all information for lighting and controls material and labor on Detailed Lighting Audit (*Attachment “C”*). **FIRM MUST PUT ANY PRICING INFORMATION FOR ITS PROPOSAL ON ATTACHMENT B IN ADDITION TO ATTACHMENT C. ANY FIRM MISSING ATTACHMENT B WILL BE DISQUALIFIED.** Firm Proposed Fee should include Pricing Sheet lighting and controls material and labor costs for each site; construction costs, equipment costs, Firm’s mark-up on sub consultant and subcontractor prices, general conditions, and all other categories of costs, expenses, fees, or charges that Firm anticipates will be a part of its price to complete this portion of the Services.

   2. Firms shall provide and include the following lump sum bid allowance in Bidder’s Total Price. The cost(s) shall be utilized at Owner discretion, direction and approval. Firm shall include all direct/indirect, overhead/profit, field supervision, management and/or administrative cost(s) for BCM(s) listed in the Total Lump Sum Base Bid Amount. Firm shall itemize cost(s) on Schedule of Values. Cost(s) will be itemized, in detail specific invoice, and attached to pending Applications for Payment, as utilized. Contractor shall not be allowed any Overhead/Profit and Bond charges for work charged to the Allowance.

   3. Bid Allowance; 10% of Base Bid to be used AT THE DISCRETION OF THE DISTRICT ONLY.

6. **Conflict of Interest.** If applicable, provide a statement of any recent, current, or anticipated contractual obligations that relate to similar work that may have a potential to conflict with the Firm’s providing the Services to the District.

7. **Additional Information.** Provide any additional information, options, or features related to Firm’s program or its Services that Firm believes the District will find helpful in the District’s evaluation and selection process.
• **Contractor Registration.** Firm shall ensure that it and its Subcontractors comply with the registration and compliance monitoring provisions of Labor Code section 1771.4, including furnishing its CPRs to the Labor Commissioner, and are registered pursuant to Labor Code section 1725.5. Firm and its subcontractors shall comply with Labor Code section 1725.5 to be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of the Contract.

• **Prevailing Wages.** Pursuant to sections 1770 et seq. of the California Labor Code, Firm and all Subcontractors under the Firm shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the State of California Department of Industrial Relations (DIR) for the type of work performed and the locality in which the work is to be performed within the boundaries of the District. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by the DIR are available from the District or on the internet (http://www.dir.ca.gov)

• **District's Evaluation / Selection Process.**

  1. The District intends to select one Firm to perform the Services as described in this RFQ/RFP. The Successful Firm will be selected based on qualifications and demonstrated competence that include relevant experience with public agencies, including local agencies, and a proven track record of success for these types of Services. A “best value” method of selection will be utilized. The “best value” method includes, but is not limited to, the following selection criteria:

    1. Technical expertise;
    2. Team experience;
    3. Recent success with similar energy conservation scope of work;
    4. Proximity of offices and availability of qualified staff;
    5. Prior experience with K-12 School Districts;
    6. Approach in providing Services;
    7. Schedule; and
    8. Pricing.

<table>
<thead>
<tr>
<th>RFQ Selection Criteria</th>
<th>Evaluation Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPOSAL COMPLETENESS</td>
<td>5%</td>
</tr>
<tr>
<td>FIRM INFORMATION (Team/Safety EMR)</td>
<td>20%</td>
</tr>
<tr>
<td>PRIOR RELEVANT EXPERIENCE</td>
<td>20%</td>
</tr>
<tr>
<td>PROJECT SCHEDULE</td>
<td>20%</td>
</tr>
<tr>
<td>COMPENSATION</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Table 1 - Evaluation Weights*

The District reserves the right to contract with any Firm responding to this RFQ/RFP for all or portions of the Services, to reject any proposal as non-responsive, and not to contract with any Firm for the Services described herein. The District makes no representation that participation in the RFQ/RFP process will lead to an award of contract or any consideration whatsoever. The District reserves the
right to seek proposals from or to contract with any Firm not participating in this process. The District shall in no event be responsible for the cost of preparing any proposal in response to this RFQ/RFP.

Responses to this RFQ/RFP will become the property of the District and subject to the California Public Records Act, Government Code sections 6250, et seq. Those elements in each response that are trade secrets as that term is defined in Civil Code section 3426.1(d) or otherwise exempt by law from disclosure and which are prominently marked as “TRADE SECRET,” “CONFIDENTIAL,” or “PROPRIETARY” may not be subject to disclosure. The District shall not be liable or responsible for the disclosure of any such records including, without limitation, those so marked if disclosure is deemed to be required by law or by an order of the Court. A Firm that indiscriminately identifies all or most of its response as exempt from disclosure without justification may be deemed non-responsive. In the event the District is required to defend an action on a Public Records Act request for any of the contents of a response marked “Confidential,” “Proprietary,” or “Trade Secret,” the Firm agrees, by submission of its response for the District’s consideration, to defend and indemnify the District from all costs and expenses, including attorneys’ fees, in any action or liability arising under the Public Records Act.

• **Agreement Form.** An agreement form is included in this packet. Examine the agreement form closely. The agreement is only required while the contractor is awarded the project by the District. Upon notification of intent to award, the Contractor shall provide two copies of contract agreement with original signatures and submit to the Purchasing Department of the District by the deadline provided in the notification.

• **District Required Forms.** The following is a list of District required forms that must be submitted with your proposal. You must submit all forms to be considered for the project.

  1. Designation of Subcontractors
  2. Contractor’s Certificate Regarding Workers Compensation
  3. Non-Collusion Declaration
  4. Bid Bond
  5. Substitution Request Form
  6. Acknowledgment of Bidding Practices Regarding Indemnity
  7. Contractor’s Certificate Regarding Drug-Free Work Place
  8. Contractor’s Certificate Regarding Alcoholic Beverage and Tobacco-Free Campus Policy

• **General Conditions.** General conditions are downloadable on the District website. Examine all General Conditions and any supplementary conditions carefully as all conditions are part of the Request for Proposal.

• **Attachments.** Firms making proposals must examine all attachments below. Attachments C through D shall be downloaded from the District website.

  Attachment “A” – SCOPE OF WORK
  Attachment “B” – PRICING FORM
  Attachment “C” – DETAILED LIGHTING AUDITS
  Attachment “D” – LIGHTING SPECIFICATIONS
CHECKLIST OF MANDATORY BID FORMS

This list is for Contractor’s use and reference only. Additional documents may be required so bidders should carefully review all Contract Documents and Bid Documents.

