

### **Purchasing Division**

# **Invitation for Bid**

### IFB-5060-22-KH

# DAYCARE CENTER ELECTRICAL IMPROVEMENTS

## **Responses Due:**

April 26, 2022 prior to 3:00 P.M.

Accepting Electronic Responses Only
Responses Only Submitted Through the Rocky Mountain E-Purchasing
System (RMEPS)

https://www.bidnetdirect.com/colorado

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor <u>MUST</u> contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

NOTE: All City solicitation openings will continue to be held virtually.

### **Purchasing Representative:**

Kassy Hackett., Buyer kassyh@gicity.org 970-244-1546

This document has been developed specifically to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **FAX**, **EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

# **Invitation for Bids**

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# 1. INSTRUCTIONS TO BIDDERS

NOTE: It is the Contractor's responsibility to read and review all solicitation documentation in its entirety, and to ensure that they have a clear and complete understanding of not only the scope, specifications, project requirements, etc., but also all other requirements, instructions, rules, regulations, laws, conditions, statements, procurement policies, etc. that are associated with the solicitation process and project/services being solicited.

**1.1. Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required to install a new electrical wiring and service to the Daycare building. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

### **IFB Questions:**

Kassy Hackett, Buyer kassyh@gjcity.org

The City would like to remind all Contractors, Sub-Contractors, Vendors, Suppliers, Manufacturers, Service Providers, etc. that (with the exception of Pre-Bid or Site Visit Meetings) all questions, inquiries, comments, or communication pertaining to any formal solicitation (whether process, specifications, scope, etc.) must be directed (in writing) to the Purchasing Agent assigned to the project or Purchasing Division. Direct communication with the City assigned Project Managers/Engineers is not appropriate for public procurement, and may result in disqualification.

- 1.2. Non-Mandatory Site Visit: Prospective bidders are encouraged to attend a non-mandatory site visit on April 11, 2022 at 10:00am. Meeting location shall be at 545 25 ½ Road, Grand Junction, CO. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- **1.3. The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- **1.4. Procurement Process:** Procurement processes shall be governed by the most current version of the City of Grand Junction <u>Purchasing Policy and Procedure Manual</u>.
- 1.5. Submission: Each proposal shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing (BidNet Colorado) website, www.bidnetdirect.com/colorado. The uploaded response shall be a single PDF document with all required information included. This site offers both "free" and "paying" registration options that allow for full access of the Owner's documents and for electronic submission of proposals. (Note: "free" registration may take up to 24 hours to process. Please Plan accordingly.) Please view our "Electronic Vendor Registration Guide" at <a href="http://www.gjcity.org/business-and-economic-development/bids/">http://www.gjcity.org/business-and-economic-development/bids/</a> for details. (Purchasing Representative does not have access or control of the vendor side of

RMEPS. If website or other problems arise during response submission, vendor <u>MUST</u> contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)

Solicitation Opening, Daycare Center Electrical Improvements IFB-5060-22-KH Tue, Apr 26, 2022 3:00 PM - 3:30 PM (MDT)

Please join my meeting from your computer, tablet or smartphone.

### https://meet.goto.com/810544461

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Join from a video-conferencing room or system. Dial in or type: 67.217.95.2 or inroomlink.goto.com

Meeting ID: 810 544 461

Or dial directly: 810544461@67.217.95.2 or 67.217.95.2##810544461

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- **1.6.** Modification and Withdrawal of Bids Before Opening. Bids may be modified or withdrawn by an appropriate document stating such, duly executed and submitted to the place where Bids are to be submitted at any time prior to Bid Opening.
- **1.7. Printed Form for Price Bid:** All Price Bids must be made upon the Price Bid Schedule attached and should give the amounts both in words and in figures, and must be signed and acknowledged by the bidder.

The Offeror shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Price Bid Schedule provides a choice to be made by the Offeror, Offeror's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Price Bid Schedule must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Offeror's Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Contractor's Bid Form.

The contact information to which communications regarding the Bid are to be directed must be shown.

- **1.8. Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- **1.9. Solicitation documents:** The complete IFB and bidder's response compose the Solicitation documents. Copies of bid documents can be obtained from the City Purchasing website, <a href="https://www.gjcity.org/501/Purchasing-Bids">https://www.gjcity.org/501/Purchasing-Bids</a>.
- 1.10. Examination of Specifications: Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Offeror to receive or examine any form, addendum, or other document shall in no way relieve any Offeror from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section. Prior to submitting a bid, each Offeror shall, at a minimum:
  - a. Examine the solicitation documents thoroughly;
  - b. Visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress, or performance of the Work;
  - c. Become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress or performance of the Work;
  - d. Study and carefully correlate Bidder's observations with the solicitation documents, and;
  - e. Notify the Purchasing Agent of all conflicts, errors, ambiguities or discrepancies in or among the solicitation documents within the designated inquiry period.

By submission of a Bid, the Offeror shall be conclusively presumed to represent that the Offeror has complied with every requirement of these Instructions to Bidders, that the solicitation documents are not ambiguous and are sufficient in scope and detail to

- indicate and convey understanding of all terms and conditions for performance of the Work.
- **1.11. Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time, prior to the inquiry deadline.
- **1.12.** Addenda & Interpretations: If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at <a href="http://www.gicity.org/business-and-economic-development/bids/">http://www.gicity.org/business-and-economic-development/bids/</a>. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner, unless such clarification or change is provided in written addendum form from the City Purchasing Representative.
- **1.13. Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- **1.14.** Sales and Use Taxes: The Contractor and all Subcontractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes. Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures and equipment.
- **1.15. Offers Binding 60 Days:** Unless additional time is required by the Owner, or otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.16. Exceptions and Substitutions: Bidders taking exception to the specifications and/or scope of work shall do so at their own risk. The Owner reserves the right to accept or reject any or all substitutions or alternatives. When offering substitutions and/or alternatives, Bidder must state these exceptions in the section pertaining to that area. Exception/substitution, if accepted, must meet or exceed the stated intent and/or specifications and/or scope of work. The absence of such a list shall indicate that the Bidder has not taken exceptions, and if awarded a contract, shall hold the Bidder responsible to perform in strict accordance with the specifications and/or scope of work contained herein.
- 1.17. Collusion Clause: Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.
- **1.18. Disqualification of Bidders:** A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the Owner, upon debt or contract, or that has defaulted, as surety or otherwise, upon any obligation to the Owner, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that they are responsible, have a practical knowledge of the project bid upon and that they have the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
- b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future work of the Owner until such participant has been reinstated as a qualified bidder.
- 1.19. Public Disclosure Record: If the bidder has knowledge of their employee(s) or subcontractors having an immediate family relationship with a City employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the City.

# 2. GENERAL CONTRACT CONDITIONS

- **2.1. The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the City, shall constitute a contract equally binding between the City and Contractor. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- **2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Solicitation documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations: The Solicitation documents shall be signed by the Owner (City) and Contractor. City will provide the contract. By executing the contract, the Contractor represents that he/she has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Solicitation documents. The Solicitation documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the City are, and shall remain, City property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.

- 2.4. The Owner: The Owner shall, at all times, have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the solicitation documents. Based on such observations and the Contractor's Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the contract. The Owner will have authority to reject work which does not conform to the Solicitation documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Solicitation documents, he will have authority to require the Contractor to stop the work or any portion, or to require special inspection or testing of the work, whether or not such work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.
- 2.5. Contractor: The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Solicitation documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.
- **2.6. Sub-Contractors:** A sub-contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the solicitation documents and means a sub-contractor or his authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work: Contractor shall submit with their bid response to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the work as may be designated in the proposal requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the work. Prior to the award of the contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the contract, the Owner has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw their proposal without forfeiture of proposal security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at their discretion, accept the increased proposal or may disqualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the contract sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the contract

- sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.
- 2.8. Quantities of Work and Unit Price: Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work, and are as such, estimates only. The Owner does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in the solicitation documents. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in in the solicitation documents.
- 2.9. **Substitutions:** The materials, products and equipment described in the *Solicitation* Documents shall be regarded as establishing a standard of required performance, function, dimension, appearance, or quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Offeror submits a written request for approval to the City Purchasing Division at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Offeror shall set forth changes in other materials, equipment, or other portions of the Work including changes of the work of other contracts, which incorporation of the proposed substitution would require to be included. The Owner's decision of approval or disapproval of a proposed substitution shall be final. If the Owner approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Offeors shall not rely upon approvals made in any other manner.
- **2.10.** Supervision and Construction Procedures: The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 2.11. Warranty: The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the Solicitation documents. All work not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective work.
- **2.12. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of

the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Solicitation documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.

