ARCHITECTURAL
RESOURCE TEAM

design with purpose

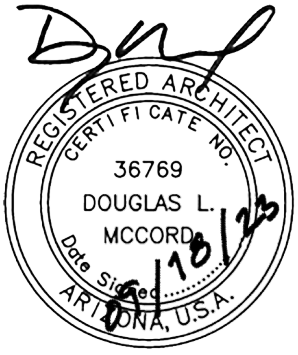
PROJECT MANUAL

Catholic Charities Westside Head Start - Tolleson

2504 S 91st Ave
Tolleson, Arizona, AZ 85353

Catholic Charities Westside Head Start
7400 W. Olive Avenue Peoria, AZ 85345

A|R|T Project No: 22025



Expires 09/30/2025

p 602.307.5399 a 1055 e. indian school rd., phoenix, az 85014 w art-team.com
principals: Doug McCord AIA, LFA, LEEDAP Dev Pawar AIA, EDAC, LFA, LEEDAP Erica Quintana LFA

Just.

Catholic Charities Westside Head Start – Tolleson

REQUEST FOR PROPOSALS

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This document contains the following:

CATHOLIC CHARITIES WESTSIDE - HEAD START
INVITATION FOR SEALED BIDS

TOLLESON HEAD START - CLASSROOM BUILDING AND SITE IMPROVEMENTS

A. INSTRUCTIONS

Through this Request for Proposal, **Catholic Charities Westside Head Start** is seeking the services of a licensed, general contractor, with the best favorable competitive rates and to provide all qualified businesses, including those that are owned by minorities, woman, persons with disabilities and/or small business enterprises to do business with Catholic Charities Westside Head Start.

Notice is hereby given that Catholic Charities Westside Head Start will receive proposals for the furnishing of professional services, labor, materials, transportation and construction for the PROJECT entitled:

TOLLESON HEAD START – CLASSROOM BUILDING AND SITE IMPROVEMENTS

2504 S 91st Ave, Tolleson, AZ 85353

Beginning September 29h, 2023 proposal documents may be obtained electronically from:

https://www.catholiccharitiesaz.org/wshs-rfp/

Documents will also be available electronically through: Techniprint Company, Inc. 2545 N. 7th Street Telephone: 602-257-0686, 1-877-215-2460
plotting@techniprintaz.com

Bid documents may also be examined at: Shirley's Plan Room 425 S. Plumer Tucson, AZ 85719 Telephone: (520) 791- 7436 Facsimile: (520) 882-9208

All hardcopies or file downloads are at the bidder's

expense. Interested bidders must attend the following:

MANDATORY PRE-BID MEETING ON: Friday, October 13th, 2023, 9:00am AZ time

North of PLC Charter School Campus,
at 2504 South 91st Ave
Tolleson AZ 85353

Attendance of bidders who intend to submit a bid is required. The purpose of the meeting is to

clarify the concepts of the invitation to bid and bid documents. This meeting is to prevent any misunderstanding of the work requested and to answer any questions. Bids will not be accepted from Bidders who have not attended the Mandatory Pre-Bid meeting and signed the meeting sign in sheet.

All bids must be on a lump-sum basis. Segregated bids will not be accepted. Each Bid shall be submitted on the Proposal Form (see Attachment I) which shall be accompanied by all items listed in Section E, Paragraph 2, of this document, as well as a certified or cashier's check or Bid Bond for five percent (5%) of the total amount of the bid made payable to Catholic Charities Westside Head Start. Such check or Bid Bond will be given as a guarantee that the Bidder will enter into the contract to perform the work, if so awarded, and provide satisfactory Statutory Performance and Payment Bonds, pursuant to Title 34, Chapter 2, Article 2 of the Arizona Revised Statutes, and shall be declared forfeited as liquidated damages if the successful Bidder refuses to enter into the said contract after being requested to do so by Catholic Charities Westside Head Start. Such check or Bid Bond will be returned to the respective unsuccessful Bidders upon the Award of the Contract to the successful Bidder and will be returned to the successful Bidder upon the delivery of satisfactory surety company bonds and construction contract.

SEALED BIDS DUE ON: Friday, October 27th, 2023, 10:00 am AZ
time Bids shall be sealed and delivered to:

Catholic Charities Westside Head Start
7400 W. Olive Ave Suite 10
Peoria, AZ 85345
Attn: Yatin Dua, Executive Director

RFI's and Questions should be directed in writing to the Architect no later than Friday, October 20, 2023, 5:00pm AZ time:

Architectural Resource Team
1055 E. Indian School Road
Phoenix, AZ
85014
Telephone: 623.628.7220
E-mail: dquijano@art-team.com

Proposals will be publicly opened and read aloud by Catholic Charities Westside Head Start on **Monday November 6, 2023 at** 10:15am AZ time. The opening can be attended via the Zoom Link provided: ting.

https://us02web.zoom.us/meeting/register/tZwkd--vqj4vHNaG3A4syc0iMoLRjCupyMQv

After registering you will receive a confirmation email about joining the meeting.

The Proposal contract shall be awarded, if at all, to the most responsive and responsible Bidder

(see Section D. Evaluation Criteria) whose proposal conforms in all material aspects to the requirements of the proposal documents including the Scope of Work. "Responsive Bidder" means the Bidder who submits a proposal that conforms in all material respects to the Instructions and Scope of Work that are incorporated herein by this reference. “Responsible Bidder" means the Bidder who has the capability to perform the contract requirements and the integrity and reliability to assure complete and good faith performance and who submits the proposal most advantageous to Catholic Charities Westside Head Start.

The awarded Contract or any part thereof shall not be sublet to a contractor who has not paid taxes as provided in Section 34-241, Arizona Revised Statutes. It shall be mandatory on the Bidder to whom the Contract is awarded, and upon any subcontractor working under the Bidder, to comply in every respect with the provisions of Title 23, 32, 34, Arizona Revised Statutes and with all other requirements of the State of Arizona, applicable to contracts for the construction of public works, and with all applicable City, County, State and Federal Laws and Ordinances (see Attachment III: Assurances of Compliance with Federal and State Laws).

Catholic Charities Westside Head Start reserves the right to reject any or all Proposals, to withhold the award of a contract for any reason it may determine and to hold any or all Proposal(s) for a period of ninety (90) days. Catholic Charities Westside Head Start also reserves the right to waive any irregularities in any Proposal if such action is, determined by Catholic Charities Westside Head Start, in its sole discretion, to be in the interest of Catholic Charities Westside Head Start.

Request for Sealed Bids Advertisement: Will be published for two weeks beginning on September 29th, 2023 . Posting of the RFP will appear on the following web link location:

https://www.catholiccharitiesaz.org/wshs-rfp/

Advertisement shall run in the following publications:

Arizona Capitol Times
Glendale Star
Peoria Times
West Valley View

B. INTRODUCTION & BACKGROUND

Catholic Charities Westside Head Start and Early Head Start will be providing comprehensive, early, continuous, year- round, childhood education through a holistic approach by working with the whole family at the Catholic Charities Westside Headstart new campus at 2504 South 91st Ave, Tolleson AZ 85353. The programs emphasize pre- reading, language, math, cognitive skills, health, and social and emotional competence to prepare disadvantaged children for school and to maximize their potential for a bright future. This project will enable Catholic Charities Westside Head Start to provide additional Head Start and Early Head Start opportunities to families in need in the communities of Tolleson.

This project is 100% federally funded by the Department of Health and Human Services, Office of Head Start. All work performed on site, including site improvements and building are subject to Davis Bacon Wage requirements.

C. **PROJECT SCOPE**

The project is a 5,000 sf VB construction building on slab on grade at 2504 S 91st Avenue, Tolleson, Arizona 85353. The project also includes sitework, extending from the sewer line at the street and providing all on-site utility connections, parking, landscaping, sidewalks and fencing. The city is requiring the installation of a bus stop with power. Should a bidder find any discrepancy, error or omission with the invitations or Bids in the scope of work, please contact Donnella Quijano with Architectural Resource Team in writing, at dquijano@art-team.com. The last day for Requests for Information and Clarification is 5pm, Friday October 20, 2023. If a question submitted warrants a response, the architect will then issue a written addendum to all contractors who attended the pre-bid meeting to inform them of the clarification. Oral instructions or information shall not constitute an addendum to this Invitation for Sealed Bids.

D. **EVALUATION CRITERIA**

a. All Proposals shall be evaluated using the following criteria:
   i. Total Cost based on Proposal Form and Schedule of Values Form. 40%
   ii. Contractor's proposed schedule to complete work. 15%
   iii. Qualifications and education of project personnel. 10%
   iv. Contractor's experience on projects of similar size and complexity. 10%
   v. Contractor's experience with Federally Funded Projects and Davis-Bacon wage rate regulations. 10%
   vi. Manufacturers and materials used. 10%
   vii. Contractor's adherence to Request for Proposal Instructions. 5%

E. **SUBMISSION OF SEALED BID**

a. The proposal, together with required enclosures, shall be submitted in an opaque, sealed envelope bearing on the outside the project name, bidder's name and address.
b. Included in each envelope shall be the following tabbed sections for reference:
   i. Attachment I: Proposal Form completed and signed.
   ii. Attachment II: Schedule of Values completed.
   iii. Attachment III: Signed Catholic Charities Procurement Contract Provisions, giving Assurances of Compliance with Federal and State Laws.
   iv. Qualifications and education of project personnel.
   v. Experience on: Projects of similar size and complexity; Davis-Bacon projects.
   vi. Proposed Project Schedule and completion date.
   vii. Manufactures and materials to be used, including: Mechanical, Electrical Equipment and plumbing cut sheets. Photocopy of General Contractor's and Building Manufacturer's and Installer's Licenses.
   viii. Name and contact information for two references for two references for which the Contractor has completed work that demonstrates the Contractor's experience in providing the requested services.
   ix. Completed and Signed Attachment IV: Bid Bond Form. Note: Performance and Payment Bonds will be required of awarded bidder.
c. A proposal may not be modified, within drawn, or canceled by the Bidder until ninety (90) days after the time and date for receipt of Bids.

F. POST-BID INFORMATION

1. Contractor's Liability Insurance Certificates shall be submitted in original and one copy to Catholic Charities Westside Head Start within seven (7) days after notification of award of Contract. Insurance is to be placed with insurers duly licensed or authorized to do business in the state of Arizona and with an "A.M. Best" rating of not less than A.

2. Contractor and all subcontractors shall purchase and maintain at all times during the execution of this project the following forms of insurance by carriers acceptable to and approved by Catholic Charities Westside Head Start.

   Professional Liability - $1,000,000.00 each claim and $2,000,000 in the aggregate.

   General Commercial Liability - $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.

   - Contractor to name Catholic Charities Community Services as Additional Insured on a Primary Non-Contributory Basis and a Waiver of Subrogation in favor of Catholic Charities Community Services.

   Worker's Compensation – Statutory limits.

   Employer's Liability – $1,000,000.00 per accident, disease, illness

   - Contractor to include a Waiver of Subrogation in favor of Catholic Charities Community Services

   Builder's Risk -. $2,000,000.00 Blanket All Builders Risk

   - Include requirement for Contractor to add Catholic Charities Community Services as Additional Insured.

   Products/Completed Operations - $1,000,000.00 for each claim and $2,000,000.00 in the aggregate.

   - Contractor to name Catholic Charities Community Services as Additional Insured on a Primary Non-Contributory Basis and a Waiver of Subrogation in favor of Catholic Charities Community Services

   Automobile Liability - $1,000,000.00 per accident.

   - Contractor to name Catholic Charities Community Services as Additional Insured on a Primary Non-Contributory Basis and a Waiver of Subrogation in favor of Catholic Charities Community Services.

   Contractors Pollution Liability policy - $2,000,000 each occurrence and $2,000,000 in the aggregate.

   Umbrella Liability policy with minimum limits of $1,000,000 per occurrence and $1,000,000 aggregate.

3. Notice of Cancellation: Each insurance policy required by the insurance provisions of this Proposal shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to Catholic Charities Westside Head Start, except when cancellation is for nonpayment of premium, then ten (10) days prior notice must be given.

4. All insurance policies shall be approved by Catholic Charities Westside Head Start before the successful bidder may proceed with the Project.

5. Contractor shall furnish Labor and Materials Payment and Performance bonds covering the faithful performance of the Contract and payment obligations arising thereunder. The cost of such bonds shall be

in the amount of the Contract sum. Catholic Charities West Side Headstart shall be obligee on any such bonds. All bonds shall cover the faithful and full performance of the Contract, the payment of all persons performing labor and furnishing materials and all obligations arising under the Contract, and the lien-free completion of the Contract and the Work. The cost of these bonds shall be borne by the Contractor. TheSurety Company issuing such bonds shall be lawfully authorized to issue bonds in the State where the Project is located.

6. Assurances – As a Federally funded project, Bidders are required to provide assurances of compliance with the following regulations (see Attachment III):

    a. Equal Employment Opportunity
    b. Copeland ''Anti-Kickback'' Act
    c. Davis-Bacon Act
    d. Contract Work Hours & Safety Standards Act
    e. Discovery or Invention Provisions
    f. Clean Air Act
    g. Byrd Anti-Lobbying Amendment
    h. Debarment & Suspension
    i. Certificate of Insurance verifying general liability and Workers Compensation coverage.

    In addition to Federal regulations:

    j. Federal Water Pollution Control Act
    k. Drug-Free Workplace Act of 1988
    l. Federal & State Immigration Laws
    m. Access to Records and Records Retention
    n. Conflict of Interest
    o. Comply with All Applicable Laws & Regulations
    p. Subcontractors Compliance
    q. Copyright Provisions
    r. Submission of Forms

    Agreement to:
    Catholic Charities Vendor Code of Conduct (Attachment I)

7. The bidder to whom the Contract is awarded by Catholic Charities Westside Head Start shall, within seven (7) days after award and receipt of Agreement forms from Catholic Charities Westside Head Start, sign and deliver to Catholic Charities Westside Head Start, all required copies of the contract.

G. PROTESTS

1. Any actual or prospective Bidder may protest the request for proposal or the award of a contract on the grounds that Catholic Charities Westside Head Start has substantially failed to follow the standards set forth in the Proposal Instructions or has violated Federal procurement regulations. Protesters may file a protest with respect to any phase of the solicitation or award, including, without limitation, proposal solicitation; determination by Catholic Charities Westside Head Start of Bidder responsibility or Bidder responsiveness; and contract award.

2. If the protest is made by a potential Bidder that has not submitted a proposal, the protest shall be limited to a challenge of the notice procedures followed by Catholic Charities Westside Head Start. This right to protest shall not apply to protest regarding the denial of a request for a release from bid.

3. Catholic Charities Westside Head Start may make a determination that the proposals received are non-

responsive or that the highest rated Bidder is non-responsible. Upon making a determination of non-responsibility with respect to the highest rated Bidder, Catholic Charities Westside Head Start shall notify the affected Bidder in writing of that determination.

4. The notification shall state the reasons upon which the determination is based. In addition, the notification shall advise the Bidder of the time period within which a formal written protest (the "Protest") may be filed and of the requirements for filing such Protest. Catholic Charities Westside Head Start is not required to provide written notice of determinations of non-responsiveness.

5. To expedite handling of Protest, a protester shall address its envelope to: Yatin Dua, Catholic Charities Westside Head Start Administrative Offices at 7400 W. Olive Ave Suite 10, Peoria, AZ 85345
and such envelope be labeled "Protest". The Protest shall include, without limitation, the following information:

    a. The name, address, and telephone number of the protester.
    b. Appropriate identification of the procurement.
    c. A statement of the reasons for the Protest.
    d. Supporting exhibits and documentary evidence to substantiate any arguments.
    e. The form of relief requested.

6. Any protests concerning this proposal must be delivered in writing within ten (10) calendar days of the Proposal Due Date to:

    Yatin Dua
    Catholic Charities Westside Head
    Start 7400 W. Olive Ave Suite 10,
    Peoria, AZ 85345

7. A Protest is considered filed when such Protest is received by Yatin Dua as previously instructed. Protests received after the previously prescribed period shall not be considered unless Catholic Charities Westside Head Start, in its sole discretion determines that good cause is shown for considering the late Protest.

8. Any additional information reasonably requested by Catholic Charities Westside Head Start must be submitted within the time period established by Catholic Charities Westside Head Start in order to expedite consideration of the Protest. Failure of a protester to comply with a request for information within the specified time period may result in a resolution of the Protest without consideration of any information subsequently submitted by the protester in an untimely manner.

9. Catholic Charities Westside Head Start shall make a decision on a Protest within ten (10) calendar days after receiving all relevant information requested of the protester. The Catholic Charites Westside Head Start representative may, at the agency's sole discretion, meet with the protester and any other affected party to discuss the Protest.

10. If a Protest is granted (i.e., sustained in favor of the protester), Catholic Charities Westside Head Start shall so notify the protester in writing and remedies appropriate to comply with the Protest decision shall be implemented.

ATTACHMENT I: PROPOSAL FORM

Having examined all matters referred to in the Request for Proposal, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Fixed Lump Sum Price of: $ _____, in United States of America currency. All applicable Federal, State and local taxes are included in the sum. There is no Owner's Contingency included in the proposal.

The following Addenda have been received. The modifications to the Proposal Documents noted below have been considered and all costs are included in the Proposal Sum.

Addenda # _____ Dated _____ Addenda # _____ Dated _____

ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for ninety (90) calendar days from the proposal closing date.
B. If this proposal is accepted by the Owner within the time period stated above, we will:
    1. Submit a Contract within seven (7) calendar days of receipt of Notice of Award.
    2. Furnish required bonds and insurance within (7) seven calendar days of receipt of Notice of Award.
    3. Commence work within (7) seven calendar days of receipt of Notice to Proceed.
C. If this proposal is accepted within the time stated, and we fail to commence the Work, or we fail to provide the required Bond(s), the security deposit, if required, shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this proposal and the proposal upon which a Contract is signed.
D. In the event our proposal is not accepted within the time stated above, the security deposit, if required, shall be returned, in accordance with the provisions of the Request for Proposal; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

CONTRACT TIME

A. If Proposal is accepted, all work will be completed within two hundred and forty-three (243) consecutive calendar days from Notice to Proceed, or per schedule agreed upon in contract documents.
B. The undersigned agrees that time is of the essence and the Owner will suffer financial damages due to the Contractor's failure to complete the work within the contract time. The undersigned understands and agrees to the terms and basis of the liquidated damages provision of the Contract and General Conditions between Owner and Contractor. The liquidated damages shall be as follows for each calendar day beyond the Contract time for which the Contractor shall fail to complete the work.
    1. Final Completion: $6,425.00 per calendar day

C. The Corporate Seal of:

_____	_____
Contractor Company Name	Owner's Name
_____	_____
Authorized Signer Name and Title- Printed	Authorized Signature
Address	

_____	_____	_____
Date	Telephone	License No.

ATTACHMENT II: SCHEDULE OF VALUES

CATHOLIC CHARITIES HEAD START 2504 S 91st Avenue, Tolleson, Arizona 85353

1. General Conditions $_____

Site Work

2. Demolition $_____
3. Grading and Excavation $_____
4. Retention and Drywell $_____
5. Parking Paving, striping, Lighting $_____
6. 6" Curbing $_____
7. Concrete Driveway $_____
8. Concrete Sidewalks $_____
9. Site Fencing and Existing Site Wall modifications $_____
10. On and Off Site Sewer $_____
11. On and Off Site Electrical $_____
12. On and Off site Water service (includes Meter Fee) $_____
13. On and Off Site Fire Line $_____
14. QC Testing $_____
15. Site Landscaping and Irrigation systems $_____
16. Site Street Light
    Engineering, permitting, provide and install $_____
17. Survey work $$_____

SSubtotal (Site)ubtotal (Site) $ _____

18. Building Framing $_____
19. Roof $_____
20. Stucco and Exterior Metal Panels $_____
21. Shade Canopies $_____
22. Thermal, Moisture & Acoustic Protection $_____
23. Windows & Glazing $_____
24. Doors and Door Hardware $_____

25. Interior Drywall and Painting $_____

26. Interior Finishes $_____

27. Finished Ceilings $_____

28. Toilet partitions and Accessories $_____

29. Millwork and Shelving $_____

30. Equipment and Appliances $_____

31. Window Blinds $_____

32. Plumbing $_____

33. Mechanical $_____

34. Electrical $_____

35. Fire Protection $_____

Subtotal Building $_____

Misc

36. Building Engineering & Permits $_____

37. Insurance, Overhead & Profit, Sales Tax and Bonds $_____

38. Off Site Permits and Bonds $_____

39. Payment and Performance, Materials and Labor Bonds $_____

40. 10% Contract Contingency $_____

TOTAL FIXED LUMP SUM BID $_____

Catholic Charities Westside Head Start
& Early Head Start

Attachment III

Procurement Contract Provisions

The following provisions, as applicable, are conditions and assurances agreed and certified to by the contractor upon acceptance of a contract to provide certain goods or services, and are made part thereof.

1. The contractor shall comply with Executive Order 11246, as amended by Executive Order 11375, "Amending Executive Order 1246 Relating to Equal Employment Opportunity," and as supplemented by regulations at 41 CFR Part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

2. All contracts and sub grants in excess of $2000 for construction or repair of facilities awarded by recipients and sub recipients are subject to the Copeland "Anti-Kickback" Act, 18 U.S.C. 874, as supplemented by Department of Labor regulations, (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or sub recipient shall be prohibited from inducing, by any means, any person employed in the construction, completion or repair of public work, to give up any part of the compensation to which s/he is otherwise entitled.

3. When required by Federal program legislation, all construction contracts awarded by recipients and sub recipients of more than $2000 are subject to the Davis-Bacon Act, (40 U.S.C., 276a to a-7) and as supplemented by Dept. of Labor regulations (29 CFR part 5, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction". Under this Act, contractors are required to pay wages to laborer and mechanics at a rate not less than the minimum wages specified in the current wage determination made by the Secretary of Labor. In addition, contractors are required to pay wages not less than once a week. **Copies of these provisions are attached and made part of this contract. Weekly payroll information recorded on Optional Form WH-347 or its equivalent (also attached) must be submitted to the local CCCS project official for inclusion with billing information.**

4. Where applicable, all contracts awarded by recipients in excess of $2000 for construction contracts and in excess of$2500 for other contracts that involve the employment of laborers or mechanics are required to comply with sections 102 and 107 of the Contract Work Hours and Safety Standards Act, (40 U.S.C. 327-333) as supplemented by Department of Labor regulations (29 CFR part 5). Section 102 requires the contractor to compute the wages of every mechanic and laborer on the basis of a standard, work week of 40 hours. Work in excess of the standard work week is permissible provided that the payment of wages in excess of 40 hours at 1 ½ times the basic pay rate. Section 107 provides that no laborer or mechanic shall be required to work in surroundings or under working conditions that are unsanitary, hazardous or dangerous.

5. Any inventions resulting from experimental, developmental or research work shall be subject to 37 CFR part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements."

6. Recipients of contracts and sub grants in excess of $100,000 agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, (42 U.S.C., 7401 et seq.) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.).

7. Contractors who bid for an award of more than $100,000 must file, with CCCS, a certification of compliance with restrictions of the Byrd Anti-Lobbying Amendment, (31 U.S.C., 1352), that it has not and will not use federally appropriated funds to pay any person or organization for influencing or attempting to influence a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant or other award covered by the amendment. Contractors shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award.

8. Contractors shall certify that they are not prohibited from receiving procurement awards pursuant to Executive Orders 12549 and 12689, "Debarment and Suspension", and do not appear on the General Services Administration's "List of Parties Excluded from Federal Procurement or Non procurement Programs."

9. **Contractors shall provide a current Certificate of Insurance** which verifies general liability and Workers Compensation coverage.

CONTRACTOR:_____ DATE:_____

By:_____ Title:_____

ARIZONA STATUTORY BID BOND

PURSUANT TO TITLE 28, 34 AND 41, ARIZONA REVISED STATUTES

(Penalty of this bond must not be less than 5% of the bid amount)

KNOW ALL PERSONS BY THESE PRESENTS THAT: _____ (hereinafter "Principal"), as Principal, and _____, (hereinafter "Surety"), a corporation organized and existing under the laws of the State of _____ , with it principal offices in the City of _____, holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1, as Surety are held and firmly bound unto_____ (hereinafter "Obligee"), in the sum of Five Percent (5%) of the amount of the bid of Principal, submitted by Principal to the Obilgee for the work described below, for the payment of which sum, the Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for _____

NOW, THEREFORE, if the Obligee shall accept the proposal of the Principal and the Principal shall enter into a contract with the Obligee in accordance with the terms of the proposal and give the bonds and certificates of insurance as specified in the standard specifications with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the Principal to enter into the contract and give the bonds and certificates of insurance, if the Principal pays to the Obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise, it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of Section 34-201, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of that section to the extent as if it were copied at length herein.

Witness our hands this _____day of _____ , 20 _____.

_____ _____

PRINCIPAL SEAL SURETY SEAL

By: _____

Its: _____

By: _____

Its: _____

_____

AGENCY ADDRESS

STATUTORY PERFORMANCE BOND PURSUANT TO TITLE 34, CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES

(Penalty of this bond must be 100% of Contract Amount)

KNOW ALL PERSONS BY THESE PRESENTS: That _____ (hereinafter called Principal), as Principal, and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____, (hereinafter called the Surety), as surety, are held and firmly bound unto _____, (hereinafter called the Obligee) in the amount of _____ Dollars ($), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee, dated the_ day _____ of 20_____ , to _____ _____which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extension thereof, with or without notice of the Surety, and during the life of any warranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then the above obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of said Title, Chapter and Article, to the extent as if it were copied at length herein.

The prevailing party in a suit on this bond shall recover as a part of his judgment such reasonable attorneys' fees as may be fixed by a judge of the Court.

WITNESS our hands this _____ day of_____ , 20_____ .

_____

Principal

ATTACHMENT V: DAVIS BACON REGULATIONS & WAGE DECISION

REGULATIONS

29 CFR Part 5 - LABOR STANDARDS PROVISIONS APPLICABLE TO CONTRACTS COVERING FEDERALLY FINANCED AND ASSISTED CONSTRUCTION (ALSO LABOR STANDARDS PROVISIONS APPLICABLE...SUBJECT TO THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT)

§ 5.5 Contract provisions and related matters.

(a) The Agency head shall cause or require the contracting officer to insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, Provided, That such modifications are first approved by the Department of Labor):

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or

rates contained in the wage determination.
(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
(2) Withholding. The (write in name of Federal Agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
(3) Payrolls and basic records.
(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved

programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at: http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the (write the name of the agency) or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action

pursuant to 29 CFR 5.12.

(4) Apprentices and trainees-

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be

in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
(10) Certification of eligibility.
(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.
(b) Contract Work Hours and Safety Standards Act. The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by § 5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.
(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
(3) Withholding for unpaid wages and liquidated damages. The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph

(b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

ATTACHMENT VII: REQUIRED FORMS

Business Information Form

I certify that my business is majority owned/operated by (must choose one of the following):

☐ White Americans ☐ Black Americans ☐ Native Americans

☐ Hispanic Americans ☐ Asian/Pacific Americans ☐ Hasidic Jews

I certify that, according to the definitions provided with this form, my business is (please choose all that apply):

☐ A Small Business Enterprise

☐ A Women-Owned Business Enterprise

☐ A Section 3 Business that is at least 51 percent owned and managed by a Section 3 resident or residents

☐ A Section 3 Business with at least 30 percent of permanent, full-time employees who are Section 3 residents

☐ A Section 3 Business that can provide evidence of a commitment to subcontract in excess of 25 percent (25%) of the amount of all subcontracts to Section 3 certified businesses.

☐ Not one of the above classifications

I certify and affirm under penalty of prosecution for perjury that the statements made herein are true and accurate to the best of my knowledge. I understand that falsifying information and incomplete statements are punishable under Federal and state law and will disqualify certification status.

Business Name	Business Tax Identification Number (TIN)
Business Street Address	City, State, Zip
Signature of Business Owner or Authorized Representative	Title
Printed Name	Date

Notary

STATE OF ARIZONA)
)ss
COUNTY OF _____)

Subscribed and sworn to before me

this ___day of _____, 20___

_____
Notary Public

Please note: If you certify that your business meets any of the above classifications, including Section 3, you may be asked to provide documentation and additional information as may be reasonably required to verify your certification. Nothing contained within this Business Information Form is to be interpreted as a promise or contract.

Revised November 25, 2014

Business Information Form

Definitions:

Small Business Enterprise (SBE) – A business that is independently owned and operated and which is not dominant in its field of operation and in conformity with specific industry criteria defined by the Small Business Administration (SBA). Depending on the industry, size standard eligibility is based on the average number of employees for the preceding twelve months or on sales volume averaged over a three-year period.

Women-Owned Business Enterprise (WBE) – A business that is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

Section 3 Business Concern - A business that meets at least one of the following:

- Is at least 51% or more owned by Section 3 residents (see definition and qualifications below); or
- At least 30% of its permanent, full-time employees are currently Section 3 residents, or within three years of the date of first employment with the business were Section 3 residents; or
- Can provide evidence of a commitment to subcontract in excess of 25% of the dollar award of all subcontracts to be awarded to a Section 3 business.

Section 3 Resident Criteria – Section 3 residents are:

- Public housing residents including persons with disabilities; and
- Low and very-low income residents that earn no more than the following amounts:

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD) INCOME LIMITS
EFFECTIVE 3/06/2015

Family Size	1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Persons	7 Persons	8 Persons
Income	$35,850	$41,000	$46,100	$51,200	$55,300	$59,400	$63,500	$67,600

CERTIFICATION

CONCERNING LABOR STANDARDS

Please make copies for your use. Separate forms should be completed by the prime contractor and each subcontractor and lower tier subcontractor. These are required from the all subcontractors before work starts on the project site.

Date: _____

Project Name: _____

Project Location: _____

Race of OWNER/S:			**Hispanic/ Latino** OWNED:	**Female** OWNED:
☐ White	☐ Black/African-American	☐ Asian	☐ YES	☐ YES
☐ Am. Indian/Native Alaskan	☐ Pacific Islander/ Hawaiian		☐ NO	☐ NO
☐ Asian & White				
☐ Am. Indian/Native Alaskan & White				
☐ Black/African-American & White				
☐ Am. Indian/Native Alaskan & Black/African-American				
☐ Other Multi-Racial				

*********Select the demographic characteristics that best discribe the company ownership*********
*********(must be 51% or more to make a selection)*********

1. This certification is for _____
(Name of: prime contractor, subcontractor, lower-tier subcontractor)

2. The undersigned, having executed a contract with _____
(contractor or subcontractor)

For _____ in the amount of $_____
(nature of work) *(contract amount)*

a. The Labor Standards Provisions of the Contract for Construction are included in the aforementioned contract.

b. Neither the undersigned nor any firm, corporation, partnership or association in which they have a substaintial interst is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretarty of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3(a) of the Davis Bacon Act, as amended (30 U.S.C. 276a 2(a)).

c. Correction of any infractions of the aforesaid conditions, infractions by any of his/her subcontractors and/or any lower-tier subcontractors, is the undersigner's responsibility.

d. No part of the aforementioned contract has been of will be subcontracted to any subcontractor or lower-tier firm corporation, partnership or association in which such subcontractor or lower-tier subcontractor has substantial interest is designated as an ineligible contractor pursuant to the aforesaid regulatory or statutory provisions.

3. Agrees to obtain and forward to the contractor, for transmittial to the Labor Compliance Officer, from any lower subcontractor, a Certification Concerning Labor Standards, executed by each subcontractor and lower-tier subcontractor.

   The workers will report for duty on or about _____
   (Date)

4. Certifies that for _____ the:
   (Name of: prime contractor, subcontractor, lower-tier subcontractor)

   a. Legal Name of Business:_____

   b. Address:_____

   c. The IRS Tax ID Number :_____

   d. AZ Resistrar of Contracors Licence Number:_____

   e. The undersigned is:
      ____ 1. A single propietorship
      ____ 2. A partnership
      ____ 3. A corporation organization in the State of : _____
      ____ 4. Other orgnaization (describe):_____

   f. Names , titles and addresses of owner, partner or officers of the undersigned are:
      _____
      _____
      _____

   g. Names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned and the nature of their interest are (if none, so state):
      _____
      _____
      _____

5. This certifes, _____ whose signature appears following this paragraph, is appointed to supervise the payment of employees for this company, beginning _____20____. The appointee is in a position to have full knowledge of the facts set forth in the payroll documents and in the Statement of Compliance with the Copeland Act which the appointee is to executer with (my) (our) full authority and approval until such time as (I) (we) submit to the Labor Standards Officer.

New certificate appointing some other person for the purpose stated in this paragraph. Should the appointee be changd, a new certificate will accompany the first payroll for which the new appointee executes a Statement of Compliance required by the Copeland Act.

APPOINTEE'S CERTIFICATION

This is to certify that I have read and do understand the Labor Standards Provisions and related matters as they apply to the above project.

_____	_____
(Name of payroll Appointee)	(Signature of Appointee
_____	_____
(Name and title of Principle Owner)	(Signature of Principle Owner)

****This certificate must be executed by an authorized officer of the corporation or by a member of a partnership, and must be submitted to the Labor Standards Officer prior to working on the project.

State of Arizona)
) ss.
County of Maricopa)

On this _____ day of _____, 20_____, before me personally appeared _____, whose identity was proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to this document, and who acknowledge that he/she signed the attached documents.

_____

Notary Public

My commission expires on: _____

CERTIFICATE OF COMPLIANCE

The undersigned agrees to comply with the following regulations:

1. **Handicap Accessibility**: Compliance with specifications meeting "American standard specifications for making buildings and facilities accessible, and usable by the physically handicapped" (41CFR 101-19.603).
2. **Lead-based Paint:** Compliance with the requirements of the Lead-based Paint Poisoning Prevention Act (42 U.S.C., 4831 et.seq.). The Contractor and all subcontractors shall not use lead-based paint in any rehabilitation or construction, as indicated in the code of Federal Regulations, Title 24, Part 35.
3. **Federal Labor Standards Provisions:** as described in 29 CFR Part 5.5 (and also supplied as an attachment to this bid packet, reference HUD 4010). The undersigned shall provide to Owner all required documents to certify compliance with all Labor Standards Provisions.
4. **Equal Employment Opportunity:** as this is a federally funded project, it is subject to the requirements of Executive Order 11246 pertaining to Equal Employment Opportunity. The aforementioned Executive Order prohibits contractors from discriminating in employment decisions on the basis of race, color, religion, sex or national origin. Contractor must not discriminate against any employee or applicant for employment on the basis race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity or expression, genetic characteristics, familial status, U.S. military veteran status or any disability. Contractor will require any Sub-contractor to be bound to the same requirements as stated within this section. Contractor, and on behalf of any subcontractors, warrants compliance with this section.

_____ _____

(Name and title of Principle Owner) (Signature of Principle Owner)

AFFIRMATIVE ACTION PLAN

(In the event a prospective contractor and/or subcontractor does not have such an Affirmative Action Plan for employment practices, the following is for your information and may be used as an alternative. Such a plan is necessary to meet Federal requirements on any Federally assisted project).

The _____
(Individual or Company Responsible)

undertakes a program of Affirmative Action, to which good faith efforts will be directed to:

1. Determine the extent to which minorities and women are utilized.

2. Identify and eliminate employment practices, which have an adverse impact on minorities, women and others protected by applicable law.

3. Develop recruitment efforts and measures to ensure that qualified minorities, women, and handicapped persons are included to help reduce underutilization.

4. Establish organizational structures and monitoring systems which will assure effective operation of the affirmative action program.

_____ _____

Signature of Responsible Party Date

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
___ - ___ - ____

or

Employer identification number
__ - _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here | **Signature of U.S. person ▶** | **Date ▶**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division
Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐	ADDRESS	
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION / PROJECT OR CONTRACT NO.

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
			O											
			S											
			O											
			S											
			O											
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____, that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____ and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

CERTIFICATION OF UNDERSTANDING AND AUTHORIZATION

PROJECT NAME:_____

PROJECT NUMBER:_____

The following person(s) is designated as the payroll officer for the undersigned and is authorized to sign the Federal Statement of Compliance which will accompany our weekly certified payroll reports for this project:

_____
IRS Employer Identification Number

_____
Authorized Payroll Officer

_____
Authorized Payroll Officer Signature

_____
Prime Contractor/Subcontractor

_____
Prime Contractor/Subcontractor Signature

_____
Title

_____
Date

AUTHORIZATION FOR DEDUCTIONS

PROJECT NAME:_____

PROJECT NUMBER:_____

Undersigned authorize deductions, as noted, to be made from their wages. It is understood that these deductions:

(a) are in the interest of the employee,
(b) are not a condition of employment,
(c) provide no direct or indirect financial benefit accruing to the employer, and
(d) are not otherwise forbidden by law.

Employee's Name	**Employee's Signature**	**Date**	**Deductions**

_____
Contractor's Name

_____ _____
Authorized Representative's Name Title

_____
Authorized Representative Signature

_____
Date

CERTIFICATION FOR APPLICABLE FRINGE BENEFIT PAYMENTS

PROJECT NAME:_____

PROJECT NUMBER:_____

Classification/Fringe Benefits Provided		**Name, Address, Phone of Plan/Fund/Program**
Employee: _____		
$_____	Health & Welfare	_____
$_____	Pension	_____
$_____	Vacation	_____
$_____	Apprenticeship/Training	_____
$_____	Other	_____
Employee: _____		
$_____	Health & Welfare	_____
$_____	Pension	_____
$_____	Vacation	_____
$_____	Apprenticeship/Training	_____
$_____	Other	_____
Employee: _____		
$_____	Health & Welfare	_____
$_____	Pension	_____
$_____	Vacation	_____
$_____	Apprenticeship/Training	_____
$_____	Other	_____

OR CHECK IF APPLICABLE

___ **I CERTIFY THAT I DO NOT MAKE PAYMENTS TO APPROVED FRINGE BENEFIT PLANS, FUNDS OR PROGRAMS.**

Contractor/Subcontractor	Signature
Date	Title

CATHOLIC CHARITIES
Westside Head Start

UNCONDITIONAL WAIVER AND RELEASE
UPON FINAL PAYMENT

The undersigned has been paid in full for all labor, services, equipment or material furnished to CCCS for the job located at: _____
except for final payment of $_____ and does hereby release any right to a mechanic's lien, stop notice, or any right against a labor and material bond on the job.

This document also releases _____ from liability with subcontractors signed below. (Contractor)

Dated: _____

Company Name: _____

_____ _____
Signature of Authorized Person Title

NOTICE TO PERSONS SIGNING THIS WAIVER: This document waives your rights unconditionally and states that you have been paid for giving up those rights. This document is enforceable against you if you sign it, even if you have not been paid.

THE UNDERSIGNED HAVE PERFORMED/PROVIDED EITHER LABOR, SERVICES, EQUIPMENT, OR MATERIALS ON THE PROJECT DESCRIBED ABOVE AND HAVE BEEN PAID IN FULL TO DATE

(Company Name)	(Title)
(Signature of Subcontractor)	(Date)
(Company Name)	(Title)
(Signature of Subcontractor)	(Date)
(Company Name)	(Title)
(Signature of Subcontractor)	(Date)
(Company Name)	(Title)

Original-03/2018

VENDOR CODE OF CONDUCT

Catholic Charities Community Services aspires to be more than just a good company – it aspires to be a great company. Toward that goal, we are committed to our mission of improving lives and improving communities. Catholic Charities Community Services has established company standards that include ethical business practices and regulatory compliance. These standards apply to all of our employees, directors and officers. Similarly, Catholic Charities Community Services expects its vendors to embrace this commitment by complying with and training its employees on the Catholic Charities Community ServicesVendor Code of Conduct.

Vendors and their employees, agents and subcontractors (collectively referred to as "Vendors") must adhere to this Vendor Code of Conduct while conducting business with or on behalf of Catholic Charities Community Services. Vendors must promptly inform their Catholic Charities Community Services contact (or a member of Catholic Charities Community Services) when any situation develops that causes the Vendor to operate in violation of this Code of Conduct. While Catholic Charities Community Services Vendors are expected to self-monitor and demonstrate their compliance with this Code of Conduct, Catholic Charities Community Services may audit Vendors or inspect Vendors' facilities to confirm compliance. Catholic Charities Community Services may require the immediate removal of any Vendor representative(s) or personnel who behave in a manner that is unlawful or incon- sistent with this Code of Conduct or any Catholic Charities Community Services policy. Compliance with this Code of Conduct, and attending training on this Code of Conduct, as may be offered by Catholic Charities Community Services, is required in addition to any other obligations in any agreement a Vendor may have with Catholic Charities Community Services.

DEFINITIONS

Vendor means any individual or entity seeking to or doing business with Catholic Charities Community Servicess within the scope of this Code, including, without limitation,contractors, consultants, suppliers, manufacturers seeking to act as the primary contract- ing party, officers and employees of the foregoing, as well as any subcontractors, sub-consultants and subsuppliers at all lower tiers.