- Statement of Qualifications & Proposal
- Letter of Interest
- Firm Information
- Prior Relevant Experience
- Schedule
- Pricing Form (Attachment B)
- Conflict of Interest (if any)
- Additional Information (if any)

The following forms should be downloaded from the District website:

- Designation of Subcontractors
- Contractor’s Certificate Regarding Workers Compensation
- Non-Collusion Declaration
- Bid Bond (or Bid Guarantee from if Security is other than Bid Bond)
- Substitution Request Form
- Acknowledgment of Bidding Practices Regarding Indemnity
- Contractor’s Certificate Regarding Drug-Free Work Place
- Contractor’s Certificate Regarding Alcoholic Beverage and Tobacco-Free Campus Policy
DISTRICT REQUIRED FORMS

The following is a list of District required forms that must be submitted with your proposal. You must submit all forms to be considered for the project.

- Designation of Subcontractors
- Contractor’s Certificate Regarding Workers Compensation
- Non-Collusion Declaration
- Bid Bond
- Substitution Request Form
- Acknowledgment of Bidding Practices Regarding Indemnity
- Contractor’s Certificate Regarding Drug-Free Work Place
- Contractor’s Certificate Regarding Alcoholic Beverage and Tobacco-Free Campus Policy
DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act (California Public Contract Code section 4100 et seq.,) and any amendments thereof, each Bidder shall set forth below: (a) the name, license number, and location of the place of business of each subcontractor who will perform work or labor or render service to the Contractor, who will perform work or labor or work or improvement to be performed under this Contract, or a subcontractor licensed by the State of California who, under subcontract to the Contractor, specially fabricates and installs a portion of the work or improvements according to detailed Drawings contained in the Plans and Specifications in an amount in excess of one-half of one percent of the Contractor’s total bid; and (b) the portion and description of the work which will be done by each subcontractor under this Act. The Contractor shall list only one subcontractor for each such portion as is defined by the Contractor in this bid. All subcontractors shall be properly licensed by the California State Licensing Board.

If a Contractor fails to specify a subcontractor, or if a Contractor specifies more than one subcontractor for the same portion of work to be performed under the Contract in excess of one-half of one percent of the Contractor’s total bid, the Contractor shall be deemed to have agreed that the Contractor is fully qualified to perform that portion, and that the Contractor alone shall perform that portion.

No Contractor whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontractor to be voluntarily assigned or transferred or allow the relevant portion of the work to be performed by anyone other than the original subcontractor listed in the original bid, or (c) sublet or subcontract any portion of the work in excess of one-half of one percent of the Contractor’s total bid where the original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act.

Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the Contractor’s total bid where no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding, reduced to writing as a public record, of the authority awarding this Contract setting forth the facts constituting the emergency or necessity.

All subcontractors (of any tier) performing any portion of the Work must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with the California Department of Industrial Relations and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of the Project.

NOTE: If alternate bids are called for and bidder intends to use different or additional subcontractors on the alternates, a separate list of subcontractors must be provided for each such Alternate.
## DESIGNATION OF SUBCONTRACTORS FORM

<table>
<thead>
<tr>
<th>Description &amp; Portion of Work</th>
<th>Name of Subcontractor</th>
<th>Location &amp; Place of Business</th>
<th>License Type and Number</th>
<th>E-Mail &amp; Telephone*</th>
<th>DIR Registration Number*</th>
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* This information must be provided at the time of submission of bid or must be provided within 24 hours after the time set for the opening of bids. Bidders who choose to provide this information within 24 hours after the time set for the opening of bids are solely responsible to ensure the District receives this information in a timely manner. The District is not responsible for any problems or delays associated with emails, faxes, delivery, etc. Absent a verified fax or email receipt date and time by the District, the District’s determination of whether the information was received timely shall govern and be determinative. Bidder shall not revise or amend any other information in this form submitted at the time of bid. The information submitted at the time of bid shall govern over any conflicts, discrepancies, ambiguities or other differences in any subsequent Subcontractor Designation Forms submitted by the bidder.

Proper Name of Bidder: ___________________________________________________________

Date: __________________________________________________________

Name: ________________________________________________________________

Signature of Bidder Representative: ____________________________________________

Address: _________________________________________________________________

Phone: _________________________________________________________________
CONTRACTOR’S CERTIFICATE REGARDING WORKERS’ COMPENSATION FORM

Labor Code section 3700 in relevant part provides:

Every employer except the State shall secure the payment of compensation in one or more of the following ways:

1. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this State.

By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to employees.

For any county, city, city and county, municipal corporation, public district, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers’ compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers’ compensation claims properly, and to pay workers’ compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers’ compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702.

I am aware of the provisions of Labor Code section 3700 which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provision before commencing the performance of the work of this Contract.

________________________________________________________________________

(Signature)

________________________________________________________________________

(Print)

________________________________________________________________________

(Date)

In accordance with Article 5 (commencing at section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and submitted with the Contractor’s bid.
NON-COLLUSION DECLARATION

The undersigned declares:

I am the ___________________ [Title] of ______________________________ [Name of Company], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on ________________ [Date], at ________________ [City], ________________ [State].

Signed: _______________________________

Typed Name: ____________________________
BID GUARANTEE FORM

(Use only when not using a Bid Bond)

Accompanying this proposal is a cashier’s check payable to the order of the Alhambra School District or a certified check payable to the order of the Alhambra School District in an amount equal to ten percent (10%) of the base bid and alternates ($______________________).

The proceeds of this check shall become the property of said District, if, this proposal shall be accepted by the District through the District’s Governing Board, and the undersigned fails to execute a Contract with and furnish the sureties required by the District within the required time; otherwise, said check is to be returned to the undersigned.

__________________________________________
Bidder

Note: Use this form, in lieu of Bid Bond form, when a cashier’s check or certified check is accompanying the bid
BID BOND FORM

KNOW ALL MEN BY THESE PRESENT that we, the undersigned, (hereafter called “Principal”), and _________________________________________ (hereafter called “Surety”), are hereby held and firmly bound unto the Alhambra School District (hereafter called “District”) in the sum of _______________________________ ($______________) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns.

SIGNED this __________ day of ________________________, 20___.

The condition of the above obligation is such that whereas the Principal has submitted to the District a certain Bid, attached hereto and hereby made a part hereof, to enter into a Contract in writing for the construction of ________________________________________.

NOW, THEREFORE,

a. If said Bid is rejected, or

b. If said Bid is accepted and the Principal executes and delivers a Contract or the attached Agreement form within five (5) calendar days after acceptance (properly completed in accordance with said Bid), and furnishes bonds for his faithful performance of said Contract and for payment of all persons performing labor or furnishing materials in connection therewith,

Then this obligation shall be void; otherwise, the same shall remain in force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the call for bids, or the work to be performed thereunder, or the specifications accompanying the same, shall in anyway affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of said Contract, or the call for bids, or the work, or to the specifications.

