

# **BID PROJECT MANUAL**

**PROJECT NUMBER: 26197.00-54-MB**

**Nichols Elementary School Library Remodel  
Project**

**BAKERSFIELD CITY SCHOOL DISTRICT**

**December 08, 2025**

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**Nichols Elementary School Library Remodel Project**

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END OF DOCUMENT



DOCUMENT 00 01 20

**LIST OF SCHEDULES**

**SCHEDULES**

1. Schedule to be released on Addendum No. 01 no later than 12/12/25.

END OF DOCUMENT

**NOTICE TO BIDDERS**

1. Notice is hereby given that the governing board ("Board") of the Bakersfield City School District ("District") will receive sealed bids for the following project, Bid No. 26197.00-54-MB ("Project" or "Contract"):

**Nichols Elementary School Library Remodel**

2. The Project consists of:

**Refer to scope of work.**

3. To bid on this Project, the Bidder is required to possess one or more of the following State of California contractors' license(s):

**General Building Contractor (Classification: B)**

The Bidder's license(s) must remain active and in good standing throughout the term of the Contract.

4. To bid on this Project, the Bidder is required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
5. Contract Documents will be available on or after **December 08, 2025**, for review at the District Maintenance, Operations, and Facilities Office, and may be downloaded from the District's website, using the following link.

<http://mot.bcsd.com/Construction%20Consultants/Nichols%20Library%20Remodel%2026197.00-54-MB/>

In addition, Contract Documents are available for bidders' review at the following builders' exchanges:

A. Kern County Builder's Exchange (661) 324 - 4921

6. Contract Documents are also available for purchase at Blueprint Services, 1100 18<sup>th</sup> Street, Bakersfield, CA 93301.
7. **Sealed bids will be received until 2:00 p.m., December 18 2025**, at the District Maintenance, Operations, and Facilities Office, 1501 Feliz Drive, Bakersfield, California 93307 at or after which time the bids will be opened and publicly read aloud. Any bid that is submitted after this time shall be nonresponsive and returned to the bidder. Any claim by a bidder of error in its bid must be made in compliance with section 5100 et seq. of the Public Contract Code.
8. This Project **requires** prequalified pursuant to AB 1565 of all general contractors and all mechanical, electrical and plumbing subcontractors. If required, Prequalification can be completed using the online prequalification system at [www.qualitybidders.com](http://www.qualitybidders.com). A bid package will not be accepted from any bidder that is

required to submit a completed questionnaire and supporting documents pursuant to AB 1565, but has not done so at least ten (10) business days prior to the date fixed for the public opening of sealed bids or that has not been prequalified for at least five (5) business days prior to that date.

9. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.
10. A bid bond by an admitted surety insurer on the form provided by the District a cashier's check or a certified check, drawn to the order of the Bakersfield City School District, in the amount of ten percent (10%) of the total bid price, shall accompany the Bid Form and Proposal, as a guarantee that the Bidder will, within seven (7) calendar days after the date of the Notice of Award, enter into a contract with the District for the performance of the services as stipulated in the bid.
11. **A mandatory job walk** and site visit will be held on **December 11, 2025, at 2:00p.m. at Nichols Elementary School located at 3401 Renegade Avenue, Bakersfield, California.** All participants are required to sign in front of the Administration Building. The site visit is expected to take approximately one hour.  
  
**Failure to attend or tardiness will render bid ineligible.**
12. The successful Bidder shall be required to furnish a 100% Performance Bond and a 100% Payment Bond if it is awarded the Contract for the Work.
13. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.
14. The successful bidder will be required to certify that it either meets the Disabled Veteran Business Enterprise ("DVBE") goal of three percent (3%) participation or made a good faith effort to solicit DVBE participation in this Contract if it is awarded the Contract for the Work.
15. The Contractor and all Subcontractors under the Contractor shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to section 1770 et seq. of the California Labor Code. Prevailing wage rates are also available from the District or on the Internet at: <<http://www.dir.ca.gov>>.
16. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.
17. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on:

**A. The base bid amount only.**

18. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT

**INSTRUCTIONS TO BIDDERS**

Bidders shall follow the instructions in this document, and shall submit all documents, forms, and information required for consideration of a bid.

Bakersfield City School District ("District") will evaluate information submitted by the apparent low Bidder and, if incomplete or unsatisfactory to District, Bidder's bid may be rejected at the sole discretion of District.

1. Bids are requested for a general construction contract, or work described in general, for the following project ("Project" or "Contract"):

**Nichols Elementary School Library Remodel**

To bid on this Project, the Bidder is required to possess one or more of the following State of California contractors' license(s):

**General Building Contractor (Classification B)**

2. A Bidder and its subcontractors must possess the appropriate State of California contractors' license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.
3. This Project **requires** prequalified pursuant to AB 1565 of all general contractors and all mechanical, electrical and plumbing subcontractors. If required, Prequalification can be completed using the online prequalification system at [www.qualitybidders.com](http://www.qualitybidders.com). A bid package will not be accepted from any bidder that is required to submit a completed questionnaire and supporting documents pursuant to AB 1565, but has not done so at least ten (10) business days prior to the date fixed for the public opening of sealed bids or that has not been prequalified for at least five (5) business days prior to that date.
4. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.
  - a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number and/or bid number, and time of bid opening.
  - b. Bids must be submitted to the BCSD – Maintenance, Operations, & Facilities Office at 1501 Feliz Drive, Bakersfield, CA, 93307 by date and time shown in the Notice to Bidders.
  - c. Bids must contain all documents as required herein.
5. Bidders are advised that on the date that bids are opened, telephones will not be available at the District Offices for use by bidders or their representatives.

6. Bids will be opened at or after the time indicated for receipt of bids.
7. Bidders must submit bids on the documents titled Bid Form and Proposal, and must submit all other required District forms. Bids not submitted on the District's required forms shall be deemed nonresponsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible.
8. Bidders shall not modify the Bid Form and Proposal or qualify their bids. Bidders shall not submit to the District a re-formatted, re-typed, altered, modified, or otherwise recreated version of the Bid Form and Proposal or other District-provided document.
9. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
10. Bidders must supply all information required by each Bid Document. Bids must be full and complete. District reserves the right in its sole discretion to reject any bid as nonresponsive as a result of any error or omission in the bid. Bidders must complete and submit all of the following documents with the Bid Form and Proposal:
  - a. Bid Bond on the District's form, or other security.
  - b. Designated Subcontractors List.
  - c. Site Visit Certification, if a site visit was required.
  - d. Non-Collusion Declaration.
11. Bidders must submit with their bids cash, a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of amount of Base Bid, plus all additive alternates ("Bid Bond"). If Bidder chooses to provide a Bid Bond as security, Bidder must use the required form of corporate surety provided by District. The Surety on Bidder's Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed nonresponsive and will not be considered.
12. If Bidder to whom the Contract is awarded fails or neglects to enter into the Contract and submit required bonds, insurance certificates, and all other required documents, within **FOURTEEN (14)** calendar days after the date of the Notice of Award, District may deposit Bid Bond, cash, cashier's check, or certified check for collection, and proceeds thereof may be retained by District as liquidated damages for failure of Bidder to enter into Contract, in the sole discretion of District. It is agreed that calculation of damages District may suffer as a result of Bidder's failure to enter into the Contract would be extremely difficult and impractical to determine and that the amount of the Bidder's required bid security shall be the agreed and conclusively presumed amount of damages.
13. Bidders must submit with the bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total bid. Failure to submit this list when required

by law shall result in bid being deemed nonresponsive and the bid will not be considered.

14. All of the listed subcontractors are required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
  - a. An inadvertent error in listing the California contractor license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
  - b. An inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
    - (1) The subcontractor is registered prior to the bid opening.
    - (2) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
    - (3) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
15. If a mandatory pre-bid conference and site visit ("Site Visit") is required as referenced in the Notice to Bidders, then Bidders must submit the Site Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
16. Bidders shall submit the Non-Collusion Declaration with their bids. Bids submitted without the Non-Collusion Declaration shall be deemed nonresponsive and will not be considered.
17. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the Department of Industrial Relations, are available upon request at the District's principal office. Prevailing wage rates are also available on the internet at <http://www.dir.ca.gov>.
18. Section 17076.11 of the Education Code requires school districts using funds allocated pursuant to the State of California School Facility Program for the construction and/or modernization of school building(s) to have a participation goal

for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended on projects that receive state funding or demonstrate its good faith effort to solicit DVBE participation in this Contract. In order to meet this requirement by demonstrating a good faith effort, Bidder must advertise for DVBE-certified subcontractors and suppliers before submitting its Bid. For any project that is at least partially state-funded, the lowest responsive responsible Bidder awarded the Contract must submit certification of compliance with the procedures for implementation of DVBE contracting goals with its signed Agreement. DVBE Certification form is attached. Do not submit this form with your Bid.

19. Submission of bid signifies careful examination of Contract Documents and complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of a bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:
  - a. Bidder has visited the Site, if required, and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions and federal, state and local laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto;
  - b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;
  - c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;
  - d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution(s) thereof by the District is/are acceptable to Bidder;
  - e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;



- f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by this document and that Bidder represented in its Bid Form and Proposal and the Agreement that it performed prior to bidding. Contractor under this Contract is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.
  - g. Conditions Shown on the Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.
    - (1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.
    - (2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions that the Bidder has drawn from such information; nor is the District responsible for subsurface conditions that are not specifically shown (for example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown).
20. Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Bidder may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified. The District is not responsible and/or liable in any way for a Contractor's damages and/or claims related, in any way, to that Contractor's basing its bid on any requested substitution that the District has not approved in advance and in writing. Contractors and materials suppliers who submit requests for substitutions prior to the award of the Contract must do so in writing and in compliance with Public Contract Code section 3400. All requests must comply with the following:
- a. District must receive any notice of request for substitution of a specified item a minimum of **TEN (10)** calendar days prior to bid opening. The Successful

Bidder will not be allowed to substitute specified items unless properly noticed.

- b. Within 35 days after the date of the Notice of Award, the Successful Bidder shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.
  - c. Approved substitutions, if any, shall be listed in Addenda. District reserves the right not to act upon submittals of substitutions until after bid opening.
  - d. Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions and the Specifications.
21. Bidders may examine any available "as-built" drawings of previous work by giving District reasonable advance notice. District will not be responsible for accuracy of "as-built" drawings. The document entitled Existing Conditions applies to all supplied "as-built" drawings.
- All questions about the meaning or intent of the Contract Documents are to be directed via email to the District to [zasoskil@bcsd.com](mailto:zasoskil@bcsd.com) and [orozcob@bcsd.com](mailto:orozcob@bcsd.com). Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed, faxed, mailed, or delivered to all parties recorded by the District as having received the Contract Documents or posted on the District's website at <http://mot.bcsd.com/Construction%20Consultants/Nichols%20Library%20Remodel%2026197.00-54-MB/>. Questions received less than **FIVE (5)** calendar days prior to the date for opening bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
22. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
23. Each Bidder must acknowledge each Addendum in its Bid Form and Proposal by number or its Bid shall be considered non-responsive. Each Addendum shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.
24. This Contract may include alternates. Alternates are defined as alternate products, materials, equipment, systems, methods, or major elements of the construction that may, at the District's option and under terms established in the Contract and pursuant to section 20103.8 of the Public Contract Code, be selected for the Work.
25. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the criteria as indicated in the Notice to Bidders. In the event two or more responsible bidders submit identical bids, the District shall select the Bidder to whom to award the Contract by lot.

26. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.
27. Bidders in contention for contract awards shall be required to attend a Post-Bid interview, which will be set within three (3) calendar days following bid opening. A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person. The apparent low bidder's authorized representative(s) must have (1) knowledge of how the bid submitted was prepared, (2) the person responsible for supervising performance of the Work, and (3) the authority to bind the apparent low bidder. Failure to attend the Post Bid Interview as scheduled will be considered just cause for the District to reject the Bid as nonresponsive.
28. Any bid protest by any Bidder regarding any other bid must be submitted in writing to the District, before 5:00 p.m. of the **THIRD (3rd)** business day following bid opening.
  - a. Only a Bidder who has actually submitted a bid, and who could be awarded the Contract if the bid protest is upheld, is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. A Bidder may not rely on the bid protest submitted by another Bidder.
  - b. A bid protest must contain a complete statement of any and all bases for the protest and all supporting documentation. Materials submitted after the bid protest deadline will not be considered.
  - c. The protest must refer to the specific portions of all documents that form the basis for the protest.
    - (1) Without limitation to any other basis for protest, an inadvertent error in listing the California contractor's license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
    - (2) Without limitation to any other basis for protest, an inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
      - (i) The subcontractor is registered prior to the bid opening.
      - (ii) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
      - (iii) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
  - d. The protest must include the name, address and telephone number of the person representing the protesting party.

- e. The party filing the protest must concurrently transmit a copy of the protest and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
  - f. The procedure and time limits set forth in this paragraph are mandatory and are each bidder's sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
29. The Bidder to whom Contract is awarded shall execute and submit the following documents by 5:00 p.m. of the **FOURTEEN (14th)** calendar day following the date of the Notice of Award. Failure to properly and timely submit these documents entitles District to reject the bid as nonresponsive.
- a. Agreement: To be executed by successful Bidder. Submit four (2) copies, each bearing an original signature.
  - b. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
  - c. Payment Bond (Contractor's Labor and Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
  - d. Insurance Certificates and Endorsements as required.
  - e. Workers' Compensation Certification.
  - f. Prevailing Wage and Related Labor Requirements Certification.
  - g. Disabled Veteran Business Enterprise Participation Certification.
  - h. Drug-Free Workplace Certification.
  - i. Tobacco-Free Environment Certification.
  - j. Lead-Based Materials Certification.
  - k. Criminal Background Investigation/Fingerprinting Certification.
  - l. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.
30. Time for Completion: District may issue a Notice to Proceed within **NINETY (90)** days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.

- a. In the event that the District desires to postpone issuing the Notice to Proceed beyond this 90-day period, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed.
  - b. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed beyond a 90-day period. If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to the Contractor, the Contractor may terminate the Contract. Contractor's termination due to a postponement beyond this 90-day period shall be by written notice to District within **TEN (10)** calendar days after receipt by Contractor of District's notice of postponement.
  - c. It is further understood by the Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and which the District had in writing authorized Contractor to perform prior to issuing a Notice to Proceed.
  - d. Should the Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.
31. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, nonresponsive, unbalanced, or conditional bids, to re-bid, and to reject the bid of any bidder if District believes that it would not be in the best interest of the District to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by District. District also reserves the right to waive any inconsequential deviations or irregularities in any bid. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for some work items and/or enhanced prices for other work items.
32. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, color, gender, sexual orientation, political affiliation, age, ancestry, religion, marital status, national origin, medical condition or disability. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.
33. Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time.

END OF DOCUMENT

**BID FORM AND PROPOSAL**

To: Governing Board of the Bakersfield City School District ("District" or "Owner")

From: \_\_\_\_\_  
(Proper Name of Bidder)

The undersigned declares that Bidder has read and understands the Contract Documents, including, without limitation, the Notice to Bidders and the Instructions to Bidders, and agrees and proposes to furnish all necessary labor, materials, and equipment to perform and furnish all work in accordance with the terms and conditions of the Contract Documents, including, without limitation, the Drawings and Specifications of Bid No. **26197.00-54-MB**, for the following project known as:

**Nichols Elementary School Library Remodel**

("Project" or "Contract") and will accept in full payment for that Work the following total lump sum amount, all taxes included:

_____ dollars      \$ _____
<b><i>BASE BID</i></b>

**Additive/Deductive Alternates: None**

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

**Additional Detail Regarding Calculation of Base Bid**

1. The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.
2. The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Construction Manager before bid date to verify the issuance of any clarifying Addenda.
3. The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.
4. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
5. It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.
6. The following documents are attached hereto:
  - Bid Bond on the District's form or other security
  - Designated Subcontractors List
  - Site Visit Certification
  - Non-Collusion Declaration
7. Receipt and acceptance of the following Addenda is hereby acknowledged:

No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____

8. Bidder acknowledges that the license required for performance of the Work is a \_\_\_\_\_ license.
9. Bidder hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.
10. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with all requirements of the Department of Industrial Relations.



11. Bidder hereby certifies that its bid includes sufficient funds to permit Bidder to comply with all local, state or federal labor laws or regulations during the Project, including payment of prevailing wage, and that Bidder will comply with the provisions of Labor Code section 2810(d) if awarded the Contract
12. Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.
13. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.
14. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Gov. Code, § 12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.
15. The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.

Furthermore, Bidder hereby certifies to the District that all representations, certifications, and statements made by Bidder, as set forth in this bid form, are true and correct and are made under penalty of perjury.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_

Name of Bidder: \_\_\_\_\_

Type of Organization: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Taxpayer Identification No. of Bidder: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail: \_\_\_\_\_ Web Page: \_\_\_\_\_

Contractor's License No(s): No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Public Works Contractor Registration No.: \_\_\_\_\_

END OF DOCUMENT

**BID BOND**

**(Note: If Bidder is providing a bid bond as its bid security, Bidder must use this form, NOT a surety company form.)**

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, \_\_\_\_\_, as Principal ("Principal"),

and \_\_\_\_\_, as Surety ("Surety"), a corporation organized and existing under and by virtue of the laws of the State of California and authorized to do business as a surety in the State of California, are held and firmly bound unto the Bakersfield City School District ("District") of Kern County, State of California, as Obligee, in an amount equal to ten percent (10%) of the Base Bid plus alternates, in the sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

lawful money of the United States of America, for the payment of which sum well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted a bid to the District for all Work specifically described in the accompanying bid for the following project: **Nichols Elementary School Library Remodel** ("Project" or "Contract").

NOW, THEREFORE, if the Principal is awarded the Contract and, within the time and manner required under the Contract Documents, after the prescribed forms are presented to Principal for signature, enters into a written contract, in the prescribed form in accordance with the bid, and files two bonds, one guaranteeing faithful performance and the other guaranteeing payment for labor and materials as required by law, and meets all other conditions to the Contract between the Principal and the Obligee becoming effective, or if the Principal shall fully reimburse and save harmless the Obligee from any damage sustained by the Obligee through failure of the Principal to enter into the written contract and to file the required performance and labor and material bonds, and to meet all other conditions to the Contract between the Principal and the Obligee becoming effective, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. The full payment of the sum stated above shall be due immediately if Principal fails to execute the Contract within fourteen (14) days of the date of the District's Notice of Award to Principal.

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

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorneys' fee to be fixed by the Court.

If the District awards the bid, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
By

\_\_\_\_\_  
Surety

\_\_\_\_\_  
By

\_\_\_\_\_  
Name of California Agent of Surety

\_\_\_\_\_  
Address of California Agent of Surety

\_\_\_\_\_  
Telephone Number of California Agent of Surety

**Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notarial Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.**

END OF DOCUMENT

**DESIGNATED SUBCONTRACTORS LIST**  
**(Public Contact Code Sections 4100-4114)**

PROJECT: **Nichols Elementary School Library Remodel**

Bidder acknowledges and agrees that it must clearly set forth below the name, location and California contractor license number of each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or who will specially fabricate and install a portion of the Work according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent (0.5%) of Bidder's total Base Bid and the kind of Work that each will perform. Vendors or suppliers of materials only do not need to be listed.

Bidder acknowledges and agrees that, if Bidder fails to list as to any portion of Work, or if Bidder lists more than one subcontractor to perform the same portion of Work, Bidder must perform that portion itself or be subjected to penalty under applicable law. In case more than one subcontractor is named for the same kind of Work, state the portion of the kind of Work that each subcontractor will perform.

If alternate bid(s) is/are called for and Bidder intends to use subcontractors different from or in addition to those subcontractors listed for work under the Base Bid, Bidder must list subcontractors that will perform Work in an amount in excess of one half of one percent (0.5%) of Bidder's total Base Bid plus alternate(s).

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**SITE VISIT CERTIFICATION**

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID  
IF SITE VISIT WAS MANDATORY

PROJECT: **Nichols Elementary School Library Remodel**

Check option that applies:

\_\_\_\_\_ I certify that I visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

\_\_\_\_\_ I certify that \_\_\_\_\_ (Bidder's representative) visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully indemnifies the Bakersfield City School District, its Architect, its Engineers, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**NON-COLLUSION DECLARATION  
(Public Contract Code Section 7106)**

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.  
[Title] [Name of Firm]

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

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

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

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



**WORKERS' COMPENSATION CERTIFICATION**

PROJECT/CONTRACT NO.: Nichols Elementary School Library Remodel / 26197.00-54-MB  
between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

Labor Code section 3700, in relevant part, provides:

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

- a. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; and/or
- b. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

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

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

END OF DOCUMENT

**PREVAILING WAGE AND  
RELATED LABOR REQUIREMENTS CERTIFICATION**

PROJECT/CONTRACT NO.: **Nichols Elementary School Library Remodel Project No. 26197.00-54-MB** between the Bakersfield City School District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**DISABLED VETERAN BUSINESS  
ENTERPRISE PARTICIPATION CERTIFICATION**

PROJECT/CONTRACT NO.: Nichols Elementary School Library Remodel / Project  
#26197.00-54-MB between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or  
"Project").

**GENERAL INSTRUCTIONS**

Section 17076.11 of the Education Code requires school districts using, or planning to use, funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year by the school district on projects that receive state funding. Therefore, the lowest responsive responsible Bidder awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract. **Do not submit this form with your bids.**

**PART I – Method of Compliance with DVBE Participation Goals.** Check the appropriate box to indicate your method of committing the contract dollar amount.

<b>YOUR BUSINESS ENTERPRISE IS:</b>	<b>AND YOU WILL</b>	<b>AND YOU WILL</b>
<b>A.</b> <input type="checkbox"/> Disabled veteran owned and your forces will perform at least 3% of this Contract	Include a copy of your DVBE letter from Office of Small Business and Disabled Veterans Business Enterprise Services ("OSDS")*	Complete Part 1 of this form and the Certification
<b>B.</b> <input type="checkbox"/> Disabled veteran owned but is unable to perform 3% of this Contract with your forces	Use DVBE subcontractors /suppliers to bring the Contract participation to at least 3%	Include a copy of each DVBE's letter from OSDS (including yours, if applicable), and complete Part 1 of this form and the Certification
<b>C.</b> <input type="checkbox"/> <b>NOT</b> disabled veteran owned	Use DVBE subcontractors /suppliers for at least 3% of this Contract	
<b>D.</b> <input type="checkbox"/> Unable to meet the required participation goals after good faith efforts	Make good faith efforts, including contacts, advertisement and DVBE solicitation	Complete all of this form and the Certification

\* A DVBE letter from OSDS is obtained from the participating DVBE.

**You must complete the following table to show the dollar amount of DVBE participation:**

	<b>TOTAL CONTRACT PRICE</b>
<b>A.</b> Prime Bidder, if DVBE (own participation)	\$
<b>B.</b> DVBE Subcontractor or Supplier	
<b>1.</b>	
<b>2.</b>	
<b>3.</b>	
<b>4.</b>	
<b>C.</b> Subtotal (A & B)	
<b>D.</b> Non-DVBE	
<b>E.</b> Total Bid	

**PART II – Contacts.** To identify DVBE subcontractors/suppliers for participation in your contract, you must contact each of the following categories. You should contact several DVBE organizations.

<b>CATEGORY</b>	<b>TELEPHONE NUMBER</b>	<b>DATE CONTACTED</b>	<b>PERSON CONTACTED</b>
<b>1.</b> The District, if any			*
<b>2.</b> OSDS, provides assistance locating DVBEs at <a href="https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx">https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx</a>	(916) 375-4940		*
<b>3.</b> DVBE Organization (List)			*

\*Write "recorded message" in this column, if applicable.

**PART III – Advertisement.** You must advertise for DVBE participation in both a trade and focus paper. List the advertisement you place to solicit DVBE participation. Advertisements should be published at least fourteen (14) days prior to bid/proposal opening; if you cannot advertise fourteen (14) days prior, advertisements should be published as soon as possible. Advertisements must include that your firm is seeking DVBE participation, the project name and location, and your firm’s name, your contact person, and telephone number. Attach copies of advertisements to this form.

FOCUS/TRADE PAPER NAME	CHECK ONE		DATE OF ADVERTISEMENT
	TRADE	FOCUS	

**PART IV – DVBE Solicitations.** List DVBE subcontractors/suppliers that were invited to bid. Use the following instructions to complete the remainder of this section (read the three columns as a sentence from left to right). If you need additional space to list DVBE solicitations, please use a separate page and attach to this form.