- 2.13. Responsibility for Those Performing the Work: The Contractor shall be responsible to the Owner for the acts and omissions of all his employees and all sub-contractors, their agents and employees, and all other persons performing any of the work under a contract with the Contractor.
- **2.14.** Use of the Site: The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Solicitation documents, and shall not unreasonably encumber the site with any materials or equipment.
- **2.15. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by contractor's operations. At the completion of work contractor shall remove all waste materials and rubbish from and about the project, as well as all tools, construction equipment, machinery and surplus materials.
- 2.16. Insurance Requirements: The selected Bidder agrees to procure and maintain, at its own cost, policy(s) of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Bidder pursuant to this Section. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Bidder shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Section by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

Bidder shall procure and maintain and, if applicable, shall cause any Subcontractor of the Bidder to procure and maintain insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to the Owner. All coverage shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by the Bidder pursuant to this Section. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Minimum coverage limits shall be as indicated below unless specified otherwise in the Special Conditions:

- (a) Worker Compensation: Contractor shall comply with all State of Colorado Regulations concerning Workers' Compensation insurance coverage.
- (b) General Liability insurance with minimum combined single limits of:

One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) per job aggregate.

The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interests provision.

(c) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than:

One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate

This policy shall provide coverage to protect the contractor against liability incurred as a result of the professional services performed as a result of responding to this Solicitation.

With respect to each of Bidder's owned, hired, or non-owned vehicles assigned to be used in performance of the Work. The policy shall contain a severability of interests provision. The policies required by paragraph (b) above shall be endorsed to include the City and/or County, and the City's and/or County's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Owner, its officers, or its employees, or carried by or provided through any insurance pool of the Owner, shall be excess and not contributory insurance to that provided by Bidder. No additional insured endorsement to any required policy shall contain any exclusion for bodily injury or property damage arising from completed operations. The Bidder shall be solely responsible for any deductible losses under any policy required above.

- 2.17. Indemnification: The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.
- 2.18. Miscellaneous Conditions: Material Availability: Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time. OSHA Standards: All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.

- 2.19. Time: Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Solicitation documents. The Contract Time is the period of time allotted in the Solicitation documents for completion of the work. The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Final Completion of the work is the date certified by the Owner when all construction, and all other work associated to include, but not be limited to: testing, QA/QC, receipt of required reports and/or forms, grant requirements (if applicable), punch list items, cleanup, receipt of drawings and/or as-builts, etc., is fully complete, and in accordance with the Solicitation documents.
- **2.20. Progress & Completion:** The Contractor shall begin work on the date of commencement as defined in the Contract and shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.
- 2.21. Payment & Completion: The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Solicitation documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the work acceptable under the Solicitation documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Solicitation documents.
- 2.22. Bid Bond: Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado, and made payable without condition to the City; or a Bid Bond written by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contact is awarded, the apparent successful bidder has ten calendar days to enter into a contractor in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result I forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Each bidder shall guaranty its total bid price for a period of sixty (60) Calendar Days from the date of the bid opening.

2.23. Performance & Payment Bonds: Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the contract amount as security for the faithful performance and payment of all Contractor's obligations under the Solicitation documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Solicitation documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in

Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds singed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.

- **2.24. Retention:** The Owner will deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.
- 2.25. Liquidated Damages for Failure to Enter Into Contract: Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to readvertise, or otherwise dispose of the Work as the City may determine best serves its interest.
- 2.26. Liquidated Damages for Failure to Meet Project Completion Schedule: If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of \$350.00 is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives is written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is fully complete. Final Completion date is the date by which the Contractor shall have fully completed all cleanup, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

- 2.27. Contingency/Force Account/Minor Contract Revisions: Contingency/Force Account/Minor Contract Revisions work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account/Minor Contract Revisions Authorization will be directed by the Owner through an approved form. Contingency/Force Account/Minor Contract Revisions funds are the property of the Owner and any Contingency/Force Account/Minor Contract Revisions funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account/Minor Contract Revisions funds, that are not authorized by Owner or Owner's Project Manager.
- 2.28. Protection of Persons & Property: The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was

- done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.
- 2.29. Changes in the Work: The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the solicitation documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. The contract sum and the contract time may be changed only by Change Order.
- 2.30. Claims for Additional Cost or Time: If the Contractor wishes to make a claim for an increase in the contract sum or an extension in the contract time, he shall give the Owner written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim shall be valid unless so made. Any change in the contract sum or contract time resulting from such claim shall be authorized by Change Order.
- **2.31. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the solicitation documents.
- **2.32. Field Orders:** The Owner may issue written Field Orders which interpret the Solicitation documents in accordance with the specifications, or which order minor changes in the work in accordance with the agreement, without change in the contract sum or time. The Contractor shall carry out such Field Orders promptly.
- 2.33. Uncovering & Correction of Work: The Contractor shall promptly correct all work rejected by the Owner as defective or as failing to conform to the solicitation documents whether observed before or after substantial completion and whether or not fabricated installed or competed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the solicitation documents, any of the work found to be defective or not in accordance with the solicitation documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the solicitation documents without cost to the Owner. The Contractor shall bear the cost of making good all work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate

- reduction in the payment or contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.
- **2.34. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.
- **2.35. Assignment:** The Contractor shall not sell, assign, transfer or convey any contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- **2.36.** Compliance with Laws: Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.
- **2.37. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.
- **2.38.** Conflict of Interest: No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- 2.39. Contract Termination: This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.
- **2.40. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
  - 2.40.1. The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
  - **2.40.2.** The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.
  - **2.40.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- **2.41. Affirmative Action:** In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions.

- 2.42. Immigration Reform and Control Act of 1986 and Immigration Compliance: The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, et.seq. (House Bill 06-1343).
- **2.43.** Ethics: The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- **2.44.** Failure to Deliver: In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.
- **2.45.** Failure to Enforce: Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.
- **2.46.** Force Majeure: The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.
- 2.47. Independent Contractor: The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.48. Nonconforming Terms and Conditions: A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

Items for non-responsiveness may include, but not be limited to:

- a. Submission of the Bid on forms other than those supplied by the City;
- b. Alteration, interlineation, erasure, or partial detachment of any part of the forms which are supplied herein;

- Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
- d. Failure to acknowledge receipt of any or all issued Addenda;
- e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
- f. Failure to list the names of Subcontractors used in the Bid preparation as may be required in the Solicitation Documents;
- g. Submission of a Bid that, in the opinion of the Owner, is unbalanced so that each item does not reasonably carry its own proportion of cost or which contains inadequate or unreasonable prices for any item;
- h. Tying of the Bid with any other bid or contract; and
- i. Failure to calculate Bid prices as described herein.

### **2.49.** Evaluation of Bids and Offerors: The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- negotiate final terms with the Successful Bidder, and
- disregard any and all nonconforming, nonresponsive or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the Owner.

The Owner will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Offeror, proposed Subcontractors and other persons and organizations to do the Work in accordance with the *Solicitation documents* to the City's satisfaction within the Contract Time.

The Offeror shall furnish the Owner all information and data requested by the Owner to determine the ability of the Offeror to perform the Work. The Owner reserves the right to reject the Bid if the evidence submitted by, or investigation of such Offeror fails to satisfy the Owner that such Offeror is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Offeror authorizes the Owner to perform such investigation of the Offeror as the Owner deems necessary to establish the responsibility, qualifications and financial ability of the Offeror and, by its signature thereon, authorizes the Owner to obtain reference information concerning the Offeror and releases the party providing such information and the Owner from any and all liability to the Offeror as a result of such reference information so provided.

The Owner reserves the right to reject the Bid of any Offeror who does not pass any evaluation to the Owner's satisfaction.

If the Contract is to be awarded, it will be awarded to the Offeror who, by evaluation, the Owner determines will best meet the Owner's interests.

The Owner reserves the right to accept or reject the Work contained in any of the Price Bid Schedules or alternates, either in whole or in part.

2.50. Award of Contract: Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by four (4) unsigned copies of the Contract and the Performance and Payment Bond forms. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver four (4) copies of the Contract, Performance Bond, Payment Bond and Certificates of Insurance to the City. Within ten (10) Calendar Days thereafter, the City will deliver two (2) fully executed counterparts of the Contract to the Contractor. No contract shall exist between the Successful Bidder and the City and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

- **2.51. Ownership:** All plans, prints, designs, concepts, etc., shall become the property of the Owner.
- **2.52. Oral Statements:** No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.

- **2.53.** Patents/Copyrights: The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this IFB.
- **2.54. Remedies**: The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- **2.55. Venue**: Any agreement as a result of responding to this IFB shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.
- **2.56.** Expenses: Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.
- **2.57. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.58. Non-Appropriation of Funds: The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved. Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.
- 2.59. Cooperative Purchasing: Purchases as a result of this solicitation are primarily for the City/County. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Bid. The quantities furnished in this bid document are for only the City/County. It does not include quantities for any other jurisdiction. The City or County will be responsible only for the award for its jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The City/County accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.
- **2.60. Keep Jobs in Colorado Act:** Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and

residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

### **2.60.1.** "Public project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects
- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

# 3. STATEMENT OF WORK

**3.1. Project Description:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required to install a new electrical wiring and service to the Daycare building. The work is to be done in two phases.

### Phase 1 (Remodel):

Shall consist of the remodel of the existing structure which includes all work shown in plan set necessary for the operation of the existing structure.

### Phase 2 (Addition):

Shall consist of all work associated with the addition per plan.

All dimensions and scope of work should be verified by Contractors prior to submission of bids.