In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all costs incurred by the District in such suit, including without limitation, attorneys’ fees to be fixed by the court.
IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year first set forth above.

(Corporate Seal)

By __________________________________________
Principal’s Signature

____________________
Typed or Printed Name

____________________
Principal’s Title

(Attachement Attorney in Fact Certificate)

(Attached Attorney in Fact Certificate)

By __________________________________________
Surety’s Signature

____________________
Typed or Printed Name

____________________
Title

____________________
Surety’s Name

____________________
Surety’s Address

____________________
Surety’s Phone Number
IMPORTANT:

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code section 105, and if the work or project is financed, in whole or in part, with federal, grant, or loan funds, it must also appear on the Treasury Department’s most current list (Circular 570 as amended).

THIS IS A REQUIRED FORM.

Any claims under this bond may be addressed to:

(Name and Address of Surety)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

(Name and Address of agent or representative for service of process in California if different from above)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

(Telephone Number of Surety and agent or representative for service of process in California).
REQUEST FOR SUBSTITUTION AT TIME OF BID

Pursuant to Public Contract Code section 3400, bidder submits the following request to Substitute with the bid that is submitted. I understand that if the request to substitute is not “an/or equal” or is not accepted by District and I answer “no” I will not provide the specified item, then I will be held non-responsive and my bid will be rejected. With this understanding, I hereby request Substitution of the following articles, devices, equipment, products, materials, fixtures, patented processes, forms, methods, or types of construction:

<table>
<thead>
<tr>
<th>Specification Section</th>
<th>Specified Item</th>
<th>Requested Substituted Item</th>
<th>Contractor Agrees to Provide Specified Item if request to Substitute is Denied¹ (circle one)</th>
<th>District Decision (circle one)</th>
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<tbody>
<tr>
<td>1.</td>
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<td>Yes No</td>
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<td>12.</td>
<td></td>
<td>Yes No</td>
<td>Grant Deny</td>
<td></td>
</tr>
</tbody>
</table>

¹ Bidder must state whether bidder will provide the Specified Item in the event the Substitution request is evaluate and denied. If bidder states that bidder will not provide the Specified Item the denial of a request to Substitute shall result in the rejection of the bidder as non-responsive. However, if bidder states that bidder will provide the Specified Item in the event that bidder’s request for Substitution is denied, bidder shall execute the Agreement and provide the Specified Item(s). If bidder refuses to execute the Agreement due to the District’s decision to require the Specified Item(s) at no additional cost, bidder’s Bid Bond shall be forfeited.
This Request Form must be accompanied by evidence as to whether the proposed Substitution (1) is equal in quality, service, and ability to the Specified Item; (2) will entail no change in detail, construction, and scheduling of related work; (3) will be acceptable in consideration of the required design and artistic effect; (4) will provide no cost disadvantage to the District; (5) will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; (6) will require no change of the construction schedule or milestones for the Project; and, (7) Contractor agrees to pay for any DSA Fees or other Governmental Plan check costs associated with this Substitution Request. (See General Conditions Section 3.6)

The undersigned states that the following paragraphs are correct:

1. The proposed Substitution does not affect the dimensions shown on the Drawings.

The undersigned will pay for changes to the building design, including Architect, engineering, or other consultant design, detailing, DSA plan check or other governmental plan check costs, and construction costs caused by the requested substitution.

The proposed substitution will have no adverse effect on other trades, the Contract Time, or specified warranty requirements.

Maintenance and service parts will be available locally for the proposed substitution.

In order for the Architect to properly review the substitution request, within five (5) days following the opening of bids, the Contractor shall provide samples, test criteria, manufacturer information, and any other documents requested by Architect or Architect’s engineers or consultants, including the submissions that would ordinarily be required under Article 3.7 for Shop Drawings along with a document which provides a side by side comparison of key characteristics and performance criteria (often known as a CSI side by side comparison chart).

If Substitution Request is accepted by the District, Contractor is still required to provide a Submittal for the substituted item pursuant to Article 3.7 and shall provide required Schedule information (including schedule fragnets, if applicable) for the substituted item as required under Article 8.3.2.1. The approval of the Architect, Engineer, or District of the substitution request does not mean that the Contractor is relieved of Contractor’s responsibilities for Submittals, Shop Drawings, and schedules under Article 3.7 and 8.3.2 if the Contractor is awarded the Project.
Name of Bidder: ________________________________
By:___________________________________________
District: ________________________________
By:___________________________________________
ACKNOWLEDGMENT OF BIDDING PRACTICES REGARDING INDEMNITY FORM

TO: Alhambra School District

RE: Project Number __________________________

Construction Contract for ______________________

Please be advised that with respect to the above-referenced Project the undersigned Contractor on behalf of itself and all subcontractors hereby waives the benefits and protection of Labor Code section 3864, which provides:

“If an action as provided in this chapter is prosecuted by the employee, the employer, or both jointly against the third person results in judgment against such third person, the employer shall have no liability to reimburse or hold such third person harmless on such judgment or settlement in the absence of a written agreement to do so executed prior to the injury.”

This Agreement has been signed by an authorized representative of the contracting party and shall be binding upon its successors and assignees. The undersigned further agrees to promptly notify the District of any changes of ownership of the contracting party or any subcontractor while this Agreement is in force.

________________________________________
Contracting Party

________________________________________
Name of Agent/Title
CONTRACTOR’S CERTIFICATE REGARDING DRUG-FREE WORKPLACE

This Drug-Free Workplace Certification form is required from all successful bidders pursuant to the requirements mandated by Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any State agency must certify that it will provide a drug-free workplace by performing certain specified acts. In addition, the Act provides that each contract or grant awarded by a State agency may be subject to suspension of payments or termination of the contract or grant, and the Contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

Pursuant to Government Code section 8355, every person or organization awarded a contract or grant from a State agency shall certify that it will provide a drug-free workplace by doing all of the following:

1. Publishing a statement, notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person’s or organization’s workplace, and specifying actions which will be taken against employees for violations of the prohibition.

Establishing a drug-free awareness program to inform employees about all of the following:

   a. The dangers of drug abuse in the workplace;
   b. The person’s or organization’s policy of maintaining a drug-free workplace;
   c. The availability of drug counseling, rehabilitation and employee-assistance programs; and
   d. The penalties that may be imposed upon employees for drug abuse violations;

Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required by subdivision (a) and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will (a) publish a statement notifying employees concerning the prohibition of controlled substance at the workplace, (b) establish a drug-free awareness program, and (c) require each employee engaged in the performance of the contact be given a copy of the statement required by section 8355(a) and require such employee agree to abide by the terms of that statement.