IF THE DVBE.....	THEN.....		AND.....	
was selected to participate	Check "YES" in the "SELECTED" column		include a copy of their DVBE letter(s) from OSDS	
was <b>NOT</b> selected to participate	Check "NO" in the "SELECTED" column		state why in the "REASON NOT SELECTED" column	
did not respond to your solicitation	Check the "NO RESPONSE" column.			
DVBE CONTACTED	SELECTED		REASON NOT SELECTED	NO RESPONSE
	YES	NO		

A copy of this form must be retained by you and may be subject to a future audit.

**CERTIFICATION**

I, \_\_\_\_\_, certify that I am the bidder's \_\_\_\_\_  
and that I have made a diligent effort to ascertain the facts with regard to the  
representations made herein. In making this certification, I am aware of section 12650 et  
seq. of the Government Code providing for the imposition of treble damages for making  
false claims.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**DRUG-FREE WORKPLACE CERTIFICATION**

PROJECT/CONTRACT NO.: Nichols Elementary School Library Remodel / 26197.00-54-MB  
between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

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

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor must also comply with the provisions of Health & Safety Code section 11362.3 which prohibits the consumption or possession of cannabis or cannabis products in any public place, including school grounds, and specifically on school grounds while children are present.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.
- b. Establishing a drug-free awareness program to inform employees about all of the following:
  - (1) The dangers of drug abuse in the workplace.
  - (2) The person's or organization's policy of maintaining a drug-free workplace.
  - (3) The availability of drug counseling, rehabilitation, and employee-assistance programs.
  - (4) The penalties that may be imposed upon employees for drug abuse violations.
- c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a

condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

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

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990 and Health and Safety Code section 11362.3.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



**TOBACCO-FREE ENVIRONMENT CERTIFICATION**

PROJECT/CONTRACT NO.: Nichols Elementary School Library Remodel / 26197.00-54-MB  
between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C. section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq., Business and Professions Code section 22950 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. The prohibition on smoking includes the use of any electronic smoking device that creates an aerosol or vapor, in any manner or in any form, and the use of any oral smoking device for the purpose of circumventing the prohibition of tobacco smoking. Further, Health & Safety Code section 11362.3 prohibits the smoking or use of cannabis or cannabis products in any place where smoking tobacco is prohibited.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**LEAD-BASED MATERIALS CERTIFICATION**

PROJECT/CONTRACT NO.: Nichols Elementary School Library Remodel / 26197.00-54-MB  
between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

- (1) Contractor's work may disturb lead-containing building materials.
- (2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.
- (3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

**1. Lead as a Health Hazard**

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburse when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

**2. Overview of California Law**

Education Code section 32240 et seq. is known as the Lead-Safe Schools Protection Act. Under this act, the Department of Health Services is to conduct a sample survey of schools in the State of California for the purpose of developing risk factors to predict lead contamination in public schools. (Ed. Code, § 32241.)

Any school that undertakes any action to abate existing risk factors for lead is required to utilize trained and state-certified contractors, inspectors, and workers. (Ed. Code, § 32243, subd. (b).) Moreover, lead-based paint, lead plumbing, and solders, or other potential sources of lead contamination, shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility. (Ed. Code, § 32244.)

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements imposed on contractors subject to those regulations. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. Regulated work includes, but is not limited to, the following:

- a. Demolition or salvage of structures where lead or materials containing lead are present;
- b. Removal or encapsulation of materials containing lead;
- c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- d. Installation of products containing lead;
- e. Lead contamination/emergency cleanup;
- f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- g. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

**Contractor shall notify the District if any Work may result in the disturbance of lead-containing building materials. Any and all Work that may result in the disturbance of lead-containing building materials shall be coordinated through the District. A signed copy of this Certification shall be on file prior to beginning Work on the Project, along with all current insurance certificates.**

**3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act**

The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation, repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be conducted by certified renovations firms, using renovators with training by a EPA-accredited training provider, and fully and adequately complying with all applicable laws, rules and regulations governing lead-based materials, including those rules and regulations appearing within title 40 of the Code of Federal Regulations as part 745 (40 CFR 745).

The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors. If a DPH-certified inspector or risk assessor determines that a home constructed before 1978 is lead-free, the federal certification is not required for anyone working on that particular building.

**4. Contractor's Liability**

If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom.

If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses, and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including, but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;
2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**CRIMINAL BACKGROUND INVESTIGATION/  
FINGERPRINTING CERTIFICATION**

PROJECT/CONTRACT NO.: Nichols Elementary School Library Remodel / 26197.00-54-MB  
between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

The undersigned does hereby certify to the District that I am a representative of the Contractor currently under contract with the District; that I am familiar with the facts herein certified; and that I am authorized and qualified to execute this certificate on behalf of Contractor.

Contractor certifies that it has taken at least one of the following actions (check all that apply):

- ☐ Pursuant to Education Code section 45125.2(a), Contractor has installed or will install, prior to commencement of Work, a physical barrier at the Work Site, that will limit contact between Contractor's employees, Subcontractors or suppliers and District pupils at all times; and/or
- ☐ Pursuant to Education Code section 45125.2(a), Contractor certifies that all employees will be under the continual supervision of, and monitored by, an employee of the Contractor who the California Department of Justice ("DOJ") has ascertained, or as described below, will ascertain, has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's and its subcontractors' or suppliers' employees is:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**NOTE:** If Contractor is a sole proprietor, and elects the above option, Contractor must have the above-named employee's fingerprints prepared and submitted by District for submission to the DOJ, in accordance with Education Code section 45125.1(h). No work shall commence until such determination by DOJ has been made.

- ☐ Pursuant to Education Code section 45125.2(a), the District will take appropriate steps to protect the safety of any pupils that may come in contact with Contractor's employees, subcontractors or suppliers so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.2 shall not apply to Contractor under the Contract.
- ☐ The Work on the Contract is either (i) at an unoccupied school site and no employee of Contractor and/or subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) if Contractor's employees or any subcontractor or supplier of any tier of the Contract interacts with pupils, such interaction shall only take place under the immediate supervision and control of the pupil's parent or guardian or a school employee, so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.1 shall not apply to Contractor under the Contract.

- ☐ The Contractor, who is not a sole proprietor, has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees and all of its Subcontractors' employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the DOJ has determined (A) that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). When the Contractor performs the criminal background check, it shall immediately provide any subsequent arrest and conviction information it receives to the District pursuant to the subsequent arrest service. No work shall commence until the Department of Justice ascertains that Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in Education Code Section 45122.1.

**A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto as ATTACHMENT "A;" and/or**

- ☐ The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education Code section 45125.1(h) with respect to all Contractor's employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and hereby agrees to the District's preparation and submission of fingerprints such that the DOJ may determine (A) that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). No work shall commence until the Department of Justice ascertains that Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in Education Code Section 45122.1.

Contractor's responsibility for background clearance extends to all of its employees, Subcontractors or suppliers, and employees of Subcontractors or suppliers coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

Date: \_\_\_\_\_  
Proper Name of Contractor: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

[CONTINUED ON NEXT PAGE]

**ATTACHMENT "A"**

**List of Employees/Subcontractors**

**Name/Company:** \_\_\_\_\_

**Name/Company:** \_\_\_\_\_

**Name/Company:** \_\_\_\_\_

**Name/Company:** \_\_\_\_\_

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**Name/Company:** \_\_\_\_\_

**Name/Company:** \_\_\_\_\_

If further space is required for the list of employees/subcontractors, attach additional copies of this page.

END OF DOCUMENT



**REGISTERED SUBCONTRACTORS LIST**  
**(Labor Code Section 1771.1)**

PROJECT: Nichols Elementary School Library Remodel / 26197.00-54-MB

Date Submitted (for Updates): \_\_\_\_\_

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

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DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

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DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

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DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

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DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

Date: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**AGREEMENT**

THIS AGREEMENT IS MADE AND ENTERED INTO THIS \_\_\_\_\_ DAY OF \_\_\_\_\_  
\_\_\_\_\_, 20\_\_\_\_, by and between the Bakersfield City School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor") ("Agreement").

**WITNESSETH:** That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other, as follows:

- 1. The Work:** Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, and material necessary to perform and complete in a good and workmanlike manner, the work of the following project:

**Nichols Elementary School Library Remodel / 26197.00-54-MB**

("Project" or "Contract" or "Work")

It is understood and agreed that the Work shall be performed and completed as required in the Contract Documents including, without limitation, the Drawings and Specifications and submission of all documents required to secure funding or by the Division of the State Architect for close-out of the Project, under the direction and supervision of, and subject to the approval of, the District or its authorized representative.

- 2. The Contract Documents:** The complete Contract consists of all Contract Documents as defined in the General Conditions and incorporated herein by this reference. Any and all obligations of the District and Contractor are fully set forth and described in the Contract Documents. All Contract Documents are intended to cooperate so that any Work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all Contract Documents.
- 3. Interpretation of Contract Documents:** Should any question arise concerning the intent or meaning of Contract Documents, including the Drawings or Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, valid, written modifications, beginning with the most recent, shall control over this Agreement (if any), which shall control over the Special Conditions, which shall control over any Supplemental Conditions, which shall control over the General Conditions, which shall control over the remaining Division 0 documents, which shall control over Division 1 Documents which shall control over Division 2 through Division 49 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In the case of a discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications. In no case shall a document calling for lower quality and/or quantity material or workmanship control. The decision of the District in the matter shall be final.

4. **Time for Completion:** It is hereby understood and agreed that the Work under this Contract shall be completed **per attachment S Baseline Bid Schedule** ("Contract Time") from the date specified in the District's Notice to Proceed.
5. **Completion - Extension of Time:** Should the Contractor fail to complete this Contract, and the Work provided herein, within the time fixed for completion, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its Work with the Work of all other contractors. The District shall not be liable for delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the Work of other contractors.
6. **Liquidated Damages:** Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of one thousand dollars (\$1,000.00) per day as liquidated damages for each and every day's delay beyond the time herein prescribed in completion of the Work.

It is hereby understood and agreed that this amount is not a penalty.

In the event that any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement, and such deduction does not constitute a withholding or penalty. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

The time during which the Contract is delayed for cause, as hereinafter specified, may extend the time of completion for a reasonable time as the District may grant, provided that Contractor has complied with the claims procedure of the Contract Documents. This provision does not exclude the recovery of damages by either party under other provisions in the Contract Documents.

7. **Loss Or Damage:** The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.
8. **Limitation Of District Liability:** District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits or revenue, lost bonding capacity, arising out of or in connection with this Contract for the services performed in connection with this Contract.

9. **Insurance and Bonds:** Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.
10. **Prosecution of Work:** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.
11. **Authority of Architect, Project Inspector, and DSA:** Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.
12. **Assignment of Contract:** Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.
13. **Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type "**B**" Contractor's license(s) issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.
14. **Registration as Public Works Contractor:** The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.
15. **Payment of Prevailing Wages:** The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code.
16. **Labor Compliance Monitoring and Enforcement:** This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.

- 17. Contract Price:** In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

\_\_\_\_\_ **Dollars**  
(\$ \_\_\_\_\_),

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

- 18. No Representations:** No representations have been made other than as set forth in writing in the Contract Documents, including this Agreement. Each of the Parties to this Agreement warrants that it has carefully read and understood the terms and conditions of this Agreement and all Contract Documents, and that it has not relied upon the representations or advice of any other Party or any attorney not its own.
- 19. Entire Agreement:** The Contract Documents, including this Agreement, set forth the entire agreement between the parties hereto and fully supersede any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.
- 20. Severability:** If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.
- 21. Authority of Signatories:** Each party has the full power and authority to enter into and perform this Contract, and the person signing this Contract on behalf of each party has been properly authorized and empowered to enter into this Contract. This Contract may be executed in one or more counterparts, each of which shall be deemed an original. For this Agreement, and for all Contract Documents requiring a signature, a facsimile or electronic signature shall be deemed to be the equivalent of the actual original signature. All counterparts so executed shall constitute one Contract binding all the Parties hereto.

- 22. Compliance with Law.** The Parties shall observe and comply with all applicable county, state and federal laws, ordinances, rules and regulations now in effect or hereafter enacted, each of which are hereby made a part hereof and incorporated herein by reference. Contractor shall observe and comply with all rules and regulations of the Board of the District and all federal, state, and local laws, ordinances and regulations. Contractor shall give all notices required by any law, ordinance, rule and regulation bearing on conduct of their staff and representatives. If Contractor observes that any of the Services required by this Agreement are at variance with any such laws, ordinance, rules or regulations, Contractor shall notify the District, in writing, and, at the sole option of the District, any necessary changes to the scope shall be made and this Agreement shall be appropriately amended in writing, or this Agreement shall be terminated effective upon Contractor's receipt of a written termination notice from the District.

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

**CONTRACTOR NAME**

**BAKERSFIELD CITY SCHOOL DISTRICT**

By: \_\_\_\_\_

By: \_\_\_\_\_

Print Name: \_\_\_\_\_

Print Name: Leonard Zasoski, Jr.

Title: \_\_\_\_\_

Title: Assistant Director II, MOF

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

**PERFORMANCE BOND**  
**(100% of Contract Price)**

**(Note: Contractor must use this form, NOT a surety company form.)**

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Bakersfield City School District, ("District") and \_\_\_\_\_ ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

**Nichols Elementary School Library Remodel / 26197.00-54-MB**

("Project" or "Contract") which Contract dated \_\_\_\_\_, 20\_\_\_\_, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and \_\_\_\_\_ ("Surety") are held and firmly bound unto the Board of the District in the penal sum of \_\_\_\_\_

Dollars (\$\_\_\_\_\_), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Promptly perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

Or, at the District's sole discretion and election, the Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the District of the lowest responsible bidder, arrange for a contract between such bidder and the District and make available as Work progresses sufficient funds to pay the cost of completion less the "balance of the Contract Price," and to pay and perform all obligations of Principals under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by the District under the Contract and any modifications thereto, less the amount previously paid by the District to the Principal, less any withholdings by the District allowed under the Contract. District shall not be required or obligated to accept a tender of a completion contractor from the Surety for any or no reason.

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration



thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

Surety expressly agrees that the District may reject any contractor or subcontractor proposed by Surety to fulfill its obligations in the event of default by the Principal. Surety shall not utilize Principal in completing the Work nor shall Surety accept a Bid from Principal for completion of the Work if the District declares the Principal to be in default and notifies Surety of the District's objection to Principal's further participation in the completion of the Work.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond. The Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond by any overpayment or underpayment by the District that is based upon estimates approved by the Architect. The Surety does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

**Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.**

END OF DOCUMENT

**PAYMENT BOND**  
**Contractor's Labor & Material Bond**  
**(100% Of Contract Price)**

**(Note: Contractor must use this form, NOT a surety company form.)**

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Bakersfield City School District, ("District") and \_\_\_\_\_, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

**Nichols Elementary School Library Remodel / 26197.00-54-MB**

("Project" or "Contract") which Contract dated \_\_\_\_\_, 20\_\_\_\_, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and \_\_\_\_\_ ("Surety") are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of its subcontractors, or their heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of his or its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

**Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.**

END OF DOCUMENT

**PROPOSED CHANGE ORDER FORM**

Bakersfield City School District  
 1501 Feliz Drive  
 Bakersfield, CA 93307

**PCO NO.:**

**Project: Nichols Elementary School Library Remodel**  
**Bid No.: 26197.00-54-MB**  
**RFI #:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Contractor hereby submits for District's review and evaluation this Proposed Change Order ("PCO"), submitted in accordance with and subject to the terms of the Contract Documents, including Sections 17.7 and 17.8 of the General Conditions. Any spaces left blank below are deemed no change to cost or time.

Contractor understands and acknowledges that documentation supporting Contractor's PCO must be attached and included for District review and evaluation. Contractor further understands and acknowledges that failure to include documentation sufficient to, in District's discretion, support some or all of the PCO, shall result in a rejected PCO.

	<b><u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u></b>	<b><u>ADD</u></b>	<b><u>DEDUCT</u></b>
(a)	<b><u>Material</u></b> (attach suppliers' invoice or itemized quantity and unit cost plus sales tax)		
(b)	<b><u>Add Labor</u></b> (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	<b><u>Add Equipment</u></b> (attach suppliers' invoice)		
(d)	<b><u>Subtotal</u></b>		
(e)	<b><u>Add overhead and profit for any and all tiers of Subcontractor</u></b> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<b><u>Subtotal</u></b>		
(g)	<b><u>Add General Conditions</u></b> (if Time is Compensable) (attach supporting documentation)		
(h)	<b><u>Subtotal</u></b>		
(i)	<b><u>Add Overhead and Profit for Contractor</u></b> , not to exceed five percent (5%) of Item (h)		
(j)	<b><u>Subtotal</u></b>		
(k)	<b><u>Add Bond and Insurance</u></b> , not to exceed two percent (2%) of Item (j)		
(l)	<b><u>TOTAL</u></b>		
(m)	<b><u>Time</u></b> (zero unless indicated; "TBD" not permitted)	<b>Calendar Days</b>	

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

	<b>WORK PERFORMED BY CONTRACTOR</b>	<b>ADD</b>	<b>DEDUCT</b>
(a)	<b>Material</b> (attach itemized quantity and unit cost plus sales tax)		
(b)	<b>Add Labor</b> (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	<b>Add Equipment</b> (attach suppliers' invoice)		
(d)	<b>Add General Conditions</b> (if Time is Compensable) (attach supporting documentation)		
(e)	<b>Subtotal</b>		
(f)	<b>Add Overhead and Profit for Contractor</b> , not to exceed fifteen percent (15%) of Item (e)		
(g)	<b>Subtotal</b>		
(h)	<b>Add Bond and Insurance</b> , not to exceed two percent (2%) of Item (g)		
(i)	<b>TOTAL</b>		
(j)	<b>Time</b> (zero unless indicated; "TBD" not permitted)	<b>Calendar Days</b>	

The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project including, without limitation, cumulative impacts. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

**SUBMITTED BY:**

Contractor:

\_\_\_\_\_  
[Name]

\_\_\_\_\_  
Date

END OF DOCUMENT

**CHANGE ORDER FORM**

Bakersfield City School District  
 1501 Feliz Drive  
 Bakersfield, CA 93307

**CHANGE ORDER NO.:**

**CHANGE ORDER**

**Project: Nichols Elementary School Library Remodel**  
**Bid No.: 26197.00-54-MB**

**Date:** \_\_\_\_\_

The following parties agree to the terms of this Change Order:

**Owner:** \_\_\_\_\_  
 [Name / Address]

**Contractor:** \_\_\_\_\_  
 [Name / Address]

**Architect: N/A**  
 [Name / Address]

**Project Inspector: N/A**  
 [Name / Address]

Reference	Description	Cost	Days Ext.
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	\$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	\$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	\$	
Contract time will be adjusted as follows:		Original Contract Amount:	\$
Previous Completion Date: __[Date]		Amount of Previously Approved Change Order(s):	\$
_____[#] Calendar Days Extension (zero unless otherwise indicated)		Amount of this Change Order:	\$
Current Completion Date: __[Date]		Contract Amount:	\$

The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire work as stated therein, and agrees to furnish all labor, materials

**BAKERSFIELD CITY SCHOOL DISTRICT**

**CHANGE ORDER FORM  
DOCUMENT 00 63 63-1**

and services and perform all work necessary to complete any additional work specified for the consideration stated therein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

This change order is subject to approval by the governing board of this District and must be signed by the District. Until such time as this change order is approved by the District's governing board and executed by a duly authorized District representative, this change order is not effective and not binding.

It is expressly understood that the compensation and time, if any, granted herein represent a full accord and satisfaction for any and all time and cost impacts of the items herein, and Contractor waives any and all further compensation or time extension based on the items herein. The value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, and its subcontractors, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project including without limitation, cumulative impacts. Any costs, expenses, damages or time extensions not included are deemed waived.

**Signatures:**

District:

Contractor:

\_\_\_\_\_  
[Name]

\_\_\_\_\_  
Date

\_\_\_\_\_  
[Name]

\_\_\_\_\_  
Date

Architect:

Project Inspector:

\_\_\_\_\_  
[Name]

\_\_\_\_\_  
Date

\_\_\_\_\_  
[Name]

\_\_\_\_\_  
Date

END OF DOCUMENT

**GUARANTEE FORM**

\_\_\_\_\_ ("Contractor") hereby agrees that the \_\_\_\_\_  
\_\_\_\_\_ ("Work" of Contractor) which Contractor has installed for the Bakersfield City  
School District ("District") for the following project:

PROJECT: **Nichols Elementary School Library Remodel / 26197.00-54-MB**

("Project" or "Contract") has been performed in accordance with the requirements of the  
Contract Documents and that the Work as installed will fulfill the requirements of the  
Contract Documents.

The undersigned agrees to repair or replace any or all of such Work that may prove to be  
defective in workmanship or material together with any other adjacent Work that may be  
displaced in connection with such replacement within a period of one year(s) from the date  
of completion as defined in Public Contract Code section 7107, subdivision (c), ordinary  
wear and tear and unusual abuse or neglect excepted. The date of completion is  
\_\_\_\_\_, 20\_\_\_\_.

In the event of the undersigned's failure to comply with the above-mentioned conditions  
within a reasonable period of time, as determined by the District, but not later than seven  
(7) days after being notified in writing by the District, the undersigned authorizes the  
District to proceed to have said defects repaired and made good at the expense of the  
undersigned. The undersigned shall pay the costs and charges therefor upon demand.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Representatives to be contacted for service subject to terms of Contract:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Email: \_\_\_\_\_

END OF DOCUMENT





Tackboard



Storefront Windows



Siding Infill

LIBRARY ROOM 23 EXT NORTH WALL

NICHOLS ELEMENTARY





Tackboard



Storefront Windows



Siding Infill

LIBRARY ROOM 23 EXT SOUTH WALL

NICHOLS ELEMENTARY

## 27 0000 – COMMUNICATIONS GENERAL

### 1Part 1 General

#### 1.1 Related Sections

##### A General

- 1 This specification section provides general conditions for all division 27 specifications. All contractors working within the division 27 specification shall adhere to this specification.
  - Section 27 0258 – Communications Pathways
  - Section 27 1000 – Structured Cabling System

#### 1.2 Statement of Work

##### A General

- 1 This document describes the requirements for the contractors, products, and installation relating to furnishing and installing the described low voltage systems.
- 2 The Contractor will provide a bid including all labor, materials, tools and equipment required for the complete installation of work called for on the Construction Drawings and described in the specification sections. It is the responsibility of the Contractor to provide all material necessary to provide a complete and operable system. If the Contractor feels that the system described is incomplete they must address this in writing to the Owner's Representative before providing a bid.
- 3 All questions concerning non-specified products and services will be addressed to the Owner's Representative before the Contractor provides a bid. The Owner expects that by accepting the Contractor's bid proposal that the Contractor has provided a competent bid for a complete solution.
- 4 Product specifications, general design considerations, and installation guidelines are provided in this document. Typical installation details, and mounting details are provided in the Construction Drawings. The successful vendor shall meet or exceed all requirements for the systems described in this document.