### 3.2. SPECIAL CONDITIONS & PROVISIONS:

3.2.1 Non-Mandatory Site Visit: <u>Prospective bidders are encouraged to attend</u> <u>a non-mandatory site visit on April 11, 2022 at 10:00am.</u> <u>Meeting location shall be at 545 25 ½ Road, Grand Junction, CO</u>. The purpose of this visit will be to inspect and to clarify the contents of this document.

### 3.2.2 Questions Regarding Solicitation Process/Scope of Work:

Kassy Hackett, Buyer

City of Grand Junction kassyh@gjcity.org

**3.2.3 Project Manager:** The Project Manager for the Project is Jim Stavast. <u>During Construction</u>, all notices, letters, submittals, and other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction General Services Department, Facilities Attn: Jim Stavast, Project Manager 333 West Avenue, Building B Grand Junction, CO 81501 Office: 970-244-1569

Cell: 970-812-7275 jimst@gicity.org

**3.2.4 Contract Administrator:** The Contract Administrator for the Project is Duane Hoff Jr., Contract Administrator, who can be reached at (970)244-1545. <u>During Construction</u>, contract related inquiries, issues, and other communications shall be directed to:

Duane Hoff Jr., Contract Administrator duaneh@gicity.org

- **3.2.5 Pricing:** Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project. Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.
- **3.2.6 Freight/Shipping: Freight/Shipping:** All freight/shipping shall be F.O.B. Destination Freight Pre-Paid and Allowed to the project site(s), Grand Junction, CO. Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.
- **3.2.7 Contract:** A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder's response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order". All Exhibits and Attachments included In the IFB shall be incorporated into the contract by reference.
- **A**. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.
- **B**. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder

expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

**3.2.8 Time of Completion:** The scheduled time of Completion for the Project for Phase One is to be completed by May 31<sup>st</sup>. The scheduled time of Completion for the Project for Phase Two is to be completed by June 17<sup>th</sup>.

Completion is achieved when site cleanup and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

**3.2.9 Working Days and Hours:** The working days and hours shall be as stated in the General Contract Conditions or as mutually agreed upon in the preconstruction meeting with the following exception:

All work shall be performed between the hours of 7:00 AM to 5:00 PM Monday-Friday.

- **3.2.10 Licenses and Permits:** The City is responsible for obtaining all necessary licenses and permits required for Construction.
- **3.2.11 Authorized Representatives of the City:** Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.
- **3.2.12 Stockpiling Materials and Equipment:** All stockpiling/storage shall be in accordance with General Contract Condition Section 51.
- **3.2.13 Clean-Up:** The Contractor is responsible for cleaning up all loose materials that have been deposited or swept into gutters, and onto sidewalks and driveways as a result of sidewalk operations. The costs for all clean-up work shall be considered incidental and will not be paid for separately.
- **3.2.14 Incidental Items:** Any item of work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of work, will be considered as incidental to those items, and will be included in the cost of those items.
- **3.3. General Contractor:** The City will be the General Contractor for this project.
- **3.4.** Project Location: 545 25 ½ Road, Grand Junction, CO 81501.
- 3.5. Scope of Work:
  - 1. Refer to the attached Bighorn Engineering mechanical plans for the scope of work.
  - 2. All notes shown on the plans are to be included in the scope.
  - 3. Add a 30-amp outlet for I.T. equipment, to be fed from PP1, in the S.E. corner of the storage room.
  - 4. Provide and install back boxes at all locations indicating a data port.

- 5. In the existing building provide a pull string from the back box to an opening above the ceiling.
- 6. In the new construction areas, provide and install a 1" conduit from back box to daylight above the ceiling. Provide conduit with insulators at both ends to protect data cabling.
- 7. **Service from Transformer**: Power supply from the transformer to the structure will be upgraded to 120/208v 3 Phase. Xcel will supply and install the cabinet and transformer. It shall be the contractor's responsibility to verify the size/type of the existing conduit and determine if it can be utilized for the upgraded service. If the conduit can be utilized the contractor will be paid for wire only. If the existing conduit cannot be utilized for proposed power upgrade the contractor shall provide the appropriately sized wire and conduit. All trenching and backfill will be performed by City crews

### 3.6. Attachments:

Electrical Sheets E2-1 & E3-1 – Attachment 1 Lighting Sheets E0-1 & E1-1 – Attachment 2

- **3.7. Contractor Bid Documents:** For Contractor's convenience, the following is a list of forms/items to be submitted with the Contractor's bid response. However, should a form/item not be listed in this section, but required in the solicitation documents, it is the Contractor's responsibility to ensure all forms/items are submitted.
  - Contractor's Bid Form
  - Price Bid Schedule

### 3.8. IFB TENTATIVE TIME SCHEDULE:

April 4, 2022
April 11, 2022
April 18, 2022
April 19, 2022
April 26, 2022
April 27, 2022
April 29, 2022
April 29, 2022
Phase 1: May 31st
Phase 2: June 17 <sup>th</sup>

# 4. Contractor's Bid Form

Bid Date:	
Project: IFB-5060-22-KH "Da	ycare Center Electrical Improvements"
Bidding Company:	
Name of Authorized Agent:	
Email	
Telephone	Address
City	StateZip
Conditions, Statement of Work affecting the proposed work, he accordance with Solicitation dexpenses incurred in performing The undersigned Contractor do any person(s) providing an offer	mpliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions ereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in ocuments, within the time set forth and at the prices stated below. These prices are to cover a given work required under the Solicitation documents, of which this Contractor's Bid Form is a part. These hereby declare and stipulate that this offer is made in good faith without collusion or connection therefore the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Specifications, and all other Solicitation Documents, all of which have been examined by the
	t if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared tirety.
technicalities and to reject any	to make the award on the basis of the offer deemed most favorable, to waive any formalities or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendassion of clarifications and revised offers automatically establish a new thirty day (30) period.
Prices in the bid proposal have	not knowingly been disclosed with another provider and will not be prior to award.
purpose of restricting competiti  No attempt has been restricting competition.  The individual signing is legally responsible for the off Direct purchases by t 903544. The undersigned cert City of Grand Junctior Prompt payment discurates days after the redetermining the bid award that  RECEIPT OF ADDENDA: the and other Solicitation docum	made nor will be to induce any other person or firm to submit a bid proposal for the purpose of this bid proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and the remaining of the supporting documentation and prices provided. The City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98 if it is that no Federal, State, County or Municipal tax will be added to the above quoted prices. In payment terms shall be Net 30 days. Dount of percent of the net dollar will be offered to the Owner if the invoice is paid within except of the invoice. The Owner reserves the right to take into account any such discounts when are no less than Net 10 day.  Undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications ents.
•	ned agree to comply with all terms and conditions contained herein.
	ned agree to comply with all terms and conditions contained herein.
Authorized Signature:	

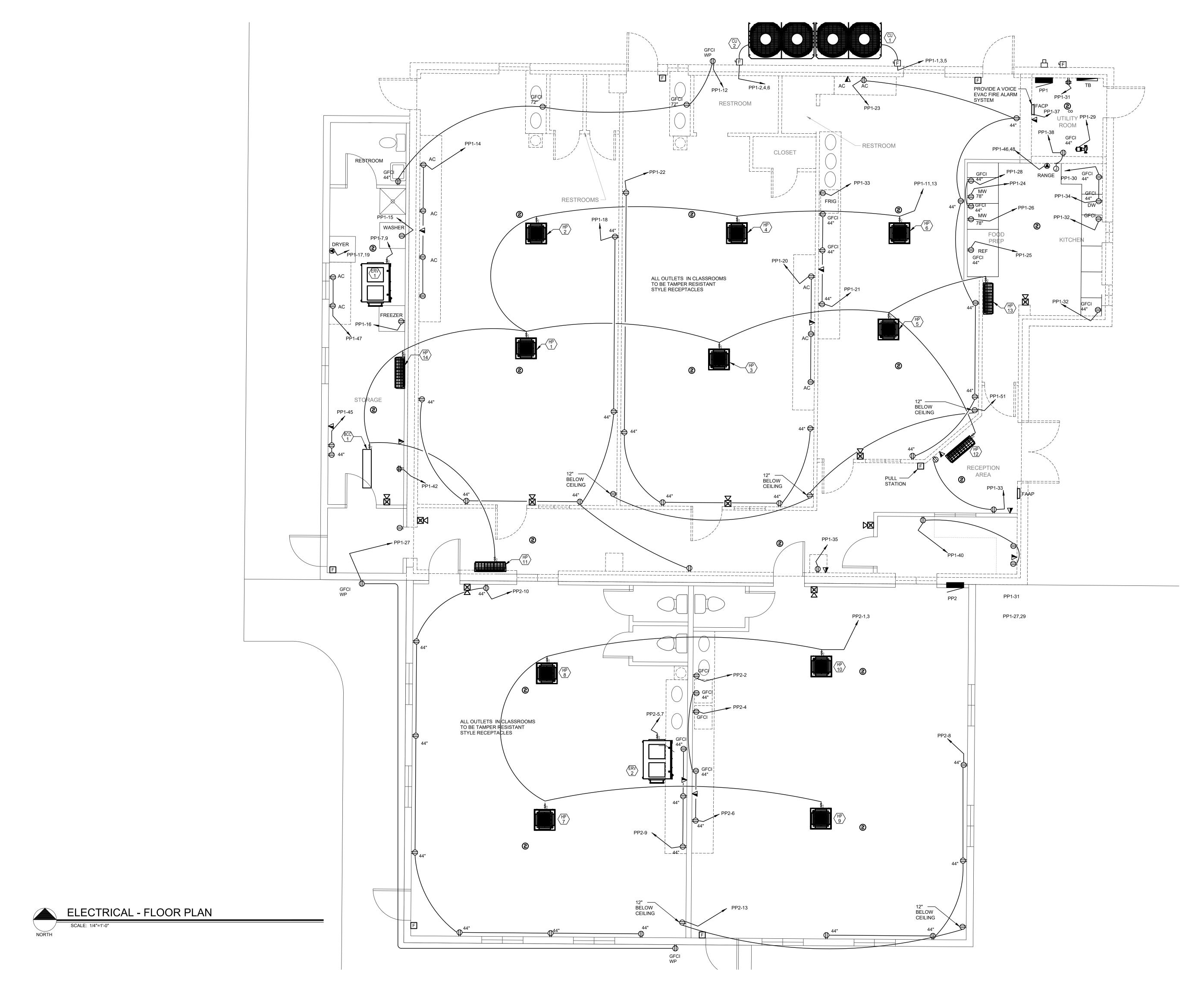
### PRICE BID SCHEDULE: IFB-5060-22-KH Daycare Center Electrical Improvements