I also understand that if the Alhambra School District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of Section 8355, that the contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of Section 8350 et seq.
I acknowledge that I am aware of the provisions of Government Code section 8350 et seq. and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

DATE: ____________________________

CONTRACTOR

By: ____________________________

Signature
CONTRACTOR’S CERTIFICATE REGARDING ALCOHOLIC BEVERAGE AND TOBACCO-FREE CAMPUS POLICY

The Contractor agrees that it will abide by and implement the District’s Alcoholic Beverage and Tobacco-Free Campus Policy, which prohibits the use of alcoholic beverages and tobacco products, of any kind and at any time, in District-owned or leased buildings, on DISTRICT property and in DISTRICT vehicles. The Contractor shall procure signs stating “ALCOHOLIC BEVERAGE AND TOBACCO USE IS PROHIBITED” and shall ensure that these signs are prominently displayed in all entrances to school property at all times.

DATE: ____________________________

CONTRACTOR

By: ____________________________

Signature
The Contractor shall provide all of the necessary engineering, material procurement, management, labor, materials, tools, equipment, supplies, services, components, and disposal and comply with the contract’s General Conditions to successfully complete the retrofit and replacement lighting system scope of work to the satisfaction of the Owner. This project is funded by Proposition 39 and emphasizes energy savings. The projects are located at the following schools:

- Animo Jackie Robinson Charter High School: 3500 S. Hill Street, Los Angeles, CA 90007
- Animo College Preparatory Academy: 2265 E. 103rd Street, Los Angeles, CA 90002
- Animo Western/Wheatley Middle School: 12226 S. Western Avenue, Los Angeles, CA 90047

**General Description of Scope of Work**

Lighting retrofit work consists of the following elements. These elements are described in detail for each school in (Attachment C- Detailed Lighting Audit). **All elements of the General Description of Scope of Work are superseded by requirements set forth in the districts Specifications (Attachment D). Any contractor not adhering to guidelines established in the districts specifications will be solely responsible for making the appropriate corrections and for any financial repercussions that may accompany.**

**Animo Jackie Robinson Charter High School:**

1. Interior lighting LED tube and Driver installation in all existing linear fluorescent fixtures (material and labor). Refer to Attachment C- Detailed Lighting Audit Sheet for exact quantities.
2. Interior high-bay lighting in joint site Gym (material and labor). Refer to Attachment C- Detailed Lighting Audit Sheet for exact quantities.

**Animo College Preparatory Academy**

1. Interior lighting 0-10v dimmable LED tube and Driver installation in all existing linear fluorescent fixtures (material and labor). Refer to Attachment C- Detailed Lighting Audit Sheet for exact quantities.

**Animo Western/Wheatley Middle School**

1. Interior lighting LED tube and Driver installation in all existing linear fluorescent fixtures (material and labor). Refer to Attachment C- Detailed Lighting Audit Sheet for exact quantities.

**Verification of Details**

The scope of work includes a **Detailed Lighting Audit (Attachment C)** which is a separate excel spreadsheet provided to the Contractor for information purposes only. Contractor assumes all the responsibility for accurate fixture counts, specifications of fixtures, lamps, ballasts, ballast compatibility with LED lamps, controls and other items required to successfully complete the lighting retrofit and meet the necessary building and safety codes as more fully described in the specifications and general conditions.

Contractor shall become familiar with details of work in the field and shall advise OWNER of any discrepancy prior to performing any tasks, including but not limited to existing and proposed lighting quantities, lighting wattages, number of lamps, building and area locations of fixtures, etc. The Contractor shall thoroughly investigate and satisfy itself of the conditions affecting the work prior to construction start.
Submittal Requirements

This project is exempt from Division of the State Architect ("DSA") review and approval per provisions of the California Code of Regulations (CCR), Title 24, Interpretation of Regulations Section 22 (IR-A22). Contractor is responsible for the review of electrical specifications, lighting performance specifications, detailed lighting audits, and related design criteria prior to the purchase of materials and installation of the work. Contractor shall submit the following information:

1. **Material Product Submittals** with fixture type, manufacturer, wattage, quantity; cut sheets, and product warranties.

2. Proposed controls method and control plan (line diagram) for each room/area for all lighting fixtures.

Utility Rebate Program Requirements

The District has submitted this project for SCE utility rebates for all interior and exterior lighting. The Contractor shall comply with the following requirements for lighting rebates:

- All new lighting fixtures, retrofit kits and components must carry the appropriate designated Underwriters Laboratory (UL) or Electrical Testing Laboratory (ETL) label and have been qualified by Design Lights Consortium (DLC) AND are listed on the *California Statewide Lighting Program Qualified LED Products List* at [http://www.lightingfacts.com/ca](http://www.lightingfacts.com/ca) website.

- Manufacturer’s specification sheets must be submitted to the District for rebate post-inspection documenting the characteristics of lamps, ballasts and fixtures.

- Wattage of the replacement fixture, in all cases, must be less than the wattage of the existing lamp.

- All installations must be installed in accordance with all applicable local, state and national codes and ordinances.

- Contractor must submit all material, product, and equipment invoices or purchase orders to the District.

- Contractor agrees to complete required utility rebates forms requiring Contractor’s certification and submit any additional documentation.

Commissioning Requirements

Contractor shall provide information to the District of pre-installation and post-installation foot-candle measurements in at least three (3) locations in each interior room/area at desk level (30 inches from floor). The readings should be taken at the same locations for pre and post installation measurements for proper comparison and be provided in a table format. Contractor’s measuring device/light meter/detector photometer shall be calibrated prior to use in accordance with manufacturer’s requirements.

**Title 24 Acceptance Testing**

Contractor shall perform Title 24 Acceptance Testing in accordance with 2013 Title 24 Part 6, Lighting Control Acceptance and Testing requirements for only those areas in which scope of work requires the installation of lighting controls devices/equipment. Contractor shall provide a separate line item cost for this work as part of the total proposed price.

Closeout Documents

Contractor shall meet all requirements of the General Conditions for closeout, Contractor shall provide to the District the following document precedent to Closeout:

1. As built spreadsheet of all the lighting fixtures and sensors (both interior and exterior)

2. Foot-Candle Measurement Table

3. Disposal Manifest for all lighting fixtures

4. List of Manufacturers with contact information and parts reordering information for all products installed
Attachment “B”
PRICING FORM

Project Title:
Clean Energy Jobs Act Proposition 39
LIGHTING RETROFIT SERVICES AT THREE (3) SCHOOLS – ANIMO JACKIE ROBINSON CHARTER HIGH SCHOOL,
ANIMO COLLEGE PREPARATORY ACADEMY, ANIMO WESTERN/WHEATLEY MIDDLE SCHOOL
(RFQ/RFP Number: 20190521/PD)

Bidders wishing to bid for the above-referenced project ("Project") must submit their bids on this Pricing Form. Only bids which are submitted on this Bid Form will be accepted. This Pricing Form must be submitted to the “Place of Proposal Receipt and Opening” and by the “Proposal Deadline” specified in the RFP. When submitting this Pricing Form, the Bidder must include in the same envelope as this Pricing Form the other documents required by the RFP. Bidders should carefully review the RFP when completing and submitting this Pricing Form and related documents. Failure to properly submit and complete the entire Pricing Form and all of the other documents as required by the RFP may invalidate the bid and cause the District to reject the bid as non-responsive.