Gift means the transfer, without equivalent consideration, of anything of benefit, tangible or intangible, having more than a nominal value, including but not limited to, loans, forbearance, services, travel, gratuities of any kind, favors, money, meals, refreshments, entertainment, hospitality, promises, tickets to entertainment or sporting events, weekend trips, golf outings, loans of equipment, or other thing or benefit. A Gift need not be intended to influence or reward any individual or entity.

Family Member means any person living in the same household as a Catholic Charities Community Services Employee, domestic partner, and any person who is a direct descendant of the Catholic Charities Community Services Employee's Grandparents or the spouse of such descendant.

VENDOR CODE OF CONDUCT

Contract means oral or written communication with any officer, member of the Board or other employee of Catholic Charities Community Services, other than the Designated or Single Point of Contact, where it could be reasonable inferred that such contact was intended to influence, or could reasonably be expected to influence, the subject of the procurement.

Employee means any officer or employee of Catholic Charities Community Services and also includes any member of the Board of Directors.

BUSINESS PRACTICES AND ETHICS

Catholic Charities Community Services Vendors must conduct their business interactions and activities with integrity and must, without limitation:

Business Records: Honestly and accurately record and report all business information and comply with all applicable laws regarding their completion and accuracy. Create, retain, and dispose of business records in full compliance with all applicable legal and regulatory requirements. Be honest, direct, and truthful in discussions with regulatory agency representatives and government officials.

Gifts: Avoid gifts to Catholic Charities Community Services employees because even a well-intentioned gift might constitute a bribe under certain circumstances, or create conflicts of interest. Do not offer anything of value to obtain or retain a benefit or advantage for the giver, and do not offer anything that might appear to influence, compromise judgment, or obligate the Catholic Charities Community Services employee.

Conflicts of Interest: Avoid the appearance of or actual improprieties or conflicts of interests. Vendors must not deal directly with any Catholic Charities Community Services employee whose spouse, domestic partner, or other family member or relative holds a significant financial interest in the Vendor. In the course of negotiating the Vendor agreement or performing the Vendor's obligations, dealing directly with a Vendor personnel's spouse, domestic partner, or other family member or relative employed by Catholic Charities Community Services is also prohibited.

HEALTH AND SAFETY

Catholic Charities Community Services Vendors are expected to integrate sound health and safety management practices into all aspects of business, and must, without limitation:

Provide a safe and healthy work environment and fully comply with all safety and health laws, regulations, and practices including those applicable to the areas of occupational safety, emergency preparedness, occupational injury and illness, industrial hygiene, physically demanding work, machine safeguarding, sanitation, food and housing. Adequate steps must be taken to minimize the causes of hazards inherent in the working environment.

VENDOR CODE OF CONDUCT

Prohibit the use, possession, distribution, or sale of illegal drugs while on Catholic Charities Community Services-owned or -leased property.

By signing below, the vendor represents it is in compliance with the policy as stated above.

Vendor Name (please Print)	Date
Vendor Signature	Date

CATHOLIC CHARITIES
Westside Head Start

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

Attachment-J

CATHOLIC CHARITIES
Westside Head Start

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION
(To be submitted with each bid or offer exceeding $100,000)

The undersigned, [Company] _____ certifies, to the best of his or her knowledge, that:

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

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

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

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Contractor, [Company] _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq.*, apply to this certification and disclosure, if any.

_____
Signature of Contractor's Authorized Official

_____
Name and Title of Contractor's Authorized Official

_____
Date

Attachment-I

CATHOLIC CHARITIES
Westside Head Start

Approved by OMB
0348-0046

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure)

1. Type of Federal Action: a. contract ____ b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	**2. Status of Federal Action:** a. bid/offer/application _____ b. initial award c. post-award	**3. Report Type:** a. initial filing _____ b. material change **For material change only:** Year _____ quarter _____ Date of last report_____
4. Name and Address of Reporting Entity: ____ Prime _____ Subawardee Tier_____, if Known: **Congressional District,** *if known:*	**5. If Reporting Entity in No. 4 is Subawardee,** Enter Name and Address of Prime: **Congressional District,** *if known:*	
6. Federal Department/Agency:	**7. Federal Program Name/Description:** CFDA Number, *if applicable:* _____	
8. Federal Action Number, *if known:*	**9. Award Amount,** *if known:* $	
10. a. Name and Address of Lobbying Registrant *(if individual, last name, first name, MI):*	**b. Individuals Performing Services** *(including address if different from No. 10a)* *(last name, first name, MI):*	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	**Signature:** _____ **Print Name:** _____ **Title:** _____ **Telephone No.:** _____ **Date:** _____	
Federal Use Only	**Authorized for Local Reproduction** **Standard Form - LLL (Rev. 7-97)**	

Attachment J

CATHOLIC CHARITIES
Westside Head Start

Instructions for Suspension and Debarment Certification

1. By signing and submitting this form, the prospective primary participant is providing the certification set out on the form in accordance with these instructions.

2. The certification in this clause is a material representation of fact upon which reliance was placed when the transaction was entered into. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective primary participant shall provide immediate written notice to the person to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms "covered transaction", "debarred", "suspended", "ineligible", "participant", "person", "proposal", and "voluntarily excluded" as used in this clause, have the meanings set out in the definitions and coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective primary participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any covered transaction with a person who is debarred, suspended, declared ineligible or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective primary participant further agrees by submitting this form that it will include this clause titled "Debarment and Suspension and Other Responsibility Matters Primary Covered Transactions ", without modification, in all covered transactions and in all solicitations for covered transactions.

Attachment-K

CATHOLIC CHARITIES
Westside Head Start

Debarment and Suspension Certification

Debarment and Suspension and Other Responsibility Matters Primary Covered Transactions

Non-federal entities are subject to the non-procurement debarment and suspension regulations implementing Executive Orders 12549 and 12689, 45 CFR part 75. These regulations restrict awards, subawards, and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs or activities.

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

(1) The prospective primary participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
(b) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
(d) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective primary participant shall attach an explanation to this proposal.

Contractor: _____

Date: _____

Attachment-K

Catholic Charities Westside Head Start
Tolleson Head Start Classroom Building

PROJECT SCHEDULE

A. This Calendar of Events is an integral part of the Bidding Requirements and Contract Documents. All times refer to Phoenix Arizona Time.

Event	Item (Referenced Document)	Date and Time
1	Advertisement for Bids	Friday, Sept 29th, 2023
2	Mandatory Pre-bid Meeting at 2504 S 91st Ave, Tolleson AZ 85353	Friday, October 13th, 2023 at 9:00 AM AZ time
3	Last Date for Receipt of RFI's, Substitution Requests & Prior Approvals Direct all RFI's in writing to dquijano@art-team.com	Friday, October 20th, 2023 at 5:00 PM AZ time.
4	Receipt of Bid at **7400 W. Olive Ave, Suite 10, Peoria AZ 85345** (On or Before)	Friday, October 27th, 2023 at 10:00 AM AZ time.
5	Public Bid Opening by Zoom Meeting Register in Advance **https://us02web.zoom.us/meeting/register/tZwkd-vqj4vHNaG3A4syc0iM0LRjCupyMQv** After registering you will receive a confirmation email about joining the meeting.	Monday, November 6th,2023 at 10:30AM AZ Time0:30 AM AZ time.
6	Award Contract (After)	Thursday, November 30th, 2023
7	Protest Period (2 weeks)	November 30th – December 14th, 2023
8	Contract Negotiations Begin	December 14th, 2023
9	Notice to Proceed Pending required documentation, etc…	Thursday, December 14th, 2023 or later
10	Substantial Completion (Certificate of Completion)	Saturday, August 10th,2024
11	Final Completion	Saturday, August 17th, 2024

"General Decision Number: AZ20230039 09/01/2023

State: Arizona

Construction Type: Building

County: Maricopa County in Arizona.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).
Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	• Executive Order 14026 generally applies to the contract. • The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	• Executive Order 13658 generally applies to the contract. • The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number Publication Date
0 09/01/2023

BRAZ0003-001 07/01/2023

Rates Fringes

BRICKLAYER.....$ 32.74 9.52

CARP1912-001 07/01/2023

	Rates	Fringes
CARPENTER.....	$ 33.55	14.17

ELEC0640-002 01/01/2023

	Rates	Fringes
ELECTRICIAN.....	$ 33.10	13.58

ENGI0428-016 06/01/2023

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Bulldozer.....	$ 31.69	13.52
Crane.....	$ 36.04	13.52

IRON0075-012 07/31/2023

	Rates	Fringes
IRONWORKER.....	$ 29.00	17.44

PLUM0469-010 07/01/2023

	Rates	Fringes
PIPEFITTER.....	$ 45.65	18.00
PLUMBER.....	$ 45.65	18.00

SHEE0359-001 07/01/2022

	Rates	Fringes
SHEET METAL WORKER.....	$ 40.82	19.04

SUAZ2019-002 06/12/2023

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	$ 22.41	0.00
DRYWALL HANGER.....	$ 20.02	0.00
LABORER: Common or General.....	$ 17.95	3.97
LABORER: Mason Tender - Cement/Concrete.....	$ 18.11	3.64
LABORER: Pipelayer.....	$ 16.77	1.05
OPERATOR: Backhoe/Excavator/Trackhoe.....	$ 24.61	3.42
OPERATOR: Loader.....	$ 17.53	5.08
OPERATOR: Roller.....	$ 23.62	6.44
PAINTER.....	$ 19.85	3.54

TILE SETTER.....$ 21.50 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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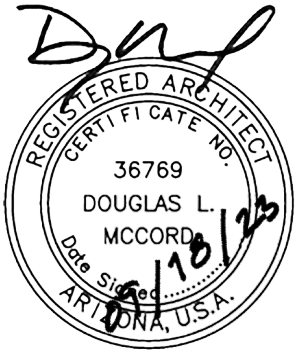
END OF GENERAL DECISIO"

SECTION 00 01 10
TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS

SPECIFICATIONS



Expires 09/30/2025

D. 32 17 23.13 - Painted Pavement Markings
E. 32 31 13 - Chain Link Fences and Gates
F. 32 31 19 - Decorative Metal Fences and Gates

END OF SECTION

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SECTION 00 44 00
ELECTRONIC DATA TRANSFER TERMS AND CONDITIONS

IN ACCEPTING AND UTILIZING ELECTRONIC DRAWINGS, MODELS AND/OR DATA, "ELECTRONIC DATA" GENERATED BY ARCHITECTURAL RESOURCE TEAM, INC. (ART) AND RELATED CONSULTANTS, RECIPIENT COVENANTS AND AGREES THAT ALL SUCH DRAWINGS AND/OR DATA ARE INSTRUMENTS OF SERVICE OF ART AND RELATED CONSULTANTS, WHO SHALL BE DEEMED THE AUTHOR OF THE DRAWINGS AND/OR DATA AND SHALL RETAIN ALL COMMON LAW, STATUTORY LAW AND OTHER RIGHTS, INCLUDING COPYRIGHTS.

IT IS THE RESPONSIBILITY OF THE RECIPIENT TO FULLY UNDERSTAND THE BUILDING IN TERMS OF VERTICAL RELATIONSHIPS, STRUCTURAL COMPONENTS, AND BUILDING SYSTEMS BY WAY OF THE CONTRACT DOCUMENTS. ANY USE OF, OR RELIANCE ON, THE ELECTRONIC DATA SHALL BE AT THEIR SOLE RISK AND WITHOUT LIABILITY TO ART AND RELATED CONSULTANTS. ANY INFORMATION CONTAINED WITHIN THE ELECTRONIC DATA PROVIDED IS COMPLEMENTARY TO ALL OTHER DOCUMENTS AND AS SUCH IS INCOMPLETE IN TERMS OF INFORMATION PROVIDED. ANY INFORMATION PROVIDED ELECTRONICALLY THAT IS NOT IN AGREEMENT WITH OTHER CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH DESIGN OR CONSTRUCTION. FAILURE TO DO SO WAIVES THE RIGHT TO MAKE CLAIM FOR COMPENSATION DUE TO ERRORS OR OMISSIONS IN DOCUMENTS.

ART PROJECT NAME _____

ART PROJECT NUMBER _____

The electronic data is provided for the recipient's convenience and are not legal documents. The recipient further agrees not to use the electronic data, in whole or in part, for any purpose or project other than the specific project for which it was created. The recipient agrees to waive all claims against art and related consultants resulting in any way from any unauthorized changes, or use of the drawings and/or electronic data for any other project by anyone other than ART.

In addition, the recipient agrees, to the fullest extent permitted by law, to indemnify and hold ART and related consultants harmless from any damage, liability or cost, including reasonable attorneys' fees and costs of defense, arising from any changes made by anyone other than ART or from any reuse of the drawings and/or electronic data without prior written consent of ART.

Due to varying environmental and storage conditions, integrity of electronic media and data are inherently subject to corruption. ART makes no warranties, either express or implied, of merchantability and/or fitness of the electronic data for any particular purpose

PLEASE ACKNOWLEDGE ACCEPTANCE OF TRANSFER TERMS AND CONDITIONS BY SIGNING AND DATING BELOW AND RETURNING THIS FORM TO ART.

Date Requested: _____

_____
Company Name

_____
Signature

_____
Title

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SECTION 00 31 00
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING CONDITIONS

A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of Contract Documents, as follows:

B. Geotechnical Engineering :Original Report Entitled Catholic Charities Westside Head Start, RAMM Project No. G28938, dated 2-10-2023. Report is included in this specification.

C. Geotechnical Engineering :Update Letter Entitled Arts Academy at Estrella Mountan, RAMM Project No. G28770], dated [12-21-2022]. Report is included in this specification.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.
Geotechnical Engineering • Construction Materials Testing
R·A·M·M

Catholic Charities Community Services
4747 North 7th Avenue
Phoenix, Arizona 85013

February 10, 2023

Attention: Yatin Dua

Subject: Geotechnical Engineering Report
Arts Academy at Estrella Mountain
2504 South 91st Avenue
Phoenix, Arizona

RAMM Project No. G28938
Ref RAMM Project No. G19099

At your request and with your authorization, this letter updates our Geotechnical Engineering Report for the Arts Academy at Estrella Mountain, specific to the proposed Catholic Charities Westside Headstart – Tolleson, to be located in Phoenix, Arizona. The project will consist of a single-story, approximately 5,000 square-foot preschool building.

In advance of preparing this letter, a representative of this firm visited the site to document the existing site conditions. The site visit was conducted on January 27, 2023, by a staff project manager with this firm. The project site consisted of a relatively flat, slightly elevated, undeveloped area immediately to the northeast of the existing Arts Academy building.

The findings, conclusions, and recommendations presented in our original report remain applicable to the proposed Catholic Charities Westside Headstart -Tolleson preschool building as presently planned with the following updates / revisions.

Foundation Design Recommendations – The following sentence should be added after the fourth sentence of the first paragraph:

"Finished grade is defined as the lowest adjacent finished grade within 5 feet of the perimeter of the building for perimeter footings and finish floor level for interior footings."

The second paragraph, the last sentence should be deleted and replaced with the following:

"A Site Class of C will apply to the site per the 2015, 2018, and 2021 International Building Codes (IBC). It is our opinion that the upper 100 feet soil profile may be characterized as predominantly dense to very dense clayey to silty sand with an average N value greater than 50, determined based on the results of the investigation conducted by this firm in the immediate vicinity of the site, our knowledge of the soil profile in the general vicinity of the site, and a review of available well holes within the vicinity of the site (available on ADWR's website), and current groundwater levels which are anticipated to be deeper than 100 feet below ground surface."

Imported Soils – The following should be added to the end of the section:

"Imported soils should have a low corrosion potential as determined by a corrosion expert and/or material supplier and should meet ACI 318 negligible sulfate exposure durability requirements for concrete."

City of Phoenix Special Inspections – The IBC should be updated to include the 2015, 2018, and 2021 versions.

The following should be added to the end of the report:

LIMITATIONS

This report is an instrument of service of Ricker, Atkinson, McBee, Morman & Associates, Inc. (RAMM). The report has been prepared for the exclusive use of *Accelerated Construction Technologies, Catholic Charites Community Services, and their assignees* for the specific application to the *Arts Academy at Estrella Mountain*. RAMM has employed commonly accepted geotechnical engineering, engineering geologic (if applicable) and hydrogeologic (if applicable) procedures, and our opinions and conclusions are made in accordance with generally accepted principles and practices of these professions common to the local area.

The contents of this report are valid as of the date of preparation. However, changes in the condition of the site can occur over time as a result of either natural processes or human activity. In addition, advancements in the practice of geotechnical engineering, engineering geology and hydrogeology and changes in applicable practice codes may affect the validity of this report. The report's contents may not be relied upon by any other party without the express written permission of RAMM.

Although not anticipated at this site, we should note that our investigation did not include the evaluation or assessment of any potential environmental hazards or groundwater contamination that may be present. RAMM makes no warranty, either expressed or implied.

If you have any questions or require any additional information, please do not hesitate to call. This letter should be attached to and made a part of our original report dated November 3, 2011.

Respectfully submitted,
RICKER • ATKINSON • MCBEE • MORMAN & ASSOCIATES, INC.

By: Demetrius L. Rugley, E.I.T. AND Dave A. Thomas, P.E.

/dlr

Copies to: Addressee email: (ydua@cc-az.org)

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

Special Inspection Certificate
Geotechnical

POST AT JOB SITE WITH PERMIT
(General Requirements and Instructions on the backside of form)

TO BE COMPLETED BY REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE		
Project Name: Catholic Charities Westside Headstart	Project Address: 9300 W. Lower Buckeye Road, Phoenix, AZ	Permit No. Plan Log No.
Project Owner/Owner's Agent Name: Yatin Dua, Executive Director	Mailing Address: 7400 W Olive Ave #10, Peoria, Az	Phone No. 602-319-2157
Registered Design Professional of Record Name: David A. Thomas, P.E.	Mailing Address: 2105 S. Hardy Dr., Suite 13, Tempe, AZ 85282	Phone No. 480-921-8100
Firm Name: RAMM Engineering and Testing	Email Address: dthomas@rammeng.com	Fax No. 480-921-4081

(Seal, Sign, and Date)

I hereby affirm that I am familiar with the design of this project and have been designated by the Owner/owner(s) Agent as the registered design professional in responsible charge for implementing the Geotechnical Special Inspections Program required by the City of Phoenix Building Construction Code Sections 110.3.10 and 1704. I have determined that the types of work checked below require Geotechnical Special Inspection. I understand and agree to inform the project owner, the contractor(s), and the special inspector(s) about all the Geotechnical Special Inspection Program requirements and limitations, including that the Special Inspector(s) must be independent third-party individual(s) or Registered Design Professional(s) and shall not be the installing contractor(s).

YES	NO ✓	TYPES OF WORK REQUIRING SPECIAL GEOTECHNICAL INSPECTION (Attach Supplement if Necessary)	QUALIFIED SPECIAL INSPECTOR NAME AND ID NUMBER
x x		Soils	M. Avery 38191, M. Shaker 38190, A. Rojo 38439
		Driven deep foundation	
		Cast-in-place deep foundations	
		Helical Pile Foundations	
x x		Soils (continued) -	A. Luczak 35262, A. Salas 38189, M. Golarte 35264
x x		Soils (continued) -	A. Patton 35245, R. Atkinson 35269, J. Morris 39470

All special inspection reports were reviewed and found to be in conformance with the approved construction documents.

Registered Design Professional

In responsible charge _____ _____
Signature **Date**

For more information or for a copy of this publication in an alternate format, contact Planning & Development at 602-262-7811 voice or TTY use 7-1-1.

The following are general requirements and instructions for processing the Special Geotechnical Inspections Program form and general information for persons responsible for the special inspections.

GENERAL REQUIREMENTS. Phoenix Building Construction Code (PBCC) Sections 110.3.10 and 1704 require Special Geotechnical Inspections for the types of work specified in Section 1705.1. Special Geotechnical Inspections include, but are not limited to, observation of the work assigned for conformance with the approved design drawings and specifications, and submission of appropriate inspection reports to the City of Phoenix Geotechnical Inspector. See the PBCC and PBCC Regulations/Interpretations for additional information and requirements.

The Special Geotechnical Inspector shall be a qualified person who demonstrates competence to the satisfaction of the building official for the type of work requiring Special Inspection. Competence shall be demonstrated by licensure as a Professional Engineer in the State of Arizona or successful application to the city's certified list. These individual(s) shall be responsible for performing the Special Inspection tasks and reports required by the PBCC and PBCC Regulations.

The Special Geotechnical Inspector(s) shall be an independent, third-party individual or testing agency and shall not be the installing contractor or any other person responsible for the work.

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. Complete all information requested on this form. Indicate the TYPES OF WORK requiring Special Geotechnical Inspections. Seal, sign and date the form. Submit to the city with the permit application whenever the code requires special inspections. This form may be reproduced in the construction plans in lieu of submitting separate sheets. **Sign and date the original form after the final inspection report has been reviewed. The qualified special inspector individual must be named on the form at this time.**

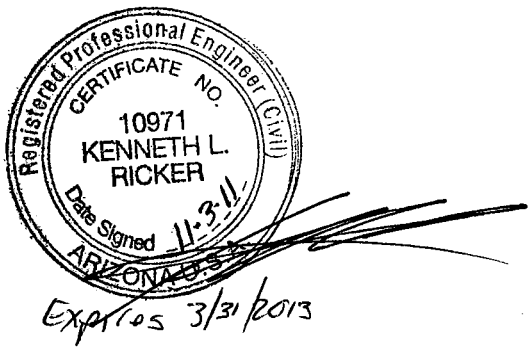
PLAN REVIEWER. Review the Special Geotechnical Inspections Program form for accuracy and ensure that it identifies all work requiring Special Inspections. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Special Inspection Required." The Special Geotechnical Inspections form shall be processed before permit issuance.

CITY GEOTECHNICAL INSPECTOR. Review the Special Geotechnical Inspections Program form for the name of the registered design professional in responsible charge, contractor, etc. for the Special Geotechnical Inspections Program and the names of the individual(s) authorized to perform Special Inspections. Address any Special Inspection concerns of the Special Geotechnical Inspector(s). Attend any necessary job conferences related to Special Inspections procedures. Review all required Special Inspections and final reports and provide copy to records.

SPECIAL INSPECTOR. The individual(s) responsible for the Special Geotechnical Inspections shall **complete a signed written report after each site visit** requiring Special Inspection. The Special Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Phoenix Geotechnical Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge, contractor, etc. and to the City of Phoenix Geotechnical Inspector.

The Special Geotechnical Inspector shall submit a **final signed report** to the registered design professional in responsible charge, contractor etc. and to the City of Phoenix Geotechnical Inspector providing final test results and stating whether the items requiring geotechnical inspection were, to the best of the inspector's knowledge in compliance with the approved plans and specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until all Special Inspection reports have been received and accepted by the City of Phoenix Geotechnical Inspector.

Geotechnical Engineering Report
Arts Academy at Estrella Mountain
2504 S. 91st Avenue
Phoenix, Arizona
RAMM Project No. G19099



For:
Accelerated Construction Technologies
22425 North 16th Street
Phoenix, Arizona 85024

◆◆◆

By:
Ricker • Atkinson • McBee • Morman & Associates, Inc.
2105 South Hardy Drive, Suite 13
Tempe, Arizona 85282

R·A·M·M

RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.

Geotechnical Engineering • Construction Materials Testing

Accelerated Construction Technologies
22425 North 16th Street
Phoenix, Arizona 85024

November 3, 2011

Attention: Sam Tomlin

Subject: Geotechnical Engineering Report
Arts Academy at Estrella Mountain
2504 S. 91st Avenue
Phoenix, Arizona

RAMM Project No. G19099

Attached to this letter is the Geotechnical Engineering Report for the proposed Arts Academy of Estrella Mountain located in Phoenix, Arizona.

The proposed Arts Academy of Estrella Mountain will include a two-story building with a 19,231 square-foot footprint, retention basins and adjacent paved parking and drive areas. The results of our field explorations; laboratory testing; and engineering analysis, evaluation and recommendations are presented in the report.

The following is a brief summary of selected recommendations.

A. Foundations:

- Support on undisturbed site soils and/or compacted fill.
- Found at least 1.33 feet below finished grade.
- Design for allowable bearing pressure of 1500 psf.

B. Site Soil:

- Use as fill in all areas of the site.
- Place and compact site soils at moisture contents ranging from optimum to optimum plus 3 percent.

C. Pavement Sections:

- Auto Parking and Drive -- 2 inches of asphalt concrete on 6 inches of base material; or 5 inches of Portland cement concrete.
- Bus Areas and Fire Lanes -- 3 inches of asphalt concrete on 6 inches of base material; or 6 inches of Portland cement concrete.

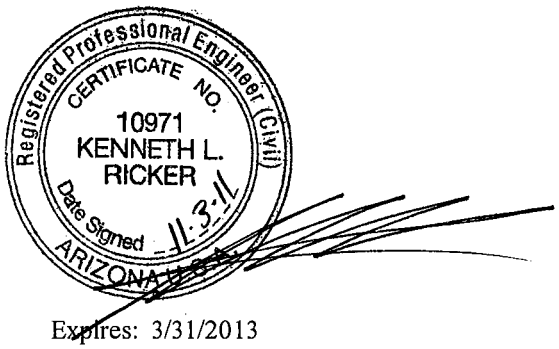
The attached report was prepared based on project and site data available at this time and was prepared in a manner and to the standards of the local geotechnical engineering practice. Our services did not include evaluations for the presence of hazardous materials; for corrosion potential with respect to on-site soils; for corrosion potential and concrete durability with respect to site use water sources; for area subsidence resulting from groundwater withdrawal or other geologic hazards.

2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924 • Telephone (480) 921-8100 • Facsimile (480) 921-4081
www.rammeng.com

If you have any questions, please do not hesitate to call.

Respectfully submitted,

RICKER • ATKINSON • MCBEE • MORMAN & ASSOCIATES, INC.



Expires: 3/31/2013

By: Kenneth L. Ricker, P.E.

Expires: 9/30/2012

Reviewed by: Kip E. Reese, P.E.

/dh
Copies to: Addressee (5)

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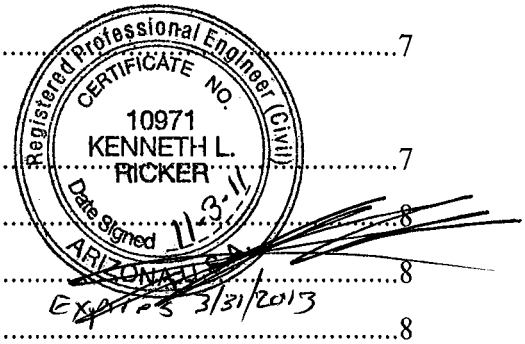
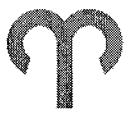


APPENDIX A - FIELD EXPLORATION

APPENDIX B - LABORATORY ANALYSIS

REPORT



R·A·M·M

INTRODUCTION

This report presents the results of our geotechnical engineering services for the Arts Academy of Estrella Mountain located in Phoenix, Arizona. The scope of our services included performing a field exploration program, laboratory analysis and geotechnical engineering evaluation, analysis and recommendations. The geotechnical recommendations presented herein consist of foundation design, site development, pavement design, material suitability and requirements, and site preparation and grading procedures. We would be pleased to discuss with you any additional recommendations you may require. In addition, we are available to review project specifications and plans for conformance with our recommendations at no charge to you.

This firm should be notified for additional evaluation and recommendations should the building design parameters (location, type, size, structural loads), site use or conditions encountered during construction differ from those presented herein.

PROPOSED CONSTRUCTION

The proposed Arts Academy of Estrella Mountain will include a two-story building with a 19,231 square-foot footprint, retention basins and adjacent paved parking and drive areas. It is anticipated that maximum structural loads for the building will be on the order of 2 to 7 kips per linear foot for bearing walls and 20 to 80 kips for columns. The concrete slab-on-grade floor will probably be founded at or slightly above existing site grade.

SITE CONDITIONS

The proposed Arts Academy at Estrella Mountain will be located at 2504 S. 91st Avenue east of the existing school and west of 91st Avenue in Phoenix, Arizona. The site consisted of vacant relatively level land except for a driveway between 91st Avenue and the existing school. The site contained a sparse growth of weeds and the surface had been disturbed by past weed control efforts.

FIELD EXPLORATIONS

Subsurface conditions at the site were explored by drilling three test borings to a depth of 15 feet in the proposed building area, two test borings to a depth of 5 feet in proposed site pavement areas, and one 15-inch diameter test boring/percolation test to a depth of 3 feet in the proposed retention area, as shown on the Site Plan in Appendix A. The test borings were drilled with a

CME 55 drill rig using 7-inch diameter, hollow-stem augers. The drilling equipment and crew were provided by D&S Drilling, Inc. The test boring locations were determined in the field by a field technician from our firm who also directed the drill crew. During the field explorations, representative disturbed and undisturbed samples were obtained, the test borings logged and soils field classified by our field technician. The relatively undisturbed samples were obtained by driving a 3-inch diameter, ring-lined, open-end sampler into the soil with a 140-pound hammer dropping 30 inches. In addition to drilling and sampling, continuous penetration tests using a 2-inch diameter rod and the 140-pound hammer dropping 30 inches were performed and extended to a depth of 7 feet adjacent to the three test boring locations in the building area. The results of the field explorations are presented on the Test Boring Logs in Appendix A.

The test boring/percolation test hole was drilled with the CME-55 drill rig, using a 15-inch diameter solid stem auger. The percolation test hole was presoaked and the percolation test was conducted the next day in accordance with the City of Phoenix Policy on Percolation Rates and Dry-up Calculations.

After presoaking, the following stabilized percolation rate was measured and is presented on the Test Boring Log in Appendix A:

Test Boring	Stabilized Percolation Rate (min/in)
6	34

The stabilized percolation rate measured at the time of our field exploration/percolation testing is based on undisturbed soils at the depth and location indicated. The percolation rate of retention basins after construction may vary significantly from measured rate due to such factors as location and depth relative to the percolation test conducted at the time of our field exploration, type of cover in retention basin bottom (grass, rock, etc.), degree of compaction of the retention basin bottom, placement of fill in the retention basin and the amount and type of sediment load deposited in the basin during storm events.

LABORATORY ANALYSIS

Representative samples obtained during the field exploration were subjected to the following laboratory tests.

Type of Test	Type of Sample	Number of Samples Tested
Compression	Undisturbed	2
Swell	Remolded	2
Percent Passing No. 200 Sieve and Atterberg Limits	Representative	2
Moisture Content/Dry Density *	Undisturbed	6
Soluble Sulfate & Chloride **	Representative	2

* Reported in the Test Boring Logs
** Test preformed by Motzz Laboratory, Inc

The results of the laboratory tests are presented in Appendix B.

SUBSURFACE CONDITIONS

The subsurface conditions encountered at the test boring locations were relatively uniform. The results of the test boringS are presented in Appendix A in the Test Boring Logs. In general, the near surface soils encountered in the test borings in the building area, and extending to the full depth of exploration (15 feet), consisted of sandy clay with a trace of gravel. The deposit was firm to very stiff, had medium plasticity, and had intermittent light cementation below 5 to 8 feet. Soil moisture contents were described as slightly damp to damp. No groundwater was observed in any of the test borings during the drilling operations.

DISCUSSIONS OF TEST RESULTS

Remolded samples of the surface soils from the site exhibited moderate swell potentials following wetting when tested in the laboratory. Undisturbed samples from anticipated foundation grades were found to undergo slight compression during loading to approximate foundation loads. Upon wetting at approximate foundation loads the soils underwent some additional compression.

FOUNDATION DESIGN RECOMMENDATIONS

Spread Footings:

The proposed Arts Academy building can be supported on shallow spread footings founded on undisturbed site soils and/or compacted fill. The excavation below footings must extend through any existing fill. Footings thus founded may be designed using an allowable bearing pressure of 1500 psf, provided the bottom of the footings are at least 1.33 feet below finished grade. Finished

grade is defined as the lowest adjacent finished grade within 5 feet of the perimeter of the building. Structural loads should not exceed 7 kips per linear foot for walls and 80 kips for columns.

The allowable bearing capacity should be applied to maximum, design dead plus live loads and may be increased by one-third when considering temporary loads such as transient wind or seismic loads. A one-third increase may also be used for toe pressures due to eccentric or lateral loadings, assuming the entire footing bearing surface remains in compression. The weight of the footing concrete below grade may be neglected in dead load computations. The recommended minimum footing widths are 2.0 and 1.33 feet for isolated columns and continuous wall footings, respectively. A Site Class designation of C should be used for the site per the 2006 International Building Code (IBC).

The estimated total and differential footing settlements for the loading conditions described above are less than 1/2 inch if soils below footing level remain at or below the construction moisture content. Additional post-construction, differential settlement of equal magnitude could occur if bearing soils become wet after construction. Therefore, continuous footings and stem walls should be reinforced and masonry walls constructed with properly designed reinforcement and with frequent expansion/contraction joints. Positive drainage away from the perimeter of the building is essential to minimize the potential for moisture infiltration into bearing soils.

Lateral Earth Pressures:

The following tabulation presents the recommended lateral earth pressures and base friction values which should be used in the lateral design of footings and retaining walls. The lateral pressures are equivalent fluid pressures for average anticipated conditions.

Backfill Pressures:
- Unrestrained walls ---------- 40 psf/ft
- Restrained walls ---------- 60 psf/ft

Passive Pressures:
- Continuous ---------- 250 psf/ft
- Isolated column footings ---------- 350 psf/ft

Coefficient of Base Friction:
- Concrete to soil ---------- 0.40
- Plastic membrane to soil ---------- 0.25

The above equivalent fluid pressures are for vertical walls with horizontal backfills and do not include temporary loads imposed by compaction equipment or permanent loads resulting from backfill swell pressures, hydrostatic pressures or surcharge loads. All retaining walls should contain weep holes to reduce the potential for the buildup of hydrostatic pressures.

SITE DEVELOPMENT RECOMMENDATIONS

Concrete Slab-On-Grade Support:

The near surface soils have medium plasticity and exhibit moderate swell potentials when compacted and wetted. These soils, when recompacted or used as fill, will provide adequate support for concrete slabs-on-grade. Fill required to raise the building and exterior slab areas may be site soils provided these soils are placed and compacted at moisture contents at to 3 percent above optimum in building and exterior slab areas. Interior slabs should be founded on a minimum 4-inch thickness of base material. Exterior slabs should be founded on a prepared subgrade. All unreinforced slabs-on-grade should be jointed in accordance with ACI (American Concrete Institute) guidelines.

Vapor retarders/barriers such as plastic membranes may be required in vapor-sensitive floor covering areas or in humidity controlled areas. Should plastic vapor retarders/barriers be used, the membrane should be at least 15 mil in thickness, have all seams and penetrations sealed per manufacturer's recommendations and should be placed in accordance with ACI 302.2R.

Concrete Durability:

As part of this investigation, Soluble Sulfates and Chlorides testing of site soils was conducted. The results of the laboratory testing are included in Appendix B. Based on our laboratory test results and 2006 IBC Concrete Durability Requirements, Section 1904, there appears to be a low potential for deterioration to concrete in contact with site soils. This potential is a function of soil type and moisture content, material type and/or composition, water chemistry and other factors. Accordingly, the results of the laboratory testing should be made available to material suppliers and corrosion experts for review.

Surface Drainage:

Most soils will undergo some degree of volume change as the result of wetting. The degree of volume change will depend on the type of soil, swell potential, natural soils structure or degree of

compaction (if a fill). These volume changes could result in movements in overlying building and non-structure elements including sidewalks, planters, retaining walls, floor slabs, etc. Therefore, good site and surface drainage away from these elements is required. In addition, water should not be allowed to pond within 10 feet of the building or other elements which are sensitive to movements. The exterior footing excavation backfill must be well compacted to minimize the possibility of moisture infiltration through this zone. All joints in the concrete floor slabs and at walls of the building must be sealed with flexible waterproof joint sealer.

Excavatability:

The excavatability of site materials is difficult to evaluate based only on the exploration equipment used during this design report. Therefore, we recommend that the contractor evaluate the excavatability of site materials by performing test excavations with the size and type of equipment the contractor plans on using at the site. For design purposes the following paragraph presents our best analysis as to the excavatability of site soils.

The near surface and underlying soils to a depth of at least 15 feet can probably be removed with conventional excavating equipment. OSHA requires all excavations over five feet in depth, in which personnel are to enter, be either braced or sloped in accordance with OSHA regulations.

Workability:

Wetting site soils such that moisture contents are at or above optimum could result in some soil pumping under dynamic loadings such as heavy construction equipment driving over the area. In building areas, some pumping is not detrimental to foundation or floor slabs provided the specified percent compaction is achieved. However, in flexible pavement areas where pumping has occurred, and in building areas where severe pumping has damaged subgrade conditions, the area should be allowed to dry until soils are workable without pumping or the wetted areas removed and replaced with drier site soils.

PAVEMENT DESIGN RECOMMENDATIONS

Asphalt Concrete Pavements:

The following asphalt concrete pavement sections are based on anticipated traffic types and frequencies, site soil conditions and a 20-year design life. Any material imported to the site and

placed in pavement areas should have support characteristics the same as or better than the site soils.

	Pavement Section	
Area of Use	Asphalt Concrete	Base Material
Auto Parking & Drive	2.0 inches	6.0 inches
Bus Areas and Fire Lanes	3.0 inches	6.0 inches

These sections are minimal and will require periodic maintenance (seal coats, overlays or patching) where proper drainage is provided and maintained. Should moisture penetrate to the subgrade soils or ponding occur on or adjacent to the pavement section, a significant reduction in pavement life could occur along with increased maintenance. Therefore, good surface drainage on and adjacent to the pavement is essential to achieving the desired pavement life.

Portland Cement Concrete:

The following Portland cement concrete pavement (PCCP) sections are based on anticipated traffic types and frequencies and site soil conditions. Any material imported to the site and placed in pavement areas should have support characteristics the same as or better than the site soils.

Area of Use	PCCP Section
Auto Drives	5.0 inches
Bus Areas and Fire Lanes	6.0 inches

Base material is not required below the PCCP sections; however, if construction occurs during the summer months the base material would help reduce the potential for slab curling and shrinkage cracking. A maximum joint spacing of 12 to 15 feet should not be exceeded in either direction and all joints should be designed to provide load transfer. Joint detail, joint layout and concrete batching, placing, curing and observation procedures should be in accordance with the recommendations developed by the Portland Cement Association.

MATERIALS SUITABILITY AND REQUIREMENTS

Site Soils:

The near surface soils exhibit medium plasticity and moderate swell potentials when compacted and wetted. The site soils may be used as fill in all areas provided these soils are placed and

compacted at moisture contents in the range of optimum to optimum plus 3 percent in building and exterior slab areas. All materials should be free of organics, debris and rubble.

Imported Soils:

Fill required beyond that available from site sources and used to raise the building and exterior slab areas, or for use as retaining wall backfills, should be imported soils meeting the following requirements:

Maximum Particle Size ----------6 inches
Maximum Swell Potential---------- 1.5% *

* Based on a sample which is remolded to 95% of the ASTM D698 maximum dry density at a moisture content of 2 percent below optimum, placed under a surcharge load of 100 psf and wetted.

Base Material:

Base material used below concrete slabs and pavements should conform to the requirements of Maricopa Association of Governments (MAG) Specifications for Aggregate Base (Section 702).

Asphalt Concrete Pavement:

Asphalt concrete pavement materials should conform to the requirement of MAG Specifications for Asphalt Concrete.

Portland Cement Concrete Pavement:

The PCCP should have a minimum compressive strength of 4000 psi at 28 days and a maximum slump of 4 inches at the time of placement. The PCCP should conform to the requirements of MAG Specifications for Portland Cement Concrete (Section 725, Class AA).

SITE PREPARATION AND GRADING PROCEDURES

Building and Pavement Areas:

Recommendations presented in the previous sections of this report are based upon the following site preparation and grading procedures. Therefore, all earthwork should be accomplished with observation and testing by a qualified technician under the direction of a registered geotechnical/materials engineer. The following apply to the areas within and extending 5 feet beyond the footprint of the building, exterior slabs and pavements.

1. Clear and grub the site by removing and disposing of all vegetation, debris, rubble and remnants of former developments.

2. Strip the site of any existing fill, backfill zones and unstable soils. During stripping observe the surface for evidence of buried debris, vegetation or disturbed materials which will require additional removal. If encountered, these materials should be removed. Areas steeper than 5H to 1V should be benched and any depressions widened to accommodate compaction equipment.

3. Prepare the ground surface in fill areas and in areas cut to grade by scarifying, moisture conditioning and compacting the exposed surface soils to a depth of 10 inches.

4. Moisture condition and place all fill and backfill materials required to achieve specified grades. Fill materials should be moisture conditioned, placed and compacted in horizontal lifts of thickness compatible with the compaction equipment being used.

5. Compact subgrade, fill, backfill, subbase fill or base material to the following minimum percent compaction of the ASTM D698 maximum dry density for each lift.

Material	Minimum Percent Compaction
Soil:	
Below foundation level and pavement sections	95
Below concrete floor slabs (above footing level)	90
Base Material:	
Below concrete floor slabs	95
Below pavement sections	100
Backfill:*	90

* Outside of building, exterior slab and pavement areas.