#### 1.3 Regulatory References

##### A The Contractor will comply with the following:

- 1 Federal:
  - National Electrical Code (NEC) 2008 or latest approved
  - Chapter 8: "Communications Systems"
  - Article 250: "Grounding"
- 2 NFPA 70 – National Electric Code
- 3 FCC – Part 15, Part 68
- 4 ADA – Americans with Disabilities Act

##### B State of California

- 1 CCR, Part 2 – California Building Code
- 2 CCR, Part 3 – California Electrical Code
- 3 Occupational Safety and Health Act (OSHA)
- 4 Title 24, Building Standards, State of California
- 5 Title 19, California Code of Regulations
- 6 Title 8, Electrical Safety, State of California

##### C ANSI Standards

- 1 ANSI C2-2001 National Electrical Safety Code

- 2 ANSI C80.3 Specification for Zinc-Coated Electrical Metallic Tubing
- 3 ANSI/UL 797 Electrical Metallic Tubing
- 4 ANSI/CEA S-83-596-2001 – Fiber Optic Premises Distribution Cable Technical Requirements

**D Industry Standards**

- 1 Telecommunications Industry Associations/Electronics Industry Association (TIA/EIA)
  - TIA/EIA-568-C Commercial Building Telecommunications Cabling Standard
  - TIA/EIA-568-C.1 General Requirements
  - TIA/EIA-568-C.2 Balanced Twisted Pair Cabling Components Standard
  - TIA/EIA-568-C.3 Optical Fiber Cabling Components Standard
  - TIA/EIA-569-A Commercial Building Standard for Telecom Pathways and Spaces
  - TIA/EIA-606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
  - TIA/EIA-607 Commercial Building Grounding/Bonding
  - TIA/EIA-758 Customer Owned Outside Plant Telecommunications Cabling Standard
  - TIA/EIA-758-1 Addendum No. 1 to TIA/EIA-758, Customer Owner Outside Plant Telecommunications Cabling Standard
- 2 National Electrical Manufacturers Association (NEMA)
- 3 Institute of Electrical and Electronic Engineers (IEEE)
  - 802.3 (Ethernet)
  - 802.3ab (Gigabit Ethernet over 4-pair Category 5e, 6 & 6A or higher)
  - 802.3Z (Gigabit Ethernet over Optical Fiber)
- 4 Underwriters Laboratories Inc. (UL)
- 5 International Organization for Standardization/International Electromagnetic Commission (ISO/IEC) ISO 11801 Generic Cabling for Customer Premises
- 6 Building Industry Consulting Services International (BICSI) Telecommunications Distribution Methods Manual (TDMM 14th Edition or latest)
- 7 ASCII – American Standard Code for Information Interchange
- 8 ASTM – American Society for Testing Materials

**E Conflict**

- 1 If there is a conflict between applicable documents, then the more stringent requirement shall apply. All documents listed are believed to be the most current releases of the documents. The Contractor has the responsibility to determine and adhere to the most recent release when developing the proposal for installation.
- 2 This document does not replace any code, either partially or wholly. The Contractor must be aware of and comply with all local codes that may impact this project.

**1Part 2 Contractor Requirements/Qualifications**

**2.1 Safety and Indemnity**

**A General**

- 1 The contractor shall be solely and completely responsible for conditions of the job site, including safety of persons and property during performance of work.

**2.2 Contractor Qualifications**

**A General**

- 1 Each low voltage contractor/sub-contractor shall submit their qualifications to the district prior to award of contracts.

- 2 Contractor shall have been in business for no less than five (5) years and have installed a minimum of three (3) projects of similar size and scope.
- 3 A Manufacture Certified Installer shall complete the System installation. The Contractor shall have completed standards based product and installation training. A copy of the Contractor's Manufacture Certified Installed certificate shall be submitted with their submittal.
- 4 Sub-Contractor Qualifications
  - All Contractors shall submit a list of at least three (3) projects of similar dollar volume completed within the past 24 months for reference purposes.
  - The Contractor shall compile detailed information relating to similar work completed, including corporate references sufficient to enable the Owner to evaluate and agree to the Contractor's responsibility, experience and capacity to perform the work.
  - Each Contractor to perform telecommunications work on this project shall possess a C7 license and must be certified for installation, termination, splicing, and testing of copper cables, fiber optic cable, riser cable and inside wiring. The appropriate contractor's license for underground construction and conduit installation is also required.
  - An on-site Contractor superintendent must be available at all times. Contact can be by person or telephone.
- 5 Contractors who do not meet the minimum requirements specified will not be accepted.

## **2.3 Quality Assurance**

### **A General**

- 1 Contractors are required to comply with the following without exception.
- 2 The winning Contractor will assign this project to a competent Project Manager who has demonstrated their ability to supervise a telecommunications project of the same size and scope.
  - The Contractor will make this person available to the Owner/Owner's Representative before the start of this project for an interview. This person must be deemed acceptable by the Owner and/or their Representative before work can begin.
  - Project Manager will be required to be available for scheduled on-site project meetings at no additional cost to the Owner.
  - Project Manager will be required to be available to meet on-site with the Owner/Owner's Representative with a minimum of 24 hours' notice for non-emergency issues, and a minimum of 4 hours for emergency issues at no additional cost to the Owner.
- 3 All material and equipment to be installed on this project shall be "new". If the Owner/Owner's Representative discovers that "used" material or equipment has been installed on this project, the Contractor will be required to replace said materials and/or equipment with "new" products at no additional cost to the Owner.
  - "New" – Materials and products manufactured within one (1) year prior to installation, and meet or exceed the latest published specifications of the manufacture. Also these materials and equipment may not have been in use before installation on this project unless directed otherwise in the project documents.

## **1Part 3 Documentation**

### **3.1 Products**

#### **A Pre-Approved Equals**

- 1 All pre-approved products shall be listed in the relevant specification section.

**B Other Products**

- 1 Contractors wishing to approve a system other than those specified in this document will be required to perform the following:
  - Provide system specifications and cut sheets for all system components for the proposed new system(s).
  - Provide an itemized comparison to each of the system functions as described in this specification. Include in that document how the proposed system compares to the specified system described in this document on a line-by-line basis, using one of the following three criteria:
    - "exceeds"
    - "matches"
    - "unequal"
- 2 All other products than those specifically addressed in the bid documents the Contractor is seeking approvals for must be received by the Owner's Representative no later than 4 business days before the bid date. All Approved Equals will be published in addendum form prior to the bid date.
- 3 Failure to receive written approval for products installed that deviate from the products called for in the specifications and/or in the project drawings, will result in the Contractor replacing the unapproved materials and equipment with the originally specified products at no additional cost to the Owner.
- 4 All proposed system documentation must be sent to the Owner's Representative via one of the following email (itbids@bcsd.com). The Contractor will include the project name, their contact information, and the specification section number that the proposed system is comparable to.

**3.2 Acceptance**

**A Project Acceptance**

- 1 The Owner and the Contractor shall accept the project as complete based on the following criteria:
  - Before executing any performance testing, the Contractor shall present a test plan to the Owner's Representative for their approval.
  - The Contractor has completed all testing and delivered copies of all test resulting the Owner's Representative.
  - All test results have been examined and approved by the Contractor and Owner's Representative.
  - Copies of all documentation required by [close out documents section] have been delivered to the Owner's Representative.
  - All punch list items are completed to the satisfaction of the Inspector of Record.
  - Manufacturer Warranty Certification Certificates are provided to the Owner.
- 2 Following completion and/or compliance with the requirements listed above, the Contractor shall issue a Notice of Completion confirming that the project is complete. A 45-day acceptance period shall begin immediately following the issuance of the Notice of Completion.
- 3 Minor failures shall be responded to at the Owner's discretion or within one (1) business day.

**3.3 Warranty**

**A Manufacturer Warranty**

- 1 The installed 27 1000 Structured Cabling (as applicable for given cable media) System, including both inter-building and intra-building sub-systems, shall be warranted by a manufacturer for a minimum of 10 years.
- 2 The warranty certified systems will be complete systems comprised of products from a single manufacturer for the entire channel (cords, outlets/connectors, cables, cross-connects, patch panels, etc.). The manufacturer shall administer a follow on program through the Contractor to provide support and service to the Owner. In the event that the certified systems cease to support the certified application(s), whether at the time of cutover, during normal use, or when upgrading, the manufacturer and Contractor shall commit to promptly implement corrective action.
- 3 The Contractor shall be responsible for correcting any problems and malfunctions that are warranty related for the entire warranty period. In the event that a Contractor should not be in business at the time of an issue, the manufacturer shall be responsible for all corrections, if deemed the responsible party.
- 4 Copies of an extended material warranties shall be passed through to the Owner.

**B Contractor Warranty**

- 1 Contractor must warranty all materials, equipment and labor for a minimum of one (1) year from the Owner's acceptance of the work.
  - Warranty will provide repair/replacement of all defective or improperly installed materials at no additional cost to the Owner (including labor, travel time/expenses, shipping, taxes, etc.).
  - Contractor is required to keep in stock replacement parts for all items covered in this specification and provide a competent service technician to be on site to repair/replace defective items no later than 24 hours after receiving a trouble call.
- 2 Warranty will cover normal business hours, 8am-5pm, Monday through Friday. All calls received on a Friday or the day before a holiday will be held until the following regular business day.
- 3 During the installation and up to the date of final acceptance, the Contractor shall protect all finished and unfinished work against damage and loss. In the event of such damage or loss, the Contractor shall replace or repair such work at no cost to the Owner or any other Trade Partnership working on the project.

**3.4 Close-Out Documentation**

**A Structured Cabling**

- Test Result documentation shall be provided in two media, as listed above, one (1) hard copy and one (1) digital copy, within thirty (30) days after the completion of the project. The documentation shall be clearly marked on the outside front cover with the words 'Project Test Documentation', the project name and the date of completion (month and year). The results shall include a record of test frequencies, cable type, conductor pair and cable (or outlet) ID, measurement direction, reference setup, and crew member name(s). The test equipment name, manufacturer, model number, serial number, software version and last calibration date will also be provided at the end of the document. Unless the manufacturer specifies a more frequent calibration cycle, a bi-annual calibration cycle is anticipated on all test equipment used for this installation. The test document shall detail the test method used and the specific settings of the equipment during the test as well as the software version being used in the field test equipment.
- Printouts generated for each cable by the wire test instrument shall be submitted as part of the documentation package.
- When repairs and re-tests are performed, the problem found and corrective action taken shall be noted, and both the failed and passed test data shall be documented.

**END OF SECTION**



## **27 0528 – COMMUNICATIONS PATHWAYS**

### **Part 1 General**

#### **1.1 Statement of Work**

##### **A General**

- 1 This document describes the requirements for the contractors, products and installation relating to furnishing and installing Underground Ducts and Raceway systems. All systems described herein shall be governed by the Division 26xxxx specifications, should these two documents be in conflict the more stringent shall prevail.
- 2 The locations of vaults and pull boxes on the drawings are approximate and reflect the best information available. The Contractor is responsible for locating all existing utilities within the areas to be excavated prior to excavation. Final location of all trenches, communications utility vaults, and pull boxes must be verified and signed off on by the Owner/Owner's Representative.
- 3 The contractor shall furnish and install all work necessary to make compete systems, whether or not such details are mentioned in these specifications or shown on the drawings, but which are necessary in order to complete working systems, excepting those portions that are specifically mentioned therein or plainly marked on the accompanying drawings as being installed or supplied by others.

#### **1.2 References**

##### **A Regulatory References**

- 1 Contractors will comply with all requirements as specified in Section 27 0000 '1.3. – Regulatory References'.

#### **1.3 Safety and Indemnity**

##### **A Requirements**

- 1 Contractors will submit the necessary documentation to demonstrate their compliance with Section 27 0000 '2.1 – Safety and Indemnity'.

#### **1.4 Contractor Qualifications**

##### **A Requirements**

- 1 Contractors will submit the necessary documentation to demonstrate their compliance with Section 27 0000 '2.2 – Contractor Qualifications'.

#### **1.5 Quality Assurance**

##### **A Requirements**

- 1 Contractors shall comply with all requirements as specified in Section 27 0000 '2.3 – Quality Assurance'.

#### **1.6 Equivalent Products**

##### **A Approved Products**

- 1 All products described, and part numbers given in this specification are those of Hubbell unless otherwise noted.

**B Other Than Approved Products**

- 1 Contractors wishing to approve a system other than those specified in this document shall do so in accordance with Section 27 0000 '3.1 Products'.

**1.7 Submittal Documentation**

**A Requirements**

- 1 The successful contractor shall provide their submittal package in accordance with the Section 27 0000 '3.2 – Submittal Documentation'.

**1.8 Acceptance**

**A Requirements**

- 1 The contractor shall comply with all requirements as listed in Section 27 0000 '3.3 – Acceptance'.

**1.9 Warranty**

**A Requirements**

- 1 The contractor shall comply with all requirements as listed in Section 27 0000 '3.4 – Warranty'.

**Part 2 Products**

**2.1 Pathways and Fittings**

**A Surface mount raceway “SMR”**

- 1 Non-metallic raceway is an enclosed pathway used for surface distribution of branch circuit electrical wiring, and cabling for voice, data, multi-media, low voltage, and optical fiber. Raceway is typically installed in existing building structures, or after construction is complete. A complete raceway system includes raceway, covers, mounting hardware, various fittings, and outlet boxes installed at specific locations. Specific codes and standards apply to electrical wires and telecommunications cables that are deployed within non-metallic raceway. Codes that are enforced by the local Authority Having Jurisdiction (AHJ) must be observed during construction.
  - Assembly and disassembly of raceway base, cover, and fittings shall require no special tools.
  - Installed fittings shall be designed to overlap the raceway junction to cover exposed or uneven edges.
  - Security caps shall provide enhanced tamper protection by installing over the assembled raceway in desired locations.
  - Raceway shall be designed to accept inline device boxes with either horizontal or vertical faceplate orientations.
  - Device boxes shall have a removable knockout portion to permit raceway entry and exit. Device boxes shall serve as an extension box by removing a single knockout.
  - Device boxes shall be available in standard NEMA single, double, and 3- gang versions. Device box color shall match raceway color.

- Device boxes shall accommodate various faceplates that accept modular connector inserts or bezels for balanced twisted pair, fiber optic, coaxial, multi-media, and other low voltage cabling connectors.
- Faceplates for device boxes shall accommodate pre-printed labels for proper electrical identification, or telecommunications port identification according to ANSI/TIA/EIA-606-A.
- Faceplates shall be available in colors that match the device box and raceway.
- Category rated communications jacks installed in surface box faceplates shall have provisions for snap-in icons for further identification.

2 Hubbell PP1 System

- **Hubbell PP1 PremisTerak** Latching system raceway is to be used where applicable.

B Cabling Support System

1 Telco Backboards

- Backboards shall be 4' x 8' x .75" void free plywood (ACX Plywood with the "A" side turned out).
- The plywood shall be painted with two coats of white fire-retardant paint.
- Cut full size sheet to required size for application type, minimum 6" larger than equipment installed.

2 J-Hooks

- Cable supports shall provide a bearing surface of sufficient width to comply with required bend radii of high-performance cables; cULus Listed.
- Cable supports shall have flared edges to prevent damage while installing cables.
- Cable support system shall provide fasteners that allow them to be mounted to wall, concrete, joist, tee-bar wire, treaded rod, beams and raised floor supports.
- Fasteners shall have the ability to either be factory or jobsite assembled; rated for indoor use in non-corrosive environments; cULus Listed.
- Fastener to with one non-continuous cable support, factory or jobsite assembled.
- Color: NA
- Quantity: Contractor will provide quantities of j-hooks and hanger accessories in the amount necessary to support all horizontal cabling every 4-5 feet.
- Part#: ERICO CAT425, Cooper B-Line BCH12, BCH21, BCH32, BCH64 and accessories.

C Pull String

- Pull string shall be new 1/8" polypropylene string with a minimum 200 lb. tensile strength.
- Contractor will be required to install a pull string into every conduit that they pull cabling.

2.2 Passthrough/Sleeves

A General

- 1 Sleeves shall be 2", 3" or 4" EMT or smaller. All cables penetrating walls must be sleeved.
- 2 Sleeves shall maintain a 40% conduit fill ratio.
- 3 Sleeves must be supported or attached at walls by apparatuses meant to do so. All sleeves shall be rigidly and properly supported.
- 4 Sleeves must extend past inaccessible areas.
- 5 Sleeves must be protected by a U.L. rated system at all firewalls designated on the construction drawings.

## **Part 3 Execution**

### **3.1 General**

#### **A Permits and Licensing**

- 1 Contractor is responsible to procure all necessary permits before the commencement of their work to the city or state agencies as required. It is the contractor's responsibility to provide all documentation to the AHJ.
- 2 Contractor is responsible to procure all necessary licenses for the city or state they are commencing the work in, before the commencement of their work begins.
- 3 Contractor to procure all encroachment permits as it pertains to the work described in these documents.
- 4 No person may access or enter in any way, an underground vault or confined space without the training, staff, and safety equipment defined on the confined space permit. Accessing these spaces without a valid permit or without the required support services will be cause for an order to stop work until all violations are resolved and may result in a fine or suspension of the workers involved.

#### **B Safety**

- 1 All federal (OSHA), state, and local safety rules, will be enforced at all times during the duration of the project. It is the responsibility of the Contractor to conduct frequent inspections of the job site to ensure compliance.

### **3.2 Installation**

#### **A Intra-Building Pathways**

##### **1 Communications Vaults**

- Site Access
  - The general contractor shall be responsible for providing adequate access to the site to facilitate hauling, storage and proper handling of the precast concrete units.
- Installation
  - Precast concrete units shall be installed to the lines and grades shown in the contract documents or otherwise specified.
  - Precast concrete units shall be lifted by suitable lifting devices at points provided by the precast concrete producer.
  - Precast concrete units shall be installed in accordance with applicable industry standards. Upon request, the precast concrete producer shall provide installation instructions.
  - Field modifications to the product shall relieve the precast producer of liability regardless if such modifications result in the failure of the precast concrete unit.
- Water Tightness
  - Where water tightness is a necessary performance characteristic of the precast concrete unit's end use, watertight joints, pipe-entry connectors and inserts should be used to ensure the integrity of the entire system.

##### **2 Conduit**

- All conduit shall be routed parallel or perpendicular to walls.
- All conduit shall be installed in accordance with NEMA "Standard of Installation" and shall meet applicable local and national building and electrical codes or regulations.
- Conduit runs shall not exceed 100 feet or contain more than two 90-degree bends without utilizing appropriately sized pull boxes. No conduits may enter a

pull box at a 90-degree angle. They are not to be installed into the side of a pull box. All conduits must enter the ends of the pull box.

- All conduits entering a building from outside shall be plugged with reusable stoppers to eliminate the entrance of water or gases into the entrance room. Building entrance conduits shall slope downward away from the building to reduce the potential of water entering the building. All building penetrations are to be sealed from wall to wall and on the outside and inside of the penetrations.
- All conduits penetrating a fire or smoke barrier shall be fully sealed between the conduit and the actual penetration following manufacturer's recommendations. Contractor shall label each fire stop location with the manufacturer's identification number of the product used and shall provide the inspector copies of each products system configuration.
- No communications outlet boxes shall be "daisy-chained." Each communications outlet shall be served by a separate 1-inch (minimum) conduit.
- In rooms with a drop or false ceiling, communications outlets shall be served by a 1-inch conduit stubbed six inches above the false ceiling, angled toward the cable tray or open access area, and be equipped with a compression fitting and plastic bushing. All stubs shall be marked "Comm".
- All conduit shall be equipped with an approved water or barrier seal in building access points.
- No communications conduit shall contain more than 180 degrees of bend without the use of a pull box. Pull boxes must be approved by Engineer of Record to ensure proper sizing and conduit entry placement.
- In areas where hard lid ceilings are in place, all conduits are to run to accessible location or to cable tray.
- Provide labels at both ends of conduits to identify location of far end.

### 3 Station Cable Support System

- All station cable support systems shall be braced for zone four seismic activity.
- In suspended ceiling and raised floor areas where duct, cable trays, or conduit are not available, station cables shall be bundled with Velcro straps at appropriate distances.
- Velcro straps shall not be over tightened to the point of deforming or crimping the cable sheath.
- Velcro straps shall be UL listed, rated for low smoke, and certified for use in a plenum environment.
- The station cable support system components shall be firmly attached to the existing building structure and installed not more than five feet apart.
- The station cable support system components shall be installed to provide at least three (3) inches of clear vertical space between the cables/optics and the ceiling tiles.
- The station cable support system components shall be spaced to prevent the cables/optics from sagging or buckling.
- No more than eighteen (18) Category 6 cables shall be supported by a J - hook.
- No more than thirty (30) Category 6 cables shall be supported by triangular galvanized metal bracket.
- The station cable support system shall be clearly and neatly labeled per TIA/EIA 606-A, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings.

### 4 Raceways

- All dual channel raceway shall be installed with a complete end-to-end channel for future power service installation.
- The raceway shall be stubbed above the false ceiling space and capped so that each section of raceway can be connected to a power service in the future without a requirement to add raceway to visible portions of the system. If no

false ceiling space is available, the power channel is to be stubbed up and capped next to the point at which the communication services enter the room.

5 Pull Boxes

- Pull boxes shall be installed in easily accessible locations.
- Pull boxes installed as part of a horizontal cabling pathway shall be installed immediately above suspended ceilings, where possible.
- Pull boxes shall not be used for splicing cable.
- Pull boxes shall be placed in conduit runs that exceed 100 feet or which require more than two 90-degree bends. The pull boxes shall be located in straight sections of conduit and must not be used for a right-angle bend. Installation shall allow cable to pass through from one conduit to another in a direct line.
- Pull boxes must have a length at least 12 times the diameter of the largest conduit.

**3.3 System Close Out and As-Built Documentation**

**A Documentation**

- 1 Refer to Section 27 0000 '4.5-A – Close Out Documentation' for requirements.

**END OF SECTION**

## **SECTION 27 1000**

### **STRUCTURED CABLING SYSTEM**

#### **Part 1 General**

##### **1.1 Work Included**

###### **A. General**

1. Provide all labor, materials, tools and equipment required for the complete installation of work called for on the Construction Drawings and described in the Scope Documentation.
2. This document describes the requirements for the contractors, products and installation relating to furnishing and installing Telecommunications Cabling systems.
3. The Horizontal Cabling System as described in this document consists of cabling, infrastructure, J-hook pathways and termination devices for Data systems.
4. Contractor will provide a bid including all labor, materials, tools and equipment required for the complete installation of work called for on the Construction Drawings and described in this Document. It is the responsibility of the Contractor to provide all material necessary to provide a complete and operable system. If the contractor feels that the system described is incomplete, they must address this in writing to the Owner/Owner's Representative before providing a bid.
5. All questions concerning non-specified product and services will be addressed to the Owner's Representative before Contractor provides a bid. Owner expects that by accepting the Contractor's bid proposal that the Contractor has provided a competent bid for a complete solution.
6. Product specifications, general design considerations, and installation guidelines are provided in this document. Quantities of telecommunications outlets, typical installation details, cable routing and outlet types will be provided as an attachment to this document.

##### **1.2 References**

###### **A. Regulatory References**

1. Contractors will comply with all requirements as specified in Section 27 0000 '1.3. – Regulatory References'.

##### **1.3 Safety and Indemnity**

###### **A. Requirements**

1. Contractors will submit the necessary documentation to demonstrate their compliance with Section 27 0000 '2.1 – Safety and Indemnity'.

##### **1.4 Contractor Qualifications**

###### **A. Requirements**

1. Contractors will submit the necessary documentation to demonstrate their compliance with Section 27 0000 '2.2 – Contractor Qualifications'.

##### **1.5 Quality Assurance**

###### **A. Requirements**

1. Contractors shall comply with all requirements as specified in Section 27 0000 '2.3 – Quality Assurance'.

## **1.6 Equivalent Products**

### **A. Approved Products**

1. All Products described, and Part Numbers given in this Specification are those of Hubbell unless otherwise noted.

### **B. Pre-Approved Equals:**

1. None

### **C. Other Than Approved Products**

1. Contractors wishing to approve a system other than those specified in this document shall do so in accordance with Section 27 000 '3.1 Products'.

## **1.7 Submittal Documentation**

### **A. Requirements**

1. The successful contractor shall provide their submittal package in accordance with the Section '01 20 00 – Submittal Schedule' and Section 27 0000 '3.2 – Submittal Documentation'.

## **1.8 Acceptance**

### **A. Requirements**

1. The contractor shall comply with all requirements as listed in Section 27 0000 '3.3 – Acceptance'.

## **1.9 Warranty**

### **A. Requirements**

1. The contractor shall comply with all requirements as listed in Section 27 0000 '3.4 – Warranty'.

## **1.10 Technology Clause**

### **A. General Requirements**

1. As technology advances, it is understood that improved or enhanced products may supersede existing products in both price and performance and yet be essentially similar. This request for bids seeks to address the rapid advances in technology by allowing functionally similar or identical products that may be introduced in the future, during the term of this bid, to be included under the general umbrella of compatible product lines and are thus specifically included in this bid document.
2. Discontinued or end of life products shall be replaced with an equal product to the original specified product at no additional costs to the owner.