The name, address and other information identifying the bidder who is submitting this Pricing Form ("Bidder") is as follows:

Name: ________________________________

Type of Entity (check one): __ Corporation
                        __ General partnership
                        __ Limited partnership
                        __ Limited liability partnership
                        __ Limited liability company
                        __ Individual
                        __ Other (specify)

State in which Bidder was organized (if Bidder is an entity) or in which Bidder resides (if Bidder is an individual) (check one)

                        __ California __ Other (specify): __________________________
1. **Submission of Bid.** The Bidder hereby submits this bid to the District and agrees to perform all work required by the “Agreement” (as that term is defined in the Instruction to Bidders) for the construction of the Project, at the Bid Price specified in Section 3 below and subject to all of the terms, conditions, representations and warranties set forth in this Pricing Form.

2. **Bid Allowance.** Bid Allowance of **10% OF TOTAL BASE PRICE** to be included in Bidders Base Price

3. **Itemized Bid Price** The total of the itemized bid price should match the total **base price** in item 5.

   Animo Jackie Robinson Charter High School: 3500 S. Hill St. Los Angeles, CA 90007
   
   ___________________________________________________________ Dollars ($_________________________)

   Animo College Preparatory Academy: 2265 E. 103rd St. Los Angeles, CA 90002
   
   ___________________________________________________________ Dollars ($_________________________)

   Animo Western/Wheatley Middle School: 12226 S. Western Avenue, Los Angeles, CA 90047
   
   ___________________________________________________________ Dollars ($_________________________)

4. **Addendum(s)** Check box and Initial next to box indicating CONTRACTOR has received and included all DISTRICT issued Addendums in Total Base Price below.

   Addendum (1)   Addendum (2)   Addendum (3)

   □________ □________ □________

   $________________ _______ $________

5. **Total Base Price** The total base price is the sum of the itemized pricing above for 2 schools

   ___________________________________________________________ Dollars

   ($_________________________)

   ___________________________
6. **Total Bid Price Including Bid Allowance**: Total base price plus the bid allowance

Base Price (item 5) without Allowance: $_________________________

Plus Bid Allowance of + $ 10% OF TOTAL BASE PRICE

= $_________________________

_________________________________________________________ Dollars

I, the below-indicated bidder, declare under penalty of perjury that the information provided and representation made in this proposal are true and correct.

__________________________________________________________
Proper Name of Company

__________________________________________________________
Name of Bidder Representative

__________________________________________________________
Street Address

__________________________________________________________
City, State, and Zip

(                     )
Phone Number

(                     )
Fax Number

E-Mail

Bidder’s California State Contractor’s License Number: __________________________

Class of Bidder’s California State Contractor’s License: __________________________

Name under which Bidder does business (if different from Bidder’s legal name):

________________________________________________________________________

By:

________________________________________Date:_________________________________

Signature of Bidder Representative
Download attachments C through D from the District website
INTERIOR LIGHTING

1.1 SUMMARY

A. This Section includes the following:
   1. LED High Bay fixtures
   2. LED lamps (replacement only)
   3. Emergency lighting units.

1.2 DEFINITIONS

A. CRI: Color-rendering index.
B. CU: Coefficient of utilization.
C. HID: High-intensity discharge.
D. LER: Luminaire efficacy rating.
E. Luminaire: Complete lighting fixture, including ballast housing if provided.
F. RCR: Room cavity ratio.

1.3 SUBMITTALS

A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:
   1. Physical description of lighting fixture including dimensions.
   2. Emergency lighting units including battery and charger.
   3. Ballast. For LED Lamp replacements, provide verification of ballast/driver compatibility with replacement LED Lamp; provide product data for ballast/driver replacement product for incompatible ballast-lamp configurations for all areas in scope of work.
   5. Life, output, and energy-efficiency data for lamps.
   6. Photometric data, in IESNA format, based on laboratory tests of each lighting fixture type, outfitted with lamps, ballasts, and accessories identical to those indicated for the lighting fixture as applied in this Project. The following are acceptable:

   a. For indicated fixtures, photometric data shall be certified by a qualified independent testing agency. Photometric data for remaining fixtures shall be certified by the manufacturer.
   b. Photometric data shall be certified by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program (NVLAP) for Energy Efficient Lighting Products.

B. Lighting illumination calculations for Gymnasium. Illumination calculations must be provided for gymnasium fixture layouts, all lighting calculations must be provided electronically. The
new LED lighting system design and layout shall be in conformance with the latest IES recommended procedures and ANSI/IES RP-6-15 for Sports and Recreational Area Lighting. Lighting calculations shall be developed to identify average illumination levels and lighting power density. Average illumination levels shall not drop below desired target values in accordance with IES recommended practices.

C. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.

D. Warranties: As specified in this Section.

1.4 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70 and CEC for the current year.

D. FMG Compliance: Lighting fixtures for hazardous locations shall be listed and labeled for indicated class and division of hazard by FMG.

E. All lighting fixtures shall be UL approved.

1.5 WARRANTY

A. Warranty Period for LED Replacement Fixtures:

1. Warranty Period: Five years from date of Substantial Completion, unless otherwise stated. Full warranty shall apply to all components of the retrofit kit, including LED board, lamp, driver, and nonelectrical components.

B. Warranty for T8 LED Lamps (replacement only): Manufacturer's standard form, made out to Owner and signed by lamp manufacturer agreeing to replace lamps that fail in materials or workmanship, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

1. Warranty Period: Five years from date of Substantial Completion, unless otherwise stated.

C. Warranty Period for Lighting Control System

1. Warranty Period: Five years from date of Substantial Completion. Full warranty shall apply to all components of the lighting control system, including all components address by the technical requirements.
1.6 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Lamps: 2 for every 100 of each type and rating installed. Furnish at least one of each type.
2. Battery and Charger Data: 1 for each emergency lighting unit.
3. Globes and Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.