Item No.	Description	Total Price
1	All labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, and all other costs related to the successful completion install a new electrical wiring and service at 545 25 ½ Road, Grand Junction, CO 81505, as per the solicitation documents.	

al Bid Price Written:		
By signing below, the Undersigned	agree to comply with all terms and conditions	s contained he
Company:		
Authorized Signature:		_
Title:		_
Bidder proposes to subcontract th	ne following portion of Work:	
Name & address of	Description of work	%
Sub-Contractor	to be performed	Contra
		_
-		

The undersigned Bidder acknowledges the right of the City to reject any and all Bids submitted and to waive informalities and irregularities therein in the City's sole discretion.

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to his own organization, that this Bid has been arrived at independently, without collusion, consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.



SPECIFICATIONS WITHOUT THE EXPRESSED WRITTEN
PERMISSION OF THE DESIGNER. THE DRAWINGS AND
SPECIFICATIONS ARE INSTRUMENTS OF THE SERVICE AND
SHALL REMAIN THE PROPERTY OF THE DESIGNER SHALL REMAIN THE PROPERTY OF THE DESIGNER WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANYONE ON ANY OTHER PROJECTS FOR ADDITIONS TO THIS PROJECT BY OTHERS EXCEPT BY THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER.



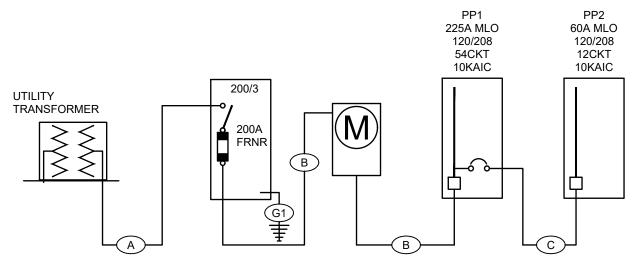
on, CO 81501 ) 241-8709

UNCTION

DATE: ISSUED FOR: 03/16/2022

JOB NO:
DRAWN BY:
CHECKED BY:
SCALE: SHEET NUMBER:

March 16, 2022 - 4:40:32pm



# ONE-LINE DIAGRAM

NOT TO SCALE

NOTES:

1. PROVIDE GROUNDING AND BONDING TO MEET THE 2020 NEC ARTICLE 250 REQUIREMENTS.

2. PROVIDE LABELING TO MEET THE REQUIREMENTS OF NEC 110.21.

WIRE SCHEDULE:

A 2 1/2"C - (4#250kCMIL(AL,XHHW))

B 2"C - (4#3/0AWG(CU,THHN) + 1#6AWG(CU)G)

C 1.25"C - (4#6AWG(CU,THHN) + 1#8AWG(CU)G)

G1) #2AWG CU TO METAL WATER PIPES AND STRUCTURAL STEEL #4AWG CU TO 20' UNCOATED CONCRETE ENCASED ELECTRODE

MECHANICAL EQUIPMENT SCHEDULE												
COMB: COMBINATION MOTOR STARTER NR: NONE REQUIRED CONT: CONTRACTOR MAG: MAGNETIC MOTOR STARTER P/I: PLUG-IN UNIT MAN: MANUAL MOTOR STARTER W/U: SUPPLIED WITH UNIT:												
UNIT	FUNCTION	LOAD	VOLTS	Ø	FULL	BRANG	CH CIRC	CUIT	GRND	BRKR	START	DISC
NO	(NOTES)	LOAD	VOLIS	ν 	LOAD AMPS	CONDUIT SIZE	NO.	WIRE SIZE	WIRE SIZE	SIZE	OTAIN	FUSE
BCC 1	BRANCH CIRCUIT CONTROLLER		208	1	1.82A	1/2"	2	12	12	20	NR	<b>\$</b> <sub>2</sub>
	CONDENSING UNIT UNIT CU-2 IS SIMILAR	8 T	208	3	44.0	1"	3	6	10	60	NR	60 60
ERV 1	ENERGY RECOVERY UNIT UNIT ERV-2 IS SIMILAR	1 HP	208	1	7.7A	1/2"	2	12	12	20	NR	<b>\$</b> <sub>2</sub>
HP 1	HEAT PUMP UNITS HP-2 THRU HP-10 ARE SIMILAR		208	1	0.50A	1/2"	2	12	12	20	NR	<b>\$</b> <sub>2</sub>
HP 11	HEAT PUMP UNITS HP-12,13 & HP-14 ARE SIMILAR		208	1	0.24A	1/2"	2	12	12	20	NR	<b>\$</b> <sub>2</sub>
$\left\langle \begin{array}{c} LV \\ 1 \end{array} \right\rangle$	MOTORIZED LOUVER		120	1	1.0A	1/2"	2	12	12	20	NR	\$

KITCHEN EQUIPMENT SCHEDULE												
COMB: COMBINATION MOTOR STARTER NR: NONE REQUIRED CONT: CONTRACTOR MAG: MAGNETIC MOTOR STARTER P/I: PLUG-IN UNIT MAN: MANUAL MOTOR STARTER W/U: SUPPLIED WITH UNIT:												
UNIT NO	FUNCTION (NOTES)	LOAD	VOLTS	Ø	FULL LOAD AMPS	CONDUIT	NO.	WIRE	GRND WIRE SIZE	BRKR SIZE	START	DISC FUSE
DW 1	DISHWASHER		208	1	17.5A	1/2"	2	10	10	30	NR	30 30
(RF)	REFRIGERATOR		120	1	7.92	1/2"	2	12	12	20	NR	P/I
MW 1	MICROWAVE	1200W	120	1	10.0A	1/2"	2	12	12	20	NR	P/I

PANEL SCHEDULE -	PP2	TYPE: VOLTAGE: ENCLOSUF	PANELB 120/208 RE: NEMA1	OARD		SIZE: I BRKR: NTING:	60 60 FLUSH	4	PHASES: 3 WIRES: 4 SC RATING: 10000	NEUTRAL BUS: YES GROUND BUS: YES
LOAD TYPE	LOAD DESCRIPTIO	N		AMPS POLES	CKT# LOAD	٥	CKT# LOAD	AMPS POLES	LOAD TYPE	LOAD DESCRIPTION
MECH YEAR ROUND	HP UNITS 7THRU 1	0		15A 2P	1 100	А	2 1200	20A 1P	APPLIANCE	DISHWASHER GROUND FAULT BREAKER 5 MA
MECH YEAR ROUND					3 100	В	4 500	20A 1P	APPLIANCE	REFRIGERATOR GROUND FAULT BREAKER 5 MA
MECH YEAR ROUND	UNIT ERV-2			15A 2P	5 801	С	6 540	20A 1P	RECEPTACLE	COUNTER OUTLETS
MECH YEAR ROUND					7 801	А	8 720	20A 1P	RECEPTACLE	CLASSROOM OUTLETS
RECEPTACLE	COUNTER OUTLET	S		20A 1P	9 540	В	10 720	20A 1P	RECEPTACLE	CLASSROOM OUTLETS
LIGHTING	LIGHTING 			20A 1P	11 850	С	12 200	20A 1P	SPARE	UNALLOCATED FUTURE
MISCELLANEOUS	FUTURE AIR CLEAN	NERS		20A 1P	13 400	A	14 200	20A 1P	SPARE	UNALLOCATED FUTURE
SPACE					15 0	В	16 0		SPACE	
SPACE					17 0	С	18 0		SPACE	
LOADS BY TYPE:				•	LOADS BY	Y PHASE	<u>:</u>	'		
LOAD TYPE	CONNECTED LOAD (VA)	DEMAND FACTOR	DEMAND LOAD (VA)		PHASE	Ī		CONNECTED	CONNECTED LOAD (AMPS)	BALANCE (PERCENT)
LIGHTING KITCHEN PROCESS RECEPTACLES	850.00 0.00 0.00 2520.00	1.25 0.00 1.00 1.00	1062.50 0.00 0.00 2520.00		A B C	_		3421.00 1860.00 2391.00	28.51 15.50 19.93	A-B: 54.4 B-C: 77.8 C-A: 69.9
MECH HEATING MECH COOLING	0.00 0.00	1.00 1.00	0.00 0.00			/AVERA	.GE	7672.00	21.31	67.4
MECH YEAR ROUND APPLIANCE MISCELLANEOUS MOTOR SPARE LARGEST MOTOR <sup>1</sup>	1802.00 1700.00 400.00 0.00 400.00 ABOVE	1.00 1.00 1.00 1.00 1.00 0.25	1802.00 1700.00 400.00 0.00 400.00 400.50		NOTES:		ST CONNEC	TED MOTOR	LOAD IS INCLUDED IN ME	ECHANICAL, PROCESS, OR MOTOR LOADS.
TOTAL	7672.00		8285.00							