6. The moisture content of soil and base materials at the time of compaction should be:

Type	Area of Use	Moisture Content
On-site	Building, Exterior Slabs	Optimum to optimum plus 3%
On-site	Pavements	2% below optimum or lower
Imported	Building, Exterior Slabs	Optimum plus or minus 3%
Imported	Pavements	2% below optimum or lower
Base Material	Building and Pavements	Optimum plus or minus 3%

7. Any soils which are disturbed or overexcavated by the contractor outside the limits of the plans or specifications should be replaced with materials compacted as specified above.

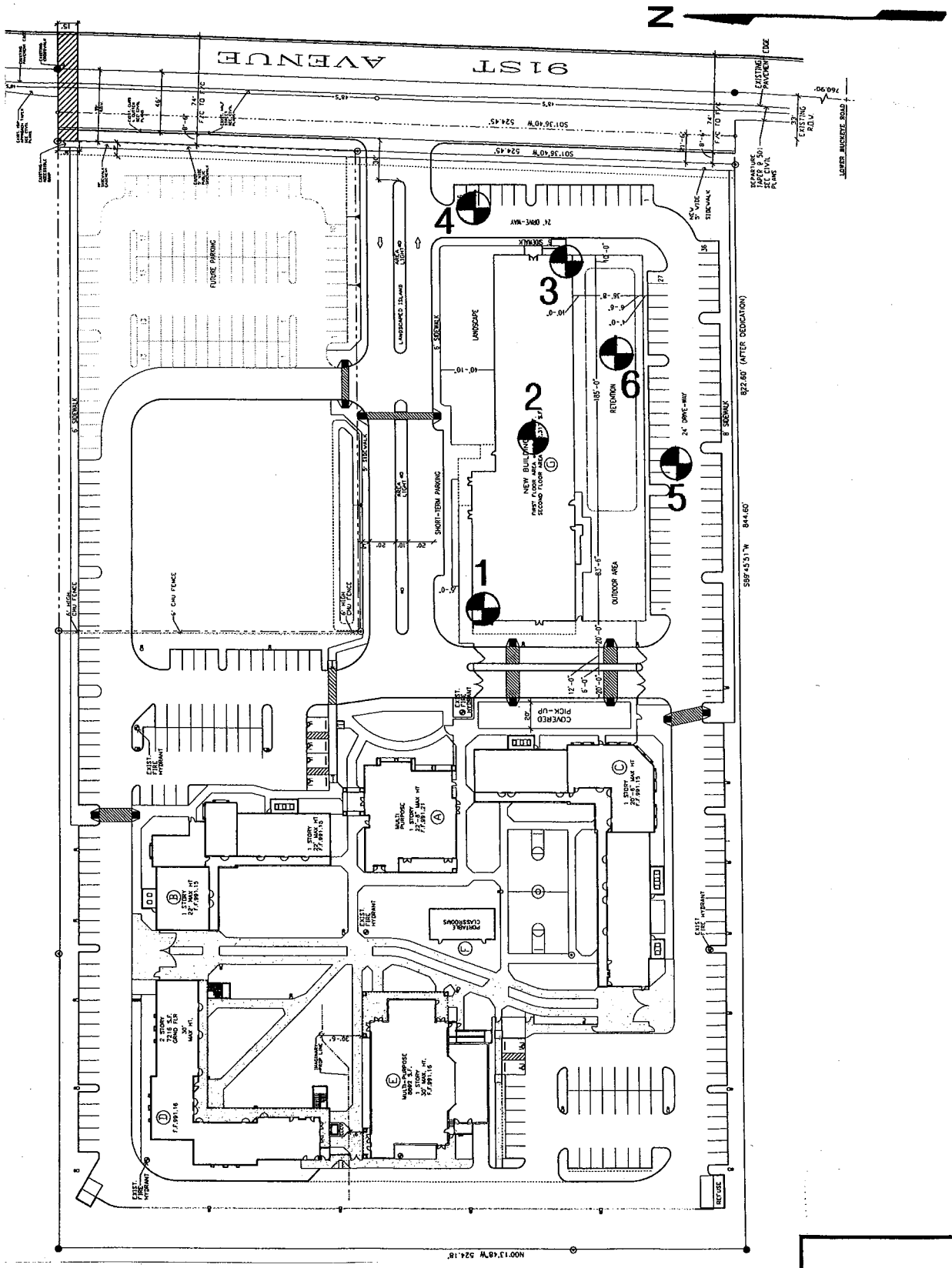
City of Phoenix Special Inspections:

The City of Phoenix Building Safety Division has developed a Special Inspection and Observation Manual for use with the 2006 International Building Code (IBC) and the City of Phoenix Construction Code Supplements to the IBC. In accordance with the manual special inspection may be required for various activities related to foundation support. The foundation designer and City plan checker should be consulted to determine if these provisions apply to this project.

If special inspection is required, then the owner/legal agent must retain the engineer of record to be responsible for the special inspection. Both must execute a certificate of special inspection prior to, and following this phase of the work.

APPENDIX A
FIELD EXPLORATIONS

R·A·M·M



Test Boring Location

Not To Scale

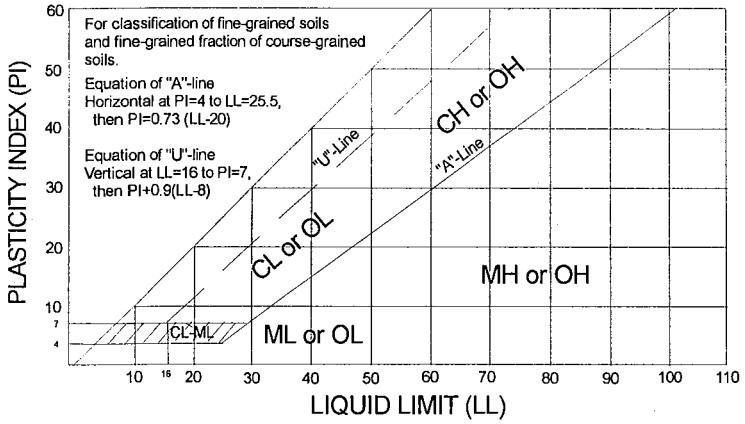
SITE PLAN

LEGEND

CLASSIFICATION OF SOILS

ASTM Designation: D2487-10
(Based on Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests					Soil Classification: Group Symbol	Soil Classification: Name
COARSE-GRAINED SOILS More than 50% retained on No. 200 Sieve	Gravels More than 50% coarse fraction retained on No. 4 Sieve	Clean Gravels Less than 5% fines	Cu > 4 and 1 < Cc < 3		GW	Well graded gravel
			Cu<4 and/or 1>Cc>3		GP	Poorly graded gravel
		Gravels with Fines More than 12% fines	Fines classify as ML or MH		GM	Silty gravel
			Fines classify as CL or CH		GC	Clayey gravel
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines	Cu > 6 and 1 < Cc < 3		SW	Well-graded sand
			Cu<6 and/or 1>Cc>3		SP	Poorly graded sand
		Sands with Fines More than 12% fines	Fines classify as ML or MH		SM	Silty sand
			Fines classify as CL or CH		SC	Clayey sand
FINE-GRAINED SOILS 50% or more passes the No. 200 Sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI>7 and plots on or above "A" line		CL	Lean clay
			PI<4 or plots below "A" line		ML	Silt
		Organic	Liquid Limit - oven dried / Liquid limit - not dried	<0.75	OL	Organic clay / Organic silt
	Silts and Clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line		CH	Fat clay
			PI plots below "A" line		MH	Elastic silt
		Organic	Liquid limit - oven dried / Liquid limit - not dried	<0.75	OH	Organic clay / Organic silt
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor				PT	Peat



TEST BORING LOG DEFINITIONS

Blows per foot using 140 pound hammer with 30 inch free-fall.

Depth, feet	Blows/Foot: C	Blows/Foot: N/R	Sample Type	Dry Density pcf	Water Content, %	Unified Classification	Description

C = Continuous Penetration Resistance (2 inch diameter rod)
N = Standard Penetration Resistance (ASTM D1586)
R = Penetration Resistance (3 inch diameter ring line sampler)

GRAIN SIZES

U.S. STANDARD SERIES SIEVE: 200 | 40 | 10 | 4
CLEAR SQUARE SIEVE OPENINGS: 3/4" | 3" | 12"

SILTS & CLAYS DISTINGUISHED ON BASIS OF PLASTICITY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

MOISTURE CONDITION (INCREASING MOISTURE ⟶)

DRY | SLIGHTLY DAMP | DAMP | MOIST (Plastic Limit) | VERY MOIST | WET (SATURATED) (Liquid Limit)

CONSISTENCY CORRELATION	
CLAYS & SILTS	BLOWS/FOOT*
VERY SOFT	0-2
SOFT	2-4
FIRM	4-8
STIFF	8-16
VERY STIFF	16-32
HARD	OVER 32

RELATIVE DENSITY CORRELATION	
SANDS & GRAVELS	BLOWS/FOOT*
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

*Number of blows of 140 lb hammer falling 30" to drive a 2" O.D. (1-3/8" I.D.) split-spoon sampler (ASTM D1586).

TEST BORING LOG

Project: Arts Academy at Estrella Mountain - Phoenix, Arizona TEST BORING: 1

Elevation: Not Determined Datum: --- Date: 10-24-11

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
	10					CL	Sandy Clay, Trace Gravel; brown, slightly damp to damp, firm to very stiff, medium plasticity, intermittent light cementation below 5 to 8 feet.
	10	16	R	92	14		
	12						
	19						
5	20						
	25	34	R	99	16		
	29						
10		16	R	100	3		
15							Stopped drilling at 15 feet. No groundwater observed.
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Arts Academy at Estrella Mountain – Phoenix, Arizona TEST BORING: 2

Elevation: Not Determined Datum: --- Date: 10-24-11

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
	11					CL	Sandy Clay, Trace Gravel; brown, slightly damp to damp, firm to very stiff, medium plasticity, intermittent light cementation below 5 to 8 feet.
	12						
	15						
	15						
5	16						
	19						
	23						
10							
15							
							Stopped drilling at 15 feet. No groundwater observed.
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Arts Academy at Estrella Mountain – Phoenix, Arizona TEST BORING: 3

Elevation: Not Determined Datum: --- Date: 10-24-11

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
	19					CL	Sandy Clay, Trace Gravel; brown, slightly damp to damp, firm to very stiff, medium plasticity, intermittent light cementation below 5 to 8 feet.
	19	28	R	89	9		
	17						
	25						
5	28						
	31	36	R	94	12		
	37						
10		25	R	101	9		
15							Stopped drilling at 15 feet. No groundwater observed.
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Arts Academy at Estrella Mountain - Phoenix, Arizona TEST BORING: 4

Elevation: Not Determined Datum: --- Date: 10-24-11

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
						CL	Sandy Clay, Trace Gravel; brown, slightly damp to damp, firm to very stiff, medium plasticity.
5							Stopped drilling at 5 feet. No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Arts Academy at Estrella Mountain - Phoenix, Arizona TEST BORING: 5

Elevation: Not Determined Datum: --- Date: 10-24-11

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
						CL	Sandy Clay, Trace Gravel; brown, slightly damp to damp, firm to very stiff, medium plasticity.
5							
							Stopped drilling at 5 feet. No groundwater observed.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Arts Academy at Estrella Mountain - Phoenix, Arizona TEST BORING: 6

Elevation: Not Determined Datum: --- Date: 10-24-11

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
						CL	Sandy Clay, Trace Gravel; brown, slightly damp to damp, firm to very stiff, medium plasticity.
5							Stopped drilling at 3 feet. No groundwater observed.
							NOTE: Percolation test performed in a 15" diameter uncased hole. A stabilized percolation rate of 34 minutes per inch was measured.
10							
15							
20							
25							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

APPENDIX B
LABORATORY ANALYSIS

R·A·M·M

LABORATORY TEST RESULTS

Date: 27-Oct-11

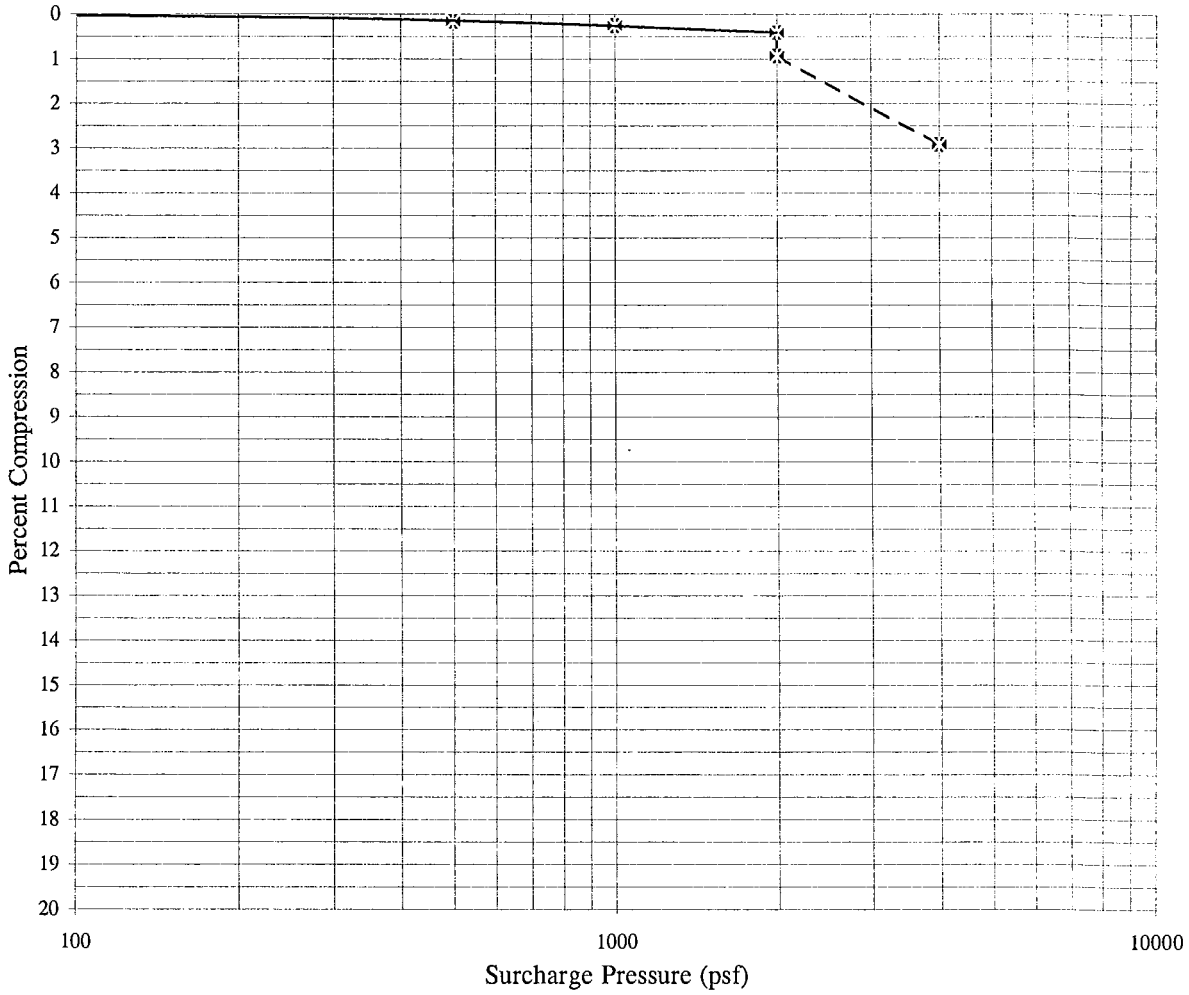
SAMPLE SOURCE: 1 @ 1.5'-2.5'

TESTING PERFORMED: Compression (ASTM D2435) - Driven Ring Sample

SAMPLED BY: RAMM/Miller

RESULTS:

Dry Density (pcf): 92 Moisture Content (%): 14



REMARKS: Sample submerged at 2000 psf.

LABORATORY TEST RESULTS

Date: 27-Oct-11

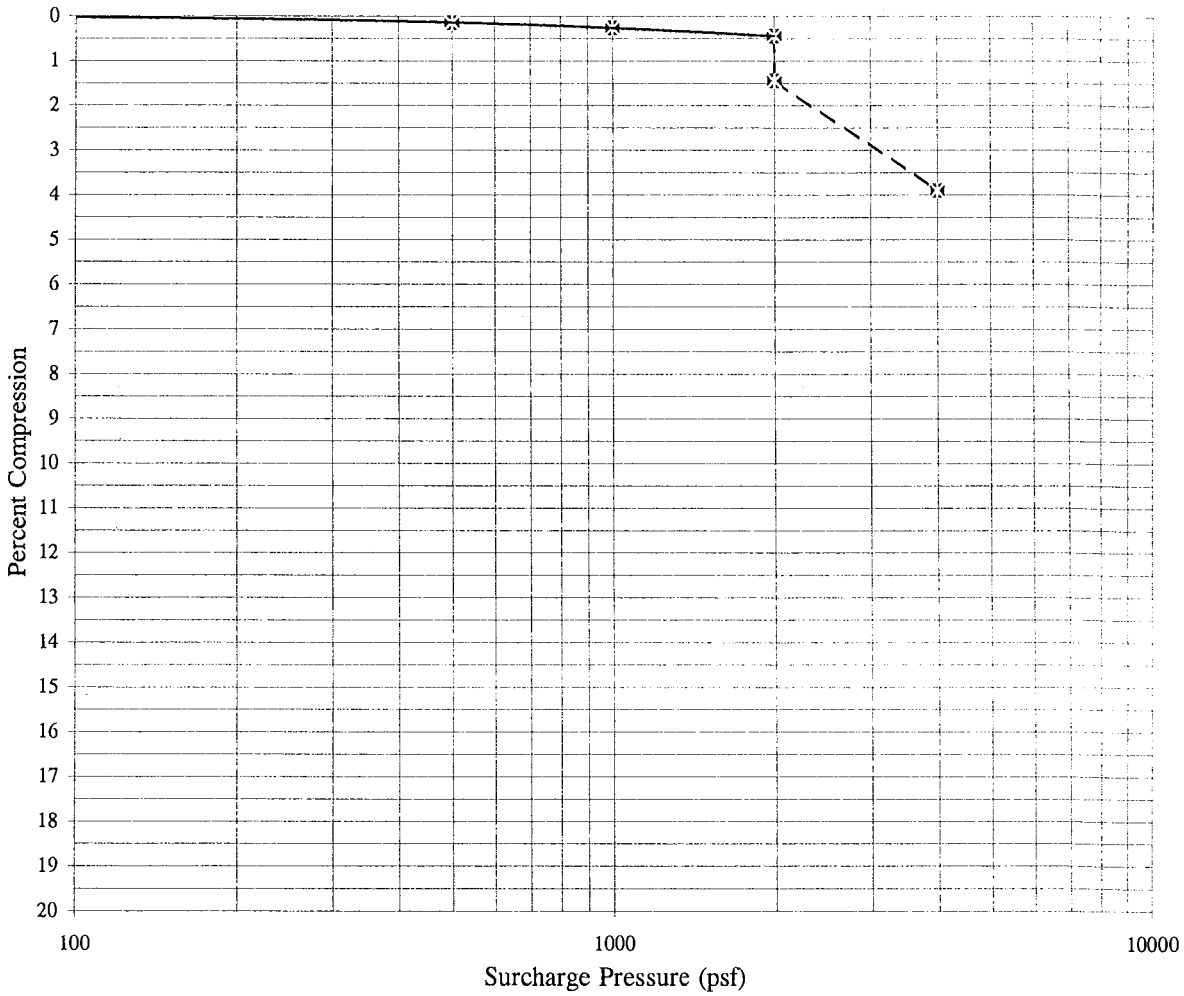
SAMPLE SOURCE: 3 @ 1.5'-2.5'

TESTING PERFORMED: Compression (ASTM D2435) - Driven Ring Sample

SAMPLED BY: RAMM/Miller

RESULTS:

Dry Density (pcf): 89 Moisture Content (%): 9



REMARKS: Sample submerged at 2000 psf.

LABORATORY TEST RESULTS

Date: 27-Oct-11

SAMPLE SOURCE: As noted below

TESTING PERFORMED: Percent Passing No. 200 Sieve, Atterberg Limits, Percent Expansion (ASTM D1140, D4318, D4546)

SAMPLED BY: RAMM/Miller

RESULTS:

Sample Source	Percent Retained No. 4 Sieve	Percent Passing No. 200 Sieve	Liquid Limit	Plasticity Index	Percent Expansion*	Remolded Dry Density (pcf)	Remolded Moisture Content (%)
4 @ 0'-5'	2	74	37	19	2.3	102	16
5 @ 0'-5'	2	70	32	16	1.6	105	14

* Based upon sample remolded to 95% of the estimated maximum dry density at 2% below the estimated optimum moisture content, with a surcharge pressure of 100 psf.

MOTZZ LABORATORY, INC.
2113 S 48th St Suite 109
Tempe, AZ 85282

Soil Analysis Report

Ricker-Atkinson-McBee-Morman
Ken Ricker
2105 South Hardy Dr.#13
Tempe , AZ 85282-1921

Project: G19099
Sampler:
Date Received: 10/25/2011
Date Reported: 10/27/2011

PO Number: G19099

Lab Number: 904329-01 **4 0-5**

Sulfate & Chloride	Method	Result	Units	Levels
Sulfate, SO4	ARIZ 733	180	ppm	
Chloride, Cl	ARIZ 736	170	ppm	

Sulfate 0.018% ; Chloride 0.017%

602-454-2376 (Phone) 602-454-9243 (Fax)

SECTION 00 43 25
SUBSTITUTION REQUEST
(DURING THE BIDDING PHASE)

Project: _____ **Substitution Request Number:** _____
_____ **From:** _____
To: _____ **Date:** _____
_____ **A/E Project Number:** _____

Specification Title: _____ **Description:** _____
Section: _____ **Page:** _____ **Article/Paragraph:** _____

Proposed Substition: _____
Manufacturer: _____ **Address:** _____ **Phone:** _____
Trade Name: _____ **Model No.:** _____

Attached data includes sufficient information, descriptive brochures, drawings, performance and test data, samples or other data as is necessary for complete evaluation and indicates by direct comparison how the proposed substitution differs from that specified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation. The Contractor shall provide for redesign necessitated by the substitution.

The Undersigned certifies:

* Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
* Same warranty will be furnished for proposed substitution as for specified product.
* Same maintenance service and source of replacement parts, as applicable, is available.
* Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
* Proposed substitution does not affect dimensions and functional clearances.
* Payment will be made for changes to building design, including A/E design, detailing, and construction costs by the substitution.

Submitted By:
_____
Signed By:
_____
Firm:_____
_
Address: _____
_____
Telephone: _____
_____

Supporting Data Attached: _ Drawings _ Product Data _ Samples _ Tests _ Reports _

A/E's REVIEW AND ACTION

Substitution approved (Include in Addendum).
Substitution approved as noted (Include in Addendum with notation).
Substitution rejected due to lack of information.
Substitution rejected due to evaluation that it is not equivalent to specified product.
Substitution Request received too late.
Signed by: Date:

SECTION 00 45 19
NON-COLLUSION AFFIDAVIT FORM

STATE OF ARIZONA)

) SS.

COUNTY OF MARICOPA)

_____, AFFIANT,

THE _____

(Title)

_____

(Contractor)

The persons, corporation, or company who makes the accompanying proposal, having first been duly sworn, deposes and says:

That such proposal is genuine and not sham or collusive, nor made in the interest or behalf of any person not herein named, and that Bidder has not directly or indirectly induced or solicited any other bidder to put in a sham bid, or any other person, firm, or corporation to refrain from bidding, and that the bidder has not in any manner sought by collusion to secure for itself an advantage over any other bidder.

_____

_____

(Title)

Subscribed and sworn to before me

this _____ day of _____, 20 _____.

_____

Notary Public

County of _____

State of _____

(SEAL)

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SECTION 00 63 25
SUBSTITUTION REQUEST
(AFTER THE BIDDING PHASE)

Project: _____ Substitution Request Number: _____
_____ From: _____
To: _____ Date: _____
_____ A/E Project Number: _____
_____ Contract For: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No: _____
Installer: _____ Address: _____ Phone: _____
History: _ New product _ 2-5 years old _ 5-10 years old _ More than 10 years old
Differences between proposed substitution and specified product: _____
_____
_____
_ Point-by point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: _____
_____
Similar Installation:
Project: _____ Architect: _____
Address: _____ Owner: _____
_____ Date Installed: _____
Proposed substitution affects other parts of Work: _ No _ Yes; explain _____
_____

Savings to Owner for accepting substitution: _____ ($_____).
Proposed substitution changes Contract Time: _ No _ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: _ Drawings _ Product Data _ Samples _ Tests _ Reports

THE UNDERSIGNED CERTIFIES:

Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.

Same warranty will be furnished for proposed substitution as for specified product.

Same maintenance service and source of replacement parts, as applicable, is available.

Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.

Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.

Proposed substitution does not affect dimensions and functional clearances.

Payment will be made for changes to building design, including A/E design, detailing, and construction costs by the substitution.

Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

_____

_

Address:

_____

_

_____

Telephone: _____

Attachments: _____

_____

_____

_____

A/E'S REVIEW AND ACTION

_ Substition approved - Make submittals in accordance with Specifications.

_ Substitution approved as noted – Make submittals in accordance with Specification

_ Substitution rejected - Use specified materials.

_ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

_____

Additional Comments: _ Contractor _ Subcontractor _ Supplier _ Manufacturer A/E ____

_____

_____

_____

END OF SECTION

SECTION 00 72 00
GENERAL CONDITIONS

FORM OF GENERAL CONDITIONS

1.01 THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AIA DOCUMENT A201-2017, PAGES 1-38 (PAGE COUNT MAY VARY WITH ELECTRONIC EDITIONS), HEREAFTER REFERRED TO AS GENERAL CONDITIONS, ARE HEREBY INCORPORATED INTO AND MADE PART OF THESE CONTRACT DOCUMENTS THE SAME AS IF BOUND HEREIN IN FULL.

RELATED REQUIREMENTS

2.01 SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS.

SUPPLEMENTARY CONDITIONS

3.01 REFER TO DOCUMENT 00 73 00 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.

END OF SECTION

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SECTION 00 73 00
SUPPLEMENTARY CONDITIONS

GENERAL SUPPLEMENTS TO GENERAL CONDITIONS - 2017 EDITION

1.01 GENERAL SUPPLEMENTS TO GENERAL CONDITIONS - 2017 EDITION

A. THE FOLLOWING SUPPLEMENTS AIA DOCUMENT A201-2017, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION. WHERE A PORTION OF THE GENERAL CONDITIONS IS MODIFIED OR DELETED BY THESE SUPPLEMENTARY CONDITIONS, THE UNALTERED PORTIONS OF THE GENERAL CONDITIONS SHALL REMAIN IN EFFECT.

1.02 ARTICLE 1 - GENERAL PROVISIONS

A. Paragraph 1.1.3 - Delete in its entirety and substitute the following:

1.1.3 THE WORK

The term 'Work' means the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and materials and equipment incorporated or to be incorporated in such construction.

B. Paragraph 1.1 - Add the following subparagraph:

1.1.9 MISCELLANEOUS DEFINITIONS

1. The term 'Product' as used herein includes materials, systems and equipment."

C. Paragraph 1.2 - Add the following subparagraph:

1.2.4 Make no changes from the Contract Documents without having first received permission from the Architect. Where detailed information is lacking, if Work is required in a manner that makes it impossible to produce satisfactory Work, or should discrepancies appear among Contract Documents, request interpretation from the Architect before proceeding with Work."

D. Paragraph 1.2.1 – Add the following subsubparagraph:

1.2.1.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. Modifications
2. The Agreement
3. Addenda with those of later date having precedence over those of earlier date
4. The Supplementary Conditions
5. The General Conditions of the Contract for Construction
6. Division 1 of the Specifications
7. Drawings and Divisions 2 – 49 of the Specifications
8. Other documents specifically enumerated in the Agreement as part of the Contract Documents.

In the case of conflicts or discrepancies between Drawings and Division 2 – 49 of the Specifications, or within or among the Contract Documents and not clarified by Addendum, the Architect will determine which takes precedence in accordance with paragraphs 4.2.11, 4.2.12 and 4.2.13."

E. Paragraph 1.4 - Add the following subparagraphs:

1.4.1 The misplacement, addition or omission of any letter, word or punctuation mark shall in no way damage the true spirit, intent, or meaning of the Contract Documents.

1.4.2 The words 'shown,' 'indicated,' 'noted,' 'scheduled,' or words of like effect shall be understood to mean that reference is made to the Drawings accompanying this Project Manual.

1.4.3 Where reference herein is made to products 'as approved' or 'as selected,' selection or approval shall be by the Architect."

F. Paragraph 1.5.1 - Add the following after the words "Drawings and Specifications" in the first sentence:

(as enumerated on Drawing Title Sheet and Project Manual Table of Contents)".

1.03 ARTICLE 2 - OWNER

A. Subparagraph 2.3.6 - Add the following:

2.2.5 Contract Documents furnished to Contractor for use during construction:

1. Owner will provide at no charge to Contractor the Owner's extra copies of the Drawings and Project Manual which are returned by Bidders.
2. Contractor shall obtain from the Architect, with no charge to the Owner, such additional copies of the Drawings and Project Manual as are reasonably necessary for the execution of the Work. Contractor shall pay to Architect the cost of reproducing such Drawings and Project Manual."

1.04 ARTICLE 3 - CONTRACTOR

A. Paragraph 3.2.2 - Add the following subparagraphs:

1. In addition to study and comparison of the various Drawings and other Contract Documents prior to starting each portion of the work, the Contractor shall, prior to starting the entire Work, review the various Drawings and other Contract Documents in general for planning purposes and to generally familiarize the Contractor to the overall project requirements.
2. A properly prepared request for information shall include a detailed written statement that indicates the specific Drawings or Specification in need of clarification and the nature of the clarification requested. See also Section 01 26 13 - Contractor's Requests for Information."

B. Paragraph 3.2.4 - Delete the words "for differences between field measurements or conditions and the Contract Documents" in the 3rd sentence.

C. Paragraph 3.2 - Add the following subparagraphs:

3.2.5 Neither the Owner nor the Architect assumes any responsibility for an understanding or representation made by any of their agents or representatives prior to the execution of the Agreement unless (1) such understandings or representations are expressly stated in the Agreement, and (2) the Agreement expressly provides that responsibility therefore is assumed by the Owner."

3.2.6 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor’s requests for information that are not prepared in accordance with the Contract Documents or where the requested information is available to the contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor prepared coordination drawings, or prior Project correspondence or documentation.

D. Paragraph 3.3.1 - Change the word "concerning" to the words "which may affect" in the third sentence.

E. Paragraph 3.4.2 - Add the following subparagraph:

1. Substitutions shall be submitted in accordance with the requirements of Section 01 30 00 - Administrative Requirements.

F. Paragraph 3.12.10.1 - Change the word "all" to "applicable" prior to the words "performance and design criteria" in the third and sixth sentences. Delete the words "approve or take other appropriate action" in the seventh sentence. Add the following to the last sentence:

"however, the Contractor shall notify the Architect if additional performance or design criteria is required in accordance with paragraph 3.2 of the General Conditions."

G. Paragraph 3.12.11 – Add the following subparagraph:

3.12.11 The Architect’s review of Contractor’s submittals will be limited to examination of an initial submittal and two (2) resubmittals. The Owner is entitled to obtain reimbursement from the Contractor for amounts paid to the Architect for evaluation of additional resubmittals.

1.05 ARTICLE 4 - ARCHITECT

A. Subparagraph 4.1.1 - Delete in its entirety and substitute the following:

4.1.1 The Architect is the firm of Architectural Resource Team, Inc., referred throughout the Contract Documents as if singular in number. The term 'Architect' means the Architect or the Architect's authorized representative."

B. Paragraph 4.2 - Add the following subparagraph:

4.2.15 Architectural and Engineering Services. It is understood that normal Architectural and Engineering liaison for the purpose of interpretation of the Drawings and Specifications is provided for by the Owner. Should the services of the Architect be required to assist in the corrections of errors or omissions in construction by the Contractor, or services of the Architect be required because of changes in structure or equipment where the Contractor has requested approval of substitute products, these services will be provided by the Architect at the standard hourly rates. The Architect will charge the Owner and such costs will be deducted from money still due the Contractor.

1.06 ARTICLE 5 - SUBCONTRACTORS

A. Paragraph 5.2 - Add the following subparagraph:

5.2.5 Two weeks after signing of the Owner-Contractor Agreement, the General Contractor shall verify that the Subcontractor List is firm and that the Subcontractors are under contract for this Project."

B. Paragraph 5.3 - Add the following sentence:

"Subcontracts shall be by written agreement for the Subcontractors listed on the 'Subcontractor List Form'."

1.07 ARTICLE 7 - CHANGES IN THE WORK

A. Paragraph 7.3 - Add the following subparagraphs:

7.3.11 General Contractor's Mark-up: Total cost for mark-ups to the actual cost of labor and materials for Extra Work authorized to be done by the Contractor's own forces shall be as follows:

1. Overhead: 5% of the actual cost of labor and materials.
2. Profit: 10% of the actual cost of labor and materials.
3. Sales Tax: Statutory amount of the actual cost of labor and materials, plus overhead, plus profit.
4. Bond: Actual bond cost based upon the actual cost of labor and materials, plus overhead, plus profit, plus sales tax.

7.3.12 Subcontractor's Mark-up: The total cost for mark-ups to the actual cost of labor and materials for Extra Work authorized to be done by the Subcontractor's forces shall be as follows:

5. Overhead: 5% of the actual cost of labor and materials.
6. Profit: 10% of the actual cost of labor and materials.

7.3.13 General Contractor's Mark-up of Subcontractor's Work: The total cost for mark-ups made by the General Contractor to the actual cost of labor and materials for Extra Work authorized to be done by the Subcontractor's forces shall be as follows:

7. Overhead and Profit: 5% of the actual cost of labor and materials.
8. Sales Tax: Statutory amount of the actual cost of labor and materials, plus overhead and profit.
9. Bond: Actual bond cost based upon the actual cost of labor and materials, plus overhead and profit, plus sales tax.

7.3.14 Where changes in the Work involve both added and omitted Work, the overhead, profit, taxes and bond figures specified above shall be added to only the increased amount over the original Contract Amount.

7.3.15 Work omitted from Contract:

10. If Contract Amount has been previously increased by Change Order for additional Work, then overhead and profit will be deducted for omitted Work.
11. If Contract Amount has not been previously increased, and unless revised Contract Amount will be less than original Contract amount, then overhead and profit will not be deducted as part of the deductive Change Order for Work omitted.
12. Taxes and Bonds shall always be based upon the current contract amount whether more or less than the original Contract Amount.

B. Paragraph 7.4 - Add the following sentence:

"Written orders for minor changes will be issued upon an "Architect's Supplemental Instructions" form, AIA G710, current edition."

C. Add the following paragraph:

7.5 EXTRA WORK

7.5.1 When authorized as described by Paragraph 7.1, Extra Work may be ordered. Claims for additional compensation, on account of Extra Work done, will not be recognized unless such Extra Work has been authorized in advance and writing by the Owner and the Architect. The Contractor shall perform such Extra Work and charge the Owner as provided in Subparagraph 7.3.7."

1.08 ARTICLE 8 - TIME

A. Subparagraph 8.3.1 - Delete from first sentence: "...or by delay authorized by the Owner pending mediation and dispute resolution..."

B. Add the following paragraphs:

8.3.4 The Owner will not pay for costs related to supervision, construction procedures, general conditions, overhead and profit, should the time required to substantially complete the Work be extended beyond the Contract Time stated in the Contract due to inclement weather or any other reason, exclusive of adjustments in time by Change Order which included changes or additions to the scope of Work. The Contract Amount shall include the costs related to supervision and construction procedures, general conditions, overhead and profit for time beyond that stated in the Contract and the Base Bid received by the Owner shall include these costs.

8.4 RESPONSIBILITY FOR COMPLETION

8.4.1 The Contractor shall furnish such manpower, materials, facilities, and equipment and shall work such hours, including night shifts, overtime operations and Sunday and holidays, as may be necessary to insure the prosecution and completion of the Work in accordance with the approved and currently - updated progress schedule. If Work actually in place falls behind the currently updated and approved schedule by 14 days or more and it becomes apparent from the current schedule that the Work will not be completed within the Contract Time, the Contractor agrees to, take some or all of the following actions at no additional cost to the Owner to improve progress as necessary:

1. Increase manpower in such quantities and crafts as will substantially eliminate, in the judgment of the Architect, the backlog of Work;
2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of equipment, or any combination of the foregoing, sufficient to substantially eliminate, in the judgment of the Architect, the backlog of Work; and,
3. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities.

8.4.2 In addition, the Architect may require the Contractor to submit a revised chart demonstrating his program and proposed plan to make up lag in scheduled progress and to ensure completion of the Work within the Contract Time. If the Architect finds the proposed plan not acceptable, the Architect may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are not satisfactory, the Architect may

require the Contractor to take any of the actions set forth in subparagraph 8.4.1 without additional cost to the Owner to make up the lag in scheduled progress.

8.4.3 Failure of the Contractor to substantially comply with the requirements of this paragraph 8.4 may be considered grounds for a determination by the Owner, pursuant to Article 14, that the Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified."

1.09 ARTICLE 9 - PAYMENTS AND COMPLETION

A. Subparagraph 9.3.1 - Delete in its entirety and substitute the following:

9.3.1 The Contractor shall review with the Architect's representative in the field on or about the 25th day of the month, the tentative Application for Payment for that month. The form for application for payment shall be AIA Document G702 'Application and Certificate for Payment' supported by AIA Document G703 'Continuation Sheet,' and shall be submitted, after the above review, to the Architect on or before the first day of the following month. The Application for Payment shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and materials suppliers, and reflecting retainage if provided for elsewhere in the Contract Documents."

B. Subsubparagraph 9.3.1.2 - Add the following:

"The Contractor shall include a written notice, on the Contractor's letterhead, stating the name of and amount owed to such Subcontractor which has requested payment which has not been included on the Application for Payment."

C. Subparagraph 9.3.1 - Add the following subsubparagraph:

9.3.1.3 Until final payment the Owner will pay 90 percent of the amount due the Contractor on account of Progress Payments."

D. Subparagraph 9.5.1, subsubparagraph .1 - Delete in its entirety and substitute the following:

1. Work not in conformance with Contract Documents which is not remedied, or failure to begin remedial action within five days following notification,"

E. Subparagraph 9.6.3 - Delete the word "will" and insert the word "may".

F. Subparagraph 9.7 - Change the words "as provided for in the Contract Documents" to "at the prevailing rate mandated by law" in the last sentence.

G. Subparagraph 9.8.2 - Delete in its entirety and substitute the following:

"9.8.2 When the Contractor is of the opinion that the Project, (or a portion thereof which the Owner agrees to accept separately), is substantially complete in accordance with the Contract Documents, the Contractor shall send to the Architect a written statement that the Project is substantially complete (naming a date) and shall request a substantial completion inspection by the Architect to determine the status of completion. Such notice shall be given at least three days prior to the requested date.

1. If the Architect finds that the Project is substantially complete, the Architect will prepare a Certificate of Substantial Completion, AIA Document G704, which shall establish the date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Work shall be completed. The Architect shall attach to the Certificate a list of all items to be completed and corrected, (the "Punch List"). This list, prepared by the General Contractor's clerical staff based upon information provided by Architect, will be as complete as possible based on the Architect's observations, but shall not relieve or otherwise waive the Contractor's responsibility to complete or correct subsequently discovered items, or to complete the Work in accordance with the Contract Documents. The Certificate of Substantial Completion shall be submitted to the Contractor and the Owner for their approval and acceptance. Warranties required by the Contract Documents shall commence on the date of Substantial Completion unless otherwise provided.

2. If the Architect does not concur in the Contractor's claim of Substantial completion, the Architect will so notify the Contractor, and thereafter, the Contractor shall initiate a new request for Substantial completion Inspection."

H. Subparagraph 9.9.1 - Delete the word "list" in the third sentence and insert the words "written statement".

I. Subparagraph 9.10.1 - Add the following:

"Should it become necessary for the Architect to conduct additional inspections subsequent to the final inspection because of acts or omissions of the Contractor, the Architect will conduct such inspections at the Architect's standard hourly rate and will charge the Owner, and such costs will be deducted from monies still due the Contractor."

J. Subparagraph 9.10.2 - Delete in its entirety and substitute the following:

9.10.2 Neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to the Architect (1) Affidavit of Payment of Debts and Claims, AIA Document G706 and attachments including Contractor's Release or Waiver of Liens, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) Consent of Surety to Final Payment, or satisfaction of all such obligations such as receipts, releases and waivers or liens arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any such lien. If such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all money that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees."