PART 2 - PRODUCTS

2.1 LED HIGH BAY FIXTURES

A. Fixture Type: LED High Bay (Round)
   a. LA Lighting HBE600

   2. Driver: Internal.
   3. DLC Premium
   4. Dimmable 0-10v
   5. LED Type: Integrated Diode.
   6. Size: 16 ½” W, 48” L, 5 ¾” H
   7. Grade: Baylighter™
   8. Voltage: 120 – 277 V AC
   9. Initial Lumens: >24,000
   10. CRI: > 80.
   11. Efficiency: >135 lumens/watt
   12. Color temperature (K): 4,000K
   13. Include NEMA twist lock cord (6’ or 12’)
   14. 100,000 hour rated life

B. Lighting Control System

   1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include those listed on the DesignLights Consortium (DLC) Qualified Products List (QPL) of Networked Lighting Control Systems.
   2. Technical Requirements: Networked Lighting Control System must meet or exceed the Technical Requirements Version 1.02 of the DLC QPL.
   3. Grade: Commercial.
   4. Continuous Dimming – 0 -10V.

2.2 LED LAMPS (REPLACEMENT ONLY)

A. Lamp Type: T8 LED
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. Philips Lighting

2. Driver Type: Philips Advance T8 LED Electronic.
3. Length: 48 inches.
4. Lamp Shape: T8.
5. Grade: Instant Fit Lamp.
6. Voltage: 120 – 277 V AC.
8. Power: ≤ 12 W
9. CRI: > 82.
10. Color temperature (K): 4,000 K.

2.3 EMERGENCY LIGHTING UNITS

A. Emergency LED Driver

Description: Self-contained units complying with UL 924, NFPA 101, NFPA 70-NED. Damp location 32°F to 122°F listed standard, provides 90 minutes of emergency power, 650 lumens minimum. Must install with illuminated test switch. 5-year warranty.

2. Charger: Fully automatic, solid-state type with sealed transfer relay.
3. Operation: Relay automatically turns lamp on when power supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
4. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
5. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
6. Wire Guard: Heavy-chrome-plated wire guard protects lamp heads or fixtures.
7. Integral Time-Delay Relay: Holds unit on for fixed interval of 10 minutes when power is restored after an outage.
8. Remote Test: Switch in hand-held remote device aimed in direction of tested unit initiates coded infrared signal. Signal reception by factory-installed infrared receiver in tested unit triggers simulation of loss of its normal power supply, providing visual confirmation of either proper or failed emergency response.
9. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and flashing red LED.
10. Dual Voltage input 120V or 277V AC.
2.4 LIGHTING FIXTURE SUPPORT COMPONENTS

A. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fittings and ceiling canopy. Finish same as fixture.

B. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.


D. Wires for Humid Spaces: ASTM A 580/A 580M, Composition 302 or 304, annealed stainless steel, 12 gage.

E. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.

F. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.

Labor allowance and equipment rental reimbursement must be included at the following rates:

Labor Allowance Reimbursement Rates

Driver Replacement = $40.00  
Wall Pack Replacement = $60.00  
Area Light Replacement = $85.00  
Canopy Light Replacement = $65.00

Equipment Rental Reimbursement Rates

Prices will vary based on fixture type and height; reimbursement rates range from $200 to $1200.
LIGHTING CONTROL DEVICES

1.1 SUMMARY

A. This Section includes the following lighting control devices:

1. Time clocks (for exterior lighting fixtures only).
2. Indoor photoelectric switches.
3. Indoor occupancy sensors.
4. Lighting contactors.
5. Emergency shunt relays.

1.2 DEFINITIONS

A. LED: Light-emitting diode.

B. PIR: Passive infrared.

1.3 SUBMITTALS

A. Product Data: For each type of product used.

B. Shop Drawings: Show installation details for occupancy and light-level sensors.
   1. Interconnection diagrams showing field-installed wiring.

C. Field quality-control test reports.

D. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 COORDINATION

B. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression system, and partition assemblies.
PART 2 - PRODUCTS

2.1 TIME CLOCKS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering
   products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the
   following:

C. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable
   product by one of the following:

   1. Area Lighting Research, Inc.; Tyco Electronics.
   2. Grasslin Controls Corporation; a GE Industrial Systems Company.
   3. Intermatic, Inc.
   5. Lightolier Controls; a Genlyte Company.
   6. Lithonia Lighting; Acuity Lighting Group, Inc.
   8. Square D; Schneider Electric.
   10. Touch-Plate, Inc.
   11. Watt Stopper (The).
   12. Lutron;

D. Electronic Time Clocks: The time switch shall be of the 24-hour electronic type, capable of
   permitting up to 28 setpoints or events. The time switch shall provide a minimum ON or OFF
   time of 1 minute. The time switch to be powered by 120/277V AC (field verified by
   Contractor), 60 Hz power supply. The time switch mechanism shall be a snap-in design to
   provide ease of mechanism removal for mounting the enclosure. The time switch enclosure
   shall be a Type 3R plastic lockable enclosure, which shall be painted with an electrostatic
   process to eliminate the potential for corrosion. The time switch shall provide clear terminal
   identification on a non-curling terminal insulator. Terminal connections shall be made using
   teeter-type terminal screws to provide secure connections for wire sizes up to #10 AWG.

   1. Contact Configuration: SPST, DPST, DPDT.
   2. Contact Rating: 20-A ballast load, 120/240-V AC.
   3. Astronomic Time: Selected channels.
   4. Battery Backup: For schedules and time clock.

E. BAS Interface: Provide hardware interface to enable the BAS to monitor and control lighting
   contactors.

   2. Control: On-off operation.
2.2 OUTDOOR PHOTOELECTRIC SWITCHES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Area Lighting Research, Inc.; Tyco Electronics.
2. Grasslin Controls Corporation; a GE Industrial Systems Company.
3. Intermatic, Inc.
4. Lithonia Lighting; Acuity Lighting Group, Inc.
5. Novitas, Inc.
7. Square D; Schneider Electric.
8. Enlighted.
9. Touch-Plate, Inc.
10. Watt Stopper (The).
11. Lutron.
12. Or approved equal.

B. Description: Solid state, with SPST dry contacts rated for 180-VA tungsten or 1000-VA inductive, to operate connected relay, contactor coils, or microprocessor input; complying with UL 773A.

1. Light-Level Monitoring Range: 1.5 to 10 fc (16.14 to 108 lx), with an adjustment for turn-on and turn-off levels within that range, and a directional lens in front of photocell to prevent fixed light sources from causing turn-off.
2. Time Delay: 15-second minimum, to prevent false operation.
4. Mounting: Twist lock complying with IEEE C136.10, with base-and-stem mounting or stem-and-swivel mounting accessories as required to direct sensor to the north sky exposure.

C. Description: Solid state, with SPST and DPST dry contacts rated for 1800 VA to operate connected load, relay, or contactor coils; complying with UL 773.