PANEL SCHEDULE -	VOLTAGE: 1	PANELBOARD 20/208 IEMA1	BUS SI MAIN B MOUNT	RKR:	225 NONE FLUSI		PHASES: 3 WIRES: 4 SC RATING: 10000	NEUTRAL BUS: YES GROUND BUS: YES
LOAD TYPE	LOAD DESCRIPTION	AMPS POLES	CKT# LOAD	۵	CKT# LOAD	AMPS POLES	LOAD TYPE	LOAD DESCRIPTION
MECH YEAR ROUND				Α	2 5280		MECH YEAR ROUND	
MECH YEAR ROUND	UNIT CU-1	60A	3	В	4	60A	MECH YEAR ROUND	UNIT CU-2
MECH YEAR ROUND		3P		С	5280	3P	MECH YEAR ROUND	
MECH YEAR ROUND	UNIT ERV-1	15A	1	A	5280 8	15A	MECH YEAR ROUND	UNIT ERV-2
MECH YEAR ROUND		2P	9	В	10	2P	MECH YEAR ROUND	
MECH YEAR ROUND	 HP UNITS	20A	801	С	801	20A	RECEPTACLE	RESTROOM AND OUTSIDE
		2P	572	А	540	1P 20A	RECEPTACLE	PRESCHOOL 1
MECH YEAR ROUND			572		540	1P		
APPLIANCE	WASHING MACHINE GROUND FAULT BREAKER 5 MA	20A 1P	15 1500	В	16 700	20A 1P	APPLIANCE	FREEZER
APPLIANCE	DRYER	30A 2P	17 2500	С	18 1040	20A 1P	RECEPTACLE	PRESCHOOL 1
APPLIANCE			19 2500	Α	20 540	20A 1P	RECEPTACLE	TODDLER 2
RECEPTACLE	TODDLER 1	20A 1P	21 540	В	22 900	20A 1P	RECEPTACLE	TODDLER 2
RECEPTACLE	TODDLER 1	20A 1P	+	С	24 1200	20A 1P	APPLIANCE	MICROWAVE
APPLIANCE	REFRIGERATOR GROUND FAULT BREAKER 5 MA	20A 1P		Α	26 1200	20A 1P	APPLIANCE	MICROWAVE
RECEPTACLE	EXTERIOR OUTLETS	20A	27	В	28	20A	RECEPTACLE	KITCHEN
MOTOR	HOT WATER CIRC PUMP	1P 20A		С	360	1P 20A	RECEPTACLE	GROUND FAULT BREAKER 5 MA  KITCHEN
RECEPTACLE	TELEPHONE BOARD	1P 20A	1	A	360	1P 20A	RECEPTACLE	GROUND FAULT BREAKER 5 MA KITCHEN
RECEPTACLE	RECEPTION AREA	1P 20A	360	В	360	1P 20A	APPLIANCE	GROUND FAULT BREAKER 5 MA DISHWASHER
RECEPTACLE	RECEPTION AREA	1P 20A	360	С	1200 36	1P 20A	APPLIANCE	GROUND FAULT BREAKER 5 MA REFRIGERATOR
		1P	360		500	1P		
MISCELLANEOUS	FIRE ALARM PANEL	20A 1P	200	A	180	20A 1P	RECEPTACLE	UTILITY ROOM OUTLET
LIGHTING	EXTERIOR LIGHTS	20A 1P	39 100	В	40 360	20A 1P	RECEPTACLE	OFFICE AREA
LIGHTING	CLASSROOM LIGHTING	20A 1P	41 775	С	42 360	20A 1P	RECEPTACLE	STORAGE 
LIGHTING	CLASSROOM LIGHTING	20A 1P	43 670	Α	44 200	20A 1P	SPARE	UNALLOCATED FUTURE
RECEPTACLE	STORAGE ROOM OUTLETS	20A 1P	45 360	В	46 4000	50A 2P	APPLIANCE	RANGE
RECEPTACLE	STORAGE ROOM OUTLETS	20A 1P		С	48 4000		APPLIANCE	
MISCELLANEOUS	FUTURE AIR CLEANERS	20A	49	Α	50		SUBFEED	
SPARE	UNALLOCATED FUTURE	1P 20A		В	3421 52	60A	SUBFEED	PANEL PP2
SPACE		1P	53	С	1860 54	3P	SUBFEED	
LOADS BY TYPE:			0 LOADS BY F	PHASE	2391			
LOAD		MAND				CONNECTED		BALANCE
TYPE LIGHTING		D (VA) 03.75	PHASE A		_	LOAD (VA) 23805.00	LOAD (AMPS) 198.38	(PERCENT) A-B: 95.4
KITCHEN PROCESS	0.00 1.00 0.00 1.00	0.00 0.00	ВС			24962.00 27098.00	208.02 225.82	B-C: 92.1 C-A: 87.8
RECEPTACLES RECEPTACLES	10000.00 1.00 1000	0.00 20.00	TOTAL/A	VERA	– GE	75865.00	210.74	91.8
MECH HEATING MECH COOLING	0.00 1.00 0.00 1.00	0.00 0.00						<del>-</del>
MECH YEAR ROUND	37830.00 1.00 3783	0.00	NOTES:					
APPLIANCE MISCELLANEOUS		00.00	1. THE LA	RGES	T CONNEC	TED MOTOR	LOAD IS INCLUDED IN MEG	CHANICAL, PROCESS, OR MOTOR LOADS.
MOTOR SPARE		50.00 00.00						
LARGEST MOTOR 1	ABOVE 0.25 396	60.00						
TOTAL	75865.00 7950	4.00						

DO NOT REPRODUCE THESE DRAWINGS AND SPECIFICATIONS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER. THE DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF THE SERVICE AND SHALL REMAIN THE PROPERTY OF THE DESIGNER WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANYONE ON ANY OTHER PROJECTS FOR ADDITIONS TO THIS PROJECT BY OTHERS EXCEPT BY THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER.



# JNCTION

DATE:	ISSUED FOR:
03/16/2022	PERMIT
DATE:	03/11/20
JOB NO	22-00
DRAWN	
CHECKE	
SCALE:	AS SHON

# **COMMUNICATION LEGEND** CLOCK ONLY $\Theta$ CLOCK / PA SPEAKER WALL MOUNTED ROUND CEILING MOUNTED SPEAKER SQUARE SPEAKER H C INTERCOM PUSH TO CALL SWITCH WIRELESS ACCESS POINT ABOVE THE CEILING PROJECTOR ABOVE THE CEILING PROJECTOR CONNECTION WALL MOUNTED HDMI PLAIN DATA OUTLET PLAIN DATA OUTLET WITH MOUNTING HEIGHT COMBINATION DATA/TELEPHONE FLOOR MOUNTED COMBINATION DATA/TELEPHONE CEILING MOUNTED COMBINATION DATA/TELEPHONE TELEVISION OUTLET $\leftarrow$

# SECURITY SYSTEM LEGEND SECURITY CAMERA ADA DOOR OPERATOR PUSH BUTTON ELECTRIC DOOR STRIKE CR CARD READER FOR DOOR OPERATOR

### ELECTRICAL EQUIPMENT LEGEND LIGHTING LEGEND BRANCH CIRCUIT PANELBOARD TELEPHONE TERMINAL BOARD SYMBOLS SHOWN ARE STANDARD. VARIATION AND/OR COMBINATIONS MAY BE USED ON THE PLANS. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE ELECTRIC MOTOR PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWINGS OCCUR, THE ITEM SHALL BE PROVIDED AND INSTALLED. MOTOR STARTER VARIATION AND/OR COMBINATION MAY BE USED ON THE PLANS. □ CONTACTOR A NUMBER NEXT TO A RECEPTACLE OR DEVICE INDICATES A CIRCUIT NUMBER. LA-7 CIRCUITRY HOMERUN: PANEL LA - CIR. #7 AN UPPER CASE LETTER NEXT TO A SWITCH INDICATES THE FUNCTION OF THE SWITCH. A LOWER CASE LETTER INDICATES THE SWITCH CIRCUIT.