K. Add the following paragraph:

9.11 TIME FOR COMPLETION

9.11.1 The Work shall commence as established in Subparagraph 8.1.2. The Contractor agrees that said Work shall be prosecuted regularly, diligently, and without interruption at such rate of progress as will insure full completion of the Project no later than 253 calendar days from the date of Notice to Proceed.

9.11.2 It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning, rate of progress, and the time for completion of the Work to be done hereunder, are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that time for completion of this Contract shall begin from the date of commencement. The Contractor also shall consider that the Owner needs the complete use of these facilities as quickly as possible.

9.11.3 In the event that the Contractor shall neglect, fail or refuse to Substantially Complete the Project within the time specified, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner $500.00 per day for each calendar day thereafter, not as a penalty, but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work. The stated amounts are fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty in fixing and ascertaining the actual damages which the Owner would, in such event(s) sustain.

9.11.4 For each consecutive calendar that the Work remains incomplete after the date established in the Certificate of Substantial Completion for Final Completion, the Owner will retain from the compensation otherwise to be paid to the Contractor the sum of $50.00. This amount is the minimum measure of damages the Owner will sustain by failure of the Contractor to complete all remedial Work, correct deficient Work, clean up the Project and other

miscellaneous tasks as required to complete the Work specified."

1.10 ARTICLE 11 – INSURANCE AND BONDS

A. Subparagraph 11.1.1 - Add the following subparagraphs;

".1 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

a. Premises Operation (including X,C and U coverages as applicable).
b. Independent Contractor's Protective.
c. Products and Completed Operations.
d. Personal Injury Liability with Employment Exclusion deleted.
e. Contractual, including specified provision for Contractor's obligation under Paragraph 3.18.
f. Owned, non-owned and hired motor vehicles.
g. Broad Form Property Damage including Completed Operations.

.2 The insurance required by Subparagraph 11.1.1.1 shall be written for not less than any limits of liability required by law or as specified herein, whichever is greater. The Contractor shall not allow any Subcontractor to commence Work on a Subcontract until the same types of insurance in the amount specified below have been obtained by the Subcontractor. If any such Subcontractor shall subcontract any portion of his subcontract, the Contractor shall require the Secondary Subcontractor to take out and maintain such contingent of protective insurance as will protect the Primary subcontract from damage claims arising from his operations. Such Contingency Protective insurance shall be in the same amount as his Primary Subcontractor's Public Liability and Property Damage Insurance. Maintain all required insurance for the life of the contract. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor’s completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents."

.3 Furnish one copy of Certificates herein required for each copy of the Agreement; specifically set forth evidence of all coverage required by Subparagraphs 11.1.1 and 11.1.2 and in the amounts required by Subparagraph 11.1.4. The form of the Certificate shall be ACORD from 25-S.

.4 Furnish to the Owner copies of endorsements that are subsequently issued naming Owner and Architect as additional insured within 60 days of start of work or endorsements that are subsequently issued amending coverage of limits."

.5 Catholic Charities and Architectural Resource Team, Inc. and its subconsultants shall be named as "Additional Insured" on Certificates of Insurance."

.6 Contractor's comprehensive general liability policy shall be endorsed to name Catholic Charities and Architectural Resource Team, Inc. and its subconsultants as additional insureds with respect to liability arising out of operations performed for the Owner by or on behalf of the Contractor. The certificate of insurance must reflect this condition.

B. Owners Insurance Requirements are those dictated by the investor and lender (Wells Fargo)..

C. Paragraph 11.1 - Add the following subparagraph:

11.1.5 Contractor's liability insurance shall be written for not less than the following limits of liability:

1. Workmen's Compensation - Statutory. In case any class of employees engaged in Work under this Contract, at the site of the Project, is not protected under the Workmen's compensation Statute, the Contractor shall provide and cause each Subcontractor to provide special insurance for the protection of those employees not otherwise protected.
2. Employer's Liability - Statutory.
3. Comprehensive General Liability:

	Contractor	Subcontractor
a. Bodily Injury:	Note 1	$2,000,000
b. Property Damage:	Note 1	$2,000,000
c. Premises and Operations		
1) Bodily Injury:	Note 1	$2,000,000
2) Property Damage:	Note 1	$2,000,000
d. Personal Injury Supplements:	Note 1	Same as Above
e. Product & Completed Operations Aggregate	Note 1	$2,000,000

4. Comprehensive Auto. Liability:

	Contractor	Subcontractor
a. Bodily injury:	Note 1	
$2,000,000		
b. Property Damage:	Note 1	$2,000,000

Note 1: Per Owner/Contractor Contract

5. Owner's and Contractor's Protective - Same limits as above.
6. Independent Contractor's Protective - Same limits as above.
7. Products and Completed Operations - Same limits as above for two years commencing with issuance of final Certificates for Payment.
8. Contractual Liability - Same limits as above."

D. The Contractor will provide a Performance Bond and Builder's Risk but they are paid for by the Owner.

E. Special Purchasing Instructions: Contractor is NOT required to purchase any materials from a specific company UNLESS the project or Specification Sections require "made in America" requirements.

F. Selected Subcontractors: Contractor is NOT required to use any specfic company for the furnishing and installation of Work

G. Paragraph 11.1 - Add the following subparagraph:

"11.1.6 The Contractor shall file the original and one certified copy of all policies with the Owner and Architect before exposure to loss may occur. If the Owner is damaged by the failure of the Contractor to maintain such insurance and to so notify the Owner, then the Contractor shall bear all reasonable costs properly attributable thereto. Each policy shall contain all generally applicable condition, definition, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner."

H. Paragraph 11.1 - Add the following:

"11.1.7 Subcontractors whose contract amount is equal to or exceeds $25,000 shall provide Statutory Performance and Payment Bonds of the same type as that required of the General Contractor."

1.11 ARTICLE 13 - MISCELLANEOUS PROVISIONS

A. Subparagraph 13.4.1 - Add the following subsubparagraphs:
1. "When the initial tests indicate variance to the Contract Documents, subsequent retesting of the same Work to establish compliance shall be performed by the same agency and the cost thereof borne by the Contractor.
2. Representatives of the testing agency shall have access to the Work at all times. The Contractor shall provide facilities for such access in order that the agency may properly perform its functions.
3. Inspection or Testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor."

B. Subparagraph 13.4.4 - Delete in its entirety and substitute the following:

"13.4.4 The independent agency, employed by the Owner, will prepare the test reports, logs, and certificates applicable to the specific inspections and tests and promptly deliver the

specified number of copies of same to the designated parties. Other required certificates of inspection, testing or approval shall be secured by the Contractor and delivered by the Contractor to the Architect, in such time as to not delay progress of the Work or final payment therefore."

1.12 ARTICLE 15 – CLAIMS AND DISPUTES

A. Paragraph 15.1.7 - Delete the words "losses of use" in subparagraph 15.1.6.1.

B. Paragraph 15.4 - Delete in its entirety.

C. Add the following Article:

1.13 ARTICLE 16 - EQUAL OPPORTUNITY

16.1 The Contractor shall maintain policies of employment as follows:

16.1.1 The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of nondiscrimination.

16.1.2 The Contractor and all Subcontractors shall, in all solicitations or advertisements for employees placed by them or in their behalf; state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin."

END OF DOCUMENT

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SECTION 01 10 00
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Westside Head Start - Tolleson

B. Owner's Name: Catholic Charities

C. Architect's Name: Architectural Resource Team.

D. The Project consists of the construction of a 4,996 square foot wood framed building (6,487 sf with attached shade canopies.) for Catholic Charities Westside Head Start to provide (4) classrooms, support and administrative areas. The building will have an automatic sprinkler system with fire alarm system w/occupant notification devices. Fire Protection system engineering. Parking, Site Landscape, Lighting and Trash Enclosure included.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single contract based on a Fixed Sum Price.

1.03 OWNER OCCUPANCY

A. Owner intends to occupy the Project .

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

1.02 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Execute certification by signature of authorized officer.

E. Submit one electronic and three hard-copies of each Application for Payment.

1.04 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time. This is a Fixed Price Contract and changes in the Fixed are not allowed.
   2. Promptly execute the change.

1.05 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 26 13
CONTRACTOR'S REQUESTS FOR INFORMATION / INTERPRETATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Administrative requirements for requests for information / interpretation.

1.02 DEFINITIONS

A. Request For Information / Interpretation (RFI):
   1. A document submitted by the Contractor requesting clarification of a portion of the Contract Documents, hereinafter referred to as RFI.
   2. A properly prepared request for information / interpretation shall include a detailed written statement that indicates the specific Drawings or Specification in need of clarification and the nature of the clarification requested.
      a. Drawings shall be identified by drawing number and location on the drawing sheet.
      b. Specifications shall be identified by Section number, page and paragraph.
   3. Request made by Contractor concerning items not indicated on drawings or contained in Project Manual that is required to properly perform the work.
   4. Request made by Contractor in accordance with Owner’s Representative’s third party obligations to the contract for construction.

B. Improper RFI's:
   1. RFI's that are not properly prepared.
   2. Improper RFI's will be processed by the Architect at the Architect's standard hourly rate and Architect will charge the Owner, and such costs will be deducted from monies still due the Contractor. The Contractor will be notified by the Architect prior to the processing of improper RFI's.

C. Frivolous RFI's:
   1. RFI's that request information that is clearly shown on the Contract Documents.
   2. Frivolous RFI's may be returned unanswered or may be processed by the Architect at the Architect's standard hourly rate and Architect will charge the Owner, and such costs will be deducted from monies still due the Contractor. The Contractor will be notified by the Architect prior to the processing of frivolous RFI's.

1.03 CONTRACTOR'S REQUESTS FOR INFORMATION

A. RFI's shall be submitted on a form prepared by the Contractor acceptable to the Architect or the form at the end of this section.
   1. Forms shall be completely filled in, and if prepared by hand, shall be fully legible after photocopying or transmission by facsimile (fax).
   2. RFI’s shall be submitted in numerical order with no breaks in the consecutive numbering.
   3. Each page of attachments to RFI's shall bear the RFI number and shall be consecutively numbered in chronological order.
   4. RFI's may be submitted by E-Mail.
      a. Submittal by E-Mail is the preferred method of submittal.
      b. Address for E-Mail will be distributed by the Architect at the Pre-Construction Conference.
      c. An electronic version of RFI form will be provided upon request.

B. When the Contractor is unable to determine from the Contract Documents, the material, process or system to be installed, the Architect shall be requested to make a clarification of the indeterminate item.
   1. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need, or the complexity of the item, Contractor shall prepare and submit an RFI to the Architect.

2. RFI requesting clarification of an item required of a document known to have been prepared by a consultant to the Architect, may be sent directly to the consultant with a copy to the Architect, if this direct communication is approved by the Architect.

C. Contractor shall endeavor to keep the number of RFI's to a minimum. In the event that the process becomes unwieldy, in the opinion of the Architect, because of the number and frequency of RFI's submitted, the Architect may require the Contractor to abandon the process and submit future requests as either submittals, substitutions or requests for change.

D. RFI's shall be originated by the Contractor.
1. RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Architect.
2. RFI's from subcontractors or material suppliers sent directly to the Owner's Representative, Architect or the Architect's consultants shall not be accepted and will be returned unanswered.

E. Contractor shall carefully study the Contract Documents to assure that the requested information is not available therein. RFI's which request information available in the Contract Documents will be deemed either "improper" or "frivolous" as noted above.

F. In cases where RFI's are issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items, the Contractor shall fully lay out a suggested solution using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will be returned unanswered with a requirement that the Contractor submit a complete request.

G. RFI's shall not be used for the following purposes:
1. To request approval of submittals
2. To request approval of substitutions,
3. To request changes which are known to entail additional cost or credit. (A Change Order Request form shall be used.)
4. To request different methods of performing work than those drawn and specified.

H. In the event the Contractor believes that a clarification by the Architect results in additional cost or time, Contractor shall not proceed with the work indicated by the RFI until a Change Order (or Construction Change Directive, if applicable to project) is prepared and approved. RFI's shall not automatically justify a cost increase in the work or a change in the project schedule.
1. Answered RFI's shall not be construed as approval to perform extra work.
2. Unanswered RFI's will be returned with a stamp or notation: Not Reviewed.

I. Contractor shall prepare and maintain a log of RFI'S, and at any time requested by the Architect, Contractor shall furnish copies of the log showing outstanding RFI'S. Contractor shall note unanswered RFI's in the log.

J. Contractor shall allow up to 5 working days review and response time for RFI'S, unless review is required of multiple consultants, then the review and response period shall be 7 working days.
1. The Architect will endeavor to respond in a timely fashion to RFI's.
2. RFI shall state requested date/time for response, however, this requested date/time for response is not a guarantee that the RFI will be answered by that date/time if that date/time is too expeditious

1.04 ARCHITECT'S RESPONSE TO RFI'S

A. Architect will respond to RFI's on one of the following forms:
1. Properly prepared RFI's:
a. Response directly upon Request for Information / Interpretation form.
b. Architect's Supplemental Instruction.
c. Request for Proposal.
2. Improper or Frivolous RFI's
a. Notification of Processing Fee(s).

b. Unanswered RFI's will be returned with a stamp or notation: Not Reviewed..

3. Answers to properly prepared RFI's may or may not be made directly upon the RFI form as deemed appropriate by the Architect.

B. Architect may opt to retain RFI's for discussion during regularly scheduled project meetings for inclusion of responses in meeting minutes in lieu of responding on a written form.

REQUEST FOR INFORMATION / INTERPRETATION

PROJECT: _____ **R.F.I NUMBER:** _____
_____ **FROM:** _____
TO: _____ **DATE:** _____
_____ **A/E PROJECT NUMBER:** _____

SPECIFICATION SECTION: _____ **PARAGRAPH:** _____ **DRAWING REFERENCE:** _____
DETAIL: _____

REQUEST:

*** REQUESTED DATE/TIME FOR RESPONSE:**

SIGNED BY:

RESPONSE:

ATTACHMENTS:

RESPONSE FROM: _____ **TO:** _____ *** DATE REC'D:** _____ *** DATE RET'D:** _____

SIGNED BY: _____

COPIES: **OWNER** ____ **CONSULTANTS** _____ _____ _____ **FILE**

*** CONTRACTOR SHALL ALLOW UP TO 5 WORKING DAYS REVIEW AND RESPONSE TIME FOR RFI'S, UNLESS REVIEW IS REQUIRED OF MULTIPLE CONSULTANTS, THEN THE REVIEW AND RESPONSE PERIOD SHALL BE 7 WORKING DAYS.**

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Electronic document submittal service.

C. Preconstruction meeting.

D. Progress meetings.

E. Submittals for review, information, and project closeout.

F. Number of copies of submittals.

G. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

1.04 PROJECT COORDINATOR

A. Project Coordinator: Architect.

B. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.

1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
2. Contractor and Architect are required to use this service.
3. It is Contractor's responsibility to submit documents in allowable format.
4. Contractor is to provide this service at no additional cost to the owner.
5. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
6. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
7. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
8. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Submittal Service: The selected service is: to be agreed upon by the Owner, Contractor and Architect.

C. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award.

B. Attendance Required:
1. Owner.
2. Architect.
3. Contractor.

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
5. Designation of personnel representing the parties to Contract, Owner and <1|A/E|>.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Architect will schedule and administer meetings throughout progress of the Work at minimum monthly intervals.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.

C. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to work.

D. Record minutes and distribute copies within three days after meeting to participants, with digital copies to Architect, Owner, participants, and those affected by decisions made.

3.04 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 01 32 16

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 10 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.05 REQUESTS FOR INFORMATION (RFI)

A. See Specification Section 01 26 13.

3.06 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.

3.07 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
1. Product data.
2. Design data.
3. Shop drawings.
4. Samples for selection.
5. Samples for verification.
6. Operation and Maintenance Instructions.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below.

3.08 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
1. Certificates.
2. Test reports.
3. Inspection reports.
4. Manufacturer's instructions.
5. Manufacturer's field reports.
6. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.09 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. Submit for Owner's benefit during and after project completion.

3.10 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Documents for Information: Submit two copies.

C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
1. After review, produce duplicates.
2. Retained samples will not be returned to Contractor unless specifically so stated.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:
1. Use a separate transmittal for each item.

2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
3. Transmit using approved form.
   a. Use Contractor's form, subject to prior approval by Architect.
4. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
6. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
7. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
8. Schedule submittals to expedite the Project, and coordinate submission of related items.
9. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
10. Provide space for Contractor and Architect review stamps.
11. When revised for resubmission, identify all changes made since previous submission.
12. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
13. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.

B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
   2. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Transmit each submittal digitally with a copy of approved submittal form.

3.12 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Approved", or language with same legal meaning.
      b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
         1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
   2. Not Authorizing fabrication, delivery, and installation:

E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:

a. "Received" - to notify the Contractor that the submittal has been received for record only.

2. Items for which action was taken:
   a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

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SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Testing and inspection agencies and services.

D. Control of installation.

E. Manufacturers' field services.

F. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Architect, provide interpretation of results.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.05 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.

1.06 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform specified testing and inspection.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
   5. Perform additional tests and inspections required by Architect.
   6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.

4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.03 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

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SECTION 01 61 16
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

C. Requirement for installer certification that they did not use any non-compliant products.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 07 92 00 - Joint Sealants: Emissions-compliant sealants.

1.03 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.
   3. Composite wood.
   4. Products making up wall and ceiling assemblies.
   5. Thermal and acoustical insulation.
   6. Other products when specifically stated in the specifications.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
   1. Metals that are plated, anodized, or powder-coated.
   2. Glass.
   3. Ceramics.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings 2005 (Reapproved 2018).

C. BIFMA M7.1 - Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components, and Seating 2011 (Reaffirmed 2021).

D. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2 2017.

E. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; California Air Resources Board current edition.

F. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board 2020.

G. CHPS (HPPD) - High Performance Products Database Current Edition.
H. CRI (GLP) - Green Label Plus Testing Program - Certified Products Current Edition.
I. GreenSeal GS-36 - Standard for Adhesives for Commercial Use 2013.
J. SCAQMD 1113 - Architectural Coatings 1977, with Amendment (2016).
K. SCAQMD 1168 - Adhesive and Sealant Applications 1989, with Amendment (2022).
L. SCS (CPD) - SCS Certified Products Current Edition.
M. UL (GGG) - GREENGUARD Gold Certified Products Current Edition.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.
C. Installer Certifications Regarding Prohibited Content: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have been used in the installation of installer's products, or 2) that such products used comply with these requirements.

1.06 QUALITY ASSURANCE

A. Indoor Emissions Standard and Test Method: CAL (CDPH SM), using Standard Private Office exposure scenario and the allowable concentrations specified in the method, and range of total VOC's after 14 days.
    1. Wet-Applied Products: State amount applied in mass per surface area.
    2. Paints and Coatings: Test tinted products, not just tinting bases.
    3. Evidence of Compliance: Acceptable types of evidence are the following;
        a. Current UL (GGG) certification.
        b. Current SCS (CPD) Floorscore certification.
        c. Current SCS (CPD) Indoor Advantage Gold certification.
        d. Current listing in CHPS (HPPD) as a low-emitting product.
        e. Current CRI (GLP) certification.
        f. Test report showing compliance and stating exposure scenario used.
    4. Product data submittal showing VOC content is NOT acceptable evidence.
    5. Manufacturer's certification without test report by independent agency is NOT acceptable evidence.
B. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
    1. Evidence of Compliance: Acceptable types of evidence are:
        a. Report of laboratory testing performed in accordance with requirements.
        b. Published product data showing compliance with requirements.
C. Composite Wood Emissions Standard: CARB (ATCM) for ultra-low emitting formaldehyde (ULEF) resins.
    1. Evidence of Compliance: Acceptable types of evidence are:
        a. Current SCS "No Added Formaldehyde (NAF)" certification; www.scscertified.com.
        b. Report of laboratory testing performed in accordance with requirements.
        c. Published product data showing compliance with requirements.
D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. Indoor-Emissions-Restricted Products: Comply with Indoor Emissions Standard and Test Method, except for:
   1. Composite Wood, Wood Fiber, and Wood Chip Products: Comply with Composite Wood Emissions Standard or contain no added formaldehyde resins.
   2. Inherently Non-Emitting Materials.

C. VOC-Content-Restricted Products: VOC content not greater than required by the following:
   1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
   2. Aerosol Adhesives: GreenSeal GS-36.
   3. Joint Sealants: SCAQMD 1168 Rule.
   4. Paints and Coatings: Each color; most stringent of the following:
      a. 40 CFR 59, Subpart D.
      b. SCAQMD 1113 Rule.
      c. CARB (SCM).

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

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SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cutting and patching.

C. Cleaning and protection.

D. Starting of systems and equipment.

E. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.

D. Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

1.04 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.05 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

C. Coordinate completion and clean-up of work of separate sections.

D. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

B. Examine and verify specific conditions described in individual specification sections.

C. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

D. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, overflow drains, area drains, and drainage systems.

3.11 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.12 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

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SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

E. Methods of trash/waste disposal that are not acceptable are:
   1. Dumping or burying on other property, public or private.
   2. Other illegal dumping or burying.

F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
      c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Recycled and Salvaged Materials: Include the following information for each:
      a. Identification of material, including those retrieved by installer for use on other projects.
      b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
      c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
      e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
   6. Material Reused on Project: Include the following information for each:
      a. Identification of material and how it was used in the project.
      b. Amount, in tons or cubic yards.
      c. Include weight tickets as evidence of quantity.
   7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 70 00 for trash/waste prevention procedures related to cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

E. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

F. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

G. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

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SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of built site elements.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

C. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

D. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

1.04 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.
   1. Minimum of five years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

A. Remove paving and curbs as required to accomplish new work.

B. Remove other items indicated, for salvage.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   5. Do not close or obstruct roadways or sidewalks without permit.
   6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

D. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

E. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 74 19 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete formwork.

B. Concrete reinforcement.

C. Concrete curing.

1.02 REFERENCE STANDARDS

A. ACI 211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.

B. ACI 301 - Specifications for Concrete Construction 2020.

C. ACI 302.1R - Guide to Concrete Floor and Slab Construction 2015.

D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).

E. ACI 308R - Guide to External Curing of Concrete 2016.

F. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

G. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

H. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.

I. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.

J. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2023.

K. ASTM C150/C150M - Standard Specification for Portland Cement 2022.

L. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019, with Editorial Revision (2022).

M. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2023, with Editorial Revision.

N. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing 2017.

O. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs 2018a.

P. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs 2017 (Reapproved 2023).

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit proposed concrete mix design.

D. Test Reports: Submit report for each test or series of tests specified.

1.04 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.
   1. Maintain one copy of each document on site.

PART 2 PRODUCTS

2.01 FORMWORK

A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.

2.02 REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
   1. Type: Deformed billet-steel bars.
   2. Finish: Unfinished, unless otherwise indicated.

B. Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.
   1. WWR Style: As indicated on drawings.

C. Reinforcement Accessories:
   1. Tie Wire: Annealed, minimum 16 gage, 0.0508 inch.
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.

B. Fine and Coarse Aggregates: ASTM C33/C33M.

C. Fly Ash: ASTM C618, Class C or F.

D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Water Reducing Admixture: ASTM C494/C494M Type A.

2.05 ACCESSORY MATERIALS

A. Termite-Resistant Vapor Barrier Sheet: Plastic sheet complying with ASTM E1745, Class C; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs, and for exclusion of subterranean termites.
   1. Installation: Comply with ASTM E1643.
   2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, prefabricated boots, etc., for sealing seams and penetrations.
   3. Manufacturers:
      a. Stego Industries, LLC; Pango Wrap with Pango Tape: www.stegoindustries.com/#sle.

2.06 CURING MATERIALS

A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
   1. Manufacturers:
      a. Euclid Chemical Company ; EUCOBAR: www.euclidchemical.com/#sle.
      b. W. R. Meadows, Inc; Evapre or Evapre-RTU: www.wrmeadows.com/#sle.

B. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.
   1. Product dissipates within 4 to 6 weeks.
   2. Manufacturers:
      a. Euclid Chemical Company; COLOR-CRETE CURE AND SEAL VOC: www.euclidchemical.com/#sle.
      b. W. R. Meadows, Inc; 1100-Clear: www.wrmeadows.com/#sle.

2.07 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
   1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.

B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.

2.08 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

B. Transit Mixers: Comply with ASTM C94/C94M.

C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Verify that forms are clean and free of rust before applying release agent.

C. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

3.05 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch in 10 feet.

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 CONCRETE FINISHING

A. Repair surface defects, immediately after removing formwork.

B. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.08 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.09 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.10 DEFECTIVE CONCRETE

A. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

B. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.11 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 04 20 00
UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete block.

B. Mortar and grout.

C. Reinforcement and anchorage.

D. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 03 20 00 - Concrete Reinforcing: Reinforcing steel for grouted masonry.

1.03 REFERENCE STANDARDS

A. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire 2019.

B. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.

C. ASTM C91/C91M - Standard Specification for Masonry Cement 2023.

D. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units 2022.

E. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar 2018.

F. ASTM C150/C150M - Standard Specification for Portland Cement 2022.

G. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes 2018.

H. ASTM C270 - Standard Specification for Mortar for Unit Masonry 2019a, with Editorial Revision.

I. ASTM C404 - Standard Specification for Aggregates for Masonry Grout 2018.

J. ASTM C476 - Standard Specification for Grout for Masonry 2023.

K. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry 2019a.

L. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures 2022, with Errata.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
   1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depth of 8 inches.
   2. Non-Loadbearing Units: ASTM C129.
      a. Hollow block, as indicated.

b. Normal weight.

2.02 MORTAR AND GROUT MATERIALS

A. Masonry Cement: ASTM C91/C91M, Type N.

B. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.

C. Hydrated Lime: ASTM C207, Type S.

D. Mortar Aggregate: ASTM C144.

E. Grout Aggregate: ASTM C404.

F. Water: Clean and potable.

G. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason's sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
   1. Color: Standard gray.

2.03 REINFORCEMENT AND ANCHORAGE

A. Reinforcing Steel: Type specified in Section 03 30 00; size as indicated on drawings; galvanized finish.

B. Single Wythe Joint Reinforcement: Truss or ladder type; ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M, Class 3; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.

2.04 ACCESSORIES

A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.

B. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.05 MORTAR AND GROUT MIXING

A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
   1. Exterior, non-loadbearing masonry: Type N.

B. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

3.02 PREPARATION

A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

3.03 COLD AND HOT WEATHER REQUIREMENTS

A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.04 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
   1. Bond: Running.

2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave.

3.05 PLACING AND BONDING

A. Lay hollow masonry units with face shell bedding on head and bed joints.

B. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

C. Remove excess mortar and mortar smears as work progresses.

D. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

E. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.06 REINFORCEMENT AND ANCHORAGE - GENERAL

A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.

B. Lap joint reinforcement ends minimum 6 inches.

3.07 CONTROL AND EXPANSION JOINTS

A. Do not continue horizontal joint reinforcement through control or expansion joints.

B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

3.08 TOLERANCES

A. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.

B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.

C. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.

3.09 CUTTING AND FITTING

A. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.10 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.

3.11 CLEANING

A. Clean soiled surfaces with cleaning solution.

3.12 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

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SECTION 05 50 00
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel items.

B. Metal shade canopy at front and back of Building.

C. Ladder safety systems.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.

B. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates 2018.

C. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength 2021.

D. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing 2021.

E. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2023).

F. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172 2019.

G. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 2004.

H. SSPC-SP 2 - Hand Tool Cleaning 2018.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

C. Certificate: Provide documentation that ladder safety system products of this section meet or exceed cited {\rs\#1}, {\rs\#1}, {\rs\#1}, and {\rs\#1} requirements.

D. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.

E. Designer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Design required items under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in Arizona.

B. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

B. Plates: ASTM A283/A283M.

C. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

D. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain.

E. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

F. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS

A. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.

2.04 PREFABRICATED LADDERS

A. Prefabricated Ladder: Welded metal unit complying with ANSI A14.3; factory fabricated to greatest degree practical and in the largest components possible.

2.05 LADDER SAFETY SYSTEMS

A. Ladder Safety System: Comply with 29 CFR 1910.29, 29 CFR 1926.1053 and Section 7 of ALI A14.3; ladder safety system allows the worker to climb up and down using both hands; does not require the employee continuously, hold, push, or pull any part of the system while climbing.
   1. Install on new fixed ladders over 24 feet in height.
   2. Anchorage: Fixed ladder meeting requirements of 29 CFR 1910.23.

2.06 FINISHES - STEEL

A. Prepare surfaces to be primed in accordance with SSPC-SP2.

B. Prime Painting: One coat.

2.07 FABRICATION TOLERANCES

A. Squareness: 1/8 inch maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch.

C. Maximum Misalignment of Adjacent Members: 1/16 inch.

D. Maximum Bow: 1/8 inch in 48 inches.

E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Confirm that the ladder structure to which the ladder safety system is installed is capable of withstanding the loads applied by the system in the event of a fall.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Install ladder safety system in accordance with manufacturer's instructions.

C. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

D. Obtain approval prior to site cutting or making adjustments not scheduled.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

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SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural dimension lumber framing.
B. Non-structural dimension lumber framing.
C. Rough opening framing for doors, windows, and roof openings.
D. Sheathing.
E. Roof-mounted curbs.
F. Roofing nailers.
G. Roofing cant strips.
H. Fire retardant treated wood materials.
I. Communications and electrical room mounting boards.
J. Concealed wood blocking, nailers, and supports.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
B. Section 06 17 53 - Shop-Fabricated Wood Trusses.
C. Section 07 25 00 - Weather Barriers: Air barrier over sheathing.
D. Section 07 62 00 - Sheet Metal Flashing and Trim: Sill flashings.
E. Section 07 72 00 - Roof Accessories: Prefabricated roof curbs.
F. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

A. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings 2018, with Errata (2019).
B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.
C. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing 2003 (Reapproved 2017).
D. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing 2010 (Reapproved 2017).
E. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing 2019a.
F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.
G. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a, with Editorial Revision (2023).
H. AWPA U1 - Use Category System: User Specification for Treated Wood 2023.
I. ICC-ES AC380 - Acceptance Criteria for Termite Physical Barrier Systems 2021, with Editorial Revision (2022).
J. PS 1 - Structural Plywood 2019.
K. PS 2 - Performance Standard for Wood Structural Panels 2018.
L. PS 20 - American Softwood Lumber Standard 2021.
M. WWPA G-5 - Western Lumber Grading Rules 2021.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.06 WARRANTY

A. See Section 01 70 00, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER

A. Grading Agency: Western Wood Products Association; WWPA G-5.

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Stud Framing (2 by 2 through 2 by 6):
   1. Species: Douglas Fir-Larch.
   2. Grade: No. 2.

E. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
   1. Machine stress-rated (MSR) as follows:
      a. Fb-single (minimum extreme fiber stress in bending): 1350 psi.
      b. E (minimum modulus of elasticity): 1,300,000 psi.
   2. Species: Douglas Fir-Larch.
   3. Grade: No. 1 and Better.

F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

A. Subfloor/Underlayment Combination: Any PS 2 type, rated Single Floor.
   1. Bond Classification: Exterior.
   2. Span Rating: 48.
   3. Performance Category: 1-1/8 PERF CAT.
   4. Edges: Tongue and groove.

B. Roof Sheathing: Any PS 2 type, rated Structural I Sheathing.
   1. Bond Classification: Exterior.
   2. Span Rating: 60.
   3. Performance Category: 3/4 PERF CAT.

C. Wall Sheathing: Any PS 2 type.
   1. Grade: Sheathing.
   2. Span Rating: 16.
   3. Performance Category: 5/8 PERF CAT.
   4. Edge Profile: Square edge.

D. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.

B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.

C. Termite-Resistant Sill Plate Barrier: Self-adhesive, film-backed barrier with release sheet; adheres to concrete substrates and blocks termite access.
   1. Thickness: 68 mils (0.068 inch).
   2. Termite Resistance: 100 percent when tested in accordance with ICC-ES AC380.
   3. Water Vapor Permeance: 0.035 perm, maximum, when tested in accordance with ASTM E96/E96M.
   4. Manufacturers:
      a. Polyguard Barrier Systems, Inc, a division of Polyguard Products, Inc; TERM Sill Plate Barrier: www.polyguardbarriers.com/#sle.

D. Subfloor Adhesives: Waterproof, air cure type, cartridge dispensed; adhesives designed for subfloor applications and complying with either ASTM C557 or ASTM D3498.

E. Water-Resistive Barrier: As specified in Section 07 25 00.

2.05 FACTORY WOOD TREATMENT

A. Fire Retardant Treatment:
   1. Manufacturers:
      a. Hoover Treated Wood Products, Inc; ____: www.frtw.com/#sle.
      b. Koppers, Inc; ____: www.koppersperformancechemicals.com/#sle.
   2. Exterior Type: AWPA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
      a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
      b. Do not use treated wood in direct contact with the ground.
   3. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
      a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
      b. Treat rough carpentry items as indicated .
      c. Do not use treated wood in applications exposed to weather or where the wood may become wet.

PART 3 EXECUTION

3.01 PREPARATION

A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.

B. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Contractor's Option: Drawings and specifications are based upon the use of metal framing as specified in Section 09 21 16 for interior partitions. If approved by Architect, Contractor may use wood for framing in lieu of metal framing.

B. Select material sizes to minimize waste.

C. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

D. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.

E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

C. Provide the following specific non-structural framing and blocking:
   1. Cabinets and shelf supports.
   2. Wall brackets.
   3. Handrails.
   4. Grab bars.
   5. Towel and bath accessories.
   6. Wall-mounted door stops.
   7. Chalkboards and marker boards.
   8. Joints of rigid wall coverings that occur between studs.

3.05 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

B. Provide wood curb at all roof openings except where prefabricated curbs are specified and where specifically indicated otherwise. Form corners by alternating lapping side members.

3.06 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.07 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

3.08 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01 74 19 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.

END OF SECTION

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SECTION 06 17 53
SHOP-FABRICATED WOOD TRUSSES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated wood trusses for roof framing.

B. Bridging, bracing, and anchorage.

C. Preservative treatment of wood.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Material requirements for blocking, bridging, plates, and miscellaneous framing.

1.03 REFERENCE STANDARDS

A. AWPA U1 - Use Category System: User Specification for Treated Wood 2023.

B. TPI 1 - National Design Standard for Metal-Plate-Connected Wood Truss Construction 2014.

C. TPI BCSI 1 - Building Component Safety Information Booklet: The Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses 2018.

D. TPI DSB-89 - Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses 1989.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

A. Designer Qualifications: Perform design by or under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in Arizona.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Handle and erect trusses in accordance with TPI BCSI 1.

B. Store trusses in vertical position resting on bearing ends.

PART 2 PRODUCTS

2.01 TRUSSES

A. Wood Trusses: Designed and fabricated in accordance with TPI 1 and TPI DSB-89 to achieve structural requirements indicated.

2.02 MATERIALS

A. Lumber:
   1. Moisture Content: Between 7 and 9 percent.
   2. Lumber fabricated from old growth timber is not permitted.

B. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

2.03 ACCESSORIES

A. Wood Blocking, Bridging, Plates, and Miscellaneous Framing: Softwood lumber, any species, construction grade, 19 percent maximum and 7 percent minimum moisture content.

2.04 WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

B. Preservative Pressure Treatment of Lumber: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
   1. Kiln dry after treatment to maximum moisture content of 19 percent.

C. Preservative Pressure Treatment of Plywood: AWPA U1, Use Category UC3B using waterborne preservative to 0.25 lb/cu ft retention.
   1. Kiln dry plywood after treatment to maximum moisture content of 19 percent.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that supports and openings are ready to receive trusses.

3.02 PREPARATION

A. Coordinate placement of bearing items.

3.03 ERECTION

A. Install trusses in accordance with manufacturer's instructions and TPI DSB-89 and TPI BCSI 1; maintain a copy of each TPI document on site until installation is complete.

B. Set members level and plumb, in correct position.

C. Install permanent bridging and bracing.

3.04 SITE APPLIED WOOD TREATMENT

A. Apply treatment in accordance with manufacturer's instructions.

3.05 TOLERANCES

A. Framing Members: 1/2 inch maximum, from true position.

END OF SECTION

SECTION 06 20 00
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wood casings and moldings.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.

C. Section 08 14 16 - Flush Wood Doors.

D. Section 09 91 00 - Painting.

1.03 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard 2022.

B. AWI (QCP) - Quality Certification Program Current Edition.

C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

D. BHMA A156.9 - Cabinet Hardware 2020.

E. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

F. NHLA G-101 - Rules for the Measurement and Inspection of Hardwood and Cypress 2023.

G. PS 1 - Structural Plywood 2019.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data:
   1. Provide manufacturer's product data, storage and handling instructions for factory-fabricated units.

C. Samples: Submit two samples of wood trim 9 inch long.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification:
   1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.

B. Protect from moisture damage.

C. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.

B. Interior Woodwork Items:
   1. Marker Board Trim.

2. Wood Shelving.

2.02 WOOD-BASED COMPONENTS

A. Provide sustainably harvested wood, certified or labeled as specified in Section 01 60 00 - Product Requirements.

2.03 LUMBER MATERIALS

A. Softwood Lumber: Douglas Fir species, S4S sawn, maximum moisture content of 6 percent; with vertical grain.

2.04 SHEET MATERIALS

A. Softwood Plywood, Exposed to View: Face species as indicated, plain sawn, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.

B. Particleboard: ANSI A208.1 Composed of wood chips, sawdust, or flakes of medium density, made with waterproof resin binders; of grade to suit application; sanded faces.

2.05 PLASTIC LAMINATE MATERIALS

A. Plastic Laminate: NEMA LD 3; color as selected by Architect; textured, low gloss finish.
   1. Products:
      a. Panolam Industries International, Inc; Nevamar Standard HPL: www.panolam.com/#sle.

B. Low Pressure Laminate: Melamine; white color and gloss surface texture.

2.06 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

2.07 ACCESSORIES

A. Lumber for Shimming and Blocking: Softwood lumber of Douglas Fir species.

B. Wood Filler: Solvent base, tinted to match surface finish color.

2.08 HARDWARE

A. Hardware: Comply with BHMA A156.9.

B. Shelf Standards: Double slotted style, white finish; 85/185 manufactured by Knapp & Voight .

C. Shelf Brackets: Knapp & Voight style, white finish.

2.09 SITE FINISHING MATERIALS

A. Finishing: Field finished as specified in Section 09 91 23.

2.10 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. Cap exposed plastic laminate finish edges with material of same finish and pattern.

C. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

D. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.03 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

3.04 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

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SECTION 06 83 16
FIBERGLASS REINFORCED PANELING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fiberglass reinforced plastic panels.

B. Trim.

1.02 REFERENCE STANDARDS

A. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics 2023, with Editorial Revision.

B. ASTM D2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor 2013a.

C. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.

D. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels 2022.

E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide 2 sets of data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Extra Panels: Quantity equal to 10 percent of total installed.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fiberglass Reinforced Plastic Panels:
   1. MFG Crane Composites, Inc: www.cranecomposites.com.
   2. Panolam Industries International, Inc; Panolam FRP: www.panolam.com/#sle.

2.02 PANEL SYSTEMS

A. Wall Panels:
   1. Panel Size: 4 by 8 feet.
   2. Panel Thickness: 0.10 inch.
   3. Surface Design: Embossed.
   4. Color: Smooth White at Classrooms and Parent Rooms; Linen White at Toilet Rooms.
   5. Attachment Method: Adhesive only, sealant joints, no trim.

2.03 MATERIALS

A. Panels: Fiberglass reinforced plastic (FRP), complying with ASTM D5319.
   1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Scratch Resistance: Barcol hardness score greater than 35, when tested in accordance with ASTM D2583.

4. Impact Strength: Greater than 6 ft lb force per inch, when tested in accordance with ASTM D256.

B. Trim: Aluminum; color coordinating with panel.

C. Adhesive: Type recommended by panel manufacturer.

D. Sealant: Type recommended by panel manufacturer; white.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions and substrate flatness before starting work.

B. Verify that substrate conditions are ready to receive the work of this section.

3.02 INSTALLATION - WALLS

A. Install panels in accordance with manufacturer's instructions.

B. Cut and drill panels with carbide tipped saw blades, drill bits, or snips.

C. Apply adhesive to the back side of the panel using trowel as recommended by adhesive manufacturer.

D. Apply panels to wall with seams plumb and pattern aligned with adjoining panels.

E. Install panels with manufacturer's recommended gap for panel field and corner joints.

F. Place trim on panel before fastening edges, as required.

G. Fill channels in trim with sealant before attaching to panel.

H. Install trim with adhesive and screws or nails, as required.

I. Seal gaps at floor, ceiling, and between panels with applicable sealant to prevent moisture intrusion.

J. Remove excess sealant after paneling is installed and prior to curing.

END OF SECTION

SECTION 07 21 00
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Board insulation at cavity wall construction and exterior wall behind specified wall finish.

B. Batt insulation in exterior wall construction.

C. Batt insulation for filling acoustical partitions.

D. Any insulation type meeting Building Code and insulation requirements will be considered subject to approval.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 07 21 19 - Foamed-In-Place Insulation: Plastic foam insulation other than boards.