1. Light-Level Monitoring Range: 1.5 to 10 fc (16.14 to 108 lx), with an adjustment for turn-on and turn-off levels within that range.
2. Time Delay: 30-second minimum, to prevent false operation.

2.3 INDOOR PHOTOELECTRIC SWITCHES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

3. Eaton Electrical Inc; Cutler-Hammer Products.
5. Intermatic, Inc.
6. Lithonia Lighting; Acuity Lighting Group, Inc.
8. Novitas, Inc.
10. Square D; Schneider Electric.
11. Enlighted.
12. Touch-Plate, Inc.
13. Watt Stopper (The).
14. Lutron.
15. Or approved equal.

B. Ceiling-Mounted Photoelectric Switch: Solid-state, light-level sensor unit, with separate relay unit mounted on luminaire, to detect changes in lighting levels that are perceived by the eye. Cadmium sulfide photoresistors are not acceptable.

1. Sensor Output: Contacts rated to operate the associated relay, complying with UL 773A. Sensor shall be powered from the relay unit.
2. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
3. Light-Level Monitoring Range: 10 to 200 fc (108 to 2152 lx, with an adjustment for turn-on and turn-off levels within that range.
4. Time Delay: Adjustable from 5 to 300 seconds to prevent cycling, with deadband adjustment.
5. Indicator: Two LEDs to indicate the beginning of on-off cycles.

2.4 INDOOR OCCUPANCY SENSORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Hubbell Lighting.
3. Lithonia Lighting; Acuity Lighting Group, Inc.
4. Novitas, Inc.
5. RAB Lighting, Inc.
6. Sensor Switch, Inc.
7. Enlighted.
8. Watt Stopper (The).
9. Lutron.
10. Or approved equal.

B. General Description: Wall- or ceiling-mounting, solid-state units with a separate relay unit.

1. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
2. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor shall be powered from the relay unit.
3. **Relay Unit:** Dry contacts rated for 20-A ballast load at 120- and 277-V AC, for 13-A tungsten at 120-V AC, and for 1 hp at 120-V AC. Power supply to sensor shall be 24-V DC, 150-mA, Class 2 power source as defined by NFPA 70.

4. **Mounting:**
   
   A. **Sensor:** Suitable for mounting in any position on a standard outlet box.
   
   B. **Relay:** Externally mounted through a 1/2-inch knockout in a standard electrical enclosure.
   
   C. **Time-Delay and Sensitivity Adjustments:** Recessed and concealed behind hinged door.
   
   D. **20-minute minimum occupancy setting**

5. **Indicator:** LED, to show when motion is being detected during testing and normal operation of the sensor.

6. **Bypass Switch:** Override the on function in case of sensor failure.

7. **Automatic Light-Level Sensor:** Adjustable from 2 to 200 fc (21.5 to 2152 lx); keep lighting off when selected lighting level is present.

   C. **PIR Type:** Ceiling mounting; detect occupancy by sensing a combination of heat and movement in area of coverage.

   1. **Detector Sensitivity:** Detect occurrences of 6-inch-minimum movement of any portion of a human body that presents a target of not less than 36 sq. inches.
   
   2. **Detection Coverage (Room):** Detect occupancy anywhere in a circular area of 1000 sq. ft. when mounted on a 96-inch-high ceiling.
   
   3. **Detection Coverage (Corridor):** Detect occupancy within 90 feet when mounted on a 10-foot-high ceiling.
   
   4. **20-minute minimum occupancy setting**

   D. **Ultrasonic Type:** Ceiling mounting; detect occupancy by sensing a change in pattern of reflected ultrasonic energy in area of coverage.

   1. **Detector Sensitivity:** Detect a person of average size and weight moving not less than 12 inches in either a horizontal or a vertical manner at an approximate speed of 12 inches/s.
   
   2. **Detection Coverage (Small Room):** Detect occupancy anywhere within a circular area of 300 sq. ft. when mounted on a 96-inch-high ceiling.
   
   3. **Detection Coverage (Standard Room):** Detect occupancy anywhere within a circular area of 600 sq. ft. when mounted on a 96-inch-high ceiling.
   
   4. **Detection Coverage (Large Room):** Detect occupancy anywhere within a circular area of 1000 sq. ft. when mounted on a 96-inch-high ceiling.
   
   5. **Detection Coverage (Corridor):** Detect occupancy anywhere within 90 feet when mounted on a 10-foot-high ceiling in a corridor not wider than 14 feet.
   
   6. **20-minute minimum occupancy setting**

   E. **Dual-Technology Type:** Ceiling mounting; detect occupancy by using a combination of PIR and ultrasonic detection methods in area of coverage. Particular technology or combination of technologies that controls on-off functions shall be selectable in the field by operating controls on unit.
1. Sensitivity Adjustment: Separate for each sensing technology.

2. Detector Sensitivity: Detect occurrences of 6-inch- minimum movement of any portion of a human body that presents a target of not less than 36 sq. in., and detect a person of average size and weight moving not less than 12 inches in either a horizontal or a vertical manner at an approximate speed of 12 inches/s.

3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. when mounted on a 96-inch- high ceiling.

2.5 OUTDOOR MOTION SENSORS (PIR)

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Bryant Electric; a Hubbell Company.
2. Hubbell Lighting.
3. Lithonia Lighting; Acuity Lighting Group, Inc.
5. RAB Lighting, Inc.
7. Watt Stopper (The).
8. Lutron.
9. Or approved equal.

G. Performance Requirements: Suitable for operation in ambient temperatures ranging from minus 40 to plus 167 deg F (minus 40 to plus 75 deg C), IP66 minimum rating for wet and outdoor locations.

1. Operation:

   A. Dimming: When motion is detected within the sensor’s coverage area, the sensor sends a signal to ramp the load up to the selectable High Mode level unless the ambient light level is higher than the selected set point. When no motion is detected for the duration of the time delay setting, the lights will go to the selectable Low Mode level based on the signal from the sensor. If desired, a cutoff time delay will trigger to eventually turn the lights OFF.

   B. Non-dimming: When motion is detected within the sensor’s coverage area, the sensor sends a signal to turn the load ON unless the ambient light level is higher than the selected set point. When no motion is detected for the duration of the time delay setting, the lights will go OFF based on the signal from the sensor.

Dusk to dawn control: When photocell on/off is enabled, and the ambient light falls below the photocell setpoint, the sensor ramps the load up to the selectable High Mode level. If no motion is detected for the duration of the time delay setting (factory preset at 5 minutes), the lights will go to the selectable Low Mode level. If the cutoff time delay is disabled, the load will remain on, at High or Low level, based on motion detection, until the ambient light increases above the photocell setpoint.

2. Mounting:
   a. Sensor: Suitable for mounting in any position on a standard outdoor junction box.
c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.