	SWITCHES
\$	SINGLE POLE SWITCH
\$ <sub>2</sub>	TWO POLE SWITCH
\$ <sub>3</sub>	THREE-WAY SWITCH
\$ <sub>4</sub>	FOUR-WAY SWITCH
$\$_{D}$	DIMMER SWITCH
\$ <sub>3D</sub>	3 WAY DIMMER SWITCH - (4D INDICATES A 4WAY DIMMER)
\$ <sub>DR</sub>	DOOR ACTIVATED SWITCH
\$ <sub>MA</sub>	WALL MOUNTED DUAL TECHNOLOGY MANUAL ON / AUTO OFF VACANCY SENSOR SWITCH
$\$_{LV}$	LOW VOLTAGE LIGHT SWITCH
\$ <sub>TO</sub>	MANUAL MOTOR STARTER
\$ <sub>P</sub>	PILOT LIGHT SWITCH
	AUTO ON / AUTO OFF LIGHT SWITCH
\$мо	DUAL TECHNOLOGY MOTION / OCCUPANCY SENSOR LIGHT SWITCH
\$ <sup>D</sup> MA	MANUAL ON / AUTO OFF DIMMING LIGHT SWITCH
\$ <sub>K</sub>	KEY OPERATED LIGHT SWITCH
\$ <sub>T</sub>	MANUAL ON - TIMED OFF LIGHT SWITCH
(OS)(OS)	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH
(MA) (MA)	CEILING MOUNTED DUAL TECHNOLOGY MANUAL ON / AUTO OFF VACANCY SENSOR
\$ <sub>SC</sub>	SCENE CONTROL STATION
\$ <sub>MS</sub>	UNIT LIGHTING MANAGEMENT CONTROL STATION,

AN UPPER CASE LETTER NEXT TO A LIGHT FIXTURE INDICATES THE TYPE OF FIXTURE.

REFER TO THE LUMINAIRE SCHEDULE FOR FIXTURE SPECIFICATIONS. A LOWER CASE

LETTER NEXT TO A LIGHT CORRESPONDS TO THE SWITCH DESIGNATION.

LIGHT FIXTURES
A 1'x4' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
2'x4' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
A 2'x2' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
├──�── OPEN STRIP FIXTURE
WALL BRACKET LINEAR FIXTURE
A 📥 WALL MOUNTED SCONCE LIGHT FIXTURE
A - RECESSED DOWNLIGHT CAN FIXTURE
A - O- SURFACE CEILING OR PENDANT MOUNTED FIXTURE
EX2 DOUBLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
EX1 SINGLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
EM () WALL MOUNTED EMERGENCY LIGHT
EMR 🖯 EMERGENCY EXTERIOR EGRESS FIXTURE

# GENERAL ELECTRICAL NOTES:

- 1. ALL ELECTRICAL WORK TO COMPLY WITH LATEST EDITION OF NEC, IECC AND ALL APPLICABLE
- 2. FIELD COORDINATION DURING CONSTRUCTION IS IMPERATIVE. CONTRACTORS BIDDING THIS WORK MUST MAKE REASONABLE ALLOWANCES FOR UNFORESEEN CONTINGENCIES.
- 3. ELECTRIC UTILITY TO ADVISE OWNER AND/OR THE ELECTRICAL ENGINEER PRIOR TO SERVICE MODIFICATION REQUIRING COST TO THE OWNER.

NOTES:

- 1. ALL WIRING IS SHOWN DIAGRAMMATICALLY ON DRAWING, FIELD VERIFY ALL CONDITIONS PRIOR
- 2. ALL CONDUITS AND CONVEYANCES SHALL BE CONCEALED. IN THE EVENT THAT A NEW DEVICE IS BEING INSTALLED IN AN EXISTING DRYWALL PARTITION, PROVIDE A CUT IN TYPE BOX AND FISH FLEXIBLE CONDUIT DOWN INSIDE THE WALL FROM ABOVE THE CEILING AND REPAIR THE DRYWALL AROUND THE CONDUIT. TRANSITION TO EMT ONCE ABOVE THE CEILING
- 3. SIZES OF WIRE AND CABLES ARE BASED UPON COPPER CONDUCTORS, UNLESS OTHERWISE INDICATED. ALL CIRCUITS SHALL CONTAIN (2) #12 AWG WITH (1) #12 GND IN 1/2" CONDUIT UNLESS NOTED OTHERWISE.
- 4. ALL BRANCH CIRCUITS WITH HOME RUNS OVER 50 FEET, WILL BE SIZED ONE SIZE LARGER. 5. ALL PENETRATIONS IN OR THROUGH FIRE RATED PARTITIONS SHALL BE FIRE STOPPED IN SUCH A
- WAY THAT THE PENETRATION MATCHES THE FIRE RATING OF THE WALL. 6. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION BETWEEN THE
- APPROPRIATE DISCIPLINES AND CONTRACTORS. 7. COORDINATE ALL DEVICE, FIXTURE AND HARDWARE COLOR SELECTIONS WITH THE ARCHITECT
- PRIOR TO MAKING SHOP DRAWING SUBMITTALS. 8. COORDINATE THE MOUNTING HEIGHTS OF ALL RECEPTACLES MOUNTED ABOVE COUNTERS,
- CASEWORK AND APPLIANCE RECEPTACLES WITH ARCHITECTURAL ELEVATIONS. 9. BRANCH CIRCUIT AND SPECIAL SYSTEMS WIRING FOR DEVICES ON WALLS IN FINISHED AREAS
- WHICH CANNOT BE CONCEALED SHALL BE INSTALLED IN SURFACE MOUNTED RACEWAY. 10. ALL EXPOSED CONDUITS. BOXES, ETC. IN ROOMS TO BE PAINTED SHALL BE PAINTED TO MATCH
- THE SURROUNDING SURFACE. EXPOSED CONDUITS, BOXES, ETC. IN ROOMS WHICH ARE NOT PAINTED MAY BE LEFT UN-PAINTED. EXPOSED CONDUIT, BOXES, ETC. ON THE EXTERIOR OF BUILDINGS SHALL BE PAINTED TO MATCH THE SURROUNDING SURFACE AS CLOSELY AS POSSIBLE
- 11. THE CONTRACTOR IS RESPONSIBLE FOR PATCHING, PAINTING, REPAIRING OR REPLACEMENT OF ALL WALLS, CEILING OR OTHER BUILDING ELEMENTS WHICH ARE DISTURBED AS PART OF THE DEMOLITION AND/OR INSTALLATION OF ELECTRICAL WORK.
- 12. PROVIDE ELECTRICAL CONNECTION TO ALL FIRE, SMOKE, AND FIRE / SMOKE DAMPERS INCLUDING POWER AND FIRE ALARM. VERIFY EXACT SIZE AND FINAL LOCATION OF ALL DAMPERS WITH THE MECHANICAL CONTRACTOR. ALL ROOFTOP UNITS RATED AT MORE THAN 2000 CFM WILL BE OUTFITTED WITH A DUCT DETECTOR IN THE RETURN DUCT. ALL ROOFTOP UNITS RATED AT MORE THAN 15000 CFM WILL BE OUTFITTED WITH A DUCT DETECTOR IN BOTH THE SUPPLY AND RETURN DUCT AT ROOFTOP LEVEL AND IN THE RETURN DUCT AT EVERY LEVEL THAT IS SERVED. ELECTRICAL CONTRACTOR WILL PROVIDE A REMOTE TEST STATION AND ALL WIRING NECESSARY TO COMPLETE INSTALLATION.
- 13. REFER TO THE MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH PLUMBING AND HVAC EQUIPMENT AND OWNER/GENERAL CONTRACTOR FURNISHED EQUIPMENT.

# FUSED SAFETY SWITCH / DISCONNECT COMBINATION CONDUIT OR WIRE CONCEALED IN WALL/CLG. (SOLID LINE TYPE) CONDUIT OR WIRE UNDERFLOOR/UNDERGND. (CENTER LINE TYPE) MAIN DISTRIBUTION GEAR CIRCUIT BREAKER IN A PANEL BOARD PAD MOUNTED UTILITY TRANSFORMER FUSED DISCONNECT 100A = AMP RATING 2P = NUMBER OF POLES 2 POLE FUSED DISCONNECT ELECTRICAL METER SHOWN ON ONE-LINE DIAGRAMS ELECTRICAL POWER PANEL WITH MAIN LUG OR MAIN BREAKER PP1= PANEL NAME 225A MLO = MAIN LUG OR BREAKER SIZE 120/208V = PANEL VOLTAGE 3PH, 4 WIRE = PANEL PHASE, DISTRIBUTION TYPE 225A MCB 225A MLO 120/208V 120/208V 3PH, 4W 3PH, 4W

# ELECTRICAL DEVICE LEGEND

<u> </u>	CEILING JUNCTION BOX - SURFACE/FLUSH
$\mathbb{J} \mathcal{H}$	WALL JUNCTION BOX - SURFACE/FLUSH
$\Leftrightarrow$	DUPLEX RECEPTACLE
$\Phi$	FLOOR MOUNTED RECEPTACLE
$\bigcirc$	SPLIT WIRED DUPLEX RECEPTACLE
$\bigoplus$	CEILING MOUNTED DUPLEX RECEPTACLE
<b></b>	FOURPLEX RECEPTACLE
	FLOOR MOUNTED FOURPLEX RECEPTACLE
$\rightleftharpoons$	APPLIANCE RECEPTACLE - 3 WIRE
$\Phi_{GFCI}$	GROUND FAULT CIRCUIT INTERRUPTER
Фusв	RECEPTACLE WITH USB CHARGING CAPABILITES
$\Phi_{AC}$	RECEPTACLE MOUNTED ABOVE COUNTER
Фсw	RECEPTACLE MOUNTED IN CASEWORK
$\bigcirc$	ELECTRIC HAND DRYER
$\bigcirc$	THERMOSTAT
•	OPEN/CLOSE/STOP PUSH BUTTON

DRAWING KEY NOTES

ROOM DESIGNATION

PROOF COVER

GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WITH A WEATHER GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE MOUNTED AT 44"

- 1. COORDINATE THE LOCATION OF ALL LIGHTING EQUIPMENT INCLUDING BUT NOT LIMITED TO THE LUMINAIRES. SWITCHES WITH THE ARCHITECTURAL STRUCTURAL AND MECHANICAL DRAWINGS AND ALL OTHER TRADES AS REQUIRED. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONAL LOCATION OF LIGHT FIXTURES.
- 2. LIGHTING FIXTURES SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE AND SHALL NOT BE SUPPORTED FROM THE T-BAR CEILING GRID.
- 3. THE ELECTRICAL CONTRACTOR IS TO CONFIRM THE LIGHT FIXTURES ORDERED WILL BE COMPATIBLE WITH THE CEILING TYPES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING
- PLANS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING THE FIXTURES. 4. VERIFY LUMINAIRE MOUNTING REQUIREMENTS AND OVERALL HEIGHT OF ALL PENDANT MOUNTED FIXTURES PRIOR TO ORDERING.
- 5. ALL LIGHT FIXTURES NEED TO BE COMPATIBLE WITH THE SWITCHES AND CONTROLS BEING
- 6. THE LIGHTING PACKAGE SHALL BE APPROVED BY BOTH THE ARCHITECT AND ENGINEER AS APPROVED EQUAL BEFORE BID. NO LIGHT FIXTURE SHALL BE ORDERED UNTIL THE LIGHT FIXTURE SUBMITTAL PACKAGE HAS BEEN APPROVED IN WRITING BY THE ARCHITECT, GENERAL CONTRACTOR AND ELECTRICAL ENGINEER.
- 7. COORDINATE LUMINAIRE MOUNTING REQUIREMENTS PRIOR TO PLACING ORDER.

# RESPONSIBLE DIVISION:

EM	FURNISHED	SET	POWER WIRED	CONTROL WIRED
QUIPMENT	23	23	26	
OMBINATION MAGNETIC OTOR STARTERS, MAGNETIC OTOR STARTERS, VFD'S AND ONTACTORS	23(1)	26	26(2)	23
USED AND UNFUSED ISCONNECT SWITCHES, HERMAL OVERLOAD SWITCHES ND HEATERS, MANUAL MOTOR TARTERS	26	26	26	
ANUAL-OPERATING AND ULTI-SPEED SWITCHES	23	26	26	26
ONTROLS, RELAYS, RANSFORMERS	23	23	26	23
HERMOSTATS (LOW VOLTAGE) ND TIME SWITCHES	23	23	26	23
HERMOSTATS (LINE VOLTAGE)	23	23	26	26
EMPERATURE CONTROL PANELS	23	23	26	23
OTOR AND SOLENOID VALVES, AMPER MOTORS, PE & EP WITCHES	23	23(2)		23(2)
USH-BUTTON STATIONS ND PILOT LIGHTS	23	23(2)		23(2)
EATING, COOLING, ENTILATION AND AIR ONDITIONING CONTROLS	23	23	26	23
XHAUST FAN SWITCHES	23	26	26	23(2)

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING,

SUBSCRIPT FOOTNOTES

**ABBREVIATIONS**:

CI CAST IRON

CLG CEILING

CO CLEAN OUT

COMP COMPRESSOR

COND CONDENSATE

CONN CONNECTION

CONT CONTINUATION

CONTR CONTRACTOR

CT COOLING TOWER

CU CONDENSING UNIT

CU COPPER

DB DRY BULB

DIA DIAMETER

DIAG DIAGRAM

DEPT DEPARTMENT

DF DRINKING FOUNTAIN

CRI COLOR RENDERING INDEX

CT CURRENT TRANSFORMER

CUH CABINET UNIT HEATER

CVB CONSTANT VOLUME BOX

CWR CONDENSER WATER RETURN

CWS CONDENSER WATER SUPPLY

CONC CONCRETE

COL COLUMN

CL CENTER LINE

CMU CONCRETE MASONRY UNIT

- 1. MOTOR STARTER TO INCLUDE CONTROL TRANSFORMER, HOA SWITCH, (1) NO AND (1)NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.
- 2. IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23, CONNECT UNDER DIVISION 26,

44"	MOUNTING HEIGHT ABOVE	DIFF	DIFFERENTIAL	HR	HOUR
FINISH	ED FLOOR TO CENTER OF DEVICE	DISCH	DISCHARGE	HT	HEIGHT
Α	AMPS	DIV	DIVISION	HTR	HEATER
A.D.	ACCESS DOOR	DN	DOWN	HWR	HEATING WATER RETURN
AAV	AIR ADMITTANCE VALVE	DS	DUCT SILENCER	HWS	HEATING WATER SUPPLY
ABV	ABOVE	DWG	DRAWING	HX	HEAT EXCHANGER
AC	AIR CONDITIONING UNIT	DX	DIRECT EXPANSION	HZ	HERTZ
AC	ABOVE COUNTER	(E)	EXISTING	ID	INSIDE DIAMETER
AD	AREA DRAIN (SEE SYMBOLS)	EA	EXHAUST AIR GRILLE/REGISTER	IG	ISOLATED GROUND
A.F.C.	ABOVE FINISHED CEILING	EAT	ENTERING AIR TEMPERATURE	IN	INCHES
A.F.G.	ABOVE FINISHED GRADE	EC	ELECTRICAL CONTRACTOR	INV	INVERT
AIC	AMPERE INTERRUPTING	ECC	ECCENTRIC	JBOX	JUNCTION BOX
CAPAC		EF	EXHAUST FAN	K	KELVIN
	ABOVE FINISHED FLOOR	EFF	EFFICIENCY	KW	KILOWATT
	AIR HANDLING UNIT	EL	ELEVATION	KVA	KILO VOLT - AMPS
	ALUMINUM	ELEC	ELECTRIC	L	LENGTH
AP	ACCESS PANEL OR DOOR	ELEV	ELEVATOR	LAT	LEAVING AIR TEMPERATURE
ATS	AUDIO (MIDEO	EM	EMERGENCY FUNCTION	LV	LAVATORY
AVC	AUDIO / VIDEO	ENT	ENTERING	LB	POUND
	AVERAGE	EMT	ELECTRIC METALLIC TUBE	LD	LINEAR DIFFUSER
	AMERICAN WIRE GAGE	EQ	EQUAL	LF	LINEAR FEET
BAS	BUILDING AUTOMATION SYSTEM	EQUIP	EQUIPMENT	LIN	LINEAR
BB	BASEBOARD  RACK DRAFT DAMPER	EQUIV	EQUIVALENT	LIQ	LIQUID
BD	BACK DRAFT DAMPER	ES	END SWITCH	LM	LUMEN
BFP	BACK FLOW PREVENTOR	ESP	EXTERNAL STATIC PRESSURE	LRA	LOCKED ROTOR AMPS
BL	BOILER	ET	EXPANSION TANK	LV	LOUVER
	BUILDING	EWC	ELECTRIC WATER COOLER	LVG	LEAVING
	BELOW DE DEAM	EWT	ENTERING WATER	LWT	LEAVING WATER TEMPERATURE
	BOTTOM OF BLICT	TEMPE	ERATURE	MBH	THOUSANDS OF BTU PER HOUR
	BOTTOM OF DUCT	EX	EXHAUST	MC	MECHANICAL CONTRACTOR
BOP	BOTTOM OF PIPE	EXPAN	I EXPANSION	MCA	MINIMUM CIRCUIT AMPACITY
	BASEMENT	EXT	EXTERNAL	MCB	MAIN CIRCUIT BREAKER
	BRITISH THERMAL UNIT	F	DEGREES FAHRENHEIT	MD	MOTORIZED DAMPER
C	CHILLER	FA	FREE AREA	MDP	MAIN DISTRIBUTION PANEL
CAP	CAPACITY	FC	FAN COIL UNIT	MED	MEDIUM
CB	CIRCUIT BREAKER	FC	FOOTCANDLE	MFR	MANUFACTURER
CBV	CIRCUIT BALANCING VALVE	FCV	FLOW CONTROL VALVE	MIN	MINIMUM
CCT TEMPE	CORRELATED COLOR RATURE	FD	FIRE DAMPER	MISC	MISCELLANEOUS
CKT	CIRCUIT	FD	FLOOR DRAIN	MLO	MAIN LUG ONLY
CFH	CUBIC FEET PER HOUR	FIN	FINISHED		MAXIMUM OVERCURRENT
	CUBIC FEET PER MINUTE	FLA	FULL LOAD AMPS		ECTION
	CHILLED WATER RETURN		FLEXIBLE	MTD	MOUNTED
	CHILLED WATER SUPPLY	FLR	FLOOR	MUA	MAKE-UP AIR UNIT
-		FOB	FLAT ON BOTTOM	N	NEUTRAL