C. Section 07 25 00 - Weather Barriers: Separate air barrier and vapor retarder materials.

D. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Insulation on inside surface of existing masonry walls

1.03 REFERENCE STANDARDS

A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation 2022.

B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing 2023.

C. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board 2023.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

E. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 °C 2022.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide 2 sets of data on product characteristics, performance criteria, and product limitations.

C. ABAA Field Quality Control Submittals: Submit third-party reports of testing and inspection required by ABAA QAP.

D. ABAA Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.

E. ABAA Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.

1.05 QUALITY ASSURANCE

A. Air Barrier Association of America (ABAA) Quality Assurance Program (QAP); www.airbarrier.org/#sle:
   1. Installer Qualification: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit.
   2. Manufacturer Qualification: Use evaluated materials from a single manufacturer regularly engaged in air barrier material manufacture. Use secondary materials approved in writing by primary material manufacturer.

1.06 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Furnish products of one of the following Manufacturers, except as approved by the Architect, subject to compliance with Specification requirements:
   1. Minimum R19 at exterior walls and R38 at roof.
      a. Batt and Blanket Insulation:
         1) Johns-Manville www.jm.com
         2) Owens-Corning Fiberglas Corp. www.owenscorning.com
         3) Certainteed www.certainteed.com
         4) Or approved equal.
      b. Board Insulation:
         1) The Dow Chemical Co. www.dow.com/styrofoam/na/
         2) Amoco Foam Products Co. www.bp.com
         3) UCI
         4) Or approved equal.

2.02 APPLICATIONS

A. Insulation Over Wood Stud Framed Walls, Continuous: Extruded polystyrene board.

B. Insulation in Wood Framed Walls: Batt insulation with separate vapor retarder.

2.03 FOAM BOARD INSULATION MATERIALS

A. Extruded Polystyrene (XPS) Board Insulation: Complies with ASTM C578 with either natural skin or cut cell surfaces.
   1. Type: ASTM C578, Type IV.
   2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
   3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
   4. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88) per 1 inch thickness at 75 degrees F mean temperature.

B. Polyisocyanurate (ISO) Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289.
   1. Classifications:
      a. Type II:
         1) Class 1 - Faced with glass fiber reinforced cellulosic felt facers on both major surfaces of core foam.
         2) Compressive Strength: Classes 1-2-3, Grade 1 - 16 psi (110 kPa), minimum.
         3) Thermal Resistance, R-value: At 1-1/2 inch thick; Class 1, Grades 1-2-3 - 8.4 (1.48) at 75 degrees F.
   2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
   3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.

2.04 BATT INSULATION MATERIALS

A. Where batt insulation is indicated, either glass fiber or mineral fiber batt insulation may be used, at Contractor's option.

B. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
   1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
   2. Smoke Developed Index: 50 or less, when tested in accordance with ASTM E84.
   3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
   4. Formaldehyde Content: Zero.

5. GREENGUARD Indoor Air Quality Certified
6. Manufacturers:
   a. CertainTeed Corporation: www.certainteed.com.
   b. Johns Manville: www.jm.com.
   c. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation: www.ocbuildingspec.com/#sle.
   d. Or approved equal.

2.05 ACCESSORIES

A. Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive.
   1. Application: Sealing of interior circular penetrations, such as pipes or cables.
   2. Width: Are required for application.

B. Insulation Fasteners: Impaling clip of unfinished steel with washer retainer and clips, to be adhered to surface to receive insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT EXTERIOR WALLS

A. Install boards vertically on walls.

B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 BOARD INSTALLATION AT CAVITY WALLS

A. Install boards to fit snugly between wall ties.

B. Install boards horizontally on walls.

C. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.04 INSULATION UNDER FLOOR SYSTEM

A. Provide code approved vapor barrier on the under side of insulation installed under the floor system.

3.05 BATT INSTALLATION

A. Install insulation and vapor retarder in accordance with manufacturer's instructions.

B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

C. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

D. At wood framing, place vapor retarder on warm side of insulation by stapling at 6 inches on center. Lap and seal sheet retarder joints over member face.

E. Tape seal tears or cuts in vapor retarder.

F. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.

3.06 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Coordination of Air Barrier Association of America (ABAA) Tests and Inspections:
   1. Provide testing and inspection required by ABAA Quality Assurance Program (QAP).

2. Notify in ABAA writing of schedule for air barrier work, and allow adequate time for testing and inspection.
3. Cooperate with ABAA testing agency.
4. Allow access to air barrier work areas and staging.
5. Do not cover air barrier work until tested, inspected, and accepted.

3.07 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 07 25 00
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vapor Retarders: Materials to make exterior walls, joints between exterior walls and roof, joints around frames of openings in exterior walls, and floor structure water vapor resistant and air tight.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Water-resistive barrier under exterior cladding.

B. Section 07 21 00 - Thermal Insulation: Vapor retarder installed in conjunction with batt insulation.

C. Section 07 54 00 - Thermoplastic Membrane Roofing: Vapor retarder installed as part of roofing system.

D. Section 07 62 00 - Sheet Metal Flashing and Trim: Metal flashings installed in conjunction with weather barriers.

E. Section 07 92 00 - Joint Sealants: Sealing building expansion joints.

1.03 DEFINITIONS

A. Weather Barrier: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.

B. Vapor Retarder: Air tight barrier made of material that is relatively water vapor impermeable, to the degree specified, with sealed seams and with sealed joints to adjacent surfaces.
   1. Water Vapor Permeance: For purposes of conversion, 57.2 ng/(Pa s sq m) = 1 perm.

1.04 REFERENCE STANDARDS

A. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection 2021.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

C. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a, with Editorial Revision (2023).

D. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials 2021a.

E. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components 2023.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on material characteristics.

C. ABAA Field Quality Control Submittals: Submit third-party reports of testing and inspection required by ABAA QAP.

D. ABAA Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.

E. ABAA Installer Qualification: Submit documentation of current contractor accreditation and current installer certification; keep copies of each contractor accreditation and installer certification on site during and after installation, and present on-site documentation upon request.

1.06 QUALITY ASSURANCE

A. Air Barrier Association of America (ABAA) Quality Assurance Program (QAP); www.airbarrier.org/#sle:
   1. Installer Qualification: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit.
   2. Manufacturer Qualification: Use evaluated materials from a single manufacturer regularly engaged in air barrier material manufacture, and use secondary materials approved in writing by primary material manufacturer.

1.07 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the materials manufacturers before, during and after installation.

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

A. Water-Resistive Barrier: Provide on exterior walls under exterior cladding and where indicated in other sections.

B. Exterior Vapor Retarder:
   1. On outside surface of sheathing use vapor retarder sheet, mechanically fastened type.

2.02 AIR BARRIER MATERIALS (AIR AND VAPOR BARRIER)

A. Air and Vapor Barrier Sheet, Self-Adhered:
   1. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178.
   2. Water Vapor Permeance: 0.02 perms, maximum, when tested in accordance with ASTM E96/E96M, Procedure B.
   3. Water Penetration Resistance Around Nails: Pass, when tested in accordance with ASTM D1970/D1970M (modified).
   4. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 30 days of weather exposure.
   5. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less (Class A), when tested in accordance with ASTM E84.
   6. Complies with NFPA 285 wall assembly requirements.
   7. Seam and Perimeter Tape: As recommended by sheet manufacturer.
   8. Manufacturers:
      a. Carlisle Coatings and Waterproofing, Inc; Fire Resist 705FR-A: www.carlisleccw.com/#sle.
      b. Tremco Commercial Sealants & Waterproofing; ExoAir 110AT: www.tremcosealants.com/#sle.

2.03 ACCESSORIES

A. Sealants, Tapes, and Accessories for Sealing Weather Barrier and Sealing Weather Barrier to Adjacent Substrates: As specified or as recommended by weather barrier manufacturer.

B. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof.

C. Vapor Retarder Tape: Coated polyester film with acrylic adhesive backing; pressure sensitive.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the work of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

B. Clean and prime substrate surfaces to receive adhesives in accordance with manufacturer's instructions.

3.03 INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Mechanically Fastened Sheets - On Exterior:
   1. Install sheets shingle-fashion to shed water, with seams generally horizontal.
   2. Overlap seams as recommended by manufacturer but at least 6 inches.
   3. Overlap at outside and inside corners as recommended by manufacturer but at least 12 inches.
   4. Install air barrier and vapor retarder UNDER jamb flashings.
   5. Install head flashings under weather barrier.
   6. At openings to be filled with frames having nailing flanges, wrap excess sheet into opening; at head, seal sheet over flange and flashing.

C. Self-Adhered Sheets:
   1. Prepare substrate in manner recommended by sheet manufacturer; fill and tape joints in substrate and between dissimilar materials.
   2. Lap sheets shingle-fashion to shed water and seal laps air tight.
   3. Once sheets are in place, press firmly into substrate with resilient hand roller; ensure that laps are firmly adhered with no gaps or fishmouths.
   4. Use same material, or other material approved by sheet manufacturer for the purpose, to seal to adjacent construction and as flashing.
   5. At wide joints, provide extra flexible membrane allowing joint movement.

D. Openings and Penetrations in Exterior Weather Barriers:
   1. Install flashing over sills, covering entire sill frame member, extending at least 5 inches onto weather barrier and at least 6 inches up jambs; mechanically fasten stretched edges.
   2. At openings to be filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with sealing tape at least 4 inches wide; do not seal sill flange.
   3. At openings to be filled with non-flanged frames, seal weather barrier to each side of opening framing, using flashing at least 9 inches wide, covering entire depth of framing.
   4. At head of openings, install flashing under weather barrier extending at least 2 inches beyond face of jambs; seal weather barrier to flashing.
   5. At interior face of openings, seal gap between window/door frame and rough framing, using joint sealant over backer rod.
   6. Service and Other Penetrations: Form flashing around penetrating item and seal to weather barrier surface.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Coordination of ABAA Tests and Inspections:
   1. Provide testing and inspection required by ABAA QAP.
   2. Notify ABAA in writing of schedule for air barrier work, and allow adequate time for testing and inspection.
   3. Cooperate with ABAA testing agency.
   4. Allow access to air barrier work areas and staging.
   5. Do not cover air barrier work until tested, inspected, and accepted.

C. Do not cover installed weather barriers until required inspections have been completed.

3.05 PROTECTION

A. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION

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SECTION 07 41 13
METAL ROOF PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Architectural roofing system of preformed steel panels.

1.02 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealing joints between metal roof panel system and adjacent construction.

1.03 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.

C. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2023.

D. ASTM E1646 - Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference 1995 (Reapproved 2018).

E. ASTM E1680 - Standard Test Method for Rate of Air Leakage through Exterior Metal Roof Panel Systems 2016 (Reapproved 2022).

F. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Storage and handling requirements and recommendations.
   2. Installation methods.
   3. Specimen warranty.

C. Shop Drawings: Include layouts of roof panels, details of edge and penetration conditions, spacing and type of connections, flashings, underlayments, and special conditions.
   1. Show work to be field-fabricated or field-assembled.

D. Selection Samples: For each roofing system specified, submit color chips representing manufacturer's full range of available colors and patterns.

E. Warranty: Submit specified manufacturer's warranty and ensure that forms have been completed in Owner's name and are registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store roofing panels on project site as recommended by manufacturer to minimize damage to panels prior to installation.

1.07 WARRANTY

A. Finish Warranty: Provide manufacturer's special warranty covering failure of factory-applied exterior finish on metal roof panels and agreeing to repair or replace panels that show evidence of finish degradation, including significant fading, chalking, cracking, or peeling within specified warranty period of five years from Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Roof Panels:
1. ATAS International, Inc; Colonial Seam: www.atas.com/#sle.
2. Firestone Building Products LLC: www.firestonebpco.com/#sle.
3. Metal Roofing Systems, Inc; System 1000 - Metal Roof Panels: www.metalroofingsystems.biz/#sle.
4. Metl-Span, a Division of NCI Group, Inc: www.metlspan.com/#sle.
5. Morin Corporation; Symmetry Roof Systems: www.morincorp.com/#sle.

2.02 ARCHITECTURAL METAL ROOF PANELS

A. Architectural Metal Roofing: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.

B. Metal Panels: Factory-formed panels with factory-applied finish.
1. Steel Panels:
   a. Zinc-coated steel complying with ASTM A653/A653M; minimum G60 galvanizing.
   b. Steel Thickness: Minimum 25 gage (_____ inch).
2. Profile: Standing seam, with minimum 1.0 inch seam height; concealed fastener system for field seaming with special tool.
3. Texture: Smooth.
4. Width: Maximum panel coverage of 24 inches.

2.03 ATTACHMENT SYSTEM

A. Concealed System: Provide manufacturer's standard stainless steel or nylon-coated aluminum concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.

B. Exposed System: Provide manufacturer's recommended stainless steel fasteners engineered to meet performance requirements and equipped with appropriate sealant separators to provide weathertight connections that will accommodate anticipated thermal movement.

2.04 SECONDARY FRAMING

A. Miscellaneous Secondary Framing: Light gage steel framing incidental to structural supports; fabricated from steel sheet.

B. Framing Material: ASTM A 1011/A 1011M, Designation SS steel sheet.
1. Profile: Manufacturer's standard cee, zee, asymmetrical zee, hat channel, plain channel, single slope eave strut, double slope eave strut, and angle.
2. Thickness: 12 gage, 0.1046 inch.
3. Finish: Galvanized per ASTM A653/A653M, G90.

2.05 FABRICATION

A. Panels: Provide factory fabricated panels with applied finish and accessory items, using manufacturer's standard processes as required to achieve specified appearance and performance requirements.

2.06 FINISHES

A. Fluoropolymer Coil Coating System: Manufacturer's standard multi-coat aluminum coil coating system complying with AAMA 2605, including at least 70 percent polyvinylidene fluoride (PVDF) resin, and at least 80 percent of coil coated aluminum surfaces having minimum total dry film thickness (DFT) of 0.9 mil, 0.0009 inch; color and gloss to match sample.

2.07 ACCESSORIES

A. Miscellaneous Sheet Metal Items: Provide flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, and equipment curbs of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.

B. Rib and Ridge Closures: Provide prefabricated, close-fitting components of steel with corrosion resistant finish or combination steel and closed-cell foam.

C. Sealants:
   1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
   2. Concealed Sealant: Non-curing butyl sealant or tape sealant.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Coordinate roofing work with provisions for roof drainage, flashing, trim, penetrations, and other adjoining work to assure that the completed roof will be free of leaks.

B. Separate dissimilar metals by applying a bituminous coating, self-adhering rubberized asphalt sheet, or other permanent method approved by roof panel manufacturer.

C. Where metal will be in contact with wood or other absorbent material subject to wetting, seal joints with sealing compound and apply one coat of heavy-bodied bituminous paint.

3.03 INSTALLATION

A. Overall: Install roofing system in accordance with approved shop drawings and panel manufacturer's instructions and recommendations, as applicable to specific project conditions. Anchor all components of roofing system securely in place while allowing for thermal and structural movement.
   1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.
   2. Install roofing system with exposed fasteners prefinished to match panels.
   3. Minimize field cutting of panels. Where field cutting is absolutely required, use methods that will not distort panel profiles. Use of torches for field cutting is absolutely prohibited.

B. Accessories: Install all components required for a complete roofing assembly, including flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, equipment curbs, rib closures, ridge closures, and similar roof accessory items.

C. Roof Panels: Install panels in strict accordance with manufacturer's instructions, minimizing transverse joints except at junction with penetrations.

3.04 CLEANING

A. Clean exposed sheet metal work at completion of installation. Remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving the work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to the finish.

3.05 PROTECTION

A. Do not permit storage of materials or roof traffic on installed roof panels. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect roofing until completion of project.

B. Touch-up, repair, or replace damaged roof panels or accessories before Date of Substantial Completion.

END OF SECTION

SECTION 07 42 13
METAL WALL PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured metal panels for exterior wall panels, with related flashings.

1.02 REFERENCE STANDARDS

A. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

B. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate dimensions, layout, joints, construction details, _____, and methods of anchorage.

C. Samples: Submit two samples of wall panel and soffit panel, 12 inch by 12 inch in size illustrating finish color, sheen, and texture.

D. Manufacturer's Qualification Statement.

E. Warranty Documentation for Installation of Building Rainscreen Assembly: Submit installer warranty and ensure that forms have been completed in Owner's name and registered with installer.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.

1.06 WARRANTY

A. Correct defective work within a five year period after Date of Substantial Completion for degradation of panel finish, including color fading caused by exposure to weather.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Wall Panels - Concealed Fasteners:
   1. ATAS International, Inc: www.atas.com/#sle.
   2. Firestone Building Products LLC: www.firestonebpco.com/#sle.
   3. Metal Roofing Systems, Inc: www.metalroofingsystems.biz/#sle.
   4. Metl-Span, a Division of NCI Group, Inc: www.metlspan.com/#sle.
   5. Morin Corporation; Symmetry Roof Systems: www.morincorp.com/#sle.

2.02 MANUFACTURED METAL PANELS

A. Wall Panel System: Factory fabricated prefinished metal panel system, site assembled.
   1. Provide exterior wall panels.
   2. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.
   3. Maximum Allowable Deflection of Panel: L/180 for length(L) of span.
   4. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.

5. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
6. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.
7. Corners: Factory-fabricated in one continuous piece with minimum 2 inch returns.

B. Exterior Wall Panels:
1. Profile: Vertical; Corrugated.
2. Side Seams: Double-interlocked, tight-fitting, sealed with continuous gaskets.
3. Material: Precoated aluminum sheet, 20 gage, 0.032 inch minimum thickness.
4. Panel Width: 24 inches.
5. Color: As selected by Architect from manufacturer's standard line.

C. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut and factory mitered to required angles.

D. Expansion Joints: Same material, thickness and finish as exterior sheets; ___ gage, ___ inch thick; manufacturer's standard brake formed type, of profile to suit system.

E. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

F. Anchors: Aluminum.

2.03 MATERIALS

A. Precoated Aluminum Sheet: ASTM B209 (ASTM B209M), 3105 alloy, O temper, smooth surface texture; continuous-coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

2.04 FINISHES

A. Exposed Surface Finish: Panel manufacturer's standard polyvinylidene fluoride (PVDF) coating, top coat over epoxy primer.

2.05 ACCESSORIES

A. Gaskets: Manufacturer's standard type suitable for use with system, permanently resilient; ultraviolet and ozone resistant.

B. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, steel, hot dip galvanized. Fastener cap same color as exterior panel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that building framing members are ready to receive panels.

3.02 PREPARATION

A. Install subgirts perpendicular to panel length, securely fastened to substrates and shimmed and leveled to uniform plane. Space at intervals indicated.

3.03 INSTALLATION

A. Install panels on walls and soffits in accordance with manufacturer's instructions.

3.04 TOLERANCES

A. Maximum Offset From True Alignment Between Adjacent Members Butting or In Line: 1/16 inch.

3.05 CLEANING

A. Remove protective material from wall panel surfaces.

B. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

END OF SECTION

SECTION 07 54 00
THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Mechanically attached system with thermoplastic roofing membrane.

B. Deck sheathing.

C. Cover boards.

D. Flashings.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood nailers and curbs.

B. Section 06 10 00 - Rough Carpentry: Wood cant strips.

C. Section 07 72 00 - Roof Accessories: Roof-mounted units; prefabricated curbs.

1.03 REFERENCE STANDARDS

A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.

B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board 2023.

C. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.

D. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin-Based Sheet Roofing 2021.

E. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces 2011 (Reapproved 2019).

F. NRCA (RM) - The NRCA Roofing Manual 2023.

G. NRCA (WM) - The NRCA Waterproofing Manual 2021.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating membrane materials, flashing materials and fasteners.

C. Shop Drawings: Submit drawings that indicate joint or termination detail conditions, conditions of interface with other materials, and paver layout.

D. Samples for Verification: Submit two samples 8 by 8 inches in size illustrating insulation, colored coating, and _____.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.

G. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.

H. Manufacturer's Qualification Statement.

I. Installer's Qualification Statement.

J. Warranty Documentation:
   1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
   2. Submit installer's certification that installation complies with warranty conditions for waterproof membrane.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact.

B. Store materials in weather protected environment, clear of ground and moisture.

C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

D. Protect foam insulation from direct exposure to sunlight.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. System Warranty: Provide manufacturer's system warranty agreeing to repair or replace roofing that leaks or is damaged due to wind or other natural causes.
   1. Warranty Term: 20 years.
   2. For repair and replacement include costs of both material and labor in warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Thermoplastic Polyolefin (TPO) Membrane Roofing Materials:
   1. Firestone Building Products, LLC; _____: www.firestonebpco.com/#sle.
   2. GAF; EverGuard Extreme TPO 60 mil: www.gaf.com/#sle.
   3. Johns Manville; 60 mil: www.jm.com/#sle.
   4. Versico, a division of Carlisle Construction Materials Inc; VersiWeld TPO: www.versico.com/#sle.

2.02 ROOFING - UNBALLASTED APPLICATIONS

A. Thermoplastic Membrane Roofing: One ply membrane, mechanically fastened.

B. Roofing Assembly Requirements:
   1. Solar Reflectance Index (SRI): Minimum of 64 based on three-year aged value; if three-year aged data is not available, minimum of 82 initial value.
      a. Calculate SRI in accordance with ASTM E1980.
      b. Field applied coating may not be used to achieve specified SRI.

2.03 MEMBRANE ROOFING AND ASSOCIATED MATERIALS

A. Membrane Roofing Materials:
   1. TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sheet contains reinforcing fabrics or scrims.
      a. Thickness: 60 mil, 0.060 inch, minimum.
   2. Sheet Width: Factory fabricated into largest sheets possible.

B. Seaming Materials: As recommended by membrane manufacturer.

C. Membrane Fasteners: As recommended and approved by membrane manufacturer.

D. Flexible Flashing Material: Same material as membrane.

2.04 DECK SHEATHING

A. Deck Sheathing: Gypsum sheathing complying with ASTM C1396/C1396M and ASTM C1177/C1177M, paper faced.

B. Deck Sheathing: Polyisocyanurate (ISO) board insulation, complying with ASTM C1289; Type V, Faced with oriented strand board (OSB) or plywood on one major surface of the foam and a

glass fiber reinforced cellulosic felt or uncoated or coated polymer-bonded glass fiber mat facer on the other major surface of the core foam.

2.05 COVER BOARDS

A. Cover Board: Polyisocyanurate (ISO) board insulation complying with ASTM C1289, and the following characteristics:
   1. Classification: Type II, Class 4 - Faced with coated or uncoated polymer-bonded glass fiber mat facers on both major surfaces of the core foam.

2.06 ACCESSORIES

A. Prefabricated Roofing Expansion Joint Flashing: Sheet butyl over closed-cell foam backing seamed to galvanized steel flanges.

B. Cant Strips: Wood, pressure preservative treated. See Section 06 10 00.

C. Membrane Adhesive: As recommended by membrane manufacturer.

D. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.

E. Thinners and Cleaners: As recommended by adhesive manufacturer, compatible with membrane.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work.

B. Verify deck is supported and secure.

C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.

D. Verify deck surfaces are dry and free of snow or ice.

E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.02 PREPARATION - WOOD DECK

A. Verify flatness and tightness of joints of wood decking. Fill knot holes with latex filler.

3.03 INSTALLATION - GENERAL

A. Perform work in accordance with manufacturer's instructions, NRCA (RM), and NRCA (WM) applicable requirements.

B. Do not apply roofing membrane during unsuitable weather.

C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.

D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

3.04 MEMBRANE APPLICATION

A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.

B. Shingle joints on sloped substrate in direction of drainage.

C. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.

D. Mechanical Attachment: Apply membrane and mechanical attachment devices in accordance with manufacturer's instructions.

E. At intersections with vertical surfaces:
   1. Extend membrane over cant strips and up a minimum of 4 inches onto vertical surfaces.

2. Fully adhere flexible flashing over membrane and up to nailing strips.

F. Around roof penetrations, seal flanges and flashings with flexible flashing.

G. Install roofing expansion joints where indicated. Make joints watertight.
1. Install prefabricated joint components in accordance with manufacturer's instructions.

H. Coordinate installation of roof drains and sumps and related flashings.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for field quality control and inspection.

B. Require site attendance of roofing and insulation material manufacturers daily during installation of the work.

3.06 CLEANING

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Remove bituminous markings from finished surfaces.

C. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

D. Repair or replace defaced or damaged finishes caused by work of this section.

3.07 PROTECTION

A. Protect installed roofing and flashings from construction operations.

B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, gutters, downspouts, and other items indicated in Schedule.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood nailers for sheet metal work.

B. Section 07 41 13 - Sheet Metal Roofing

C. Section 07 54 00 - Thermoplastic Membrane Roofing

D. Section 07 71 23 - Manufactured Gutters and Downspouts.

E. Section 07 72 00 - Roof Accessories: Manufactured metal roof curbs.

F. Section 07 92 00 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.

D. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

E. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

F. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

G. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).

H. CDA A4050 - Copper in Architecture - Handbook current edition.

I. SMACNA (ASMM) - Architectural Sheet Metal Manual 2012.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Maintain one copy of each document on site.

C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage, (0.0239 inch) thick base metal.

B. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage, (0.0239) inch thick base metal, shop pre-coated with PVDF coating.
   1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.

C. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 20 gage, (0.032 inch) thick; plain finish shop pre-coated with fluoropolymer coating.
   1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
   2. Color: As selected by Architect from manufacturer's standard colors.

2.02 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

F. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

2.03 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer: Zinc chromate type.

C. Concealed Sealants: Non-curing butyl sealant.

D. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

E. Plastic Cement: ASTM D4586/D4586M, Type I.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

A. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Secure gutters and downspouts in place with concealed fasteners.

E. Connect downspouts to downspout shoes, and seal connection watertight.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

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SECTION 07 72 00
ROOF ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Curbs.

B. Roof penetrations mounting curbs.

1.02 RELATED REQUIREMENTS

A. Section 07 54 00 - Thermoplastic Membrane Roofing

B. Section 07 62 00 - Sheet Metal Flashing and Trim: Roof accessory items fabricated from sheet metal.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Maintenance requirements.

C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.

D. Warranty Documentation:
   1. Submit manufacturer warranty.
   2. Ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store products under cover and elevated above grade.

1.06 WARRANTY

A. See Section 01 70 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 ROOF CURBS

A. Manufacturers:
   1. AES Industries Inc: www.aescurb.com/#sle.
   2. The Pate Company: www.patecurbs.com/#sle.

B. Roof Curbs Mounting Assemblies: Factory fabricated hollow sheet metal construction, internally reinforced, and capable of supporting superimposed live and dead loads and designated equipment load with fully mitered and sealed corner joints welded or mechanically fastened, and integral counterflashing with top and edges formed to shed water.
   1. Roof Curb Mounting Substrate: Curb substrate consists of standing seam metal roof panel system.
   2. Sheet Metal Material:
      a. Aluminum: 0.080 inch minimum thickness, with 3003 alloy, and H14 temper.
   3. Fabricate curb bottom and mounting flanges for installation directly on metal roof panel system to match slope and configuration of system.
      a. Extend side flange to next adjacent roof panel seam and comply with seam configurations and seal connection, providing at least 6 inch clearance between curb

and metal roof panel flange allowing water to properly flow past curb.
b. Where side of curb aligns with metal roof panel flange, attach fasteners on upper slope of flange to curb connection allowing water to flow past below fasteners, and seal connection.
c. Maintain at least 12 inch clearance from curb, and lap upper curb flange on underside of down sloping metal roof panel, and seal connection.
d. Lap lower curb flange overtop of down sloping metal roof panel and seal connection.
4. Provide layouts and configurations indicated on drawings.

2.02 ROOF HATCHES AND VENTS

A. Sound Rated Roof Hatch Manufacturers:
1. BILCO Company; _____: www.bilco.com/#sle.
2. Milcor, Inc; _____: www.milcorinc.com/#sle.

B. Frames and Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
1. Insulation: Manufacturer's standard; 1 inch rigid glass fiber, located on outside face of curb.
2. Curb Height: 12 inches from finished surface of roof, minimum.

C. Safety Railing System: Manufacturer's standard accessory safety rail system mounted directly to curb.
1. Posts and Rails: Aluminum tube.
2. Manufacturers:
a. BILCO Company; Bil-Guard 2.0: www.bilco.com/#sle.

D. Hardware: Steel, zinc coated and chromate sealed, unless otherwise indicated or required by manufacturer.
1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
2. Hinges: Heavy duty pintle type.
3. Hold open arm with vinyl-coated handle for manual release.
4. Latch: Upon closing, engage latch automatically and reset manual release.
5. Manual Release: Pull handle on interior.
6. Locking: Padlock hasp on interior.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

3.04 CLEANING

A. Clean installed work to like-new condition.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

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SECTION 07 92 00
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Additional requirements for sealants and primers.

B. Section 08 71 00 - Door Hardware: Setting exterior door thresholds in sealant.

C. Section 08 80 00 - Glazing: Glazing sealants and accessories.

D. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Sealing acoustical and sound-rated walls and ceilings.

E. Section 09 30 00 - Tiling: Sealant between tile and plumbing fixtures and at junctions with other materials and changes in plane.

1.03 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants 2017 (Reapproved 2023).

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications 2022.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016 (Reapproved 2023).

E. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants 2022.

F. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants 2023.

G. SCAQMD 1168 - Adhesive and Sealant Applications 1989, with Amendment (2022).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data for Sealants: Submit 2 sets of manufacturer's technical data sheets for each product to be used, that includes the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Sample product warranty.

C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

D. Sustainable Design Documentation: For sealants and primers, submit VOC content and emissions documentation as specified in Section 01 61 16.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

B. Field Adhesion Testing: Perform preconstruction adhesion testing for each type of sealant and substrate as follows:
   1. Arrange for manufacturer’s field technical representative to be present during testing.
   2. Install sealant in test joints in minimum 60 inch lengths.

3. Test joints by standard field adhesion hand pull test.
4. For joints with dissimilar substrates, test adhesion to each substrate separately as recommended by sealant manufacturer.
5. Conduct number of field adhesion tests for each type of sealant and each type of substrate as follows:
    a. Not less than 10 tests for the first 1,000 feet of installed sealant and 1 test for each additional 1,000 feet of sealant installed, or 1 test per floor per elevation.
6. Document results of field adhesion tests and record results in field adhesion test log.
7. Include in log data on pull distance used to test each joint sealant.
8. Include data on joints where material connected with pull portion of sealant failed to adhere to joint substrate or tore cohesively.
9. Inspect joints and record data for the following:
    a. Complete fill.
    b. No voids.
    c. Joint dimensions matching those of manufacturer's recommended details.
10. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
11. Do not install joint sealants that fail to adhere to joint substrates during testing.
12. Repair sealant test areas by removing damaged materials and applying sealant to test area using same procedure used to originally install the sealant.

C. Field Color and Workmanship Samples: Caulk a section of joint as directed, under job conditions, at least 7 days prior to start of work for review by Architect. When approved, sample shall be used as a standard of comparison for remainder of work.

1.06 WARRANTY

A. See Section 01 70 00 - Closeout Submittals, for additional warranty requirements.

B. Provide warranty, in writing and signed jointly by the installer and sealant manufacturer, to replace sealants which fail at no additional cost to the Owner because of loss of cohesion or adhesion, or do not cure, and which fail to achieve air-tight and water-tight seal as follows:
1. Sealant Types "A1" : 20 years.
2. Sealant Types "C", "D," and "E" : 2 years.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
1. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
2. Dow Corning Corporation: www.dowcorning.com/construction/#sle.
3. Franklin International, Inc: www.titebond.com/#sle.
4. Pecora Corporation: www.pecora.com.
5. Sika Corporation: www.usa-sika.com/#sle.
6. Sonneborn/Chemrex.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
    a. Wall expansion and control joints.
    b. Joints between door, window, and other frames and adjacent construction.
    c. Joints between different exposed materials.
    d. Openings below ledge angles in masonry.

e. Other joints indicated below.

2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
   a. Joints between door, window, and other frames and adjacent construction.
   b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
   c. Other joints indicated below.
3. Do not seal the following types of joints.
   a. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
   b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
   c. Joints where installation of sealant is specified in another section.

B. Interior Wet Areas: restrooms and break rooms; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items.

C. Sound-Rated Assemblies: Walls and ceilings identified as "STC-rated", "sound-rated", or "acoustical".

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

B. Single Source Responsibility for Joint Sealer Materials:

C. Obtain joint sealer materials from a single manufacturer for each different product required.
   1. The following requirement is due to incompatibility problems experienced with different products which come in contact with each other at locations such as windowwalls. For example, Tremco urethane sealants and Dow silicone sealants are NOT compatible.
   2. If sealants from separate manufacturers must be used and could come in contact with each other, provide written certification from every manufacturer involved that the sealants are compatible and will adhere to each other

D. Sealants, primers, back-up materials, preformed joint fillers, bond breakers and related materials shall be compatible with adjoining materials.

2.04 NONSAG JOINT SEALANTS

A. Type A-1 - Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus 100 percent, minus 50 percent, minimum.
   2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Service Temperature Range: Minus 20 to 180 degrees F.

B. Type D - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: White.
   2. Manufacturers:
      a. Sika Corporation; Sikasil GP: www.usa-sika.com/#sle.
      b. Dow Corning 786.
      c. Tremco Tremsil 200.

C. Type C - Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multicomponent; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface .
   1. Movement Capability: Plus and minus 35 percent, minimum.

2. Color: Match adjacent finished surfaces.
3. Service Temperature Range: Minus 40 to 180 degrees F.
4. Manufacturers:
   a. Sika Corporation; Sikaflex-1a: www.usa-sika.com/#sle.
   b. Sonneborn NP-1.
   c. Pecora 345.

D. Type E - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use. Acoustic Sealant
   1. Color: To be selected by Architect from manufacturer's standard range.
   2. Manufacturers:
      a. Franklin International, Inc; Titebond GREENchoice Acoustical Smoke & Sound Sealant: www.titebond.com/#sle.
      b. Hilti, Inc; CP 506 Smoke and Acoustical Sealant: www.us.hilti.com/#sle.
      c. Pecora Corporation; AC-20 +Silicone: www.pecora.com/#sle.

2.05 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
   1. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
   2. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Install bond breaker backing tape where backer rod cannot be used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

H. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

3.05 SCHEDULE

A. Expansion and Control Joints:
   1. Glass (except insulating glass or special coated glass), aluminum, E.I.F.S., Natural Stone, and plastics: Type "A-1".

B. Non-expanding Joints:
   1. Glass (except insulating glass or special coated glass), aluminum, E.I.F.S., Natural Stone, and plastics: Type "A-1".

C. Mechanical (ductwork and air conditioning): Type "C".

D. Plumbing Fixtures (around toilet, bath, kitchen fixtures, and food service equipment): Type "D".

E. Acoustical (acoustical applications where sealant is required): Type "E".

END OF SECTION

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SECTION 08 11 13
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hollow metal frames for wood doors.

B. Fire-rated hollow metal doors and frames.

C. Thermally insulated hollow metal doors with frames.

D. Hollow metal borrowed lites glazing frames.

1.02 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware.

B. Section 09 91 00 - Painting.

C. Section 08 80 00 - Glazing: Glass for doors and borrowed lites.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors 2022.

C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100) 2023.

D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames 2020.

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.

F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2021a.

G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2023.

H. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

I. NAAMM HMMA 840 - Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames 2017.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: 2 sets of materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

D. Manufacturer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide hollow metal doors and frames from SDI Certified manufacturer: www.steeldoor.org/sdicertified.php/#sle.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Doors and Frames:
   1. Republic Doors, an Allegion brand: www.republicdoor.com/#sle.
   2. Steelcraft, an Allegion brand: www.allegion.com/#sle.

2.02 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Frames:
   1. Steel used for fabrication of frames shall comply with one or more of the following requirements; Galvannealed steel conforming to ASTM A653/A653M, cold-rolled steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.
   2. Accessibility: Comply with ICC A117.1 and ADA Standards.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished.

B. Exterior Doors: Thermally insulated.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 2 - Heavy-duty.
      b. Physical Performance Level B 500 000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 18 gage, 0.042 inch, minimum.
   2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   3. Door Thickness: 1-3/4 inch, nominal.

C. Interior Doors, Non-Fire-Rated:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 20 gage, 0.032 inch, minimum.
   2. Door Thickness: 1-3/4 inch, nominal.
   3. Door Finish: Factory primed and field finished.

2.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Frame Finish: Factory primed and field finished.

C. Exterior Door Frames: Full profile/continuously welded type.
   1. Weatherstripping: Separate, see Section 08 71 00.

D. Interior Door Frames, Non-Fire Rated: Knock-down type, TA-8 standard steel.
   1. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch, maximum, above floor at 45 degree angle.
   2. Frame Metal Thickness: 18 gage, 0.042 inch, minimum.
   3. Frame Finish: Alumatone.
   4. Manufacturer: Timely.

E. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.

F. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

2.05 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.06 ACCESSORIES

A. Glazing: As specified in Section 08 80 00, factory installed.

B. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

C. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

3.03 INSTALLATION

A. Install frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Coordinate frame anchor placement with wall construction.

C. Install door hardware as specified in Section 08 71 00.

3.04 TOLERANCES

A. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.05 ADJUSTING

A. Adjust for smooth and balanced door movement.

END OF SECTION

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SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush configuration; non-rated.

1.02 RELATED REQUIREMENTS

A. Section 08 11 13 - Hollow Metal Doors and Frames.

B. Section 08 71 00 - Door Hardware.

C. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Bullet-resistant sheathing and wallboard for bullet-resistant partitions and walls.

1.03 REFERENCE STANDARDS

A. AWI (QCP) - Quality Certification Program Current Edition.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details. 2 sets required.
   1. Provide information as required by AWI/AWMAC/WI (AWS).

D. Samples: Submit two samples of door construction, 6 by 6 inch in size cut from top corner of door.

E. Manufacturer's Installation Instructions: Indicate special installation instructions.

F. Installer's Qualification Statement.

G. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
   1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification:
   1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Interior Doors: Provide manufacturer's warranty for the life of the installation.

C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Eggers Industries: www.eggersindustries.com/#sle.
   2. Marshfield DoorSystems, Inc: www.marshfielddoors.com/#sle.

2.02 DOORS

A. Doors: Refer to drawings for locations and additional requirements. White birch with grey stain as selected by Owner .
   1. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.
   2. Wood white birch veneer facing with factory transparent grey stain finish selected by Owner.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: White oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:

C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

D. Provide edge clearances in accordance with the quality standard specified.

2.06 ACCESSORIES

A. Hollow Metal Door Frames: As specified in Section 08 11 13.

B. Door Hardware: As specified in Section 08 71 00.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.

B. Field-Finished Doors: Trimming to fit is acceptable.
   1. Adjust width of non-rated doors by cutting equally on both jamb edges.
   2. Trim maximum of 3/4 inch off bottom edges.

C. Use machine tools to cut or drill for hardware.

D. Coordinate installation of doors with installation of frames and hardware.

3.03 TOLERANCES

A. Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

END OF SECTION

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SECTION 08 31 00
ACCESS DOORS AND PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall and ceiling access door and frame units.

1.02 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

PART 2 PRODUCTS

2.01 ACCESS DOORS AND PANELS ASSEMBLIES

A. Wall-Mounted Units:
   1. Location: As indicated on drawings.
   2. Material: Steel.
   3. Size: 12 inch by 12 inch.
   4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
   5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.

B. Wall-Mounted Units in Wet Areas:
   1. Location: As indicated on drawings.
   2. Size: 12 inch by 12 inch.
   3. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
   4. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.

C. Ceiling-Mounted Units:
   1. Location: As indicated on drawings.
   2. Material: Steel.
   3. Size - Lay-In Grid Ceilings: To match module of ceiling grid.

2.02 WALL AND CEILING MOUNTED UNITS

A. Manufacturers:
   1. Babcock-Davis; _____: www.babcockdavis.com/#sle.
   2. Milcor, Inc; ____: www.milcorinc.com/#sle.

B. Wall and Ceiling Mounted Units: Factory fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.
   1. Material: Steel.
   2. Style: Exposed frame with door surface flush with frame surface.
   3. Door Style: Single thickness with rolled or turned in edges.
   4. Steel Finish: Primed.
   5. Hardware:
      a. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that rough openings are correctly sized and located.

B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to proceeding with this work.

B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.03 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install frames plumb and level in openings, and secure units rigidly in place.

C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION

SECTION 08 51 13
ALUMINUM WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Extruded aluminum windows with fixed sash, operating sash, and infill panels.

B. Factory glazing.

C. Operating hardware.

D. Insect screens.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Rough opening framing.

B. Section 07 25 00 - Weather Barriers: Sealing frame to weather barrier installed on adjacent construction.

C. Section 07 92 00 - Joint Sealants: Sealing joints between window frames and adjacent construction.

D. Section 08 80 00 - Glazing.

1.03 REFERENCE STANDARDS

A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights 2022.

B. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site 2015.

C. AAMA 502 - Voluntary Specification for Field Testing of Newly Installed Fenestration Products 2021.

D. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2020.

E. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.

F. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.

G. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference 2000 (Reapproved 2023).

H. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors 2002 (Reapproved 2018).

I. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference 2015 (Reapproved 2023).

J. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes 2023.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide component dimensions, information on glass and glazing, internal drainage details, and descriptions of hardware and accessories.

C. Shop Drawings: Indicate opening dimensions, elevations of different types, framed opening tolerances, method for achieving air and vapor barrier seal to adjacent construction, anchorage locations, and installation requirements.

D. Samples: Submit two samples, 12 by 12 inch in size illustrating typical corner construction, accessories, and finishes.

E. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:
   1. Evidence of AAMA Certification.
   2. Evidence of WDMA Certification.
   3. Evidence of CSA Certification.
   4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

F. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.

G. Manufacturer's Installation Instructions: Include complete preparation, installation, and cleaning requirements.

H. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.

I. Manufacturer's Qualification Statement.

J. Installer's Qualification Statement.

K. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of AAMA CW-10.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.08 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

1.09 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 BASIS OF DESIGN - AW PERFORMANCE CLASS WINDOWS

A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 having Performance Class of AW, and Performance Grade at least as high as specified design pressure.

B. Fixed, Thermally-Broken:
   1. Basis of Design: Arcadia T200 thermally broken.

C. Hopper Opening; with Matching Fixed Units:
   1. Basis of Design: Arcadia.

2.02 MANUFACTURERS

A. Other Acceptable Manufacturers - Aluminum Windows:
   1. Arcadia, Inc: www.arcadiainc.com/#sle.
   2. Or approved equal.

2.03 WINDOWS

A. Aluminum Windows: Extruded aluminum frame and sash, factory fabricated, factory finished, with operating hardware, related flashings, and anchorage and attachment devices.
   1. Frame Depth: 2 inch.
   2. Operable Units: Double weatherstripped.
   3. Provide units factory glazed.
   4. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors; fasteners and attachments concealed from view; reinforced as required for operating hardware and imposed loads.
   5. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
   6. Movement: Accommodate movement between window and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
   7. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.

B. Fixed, Non-Operable Type:
   1. Construction: Thermally broken.
   2. Glazing: Double; clear; transparent.
   3. Exterior Finish: Class I natural anodized.
   4. Interior Finish: Class I natural anodized.

C. Inswinging Hopper Type:
   1. Construction: Thermally broken.
   2. Provide screens.
   3. Glazing: Double; clear; transparent.
   4. Exterior Finish: Class I natural anodized.
   5. Interior Finish: Class I natural anodized.

2.04 PERFORMANCE REQUIREMENTS

A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:
   1. Performance Class (PC): R.

B. Design Pressure (DP): In accordance with applicable codes.

C. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.

D. Wind-Borne-Debris Resistance: Identical full-size glazed assembly without auxiliary protection, tested by independent agency in accordance with ASTM E1996 for Wind Zone 4 - Additional Protection for Large and Small Missile impact and pressure cycling at design wind pressure.

E. Water Leakage: No uncontrolled leakage on interior face when tested in accordance with ASTM E331 at differential pressure of 12.11 psf.

F. Overall Thermal Transmittance (U-value): 0.35, maximum, including glazing, measured on window sizes required for this project.

2.05 COMPONENTS

A. Frames: 2 inch wide by 1 3/8 inch deep profile, of thick section; thermally broken with interior portion of frame insulated from exterior portion; flush glass stops of snap-on type.

B. Glazing: As specified in Section 08 80 00.

C. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.
   1. Refer to Section 07 92 00 for additional requirements.

2.06 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

2.07 HARDWARE

A. Pulls: Manufacturer's standard type.

B. Bottom Rollers: Stainless steel, adjustable.

C. Limit Stops: Resilient rubber.

2.08 FINISHES

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

B. Finish Color: Dark bronze.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings and adjoining air and vapor seal materials are ready to receive aluminum windows.

3.02 INSTALLATION

A. Install windows in accordance with manufacturer's instructions.

B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

D. Install sill and sill end angles.

E. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

F. Install operating hardware not pre-installed by manufacturer.

G. Install glass and infill panels in accordance with requirements specified in Section 08 80 00.

3.03 TOLERANCES

A. Maximum Variation from Level or Plumb: 1/16 inches every 3 ft non-cumulative or 1/8 inches per 10 ft, whichever is less.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.

B. Provide field testing of installed aluminum windows by independent laboratory in accordance with AAMA 502 and AAMA/WDMA/CSA 101/I.S.2/A440 during construction process and before installation of interior finishes.

1. Field test for water penetration in accordance with ASTM E1105 using Procedure B - cyclic static air pressure difference; test pressure shall not be less than 1.9 psf.
2. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference of 1.57 psf.

C. Repair or replace fenestration components that have failed designated field testing, and retest to verify performance complies with specified requirements.

3.05 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

3.06 CLEANING

A. Refer to Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Remove protective material from factory finished aluminum surfaces.

END OF SECTION

SECTION 08 71 00
FINISH HARDWARE

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
   1. Mechanical and electrified door hardware
   2. Electronic access control system components

B. Section excludes:
   1. Windows
   2. Cabinets (casework), including locks in cabinets
   3. Signage
   4. Toilet accessories

C. Related Sections:
   1. Division 01 Section "Alternates" for alternates affecting this section.
   2. Division 06 Section "Rough Carpentry"
   3. Division 06 Section "Finish Carpentry"
   4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
   5. Division 08 Sections:
      a. "Metal Doors and Frames"
      b. "Flush Wood Doors"
      c. "Aluminum-Framed Entrances and Storefronts"
   6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
   7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC
   1. UL 10B - Fire Test of Door Assemblies
   2. UL 10C - Positive Pressure Test of Fire Door Assemblies
   3. UL 1784 - Air Leakage Tests of Door Assemblies
   4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute
   1. Sequence and Format for the Hardware Schedule
   2. Recommended Locations for Builders Hardware
   3. Keying Systems and Nomenclature
   4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association
   1. NFPA 70 – National Electric Code
   2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
   3. NFPA 101 – Life Safety Code
   4. NFPA 105 – Smoke and Draft Control Door Assemblies
   5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute
   1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
   2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
   3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
   4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
   5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:
   1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
   2. Prior to forwarding submittal:
      a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
      b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:
   1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
   2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
      a. Wiring Diagrams: For power, signal, and control wiring and including:
         1) Details of interface of electrified door hardware and building safety and security systems.
         2) Schematic diagram of systems that interface with electrified door hardware.
         3) Point-to-point wiring.
         4) Risers.
   3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
      a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
   4. Door Hardware Schedule:
      a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
      b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
      c. Indicate complete designations of each item required for each opening, include:
         1) Door Index: door number, heading number, and Architect's hardware set number.
         2) Quantity, type, style, function, size, and finish of each hardware item.
         3) Name and manufacturer of each item.
         4) Fastenings and other pertinent information.
         5) Location of each hardware set cross-referenced to indications on Drawings.
         6) Explanation of all abbreviations, symbols, and codes contained in schedule.
         7) Mounting locations for hardware.
         8) Door and frame sizes and materials.
         9) Degree of door swing and handing.
         10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.
   5. Key Schedule:
      a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.

b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:
1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
b. Include warranties for specified door hardware.

D. Closeout Submittals:
1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
b. Catalog pages for each product.
c. Final approved hardware schedule edited to reflect conditions as installed.
d. Final keying schedule
e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:
1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
a. Fire door assemblies, in compliance with NFPA 80.
b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:
1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project’s vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
a. For door hardware: DHI certified AHC or DHC.
b. Can provide installation and technical data to Architect and other related subcontractors.

c. Can inspect and verify components are in working order upon completion of installation.
d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Pre-Installation Meetings
1. Keying Conference
a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
2) Preliminary key system schematic diagram.
3) Requirements for key control system.
4) Requirements for access control.
5) Address for delivery of keys.

2. Pre-installation Conference
a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
b. Inspect and discuss preparatory work performed by other trades.
c. Inspect and discuss electrical roughing-in for electrified door hardware.
d. Review sequence of operation for each type of electrified door hardware.
e. Review required testing, inspecting, and certifying procedures.
f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.
   1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
   2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
      a. Mechanical Warranty
         1) Locks
            (a) Schlage L Series: 3 years
            (b) Schlage ALX Series: 10 years
         2) Exit Devices
            (a) Von Duprin: 3 years
            (b) Falcon: 10 years
         3) Closers
            (a) LCN 1450 Series: 25 years
            (b) LCN 1250 Series: 15 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."
   1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication
   1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
   2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted

finish.

3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
   1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:
   1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
   2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
   3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Ives 5BB series

B. Requirements:
   1. Provide hinges conforming to ANSI/BHMA A156.1.
   2. Provide five knuckle, ball bearing hinges.
   3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
      a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
      b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
   4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
      a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
      b. Interior: Heavy weight, steel, 5 inches (127 mm) high
   5. 2 inches or thicker doors:
      a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
      b. Interior: Heavy weight, steel, 5 inches (127 mm) high
   6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
   7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
   8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
      a. Steel Hinges: Steel pins
      b. Non-Ferrous Hinges: Stainless steel pins
      c. Out-Swinging Exterior Doors: Non-removable pins
      d. Out-Swinging Interior Lockable Doors: Non-removable pins
      e. Interior Non-lockable Doors: Non-rising pins
   9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 MORTISE LOCKS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Schlage L9000 series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
    a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
    b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
    c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
    d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
    e. Connections – provide quick-connect Molex system standard.
8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
    a. Lever Design: 06A (Rhodes).

2.05 CYLINDRICAL LOCKS – GRADE 2

A. Manufacturers and Products:
    1. Scheduled Manufacturer and Product:
        a. Schlage ALX series

B. Requirements
    1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 2, and UL Listed for 3-hour fire doors with a minimum cycle life of 1 million.
    2. Cylinders: Refer to "KEYING" article, herein.
    3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide ¾" latch throw for UL listing at pairs.
    4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
    5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
    6. Provide a minimum of 5 points of lever engagement between the cassette spindle and lever shank to prevent lever sag.
    7. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
    8. Plug-n-Play – Provide modular lockset allowing lock functions to be created for 7 typical functions by inserting/installing parts into the exterior of a fully assembled chassis
    9. Reconfigurable Chassis - Provide modular lockset that allows the function to be reconfigured by removing external components from the chassis
    10. Lever Trim: Solid cast levers and wrought roses on both sides.
        a. Lever Design: Rhodes.

2.06 EXIT DEVICES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Von Duprin 99/33A series

B. Requirements:
   1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
   2. Cylinders: Refer to "KEYING" article, herein.
   3. Provide grooved touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
   4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
   5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
   6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
   7. Provide flush end caps for exit devices.
   8. Provide exit devices with manufacturer's approved strikes.
   9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
   10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
   11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
   12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
   13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
   14. Provide electrified options as scheduled.
   15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
   16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.07 EXIT DEVICES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Falcon 24/25 series

B. Requirements:
   1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
   2. Cylinders: Refer to "KEYING" article, herein.
   3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
   4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
   5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
   6. Provide flush end caps for exit devices.
   7. Provide exit devices with manufacturer's approved strikes.
   8. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.

9. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
10. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
11. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.
14. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.08 ACCESS CONTROL READER

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Schlage MT Series

B. Requirements:
   1. Provide access control card readers manufactured by a global company who is a recognized leader in the production of access control devices. Card reader manufactured for non-access control applications are not acceptable
   2. Provide multi-technology contactless readers complying with ISO 14443.
   3. Provide access control card readers capable of reading the following technologies:
      a. CSN - DESFire® CSN, HID iCLASS® CSN, Inside Contactless PicoTag® CSN, ST Microelectronics® CSN, Texas Instruments Tag-It®, CSN, Phillips I-Code® CSN
      b. 125 KHz proximity - Schlage® Proximity, HID® Proximity, GE/CASI® Proximity, AWID® Proximity, LenelProx®
      c. MHz Smart card - Schlage smart cards using MIFARE Classic® EV1, Schlage smart cards using MIFARE Plus®, Schlage smart cards using MIFARE® DESFire® EV1, Schlage smart cards using MIFARE® DESFire® EV2/EV3

2.09 ACCESS CONTROL READER

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Schlage MTB Series

B. Requirements:
   1. Provide access control card readers manufactured by a global company who is a recognized leader in the production of access control devices. Card reader manufactured for non-access control applications are not acceptable.
   2. Provide multi-technology contactless readers complying with ISO 14443.
   3. Provide access control card readers capable of reading the following technologies:
      a. CSN - DESFire® CSN, HID iCLASS® CSN, Inside Contactless PicoTag® CSN, ST Microelectronics® CSN, Texas Instruments Tag-It®, CSN, Phillips I-Code® CSN
      b. 125 KHz proximity - Schlage® Proximity, HID® Proximity, GE/CASI® Proximity, AWID® Proximity, LenelProx®
      c. MHz Smart card - Schlage smart cards using MIFARE Classic® EV1/EV3, Schlage smart cards using MIFARE Plus®, Schlage smart cards using MIFARE® DESFire® EV1/EV3, Schlage smart cards using MIFARE® DESFire® EV2/EV3
      d. MHz NFC (mobile), 2.45 GHz Bluetooth (mobile) - Mobile means compatible with Bluetooth and NFC-enabled smartphones.

2.10 ACCESS CONTROL CREDENTIALS

A. Manufacturer:
   1. Scheduled Manufacturer:
      a. Schlage

B. Requirements:
   1. Provide access control credentials ISO 14443 compliant and GSC-IS® certified compatible with access control readers that allow authorized entry and hold information specific to the user.
   2. Provide credentials that have an ISO MIFARE microprocessor, function at 13.56 MHz, 8kbits of memory, open memory architecture, and a passive design requiring no batteries.
   3. Provide credentials made of a composite material for added durability that have a read range of up to 4 inches, support up to a 40-bit format.
   4. Provide credentials which, when presented to the access control reader at any angle within a minimum distance of one 1-inch, will result in an accurate reading of the card.

2.11 OFFLINE CONTROLLER

A. Manufacturer and Product:
   1. Scheduled Manufacturer and Product:
      a. Schlage CTE Engage Controller

B. Requirements:
   1. Provide an offline single opening controller UL 294 listed and compatible with the Schlage Engage Application. Include a multi-technology reader kit.
   2. Provide interfaces for a multi-technology credential reader, powered and dry output relays for strike, alarm, and auxiliary function, and with wireless communication capability.
   3. Provide offline controller with the following communication standards:
      a. Bluetooth low energy version 4.2.
      b. GHz Wi-Fi (IEEE 802.11b/g/n).
      c. WPA2, WPA, WEP, 802.1x (PEAP).
      d. Transport Layer Security (TLS) version 12.
      e. Advanced Encryption Standard (AES) 256-bit.
   4. Provide offline controller with the following signal inputs:
      a. One Schlage MT11-485 or MT15-485 reader.
      b. Request to Enter (REN).
      c. Request to Exit (REX).
      d. Remote Release – hardwired.
      e. Door Position Switch (DPS).
      f. Reader tamper (TAMP).
   5. Provide offline controller with the following signal outputs:
      a. Card Reader 0.3A at 12 VDC for up to 500 feet.
      b. Locking mechanism: 2A at 30 VDC max.
      c. Auxiliary: 2A at 30 VDC max.
      d. Alarm: 2A at 30 VDC max.
   6. Provide offline controller with the following with operating temperatures between -31 F (-35 C) to 151 F (66 C).
   7. Provide offline controller with the following on board database:
      a. up to 5,000 users
      b. up to 2,000 audits (FIFO)
      c. up to 16 Time Zones
      d. up to 32 Holiday Schedules
      e. up to 16 Schedules (lock & unlock)
   8. Provide offline controller with the following connectivity options:
      a. Apple or Droid smart phone – Bluetooth updates to CTE.
      b. Wi-Fi access point – automatic daily updates (one time per day) if connected to Wi-Fi.

C. Provide offline controller with "No-Tour" with MT20W enrollment reader and Schlage 1K smart credentials (13.56 MHz).

2.12 ACCESS CONTROL PLATFORM

A. Manufacturers and Products:
   1. Scheduled Manufacturer:
      a. Schlage Engage

B. Requirements:
   1. Provide a cloud-based platform capable of managing users, credentials, access rights, schedules, and audits.
   2. All locks must be supplied in construction mode.
   3. Provide a platform that supports a mobile application (app). Mobile application must allow for:
      a. Commissioning and configuring devices
      b. Immediately updating door files
      c. Retrieving audit information
      d. Performing firmware updates
   4. Provide software set up on the owner's workstation and Mobile Device which includes:
      a. Creation of the Owner's Account
      b. Creation of the Project Site
      c. Creation of the Team as directed by the Owner
      d. Addition of five users
      e. Set up of MT20W and update firmware
      f. Create unique credentials and verify proper commissioning of ten locks
   5. Provide, at the owner's request, the following on-site training prior to the expiration of the service agreement:
      a. Completing the following with ENGAGE software:
         1) Modifying the Team
         2) Move in/move out procedure including
            (a) Adding and Deleting Users
            (b) Adding and Deleting Doors
         3) Adding, assigning and programming credentials for access
         4) Replacing or deleting lost credentials.
         5) Retrieving and viewing of audit information
         6) Assigning temporary access
      b. Commissioning and verifying proper functioning between locks and credentials.
      c. Updating firmware on the locks.
   6. Must include a service agreement ending a year after Substantial Completion. This service agreement includes being on-site up to 16 hours for set-up and training, as listed above.

2.13 ELECTRIC STRIKES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Von Duprin 6000 Series

B. Requirements:
   1. Provide electric strikes designed for use with type of locks shown at each opening.
   2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
   3. Where required, provide electric strikes UL Listed for fire doors and frames.
   4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.14 POWER SUPPLIES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Schlage/Von Duprin PS900 Series

B. Requirements:
   1. Provide power supplies approved by manufacturer of supplied electrified hardware.
   2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
   3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
   4. Provide power supplies with the following features:
      a. 12/24 VDC Output, field selectable.
      b. Class 2 Rated power limited output.
      c. Universal 120-240 VAC input.
      d. Low voltage DC, regulated and filtered.
      e. Polarized connector for distribution boards.
      f. Fused primary input.
      g. AC input and DC output monitoring circuit w/LED indicators.
      h. Cover mounted AC Input indication.
      i. Tested and certified to meet UL294.
      j. NEMA 1 enclosure.
      k. Hinged cover w/lock down screws.
      l. High voltage protective cover.

2.15 CYLINDERS

A. Manufacturers: Schlage
   1. Scheduled Manufacturer and Product:
      a. C Keyway, match existing

B. Requirements:
   1. Provide cylinders to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.

2.16 KEYING

A. Scheduled System:
   1. Existing factory registered system:
      a. Provide cylinders/cores keyed into Owner's existing factory registered keying system. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:
   1. Construction Keying:
      a. Temporary Construction Cylinder Keying.
         1) Provide construction cores that permit voiding construction keys without cylinder removal, furnished in accordance with the following requirements.
            (a) Split Key or Lost Ball Construction Keying System.
            (b) 3 construction control keys, and extractor tools or keys as required to void construction keying.
            (c) 12 construction change (day) keys.
         2) Owner or Owner's Representative will void operation of temporary construction keys.
   2. Permanent Keying:
      a. Provide permanent cylinders keyed by the manufacturer according to the following key system.
         1) Master Keying system as directed by the Owner.

b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
c. Provide keys with the following features:
   1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
   2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
d. Identification:
   1) Identification must be approved by the Architect and Owner.
   2) Failure to comply with identification requirements will be cause for replacement of keys involved at no additional cost to Owner.
   3) Forward permanent keys to Owner, as directed by Owner.
e. Quantity: Furnish in the following quantities.
   1) Change (Day) Keys: 3 per cylinder/core.
   2) Master Keys: 6.

2.17 KEY CONTROL SYSTEM

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Telkee

B. Requirements:
   1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
      a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
      b. Provide hinged-panel type cabinet for wall mounting.

2.18 DOOR CLOSERS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. LCN 1450 series

B. Requirements:
   1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory.
   2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
   3. Closer Body: 1-3/8-inch (35 mm) diameter with 5/8-inch (16 mm) diameter pinion journal diameter heat-treated pinion journal and full complement bearings.
   4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
   5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
   6. Pressure Relief Valve (PRV) Technology: Not permitted.
   7. Provide stick on and special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.19 DOOR CLOSERS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. LCN 1250 series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory.
2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
3. Closer Body: 1-3/8-inch (35 mm) diameter with 5/8-inch (16 mm) diameter pinion journal diameter heat-treated pinion journal and full complement bearings.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Pressure Relief Valve (PRV) Technology: Not permitted.
7. Provide stick on and special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.20 DOOR TRIM

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives

B. Requirements:
   1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.21 PROTECTION PLATES

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives

B. Requirements:
   1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
   2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
   3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.22 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:
   1. Scheduled Manufacturers:
      a. Glynn-Johnson

B. Requirements:
   1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
   2. Provide friction type at doors without closer and positive type at doors with closer.

2.23 DOOR STOPS AND HOLDERS

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives

B. Provide door stops at each door leaf:
   1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
   2. Where a wall stop cannot be used, provide universal floor stops.
   3. Where wall or floor stop cannot be used, provide overhead stop.

4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.24 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Zero International

B. Requirements:
   1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
   2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
   3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
   4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.25 SILENCERS

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives

B. Requirements:
   1. Provide "push-in" type silencers for hollow metal or wood frames.
   2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
   3. Omit where gasketing is specified.

2.26 DOOR POSITION SWITCHES

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Schlage

B. Requirements:
   1. Provide recessed or surface mounted type door position switches as specified.
   2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

2.27 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:
   1. Hinges at Exterior Doors: BHMA 630 (US32D)
   2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
   3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
   4. Protection Plates: BHMA 630 (US32D)
   5. Overhead Stops and Holders: BHMA 630 (US32D)
   6. Door Closers: Powder Coat to Match
   7. Wall Stops: BHMA 630 (US32D)
   8. Latch Protectors: BHMA 630 (US32D)
   9. Weatherstripping: Clear Anodized Aluminum
   10. Thresholds: Mill Finish Aluminum

PART 3 EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
   1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
   2. Custom Steel Doors and Frames: HMMA 831.
   3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
   4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:
   1. Install construction cylinders to secure building and areas during construction period.
   2. Furnish permanent keys to Owner.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:
   1. Conduit, junction boxes and wire pulls.
   2. Connections to and from power supplies to electrified hardware.
   3. Connections to fire/smoke alarm system and smoke evacuation system.
   4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
   5. Connections to panel interface modules, controllers, and gateways.
   6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
   1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
   2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

HARDWARE GROUP NO. 100

3.06 FOR USE ON DOOR #(S):
301

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	□	630	IVE
1	EA	STOREROOM LOCK	ALX80P6 RHO	□	626	SCH
1	EA	LOCK GUARD	LG12	□	630	IVE
1	EA	SURFACE CLOSER	1250 SCUSH	□	689	LCN
1	EA	RAIN DRIP	142AA	□	AA	ZER
1	EA	GASKETING	8303AA	□	AA	ZER
1	EA	DOOR SWEEP	39A	□	A	ZER
1	EA	THRESHOLD	8655A	□	A	ZER

HARDWARE GROUP NO. 101

FOR USE ON DOOR #(S):
101A 102A 103A 104A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	□	630	IVE
1	EA	PANIC HARDWARE	99-NL-OP-110MD	□	626	VON
1	EA	RIM CYLINDER	20-022	□	626	SCH
1	EA	DOOR PULL	VR910 NL	□	630	IVE
1	EA	SURFACE CLOSER	1450 SCUSH FC	□	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS	□	630	IVE
1	EA	GASKETING	8303AA	□	AA	ZER
1	EA	DOOR SWEEP	39A	□	A	ZER
1	EA	THRESHOLD	8655A	□	A	ZER

HARDWARE GROUP NO. 102

FOR USE ON DOOR #(S):
112 114

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	□	630	IVE
1	EA	PRIVACY W/DB & IND	L9496P6 06A 09-544	□	626	SCH
1	EA	LOCK GUARD	LG12	□	630	IVE
1	EA	SURFACE CLOSER	1250 SCUSH	□	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-	□	630	IVE

			CS			
1	EA	GASKETING	8303AA		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	8655A		A	ZER

HARDWARE GROUP NO. 103

FOR USE ON DOOR #(S): 206A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	PANIC HARDWARE	CD-99-NL-OP-110MD		626	VON
1	EA	MORTISE CYLINDER	20-001		626	SCH
1	EA	RIM CYLINDER	20-022		626	SCH
1	EA	DOOR PULL	VR910 NL		630	IVE
1	EA	SURFACE CLOSER	1450 EDA FC		689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS18S		BLK	IVE
1	EA	GASKETING	8303AA		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	8655A		A	ZER

HEX DOG FOR PASSAGE FUNCTION

HARDWARE GROUP NO. 200

FOR USE ON DOOR #(S): 202

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	ALX80P6 RHO		626	SCH
1	EA	SURFACE CLOSER	1250 RW/PA		689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS		630	IVE

1	EA	FLOOR STOP	FS436	□		626	IVE
1	EA	GASKETING	188SBK PSA	□		BK	ZER

HARDWARE GROUP NO. 201

FOR USE ON DOOR #(S):
203 204 205

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	□		652	IVE
1	EA	ENTRANCE LOCK	ALX53P6 RHO	□		626	SCH
1	EA	WALL STOP	WS401/402CCV	□		626	IVE
1	EA	GASKETING	188SBK PSA	□		BK	ZER

HARDWARE GROUP NO. 202

FOR USE ON DOOR #(S):
206B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	□		652	IVE
1	EA	PANIC HARDWARE	99-L-NL-06	□		626	VON
1	EA	RIM CYLINDER	20-022	□		626	SCH
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	□	~	630	VON
1	EA	SURFACE CLOSER	1450 EDA FC	□		689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS	□		630	IVE
1	EA	WALL STOP	WS401/402CVX	□		626	IVE
3	EA	SILENCER	SR64	□		GRY	IVE
1	EA	CONTROLLER	CTE-MTB15-485-B	□	~	B	SCE
1	EA	ENROLLMENT READER	MT20W USB	□	~	BLK	SCE
1	EA	DESK MOUNT BUTTON	660-PB	□	~	628	SCE
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	□	~	BLK	SCE
1	EA	POWER SUPPLY	PS902 BBK 900-2RS 120/240 VAC	□	~	LGR	SCE
50	EA	CREDENTIAL	9651T	□		BLK	SCE

DOOR TO BE MANAGED BY FREE ENGAGE CLOUD SOFTWARE.

DOOR NORMALLY CLOSED AND LOCKED.
PRESENT CREDENTIAL TO CARD READER FOR ENTRY OR BY KEY OVERRIDE.
PUSH BUTTON IN DIR OFFICE TO PROVIDE REMOTE RELEASE AS NEEDED FOR NON-CREDENTIAL PERSONNEL.
FREE EGRESS AT ALL TIMES.
DOOR TO REMAIN LOCKED, FAIL SECURE DURING POWER FAILURE.

HARDWARE GROUP NO. 203

FOR USE ON DOOR #(S):
207

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	ALX10 RHO		626	SCH
1	EA	OH STOP	410S		689	GLY
1	EA	SURFACE CLOSER	1250 RW/PA		689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 204

FOR USE ON DOOR #(S):
208

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY LOCK	L9040 06A L583-363 L283-722		626	SCH
1	EA	SURFACE CLOSER	1250 RW/PA		689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS401/402CVX		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HARDWARE GROUP NO. 205

FOR USE ON DOOR #(S):
302

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	□	652	IVE
1	EA	STOREROOM LOCK	ALX80P6 RHO	□	626	SCH
1	EA	OH STOP	410S	□	689	GLY
1	EA	SURFACE CLOSER	1250 RW/PA	□	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS	□	630	IVE
1	EA	GASKETING	188SBK PSA	□	BK	ZER

HARDWARE GROUP NO. 206

FOR USE ON DOOR #(S):

303

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	□	652	IVE
1	EA	STOREROOM LOCK	ALX80P6 RHO	□	626	SCH
1	EA	OH STOP	450S	□	689	GLY
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS	□	630	IVE
1	EA	GASKETING	188SBK PSA	□	BK	ZER

HARDWARE GROUP NO. 207

FOR USE ON DOOR #(S):

101B 102B 103B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	□	652	IVE
1	EA	PANIC HARDWARE	25-R-L-DANE	□	626	FAL
1	EA	MORTISE CYLINDER	20-001	□	626	SCH
1	EA	SURFACE CLOSER	1450 SCUSH FC	□	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS	□	630	IVE
1	EA	GASKETING	188SBK PSA	□	BK	ZER

HARDWARE GROUP NO. 208

FOR USE ON DOOR #(S):

104B 201

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ALX70P6 RHO 13-247	626	SCH
1	EA	SURFACE CLOSER	1450 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS401/402CVX	626	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

END OF SECTION

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SECTION 08 80 00
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Insulating glass units.

B. Glazing units.

C. Plastic films.

D. Glazing compounds and accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 25 00 - Weather Barriers.

B. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.

C. Section 08 51 13 - Aluminum Windows: Glazing furnished by window manufacturer.

D. Section 10 28 00 - Toilet, Bath, and Laundry Accessories: Mirrors.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test 2015 (Reaffirmed 2020).

C. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers 2005 (Reapproved 2019).

D. ASTM C1036 - Standard Specification for Flat Glass 2021.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.

F. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass 2019.

G. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass 2021a.

H. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings 2016.

I. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation 2019.

J. GANA (GM) - GANA Glazing Manual 2022.

K. GANA (SM) - GANA Sealant Manual 2008.

L. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

M. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use 1990 (2016).

N. NFRC 100 - Procedure for Determining Fenestration Product U-factors 2023.

O. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence 2023.

P. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems 2023.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data on Insulating Glass Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

D. Samples: Submit two samples 8" by 8" inch in size of glass units.

E. Certificate: Certify that products of this section meet or exceed specified requirements.

F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM) and GANA (SM) for glazing installation methods.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

1.06 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F.

1.07 WARRANTY

A. Insulating Glass Units: Provide a ten (10) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

B. Heat Soaked Tempered Glass: Provide a five (5) year manufacturer warranty to include coverage for spontaneous breakage of fully tempered glass caused by nickel sulfide (NiS) inclusions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Glass Fabricators:
   1. Trulite Glass & Aluminum Solutions, LLC: www.trulite.com/#sle.
   2. Oldcastle Glass Group www.olcastleglass.com.
   3. Viracon, Inc: www.viracon.com/#sle.

B. Float Glass Manufacturers:
   1. Guardian Industries Corp.: www.sunguardglass.com.
   2. PPG Industries, Inc.: www.ppgideascapes.com.
   3. Viracon Inc.: www.viracon.com

C. Plastic Films Manufacturers:
   1. 3M Window Film: solutions.3m.com/wps/portal/3M/en_US/Window_Film/Solutions/#sle.
   2. Flexvue Films: www.flexvuefilms.com/#sle.
   3. Llumar, an Eastman Chemical Company: www.llumar.com/#sle.

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
   1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
   2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
   3. Glass thicknesses listed are minimum.

B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.

1. In conjunction with vapor retarder and joint sealer materials described in other sections.

C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
   1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
   2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
   3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
   2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
   3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
   4. Heat-Soak Testing (HST): Provide HST of fully tempered glass used on canopy, point-supported, spider wall, high-risk, sloping overhead, horizontal overhead, free-standing glass protective barrier, or other demanding applications of project, to reduce risks of spontaneous breakage due to nickel sulfide (NiS) induced fractures in accordance with industry established testing requirements.
   5. Thicknesses: 3/8 inch thick.

B. Laminated Glass: Float glass laminated in accordance with ASTM C1172.
   1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category I impact test requirements.

2.04 INSULATING GLASS UNITS

A. Manufacturers:
   1. Any of the manufacturers specified for float glass.
   2. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com/#sle.

B. Insulating Glass Units: Types as indicated.
   1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
   3. Spacer Color: As selected by Architect.
   4. Edge Seal:
      a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant as secondary seal applied around perimeter.
   5. Color: Solarban 60 Optigray.
   6. Purge interpane space with dry air, hermetically sealed.

2.05 BASIS OF DESIGN - INSULATING GLASS UNITS

A. Basis of Design - Insulating Glass Units: Vision glazing, with Low-E coating. Match Existing.
   1. Applications: Exterior insulating glass glazing unless otherwise indicated.
   2. Space between lites filled with argon.
   3. Total Thickness: 1 inch.
   4. Thermal Transmittance (U-Value): 29, minimum.
   5. Visible Light Transmittance (VLT): 50 percent, minimum.
   6. Solar Heat Gain Coefficient (SHGC): 30, minimum.
   7. Visible Light Reflectance: 8 percent, minimum.
   8. Glazing Method: Dry glazing method, gasket glazing.
   9. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision

glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.

10. Basis of Design - Match Existing.
11. Outboard Lite: Annealed float glass, 1/4 inch thick, minimum.
    a. Low-E Coating: Vitro Architectural Glass (formerly PPG Glass) Solarban 60 on #2 surface.
12. Inboard Lite: Heat-strengthened float glass, 1/4 inch thick.
    a. Glass: Clear.

2.06 GLAZING UNITS

A. Monolithic Interior Vision Glazing:
   1. Applications: Interior glazing unless otherwise indicated.
   2. Glass Type: Annealed float glass.
   3. Tint: Clear.
   4. Thickness: 1/4 inch, nominal.

2.07 PLASTIC FILMS

A. Solar Control Plastic Film: Mylar type. Vision blocking.
   1. Application: Locations as indicated on drawings.
   2. Color: Clear.
   3. Thickness Without Liner: 0.00236 inch.
   4. Manufacturers:
      a. 3M Window Films; White Matte Translucent Film: solutions.3m.com/wps/portal/3M/en_US/Window_Film/Solutions/#sle.
      b. Llumar, an Eastman Chemical Company; Solar Control Window Film, Llumar or Vista: www.llumar.com/#sle.

2.08 ACCESSORIES

A. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.

B. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that the minimum required face and edge clearances are being provided.

C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

D. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

C. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, etc.

3.04 INSTALLATION - DRY GLAZING METHOD (TAPE AND GASKET SPLINE GLAZING)

A. Application - Exterior Glazed: Set glazing infills from the exterior of the building.

B. Cut glazing tape to length; install on glazing pane. Seal corners by butting tape and sealing junctions with butyl sealant.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

D. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.

E. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.

F. Carefully trim protruding tape with knife.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

3.06 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove non-permanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.07 PROTECTION

A. Protect glass from breakage immediately upon installation, by attachment of crossed streamers to framing held away from glass.

B. Do not apply markers of any type to surfaces of glass.

C. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

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SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Gypsum wallboard.

C. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 07 21 00 - Thermal Insulation: Acoustic insulation.

C. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

D. Section 09 30 00 - Tiling: Tile backing board.

1.03 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2015.

B. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board 2004 (Reapproved 2014).

C. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2014, with Editorial Revision (2015).

D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2017a.

E. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2016.

F. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base 2014a.

G. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2014a.

H. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements 2009 (Reapproved 2016).

I. ASTM E413 - Classification for Rating Sound Insulation 2016.

J. GA-216 - Application and Finishing of Gypsum Panel Products 2016.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

A. Copies of Documents at Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

2.02 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. American Gypsum Company: www.americangypsum.com.
   2. CertainTeed Corporation: www.certainteed.com.
   3. Georgia-Pacific Gypsum: www.gpgypsum.com.
   4. National Gypsum Company: www.nationalgypsum.com/#sle.
   5. PABCO Gypsum: www.pabcogypsum.com.
   6. USG Corporation: www.usg.com.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces, unless otherwise indicated.
   2. Thickness:
      a. Vertical Surfaces: 5/8 inch.TypeXwhere required for fire rating.
      b. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
   3. Paper-Faced Products:
      a. American Gypsum Company; LightRoc Gypsum Wallboard.
      b. CertainTeed Corporation; Type C Drywall.
      c. Continental Building Products; Regular Drywall.
      d. Georgia-Pacific Gypsum; ToughRock.
   4. Mold Resistant Paper Faced Products:
      a. American Gypsum Company; M-Bloc.
      b. CertainTeed Corporation; M2Tech 5/8" Type C Moisture & Mold Resistant Drywall.
      c. Continental Building Products; Mold Defense.
      d. Georgia-Pacific Gypsum; ToughRock Mold-Guard.
      e. National Gypsum Company; Gold Bond XP Gypsum Board.

2.03 GYPSUM WALLBOARD ACCESSORIES

A. Finishing Accessories: ASTM C1047, galvanized steel, rolled zinc, or rigid plastic, unless noted otherwise.
   1. Types: As detailed or required for finished appearance.

B. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
   1. L-Trim with Tear-Away Strip: Sized to fit 5/8 inch thick gypsum wallboard.

C. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Fiberglass Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
   2. Paper Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
   3. Products:
   4. Joint Compound: Drying type, vinyl-based, ready-mixed.
      a. Products:
         1) CertainTeed Corporation; Extreme All-Purpose Joint Compound: www.certainteed.com/#sle.
         2) Continental Building Products: www.continental-bp.com/#sle.

D. Nails for Attachment to Wood Members: ASTM C514.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:
   1. Single-Layer Applications: Screw attachment.

3.03 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.04 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: At Mural and other applied graphics.Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.

C. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.05 TEXTURE FINISH

A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions and to match approved sample.

B. Texture Required: 70/30.

3.06 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

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SECTION 09 24 53
ONE-COAT STUCCO SYSTEM

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide Manufacturer's data on stucco materials, and installation instructions.

B. Samples: Submit 2 sets of Manufacturer's samples of available colors and textures. Submit sample of specified color and texture.

1.02 QUALITY ASSURANCE

A. Stucco system shall be installed by an applicator approved by the Manufacturer.

B. Mock-up Panel: Prior to installation of Stucco Work, provide 4 x 4 foot sample mock-up panel using materials specified for final Work. Construct sample as directed, and of full thickness. Demonstrate the proposed range of color, texture and workmanship to be expected in the completed Work. Obtain Architect's acceptance of visual qualities of the sample panel.

1.03 DELIVERY, STORAGE AND HANDLING

A. Packing and Shipping: Deliver materials to site in Manufacturer's original unopened packaging with labels intact.

B. Storage: Adequately protect against damage while stored at the site.

C. Handling: Comply with Manufacturer's instructions.

1.04 JOB CONDITIONS

A. Installer must examine surfaces to receive the stucco system and shall notify the Contractor in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

B. Protect adjacent surfaces from damage during installation of stucco system.

C. Stucco systems are applied at ambient air temperatures from 43 degrees F. to 120 degrees F..

D. Do not apply to frozen surfaces or surfaces containing frost.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Provide Western 1-Kote Exterior Stucco System in compliance with ICBO Report No. 1607 as manufactured by Western Stucco Company, Glendale, AZ. www.westernblended.com .

2.02 MATERIALS (STUCCO PRODUCTS)

A. Western 1-Kote Concentrate.

B. Sand must be clean and free from deleterious amounts of silt, loam, soluble salts, clay and organic matter. Sampling and testing must comply with ASTM C897.

C. Water shall be clean, fresh, suitable for domestic consumption and free from such amounts of mineral and organic substances as would affect the stucco.

2.03 MATERIALS (LATH PRODUCTS)

A. Weather Resistive Barrier: Breather typ asphalt saturated paper, water vapor permeable.

B. Insulation Board: Dow, minimum 1" thick, 4-sided, tongue and groove rigid insulation board with a nominal density of 1.0 lb. per cubic foot. Class 1 flame rating and smoke density less than 450. 4 inch thick at pop-outs and as required for window sill details.

C. Lath: Minimum 20 gauge, 1 inch galvanized steel wire fabric or 3.4 pounds/square yard expanded metal lath fabricated from copper bearing steel and painted, or zinc alloy. Lath must be self furred when applied over all substrates except polystyrene insulation board. Self furring lath must have sufficient clearance between the wire and substrate to allow embedment in the

Base Coat. All lath and lath attachments shall be of corrosion resistant materials.

D. Accessories: Coordinate depth of accessories with thickness and number of coats required. All trims to be either fabricated from galvanized metal, zinc coated, or plastic.
   1. Corner Reinforcement: Pre-formed corners with expanded flanges having either small nose or radius corners or expanded metal lath reinforcement extending minimum of 3 inches in either direction for large radius corners.
   2. Casing Beads: Pre-formed "J" trim for stucco terminations. Perforated for weep screed when required.
   3. Control Joints: One piece "V" or “J” profile trim with expanded flanges when required.
   4. Expansion Joints: Two piece, adjustable width slip joint or pair casing beads installed back to back to allow for excessive movement between dissimilar substrates.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:
   1. Examine subsurfaces and supports to receive Work and report detrimental conditions in writing, with a copy to Architect. Commencement of Work will be construed as acceptance of subsurfaces.
   2. Verify, before proceeding with this Work, that required inspections of existing conditions have been completed.

B. Coordination with other Work: Coordinate with other work and trades which affect, connect with, or will be concealed by this Work.