3. Bypass Switch: Override the on function in case of sensor failure.
4. Automatic Light-Level Sensor: Adjustable from 1 to 20 fc (11 to 215 lx); keep lighting off during daylight hours.

B. Detector Sensitivity: Detect occurrences of 6-inch minimum movement of any portion of a human body that presents a target of not less than 36 sq. inches.

C. Detection Coverage: Up to 35 feet, with a field of view of 90 degrees.

D. Lighting Fixture Mounted Sensor: Suitable for switching 300 W of tungsten load at 120- or 277-V ac.

E. Individually Mounted Sensor: Contacts rated to operate the connected relay, complying with UL 773A. Sensor shall be powered from the relay unit.

1. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
2. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.

2.6 LIGHTING CONTACTORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. ASCO Power Technologies, LP; a division of Emerson Electric Co.
4. GE Industrial Systems; Total Lighting Control.
5. Grasslin Controls Corporation; a GE Industrial Systems Company.
6. Hubbell Lighting.
7. Lithonia Lighting; Acuity Lighting Group, Inc.
9. Square D; Schneider Electric.
10. TORK.
11. Touch-Plate, Inc.
12. Watt Stopper (The).
13. Lutron.
14. Or approved equal.

B. Description: Electrically operated and electrically held, combination type with fusible switch, complying with NEMA ICS 2 and UL 508.
1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).

2. Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.

3. Enclosure: Comply with NEMA 250.

4. Provide with control and pilot devices as indicated on Drawings, matching the NEMA type specified for the enclosure.

2.7 EMERGENCY SHUNT RELAY

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Lighting Control and Design, Inc.
2. Watt Stopper (The).
3. Lutron.
4. Or approved equal.

B. Description: Normally closed, electrically held relay, arranged for wiring in parallel with manual or automatic switching contacts; complying with UL 924.

1. Coil Rating: 120V.

2.8 CONDUCTORS AND CABLES

A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements in Division 16 Section "Conductors and Cables."

B. Classes 2 and 3 Control Cable: Multi-conductor cable with stranded-copper conductors not smaller than No. 18 AWG. Comply with requirements in Division 16 Section "Conductors and Cables."

C. Class 1 Control Cable: Multi-conductor cable with stranded-copper conductors not smaller than No. 18 AWG. Comply with requirements in Division 16 Section "Conductors and Cables."
BASIC ELECTRICAL MATERIALS AND METHODS

1.1. SUMMARY

A. This Section includes the following:

1. Building wire and connectors.
2. Supporting devices for electrical components.
3. Electrical identification.
4. Electrical demolition.
5. Cutting and patching for electrical construction.
6. Touchup painting.

1.2. DEFINITIONS

A. EMT: Electrical metallic tubing.
B. FMC: Flexible metal conduit.
C. IMC: Intermediate metal conduit.
D. LFMC: Liquidtight flexible metal conduit.
E. RNC: Rigid nonmetallic conduit.

1.3. SUBMITTALS

A. Shop Drawings: Dimensioned plans and sections or elevation layouts
B. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

1.4. QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.

1.5. COORDINATION

A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.
1. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.

B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.

C. Coordinate electrical service connections to components furnished by utility companies.
   1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components.
   2. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.

D. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.

E. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.

F. Where electrical identification markings and devices will be concealed by acoustical ceilings and similar finishes, coordinate installation of these items before ceiling installation.

PART 2 - PRODUCTS

2.1. CONDUCTORS
   A. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
   B. Conductors, Larger Than No. 10 AWG: Stranded copper.
   C. Insulation: Thermoplastic, rated at 75 deg. C minimum.
   D. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.

2.2. SUPPORTING DEVICES
   A. Material: Cold-formed steel, with corrosion-resistant coating acceptable to authorities having jurisdiction.
   B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
   C. Slotted-Steel Channel Supports: Flange edges turned toward web, and 9/16-inch- diameter slotted holes at a maximum of 2 inches o.c., in webs.
   D. Nonmetallic Channel and Angle Systems: Structural-grade, factory-formed, glass-fiber-resin channels and angles with 9/16-inch- diameter holes at a maximum of 8 inches o.c., in at least one surface.
1. Fittings and Accessories: Products of the same manufacturer as channels and angles.

2. Fittings and Accessory Materials: Same as channels and angles, except metal items may be stainless steel.

E. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.

F. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.

G. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.

H. Expansion Anchors: Carbon-steel wedge or sleeve type.

I. Toggle Bolts: All-steel springhead type.


2.3. ELECTRICAL IDENTIFICATION

A. Identification Devices: A single type of identification product for each application category. Use colors prescribed by ANSI A13.1, NFPA 70, and these Specifications.

B. Raceway and Cable Labels: Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and minimum length of color field for each raceway and cable size.

1. Type: Pre-tensioned, wraparound plastic sleeves. Flexible, preprinted, color-coded, acrylic band sized to suit the diameter of the item it identifies.

2. Type: Preprinted, flexible, self-adhesive, vinyl. Legend is over-laminated with a clear, weather- and chemical-resistant coating.

3. Color: Black letters on orange background.

4. Legend: Indicates voltage.

C. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1-inch-wide by 3 mils thick.

D. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape with the following features:

1. Not less than 6 inches wide by 4 mils thick.

2. Compounded for permanent direct-burial service.

3. Embedded continuous metallic strip or core.

4. Printed legend that indicates type of underground line.

E. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with pre-printed numbers and letters.
2.4. TOUCHUP PAINT

A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.

B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.
CONDUCTORS AND CABLES

1.1 SUMMARY

A. This Section includes the following:
   1. Building wires and cables rated 600 V and less.
   2. Connectors, splices, and terminations rated 600 V and less.
   3. Sleeves and sleeve seals for cables.

1.2 DEFINITIONS

A. EPDM: Ethylene-propylene-diene terpolymer rubber.
   
B. NBR: Acrylonitrile-butadiene rubber.
   
1.3 SUBMITTALS

A. Product Data: For each type of product indicated.
   
B. Qualification Data: For testing agency.
   
C. Field quality-control test reports.
   
1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the International Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

   1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
   
C. Comply with NFPA 70.

1.5 COORDINATION

A. Set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Alcan Products Corporation; Alcan Cable Division.
3. General Cable Corporation.
4. Senator Wire & Cable Company.
5. Southwire Company.
6. Or by district approved equal.

B. Copper Conductors: Comply with NEMA WC 70.

C. Conductor Insulation: Comply with NEMA WC 70 for Types THW and THHN-THWN.

2.2 CONNECTORS AND SPLICES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems, Inc.
3. O-Z/Gedney; EGS Electrical Group LLC.
4. 3M; Electrical Products Division.
5. Tyco Electronics Corp.
6. Or approved equal.

B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.