FOB FLAT ON BOTTOM

FP FIRE PROTECTION

FPM FEET PER MINUTE

FPS FEET PER SECOND

FSD FIRE/SMOKE DAMPER

FXC FLEXIBLE CONNECTION

GEC GROUND ELECTRODE

GFCI / GFI GROUND FAULT CIRCUIT

GC GENERAL CONTRACTOR

GPH GALLONS PER HOUR

GPM GALLONS PER MINUTE

GRS/LB GRAINS PER POUND

HD HEAD (SEE SCHEDULES)

FS FLOW SWITCH

FT FEET

GND GROUND

GA GAUGE

GAL GALLON

CONDUCTOR

INTERRUPTER

H 2O WATER

HB HOSE BIBB

HP HEAT PUMP

HP HORSEPOWER

GALV GALVANIZED

FOT FLAT ON TOP

FP FIRE PUMP

NEG NEGATIVE

NOT SWITCH

NOM NOMINAL

NC NORMALLY CLOSED

NIC NOT IN CONTRACT

NO NORMALLY OPEN

NTS NOT TO SCALE

OA OUTSIDE AIR

OC ON CENTER

OCC OCCUPIED

OL OVERLOAD

OZ OUNCE

PH PHASE

NL NIGHT / SECURITY LIGHT - DO

OBD OPPOSED BLADE DAMPER

OCP OVER CURRENT PROTECTION

OD OUTSIDE DIAMETER

PS PRESSURE SWITCH

PSI POUNDS PER SQUARE INCH

ORD OVERFLOW ROOF DRAIN

# **SUBSTITUTIONS:**

A. SUBSTITUTIONS: SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

### **EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:**

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES, AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO

C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR PIPING

- D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING CODES AND THE 2009 INTERNATIONAL ENERGY CONSERVATION CODE. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.
- E. WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM WILL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE RECEIVED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.

PT PRESSURE TRANSMITTER

PTAC PACKAGED TERMINAL AIR CONDITIONER PV PLUG VALVE PVC POLYVINYL CHLORIDE QTY QUANTITY

RA RETURN AIR GRILLE / REGISTER RCP REFLECTED CEILING PLAN RD ROOF DRAIN

REL RELIEF REQD REQUIRED RF RETURN FAN RH RELATIVE HUMIDITY RHC REHEAT COIL

RLA RATED LOAD AMPS RM ROOM RPM REVOLUTIONS PER MINUTE

SA SUPPLY AIR GRILLE / REGISTER SC SHORT CIRCUIT SCA SHORT CIRCUIT AVAILABLE

SCCR SHORT CIRCUIT CURRENT RATING SCH SCHEDULE

SD SMOKE DAMPER SEF SMOKE EXHAUST FAN SF SUPPLY FAN SH SENSIBLE HEAT

SH SHOWER SP STATIC PRESSURE

SPD SURGE PROTECTION DEVICE SPEC SPECIFICATION

SQ SQUARE SS STAINLESS STEEL SS SAFETY SHOWER

STD STANDARD STL STEEL SYS SYSTEM

TEMP TEMPERATURE TR TRANSFER GRILLE / REGISTER TR TAMPER RESISTANT

TT TEMPERATURE TRANSMITTER TTB TELECOMMUNICATIONS TERMINAL BACKBOARD TYP TYPICAL

TX TRANSFORMER UC UNDERCUT DOOR UH UNIT HEATER UNO UNLESS NOTED OTHERWISE

UNOCC UNOCCUPIED UR URINAL V VOLTS VA VOLT AMPERE

VA VALVE VAV VARIABLE AIR VOLUME UNIT VFD VARIABLE FREQUENCY DRIVE

VRF VARIABLE REFRIGERANT FLOW VOLT VOLTAGE VTR VENT THROUGH ROOF

W WIDTH W WATTS

W/ WITH W/O WITHOUT

PBD PARALLEL BLADE DAMPER WB WET BULB PD PRESSURE DROP WC WATER COLUMN WC WATER CLOSET POS POSITIVE PRESSURE WG WATER GAUGE POS POINT OF SALES PRV PRESSURE REDUCING VALVE

WP WEATHERPROOF WPIU WEATHERPROOF IN-USE WSR WITHSTAND RATING

XFMR TRANSFORMER

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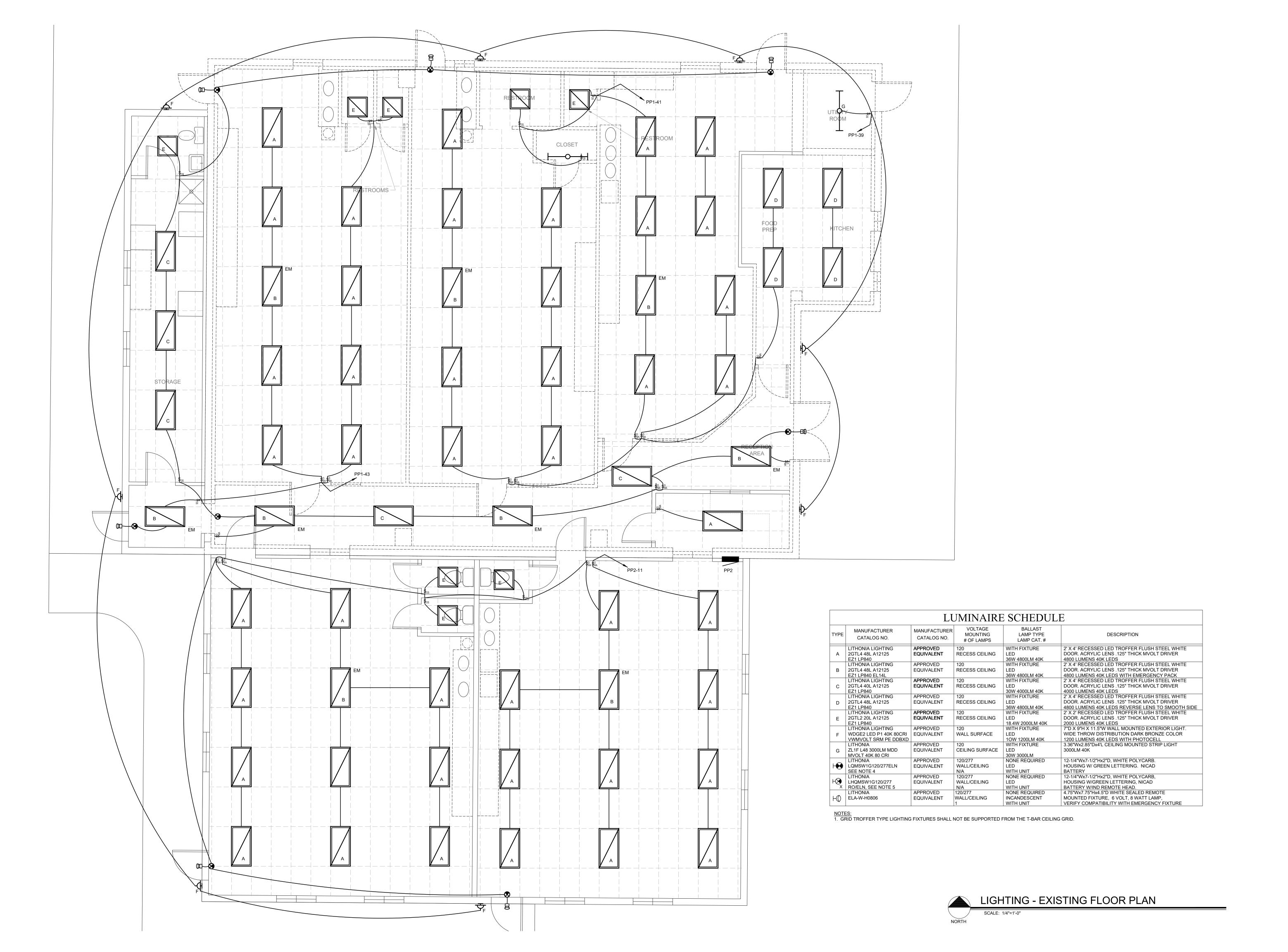
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