3.02 LATH INSTALLATION

A. Weather Resistive Barrier: Install weather resistive barrier directly to framing using adhesive or other approved method to hold in place. Lap sides and ends a minimum of 1-1/2 inches.

B. Insulation Board: Rigid insulation shall be applied directly over weather resistive barrier and studs. The insulation boards shall be placed horizontally with tongues upward to prevent water penetration. All vertical butt joints must be tight, staggered and occur on studs. The insulation boards shall be temporarily held in place with galvanized staples, roofing nails, or self tapping screws.

C. Lath: Over insulation board, install lath beginning at bottom of wall and apply with long dimension across supports. Lap sides and ends a minimum of 1-1/2 inches. Make end laps of lath only over supports and stagger end laps in adjacent courses. Bend lath around all corners, both internal and external, or provide additional reinforcing lath.

D. Fastening: Fasten lath through sheathing and into steel studs using No. 8 x 1-5/8", Type S Wafer Head Screws installed a minimum of 6 inches on center, and penetrating a minimum of 1/4 inch into the steel stud.

E. Accessories:
   1. Install corner beads or corner reinforcement at all external corners.
   2. Install casing beads where stucco stops and at all stucco terminations.
   3. Install weep screed at base.
   4. Install control joints at corners of doors, windows or wall openings, and in the stucco field to create panels no larger than 144 square feet. Distance between control joints should not exceed 12 feet in any direction.
   5. Install expansion joints where dissimilar substrates meet and at structural expansion joints.

3.03 STUCCO APPLICATION

A. Proportioning and Application: Mix in accordance with ICC report #1607.

B. Application of Base Coat: Apply by hand trowel or machine spray to a minimum thickness of 3/8 inch. Bring surface to a true and even plane using rod or darby as required for desired finish. Float surface to remove irregularities and leave ready to receive finish coat. Follow

manufacturer's recommendations regarding hydration after application to ensure proper curing.

C. Application of Finish: Follow instructions of finish coat manufacturer shall be sufficient to achieve the texture specified. When applying the finish, plan Work so that the entire wall can be completed at one time in order to eliminate joining lines. If not practical, use a corner, door or window as a breaking point.

3.04 ADJUST AND REPAIR

A. Upon completion, point-up stucco around trim and other locations where stucco meets dissimilar materials.

B. Cut out and patch damaged stucco.

C. Match patch of damaged stucco to existing Work in form, texture and color.

3.05 CLEANING

A. During the course of the Work and on completion, remove and dispose of excess materials, equipment and debris away from premises. Leave Work in clean condition.

END OF SECTION

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SECTION 09 51 00
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings 2022.

B. ASTM E1264 - Standard Classification for Acoustical Ceiling Products 2023.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on suspension system components.

C. Samples: Submit two samples 6 inch in size illustrating material and finish of acoustical units.

D. Samples: Submit two samples each, 6 inches long, of suspension system main runner.

1.05 QUALITY ASSURANCE

A. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustic Tiles/Panels:
   1. Rockfon Pacific.
   2. Or approved equal.

B. Suspension Systems:
   1. CertainTeed Corporation: www.certainteed.com/#sle.

2.02 ACOUSTICAL UNITS

A. Acoustical Panels: Mineral fiber with scrubbable finish, with the following characteristics:
   1. Classification: ASTM E1264 Type IX.
      a. Pattern: Rockfon Pacific.
   2. Size: 24 by 24 inches.
   3. Thickness: 3/4 inch.
   4. NRC Range: 60 to 60, determined in accordance with ASTM E1264.
   5. Panel Edge: Square.
   6. Color: White.

2.03 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

2.04 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

B. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

C. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

D. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

F. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

G. Do not eccentrically load system or induce rotation of runners.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install units after above-ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

F. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

3.04 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09 65 00
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient tile flooring.

C. Resilient base.

D. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

A. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing 2004 (Reapproved 2014).

B. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile 2013a.

C. ASTM F1861 - Standard Specification for Resilient Wall Base 2016.

D. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing 2004 (Reapproved 2014).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

D. Concrete Testing Standard: Submit a copy of ASTM F710.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Do not double stack pallets.

1.07 FIELD CONDITIONS

PART 2 PRODUCTS

2.01 SHEET FLOORING

A. Vinyl Sheet Flooring: Homogeneous without backing, with color and pattern throughout full thickness.
   1. Manufacturers:
      a. AHF Contract.
      b. _____.
   2. Minimum Requirements: Comply with ASTM F1913.
   3. Wear Layer: 20 mil.

4. Thickness: 087 inch nominal.
5. Pattern: Mixed and Varigated.
6. Color: Neutral Toned 78.74 in homogeneous Sheet #1HG2M016.

B. Vinyl Sheet Flooring - Adult Bathrooms: Color and pattern throughout wear layer thickness, with backing.
1. Manufacturers:
a. Forbo - Marmoleum.
2. Minimum Requirements: Comply with ASTM F1303, Type II, with Class A fibrous backing.
3. Wear Layer Thickness: Wear Layer: 20 mil..
4. Pattern: Concrete.
5. Color: Astroid, 3732.

2.02 TILE FLOORING

A. Vinyl Tile: Printed film type, with transparent or translucent wear layer.
1. Manufacturers:
a. Armstrong: Luxury Vinyl Tile.
2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
3. Square Tile Size: 12 by 24 inch.
4. Wear Layer Thickness: 0.020 inch.
5. Total Thickness: .098 inch.
6. Pattern: Biome Collection.
7. Color: Montante Mont Blanc #ST250.

2.03 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove.
1. Manufacturers:
a. Johnsonite, a Tarkett Company: www.johnsonite.com/#sle.
2. Height: 6 inch.
3. Thickness: 0.125 inch.
4. Finish: Satin.
5. Color: Pewter #38.

B. Seamless Vinyl Base:
1. Same as Seamless Vinyl Flooring:
2. Height: 6 inch.

2.04 ACCESSORIES

A. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.

B. Moldings, Transition and Edge Strips: Same material as flooring.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Clean substrate.

C. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Adhesive-Applied Installation:
   1. Spread only enough adhesive to permit installation of materials before initial set.

D. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

3.04 INSTALLATION - SHEET FLOORING

A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.

3.05 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

B. Install loose-laid tile, fit interlocking edges tightly.

3.06 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.07 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.08 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

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SECTION 09 68 13
TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

1.02 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 01 74 19 - Construction Waste Management and Disposal: Reclamation/Recycling of new carpet tile scrap.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.06 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Tile Carpeting:
   1. Shaw Contract, Colorform Tile, www.shawcontract.com.

2.02 MATERIALS

A. Tile Carpeting: Fusion bonded, manufactured in one color dye lot.
   1. Product: Colorform Tile, 5T112 manufactured by Shaw.
   2. Tile Size: 24 by 24 inch, nominal.
   3. Thickness: 0.226 inch.
   4. Color: Imply 81485.
   5. Pattern: Multi-level pattern loop.
   6. Gage: 1/12 inch.
   7. Stitches: 9 per inch.
   8. Primary Backing Material: synthetic.
   9. Secondary Backing Material: ecoworx tile.
   10. Total Weight: 16.0 oz/sq yd.
   11. Installation Method: Brick.

2.03 ACCESSORIES

A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge Strips: Embossed aluminum, _____ color.

C. Adhesives:
   1. Compatible with materials being adhered; maximum VOC content as specified in Section 01 61 16.

D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

C. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.

C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

D. Vacuum clean substrate.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Locate change of color or pattern between rooms under door centerline.

G. Trim carpet tile neatly at walls and around interruptions.

H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 91 00
PAINTING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Painting as specified and as noted on Drawings. Surfaces requiring finishing and left unfinished by the requirements of other Sections shall be painted or finished as part of the Work of this Section.

1.02 DEFINITIONS

A. Touch-Up: Painting of items missed by painter at no additional cost to Owner.

B. Re-Paint: Repairs to paint work for damages caused by other trades.

1.03 SUBMITTALS

A. Product Data: Submit schedule of manufacturers of products required for the Work, together with specifications recommended by each manufacturer.

B. Samples: Submit samples of each type of finish specified.
   1. Architect will furnish Contractor a color schedule of colors selected either from manufacturer's stock colors or specially requested color mixes before Work is begun.
   2. Submit two 8 inch x 10 inch (200mm x 250mm) samples of each color, including the correct sheen and texture, on heavy cardboard or masonry. Submit sealer and stain finishes on material of the same quality and species of wood on which that particular finish shall be used. Rejected samples shall be resubmitted until approved.
   3. Samples shall be submitted at least 30 days prior to the start of painting work. Label and identify each sample as to location and application. Upon submittal of color samples, minor variations or changes in color selection may be requested by the Architect and new samples ordered, until final color approval.

1.04 QUALITY ASSURANCE

A. Standards: Preparation, application and workmanship shall be in accordance with manufacturer's recommendations and applicable provisions of the following:
   1. Painting and Decorating Contractors of America (PDCA) "Painting Specification Manual" and "Standards".
      a. PDCA P1-92, "Touch-Up Painting and Damage Repair - Financial Responsibility:" A properly painted surface shall be as defined in this Standard.
      b. PDCA P2-92, "Third Party Inspection Qualifications and Responsibilities."
      c. PDCA P3-93, "Designation of Paint Colors."
      d. PDCA P4-94, "Responsibilities for Inspection and Acceptance of Surfaces Prior to Painting and Decorating."
      e. PDCA P5-94, "Benchmark Sample Procedures for Paint and Other Decorative Coating Systems."
   2. Gypsum Association - GA210, "Gypsum Board for Walls and Ceilings."
   3. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
   4. GreenSeal GS-11 - Paints; 1993.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping: Deliver materials to site in manufacturer's sealed containers, legends and labels, intact.

B. Storage:
   1. Adequately protect against damage while stored at site.
   2. In no case shall the amount or method of materials stored exceed the amount permitted or the manner allowed by local ordinances, state laws, or fire underwriter regulations.

1.06 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Do not apply exterior paint in damp or rainy weather or until after the surface has dried thoroughly from the effects of such weather.
   1. Do not apply varnish or paint when temperature is below 50 degrees F.(10 degrees C.). Avoid painting surfaces exposed to hot sunlight.
   2. During interior application, maintain minimum temperature of 65 degrees F. (18 degrees C.) unless otherwise directed by Architect or manufacturer's printed instructions. Hold temperature as constant as possible.
   3. Provide adequate ventilation at all times so the humidity cannot rise above the dew point of the coldest surface to be painted.
   4. Moisture-containing surfaces, such as concrete, stucco and cement plaster shall have a moisture content of less than 8 percent as measured by moisture meter. Remove surface salt deposits prior to painting. Verify that pH is neutral, or within acceptable limits of Paint Manufacturer. Paint after thoroughly cured.

1.07 MAINTENANCE

A. Extra Materials: Upon completion of the Work, furnish Owner with one fresh gallon of each type and color of paint and finish used on this Project. Label containers with manufacturer's name, batch, color, shelf life, instructions, and cautions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Furnish products of one of the following manufacturers, except as otherwise approved by Architect, subject to compliance with specification requirements.
   1. Dunn-Edwards Corporation www.dunnedwards.com
   2. The Sherwin Williams Company www.sherwin-williams.com
   3. PPG Paints, www.ppgpaints.com.
   4. Benjamin Moore www.benjaminmoore.com
   5. Tnemec www.tnemec.com

B. Low-Emitting Materials: All interior paint finishes must be Zero VOC products. Other interior products that do not have Zero VOC options must not exceed the VOC content limits listed in the May 1993 edition of the Green Seal Standard GS-11, Paints.

2.02 MATERIALS

A. Provide materials in accordance with the systems specified at the end of Part 3 of this Specification and as applicable to project. Contractor shall provide either waterborne or solventborne products at contractor's option and as follows:
   1. Waterborne:
      a. Provide where low odor and fast dry are desired.
      b. Non-blocking materials shall be used for doors, door jambs, railings and other locations subject to handling, or where surfaces will come into contact with other painted surfaces or belongings.
   2. Solventborne:
      a. Provide where harder finish is required (such as "wet" areas) and odor will not create problems with occupants.
      b. These products shall not be used where color retention is a concern. Verify with Architect.
   3. Materials used shall comply with applicable Federal and local air pollution regulations, lead content laws, and current VOC requirements. If products listed systems specified at the end of Part 3 of this Specification are not in compliance with regulations, laws, or requirements, Contractor shall notify Architect and shall provide information regarding substitute products.

B. Basic painting materials such as linseed oil, shellac, turpentine, thinners, driers, and other similar products, shall be of highest quality, made by reputable, recognized manufacturers, and have identifying labels on containers. Paint materials shall be factory fresh.

C. Alternate materials submitted for prior approval shall have qualities and materials equal to the other listed manufacturer's scheduled, top of the line, first quality products. Materials selected for coating systems for each type of surface shall be the products of a single manufacturer.

D. Standard Gloss Range: Provide paints in accordance with the following MPI standard ranges as measured in accordance with ASTM D523-08, and as indicated on the drawings:
   1. Gloss @ 60º Sheen @ 85º
   2. max. 5 units, and max. 10 units
   3. max. 10 units, and 10-35 units
   4. 10-25 units, and 10-35 units
   5. 20-35 units, and min. 35 units
   6. 35-70 units
   7. 70-85 units
   8. more than 85 units

E. Paints shall be ready mixed except for field catalyzed coatings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine subsurfaces to receive Work and report in writing with a copy to Architect, conditions detrimental to Work. Commencement of Work will be construed as acceptance of subsurfaces.

3.02 PROTECTION

A. Before painting, remove hardware, accessories, electrical plates, lighting fixtures and similar items and protect.
   1. Provide “Wet-Paint” signs and other barricades and protections as required to protect adjacent surfaces and work of other trades, whether being painted or not.
   2. Mask permanent labels.
   3. Provide, distribute, and maintain a sufficient supply of clean drop cloths and other protective coverings.
   4. Protect foliage and other exterior finished surfaces from contact with cleaning materials and thoroughly flush with water after contact.
   5. On completion of each space, replace above items.

3.03 SURFACE PREPARATION

A. General:
   1. Surfaces requiring painting or finishing shall be thoroughly dry and cured, free of dirt, dust, rust, stains, scale, mildew, wax, grease, oil, deteriorated substrates, bond-breakers, efflorescence and other foreign matter detrimental to the coating’s adhesion and performance. Repair voids, cracks, nicks and other surface defects with appropriate patching material. Finish flush with surrounding surfaces and match adjacent finish texture.
   2. Spot prime marred or damaged shop coats on metal surfaces with appropriate metal primer.
   3. Determine moisture content of plaster, stucco, cementitious materials, wood and other moisture-holding materials by use of a reliable electronic moisture meter.
   4. Determine alkalinity of plaster, stucco and other cementitious materials by performing appropriate tests.
   5. Do not paint surfaces where moisture content or alkalinity exceeds that which is allowed by paint manufacturer.

B. Wood:
   1. Sandpaper to smooth and even surface and then dust off. After primer or stain coat has been applied, thoroughly fill nail holes and other surface imperfections with putty tinted with primer or stain to match wood color. Sand woodwork between coats to a smooth surface. Cover knots and sap streaks with a thin coat of shellac, or seal with a suitable

stain blocking sealer.

2. Finish door and window edges after final fitting. Finish interior of cabinets in the same manner as the exterior unless otherwise specified. Seal interior of drawers unless otherwise specified.
3. Backpriming:
   a. Backprime exterior woodwork, which is to receive paint finish, with exterior primer paint.
   b. Backprime interior woodwork, which is to receive paint or enamel finish, with enamel undercoater paint.
   c. Backprime interior and exterior woodwork, which is to receive stain and/or varnish finish with VOC compliant varnish acceptable to the Architect.
   d. Back-prime wood trim before installation.
4. Where existing stained surfaces are indicated to be coated with a transparent stain, test apply stain to small area where directed by Architect and obtain Architects approval of color.

C. Steel and Iron:
1. Remove grease, oil, mill scale, rust and rust scale and touch-up chipped or abraded places on items that have been shop coated. Remove and reprime incompatible or damaged shop applied primers. Comply with the Steel Structures Painting Council's (SSPC) recommendations for cleaning of uncoated steel and iron surfaces.
2. When area will be exposed to view, sandpaper the entire primed area smooth, feather the edge of surrounding undamaged prime coat and spot prime in a manner to eliminate evidence of repair.
3. Where steel or iron at existing Work have a heavy coating of scale, remove by sand blasting, sanding, descaling, grinding or wire brushing, as necessary, to produce a satisfactory surface for painting.

D. Galvanized Metal and Aluminum:
1. Thoroughly clean by wiping surfaces with a non-hydrocarbon solvent that will not leave an oily residue. Apply surface conditioner or vinyl-wash pretreatment as required for proper adhesion if required by paint manufacturer. Prime galvanized metal with galvanized iron primer as recommended by paint manufacturer. A test sample of the complete painting system should be applied and checked for adhesion before final painting begins.
2. Clean visible portions of throats of galvanized steel ductwork with solvent; wipe dry with clean rags and paint flat black.

E. Concrete:
1. The method of surface preparation shall be at Contractor's discretion, provided the results are satisfactory to the Architect, and the method is in compliance with applicable codes and requirements.
2. Clean and prepare surfaces of tilt-up precast concrete wall panels to be painted by power washing surface to remove all efflorescence, chalk, dust, dirt, grease, oils and release agents.
3. Repair surfaces to be painted prior to application of prime and finish coat(s). Apply a tinted primer to the substrate to help identify surface imperfections. After the primer has thoroughly dried, patch, fill and repair surface imperfections to match and flush-out with adjacent finish texture and profile.
4. Before first paint coat is applied, spot prime nails and other exposed metal occurring in the surfaces with a rust inhibitive primer as recommended by paint manufacturer.

F. Plaster and Gypsum Board Surfaces:
1. Fill cracks, holes or imperfections with compatible patching material and smooth off to match adjoining surfaces. Before painting, surfaces shall be first tested for dryness with a moisture testing device.
2. Apply no paint or sealer on gypsum board or plaster when the moisture content exceeds 8 percent. Test sufficient areas in each space and as often as necessary to determine if the

surface has the proper moisture content for painting. If the moisture content is between 8 percent and 12 percent, prime with alkali resistant primer.

3. If 8 percent or less, prime with specified primer. Remove the dry salt deposits from plaster surfaces by brushing with a stiff brush before painting.

3.04 WORKMANSHIP

A. Apply products to achieve paint manufacturer's printed specifications for dry mil thickness

B. Apply each coat of paint evenly and comply with manufacturer's drying time before applying subsequent coats.

C. Finished work shall be uniform, match approved color, texture and coverage, and free from runs, sags, clogging or excessive flooding. Make edges of paint adjoining other materials or colors sharp and clean, without overlapping. Where varnishes or enamel is used, lightly sand, dust and clean undercoats to obtain a smooth finish coat. Sand carefully between each coat of finish on smooth surfaces for good adhesion of subsequent coats.

D. Where clear finishes are required, ensure tinted fillers match wood. Work fillers well into the grain before set. Wipe excess from the surface.

E. Where specific mil thicknesses are required, check thickness by the following methods:
   1. Over ferrous metal - Elecometer Film Gauge
   2. Other surfaces - Tooke Dry Mil Inspection Gauge

3.05 APPLICATION

A. The number of coats scheduled is the minimum number of coats required. Additional coat(s) shall be applied, at no additional cost to the Owner, to completely hide base material, provide uniform color and to produce satisfactory finish results.

B. Apply coatings without thinning except as specifically required by label directions, or required by these specifications. In such cases, thinning shall be the minimum reduction permitted.

C. Priming will not be required on items delivered with prime or shop coats, unless otherwise specified. Touch up prime coats applied by others as required to ensure an even primed surface before applying finish coat.

D. Block Fillers: Provide level of block fill as scheduled to conform with the following PDCA Industry Standard P12 Level of Block Filler:
   1. Level 1 - Economy fill: One coat applied with equipment specified by the coating manufacturer. This level reduces the quantity of paint required for succeeding paint coats. It reduces some irregularities in masonry profile depth. It is normal that voids will remain, depending on the porosity and profile depth of the block. The block filler shall be applied at the spreading rate recommended by the manufacturer. This level is normally used in spaces that are not occupied by the public and in stairways of high rise buildings.
   2. Level 2 - Standard fill: One coat applied with equipment specified by the coating manufacturer. Backrolling will be performed as necessary to attempt to fill deep irregularities. Masonry profile depth will be slightly reduced. Joints will be visible as tooled. Number of voids will be minimized, but voids may remain depending on the porosity of the block. A maximum of ten voids per square foot of surface area shall be deemed to be acceptable. The block filler shall be applied at the spreading rate recommended by the manufacturer. This level is normally used in finished areas that are occupied by the public.
   3. Level 3 - Premium fill: One or multiple coats of high performance block filler manufactured to be applied at a high dry film build. Block filler shall be backrolled to eliminate voids and reduce the majority of the masonry profile depth. This system, with an appropriate paint finishing system, produces a surface that is easier to clean to meet health regulations. Exterior use of this level of block filler, with an appropriate paint finishing system, will reduce water intrusion at exterior walls.

E. Plumbing, Mechanical and Electrical:
   1. Exterior and interior exposed water, gas, waste piping, sprinkler piping, conduit, lighting and electrical panels, telephone terminal boxes, galvanized ducts and insulated ducts,

shall be painted in areas other than mechanical rooms, unless otherwise scheduled.
2. Paint exposed unfinished fixtures, metal ducts, switch boxes, control panels, devices, starters, junction boxes, vents, drains, and other similar items, as directed by Architect.

F. Spray paint prime coated (not pre-finished) grilles and registers with enamel or lacquer to match walls and ceilings. Paint materials shall not sag, run or bind movable parts of grilles, registers, louvers, baffles and other similar items.
1. Throats of ducts shall be given one coat of flat black paint, wherever visibility of the interior of the duct is allowed through registers or other similar items. At fiber lined duct, use black latex paint.
2. Examine the Mechanical and Electrical Drawings and Specifications to determine the amount of exposed work to be painted.

G. Paint exposed surfaces of every member, paint items inaccessible after installation before installation, if required to be painted. Paint all exposed surfaces of overhead roof or floor structures, including deck, except where specifically indicated not to be painted.

H. Edges, tops, and bottoms of wood doors shall be sealed and finished with the same finish as the door faces, to meet door manufacturer's warranty requirements. Verify edge color with Architect as different colors may be selected for each face.

I. Paint items fitted with finish hardware after hardware has been temporarily removed.

J. Heating and other equipment on or adjacent to walls or surfaces scheduled for painting, shall be disconnected, using workmen skilled in appropriate trades and moved temporarily to permit painting of surface. Following completion of painting, replace and reconnect items.

K. Each succeeding pigmented coat shall be distinguishably lighter than the previous coat. Tint prime and undercoats to a color similar to finish coat. Each coat of material applied must be inspected and approved by the Architect before the application of the succeeding specified coat; otherwise no credit for the concealed coat will be given, and the Contractor shall assume the responsibility to recoat work in question. Contractor shall notify the Architect when each coat is completed.

L. Brush, wipe or roll stain in 2 coat application. Avoid lap marks by maintaining "wet-edge" continually being merged with existing liquid coverage and stop only at natural edges, turns and breaking places.

M. Do not paint over Underwriters' Laboratory labels, fusible links, exposed sprinkler heads and other similar items.

N. Paint piping, electrical or other equipment, conduit, vents and other similar items, on roof or other exterior locations as directed by Architect.

O. Finish closets and the interior of cabinets with same color as adjoining rooms, unless otherwise specified. Finish other surfaces same as nearest or adjoining surfaces, unless otherwise shown or scheduled.

P. Paint surface of walls which will be concealed by cabinets and other items mounted on or attached to walls.

3.06 ADJUSTING

A. At completion, do touch-up and re-paint work and leave finish surfaces in good condition.

3.07 CLEANING

A. During the course of the Work, remove misplaced paint and stain spots or spills. Leave Work in clean condition acceptable to Architect.

B. Remove oily rags and waste daily, taking precaution to prevent fire.

3.08 SCHEDULES

A. Color Schedule:
1. Architect will provide a complete schedule of colors. Colors may be selected from various manufacturer's color palettes. Manufacturer supplying paint shall match these colors.

Contractor shall prepare duplicate set of samples of treatments for major surfaces. If a specific surface or item receiving a paint finish does not have a specific color indicated or selected by the Architect, obtain clarification from the Architect. Do not assume the confirmation of the same color on the adjacent surfaces.

2. Final coat of paint shall be not be applied until colors have been approved by the Architect.

B. Finishing of the following listed items and materials will not be required and shall be protected:
   1. Stainless Steel, brass, bronze, copper, monel, chromium, anodized aluminum; specially finished articles such as porcelain enamel, plastic coated fabrics, and baked enamel, unless otherwise indicated.
   2. Finished products such as ceramic tile, glass, brick, resilient flooring and acoustical tiles, board and metal tees.
   3. Pre-finished products such as wood folding partitions and doors, wood classroom and laboratory casework, bleachers and elevator cabs.

3.09 EXTERIOR PAINT FINISHES

A. System 101 (Ferrous Metals): Apply to exposed steel such as beams and column connectors, metal doors and frames, grilles, light fixture standards in parking areas, metal handrails, sectional and coiling doors, canopy overhangs and other exposed miscellaneous ferrous metals that are not pre-finished.
   1. 1st Coat: Ferrous Metal Primer (Red or White color as applicable to finish coats).
      a. Dunn-Edwards Bloc-Rust Premium Int./Ext. Rust Preventative Metal Primer (BRPR00).
      b. Sherwin Williams Pro-Cryl Universal Acrylic Primer (B66-310 Series).
      c. PPG Paints: Pitt Tech Plus DTM Acrylic Primer 90-9120.
   2. 2nd Coat: Same material as 3rd coat in accordance with manufacturer's recommendations.
   3. 3rd Coat:
      a. Semi-Gloss unless noted otherwise. Enamel, Semi-Gloss - Waterborne (100% Acrylic - Non-Blocking).
         1) Dunn-Edwards Spartashield 100% Acrylic Ext. Semi-Gloss Paint (SSHL50).
         2) Sherwin Williams Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
         3) PPG Paints: Sun Proof 100% Acrylic Exterior Semi-Gloss 78-45XI.

B. System 102 (Galvanized Metals): Apply to exposed galvanized metal such as copings, louvers and metal flashings.
   1. Clean metal to remove foreign matter or any coating applied by the metal manufacturer. Apply Surface Conditioner or Vinyl Wash Pretreatment (if required by paint manufacturer).
   2. 1st Coat: Galvanized Metal Primer.
      a. Dunn-Edwards Ultrashield Galvanized Metal Primer (ULGM00).
      b. Sherwin Williams Pro-Cryl Universal Acrylic Primer (B66-310 Series).
      c. PPG Paints: Pitt Tech Plus DTM Acrylic Primer 90-912.
   3. 2nd Coat: Same material as 3rd coat as recommended by manufacturer.
   4. 3rd Coat:
      a. Flat: Paint, Flat - Waterborne (100% Acrylic) unless noted otherwise.
         1) Dunn-Edwards Spartashield 100% Acrylic Ext. Flat Paint (SSHL10).
         2) Sherwin Williams A-100 Exterior Flat, A6-150 Series.
         3) PPG Paints: Sun Proof 100% Acrylic Exterior Flat 72-45 Series.

C. System 103 (Aluminum): Apply to exterior louvers and other miscellaneous exposed exterior unfinished aluminum surfaces.
   1. Clean metal to remove foreign matter or any coating applied by the metal manufacturer. Apply Surface Conditioner or Vinyl Wash Pretreatment.
   2. 1st Coat: Aluminum Primer.

a. Dunn-Edwards Ultrashield Galvanized Metal Primer (ULGM00).
b. Sherwin Williams Pro Cryl Industrial Primer (waterborne).
c. PPG Paints: Pitt Tech Plus DTM Acrylic Primer 90-912.

3. 2nd Coat: Same material as 3rd coat as recommended by manufacturer.
4. 3rd Coat:
   a. Semi-Gloss unless noted otherwise. Enamel, Semi-Gloss - Waterborne (100% Acrylic - Non-Blocking).
      1) Dunn-Edwards Spartashield 100% Acrylic Ext. Semi-Gloss Paint (SSHL50).
      2) Sherwin Williams Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
      3) PPG Paints: Sun Proof 100% Acrylic Exterior Semi-Gloss 78-45XI.

D. System 104 (Concrete Masonry Units): Apply to exterior concrete masonry unit construction indicated to be painted. (Refer to Section 07 19 00 “Water Repellents and Masonry Stains” for use on concrete masonry units indicated to be stained.) Roller apply 2nd or 3rd coat.
1. 1st Coat: Concrete Masonry Block Filler. Provide Level 2 or 3 Fill as required by Architect.
   a. Dunn-Edwards Smooth Blocfil Select Block Filler (SBSL00).
   b. Sherwin Williams (waterborne) Int/Ext Block-Filler B25W25
   c. PPG Paints: Speedhide Hi Fill Int/Ext Block Filler 6-15XI.
2. 2nd Coat: Same material as 3rd Coat as recommended by manufacturer.
3. 3rd Coat:
   a. Flat: Paint, Flat - Waterborne (100% Acrylic) unless noted otherwise. One of the coats shall be roller applied.
      1) Dunn-Edwards Acri-Build 100% Acrylic Ext. Flat Paint (ACBL10).
      2) Sherwin Williams Acrylic Latex Flat, A-100 Exterior Flat, A6-150 Series.
      3) PPG Paints: Speedhide Exterior 100% Acrylic Flat 6-610XI.

E. System 105 (Concrete and Stucco): Apply to exterior cementitious surfaces as indicated or noted, including tilt-up precast concrete. Precast concrete lintels, beams, caps, sills, etc. at exterior of buildings shall not be painted, unless specifically noted. Roller apply 2nd or 3rd coat.
1. 1st Coat: Concrete and Masonry Primer.
   a. Dunn-Edwards Eff-Stop Select Int./Ext. Masonry Primer/Sealer (ESSL00).
   b. Sherwin Williams (waterborne) Loxon Concrete Masonry Primer LX02W0050.
   c. PPG Paints: Perma-Crete Alkali Resistant Primer 4-603XI.
2. 2nd Coat: Same material as 3rd coat as recommended by manufacturer.
3. 3rd Coat:
   a. Flat: Paint, Flat - Waterborne (100% Acrylic) unless noted otherwise. One of the coats shall be roller applied.
      1) Dunn-Edwards Acri-Build 100% Acrylic Ext. Flat Paint (ACBL10).
      2) Sherwin Williams A100 Acrylic Latex Flat.
      3) PPG Paints: Speedhide Exterior 100% Acrylic Flat 6-610XI.

3.10 INTERIOR PAINT FINISHES

A. System 201 (Ferrous Metals): Apply to exposed metals such as steel doors, hollow metal frames, metal beam saddles, columns, grilles and registers, stair and hand railings, ladders, and other exposed miscellaneous metals.
1. 1st Coat: Ferrous Metal Primer (Red or White color as applicable to finish coats).
   a. Dunn-Edwards Bloc-Rust Premium Int./Ext. Rust Preventive Metal Primer (BRPR00).
   b. Sherwin Williams Pro-Cryl Universal Acrylic Primer (B66-310 Series), 96 g/L VOC
   c. PPG Paints: Pitt Tech Plus DTM Acrylic Primer 4020
2. 2nd Coat: Same material as 3rd Coat as recommended by manufacturer.
3. 3rd Coat:
   a. Eggshell: Enamel, Eggshell.
      1) Dunn-Edwards Acriwall Zero VOC Int. Eggshell Paint (ACWL30),
      2) Sherwin Williams Promar 400 Zero VOC Egshel, B20W04651.
      3) PPG Paints Zero VOC: Speedhide zero Interior Latex Eggshell 6-4310XI.

B. System 202 (Interior Wood Finishes - Enamel): Apply to wood door frames, columns, exposed and concealed casework and millwork, wood-window wall construction, medium density plywood surfaces, shelving, roll-up wood doors, perforated and plain type hardboard, particleboard and other exposed miscellaneous wood and trim, except wood specified for a transparent or stain finish.
   1. 1st Coat: Enamel Undercoater.
      a. Dunn-Edwards Ultra Grip Select Zero VOC Int./Ext. Multi-Surface Primer (UGSL00.
      b. Sherwin Williams Multi-purpose Zero VOC Int/Ext Latex Primer B51W00450 (waterborne).
      c. PPG Paints Zero VOC: Speedhide zero Interior Latex Primer 6-4900XI.
   2. 2nd and 3rd Coat:
      a. Semi-Gloss (if noted on Drawings): Enamel, Semi-Gloss
         1) Dunn-Edwards Acriwall Zero VOC Int. Semi-Gloss Paint (ACWL50).
         2) Sherwin Williams Promar 400 Zero VOC Semi-Gloss, B31W04651.
         3) PPG Paints Zero VOC: Speedhide zero Interior Latex Semi-Gloss 6-4510XI.

C. System 204 (Galvanized Metals): Apply to exposed galvanized metal.
   1. Clean metal to remove foreign matter or any coating applied by the metal manufacturer. Apply Surface Conditioner or Vinyl Wash Pretreatment (if required by paint manufacturer)
   2. 1st Coat: Galvanized Metal Primer
      a. Dunn-Edwards Ultra-Grip Select Zero VOC Int./Ext. Multi-Surface Primer (UGSL00).
      b. Sherwin Williams Multi-purpose Zero VOC Int/Ext Latex Primer B51W00450 (waterborne).
      c. PPG Paints Series Seal Grip Interior/Exterior Acrylic Universal Primer/Sealer, 17-921XI Series.
   3. 2nd and 3rd Coats:
      a. Eggshell: Enamel, Eggshell
         1) Dunn-Edwards Acriwall Eggshell Zero VOC Int. Eggshell Paint (ACWL30).
         2) Sherwin Williams Promar 400 Zero VOC Egshel, B20W04651.
         3) PPG Paints Zero VOC: Speedhide zero Interior Latex Eggshell 6-5310.

D. System 205 (Aluminum): Apply to interior louvers and other miscellaneous exposed unfinished aluminum surfaces.
   1. Clean metal to remove foreign matter or any coating applied by the metal manufacturer. Apply Surface Conditioner or Vinyl Wash Pretreatment.
   2. 1st Coat: Aluminum Primer
      a. Dunn-Edwards Ultra-Grip Select Zero VOC Int./Ext. Multi-Surface Primer (UGSL00).
      b. Sherwin Williams Multi-purpose Zero VOC Int/Ext Latex Primer B51W00450 (waterborne).
      c. PPG Paints Zero VOC: Not available.
   3. 2nd and 3rd Coats:
      a. Eggshell: Enamel, Eggshell
         1) Dunn-Edwards Acriwall Zero VOC Int. Eggshell Paint (ACWL30).
         2) Sherwin Williams Promar 400 Zero VOC Eggshel, B20W04651.
         3) PPG Paints Zero VOC: Speedhide zero Interior Latex Eggshell 6-4310XI.

E. System 206 (Gypsum Board, Plaster and Concrete - Wet Areas): Apply to gypsum board, plaster and concrete surfaces in toilet rooms, janitor rooms, kitchens, and other areas as scheduled.
   1. 1st Coat: Enamel Undercoater – Water-based, unless noted otherwise.
      a. Dunn-Edwards: Ultra-Grip Select Zero VOC Int./Ext. Multi-Surface Primer (UGSL00).
      b. Sherwin Williams Multi-purpose Zero VOC Int/Ext Latex Primer B51W00450 (waterborne).
      c. PPG Paints: Seal Grip Acrylic Universal Primer 17-921XI.
   2. 2nd and 3rd Coats:

a. Semi-Gloss: Enamel, Semi-Gloss – High Performance Water-Based Epoxy Acrylic Finish.
   1) Dunn-Edwards Enduracat Pre-Catalyzed Acrylic Epoxy Semi-Gloss (ENPX50).
   2) Sherwin Williams Pro Industrial Zero VOC water based Epoxy B73W00311/B73V00300.
   3) PPG Paints: Pitt Glaze WB1 Pre-Catalyzed Acrylic Epoxy Semi-Gloss 16-510.

F. System 207 (Gypsum Board, Plaster and Concrete - Non-Wet Areas): Apply to gypsum board, plaster and concrete except for wet areas.
   1. 1st Coat: Waterborne Primer/Sealer – Gypsum Board.
      a. Dunn-Edwards Spartazero Zero VOC products are self-priming over gypsum board. Specify same product as 2nd and 3rd Coat.
      b. Sherwin Williams ProMar 400 Zero VOC Interior Latex Primer, B28W4600.
      c. PPG Paints Zero VOC: Speedhide zero Interior Latex Primer Sealer 6-4900XI.
   2. 1st Coat: Waterborne Primer/Sealer – Plaster and Concrete.
      a. Dunn-: Rust-Oleum Sierra Performance Griptec Zero VOC Int./Ext. Multi-Surface Primer.
      b. Sherwin Williams ProMar 400 Zero VOC Interior Latex Primer, B28W4600.
      c. PPG Paints: Perma-Crete Alkali Resistant Primer 4-603XI.
   3. 2nd and 3rd Coat:
      a. Eggshell: Enamel, Eggshell
         1) Dunn-Edwards Acriwall Zero VOC Int. Eggshell Paint (ACWL30).
         2) Sherwin Williams Promar 400 Zero VOC Egshel, B20W04651.
         3) PPG Paints Zero VOC: Speedhide zero Interior Latex Eggshell 6-5310.

G. System 403 (Exterior Steel – Flat DTM): Apply to exterior steel ornamentation, trellis, and canopies indicated to be painted.
   1. Clean
      a. Sherwin Williams DTM Acrylic Primer/Finish, Flat, B66W1 applied at a rate of 2.0 to 3.0 mils DFT.
      b. Dunn-Edwards: Rust-Oleum 3800 System DTM Acrylic Enamel Flat, applied at 2.0 to 3.0 mils DFT.
      c. PPG Paints: Pitt Tech Plus DTM Acrylic Primer/Finish 4020.
   2. 2nd Coat:
      a. Sherwin Williams DTM Acrylic Flat, applied at 2.0 to 3.0 mils DFT.
      b. Dunn-Edwards: Rust-Oleum 3800 System DTM Acrylic Enamel Flat, applied at 2.0 to 3.0 mils DFT.
      c. PPG Paints: Pitt Tech Plus DTM Acrylic Primer/Finish 4020.

END OF SECTION

SECTION 10 14 00
SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Room and door signs.

B. Traffic signs.

1.02 REFERENCE STANDARDS

A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.

B. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

C. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.

C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.

1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
3. Submit for approval by Owner through Architect prior to fabrication.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Package signs as required to prevent damage before installation.

B. Package room and door signs in sequential order of installation, labeled by floor or building.

C. Store tape adhesive at normal room temperature.

1.06 FIELD CONDITIONS

A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.

B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Flat Signs:

1. Best Sign Systems, Inc: www.bestsigns.com/#sle.
2. Cosco Industries (ADA signs); ADA Series 1: www.coscoarchitecturalsigns.com/#sle.
3. FASTSIGNS: www.fastsigns.com/#sle.

2.02 SIGNAGE APPLICATIONS

A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
   1. Sign Type: Flat signs with engraved panel media as specified.
   2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
   3. Character Height: 1 inch.
   4. Sign Height: 2 inches, unless otherwise indicated.
   5. Office Doors: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.
   6. Conference and Meeting Rooms: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section with sliding "In Use/Vacant" indicator.
   7. Service Rooms: Identify with room names and numbers to be determined later, not those indicated on drawings.
   8. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers to be determined later, and braille.

2.03 SIGN TYPES

A. Flat Signs: Signage media without frame.
   1. Edges: Square.
   2. Corners: Square.
   3. Wall Mounting of One-Sided Signs: Tape adhesive.
   4. ADA Exterior signage as required to match existing sighnage if it cannot be reused.

B. Color and Font: Unless otherwise indicated:
   1. Character Font: as selected by Owner.
   2. Background Color: as selected by Owner.
   3. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
   1. Total Thickness: 1/16 inch.

2.05 ACCESSORIES

A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.

B. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install neatly, with horizontal edges level.

C. Locate signs and mount at heights indicated on drawings and in accordance with ADA Standards and ICC A117.1.

D. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION

SECTION 10 21 13.13
METAL TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal toilet compartments.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Blocking and supports.

B. Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.

B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.

1.04 ADMINISTRATIVE REQUIREMENTS

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall, floor, and ceiling supports, door swings.

C. Product Data: Provide data on panel construction, hardware, and accessories.

D. Samples: Submit two samples of partition panels, 4 x 4 inch in size illustrating panel finish, color, and sheen.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Toilet Compartments:
   1. All American Metal Corp - AAMCO: www.allamericanmetal.com/#sle.
   2. General Partitions Mfg. Corp: www.generalpartitions.com/#sle.
   3. Global Steel Products Corp: www.globalpartitions.com/#sle.
   4. Metpar Corp: www.metpar.com/#sle.
   5. Substitutions: Section 01 60 00 - Product Requirements.

2.02 MATERIALS

A. Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.