## **Part 2 Products**

### **2.1 Work Area Subsystem**

#### **A. General**

1. The Work Area shall consist of the connectivity equipment used to connect the horizontal cabling subsystem and the equipment in the work area. The connectivity equipment shall include the following options:
  - Patch Cords



- Modular Inserts, Jacks and Plugs
- Faceplates

2. Category 6A Wireless Access Points Outlet Patch Cords

- All category 6A channel patch cords shall be constructed with a snagless boot, made of molded PVC, colored matched to the color of the patch cord cable.
- All category 6A channel patch cords shall be constructed with category 6A patch cable, 24 AWG, 7/32 tinned copper stranded patch cable, insulated with polyethylene and paired, jacketed with PVC, ETL Verified for ISO 11801, (UL) NEC type CM or CMR, 75° C, Article 800 CSA Type CMG.
- All category 6A channel patch cords shall be 100% factory tested to pass return loss (RL) and near-end cross talk (NEXT).
- All category 6A channel patch cords shall be manufactured using a T568-B plug-wiring format.
  - All patch cords will be delivered to the site and must be signed for by the Owner/Owner's Representative. It will be the responsibility of other to install all Work Area Data Patch Cords.
- Length:
  - Wi-Fi patch cords will be 3 feet long.
- Color:
  - Wi-Fi                      White
- Quantity
  - Wi-Fi              Contractor will provide one (1) patch cable for each Wi-Fi data outlet.
- Hubbell Premise Part #, or approved equal:
  - Wi-Fi                      **HCL6AW03**

B. Modular Inserts and Jacks

1. Category 6 Data/Voice Jack & Camera Termination Plugs

- Jack will meet the Category 6 Standard.
- Jacks shall be 8 positions un-keyed
- Each jack shall be an individually constructed unit and shall snap mount in an industry standard keystone opening (.760" x .580")
- Jacks shall utilize a 2-layer printed circuit board to control NEXT
- Jack termination shall follow the industry standard 110 IDC.
- Jacks shall have a designation indicating Category 6 on the nose which can be plainly seen from the front of the faceplate. Bottom of jack shall have date code and an abbreviated catalog number.
- Jacks shall utilize a paired punch down sequence. Cable pair twists shall be maintained up to the IDC, terminating all conductors adjacent to its pair mate to better maintain pair characteristics designed by the cable manufacturer.
- Jacks shall terminate 22-26 AWG stranded or solid conductors.
- Jacks shall be compatible with single conductor 110 impact termination tools.
- Jacks shall be compatible with TIA/EIA 606 color code labeling
- Jacks shall have universal wiring designation.
- Jacks shall have an attached color-coded wiring instruction label housed between the IDC termination towers.
- Jacks shall be manufactured in the USA
- Jacks will be terminated according to the T568B wiring scheme
- Color:
  - Data/Voice              WHITE
  - Camera                      Factory
- Quantity: Contractor will provide one jack for every outlet cable shown on the drawings.

- Hubbell Premise Part #, or approved equal.
  - Data/Voice      **HXJ6W**
  - Camera          **SP6**

2. Category 6A Wireless Access Point Jack

- Jack will meet the Category 6A Standard.
- Jacks shall be 8 positions un-keyed
- Each jack shall be an individually constructed unit and shall snap mount in an industry standard keystone opening (.760" x 580")
- Jacks shall utilize a 2-layer printed circuit board to control NEXT
- Jack termination shall follow the industry standard 110 IDC.
- Jacks shall have a designation indicating Category 6A on the nose which can be plainly seen from the front of the faceplate. Bottom of jack shall have date code and an abbreviated catalog number.
- Jacks shall utilize a paired punch down sequence. Cable pair twists shall be maintained up to the IDC, terminating all conductors adjacent to its pair mate to better maintain pair characteristics designed by the cable manufacturer.
- Jacks shall terminate 22-26 AWG stranded or solid conductors.
- Jacks shall be compatible with single conductor 110 impact termination tools.
- Jacks shall be compatible with TIA/EIA 606 color code labeling
- Jacks shall have universal wiring designation.
- Jacks shall have an attached color-coded wiring instruction label housed between the IDC termination towers.
- Jacks shall be manufactured in the USA
- Jacks will be terminated according to the T568B wiring scheme
- Color:
  - Wi-Fi      Purple
- Quantity: Contractor will provide one jack for every outlet cable shown on the drawings.
- Hubbell Premise Part #, or approved equal.
  - Wi-Fi      **HXJ6W**

C. Wall Mount and Modular Furniture Faceplates

1. Wall Plates

- Faceplates shall be UL Listed and CSA Certified
- Faceplates shall be 2.75" W x 4.5" H (69.8 mm x 114.3 mm)
- Faceplates shall provide for TIA/EIA 606 compliant station labeling
- Faceplates shall have plastic covers over the mounting screws that can be replaced with a clear plastic window over a printable paper insert
- Color: WHITE or STAINLESS STEEL.
  - Contractor will field verify and match finish to the existing electrical outlet face plate cover.
- Quantity: Contractor will provide one single gang faceplate for each outlet shown on the drawings.
- Hubbell Premise Part #, or approved equal.
  - WHITE
    - 1 Port   **IFP11W**
    - 2 Port   **IFP12W**
    - 3 Port   **IFP13W**
    - 4 Port   **IFP14W**
    - 6 Port   **IFP16W**
  - STAINLESS STEEL
    - 1 Port   **SSFL11**
    - 2 Port   **SSFL12**

- **3 Port SSFL13**
  - **4 Port SSFL14**
  - **6 Port SSFL16**
2. Blank Insert
    - Color: Blank Insert to be WHITE –
    - Quantity: Contractor will provide one insert for every unused port in a faceplate.
    - Hubbell Wiring, Part #: **SFBW10**, or approved equal.
  3. Wall Phone Plates
    - Faceplate shall be a two-piece design, including a steel base and a stainless-steel cover plate.
    - Faceplates steel base shall incorporate six screw terminals, one 6 position jack and an insulating plastic sleeve.
    - Faceplate shall be equipped with screw studs to be used as the mounts for wall hung telephones.
    - Color: Faceplate to be STAINLESS STEEL
    - Quantity: Contractor will provide one faceplate for each Intercom Handset outlet shown on the drawings.
    - Allen Tel, Part #: **AT630A-6**, or approved equal. Tragic
  4. Blank Wall Plates
    - Faceplate shall be constructed from stainless steel.
    - Faceplates shall be UL Listed and CSA Certified
    - Faceplates shall be 2.75" W x 4.5" H (69.8 mm x 114.3 mm) for single gang.
    - Color: Faceplate to be STAINLESS STEEL
    - Quantity: Contractor will provide one faceplate for each unused data/voice/video/intercom outlet shown on the drawings.
    - Hubbell Wiring Part #: **S13**, or approved equal.
  5. Surface Mount Raceway Insert –
    - Inserts for Hubble PB2, PB3, and PS3 Device Mounting Brackets
    - Insert shall allow for two category 6 jacks to be mounted flush.
    - Insert shall match the color of the Raceway installed.
    - Color: Faceplate to be IVORY
    - Quantity: Contractor will provide one 2port insert for each outlet in the Surface Mount Raceway shown on the drawings.
    - Hubbell Part #: **KP2162 or approved equal.**

## 2.2 Horizontal Distribution Cabling

1. The horizontal distribution cabling system is the portion of the telecommunications cabling system that extends from the Work Area (WA) telecommunications outlet/connector to the horizontal cross-connect in the Telecommunications Room (TR).
  - Cabling Support System
  - Copper Station Cabling
  - Copper Cross-Connect Cabling

### B. Cabling Support System

1. J-Hooks
  - Cable supports shall provide a bearing surface of sufficient width to comply with required bend radii of high-performance cables; cULus Listed.
  - Cable supports shall have flared edges to prevent damage while installing cables.
  - Cable support system shall provide fasteners that allow them to be mounted to wall, concrete, joist, tee-bar wire, treaded rod, beams and raised floor supports.

- Fasteners shall have the ability to either be factory or jobsite assembled; rated for indoor use in non-corrosive environments; cULus Listed.
- Fastener to with one non-continuous cable support, factory or jobsite assembled.
- Color: NA
- Quantity: Contractor will provide quantities of j-hooks and hanger accessories in the amount necessary to support all horizontal cabling every 4-5 feet.
- Part #:
  - ERICO CAT425
  - Cooper B-Line BCH12, BCH21, BCH32, BCH64 and accessories.

#### C. Copper Station Cable

1. Category 6 Data/Voice, Camera, and Intercom Unshielded Twisted Pair (UTP) Cable
  - Cable will meet or exceed the proposed requirements of ANSI/TIA/EIA 568-B.2, 568-B.2 Addendum #1 and ISO/IEC 11801 Category 6 Cable Standard for: NEXT and ELFEXT (Pair-To-Pair and Power Sum), Insertion Loss (Attenuation), Return Loss, and Delay Skew.
  - Cable shall be proven to support Gigabit Ethernet / 1000BASE-T / IEEE 802.3ab, ATM up to 155 Mbps, IEEE 802.3af Power Over Ethernet for VoIP, 100 Mbps Fast Ethernet / 100BASE-T / IEEE 802.3, ANSI.X3.263 FDDI TP-PMD, Ethernet / 10BASE-T / IEEE 802.3, 4 & 16 Mbps Token Ring / IEEE 802.5, T1/E1, xDSL, ISDN, 550 MHz Broadband Video and standards under development such as ATM at 622 Mbps, 1.2 and 2.4 Gbps.
  - The cable shall consist of four unshielded twisted pairs of thermoplastic insulated bare copper enclosed in a thermoplastic jacket.
  - All cable shall conform to the requirements for communications circuits defined by the National Electrical Code (Article 800) and the Canadian Building Code. Cable listed to NEC Article 800-51(a) will be used for "Plenum" installations. Cable listed to NEC Article 800-51(b) shall be installed in vertical runs penetrating more than one floor.
  - Cable shall have been certified with the UL 1666 Vertical Tray Flame Test.
  - Cable shall be available in a Plenum, Riser and Indoor/Outdoor rated jackets.
  - Contractor will use the indoor/outdoor rated cable for all locations where the cable pathway goes underground and/or run in exterior conduit.
  - The listed Category 6 cables in this specification are manufactured by Mohawk/CDT. All other manufactures eligible for Hubbell's Certified Premise Solution also have been pre-approved.
  - Color:
    - Data/Voice BLUE
    - Camera WHITE
    - Intercom YELLOW
  - Quantity: See Drawing for quantity and installation details.
  - Part#:
    - For Riser Application:
 

○ Data/Voice	Hubbell	<b>C6RREB</b>
○ Camera	Hubbell	<b>C6RREW</b>
○ Intercom	Hubbell	<b>C6RREY</b>
    - For Plenum Application:
 

○ Data/Voice	Hubbell	<b>C6RPEB</b>
○ Camera	Hubbell	<b>C6RPEW</b>
○ Intercom	Hubbell	<b>C6RPEY</b>
    - For Indoor/Outdoor Application:
 

○ Data/Voice, Mohawk PN# <b>M58722</b>	(all cable jackets will be BLACK)	
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#### 2. Category 6A Wireless Access Point Unshielded Twisted Pair (UTP) Cable

- Cable will meet or exceed the proposed requirements of ANSI/TIA/EIA 568-B.2, 568-B.2 Addendum #1 and ISO/IEC 11801 Category 6 Cable Standard for: NEXT and ELFEXT (Pair-To-Pair and Power Sum), Insertion Loss (Attenuation), Return Loss, and Delay Skew.
- Cable shall be proven to support Gigabit Ethernet / 1000BASE-T / IEEE 802.3ab, ATM up to 155 Mbps, IEEE 802.3af Power Over Ethernet for VoIP, 100 Mbps Fast Ethernet / 100BASE-T / IEEE 802.3, ANSI.X3.263 FDDI TP-PMD, Ethernet / 10BASE-T / IEEE 802.3, 4 & 16 Mbps Token Ring / IEEE 802.5, T1/E1, xDSL, ISDN, 550 MHz Broadband Video and standards under development such as ATM at 622 Mbps, 1.2 and 2.4 Gbps.
- The cable shall consist of four unshielded twisted pairs of thermoplastic insulated bare copper enclosed in a thermoplastic jacket.
- All cable shall conform to the requirements for communications circuits defined by the National Electrical Code (Article 800) and the Canadian Building Code. Cable listed to NEC Article 800-51(a) will be used for "Plenum" installations. Cable listed to NEC Article 800-51(b) shall be installed in vertical runs penetrating more than one floor.
- Cable shall have been certified with the UL 1666 Vertical Tray Flame Test.
- Cable shall be available in a Plenum, Riser and Indoor/Outdoor rated jackets.
- Contractor will use the indoor/outdoor rated cable for all locations where the cable pathway goes underground and/or run in exterior conduit.
- The listed Category 6 cables in this specification are manufactured by Mohawk/CDT. All other manufactures eligible for Hubbell's Certified Premise Solution also have been pre-approved.
- Color:
  - Wi-Fi BLUE
- Quantity: See Drawing for quantity and installation details.
- Part#:
  - For Riser Application:
    - Wi-Fi Hubbell **C6ASRB**
  - For Plenum Application:
    - Wi-Fi Hubbell **C6ASPB**
  - For Indoor/Outdoor Application:
    - Wi-Fi, Mohawk PN# **M58722** (all cable jackets will be BLACK)

#### D. Horizontal Copper Cross-Connect Cabling

##### 1. Voice Cross-Connect Cabling

- Cable shall meet and/or exceed the UL Listed Type CMR and the ANSI/ICEA S-80-576 standard.
- Core Construction
  - Conductors: Solid-copper conductors, 24 AWG.
  - Insulation: Flame retardant semi-rigid PVC.
  - Core Assembly: Cable core will be made up of 100 pair units consisting of four (4) 25 pair sub-units. Each group individually identifiable by color coded unit binders.
- Jacket: Gray, flame retardant PVC jacket.
- Color: Voice cable jacket will be GRAY
- Quantity: See Drawing for quantity and installation details. The number of 25-pair cable between the MDF and the IDF shall be derived by multiplying the number of pairs required for the cross-connect by 1.25 to the nearest 25-pair increment.
- Part#: Equal to Mohawk Cable:
  - 12 pair = PN# **09-094-02 – Superior Essex**
  - 25 pair = PN# **M58141**
  - 50 pair = PN# **M58522**

- 100 pair = PN# **M585201**

## 2.3 Backbone Cabling

### A. General

1. The backbone cabling system is the portion of the telecommunications cabling system that extends from the Intermediate Distribution Frame (IDF) to the Main Distribution Frame (MDF).
  - Fiber Optic Backbone Cabling
  - Copper Backbone Cabling

### B. Fiber Optic Backbone Cabling –

1. Data System Backbone Cabling
  - Cable shall be UL/cUL OFNR/OFN FTA rated and be Flame Resistant in accordance with the UL 1666.
  - Cable shall an indoor/outdoor rated jacket.
  - Cable shall be constructed utilizing a loose tube design.
  - Cable will be fully water blocked combining overall water blocking tape and a moisture blocking gel for each individual tube.
  - Cable will maintain the following:
    - Crush Resistance (EIA-455-41) = 2000 N/cm
    - Impact Resistance (EIA-455-25) = 2000 Impacts w/1.6 N-m
    - Min Bend Radius:
      - Long Term - No Load = 15x Cable diameter
      - Short Term – Load = 20x Cable diameter
    - Operating Temp. = -40°C to +70°C
    - Storage Temp. = -40°C to +80°C
  - Cable shall be constructed of 50/125μ Laser Optimized rated glass capable of:
    - 1 Gigabit Ethernet Link at 1000m/600m (@850nm/1300nm)
    - 10 Gigabit Ethernet Link at 300m/300m (@850nm/1300nm)
  - The Fiber Optic Cable in this specification is manufactured by Mohawk/CDT. All other manufactures eligible for Hubbell's Certified Premise Solution that meet and/or exceed the below specifications have also been pre-approved.
  - Color: Fiber Optic cable jacket will be BLACK
  - Quantity: See Drawing for quantity and installation details.
  - Hubbell Premise Part #:
    - 12 Strand Multi Mode Fiber **HFCD14012R4BK**

### C. Copper System Backbone Cabling

1. Voice & Intercom System Backbone Cabling
  - Cable shall meet or exceed those specified in RUS Bulletin 1753F-208 (REA PE-89)
  - Core Construction
    - Conductors: Solid, annealed copper, 24 AWG unless otherwise noted on design documents.
    - Insulation: Dual insulation consisting of an inner layer of foamed polyolefin skin, colored coded in accordance with industry standards
    - Core Assembly: Cables of 25 pairs and less formed by assembling pairs together in a single group. Cables of more than 25 pairs formed by twisted pairs arranged in groups with each group having a color coded unit binder.
    - Filling Compound: The entire core assembly completely filled with ETPR compound, filling the interstices between the pairs and under the core tape.
    - Core Wrap: Non-hygroscopic dielectric tape applied longitudinally with an overlap.
    - Sheath Construction

- Aluminum Shield: Corrosion protected plastic coated, corrugated 0.008" aluminum tape.
- Jacket: Black, linear low-density polyethylene.
- Color: Voice cable jacket will be BLACK
- Quantity: See Drawing for quantity and installation details. The number of 25-pair cable between the MDF and the IDF shall be derived by multiplying the number of pairs serving the individual telephone handsets by 1.25 to the nearest 25-pair increment.
- Part#: Equal to General Cable:
  - 12 pair = PN#**09-094-02 – Superior Essex**
  - 25 pair = PN# **7525758**
  - 50 pair = PN# **7525793**
  - 75 pair = PN# **7525801**
  - 100 pair = PN# **7525819**
  - 200 pair = PN# **7525835**

## 2.4 Telecommunication Room

### A. General Requirements

1. The Telecommunication Room (TR) includes those products that terminate horizontal and backbone cabling subsystems and connect them to the network equipment.
  - Patch Cords
  - Horizontal Cabling Termination Equipment
  - Backbone Cabling Termination Equipment
  - Cabinets, Racks, and Enclosures
  - Cable Support System

### B. Patch Cords

1. Category 6 Data/Voice & Camera TR Patch Cords
  - TR Copper Patch Cords shall comply with those specified in 2.1 Work Area Subsystem, A. Patch Cords, 1. Category 6 Data Outlet Patch Cords
  - All patch cords will be delivered to the site and must be signed for by the Owner/Owner's Representative. It will be the responsibility of other to install all TR Data and Voice Patch Cords.
  - Color:
    - Data/Voice BLUE
    - Camera RED
  - Quantity: Contractor will provide one patch cord for every data and voice outlet cable shown on the drawings. Contractor will provide the quantity of different length patch cords as follows:
  - Part#:
    - Data/Voice Patch Cords
      - 3-Foot **HCL6B03**
    - Camera Patch Cords
      - 3-Foot **HCL6R03**
2. Category 6A Wireless Access Points TR Patch Cords
  - TR Copper Patch Cords shall comply with those specified in 2.1 Work Area Subsystem, A. Patch Cords, 1. Category 6A Data Outlet Patch Cords
  - All patch cords will be delivered to the site and must be signed for by the Owner/Owner's Representative. It will be the responsibility of other to install all TR Data and Voice Patch Cords.
  - Color:
    - Wi-Fi PURPLE

- Quantity: Contractor will provide one patch cord for every data and voice outlet cable shown on the drawings. Contractor will provide the quantity of different length patch cords as follows:
- Part#:
  - Wi-Fi Patch Cords
    - 3-Foot **HCL6AP03**

### 3. Fiber Patch Cords

- Patch Cords shall be a Duplex LC to LC 50/125µm "Laser Optimize" Graded-Index Multimode Fiber Patch Cord.
- All patch cords shall be factory polished and 100% optically tested for superior performance.
- Cables shall have a Mated Pair MM Insertion Loss of less than 0.60 dB (0.25 dB Typical).
- Cable Retention: > 25 pounds
- All optical, mechanical and environmental performance shall meet and/or exceed the TIA/EIA-568-B.3 specifications.
- Fiber patch cords will be 1-meter long.
- Color: NA
- Quantity: Contractor will provide two fiber patch cords for every New fiber optic backbone cable run shown on the drawings.
- Part#: **DFRCLCLCF1MM**

## C. Horizontal Cable Termination Equipment

### 1. Modular Unloaded Patch Panels (Only 48-Port Patch Panels is Acceptable)

- Panels shall be made of black anodized aluminum in 24-, 48-, and 96- port configurations.
- Panels shall have modular jacks employing a tri-plane staggered contact array with a flat "hairpin" contact design made of Beryllium copper with a minimum 50-micro-inch gold plating on contact surfaces over 50-100 micro-inch of nickel compliant with FCC part 68.
- Panels shall be equipped with 110-style termination made of fire retardant UL 94V0 rated thermoplastic and tin lead solder plated IDC.
- Panels shall have optional rear cable support bar for strain relief. Cable support bar shall attach to the rear of the patch panel itself without the use of additional fasteners or screws.
- Panels shall have self-adhesive, clear label holders and white designation labels provided with the panel for each row of 24 ports.
- Panels shall provide wiring identification & color code and maintain an in-line, paired punch down sequence that does not require the splitting of conductors from individual cable pairs.
- Panels shall terminate 22-26 AWG solid conductors, maximum insulated conductor outside diameter 0.050".
- Panels shall be ANSI/TIA/EIA-568-B.1, B.2 and ISO/IEC 11801 category 6 compliant.
- Panels shall be UL LISTED 1863 and CSA certified.
- Panels shall be made by an ISO 9002 Certified Manufacturer.
- Panels installed in a 4-connector channel with a category 6 modular jack, and category 6 patch cords, all from the same manufacturer, and a qualified category 6 cables shall meet or exceed the requirements of Draft 5 of the TIA UTP Systems Task Group PN3727, Category 6 Draft Addendum to the ANSI/TIA/EIA-568-B.2 standard.
- Color: Patch Panel shall be BLACK
- Quantity: See Drawing for quantity and installation details. The number of patch panels to be supplied shall be derived by multiplying the number of data/voice



cables being terminated at the individual TR by 1.25 and providing additional panels in the nearest 24 port increment.

- Part#:
  - 24 port Category Patch Panel, **HWS14608C**
  - 48 port Category Patch Panel, **HWS14609C**
    - \*Provide one Cable Management Bar, PN# **PCBLMGT**, for each 24 ports.

D. Horizontal Voice & Intercom Cross-Connect 66 Wiring Blocks

1. Wall Mount

- Blocks shall be available in a 25 pair unit.
- Blocks shall be wall mounted.
- Wiring blocks shall be available as kits that include the wiring blocks, the proper number of connecting clips, wire management and label strips.
- Blocks shall be constructed of a UL94 V0 rated polycarbonate blend.
- Blocks shall be mounted to a rugged 16 ga steel distribution frame. Frame shall support the 66 blocks and allow for a through for cables to be routed through the rear of the blocks directly to the termination point.
- Blocks shall be UL VERIFIED for TIA/EIA-568-B compliance.
- Color: NA
- Quantity: See Drawing for quantity and installation details.
- Part#: 6 pair block, PN# **HPW66B16**
- Part#: 25 pair block, PN# **HPW66B425**
- Accessories to be provided with each installed 66 Block:
  - Mounting Bracket PN# **HPW89D**

E. Backbone Cable Termination Equipment

1. Fiber Optic Cassette

- ETL Tested per TIA/EIA-568-C.3
- MM Mated Pair Insertion Loss: <0.5dB (0.35dB typical)
- Return Loss: <-35dB
- Operating temperature: 0-70°C
- Materials:
  - Connector ferrule: Zirconia ceramic
  - Connector body/nut: Nickel plated brass/zinc or polymer
- Strain relief boot: Flame retardant (UL-Rated 94-V0) polymer
- Color: Aqua
- Quantity: See Drawing for quantity and installation details.
- Part#: **OCLC50G4CVI**

F. Copper Termination Panels

1. Voice 110 Wiring Blocks

2. Wall Mount

- Blocks shall be available in a 300-pair unit.
- Blocks shall be wall mounted.
- Wiring blocks shall be available as kits that include the wiring blocks, the proper number of 5 pair connecting clips, wire management and label strips.
- Blocks shall be constructed of a UL94 V0 rated polycarbonate blend.
- Blocks shall be mounted to a rugged 16 ga steel distribution frame. Frame shall support the 110 blocks and allow for a through for cables to be routed through the rear of the blocks directly to the termination point.
- Blocks shall be UL VERIFIED for TIA/EIA-568-B compliance.
- Color: NA
- Quantity: See Drawing for quantity and installation details. The number of 110 blocks to be supplied shall be derived by multiplying the number of

voice/intercom cables being terminated at the individual TR by 1.25 and providing additional panels in the nearest 300 pair block increment.

- Part#: 300 pair block, PN# **110WMK**

3. OSP Protection Panels

- 110 connector input and output
- wall or frame mountable
- designed with an internal splice chamber and cover over incoming and outgoing connections and protection modules
- stackable to allow for future service expansion
- equipped with an internal fuse link
- external ground connectors accept 6-14 AWG ground wire
- accommodates industry standard 5 pin protection modules
- designed to exceed the requirements set forth in Underwriters Laboratory's UL497
- Color: NA
- Quantity: One protection panel will be installed per IDF home run to the MDF. Protection panels are not required at the IDF side of the cable run.

4. Part#: Circa Enterprise inc. –

25 pair block, PN# **1880ECA1-25**

50 pair block, PN# **1880ECA1-50**

100 pair block, PN# **1880ECA1-100**

G. Fiber Termination Panels

1. MDF Rack Mount Fiber Panel

- Panels shall be constructed of cold rolled 16 ga. steel with a black powder paint finish and provide for fully enclosed fiber patching and termination.
- Panels shall have a removable smoked Plexiglas front cover with optional lock kit. The panel shall have a removable top, front and rear covers. The panel adapter tray shall be removable from the front of the panel by sliding the tray forward. Panels shall come with rack mounting brackets that allow it to be mounted with the front cover flush with the front of the rack, or with the front of the panel extended 5.0" in front of the rack.
- Panels shall be 2 rack spaces, accepting 9 adapter panels.
- Adapter panels shall be available with SC multimode adapters. Adapter shall have a zirconia alignment sleeve.
- Panel shall have a splice tray mounting stud incorporated into the base for mounting of mechanical or fusion splice trays. Adapter tray shall have cable management anchor points and come with cable anchors allowing for the maintenance of the incoming cable with the proper minimum bend radius.
- Panels shall have four cable entrance ports on the top and 2 on the bottom, which are covered by knock outs. Panels shall have two jumper ports in the bottom at the front of the panel with plastic dust covers for routing of jumpers.
- Color: Fiber Panel will be BLACK
- Quantity: See Drawing for quantity and installation details.
- Hubbell Premise Part #, or approved equal:
  - 4U Rack Mount Panel **FCR4U15SPL**
  - Insert Panels **FSPB**
    - Blanks

2. IDF Rack Mount Fiber Panel

- Panels shall be constructed of cold rolled 16-gauge steel with a black powder paint finish.
- The panel shall have a hinged swing-out fiber drawer. Panels shall come with rack mounting brackets that allow it to be mounted on a 19" or 23" rack. Panel shall occupy no more than one rack space.

- Panel shall be constructed to accept up to 3 adaptor panels.
- Panels shall have cable entrance points in the rear, which are covered by knock-outs
- Color: Fiber Panel will be BLACK
- Quantity: See Drawing for quantity and installation details.
- Hubbell Premise Part #, or approved equal:
  - Rack Mount Panel
    - 1U Rack Mount Panel **FCR1U3SPL**
  - Insert Panels
    - Blanks **FSPB**

3. IDF Wall Mount Fiber Panel

- Panels shall be constructed of cold rolled 16-gauge steel with a black powder paint finish.
- Panel shall be constructed to accept up to 1 adaptor panels.
- Color: Fiber Panel will be BLACK
- Quantity: See Drawing for quantity and installation details.
- Corning Cabling System Part #, or approved equal:
  - Wall Mount Panel
    - Single Panel Housing **SPH-01P**

H. Cabinets, Racks, and Enclosures

1. Contractor will provide the following 'MDF/IDF' Cabinets, Racks, Enclosures and components based on the number of cables to that will be terminated:

1. Floor Mount Cabinets

- Width: 750.0mm 29.52" (19" EIA)
- Height: 1991.0mm 78.38" (42 RMU)
- Depth: 39"
- **Color:** Floor Mount Cabinet will be or **BLACK**
- **Quantity:** See Drawing for quantity and installation details.
- **Part#:**  
Floor Mount Cabinet  
 AR3150 NetShelter SX 42U
  - Contractor to provide 3 for MDF

2. Floor Mount 2-post Racks

- Overall dimensions of 86.0"H x 29.1" W x 18.6" D
- Provides 45U x 19" W of mounting space
- Channel or Trough Depth 3"
- Rack shall provide High-density cable management fins provide an integrated vertical pathway for premise cabling and facilitate adherence to bend radius requirements
- Features EIA-310-D, Universal spacing, threaded #12-24 mounting holes
- Frame components are aluminum, while cable rings are an engineered polymer
- Finished with black, powder coat paint
- Supports 1,000 lb. [110 lb. maximum. per cable fin]
- Color: BLACK
- Quantity: See Drawing for quantity and installation details.
- Part #'s:
  - 2-Post Rack **HPW84RR19**
  - Vertical Management **VM820**

3. Wall-Mounted Cabinets

- Wall-mounted cabinets shall be manufactured from steel sheet.

- Each cabinet will have a rear panel that attaches to the wall, a hinged cabinet body that swings open from the rear panel providing easy access to the rear of equipment and a locking front door.
- The rear panel will provide cable access with pre-punched knockouts, up to 3", for conduit along the top and bottom edges of the panel. There will also be cutouts in the back of the rear panel so that cables can enter the panel through the wall. The rear panel will provide attachment points for accessory equipment mounting brackets and cable tie points within the panel (cabinet).
- The cabinet body will include a single pair of vertical 19" EIA equipment mounting rails. The mounting rails will be EIA-310-D compliant with the Universal hole pattern. Mounting holes will have #12-24 threads.
- Mounting rails will be adjustable in depth so that they can be positioned at any point within the cabinet body. The design of all cabinets will allow an additional pair of mounting rails (for a total of two pairs of mounting rails per cabinet) to be added to the cabinet.
- The wall-mount cabinet shall provide a hinge design that attaches the cabinet body and the rear panel and allow the rear panel to be removed during installation. The hinge design will allow the cabinet body to open at least 90°. The hasp used to secure the rear panel and the cabinet body together will assist in drawing the components together during the locking action.
- The cabinet body will include vents that are designed to accept fan kits.
- The front door will be hinged and locking. The front door and rear panel will be keyed alike. The front door will have rounded edges and corners. The cabinet body will allow the front door to be attached so that it will swing open from the right or left. The cabinet manufacture shall provide an option for a solid or a tinted plexi-glass window front door. The plexi-glass in doors shall be bronze acrylic (not clear) with a UL flammability classification of 94HB or better.
- Finish shall be epoxy-polyester hybrid powder coat (paint).
- The cabinet shall have the option of being delivered fully assembled. All cabinets will include installation hardware (hex lag screws) for wood studs and 50 each #12-24 equipment mounting screws.
- Load bearing capacity for cabinets that wall-mount will be a minimum of 200 pounds per cabinet.
- Cabinets that are wall-mount only will be certified and UL Listed to standard UL 60950 under category NWIN.
- Color: Wall Mount Cabinet will be White
- Quantity: See Drawing for size, quantity and installation details.
- Part#:
  - **Hubbell RE4X**
  - **Great Lakes GL24WE-B-0**
  - **Great Lakes GL48WCMCM-B-SH-AF-CM**
  - **11900-724 Chatsworth Cube-it**
- Accessories to be provided with each installed cabinet:
  - Sound Dampening Kit **REKS**
  - Fan Kit **REKF**
  - Fan Filter Kit **REKFF**

#### I. Telco Backboards

1. Backboards shall be 4' x 8' x .75" void free plywood (ACX Plywood with the "A" side turned out).
2. Sheets shall be cut to size for the application intended.
3. The plywood shall be painted with two coats of white fire-retardant paint.
  - Flame Stop III paint additive ASTM E-84, NFPA 255, UL 723

- Add one pint of Flame Stop III and one pint of water to one gallon of latex-based paint.

## Part 3 Execution

### 3.1 Installation

#### A. Work Area Outlets Installation

1. No more than 12" of cable shall be stored in an outlet box, modular furniture raceway, or insulated walls.
2. Bend radius of the cable in the termination area shall not be less than 4 times the outside diameter of the cable.
3. The cable jacket shall be maintained to within 12.7mm (½ inch) of the termination point.
4. All UTP cables shall have no more than 12.7mm (½ inch) of pair untwist at the termination point.
5. Data jacks, unless otherwise noted in drawings, shall be located in the top position(s) of each faceplate. Data jacks in horizontally oriented faceplates shall occupy the left-most position(s).
6. Voice jacks, unless otherwise noted in drawings, shall occupy the next position(s) below the data on the faceplate. Voice jacks in horizontally oriented faceplates shall occupy the position left of the data jack.
7. Video jacks, unless otherwise noted in drawings, shall occupy the bottom position(s) on the faceplate. Video jacks in horizontally oriented faceplates shall occupy the position left of the data/voice jack.
8. All faceplates installed shall be level.
9. All outlets will be labeled according to the approved labeling scheme.
10. Each faceplate shall be machine labeled. The labeling shall be placed on the faceplate so that the individual jack can be clearly identified by its associated label.
11. Cables shall be identified by a self-adhesive label in accordance with the Identification and Labeling section of this specification and ANSI/TIA/EIA-606. The cable label shall be applied to the cable no further than 6" behind termination module, behind the faceplate on a section of cable that can be accessed by removing the cover plate.

#### B. Horizontal Distribution Cable Installation

1. Cable shall be installed in accordance with manufacturer's recommendations and best industry practices.
2. Tie Wraps will not be allowed for supporting, bundling and/or dressing of any station cables on this project.
3. Contractor will provide a three foot "service loop" for all station cables. The service loop will be coiled and secured using Velcro in the accessible ceiling at the conduit stub to the work area outlet box.
4. A pull cord (nylon; 1/8" minimum) shall be co-installed with all cable installed in all "common" conduit runs. "Common" Conduit Runs are those that house more than one cable or set of cables that do not specifically feed a Work Station Outlet. Examples of "Common" Conduit Runs are: floor/ceiling penetrations, stub-throughs, distribution conduits, all conduits between J-boxes, etc.
5. Cable raceways shall not be filled greater than the TIA/EIA-569-A maximum fill for the particular raceway type or 40%.
6. Cables shall be installed in continuous lengths from origin to destination (no splices) except for transition points, or consolidation points.
7. The cable's minimum bend radius and maximum pulling tension shall not be exceeded.

8. Pulling tension on 4-pair UTP cables shall not exceed 25-lb for a four-pair UTP cable.
9. The Cable Support System shall be installed in such away that will allow for future cables to be added and to provide sufficient protection of all cable.
10. For all installs where station cables are not installed in a continuous conduit run the following guidelines will apply. The Contractor will be responsible to reinstall all cables and pathways that do not meet with the following at no additional cost to the Owner:
  11. J-hooks shall be installed to support all station cables every 4ft to 5ft.
  12. All pathways shall be run at right angles. No diagonal pathways will be allowed unless otherwise noted on the drawings.
  13. Horizontal cables shall be bundled in groups of no more than 25 cables per Cooper B-Line's BCH21 J-hook, no more than 40 cables per Cooper B-Line's BCH32 J-hook, and no more than 64 cables per Cooper B-Line's BCH64 J-hook.
  14. At no point shall cable(s) rest on acoustic ceiling grids, acoustic panels, or lighting fixtures.
  15. All cables will be installed so that there is a minimum of 3" of clearance above all ceiling grid and tiles.
  16. All cables will be installed so that there is a minimum of 12" of clearance above all florescent lighting.
  17. All cables will be installed so that there is a minimum of 6" of clearance from all fire alarm and electrical system conduits.
  18. Cables shall not be attached to the ceiling grid or lighting fixture wires. The contractor will provide their own carriers wires to support their horizontal cabling.
  19. All cables shall be installed above fire-sprinkler systems and plumbing system fixtures and devises. Cables shall not be attached to or supported by these fixtures and/or their ancillary equipment or hardware.
  20. The cable system and support hardware shall be installed so that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.
  21. Contractor is responsible for sealing around all cables that penetrate fire rated barriers.
  22. Any cable damaged or exceeding recommended installation parameters during installation shall be replaced by the contractor prior to final acceptance at no cost to the Owner.

C. Horizontal Cross-Connect Installation

1. Cables shall be dressed and terminated in accordance with the recommendations made in the TIA/EIA-568-A standard, manufacturer's recommendations and best industry practices.
2. The cable jacket shall be maintained to within 12.7mm (½ inch) of the termination point.
3. All UTP cables shall have no more than 12.7mm (½ inch) of pair untwist at the termination point.
4. Bend radius of the cable in the termination area shall not exceed 4 times the outside diameter of the cable.
5. All cables shall be neatly bundled and dressed continuously from the entrance point of the Telecommunications Room to their respective panels or blocks. Each panel or block shall be fed by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame. Contractor will use Velcro strip to bundle cables together. The use of Tie –Wraps is not permitted.
6. Each cable shall be clearly labeled on the cable jacket behind the patch panel at a location that can be viewed without removing the bundle support ties. Cables labeled within the bundle, where the label is obscured from view shall not be acceptable.

D. Backbone Cable Installation

1. Backbone cables shall be installed separately from horizontal distribution cables.

2. Where possible the backbone and horizontal cables shall be installed in separate conduits.
3. Where backbone cables and distribution cables are installed in a cable tray or wireway, backbone cables shall be installed first and bundled separately from the horizontal distribution cables.
4. Pulling tension on Backbone cables shall not exceed the manufacture's limitations.
5. The minimum bend radius for all Backbone cables is 16 times the cable diameter or the manufactures specification, whichever is greater.
6. All OSP cables may not penetrate more than 50ft into the buildings before be terminated or splices to cable with a fire resistant jacket, unless the jacket is indoor/outdoor rated.
7. A pull cord (nylon; 1/8" minimum) shall be co-installed with all cable installed in any conduit.
8. A pull cord (nylon; 1/8" minimum) shall be installed with all empty OSP and Entrance Facility conduit.
9. All backbone cables shall be securely fastened to the sidewall of the TR on each floor.
10. Backbone cables spanning more than three floors shall be securely attached at the top of the cable run with a wire mesh grip and on alternating floors or as required by local codes.
11. Vertical runs of cable shall be supported to messenger strand, cable ladder, or other method to provide proper support for the weight of the cable.
12. Large bundles of cables and/or heavy cables shall be attached using metal clamps and/or metal banding to support the cables.

#### E. Backbone Cross-Connect Installation

1. Cables shall be dressed and terminated in accordance with the recommendations made in the TIA/EIA-568-A document, manufacturer's recommendations and best industry practices.
2. Bend radius of the cable in the termination area shall not exceed 16 times the outside diameter of the cable.
3. All cables shall be neatly bundled and dressed continuously from the entrance point of the Telecommunications Room to their respective panels or blocks.
4. Contractor will provide a minimum of a 3 foot "service loop" for each backbone cable before terminating to allow future rearrangement. Cables will be coiled and secured above the ceiling where possible or to the Telco Backboard where entrance point is from the floor.
5. Wall mounted termination block fields shall be installed with the lowest edge of the mounting frame 18" from the finished floor.
6. Contractor shall provide a machine label 1ft. to 2ft. from the entrance point of the TR and 6in. to 12in. from the termination point on each backbone cable. Cable shall be easily identified and fully legible without removing the bundle support ties.

#### F. Cabinets, Racks, Enclosures and Ladder Rack Installation

1. Wall Mount Racks/Cabinets shall be securely attached to the Telco Backboard using minimum 3/8" hardware or as required by local codes.
2. Floor Mount Racks/Cabinets shall be securely attached to the concrete floor using minimum 3/8" drop-in anchor hardware or as required by local codes.
3. All Floor Mount Racks/Cabinets will be either; secured on one side to the wall or attached to the closest wall with ladder rack.
4. All Racks/Cabinets shall be braced to meet Zone 4 seismic requirements.
5. Contractor will maintain a minimum of 36 inches of clearance from the front of the all rack/cabinets and all other obstructions.
6. Floor Mount Racks/Cabinets shall be installed to allow for a minimum of 36" from rear and all other obstructions.
7. All racks shall be grounded to the telecommunications ground bus bar.

8. Rack mount screws not used for installing patch panels and other hardware shall be bagged and left with the rack upon completion of the installation.
9. The plywood bottom edge shall be mounted vertically no less than 12" above the finished floor.
10. Contractor will provide all cutouts for the Electrical Contractors expansion rings and electric receptacles as shown on the drawings.
11. Ladder Rack must be securely attached to walls, backboards, and racks/cabinets to comply with all Zone 4 seismic requirements.
12. Ladder rack shall be installed so that there is a minimum of 8" of unobstructed clearance above rack.
13. Ladder Rack shall be installed so that there is a minimum of 12" of clearance from all: florescent lighting, electrical conduits/circuits, and fire alarm conduits/devices.

### **3.2 Identification and Labeling**

#### **A. General Requirements**

1. The contractor shall develop and submit for approval a labeling system for the cable installation. The Owner will negotiate an appropriate labeling scheme with the successful contractor.
2. The approved system will comply with the TIA/EIA -606-A Class 2 designations and include at a minimum, identifiers for all major components of the system: telecommunication rooms, grounding bus bars, racks, cables, panels and outlets. The labeling system shall designate the cables origin and destination and a unique identifier for the cable within the system. Racks and patch panels shall be labeled to identify the location within the cable system infrastructure.
3. All label printing will be machine generated or hand-held printers using indelible ink ribbons or cartridges. Self-laminating labels will be used on cable jackets, appropriately sized to the OD of the cable, and placed within view at the termination point on each end. Outlet, patch panel and wiring block labels shall be installed on, or in, the space provided on the device.
4. All labeling information shall be recorded on the as-built drawings and all test documents shall reflect the appropriate labeling scheme.

### **3.3 Testing and Acceptance**

#### **A. General**

1. All cables and termination hardware shall be 100% tested for defects in installation and to verify cabling system performance under installed conditions according to the requirements of ANSI/TIA/EIA-568-A Addendum 5, TSB-67 and TSB-95. All pairs of each installed cable shall be verified prior to system acceptance. Any defect in the cabling system installation including but not limited to cable, connectors, feed through couplers, patch panels, and connector blocks shall be repaired or replaced in order to ensure 100% useable conductors in all cables installed.
2. All cables shall be tested in accordance with this document, the ANSI/TIA/EIA standards, the Manufacturer's Warranty guidelines and best industry practice. If any of these are in conflict, the Contractor shall bring any discrepancies to the attention of the project team for clarification and resolution.
3. Contractor will notify the Owner/Owner's Representative 72 hours before commencement of testing.
4. Upon receipt of the test documentation, the Customer reserves the right to have the contractor perform a 10% witnessed "spot testing" of the cabling system to validate test results provided in the test document, at no additional cost. If a significant amount of cables are marginal and/or fail during the "spot test" Contractor will retest the entire cable plant at no additional cost.



## B. Copper Cable Testing

### 1. Twisted Pair Cable

- All twisted-pair copper cable links (including backbone cables) shall be tested for continuity, pair reversals, shorts, opens and performance as indicated below.
- Continuity - Each pair of each installed cable shall be tested using a test unit that shows opens, shorts, polarity and pair-reversals, crossed pairs and split pairs. Shielded/screened cables shall be tested with a device that verifies shield continuity in addition to the above stated tests. The test shall be recorded as pass/fail as indicated by the test unit in accordance with the manufacturers' recommended procedures, and referenced to the appropriate cable identification number and circuit or pair number. Any faults in the wiring shall be corrected and the cable re-tested prior to final acceptance.
- Length - Each installed cable link shall be tested for installed length using a TDR type device. The cables shall be tested from patch panel to patch panel, block to block, patch panel to outlet or block to outlet as appropriate. The cable length shall conform to the maximum distances set forth in the ANSI/TIA/EIA-568-A Standard. Cable lengths shall be recorded, referencing the cable identification number and circuit or pair number. For multi-pair cables, the shortest pair length shall be recorded as the length for the cable.

### 2. Category 6 Performance

- Follow the Standards requirements established in:
  - ANSI/TIA/EIA-568-A -TSB-67
  - Wire Map
  - Length
  - Attenuation
  - NEXT (Near end crosstalk)
  - ☐ ANSI/TIA/EIA-568-A -TSB-95
  - Return Loss
  - ELFEXT Loss
  - Propagation Delay
  - Delay skew
  - ☐ ANSI/TIA/EIA-568-A, Amendment 5.
  - PSNEXT (Power sum near-end crosstalk loss)
  - PSELFEXT (Power sum equal level far-end crosstalk loss)
- A Level III or better test unit is required to verify category 6 performances and must be updated to include the requirements of TSB-95 and Amendment 5. Testers will be equal to Fluke Network's DXT CableAnalyzer™ Series.
- All testers shall have been recalibrated with 6 months of use on this project. Contractor will be asked to provide proof of recalibration.
- Test results shall be automatically evaluated by the equipment, using the most up-to-date criteria from the TIA/EIA Standard, and the result shown as pass/fail. The approved Level Three tester shall provide a printed document for each test that is also available in a downloadable file using an application from the test equipment manufacturer. The printed test results shall include a print out of all tests performed, and the individual test results for each cable.

## C. Fiber Optic Cable Testing

### 1. 50/125μ Backbone Fiber

- Each fiber strand shall be tested for attenuation with an Optical Power Meter and light source and with an Optical Time Domain Reflectometer (OTDR) for actual length and splice/connector loss. Cable length shall be verified using sheath markings. The guidelines and procedures established for Tier 1 testing in TIA/TSB-140 shall apply.
- All fiber optic cables shall be tested from the site's MDF to each fiber terminals located in the IDF. The results of OTDR testing to define the length of each riser

cable shall be documented. The Contractor shall conduct a power meter (loss) test of each fiber optic station and riser cable at both wavelengths, 850/1300nm for MM and 1310/1550nm for SM, A to B, B to A, and OSPL (OSPL is defined as  $L_a + L_b$ ). No individual station or riser fiber link segment (including connectors) shall measure more than 2.0 dB loss. Tests shall be conducted using ANSI/EIA/TIA/EIA-526-14A, Method B. Test results evaluation for the panel to panel (backbone) shall be based on the values set forth in ANSI/TIA/EIA-568-B.1. The Contractor shall provide an electronic printout for each strand tested with the Power Meter and the OTDR.

- Where concatenated links are installed to complete a circuit between devices, the Contractor shall test each link from end to end to ensure the performance of the system. After the link performance test has been successfully completed, each link shall be concatenated and tested. The test method shall be the same used for the test described above. The evaluation criteria shall be established between the Owner and the Contractor prior to the start of the test.
- All installed cables must meet or exceed the defined standards for performance. The Contractor shall take all steps necessary to repair or replace any optic not meeting the standard.
- Fiber optic riser and station cable test results shall be provided in electronic format to the Owner.

### **3.4 System Closeout and As-built Documentation**

#### **A. General Requirements**

1. Upon completion of the installation, the telecommunications contractor shall provide three (3) full documentation sets to the Owner's Representative/Engineer for approval. One (1) to be a hardcopy and two (2) to be electronic copies. Documentation shall include the items detailed in the sub-sections below.
2. Documentation shall be submitted within ten (10) working days of the completion of each testing phase. This is inclusive of all test results and draft as-built drawings. Draft drawings may include annotations done by hand. Machine generated (final) copies of all drawings shall be submitted within 30 calendar days of the completion of each testing phase. At the request of the Owner's Representative/Engineer, the telecommunications contractor shall provide copies of the original test results.
3. The Owner's Representative/Engineer will request that a 10% random field re-test be conducted on the cable system, at no additional cost, to verify documented findings. Tests shall be a repeat of those defined above. If findings contradict the documentation submitted by the telecommunications contractor, additional testing can be requested to the extent determined necessary by the Engineer, including a 100% re-test. This re-test shall be at no additional cost to the Owner.
4. Test Results documentation shall be provided in two media, as listed above, one (1) hardcopy and one (1) on disk within three weeks after the completion of the project. The documentation shall be clearly marked on the outside front cover with the words "Project Test Documentation", the project name, and the date of completion (month and year). The results shall include a record of test frequencies, cable type, conductor pair and cable (or outlet) I.D., measurement direction, reference setup, and crew member name(s). The test equipment name, manufacturer, model number, serial number, software version and last calibration date will also be provided at the end of the document. Unless the manufacturer specifies a more frequent calibration cycle, an bi-annual calibration cycle is anticipated on all test equipment used for this installation. The test document shall detail the test method used and the specific settings of the equipment during the test as well as the software version being used in the field test equipment.
5. Printouts generated for each cable by the wire test instrument shall be submitted as part of the documentation package.

6. When repairs and re-tests are performed, the problem found and corrective action taken shall be noted, and both the failed and passed test data shall be documented.
7. The As-Built drawings are to include cable routes, outlet locations and the approved labeling identifiers. Their sequential number as defined elsewhere in this document shall identify outlet locations. Numbering, icons, and drawing conventions used shall be consistent throughout all documentation provided. The Owner will provide floor plans in paper and electronic (DWG, AutoCAD 2008) formats on which as-built construction information can be added. These documents will be modified accordingly by the telecommunications contractor to denote as-built information as defined above and returned to the Owner.
8. Contractor will provide one laminated 11"x17" drawing at each IDF that includes the building layout for that IDF, along with the outlet locations and all of the approved labeling.

## **END OF SECTION**



# INSTALLATION METHODS AND REQUIREMENTS FOR AUDIO/VIDEO EQUIPMENT

Revised 10/2024



# INSTALLING OF A SMART BOARD IQ, LCD, AND WALL CONNECTION DEVICE.

## **Smart Board IQ / LCD Display**

### **Mounting bracket:**

Unless otherwise approved by the district, a Premier Mounts low profile or articulating wall mount with a correct weight tolerance per the display being installed must be used.

Unless otherwise approved by the district, the Premier Mounts universal rectangular washer is required to be installed at each M screw position in relation to the securement of the Smart Board IQ or LCD to the bracket.

The low profile wall mounted bracket is required to be secured to three studs. In absence of a third wall stud Toggle Anchors with a minimum of a 200 pound load tolerance will be required. The wall mount bracket is required to be installed with six of the appropriate lags.

The articulating wall mount bracket is required to be secured to two studs. In the absence of a second wall stud Toggle Anchors with a minimum of a 200 pound load tolerance will be required. The wall mount bracket is required to be installed with four of the appropriate lags.

### **Wood Studs:**

When securing to a wood stud the installation requirements are 3" 5/16" wood lags with the appropriate flat standard washer.

### **Metal Studs:**

When securing to a metal stud the installation requirements are #12 3" metal self-tapping lag with the appropriate flat standard washer.

### **Concrete Wall**

When securing to a concrete wall the installation requirements are 3' X 3/8" Red Head Wedge Anchor with the appropriate flat standard washer.



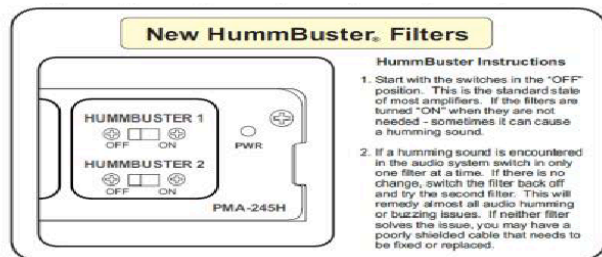
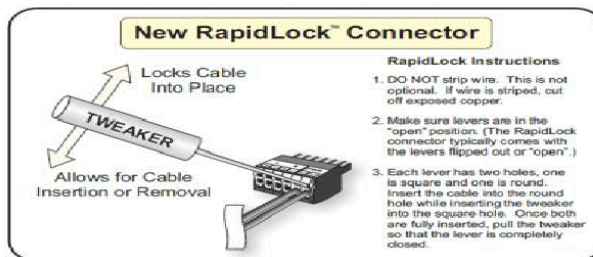
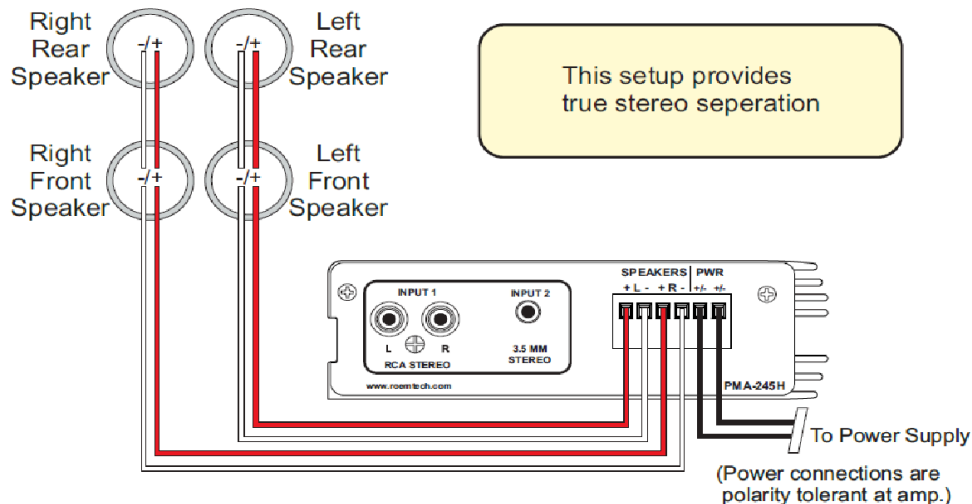
### **Wall Connection Device**

1. Unless otherwise approved by the district, all wall connection devices in relation to the connection for the Smart Board or LCD will be at the standard duplex height in relation to the classroom.
2. Connection devices are required to be installed near or next to existing data ports.
3. Unless otherwise approved by the district, all connection devices will be required to be installed on the same teaching wall as the Smart Board or LCD.
4. Unless otherwise approved by the district, all wall connection devices need to have a protective device cover installed. All covers must be approved by the district.



# Installing Classroom Amplifier (typical)

## Typical Stereo Wiring Diagram



When installing a classroom amplifier, install the AMP below the IQ Smart Board / LCD shroud, above the ceiling tile or behind the LCD. The preferred method of installation for the district is behind the shroud. The AMP is required to be secured with two of the appropriate screws for the wall surface using the two notches located on the sides of the AMP. The power brick will be required to be secured to the wall surface with industrial grade 1 ½" Velcro with a minimum of a ten pound tolerance load. When Velcro is used, the portion that is attached to the wall surface will be required to be secured with the appropriate screws.



# Ceiling Speaker Installation Guide

Pictures of finished installation



Front/grill side



Rear/speaker can side

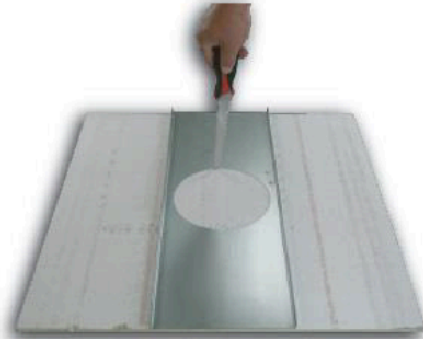
**STEP 1** - Place the ceiling tile face down on a clean surface.

**STEP 2** - Measure across the tile to find the exact center. Place the tile bridge on the back of the tile and align the tile bridge so that it is centered on the tile.

**STEP 3** - Use the tile bridge as a template to trace the outline for the hole to be cut in the tile.

**STEP 4** - Remove the tile bridge and use a roto tool, keyhole saw, or saber saw to cut the hole in the tile.

**STEP 5** - Place the tile bridge on the tile and align it with the hole.







**STEP 6** - While holding the tile bridge to the back of the tile, turn the tile and bridge over and place it so the sides are supported while allowing an opening for the speaker to be placed into the hole. A cardboard box or trash bin can be used to support the tile.



**STEP 7** - Lower the speaker into the hole. The photo shows the speaker being lowered from the side for clarity.

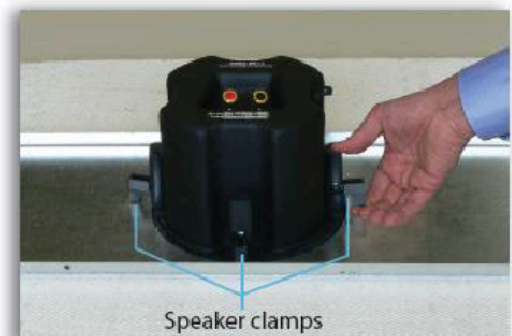


Front view of a properly installed speaker with its grill in place.



Rear view of a properly mounted speaker with tile bridge. Note three of the speaker clamps are visible.

**STEP 8** - Release the 4 speaker clamps so they are firmly holding the speaker to the tile, with a twist and drop motion.



**STEP 9** - Drop the speaker wire down from the empty tile hole in the ceiling and connect it to the speaker. Remove the insulation from the end of the wires. While pushing the plastic tab to open the terminal insert the bare wire into the terminal hole and release the tab. Connect the red wire to the red terminal and the black wire to the black terminal.



Add your safety wire to this attachment point, as required by local code. Safety wire will support the entire speaker and tile bridge assembly.

**STEP 10** - Gently place the speaker/tile assembly into the ceiling.



# Installation Requirements

## Ceiling Speaker Installations:

1. Each speaker must be secured with the provided manufacturer tile bridge assembly and a contractor provided seismic safety cable with a minimum of a 3 pound load tolerance at the attachment point on each ceiling speaker.

### Wood Rafter

When anchoring the safety cable to the closest wood rafter to the ceiling speaker, a ¼" X 3" Acoustical Eye Lag is required.

### Metal Rafter

When anchoring the safety cable to the closest metal rafter to the ceiling speaker, a ¼" X 2" Self Tapping Acoustical Eye Lag is required.

2. The preferred placement of ceiling speakers is a four position pattern that encompasses the student area of the classroom without creating an excessive overlap or dead zone.
3. The preferred placement of ceiling speakers within the ceiling tile is directly center and must mirror the same placement as the adjoining speaker. If the pathway of the speaker is blocked, the speaker can be installed in a half tile pattern.

## Wall Speaker Installations:

1. The installation of the raceway must reflect a "T" pattern, each wall speaker is required to be 3ft from the center of the raceway main pathway leading up from the Smart Board or LCD Display.
2. Each wall speaker is required to be installed at 58 ½" from the bottom of the Smart Board or Display, unless otherwise approved by the district.
3. The provided manufacturer wall speaker bracket is required to be installed horizontally and secured in two separate positions within the bracket.

### Drywall / Tact Board Wall:

When securing to a drywall or tact board wall, a wall anchor with a minimum of a 20 pound load tolerance is required. Depending on the size of the appropriate screw to the anchor a standard flat washer will be required.



#### Wood Wall:

When securing to a plywood or plywood backed wall, a #8 X 1-¼" or #8 X 1-5/8" wood screw with the appropriate standard flat washer will be required.

#### Surface Mounted Raceway:

1. The path of the raceway must be clear of any obstruction, including any existing raceway and cannot be installed over any décor.
2. Surface mounted raceway that is installed on a non-concrete or brick wall will be secured with #8 X 1 5/8" or #8 X 1 ¼" wood screws and will not be secured with any adhesive backing.
3. When raceway is installed on a concrete or brick wall, it will be secured with concrete anchors and screws. Adhesive raceway backing may be used during the installation.

#### Drop Ceiling Installations:

1. Unless otherwise noted the preferred installation pathway of cabling will be from the Smart Board IQ or LCD up through the drop ceiling tile and back down through a drop ceiling tile that is near a teacher's computer station location.
2. "J Hooks" will be used at each entrance through the ceiling tile and at the appropriate locations to ensure that the cabling is not touching or resting on other ceiling tiles or electrical lines.
3. Cabling for the Smart Board, LCD and Speakers cannot be intertwined with any existing cables, conduits or be laying on fluorescent light panels.
4. Unless otherwise approved by the district, entrance fittings are required to be installed at each breach of the ceiling tile in relation to raceway pathways.
5. Service Loops of the cabling are required above each breach of the ceiling tile or installed equipment.

#### Hard Cap Ceiling Installations:

1. The preferred installation pathway of cabling will be from under the Smart Board or LCD to the teacher's location.
2. The installation of the raceway must reflect an "L" pattern to the appropriate drop location.
3. In relation to the Smart Board or Display any excess cabling must be secured to the wall behind the unit that does not affect the mounting location or securement of the unit.



#### Placement / Cabling Installations:

1. The placement of the Smart Board IQ / LCD unless otherwise approved by the District will always be center of the front teaching wall. If an object IE: a White Board or pull down screen is blocking the pathway, the contractor will be required to remove the object and place it in the rear of the room.
2. To allow proper ease of cable management, the shroud will be required to be notched in a manner that is not visible from the front of the Smart Board IQ. Installation of a section of Hubbell PL1ABC7 will need to be installed below the center of the Smart Board IQ unit that will clear from behind the unit and into the shroud will be required. All cabling from the Smart Board IQ into the shroud will be required to pass through the raceway section.
3. In relation to a Smart Board IQ with a lower shroud, any excess cabling must be secured to the wall below the unit that does not affect the mounting location or securement of the unit and must be concealed from view with the placement of the shroud. The following items can be used as cable management: Nylon mounting zip ties, Velcro strips or B-Line / Eaton BCH21 "J Hook".
4. Unless otherwise approved by the district, the termination of LAN to the Smart Board IQ will be required to be terminated to a RJ45 CAT6 punch down jack in the shroud area. A provided CAT6 Patch Cable will be required to complete the connection from the modular jack to the Smart Board IQ LAN Port.
5. Unless otherwise approved by the district, two space differentials are required for the securement of the HDBaseT Receiver located under the shroud. The following items can be used as a space differential: 5/16 stainless steel nuts, Nylon mounting holes from a zip tie or a Premier Mount universal spacer.
6. All cable management will be required to be "clean" to aid in identification of cabling.
7. Unless otherwise approved when installing a power strip or power brick behind the shroud, securement of the device is required to be attached to the wall surface with industrial grade 1 ½" Velcro with a minimum of a ten pound tolerance load. When Velcro is used, the portion that is attached to the wall surface will be required to be secured with the appropriate screws.

#### Hubbell Raceway Systems:

1. Unless otherwise approved by the district, only Hubbell Poly Track Non-metallic Raceway is approved for installation of the Smart Board or LCD cabling. Refer to Installation Scope of each job for approved raceway systems.



General Housekeeping:

1. After each installation is complete the work area will be required to be free of any associated hardware, material packaging and dust or debris.
2. The floors that were in the immediate area of installation are required to be vacuumed to ensure that all hazards have been removed.

Installation Heights:

Unless otherwise approved by the district, see installation heights listed below.

Grade Level	Height in Inches
T-K Kindergarten Special Ed Grade Levels 1st through 2nd 1st through 2nd	32" To the bottom of the Smart Board IQ or LCD to the finish floor.
Special Ed Grade Levels 3rd through 8th 3rd through 8th	36" To the bottom of the Smart Board IQ or LCD to the finish floor.
Parent Resource Centers Library Conference Room	40" To the bottom of the Smart Board IQ or LCD to the finish floor.



### Installation of Cabling and Modules Below the Shroud:

Below the Smart Board IQ the wall area is to be sectioned into a quadrant for cable management and quick cable and module identification. IE: Audio, Receiver, Power, LAN.

Unless otherwise approved by the district a 6" clearance space will be required from the outside edge of the Smart Board IQ to the inside module placement. No equipment, cabling or hardware can be installed in the clearance area.

Unless otherwise approved, two CAT6 LAN cables will be required to be installed below the shroud, both lines are to be terminated to a CAT6 punch down jack.

- A. Installation of one 7' CAT6 Patch Cable from one of the terminated jacks to the input LAN port on the Smart Board IQ is required.

Unless otherwise approved the Roemtech 45+ amplifier is to be installed directly to the wall surface with the appropriate screws. A service 16/2 speaker cable loop is required to be installed near the receiver.

- A. When installing the 3.5mm cable from the receiver to the Smart Board IQ, install one 15' 3.5mm stereo cable from the 3.5mm input port on the amplifier to the output port on the Smart Board IQ.
- B. Unless otherwise approved the output volume level is required to be set at a  $\frac{3}{4}$  output volume level.
- C. The "Hum Buster" ground loop isolator is required to be activated on the output port that is connected to the 3.5mm stereo cable.

At no time can the exhaust ports located on the sides of the HDBaseT receiver be blocked by any module. IE: Power brick, Amplifier, Apple TV.

- A. When installing the HDMI cabling from the receiver to the Smart Board IQ, install one 6' HDMI cable from the output HDMI port on the module to the HDMI input port #2 on the IQ.
- B. When installing the USB cabling from the receiver to the Smart Board IQ, unless otherwise specified the district standard USB cables are a 2.0 A/B 5m, 3m or 3.0 A/B. Install one of the specified USB cables from the 1.4 output USB port on the module to the HDMI input port #2 on the IQ.
- C. When installing the CAT6 to the HDBaseT receiver a service loop of the primary (orange) and secondary (purple) CAT6 will be required. Both lines are required to be terminated to a RJ45 modular crimp jack.



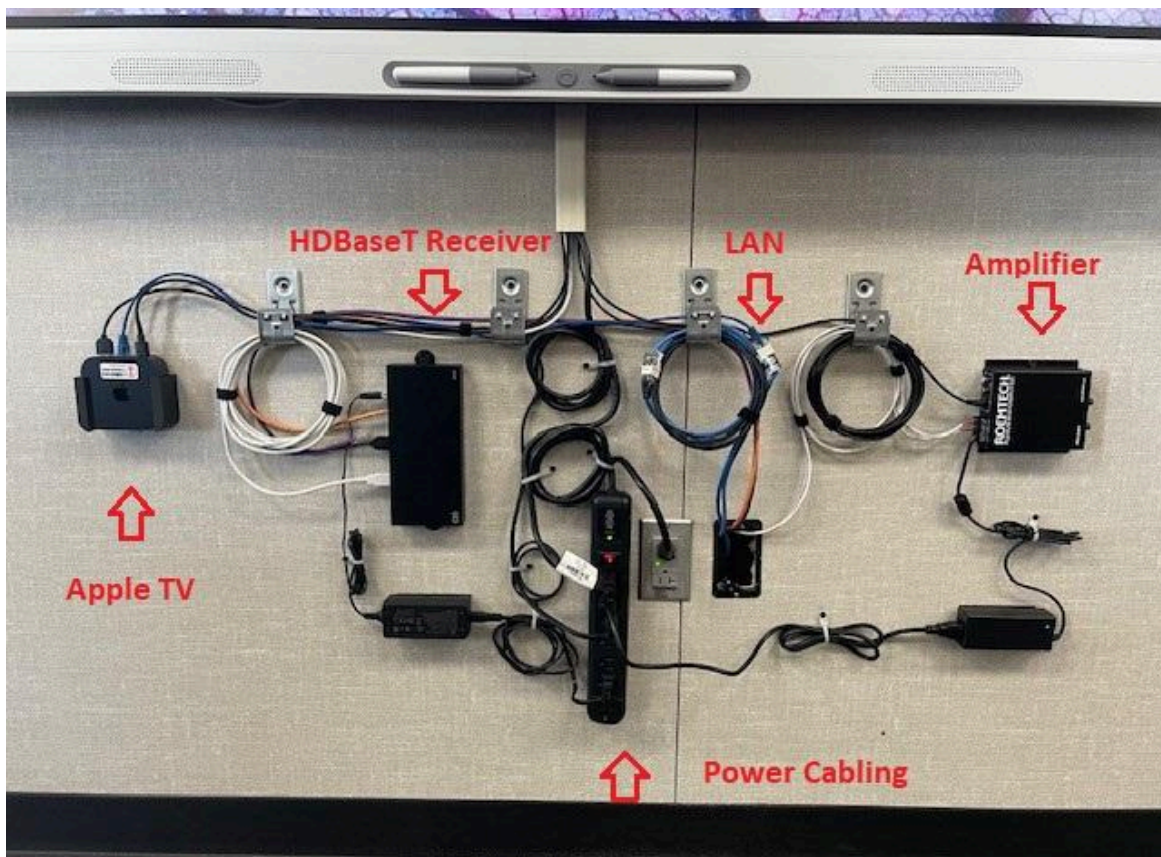
6. When applicable the Apple TV module will be required to be attached to the wall with the appropriate wall mount and screws.

- A. When installing the HDMI cabling from the Apple TV to the Smart Board IQ, install one 6' HDMI cable from the output HDMI port on the module to the HDMI input port #1 on the IQ.
- B. When installing the CAT6 patch cable from the Apple TV to the terminated CAT6 punch down jack, install one 3' CAT6 patch cable from the input port on the Apple TV to the secondary CAT6 punch down jack LAN.





## INSTALLATION EXAMPLES (typical)



Typical layout of modules and cabling below the shroud.





Placement of spacer to allow the receiver to exhaust heat.



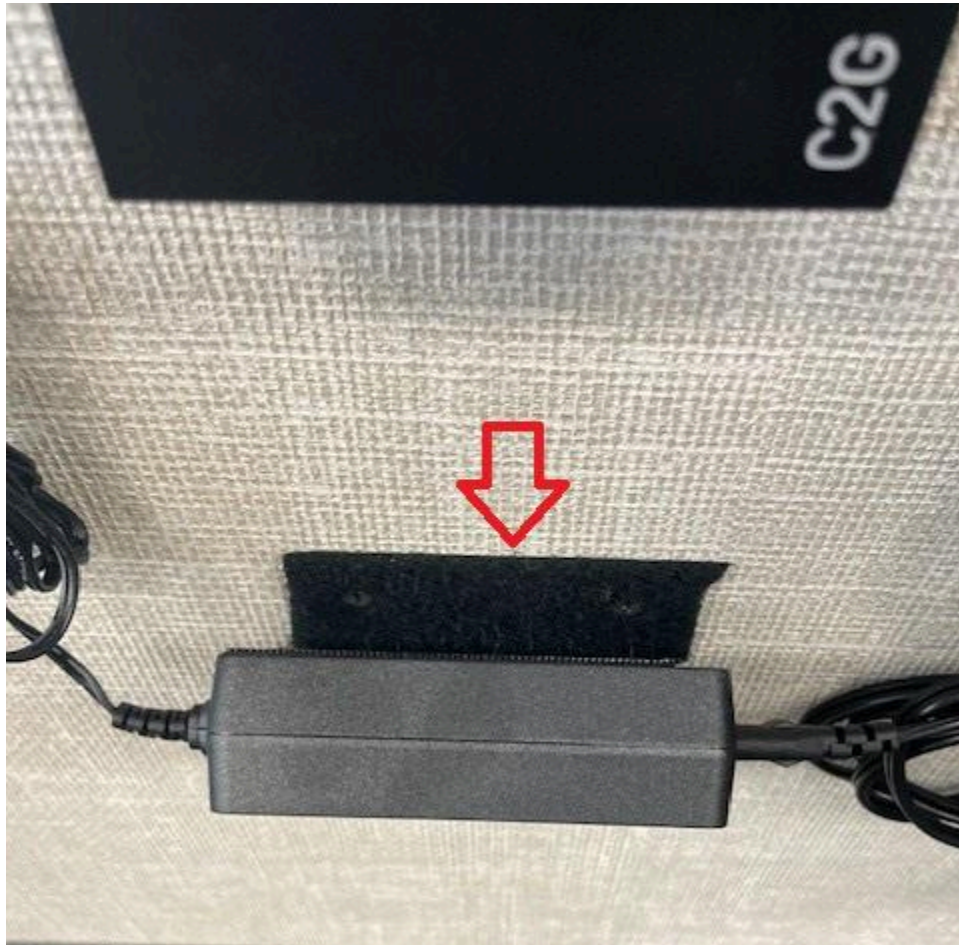
The Amplifier is set to  $\frac{3}{4}$  on the output audio level.

The "Hum Buster" ground loop isolator is turned on.

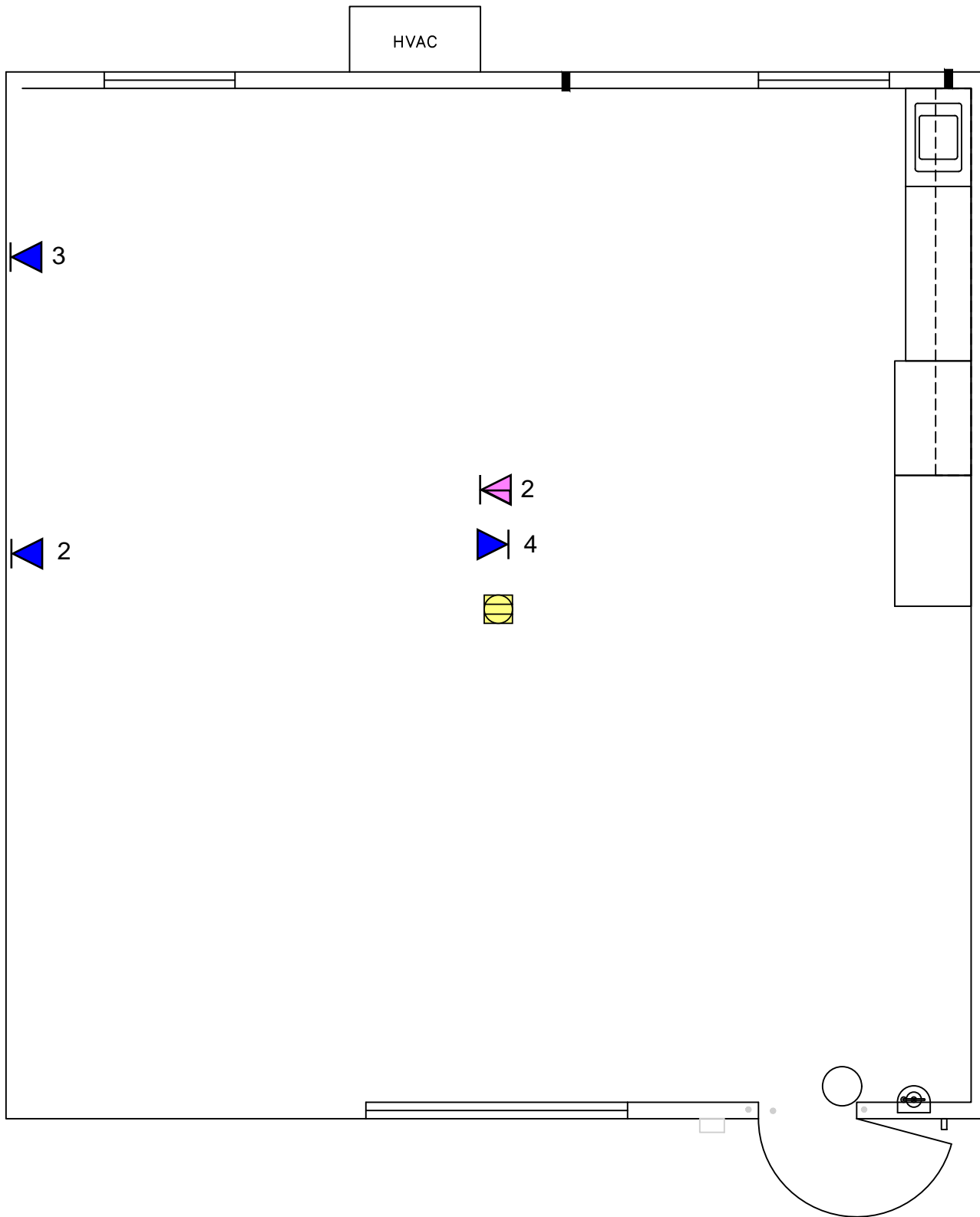
The appropriate screw is securing the unit to the wall surface.







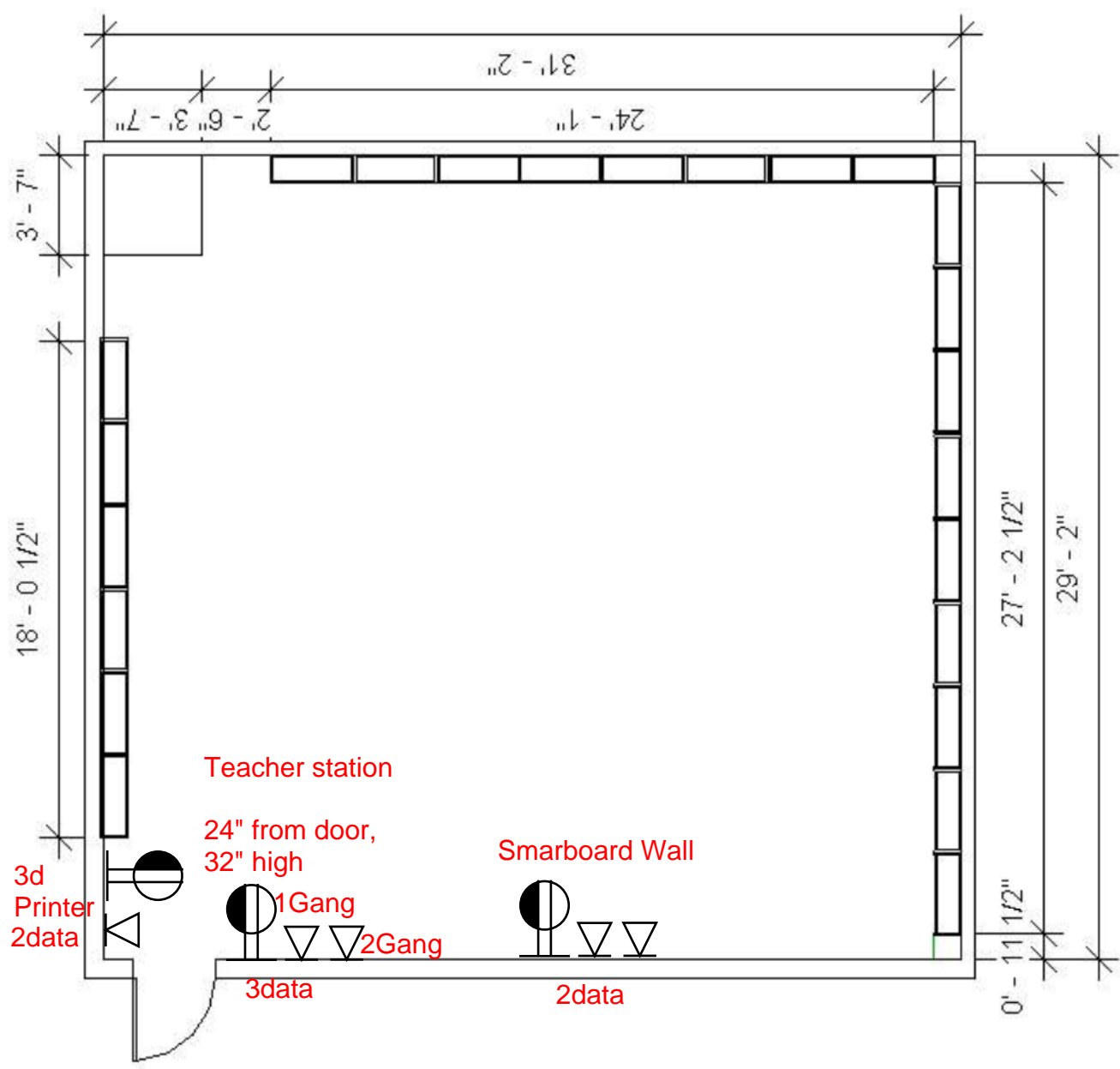




The Velcro section that is attached to the wall is secured with the appropriate screw.



-  Blue Cat6
-  Blue Cat6a  
2port plate mounted in tile
-  PA Speaker (District  
provided)
-  Yellowcat6 to TC



**ELECTRICAL SCOPE & GENERAL REQUIREMENTS**

DIVISIONS 00 AND 01 ARE A PART OF THIS SECTION

**PART 1        GENERAL**

**1.01    GENERAL REQUIREMENTS**

- A.     All work under Section 26 01 00, Electrical Scope and General Requirements Specifications, are subject to the General, Supplementary, Special Conditions and other Division I Specification Sections preceding this section. This Contractor will be responsible for and govern by all requirements. Drawings indicate the general arrangement of the electrical layout and work included. The Contractor will follow Drawings in laying-out and checking of Drawings of other trades to verify locations and spaces in which work will be installed.

**1.02    SCOPE**

- A.     This portion of the work includes furnishing of all labor and materials necessary for a complete wiring system to outlets and all equipment shown on the Drawings or covered by this section of the Specifications. In general, the work includes the following:
  - 1.     Complete system of branch circuit wiring and equipment including all wiring devices and plates on all outlets.
  - 2.     A new lighting fixture system complete with lamps as shown on Plans including all appurtenances as required.
  - 3.     Raceways, wiring, fused disconnect switches, etc., for equipment covered by other sections of these Specifications.
  - 4.     All hangers, anchors, sleeves, chases and supports for fixtures, electrical equipment and materials including earthquake bracing.
  - 5.     All disconnection and removal of existing electrical facilities not to be reused.
  - 6.     Include payment of all required insurances, electrical permits, fees and taxes unless                      specifically                      shown                      "BY                      OTHERS".

## 1.03 SITE VISITATIONS

- A. The Contractor will carefully examine the site and existing buildings, compare the Drawings with the existing electrical installations and thoroughly familiarize himself with all existing conditions within the scope of this work. By the act of submitting a bid, the Contractor will be deemed to have made such examination, accepted such conditions and to have made allowance in preparing his figure.

## 1.04 RULES AND REGULATIONS

- A. All work and materials shall be in full accordance with the latest rules and regulations of the following:
  - 1. California Electric Code, 2022 Edition
  - 2. California Building, Mechanical and Plumbing Codes
  - 3. California Code of Regulations
  - 4. California State Fire Marshal Rules
- B. Before the Final Certificate of Payment will be issued, the Contractor shall deliver to the Owner all Certificates, Permits, Record Drawings and Instructions/Parts Manuals.
- C. Nothing in these Plans and Specifications is to be construed to permit work not conforming to these codes.

## 1.05 MATERIALS AND SUBSTITUTIONS

- A. All equipment and materials shall be new and UL (Underwriters Laboratories) approved and of the best quality. When specific trade names are used in connection with materials they are mentioned as standards but, this implies no right upon the part of the Contractor to substitute other materials or methods without prior approval.
- B. When approval is given for use of equipment differing from that shown on the Drawings regarding foundations, space of piping, duct work, wiring, insulation, etc., changes required to accommodate such differences shall be accomplished at no cost to the Owner.
- C. This Contractor shall order equipment in a timely manner to prevent any delays in the construction schedule and he shall bear any penalty by vendors to meet schedules.
- D. Submittals:
  - 1. Shop Drawings and Product Data: Within ten days after an award of this contract, but prior to manufacture or installation of any equipment, prepare complete Shop Drawings and Brochures for materials/equipment as required by each section of the Specification. Submit eight complete sets for review.



2. Prior to submission of the Shop Drawings and Project Data review and certify that they meet the Contract Documents and conform to existing field conditions. Field verify installation methods, voltage requirements and coordinate with other trades.
3. Verify all dimensional information to ensure proper clearance installation of equipment. Check all materials and equipment after arrival on the jobsite and verify compliance with the Contract Documents. A minimum period of two weeks, exclusive of transmittal time, will be required each time Shop Drawings and/or Brochures are submitted or resubmitted for review. This time shall be considered by the Contractor when scheduling a submittal date.
4. Review of Shop Drawings and Brochures shall not relieve the Contractor of responsibility for dimensions and/or errors that may be contained therein or deviations from the Contract Documents requirements. It shall be clearly understood that noting of some errors, but overlooking others, does not grant the Contractor permission to proceed in error. Regardless of any information contained in the Shop Drawings and Brochures the requirements of the Contract Documents shall govern and are not waived or superseded in any way by the review of the Shop Drawings and Brochures.
5. Certifications shall be written or in the form of rubber stamp impressions as follows:

I hereby certify that these Shop Drawings and/or Brochures have been checked prior to submittal, and that it complies in all respects with the requirements of the Contract Drawings, Specifications, and existing field conditions for this project.

(Name of Contractor)

Signed \_\_\_\_\_  
Title \_\_\_\_\_ Date \_\_\_\_\_

6. Observe the following rules when submitting the Shop Drawings or Brochures:
  - a) Each Shop Drawing shall indicate in the lower right-hand corner and each brochure shall indicate on the front cover the following:
    - 1) Title of the sheet or brochure
    - 2) Name and location of the building
    - 3) Names of the Architect
    - 4) Name of the Electrical Engineer
    - 5) Name of Contractor
    - 6) Subcontractor's Manufacturer, Supplier and Vendor
    - 7) Date of submittal
    - 8) Date of correction and revision.

7. Unless the above information is included, the submittal will be returned for resubmittal.
8. Shop Drawings shall be done in legible scale and shall contain sufficient plans, elevations, sections and isometrics clearly describing the equipment or apparatus and the Engineer/ Draftsmen skilled in this type of work. Shop Drawings shall be drawn to at least  $1/4" = 1'-0"$  scale.
9. The manufacturers shall publish brochures to be submitted which contain complete and detailed engineering and dimensional information. Brochures submitted shall contain only information relevant to the particular equipment or materials to be furnished. The Contractor shall not submit catalogs that describe several different items in addition to those items to be used unless all irrelevant information is marked out or unless each manufacturer is identified and submitted separately.

#### 1.06 GENERAL COORDINATION

- A. The Drawings indicate diagrammatically the desired location or arrangement of conduit runs, outlets, equipment, etc., and are to be followed as closely as possible. It shall be the Contractor's responsibility to verify and coordinate the location of all outlets and raceways with other trades.

#### 1.07 CUTTING, PATCHING AND MATCHING

- A. This Contractor shall do all cutting required for the proper installation of his work and shall repair any damage done by himself or his workmen. The Contractor shall coordinate with that of other parties.
- B. Wherever possible, work shall be done in a concealed and neat workmanlike manner requiring the least amount of cutting of studs, plates and woodwork. Such cutting or notching is allowed only after consultation with and by permission of the Engineer.
- C. All patching shall be of the same materials, workmanship and finish as existing and shall accurately match all surrounding work. All work shall be done under the Architect's instructions and when required by the trade that did the original work.

#### 1.08 INTERPRETATION OF Drawings AND Specification

- A. The Engineer's decision will be final on interpretation of the Drawings and Specifications. Whenever the words "AS MAY BE DIRECTED", "SUITABLE" or "APPROVED EQUAL" or other words of similar intent and meaning are used inferring that judgment is to be exercised, it is understood that it is the judgment of the Engineer referred to.

#### 1.09 CLEANING OF EQUIPMENT, MATERIALS AND PREMISES

- A. All electrical equipment shall be thoroughly cleaned of dirt, rust, cement, plaster, etc., and all cracks and corners scraped out clean. Surfaces to be painted shall be carefully cleaned of grease and oil spots and left smooth and clean and in proper condition to receive paint finish.

#### 1.10 RECORD Drawings

- A. At the beginning of the project, one full-sized print of each applicable Drawing will be issued to the Contractor for use in preparing Record Drawings. "RECORD" conditions shall be recorded on the prints as the project progresses. Upon completion of the work, the Contractor shall forward it to the Architects' Office after first securing the Inspector's verification by signature.

#### 1.11 EARTHQUAKE RESTRAINT

- A. All electrical equipment shall have a means to prohibit excessive motion during an earthquake.

#### 1.12 IDENTIFICATION

- A. Conductors:
  - 1. All power and signal conductors shall be identified in accordance with the following schedule:
    - a) 120/208 Volts, 3-phase, 4-wire Wye: Red-Black-Blue, Neutral White.
    - b) 277/480 Volts, 3-phase, 4-wire Wye: Brown-Orange-yellow, Neutral Grey.
    - c) Bond or grounding conductor (GWG): Green
    - d) Special system conductors shall be color coded and labeled
  - 2. Brady Labels shall be used to identify terminals and destination of feeders, branch circuits, signal and control circuits, etc., at all terminations and junction boxes and shall be coordinated with the nameplates in all boxes and equipment.
  - 3. All terminals in the switchboards, panels, relays, switches, devices, starter terminals, etc., shall have Brady Labels for identification to identify both ends of all wiring. Wires #8 and smaller to be terminated on terminal strips squared-type 9080K with white marking strip and screw lugs for wire size.

- B. Nameplates: The Contractor shall furnish and install 1" x 3" x 3/32" thick laminated black Bakelite nameplates with a white core, unless specifically shown as red with a white core, engraved to produce white letters on black background for all items of electrical equipment including 2-pole and 3-pole circuit breakers, panelboards, starters, relays, time switches and disconnect switches. They shall screw them in place.
- C. Panels: Panels having single-pole circuit breakers shall be provided with typed schedules mounted in welded metal holders behind plastic.
- D. Devices: All devices shall have their branch circuit identified on the back side of device plate with a permanent type black marker, i.e., CT A-21.

#### 1.13 MECHANICAL AND OTHER SPECIAL EQUIPMENT

- A. Mechanical Coordination: PRIOR to commencing construction, this Contractor shall arrange a conference with the Mechanical/Plumbing Contractors and equipment suppliers to verify type, sizes, locations, requirements, controls and diagrams of all equipment furnished by them. In writing, he shall inform the Electrical Engineer that all phases of coordination of this equipment have been covered. If any unusual conditions or problems, they are to be enumerated them at this time.
- B. Mechanical Wiring: All electrical line voltage wiring, fused disconnects and conduits shall be furnished and installed by this Contractor unless otherwise shown.
- C. Miscellaneous Equipment: Contractor shall be responsible for electrical hook-up and connection to all electrical equipment whether furnished by this Contractor or others. This includes all special mechanical equipment and equipment furnished by the Mechanical Contractor.

#### 1.14 GUARANTEE

- A. This Contractor agrees to replace or repair to the satisfaction of the Owner, any part of the installation that may fail due to defective material and/or workmanship, or failure to follow Plans and Specifications for one year after final acceptance. He shall further obtain from the manufacturers of special equipment (i.e., control systems) their respective guarantees and service manuals and deliver to Owner.

**PART 2 PRODUCTS****2.01 RACEWAYS**

- A. Unless specifically shown otherwise, this Contractor shall furnish and install a complete steel conduit system for all wiring, including control and signal wiring.
- B. All conduits shall be rigid threaded hot dipped galvanized type.
- C. All conduits installed underground shall have a minimum coverage of 1'-6" below finished grade and shall have a 4" concrete envelope.
- D. Steel conduit Joints shall be sealed with conductive pipe compound T & B Kopr-Shield before making up.
- E. Steel conduits installed below grade shall be wrapped with Minnesota Mining Company Scotch Wrap #51 using half-lap for double thickness. Conduit surfaces shall be clean and dry before wrapping.
- F. Minimum size for lighting, power and signal shall be a 3/4" conduit.
- G. Steel EMT sizes 4" and smaller may be used within hollow dry spaces of the building, and shall not be run exposed below 8' above a finished floor.
- H. All raceway fittings, locknuts, couplings, elbows, etc., shall be hot dipped galvanized steel finish with plastic throats or bushings. No cast-type fittings shall be used.
- I. Seal-type flexible conduit shall be used in lengths not greater than 18" at motors and other machinery to prevent the transmission of vibration. All flexible conduits shall have a copper bond wire either integral or pulled in. Flexible conduit shall be supported at both ends and every 24".
- J. All conduit fittings, locknuts, couplings, elbows, etc., shall be hot dipped galvanized finish with plastic bushings. No competitive type fittings shall be used.
- K. Non-Metallic Conduit.
  - 1. Rigid non-metallic PVC, UL Labeled conduit with factory ells and fittings approved for the purpose may be used under the following conditions:
    - a) Where the voltage is 600 Volts or less.
    - b) All conduits in earth under buildings or protected by permanent paving may be Schedule 40 PVC.
    - c) Any conduit running through planters or unprotected in earth shall be encased in 3" of concrete. All raceways above grade shall be steel.

- d) All non-metallic runs shall have a bond wire for the interconnection of all conducting portions per Table 250-94 of the California Electric Code (CEC).
- e) Use factory elbows. PVC shall not be bent in the field.

## 2.02 CONDUCTORS

- A. All conductors shall be delivered to the site in their original unbroken packages plainly marked or tagged as follows: UL Labels, size, kind and insulation of wire, name of the manufacturing company and trade name of the wire.
- B. All conductors to be a minimum of 98% conductivity soft drawn copper, minimum #12 AWG unless shown otherwise. Conductors #8 and larger shall be stranded type "THHN/THWN" 600 Volt insulation. Conductors #10 and smaller shall be solid copper "THHN/THWN".
- C. All branch circuits, fixture wiring joints, splices and taps for conductors #10 and smaller to be made with "SCOTCHLOCK" connectors.
- D. Two bolt type solderless connectors or T & B "color keyed" compression lugs shall be used on #8 and larger conductors.

## 2.03 WIRING DEVICES

- A. Furnish and install wiring devices and plates as shown on the Drawings and described in these Specifications. Where more than one wiring device is mounted in the same location, such devices shall be mounted in a multi-gang plate. Single-gang combination interchangeable devices shall not be used. Wiring devices shall be Specification grade or better.
- B. Convenience outlets shall consist of a Specification grade duplex receptacle mounted in an outlet box in the wall flush with the finished plaster or surface rated 20 AMPS, 125 Volts, 3-wire, back and side wired.
- C. Local switches shall be quiet toggle-type, totally enclosed, AC rated ,20 AMPS, 120/277 Volt.
- D. Device plates shall be provided for all devices with the number of gangs and openings necessary. They shall be satin brushed stainless steel in toilets and kitchens with plastic to match devices in other finished areas.

## 2.04 OUTLET BOXES

- A. Outlet boxes for concealed work shall be one piece pressed steel knock out type with zinc or cadmium coating. Boxes shall not be smaller than 4" square nominal size unless otherwise indicated. Provide extension rings, plaster rings and covers necessary for flush finish.

- B. Bar hangers shall be used to support outlet boxes in stud or furred partitions and ceilings. Attachment screws, devices, etc., shall be of the proper type to secure boxes to metal studs. Use expansion shields to concrete and masonry.
- C. Provide approved knock-out seals on all unused open knock-out holes. Where used for lighting fixtures outlet boxes shall be equipped with fixture studs.

## 2.05 DISCONNECTING DEVICES

- A. Disconnecting devices shall be provided as shown or as required by NEC. Switches shall be motor rated and in proper NEMA enclosure.
  - 1. Motors 1/3 HP and less: Switches shall be of the toggle-type quick make and break rated 2 HP, 250 Volts AC with the number of poles required provided with flush mounting wall plates or in suitable surface mounting NEMA enclosures.
  - 2. Motors 1/2 HP and larger: Disconnecting switches shall be Type HD fused 3-pole, 600 Volts in proper NEMA enclosures with proper size FRN fuses. Provide three spare fuses of each type to the Owner.
- B. Circuit breakers utilized as disconnecting devices shall comply with the requirements stated in other articles of this section and NEC.

## 2.06 PULL BOXES AND WIREWAYS

- A. Pull and junction boxes shall be installed as shown to ease the pulling of wire and to comply with NEC requirements.
- B. Wireways to be constructed in accordance with UL 870 for wireways, auxiliary gutters and associated fittings. Every component including lengths, connectors and fittings shall be UL listed.

## 2.07 TERMINAL CABINETS AND CLOSETS

- A. Cabinets and fronts shall be in accordance with NEMA Standard Publication No. PB1-1971 and UL Standards No. 67. Fronts shall include doors and have flush brushed stainless steel cylinder tumbler-type locks with catches and spring loaded door pulls. The flush lock shall not protrude beyond the front of the door. All locks shall be keyed like the panelboard locks. Fronts shall have adjustable indicating trim clamps completely concealed when the doors are closed. Doors shall be mounted by completely concealed steel hinges. Fronts shall not be removable with the door in the locked position. A frame and card with a clear plastic covering shall be provided on the inside of the door. Fronts shall be of code gauge full finished steel with rust inhibiting primer and bake enamel finish.

## 2.08 PANELBOARDS

- A. Furnish panelboards shown on Plans and described herein. All cans shall be a minimum of 20" wide and 5.75" deep unless otherwise shown. They shall be totally flat or equal with flush keyed locks.
- B. Panelboards shall be UL listed.
- C. Breakers for switching lights shall be rated for switching duty.
- D. Fronts shall be sheet steel painted standard gray over a rust inhibitor. They shall be equipped with a door, flush hinges, flush proper cylinder tumbler lock; metal circuit card holder and quarter turn adjustable trim clamps.
- E. The panel shall consist of reinforced galvanized sheet steel frame with copper bus bars and circuit breakers properly supported to prevent vibration breakage in handling. All terminals shall be solderless type suitable for specified conductors of size indication. Bus bars shall be sequence phased.
- F. Branch circuit breakers shall be "bolt-on" and fully interchangeable without disturbing adjacent units. All 2 and 3-pole breakers shall have common trips with a minimum IC of 10,000 AIC.
- G. All breakers applying fluorescent or HID fixtures shall have padlock handle lock-off devices.
- H. All spaces shall have hardware.
- I. Provide separate blocks for neutrals and grounds as required.

**PART 3 EXECUTION**

## 3.01 INSTALLATION

- A. The layout and installation of electrical work shall be coordinated with the overall construction schedule to prevent delay in completion of the project.
- B. Dimensions and information regarding accurate locations of equipment and structural limitations and finish shall be verified with other sections.
- C. The Drawings do not show all the offsets, bends, special fittings or junction pull boxes necessary to meet job conditions and shall be provided as required.
- D. Electrical equipment, outlets, junction and pull boxes shall be installed in accessible locations, avoiding obstructions, preserving headroom and keeping openings and passageways clear.



- E. Minor adjustments in the locations of equipment shall be made where necessary providing such adjustments do not adversely affect function of the equipment. Major adjustments for the location of equipment shall be previously approved and detailed on the Record Drawings.

**3.02 STRUCTURAL FITTINGS**

- A. Furnish and install the necessary sleeves, inserts, hangers, anchor bolts and related structural items. Install at the proper time.

## 3.03 NOISE CONTROL

- A. Outlet boxes at opposite sides of partitions shall not be placed back-to-back, nor shall through boxes be employed except where specifically permitted on the Drawings by note to minimize transmission of noise between occupied spaces.
- B. Ballasts, contactors, starters and like equipment that are noticeably noisier than other similar equipment on the project will be deemed defective and shall be replaced at Engineer's request.

## 3.04 RACEWAYS AND FITTINGS

- A. Surface raceways shall be coordinated with cabinet work. It shall be installed plumb and square with adjacent surfaces.
- B. Minimum size of any conduit for lighting, power and signal shall be 3/4" conduit unless shown otherwise.
- C. Furnish and install "seal-offs" in all conduit runs through areas of different temperature.
- D. Where applicable, wiring methods shall be in accordance with requirements for installation in damp and/or hazardous areas.
- E. All concealed conduits shall be installed in as direct a line as possible between outlets. EMT shall be approved for dry locations with steel plastic bushed set screw fittings. No more than four quarter bends or their equivalent will be allowed between outlets. Feeder conduits shall follow arrangements shown on plans unless a change is authorized. Branch circuit conduits shall in general follow arrangement as shown as far as structural conditions permit. All exposed runs shall parallel buildings, walls or partitions and be supported on Kindorf Hangers to meet Title 24, Part 6, CAC.
- F. In general, all conduits shall be sloping to drain. Bends that place a trap in a conduit shall be avoided. Provide drip fitting as required. Dux-Seal high ends of all underground raceways.
- G. All conduit runs shall be mechanically and electrically continuous from outlet to outlet. Conduit size or type shall not be changed between outlets.
- H. Chrome escutcheon plates shall be used on all conduit penetrating walls, floors or ceilings.
- I. Expansion joints shall be provided at building expansion joints or as required due to length of run or difference in temperatures.

- J. Flexible steel conduits shall be used for short runs not over 24" from motors or other vibrating equipment to junction boxes. Where specifically approved by the Engineer, flexible steel conduit may be used when conditions make the use of other conduit impracticable. Fittings shall be of the screwed wedge type. All flex shall have green copper bond wire. Flex conduits shall be independently suspended.
- K. All fittings that are exposed or in damp areas shall have sealing glands and proper gaskets. Fittings in hazardous areas shall be of the type approved for the particular hazard.
- L. Roof Penetrations: Where raceways penetrate roofing or similar structural area, provide 26 galvanized iron roof jacks sized to fit tightly to a raceway for a weather-tight seal and with flange extending a minimum of 9" under roofing on all sides. Completely seal openings between inside diameters of roof flashing and outside diameters if penetrating raceways. Coordinate with work required under Roofing Section of the Specifications.
- M. Fire Penetration Seals: Seal all penetrations for work of this section through fire rated floors, walls and ceilings to prevent the spread of smoke, fire, toxic gas or water through the penetration either before, during or after the fire. The fire rating of the penetration seal shall be at least that of the floor, wall or ceiling into which it is installed so that the original fire rating of the floor or wall is maintained as required by Article 300-21 of the California Electrical Code (CEC).
- N. Where applicable, provide OZ Type CFSF/I and CAFSF/I fire seal fittings for conduit and cable penetrations through concrete and masonry walls, floors, slabs and similar structures. Where applicable, provide 3M fire barrier sealing penetration system and/or Thomas & Bett Flame Safe Fire Stop System and/or ChaseFoam fire stop system including wall wrap, partitions, caps and other accessories as required. All manufacturers' instructions and recommendations for installation of sealing fittings and barrier sealing systems.

### 3.05 CONDUCTORS AND CONNECTORS

- A. All branch circuits and fixture wiring joints, splices and taps for conductors #10 and smaller shall be made with 3M "Scotchlocks" or approved equal.
- B. Circuit and signal terminations to single-screw or push-on terminals shall be done with insulated "Sta-Kons" or approved equal terminals.
- C. Bolt-type solderless connectors shall be torqued with a torque wrench according to the manufacturer's recommendations then retightened after 24-48 hours before taping. Owners' inspector shall be informed of this procedure during the waiting period and shall witness the act of retightening.
- D. All splices shall be taped with Scotch #88 plastic electrical tape with "Scotch Fill" where necessary for a smooth joint. For other than normal temperatures or conditions

Scotch #27 or #2520 shall be used. All connections and splices shall be electrically perfect and in strict accordance with all code requirements.

- E. Wire in panels, cabinets, pull boxes and wiring gutters shall be squared, labeled and neatly grouped with "Ty-Raps" and fanned out to the terminals.
- F. Wiring Devices: Wiring devices shall be securely fastened to the outlet box. Where the outlet box covers are back from the finished walls, device shall be built out with washers so that it is rigidly held in place to the box. Provide metal extenders in flammable construction per CEC. All device screw slots shall be left in a vertical orientation.

### 3.06 OUTLET BOXES

- A. Outlet boxes for concealed work shall be one steel knock-out type with zinc coating. Boxes shall not be smaller than 4" square nominal size unless otherwise indicated. Provide extension rings, plaster rings and covers necessary for flush finish.
- B. Bar hangers shall be used to support outlet boxes in stud or furred partitions and ceilings. Attachment screws, devices, etc., shall be of the proper type to secure boxes to metal studs complemented by expansion shields to concrete and masonry.
- C. Provide approved knock-out seals on all unused open knock out holes. Where used for lighting fixtures, outlet boxes shall be equipped with fixture studs.

### 3.07 JUNCTION AND PULL BOXES AND WIREWAYS

- A. Boxes shall be installed square and plumb. An engraved nameplate shall be installed indicating the function of each box on the exterior in unfinished areas and on the interior in finished areas.
- B. Install wireways with strip-type connectors with self-retained mounting screws. Use hangers with two-piece hook-together features to permit preassembling of wireway and hanger bottom plate before hanging on a preinstalled upper bracket.

### 3.08 TERMINAL CABINETS AND CLOSETS

- A. Install level and identify per schedule.
- B. All conductors shall be squared, labeled and "Ty-Rapped".
- C. Location:
  - 1. Unless otherwise indicated on the Drawings, install all panels with the top of the trip 6'-0" above the finished floor.

2. Space permitting, surface mount panels where they are not visible to the public.
  3. Panels to have protective cover over any electrical panel with overhead water piping. Cover to be 18" by width of a panel.
- D. Directory: Mount a typewritten directory behind glass or plastic in a metal holder welded to the inside of each panel door showing circuit numbers and complete description of all outlets (one each circuit).

### 3.09 PRECAST CONCRETE PULL BOXES AND MANHOLES

- A. Contractor shall provide a minimum of 3-6" of sand base material suitable to receive the manhole. The base material shall be impacted and graded level at proper elevation to receive the manhole in relation to the conduit grade or ground cover requirements as designated in the Plans. Sealants used between the joints of the manhole are at the Contractor's discretion unless otherwise specified. If grout is used it should consist of two-parts plaster sand to one-part cement with sufficient water added to make the grout flow under its own weight.
- B. The grout should be poured into a water soaked groove and filled to the top of the groove unless a double amount is to be used as a further precaution against leakage. In this case the mastic sealant should be placed on the two shoulders of the groove. The next section of manhole should be placed while the foaming action is in process. Contractor shall verify grades with the Architect and shall set holes and boxes level at proper grades.
- C. All conduits penetrating the pull box shall have seals to prevent water from entering the raceway.

### 3.10 DISCONNECT DEVICES

- A. Disconnect devices shall be identified as to location of the device controlled.


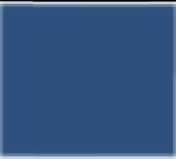
### 3.11 SUPPORTS AND ANCHORS

- A. Provide inserts, anchors, supports, rods, brackets and miscellaneous items to adequately support and secure the electrical systems and equipment.
- B. Secure hangers, brackets, conduit straps, supports and electrical equipment to surfaces by means of toggle bolts on hollow masonry; expansion shields and machine screws or standard preset inserts on concrete or masonry; machine screws or bolts on metal surfaces; wood screws on wood construction.
- C. Power driven or velocity driven inserts may be not used unless specifically approved by the engineer, and where their use does not affect finished appearance of work.

They may not be used in prestressed slabs, beams, purlins, precast members or in tension.

- D. Seismic Requirements: Provide vertical and lateral supporting equipment to resist application of seismic forces per CAC, Title 24.

**END OF SECTION 26 01 00**

COLOR	COLOR NO.	BASE BODY	WAINSCOT	ACCENT WALLS	SOFFITS	FASCIA / GUTTER	DOORS		WINDOW FRAMES	HANDRAILS / GUARDRAILS	FENCE / GATES	COLUMNS	DETAILS	Roofing	COMMENTS
							FRAME	PANEL							
	(Dunn-Edwards) Silver Bullet DE 6381	X												X	EGG SHELL FINISH - On Stucco and Metal Roofing SEMI GLOSS FINISH - On Wood Surfaces
	(Dunn-Edwards) Slumber DE 5860					X			X	X	X	X			SEMI GLOSS FINISH

GENERAL NOTES:  
 - DO NOT PAINT GALVANIZED HAND RAILS.  
 - DO NOT PAINT PRE-FINISHED DOORS, WINDOWS, AND/OR FRAMES



**BAKERSFIELD CITY  
SCHOOL DISTRICT**

EDUCATION CENTER  
 1300 BAKER STREET  
 BAKERSFIELD, CA 93305  
 Ph. 661.631.4600  
 Fax. 661.326.1485

**MAINTENANCE  
&  
OPERATIONS  
DEPARTMENT**

1501 FELIZ DRIVE  
 BAKERSFIELD, CA 93307  
 Ph. 661.631.5883  
 Fax. 661.834.9986

DRAWINGS FOR:  
**NICHOLS ELEMENTARY SCHOOL**  
*PAINING IMPROVEMENTS*  
*3401 RENEGADE AVENUE*  
*BAKERSFIELD, CA 93306*

# Nichols Elementary School

## Library Remodel

- **(All Bid Packages) General Scope of Work**

- **Workmanship and Labor:**

- All finishes shall be installed per industry standards. All work shall be under the direction of a General Contractor.
    - Regular working hours shall be 7:00 a.m. to 3:30 p.m. or on an agreed upon time between the contractor and the district.

- **Protection:**

- The Contractor shall always take all precautions to avoid damage to surrounding surfaces around the work area. The Contractor shall be responsible for, and liable for, all damage or ill effects caused by a lack of adequate protection against the hazards associated with their work. The Contractor shall carry adequate insurance, and he shall protect the district from all liens or damages arising from or caused by his work.

- **Disposal:**

- The Contractor shall thoroughly clean the work as it progresses. After completion of work, the Contractor shall remove all debris resulting from this work and shall remove all splatters or spills from other surfaces adjacent to the work. The buildings and the site premises shall be left in a condition that is acceptable to the district.

- **Guarantee:**

- In addition to the guarantees required elsewhere, the Contractor shall guarantee the work for one (1) year. All special guarantees required by this specification shall be in writing and in the form required, and delivered to the Supervisor of Maintenance before final payment is made to the contractor.

- **Scheduling:**

- Construction schedule provided by BCSD, Attachment "S".

- **Special Considerations:**

- The Contractor shall be responsible for all quantities and measurements.
    - All contractors on site must be checked-in daily and work hours accounted for to meet "Prevailing Wage" requirements with a district supervisor.
    - Any unforeseen conditions must be brought to the immediate attention of the district. No additional work is to be performed without written authorization from the district



- **General Contractor**

- **Window Replacement & Door Infill (North Wall) (Attachment B)**

- Removal of existing windows & door on North wall (window paint contains lead, proper handling & disposal required, see Lead Based Paint Awareness and Remediation below)
- Frame in lower window opening to match existing structure
- Frame in door way
- Install exterior siding to match existing structure
- Install insulation and plywood on interior walls
- Exterior caulk, prime and paint installed siding and wood trim to match existing colors (colors to be provided by BCSD, see Attachment "P")
- Fabricate and install anodized 1" grey low tempered glazing framed storefront windows (contractor to verify size)

- **Window Replacement (South Wall) (Attachment C)**

- Removal of existing windows on the South wall (window paint contains lead, proper handling & disposal required, see Lead Based Paint Awareness and Remediation below)
- Fabricate and install anodized 1" grey low tempered glazing framed storefront windows (contractor to verify size)
- Trim windows, caulk, prime, and paint installed trim to match existing colors (colors to be provided by BCSD, see Attachment "P")

- **Tackboard Installation (Attachment TB)**

- Demo of existing tackboard
- Purchase and install tackboard
- Tackboard color is Ceres Fog
- See Attachment "TB" for installation of the tackboard
- Install aluminum Ceres Fog coated trim with fasteners / screws.
- Tackboard is to be installed with Heavy Duty Liquid Nails or equivalent product suitable for tackboard installation.

- **Electrical & Data Installation (Attachments D & E)**

- Provide and install electrical & data conduit/boxes
- Provide and install electrical wiring/finish/etc.
- Install smartboards/wall mounts
- Provide and install audio components/connectivity components/termination/patch cables, etc.
- Removal of existing Fire Alarm Panel (temporarily) to finish wall, reinstall at completion of the project
- Removal of existing network cabling, install 1.5" sleeve, new network cabling, back boxes, cabling support, terminations, patch cables, etc.
- Remove and reinstall Intrusion Alarm devices, as necessary
- Remove all existing surface mount raceways, open wall and reinstall electrical/data cabling

- **Flooring**

- **All sub floor will be removed during the abatement process, reinstall subfloor and continue with flooring installation**
- Prep floor at all locations, grind and float as needed.
- Walk off mats to be installed at the front door, see Attachment "W".
- Machine demo & disposal existing glue down carpet & hauled off each day.
- Disposal at an approved CA carpet recycling facility.
- Slab / Machine removal of existing adhesive at all locations. Grind down any high spots and raised cracks in the slab with a dustless Hepa Vac system.
- Wood subfloor/ Sand off existing adhesive, if applies.
- All concrete slabs or wood subfloors to be floated with "Ardex Feather Finish"
- Carpet manufactures specified adhesive are to be used.

- Must use Burke 4-inch top set base "TS" / "TP" will not be accepted.
- Must be able to meet the district's time schedule.
- Carpet tiles must be delivered to the site 48 hrs. prior to installation to acclimate.
- Carpet tiles are: Interface "Anagrams & Syncopation" (70-30 split)
- Walk off mats are: Mohawk Tuff Stuff II (Color: Charcoal)
- Top-Set Base is: Burke 4- inch top set base " TS" (Color: Black)

○ **Painting (Attachment P)**

- **Painting Workmanship and Labor at Room 23 Library**
  - All finishes shall be evenly applied and free from sags, runs, crawls, brush marks, skips, or other defects. Each coat of material shall be thoroughly dry before the application of a succeeding coat.
  - All work shall be under the direction of a competent foreman.
- **Protection:**
  - The Contractor shall always take all precautions to avoid damage to structures around the work area. The Contractor shall be responsible for, and liable for, all damage or ill effects caused by a lack of adequate protection against the hazards associated with his work. The Contractor shall carry adequate insurance, and he shall protect the district from all liens or damages arising from or caused by his work. All buildings, glass, walkways, shrubbery, hardware, plumbing, electrical fixtures, and equipment shall be always protected during work with drop cloths or other suitable means.
- **Disposal and cleaning:**
  - The Contractor shall thoroughly clean the work surfaces as they progress. After completion of the work, the Painting Contractor shall remove all debris resulting from their work and he shall remove all splatters or spills from glass, tile, walls, or other surfaces adjacent to his work. The buildings and the building grounds shall be left in a condition that is acceptable to the district.
- **Special Considerations:**
  - The Contractor shall be responsible for all quantities and measurements.
  - The successful contractor is expected to provide workforce and support equipment to perform all scheduled work within the timeline set forth above.
  - The contractor shall possess the proper licenses and certification for the work described in this information notice.
  - Before proceeding with the work, the Painting Contractor shall submit wet samples of all materials to be used. All colors shall be selected or approved by the Supervisor of Maintenance or representative authorized by him to approve the same.
  - All materials shall be delivered to the job site in unbroken, sealed containers, stamped with specified numbers, approved by the proper authority of the District before proceeding with the work.
  - Products shall be applied at the proper consistency and shall not be thinned or otherwise altered except in accordance with the manufacturer's printed directions.
  - If the finish coat is to be colored, the prime coat and the intermediate coat shall be tinted to have a slight variation in color from each other and from the finish coat.
  - Paint shall be applied only by brush or roller. Spraying allowed only where specified, no other exceptions. If allowed by the district as indicated; the Contractor shall always take all precautions to avoid overspray to vehicles and all other structures around the work area.
  - All materials used by the Painting Contractor shall be stored and mixed in a place designated by the district. The storage place must always be kept neat and clean. All cloth, waste or other materials that might constitute a fire hazard shall be placed in suitable metal containers and shall be removed from the campus at the end of each workday.
  - The following materials are to be purchased at Dunn Edwards Paints, which is located at 3929 Ming Ave, Bakersfield Ca. 93309.
  - All preparatory work is to be included in the bid price.

- **Lead Based Paint Awareness and Remediation:**
  - Lead Based Paint is present at various locations at all sites. All procedures and required submittals to the district shall be adhered to for all painting projects.
  - High Pressure washing of surfaces to be painted will not be allowed. This includes machine-assisted washers as well as the use of hose end adapters to modify low water pressure from standard domestic water sources. Only low-pressure washing will be allowed.
  - Contractors that are Lead Based Paint Preparation Certified shall submit a copy of the Lead Based Paint Preparation Certification along with the bid.
  - Painting Contractors who are not Lead Based Paint Preparation Certified may utilize Sub-Contractors that are Lead Based Paint Preparation Certified. Upon submission of bid, Contractors shall submit a copy of the Sub- Contractors Lead Based Paint Preparation Certification.
- **Various materials and painting processes:**
- **The following materials are to be used, or an approved equal must be obtained in writing:**
- **Dunn Edwards Paint**
  - Interior Eggshell Vinyl Acrylic SPARTAWALL (All interior wall and ceiling finishes)
  - Interior Spartawall and exterior Spartashield Semi-Gloss Vinyl Acrylic (All windows, doors, jambs, restrooms and kitchens) ( All Exterior Wood Surfaces ).
  - Exterior Egg Shell Acrylic Spartashield (All stucco, plaster and masonry finishes)
  - Exterior Semi-Gloss Spartashield (All Exterior Wood Surfaces and Doors)
  - Exterior Semi-Gloss Aristoshield (All metal roofing)
  - Exterior primer shall be ULTRA-GRIP PREMIUM Interior primer shall be ULTRA-GRIP PREMIUM
  - Interior primer shall be ULTRA-GRIP PREMIUM
  - Ceiling shall be DEW 380 Warm White SWLL 10-0 Spartawall Interior Flat





TACKBRD.  
IN  
SOFFIT

TACKBRD.  
IN  
SOFFIT



Tackboard



Storefront Windows



Siding Infill

LIBRARY ROOM 23 EAST WALL

NICHOLS ELEMENTARY

**TACKBOARD WALL LOCATION**

**11-25-25**





Tackboard



Storefront Windows



Siding Infill

LIBRARY ROOM 20 NORTH WALL

NICHOLS ELEMENTARY

**TACKBOARD WALL LOCATION**

**11-25-25**





Tackboard



Storefront Windows



Siding Infill

LIBRARY ROOM 23 SOUTH WALL

NICHOLS ELEMENTARY

## **TACKBOARD WALL LOCATION**

**11-25-25**



TACKBRD.  
IN  
SOFFIT



TACKBRD.  
IN  
SOFFIT



Tackboard



Storefront Windows



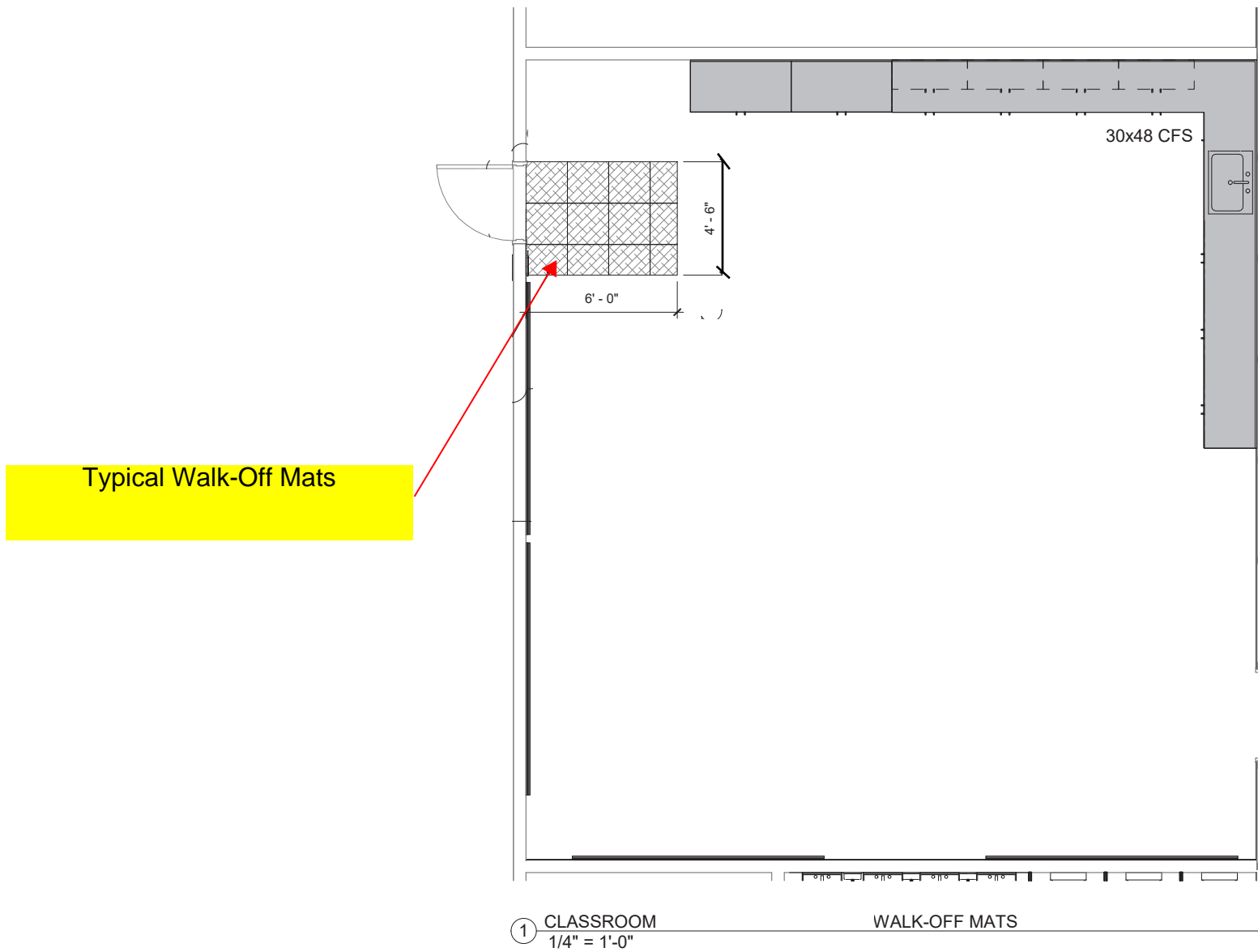
Siding Infill

LIBRARY ROOM 23 WEST WALL

NICHOLS ELEMENTARY

**TACKBOARD WALL LOCATION**

**11-25-25**



Attachment "W" Walk-Off Mat Locations and Dimensions