B. Stainless Steel Sheet: ASTM A666, Type 304.

2.03 COMPONENTS

A. Toilet Compartments: Powder coated steel, floor-to-ceiling.

B. Door and Panel Dimensions:
   1. Thickness: 1 inch.
   2. Height: custom see Drawings inch.

C. Pilasters: 1-1/4 inch thick, of sizes required to suit compartment width and spacing.

2.04 ACCESSORIES

A. Pilaster Shoes: Formed chromed steel with polished finish, 3 inch high, concealing floor fastenings.

B. Head Rails: Hollow chrome-plated steel tube, 1 by 1-5/8 inch size, with anti-grip strips and cast socket wall brackets.

C. Brackets: Polished chrome-plated non-ferrous cast metal.

D. Attachments, Screws, and Bolts: Stainless steel , tamper proof type.

E. Hardware: Polished chrome plated non-ferrous cast metal:
   1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.
   2. Thumb turn or sliding door latch with exterior emergency access feature.
   3. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
   4. Coat hook with rubber bumper; one per compartment, mounted on door.
   5. Provide door pull for outswinging doors.

2.05 FINISHING

A. Powder Coated Steel Compartments: Clean, degrease, and neutralize. Follow immediately with a phosphatizing treatment, prime coat and two finish coats powder coat enamel.

B. Color: As selected by Architect.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that field measurements are as indicated.

C. Verify correct spacing of and between plumbing fixtures.

D. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

3.03 TOLERANCES

A. Maximum Variation From True Position: 1/4 inch.

3.04 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.

END OF SECTION

SECTION 10 28 00
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Commercial toilet accessories.

B. Diaper changing stations.

C. Utility room accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00: Concealed supports for accessories, including in wall framing and plates.

B. Section 10 21 13.13 - Metal Toilet Compartments.

1.03 REFERENCE STANDARDS

A. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service 2022.

B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.

C. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium 2017 (Reapproved 2022).

D. ASTM C1036 - Standard Specification for Flat Glass 2021.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Toilet, Shower, and Bath Accessories:
   1. Bobrick
   2. American Specialties, Inc[<>]: www.americanspecialties.com.

B. Walkup Changing Table: By Owner
   1. Tot Mate, T8534MMA, Mable/Maple..

C. Kid sized Cot: By Owner
   1. Kid sized stabkable: by Lake Shore Learning.

D. Diaper Changing Stations:
   1. American Specialties, Inc: www.americanspecialties.com/#sle.
   2. Bradley Corporation: www.bradleycorp.com/#sle.
   3. Koala Kare Products: www.koalabear.com/#sle.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

B. Keys: Provide 2 keys for each accessory to Owner; master key lockable accessories.

C. Stainless Steel Sheet: ASTM A666, Type 304.

D. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

E. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.

F. Adhesive: Two component epoxy type, waterproof.

G. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.03 FINISHES

A. Stainless Steel: Satin finish, unless otherwise noted.

B. Chrome/Nickel Plating: ASTM B456, SC 2, polished finish, unless otherwise noted.

2.04 ADA TOILET ACCESSORIES

A. Toilet Paper/Seat Cover/ Dispenser and Sanitary Napkin Disposal: Double roll, surface-mounted, stainless steel unit with pivot hinge.
   1. Products:
      a. B-357.

B. Wall Hook:
   1. Products:
      a. B-6727.

C. Paper Towel Dispenser: Electric, roll paper type.
   1. Cover: High Impact Plastic.
   2. Paper Discharge: Touchless automatic.
   3. Capacity: 8 inch diameter roll.
   4. Mounting: Surface mounted.
   5. Power: Battery operated.
   6. Refill Indicator: Illuminated refill indicator.
   7. Products:
      a. Bobrick B-72974.

D. Automated Soap Dispenser: Soap lather dispenser, wall-mounted, with black cover and window to gauge soap level, tumbler lock.
   1. Minimum Capacity: 33.81 ounces.
   2. Products:
      a. Kimberly-Clark, Cassette Skin Care Soap Dispenser, model KCC 92145, item 405237.

E. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
   1. Size: 30 x 42.

F. Grab Bars: Stainless steel, smooth surface.
   1. Standard Duty Grab Bars:
      a. Push/Pull Point Load: 250 pound-force, minimum.
      b. Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
      c. Finish: Satin.
      d. Length and Configuration: As indicated on drawings.
      e. Products:
         1) B-6897.

2.05 UTILITY ROOM ACCESSORIES

A. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
   1. Drying rod: Stainless steel, 1/4 inch diameter.
   2. Hooks: Two, 0.06 inch stainless steel rag hooks at shelf front.
   3. Mop/broom holders: Three spring-loaded rubber cam holders at shelf front.
   4. Length: 36 inches.
   5. Length: Manufacturer's standard length for number of holders/hooks.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
   1. Grab Bars: As indicated on drawings.
   2. Electric Hand Dryers: Measured from floor to bottom of nozzle:
      a. Men: 44 inches.
      b. Women: 42 inches.
      c. Teenager: 41 inches.
      d. Child: 32 inches.
      e. Handicap: 36 inches.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

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SECTION 10 44 00
FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

C. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.

1.03 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers 2022.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide extinguisher operational features and color and finish. 2 sets of each.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fire Extinguishers:
   1. Larsen's Manufacturing Co..
   2. J.L. Industries
   3. General
   4. Knox
   5. Supra Products Co.

2.02 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.

B. Multi-Purpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gage.
   1. Class: A:B:C type.
   2. Size: 2.5 pound. 1 per unit
   3. Size 10 pound - quantity per code plans

2.03 FIRE EXTINGUISHER CABINETS

A. Cabinet Configuration: Semi-recessed type.
   1. Size to accommodate accessories.
   2. Trim: Flat, 1 inch wide face.

B. Door: 0.036 inch metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinge.

C. Door Glazing: Acrylic plastic, clear, 1/8 inch thick, flat shape and set in resilient channel glazing gasket.

D. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.

E. Finish of Cabinet Interior: White colored enamel.

F. Provide signage on fronT of Fire Extinguisher Cabinet "FIRE EXTINGUISHER".

2.04 ACCESSORIES

A. Extinguisher Brackets: Formed steel, chrome-plated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify rough openings for cabinet are correctly sized and located.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Secure rigidly in place.

3.03 MAINTENANCE

A. See Section 01 70 00 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

B. Provide a separate maintenance contract for specified maintenance service.

END OF SECTION

SECTION 11 30 13
RESIDENTIAL APPLIANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Kitchen appliances.

B. Laundry appliances.

1.02 REFERENCE STANDARDS

A. UL (DIR) - Online Certifications Directory Current Edition.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data indicating dimensions, capacity, and operating features of each piece of residential equipment specified.

C. Copies of Warranties: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Electric Appliances: Listed and labeled by UL (DIR) and complying with NEMA Standards (National Electrical Manufacturers Association).

1.05 WARRANTY

A. Provide five (5) year manufacturer warranty on refrigeration system of refrigerators.

B. Provide ten (10) year manufacturer warranty on magnetron tube of microwave ovens.

C. Provide ten (10) year manufacturer warranty on tub and door liner of dishwashers.

PART 2 PRODUCTS

2.01 GENERAL

A. Equipment is Contractor Furnished, Contractor Installed.

B. Provide Equipment that is Energy Star Rated when applicable.

2.02 FOOD PREP ROOM

A. Cambro Hotbox (2) Two ompartment Ultra Camcarts UPCH800.

B. Stainless Steel Work Table: Advance Tabco, 24 x 60 x 34 high..

C. Kratos 69K-773, 2 Solid Door Reach-in Refrigerator, 49 cuft..

D. Microwave, Solwave 1200 watt 180MW1200T, stainless steel commercial.

E. Stainless Steel triple compartment sink: Elkay model WNSF8354LR4 or similar by Advance Tabco.

2.03 LAUNDRY ROOM.

A. Clothes Washer, LG High Efficiency, 4.5 cu ft: Top-loading stationary.
   1. Finish: Painted steel with porcelain enamel top, color white.

B. Clothes Dryer, LG High Efficiency Top Load, 7.3 cu f: Electric,.
   1. Finish: Painted steel, color white.

2.04 MISCELLANEOUS

A. Laminator: Sircle Desktop Roll Laminator, Model SircleLam SRL-2700-HR

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify utility rough-ins are provided and correctly located.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

3.03 ADJUSTING

A. Adjust equipment to provide efficient operation.

3.04 CLEANING

A. Remove packing materials from equipment and properly discard.

B. Wash and clean equipment.

END OF SECTION

SECTION 11 40 01
CUSTOM FABRICATED FOODSERVICE EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Custom fabricated stainless steel units, including:

1.02 REFERENCE STANDARDS

A. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications 2023.

B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.

C. NSF 2 - Food Equipment 2022.

D. SMACNA (KVS) - Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines 2001.

E. SMACNA (SRM) - Seismic Restraint Manual Guidelines for Mechanical Systems 2008.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Submit floor plans, elevations, cross-sections, and construction details for fabricated units specified, including:
   1. Layout and anchorage of equipment and accessories, including clearances for maintenance and operation and required electrical or plumbing connections.
   2. Size, type, and location of equipment drain lines and floor drains.
   3. Special conditions, including required slab depressions, cores, wall openings, blockouts, ceiling pockets, access panels, and above ceiling hanger assemblies.
   4. Wiring, piping, and schematic diagrams.

1.04 QUALITY ASSURANCE

1.05 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver fixed equipment that is not to be integrated into structure until after completion of finished ceilings, floor and walls, painting, and lighting.

B. Store products in manufacturer's unopened packaging until ready for installation.

C. Tape fiberboard or plywood to surfaces as required by equipment shape and installation access requirements.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.06 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results, and do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 MATERIALS

A. Stainless Steel: 18-8 percent chromium-nickel composition, minimum; alloy Type 302, 304, or 316; No. 4 - Brushed finish on exposed surfaces.
   1. Sheets: ASTM A240/A240M or ASTM A666.

B. Manufactured Components:
   1. Finish Hardware: Manufacturer's standard; stainless steel with polished finish.

C. Bolts, Screws, and Rivets: Stainless steel; do not use on exposed surfaces unless specifically indicated or unavoidable.

1. Bolt and Screw Caps: Provide lock washer and chromium-plated brass/bronze acorn nut to cap visible or exposed threads on inside of fixtures.

D. Anchoring Devices: Stainless steel, of type appropriate for use; provide seismic anchorage as specified in SMACNA (KVS).

2.02 CUSTOM FABRICATED UNITS - GENERAL REQUIREMENTS

A. See drawings for dimensions and configurations; ensure proper fit by taking field measurements prior to fabrication.

B. Provide fully shop assembled units complying with SMACNA (KVS) and NSF 2 and stainless steel components, unless otherwise indicated.
   1. Where details are referenced as "SMACNA" details, refer to SMACNA (KVS).
   2. Stainless Steel Sheet: For surfaces up to 12 feet in length provide one continuous sheet without joints or welds, including back and end splashes.
   3. Joints: Provide welded joints unless specifically indicated or not possible; do not solder or braze stainless steel; do not use bolts, screws, or other fasteners on work surfaces, food contact surfaces, or wet surfaces.
   4. Drainage of Surfaces: Provide distinct pitch of top surfaces toward waste or drain outlets while maintaining level tops of rolled and marine edges and back and end splashes.
   5. Drainage of Equipment: Provide drain piping as indicated; where compartments or pans are intended to hold liquids or catch drips and no drain piping is indicated, provide drain fitting and gravity draining piping terminating over nearest floor drain.
   6. Shop prepare openings for plumbing fixtures, fittings, and other service components.
   7. Sound Deadening: Apply sound deadening material to accessible internal surfaces of metal work and underside of metal counters and sinks.

C. Shelves: Stainless steel.
   1. Overshelves: 16 gage, 0.0598 inch thick.
   2. Wall Mounted Shelf Supports: Stainless steel, 14 gage, 0.0747 inch thick.

2.03 FABRICATION

A. Joints, Bends, and Edges: Make each joint close fitting, especially butt and contact joints.
   1. Make brake bends free of open-texture or orange peel appearance.
   2. Make sheared edges free of burrs, projections, and fins.
   3. Neatly finish mitered and bullnosed corners with under edge of material ground to uniform condition, without overlapping materials or cracks.

B. Welding: Make each welded joint smooth, ductile, and watertight, without gaps, holes, or discoloration or marring of surface adjacent to welds.
   1. Use welding processes and filler metal compatible with material being welded. Do not use carbon arc welding on surfaces that will be exposed to view in finished work.
   2. Grind exposed welds flush with adjacent material; finish and polish to match adjacent surface.
      a. Avoid excessive heating of metal and metal discoloration.
      b. When grinding, use iron-free abrasives, wheels, and belts that have not been used on carbon-steel.
      c. Remove pits, runs, sputter, cracks, low spots, voids, buckles, and other imperfections.
      d. Remove grain of rough grinding by several successively finer polishings until specified finish is attained.
   3. When welding sheet, penetrate entire thickness for entire length of joint; make joints flat, continuous and homogeneous with sheet metal without reliance on straps under seams, filling with solder, or spot welding.
   4. When stainless steel is joined to dissimilar materials, use stainless steel for fastening devices and welding material.
   5. Protection Against Corrosion: Eliminate possibility of corrosion wherever welding occurs on stainless steel, and minimize possibility of carbide precipitation in welding bolts and

screws.

6. When welding galvanized steel, thoroughly clean and repair damaged galvanizing and coat welds with polyurethane coating.
7. Where bolts or screws are welded to underside of tops or trim, finish and undepress the exposed side of welds.
8. Coat welds and discolorations that are not exposed to view in finished work with metallic-based paint to prevent the possibility of progressive corrosion of joints, unless welds are ground and polished smooth.

C. Brazing of Copper Tubing to Brass and Bronze Fittings: Use silver solder, and do not braze stainless steel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Verify correct locations of utility connections, floor drains, ventilation connections, and supports.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under project conditions.

3.03 INSTALLATION

A. Install in accordance with fabricator's instructions and recommendations, plumb and level and in proper locations, ready for utility connections.

B. Lay out work in advance to prevent damage to building, piping, wiring, or equipment; cut, fit, and patch where necessary; coordinate work with others.

C. Do not cut or fit units in the field; if adjustments are necessary due to inadequate field measurement prior to fabrication, take unit back to shop and perform modifications there.

D. Do not field weld unless absolutely necessary; weld and grind field joints in accordance with specified fabrication procedures.

E. Securely anchor and attach non-mobile or adjustable-leg equipment to walls, floors, or bases with stainless steel bolts.

F. Follow SMACNA (SRM) seismic restraint recommendations for project location.

3.04 CLEANING

A. Remove masking or protective covering from stainless steel and other finished surfaces.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

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SECTION 12 21 16
VERTICAL LOUVER BLINDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vertical louver blinds at all adjacent fixed glazing.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Concealed wood blocking for attachment of headrail brackets.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of this type with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. If blinds are delivered early and stored at the project, deliver in unopened containers; handle and store in such a manner to protect them from damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Vertical Louver Blinds:
   1. Levolor; Vertical Blinds: www.levolor.com/commercial/#sle.

2.02 BLINDS AND BLIND COMPONENTS

A. Vertical Louver Blinds: Horizontal travel, vertical vane louver units complete with tracks, pivot and traversing mechanisms, and accessories, as follows:
   1. Vanes: Aluminum vanes of the size indicated.
   2. Operation: Manual.
   3. Direction of Travel: As indicated on the drawings.
   4. Mounting: Inside (between jambs).

B. Tracks: Channel tracks as required for type of operation, extruded aluminum with clear anodized finish, with end caps.
   1. Vane Rotation: Chain driven direct rotation by activating tilt gear within end cap assembly in turn actuating tilt rod and worm-and-spur gears in carrier trucks.
   2. Operating Components: Internally mounted heavy-duty extruded aluminum tilt rod, vane carriers, and other components required for proper performance and designed for smooth, quiet, trouble free operation.
   3. Pivot Mechanism: Geared for synchronous 180 degrees rotation of vanes and type of operation indicated.
   4. Vane Carriers: Metal carriers with ball-bearing wheels or thermoplastic trucks, equipped with linkages or other devices to ensure positive spacing of vanes.
   5. Tilt Chain: Nickel plated brass beaded ball chain, minimum 1/8 inch diameter; locate at drawback side of units as indicated.

C. Aluminum Vanes: Flat, Cordless Model #Mark138C wide.

D. Brackets and Mounting Hardware: As recommended by manufacturer for the mounting configuration and span indicated; provide manufacturer's standard L- bracket with clip for outside mounting and clip only for inside mounting.

2.03 FABRICATION

A. Field measure finished openings prior to ordering or fabrication.

B. Fabricate blinds to fit openings within specified tolerances.
   1. Vertical Dimensions: Fill openings from head to sill with 1/2 inch space between bottom of vanes and finish floor.
   2. Horizontal Dimensions - Inside Mounting: Fill openings from jamb to jamb.

C. Dimensional Tolerances: Fabricate blinds to within plus/minus 1/8 inch of intended dimensions.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not start installation before openings are finished and all finishes have been completed; do not install until painting is completed.

B. Field measure finished openings prior to ordering or fabrication.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Coordinate the work with window installation and placement of concealed blocking to support blinds.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions using mounting style as indicated.

B. Installation Tolerances:
   1. Maximum Offset From Level: 1/16 inch.

C. Adjust blinds for smooth operation.

D. Replace blinds that exceed specified dimensional tolerances at no extra cost to Owner.

3.04 CLEANING

A. Clean installed work to like-new condition.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 12 32 00
MANUFACTURED WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured standard and custom casework, with cabinet hardware.

1.02 RELATED REQUIREMENTS

A. Section 01 60 00 - Product Requirements: Requirements for sustainably harvested wood.

B. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: VOC limitations for adhesives and sealants.

C. Section 06 10 00 - Rough Carpentry: Blocking and nailers for anchoring casework.

D. Section 07 92 00 - Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.

E. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Reinforcements in metal-framed partitions for anchoring casework.

F. Section 09 65 00 - Resilient Flooring: Resilient wall base.

G. Section 12 36 00 - Countertops: Additional requirements for countertops.

1.03 DEFINITIONS

A. Exposed: Portions of casework visible when drawers and cabinet doors are closed, including end panels, bottoms of cases more than 42 inches above finished floor, tops of cases less than 72 inches above finished floor and all members visible in open cases or behind glass doors.

B. Semi-Exposed: Portions of casework and surfaces behind solid doors, tops of cases more than 72 inches above finished floor and bottoms of cabinets more than 30 inches but less than 42 inches above finished floor.

C. Concealed: Sleepers, web frames, dust panels and other surfaces not generally visible after installation and cabinets less than 30 inches above finished floor.

1.04 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards 2021, with Errata.

C. BHMA A156.9 - Cabinet Hardware 2020.

D. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate casework types, sizes, and locations, using large scale plans, elevations, and cross sections. Include rough-in and anchors and reinforcements, placement dimensions and tolerances, clearances required, and keying information.

C. Maintenance Data: Manufacturer's recommendations for care and cleaning.

D. Finish touch-up kit for each type and color of materials provided.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience and approved by manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect items provided by this section, including finished surfaces and hardware items during handling and installation. For metal surfaces, use polyethylene film or other protective material standard with the manufacturer.

B. Acceptance at Site:
   1. Do not deliver or install casework until the conditions specified under Part 3, Examination Article of this section have been met. Products delivered to sites that are not enclosed and/or improperly conditioned will not be accepted if warping or damage due to unsatisfactory conditions occurs.

C. Storage:
   1. Store casework in the area of installation. If necessary, prior to installation, temporarily store in another area, meeting the environmental requirements specified under Part 3, "Site Verification of Conditions" Article of this section.

1.08 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion, at no additional cost to Owner. Defects include, but are not limited to:
   1. Ruptured, cracked, or stained finish coating.
   2. Discoloration or lack of finish integrity.
   3. Cracking or peeling of finish.
   4. Failure of hardware.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Plastic Laminate Casework:
   1. Case Systems: www.casesystems.com/#sle.
   2. Diversified Fixture: www.diversifiedfixture.com/#sle.
   3. Labscape LLC: www.labscape.com/#sle.

2.02 CASEWORK, GENERAL

A. Quality Standard: AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Faced Cabinets: Custom Grade.

2.03 FABRICATION

A. Assembly: Shop assemble casework items for delivery to site in units easily handled and to permit passage through building openings.

B. Construction: As required for selected grade.

C. Structural Performance: Safely support the following minimum loads:
   1. Base Units: 500 pounds per linear foot across the cabinet ends.
   2. Drawers: 125 pounds, minimum.
   3. Hanging Wall Cases: 300 pounds.
   4. Shelves: 100 pounds, minimum.

D. Hardware Application: Factory-machine casework members for hardware that is not surface applied.

E. Access Panels: Where indicated, for maintenance of utility service and mechanical and electrical components.

F. Removable back panels on all base cabinets. Provide partial height back panels at sink cabinets.

G. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

2.04 PLASTIC-LAMINATE-CLAD CASEWORK

A. Plastic-Laminate-Clad Casework: Solid wood and wood panel construction; each unit self-contained and not dependent on adjacent units or building structure for rigidity; in sizes necessary to avoid field cutting except for scribes and filler panels. Include adjustable levelers for base cabinets.
   1. Style: Flush overlay. Ease doors and drawer fronts slightly at edges.
   2. Cabinet Nominal Dimensions: Unless otherwise indicated, provide cabinets of widths and heights indicated on drawings, and with following front-to-back dimensions:
      a. Base Cabinets: 22 inches.
      b. Tall Cabinets and Cot Cabinets:: 22 inches.
      c. Wall Cabinets 16 inches.
   3. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline.
      a. Finish: Matte or suede, gloss rating of 5 to 20.

2.05 COUNTERTOPS

A. Countertops: See Section 12 36 00.

2.06 CABINET HARDWARE

A. Manufacturer's standard types, styles and finishes.

B. Comply with BHMA A156.9 requirements.
   1. Acceptable base materials for plated finishes include brass, bronze, and steel.

C. Locks: Provide locks on all base cabinet casework doors, drawers and cot cabinet doors where indicated. Lock with 5 pin cylinder and 2 keys per lock. All locks to be keyed the same,

2.07 MATERIALS

A. Wood-Based Materials:
   1. Certified as sustainably harvested; see Section 01 60 00.
   2. Solid Wood: Air-dried to 4.5 percent moisture content, then tempered to 6 percent moisture content before use.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications. complying with Grade requirements, and standard with the manufacturer.

C. Phenolic Panels: Monolithic core of phenolic resin reinforced with cellulose fibers and manufactured under high pressure and at high temperatures, with melamine-impregnated decorative surface papers; NEMA LD 3 Compact Laminate, Grade CGS.

2.08 ACCESSORIES

A. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.

PART 3 EXECUTION

3.01 PREPARATION

A. Large Components: Ensure that large components can be moved into final position without damage to other construction.

3.02 EXAMINATION

A. Site Verification of Environmental Conditions:
   1. Do not deliver casework until the following conditions have been met:
      a. Building has been enclosed (windows and doors sealed and weather-tight).
      b. An operational HVAC system that maintains temperature and humidity at occupancy levels has been put in place.
      c. Ceiling, overhead ductwork, piping, and lighting have been installed.
      d. Installation areas do not require further “wet work” construction.

B. Verify adequacy of support framing and anchors.

C. Verify that service connections are correctly located and of proper characteristics.

3.03 INSTALLATION

A. Perform installation in accordance with manufacturer's instructions.

B. Use anchoring devices to suit conditions and substrate materials encountered. Use concealed fasteners to the greatest degree possible. Use exposed fasteners only where allowed by approved shop drawings, or where concealed fasteners are impracticable.

C. Set casework items plumb and square, securely anchored to building structure.

D. Align cabinets to adjoining components, install filler and/or scribe panels where necessary to close gaps.

E. Fasten together cabinets in continuous runs, with joints flush, uniform and tight. Misalignment of adjacent units not to exceed 1/16 inch. In addition, do not exceed the following tolerances:
   1. Variation of Tops of Base Cabinets from Level: 1/16 inch in 10 feet.
   2. Variation of Faces of Cabinets from a True Plane: 1/8 inch in 10 feet.
   3. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch.
   4. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch.

F. Base Cabinets: Fasten cabinets to service space framing and/or wall substrates, with fasteners spaced not more than 16 inches on center. Bolt adjacent cabinets together with joints flush, tight, and uniform.

G. Install hardware uniformly and precisely.

H. Countertops: Install countertops intended and furnished for field installation in one true plane, with ends abutting at hairline joints, and no raised edges.

I. Replace units that are damaged, including those that have damaged finishes.

3.04 ADJUSTING

A. Adjust operating parts, including doors, drawers, hardware, and fixtures to function smoothly.

3.05 CLEANING

A. See Section 01 74 19 - Construction Waste Management and Disposal for additional requirements.

B. Clean casework and other installed surfaces thoroughly.

3.06 PROTECTION

A. Do not permit finished casework to be exposed to continued construction activity.

B. Protect casework and countertops from ongoing construction activities. Prevent workmen from standing on, or storing tools and materials on casework or countertops.

C. Repair damage, including to finishes, that occurs prior to Date of Substantial Completion, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

END OF SECTION

SECTION 12 36 00
COUNTERTOPS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Countertops for manufactured casework.

1.02 RELATED REQUIREMENTS

A. Section 12 31 00 - Manufactured Metal Casework.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

B. AWI (QCP) - Quality Certification Program Current Edition.

C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

D. ISFA 3-01 - Classification and Standards for Quartz Surfacing Material 2013.

E. MIA (DSDM) - Dimensional Stone Design Manual, Version VIII 2016.

F. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

G. PS 1 - Structural Plywood 2019.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.

D. Verification Samples: For each finish product specified, 2 sets, minimum size 6 inches square, representing actual product, color, and patterns.

E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

B. Quality Certification:
   1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.07 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 COUNTERTOPS - AS SELECTED BY ARCHITECT

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.

B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
   1. Laminate Sheet, Type ___: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
      a. Manufacturers:
         1) Formica Corporation: www.formica.com/#sle.
         2) Panolam Industries International, Inc; Nevamar Standard HPL: www.panolam.com/#sle.
         3) Wilsonart: www.wilsonart.com/#sle.
      b. Finish: Matte or suede, gloss rating of 5 to 20.
   2. Back and End Splashes: Same material, same construction.

C. Natural Quartz and Resin Composite Countertops: Sheet or slab of natural quartz and plastic resin over continuous substrate.
   1. Flat Sheet Thickness: 1/2 inch thick.
   2. Natural Quartz and Resin Composite Sheets, Slabs and Castings: Complying with ISFA 3-01 and NEMA LD 3; orthopthalic polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
   3. Basis of Design: Della Terra Quartz (Distributor: AZ Tile, Megan Wise Rep 480-272-5148) Color: Gringo Nube..
      a. Factory fabricate components to the greatest extent practical in sizes and shapes indicated; comply with the MIA Dimension Stone Design Manual.
      b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
      c. NSF approved for food contact.
      d. Finish on Exposed Surfaces: Polished.

2.02 MATERIALS

A. Wood-Based Components:
   1. Wood fabricated from old growth timber is not permitted.

B. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch thick; join lengths using metal splines.

C. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.

D. Joint Sealant: Mildew-resistant silicone sealant, white.

2.03 FABRICATION

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
   1. Join lengths of tops using best method recommended by manufacturer.
   2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
   3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
   1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
   2. Height: 4 inches, unless otherwise indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

B. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.

C. Seal joint between back/end splashes and vertical surfaces.

3.04 TOLERANCES

A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.

B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.

C. Field Joints: 1/8 inch wide, maximum.

3.05 CLEANING

A. Clean countertops surfaces thoroughly.

3.06 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

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SECTION 32 12 16
ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aggregate base course.

B. Single course bituminous concrete paving.

C. Surface sealer.

1.02 REFERENCE STANDARDS

A. AI MS-2 - Asphalt Mix Design Methods 2015.

B. AI MS-19 - Basic Asphalt Emulsion Manual 2008.

1.03 QUALITY ASSURANCE

A. Perform Work in accordance with Municipality of Peoria Arizona Public Work's standard.

B. Mixing Plant: Complying with Municipality of Peoria Arizona Public Work's standard.

C. Obtain materials from same source throughout.

1.04 FIELD CONDITIONS

A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aggregate for Base Course: In accordance with Municipality of Peoria Arizona Public Work's standards.

B. Aggregate for Binder Course: In accordance with Municipality of Peoria Arizona Public Work's standards.

C. Aggregate for Wearing Course: In accordance with Municipality of Peoria Arizona Public Work's standards.

D. Fine Aggregate: In accordance with Municipality of Peoria Arizona Public Work's standards.

E. Primer: In accordance with Municipality of Peoria Arizona Public Work's standards.

2.02 ASPHALT PAVING MIXES AND MIX DESIGN

A. Base Course: 3.0 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

B. Binder Course: Municipality of Peoria Arizona Public Work's standards.

C. Wearing Course: 5 to 7 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

3.02 BASE COURSE

A. Place and compact base course.

3.03 PREPARATION - PRIMER

A. Apply primer in accordance with manufacturer's instructions.

B. Apply primer on aggregate base or subbase at uniform rate of 1/3 gal/sq yd.

C. Use clean sand to blot excess primer.

3.04 PREPARATION - TACK COAT

A. Apply tack coat in accordance with manufacturer's instructions.

B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 1/3 gal/sq yd.

3.05 PLACING ASPHALT PAVEMENT - SINGLE COURSE

A. Install Work in accordance with Municipality of Peoria Arizona Public Work's standards.

B. Place asphalt within 24 hours of applying primer or tack coat.

C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

D. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.06 SEAL COAT

A. Apply seal coat to surface course and asphalt curbs in accordance with AI MS-19.

3.07 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

B. Variation from True Elevation: Within 1/2 inch.

3.08 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for quality control.

B. Provide field inspection and testing. Take samples and perform tests in accordance with AI MS-2.

3.09 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury for ____ days or until surface temperature is less than 140 degrees F.

END OF SECTION

SECTION 32 13 13
CONCRETE PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete sidewalks and integral curbs.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

A. ACI 211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.

B. ACI 301 - Specifications for Concrete Construction 2020.

C. ACI 305R - Guide to Hot Weather Concreting 2020.

D. ACI 306R - Guide to Cold Weather Concreting 2016.

E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

F. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2023.

G. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete 2019.

H. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types) 2018.

I. ASTM D1752 - Standard Specification for Preformed Sponge Rubber, Cork, and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction 2018 (Reapproved 2023).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

PART 2 PRODUCTS

2.01 PAVING ASSEMBLIES

A. Concrete Sidewalks and Median Barrier: 3,000 psi 28 day concrete, 4 inches thick, buff color Portland cement, exposed aggregate finish.

2.02 FORM MATERIALS

A. Form Materials: As specifiec in Section 03 30 00, comply with ACI 301.

B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D1751) or sponge rubber or cork (ASTM D1752).

2.03 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, Grade 80 (80,000 psi) yield strength; deformed billet steel bars; unfinished.

2.04 CONCRETE MATERIALS

A. Concrete Materials: As specified in Section 03 30 00.

2.05 ACCESSORIES

A. Curing Compound: ASTM C309, Type 1, Class A.

2.06 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

C. Concrete Properties:
1. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.

2.07 MIXING

A. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

3.02 SUBBASE

A. Prepare subbase in accordance with State of Nevada Highways standards.

3.03 PREPARATION

A. Moisten base to minimize absorption of water from fresh concrete.

3.04 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

3.05 REINFORCEMENT

A. Place reinforcement as indicated.

B. Place dowels to achieve pavement and curb alignment as detailed.

3.06 COLD AND HOT WEATHER CONCRETING

A. Follow recommendations of ACI 305R when concreting during hot weather.

B. Follow recommendations of ACI 306R when concreting during cold weather.

C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

3.07 PLACING CONCRETE

A. Place concrete in accordance with State of Nevada Highways standards.

B. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.

3.08 JOINTS

A. Align curb, gutter, and sidewalk joints.

B. Place 3/8 inch wide expansion joints at 20 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.

C. Provide scored joints.
1. At 3 feet intervals.

D. Saw cut contraction joints 3/16 inch wide at an optimum time after finishing. Cut 1/3 into depth of slab.

3.09 FINISHING

A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.

B. Curbs and Gutters: Light broom, texture parallel to pavement direction.

3.10 TOLERANCES

A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.

3.11 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.
   1. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.12 PROTECTION

A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

END OF SECTION

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SECTION 32 17 13
PARKING BUMPERS

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 REFERENCE STANDARDS

A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

B. ASTM C150/C150M - Standard Specification for Portland Cement 2022.

C. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).

D. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete 2023.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

PART 2 PRODUCTS

2.01 MATERIALS

A. Parking Bumpers: Precast concrete, complying with the following:
   1. Cement: ASTM C150/C150M, Portland Type I - Normal; white color.
   2. Concrete Materials: ASTM C330/C330M aggregate, water, and sand.
   3. Reinforcing Steel: ASTM A615/A615M, deformed steel bars; unfinished, strength and size commensurate with precast unit design.
   4. Air Entrainment Admixture: ASTM C260/C260M.
   5. Concrete Mix: Minimum 5,000 psi compressive strength after 28 days, air entrained to 5 to 7 percent.
   6. Use rigid molds, constructed to maintain precast units uniform in shape, size and finish. Maintain consistent quality during manufacture.
   7. Embed reinforcing steel, and drill or sleeve for two dowels.
   8. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
   9. Minor patching in plant is acceptable, providing appearance of units is not impaired.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install units without damage to shape or finish. Replace or repair damaged units.

B. Install units in alignment with adjacent work.

END OF SECTION

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SECTION 32 17 23.13
PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Parking lot markings, including parking bays, crosswalks, arrows, handicapped symbols, and curb markings.

1.02 RELATED REQUIREMENTS

A. Section 32 12 16 - Asphalt Paving.

B. Section 32 13 13 - Concrete Paving.

1.03 REFERENCE STANDARDS

A. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association Current Edition.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

C. Certificates: Submit for each batch of paint and glass beads stating compliance with specified requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver paint in containers of at least 5 gallons accompanied by batch certificate.

B. Deliver glass beads in containers suitable for handling and strong enough to prevent loss during shipment accompanied by batch certificate.

C. Store products in manufacturer's unopened packaging until ready for installation.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.06 FIELD CONDITIONS

PART 2 PRODUCTS

2.01 MATERIALS

A. Line and Zone Marking Paint: MPI (APL) No. 97 Latex Traffic Marking Paint; color(s) as indicated. And as Required by City of Tolleson.
   1. Roadway Markings: As required by authorities having jurisdiction.
   2. Parking Lots: Yellow.
   3. Handicapped Symbols: Blue.

B. Reflective Glass Beads: FS TT-B-1325, Type I (low index of refraction), Gradation A (coarse, drop-on) ; with silicone or other suitable waterproofing coating to ensure free flow.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Allow new pavement surfaces to cure for a period of not less than 14 days before application of marking materials.

B. Clean surfaces thoroughly prior to installation.

1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.
2. Sandblasting: Use equipment of size and capacity necessary, providing not less than 150 cfm of air at pressure not less than 90 psi at each nozzle used.

C. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.

D. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.

3.03 INSTALLATION

A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.

B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.

C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.

D. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.

E. Apply uniformly painted markings of color(s), lengths, and widths as indicated on drawings true, sharp edges and ends.

F. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
1. Mark the International Handicapped Symbol at indicated parking spaces.

G. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

3.04 DRYING, PROTECTION, AND REPLACEMENT

A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.

B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.

C. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other deficiencies or irregularities.

D. Remove markings in manner to avoid damage to the surface to which the marking was applied, using carefully controlled sand blasting, approved grinding equipment, or other approved method.

E. Replace removed markings at no additional cost to Owner.

END OF SECTION

SECTION 32 31 13
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Posts, rails, and frames.

B. Wire fabric.

C. Concrete.

D. Manual gates with related hardware.

E. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Concrete anchorage for posts.

1.03 REFERENCE STANDARDS

A. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric 2011a (Reapproved 2022).

B. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2023.

C. ASTM F567 - Standard Practice for Installation of Chain-Link Fence 2023.

D. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework 2018 (Reapproved 2022).

E. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures 2018 (Reapproved 2022).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.

C. Manufacturer's Installation Instructions: Indicate installation requirements, post foundation anchor bolt templates, and _____.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Fence Installer: Company with demonstrated successful experience installing similar projects and products, with not less than five years of documented experience.

1.06 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Chain Link Fences and Gates:
   1. Match Existing.

2.02 MATERIALS

A. Posts, Rails, and Frames:
   1. ASTM A1011/A1011M, Designation SS; hot-rolled steel strip, cold formed to pipe configuration, longitudinally welded construction, minimum yield strength of 50 ksi; zinc coating complying with ASTM F1043 and ASTM F1083.

B. Wire Fabric:

1. ASTM A392 zinc coated steel chain link fabric.

C. Concrete:
   1. Type specified in Section 03 30 00.

2.03 COMPONENTS

A. Line Posts: 1.9 inch diameter.

B. Corner and Terminal Posts: 2.38 inch diameter.

C. Fabric: 2 inch diamond mesh interwoven wire, 6 gage, 0.1920 inch thick, top selvage knuckle end closed, bottom selvage twisted tight.

2.04 MANUAL GATES AND RELATED HARDWARE

A. Hinges: Finished to match fence components.

B. Latches: Finished to match fence components. Provide MagnaLatch hardware to match existing.

2.05 ACCESSORIES

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel.

C. Privacy Slats: Prefinished metal. strips, sized to fit fabric weave.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that areas are clear of obstructions or debris.

3.02 PREPARATION

A. Removal: Obstructions or debris.

3.03 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F567.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From True Position: 1 inch.

C. Do not infringe on adjacent property lines.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

3.06 CLEANING

A. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.

B. Clean fence with mild household detergent and clean water rinse well.

END OF SECTION

SECTION 32 31 19
DECORATIVE METAL FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Decorative steel fences.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

A. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes 2023.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.

C. ASTM F2408 - Standard Specification for Ornamental Fences Employing Galvanized Steel Tubular Pickets 2016 (Reapproved 2023).

D. CLFMI WLG 2445 - Wind Load Guide for the Selection of Line Post and Line Post Spacing 2023.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Design Calculations: For high wind load areas, provide calculations for fence panels and accessory selection as well as line post spacing and foundation details. See CLFMI WLG 2445 for line post and spacing guidance.

D. Shop Drawings:
   1. Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.

E. Samples: Submit two samples of fence panels, slat infill, ____ inch by ____ inch in size illustrating construction and colored finish.

F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement.

H. Installer's Qualification Statement.

I. Manufacturer's Warranty.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified and approved by fence manufacturer.

1.06 DELIVERY, STORAGE AND HANDLING

A. Store materials in a manner to ensure proper ventilation and drainage. Protect against damage, weather, vandalism and theft.

1.07 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

B. Finish: 10 years.

PART 2 PRODUCTS

2.01 FENCES MATCH EXISTING

A. Fences: Complete factory-fabricated system of posts and panels, accessories, fittings, and fasteners; finished with electrodeposition coating, and having the following performance characteristics:
   1. Capable of resisting vertical load, horizontal load and infill performance requirements for fence categories defined in ASTM F2408.
   2. Incoporate existing panel(s) into final design as directed by Owner.

B. Steel: ASTM A653/A653M; tensile strength 45,000 psi, minimum.
   1. Hot-dip galvanized; ASTM A653/A653M, G60.
   2. 62 percent recycled steel, minimum.

C. Fasteners: ASTM A276/A276M, Type 302 stainless steel; finished to match fence components.

D. Hinges: Finished to match fence components.

E. Latches: Finished to match fence components. and Drawing Details

F. Steell Panels applied to fence as specified by Architect. Locate as directed by Owner.

2.02 WELDED STEEL FENCE

A. Provide fence meeting requirements for Industrial class as defined by ASTM F2408.

B. Fence Panels: Fusion welded; 6 feet high by 6 feet long.
   1. Panel Style: Two rail with flush bottom treatment.
   2. Attach panels to posts with manufacturer's standard panel brackets.

C. Posts: Steel tube.
   1. Size: 2 inches square by 11 gage.
   2. Size at Double Gates: 4 inches square by 11 gage.
   3. Horizontal Rails: 1.5 inch square, 14 gage.

D. Pickets: Steel tube.
   1. Spacing: 3-3/4 inch clear.
   2. Size: 3/4 inch square, 16 gage.
   3. Style: Flush top rail.
   4. Finial: None.
   5.

E. Flexibility: Capable of following variable slope of up to 1:2.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Set fence posts in accordance with the manufacturer recommended spacing.

C. Space gate posts according to the manufacturers' drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From Indicated Position: 1 inch.

C. Minimum Distance from Property Line: 6 inches.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Fence Height: Randomly measure fence height at three locations or at areas that appear out of compliance with design.

C. Gates: Inspect for level, plumb, and alignment.

3.06 CLEANING

A. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.

B. Clean fence with mild household detergent and clean water rinse well.

3.07 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION