

PROJECT MANUAL

**Shade Shelters**

for

**Lakeland E.S.  
Lakeview E.S.  
Paddison E.S.  
Studebaker E.S.**

for

**LITTLE LAKE CITY SCHOOL DISTRICT**

10515 South Pioneer Boulevard  
Santa Fe Springs, California 90670

February 2020

Prepared By

**ZIEMBA + PRIETO ARCHITECTS**

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SECTION 01010  
SUMMARY OF WORK

PART - GENERAL

1.01 DESCRIPTION: This section includes general requirements applicable to the entire work.

A. Work in this Section: Principal items include:

1. Project description.
2. Type of contract.
3. District's right to do work separately.
4. Contractor's use of premises.
5. Existing utility services.
6. Removal of hazardous materials.
7. Compliance with regulations.
8. Certificates required.
9. Tobacco, alcohol, narcotics restrictions.
10. Conduct of workers.

B. Secure and pay for as necessary for proper execution and completion of the work, all permits, government fees and licenses. The District has paid the general plan check fee.

C. Give required notices for testing and inspection 48 hours in advance.

D. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.

E. Enforce strict discipline and good order among employees. Do not employ persons unfit for assigned work.

1.02 PROJECT DESCRIPTION:

- a. Installation of 30' x 42' Shade Shelters as indicated on the drawings, etc.
- b. Demo/Repair walkways as indicated on drawings.
- c. Installation of trench drains and storm drains per civil drawings.
- d. Provide and install signage as called on drawings.
- e. Remove/demo ac paving at parking stalls to provide accessible parking and areas as shown on drawings.
- f. All other items as described in the construction documents.

1.03 CONTRACT: Perform work under a lease/lease back sum contract (refer to General Conditions for additional information).

1.04 DESIGN INTENT: The intent of the drawings and specifications is that the work of construction is to be in accordance with the 2019 California Building Code. If any existing conditions, such as deterioration or non-complying construction, be discovered which is not covered by the contract documents, wherein the finished work will not comply with the 2019 California Building Code, a Construction Change Directive or a separate set of plans

and specifications detailing and specifying the required work shall be submitted to and approved by DSA before proceeding with the work.

#### 1.05 GENERAL INSTALLATION REQUIREMENTS:

- A. Manufacturer's Recommendations: Unless otherwise specified to the contrary, all materials and equipment provided for the project shall be installed in accordance with product manufacturer's instructions and recommendations. Furnish manufacturer's instructions and recommendations to Architect, whether or not specifically required under respective sections.

#### 1.06 WORK BY OTHERS:

- A. The District reserves the right to let other contracts in accordance with the General Conditions of the Contract.
- B. The Contractor shall coordinate and cooperate with other contractors, and shall execute the work of this contract in a timely manner so as to cause no delay in the work of other contracts. Where excavations and installations to be performed and provided under this contract are in common, or conjunction or connection with the work of another contract, the Contractor shall afford such other contractors ample opportunity to execute their work, shall perform such partial backfilling and other operations as are necessary therefore, and shall not complete backfilling operations nor enclose or cover the work of other contractors until such work has been inspected, tested as required, and such backfilling, covering, or enclosing is approved.
- C. The operations of other contractors on adjacent projects may interfere with and cause some delay to the work of this contract. If Contractor is delayed by contractors on adjacent projects, or by the act of negligence of the District or the Architect, the Contractor's sole remedy shall be an extension of the time as determined by the Architect in accordance with the General Conditions. Disagreements between the Contractor and other contractors about concurrent use of work areas or access to the site which are not resolved by the participants shall be referred to the Architect and the Contractor agrees to abide by the Architect's determination as to concurrent use or priority of access, and to perform its work in compliance with the Architect's resolution at no additional cost to the District. In no event shall the Contractor be entitled to a monetary payment from District for any damages, for increased salaries, increased cost of materials and equipment, loss of anticipated profits, or increased overhead or indirect costs, caused by such delays.
- D. As required for the work of other contracts, and when as directed by the Architect, the Contractor shall relocate storage areas and roads constructed by him, and shall make such other provisions as are necessary to furnish access to the site to other contractors for the execution of their work, at no additional cost to the District. Conversely, such other contractors are required to relocate their storage areas and roads, and make such other provisions as are necessary for Contractor to perform and provide the work of this contract in accordance with the coordinated and

approved progress schedules and construction planning schedules and networks of the various contractors, all at no additional cost to the District.

#### 1.07 CONTRACTOR USE OF PREMISES

- A. Do not unreasonably encumber site with materials or equipment.
- B. Assume all responsibility for protection and safekeeping of products stored on premises.
- C. Move all stored products which interfere with operations of District or other contractors.
- D. Obtain and pay for use of additional storage, work areas, or parking required for operations of Contractor's employees.
- E. Use of Site:
  - 1. Allow District access to maintain and operate other existing facilities.
  - 2. Permit unimpeded access by fire fighting or rescue equipment.
  - 3. Access to and egress from construction site shall be in strict conformance to prearranged routes approved by the District, with the understanding that curtailment of traffic or revision of access routes may be required on short notice if the District's operations mandate such changes because of excessive noise, or problems with safety, service or supply.
- F. Contractor shall assure that all persons working on the site use only non-permanent markers, tapes and tags to indicate construction techniques and instructions, on construction in progress, and on existing construction. This includes markings on exterior and interior of building and on walks, curbs, walls and other site surfaces. Where work is damaged or defaced by use of permanent marking devices, such work will be subject to cleaning, repair or replacement, as the Architect may require.

1.08 COMPLIANCE WITH REGULATIONS: All materials shall comply with the current rules and regulations of the local air quality management district, with the rules regarding volatile organic compounds, and with FDA rules and regulations for dangerous materials in construction materials.

1.09 CERTIFICATES REQUIRED: At time of final application for payment, Contractor shall submit the following certificates:

- A. PCB's and Asbestos: Provide certificate attesting that PCB's or asbestos containing materials have not been used in this project.
- B. Volatile Organic Compounds: Provide certificate attesting that all materials containing volatile organic components are in strict compliance with all VOC requirements and regulations of EPA, OSHA and SCAQMD.

C. Hazardous waste: Provide certificate attesting that all hazardous waste, trash, debris, etc., have been disposed of in a manner which is in strict compliance with current regulations of EPA, state, county, city and local districts and authorities.

1.10 TOBACCO/ALCOHOL/NARCOTICS: The project site is a nonsmoking environment, and smoking will not be permitted anywhere on the premises. In addition, the use of alcoholic beverages and nonprescription narcotics is strictly prohibited by Contractor. Contractor shall rigidly enforce these regulations among his employees and visitors. Violators will be subject to prosecution. Contractor shall submit at the pre-construction meeting a signed "code of work ethics" to be implemented and proactively enforced by the Contractor throughout the project.

1.11 CONDUCT OF WORKERS:

A. Contractor shall enforce good conduct among his employees. Physical violence, coercion, intimidation, physical or verbal sexual overtures, and hostile and abusive language will not be tolerated at any, towards other employees of the Contractor, or towards District's personnel and students. Persons found to engage in any of these practices will be discharged from the campus, and if the abuse is severe, the District may elect to terminate the contract with the Contractor.

B. Dress: Shirts and shoes shall be worn by all persons on the site at all times.

C. Theft: If any person working on the contract should engage in theft of money, property, supplies, equipment, food or any other item, whether from the District's personnel, students, facilities, employees, visitors or from another of the Contractor's personnel or subcontractors, they will be immediately dismissed from the site.

PART 2 – PRODUCTS                      Not applicable to this Section.

PART 3 – EXECUTION                      Not applicable to this Section.

END OF SECTION



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## SECTION 01015

### ADDITIONAL REQUIREMENTS FOR DSA - APPROVED PROJECTS

#### PART 1 - GENERAL

##### 1.01 SUMMARY:

The following additional requirements apply to this Project, which is being reviewed by the Division of the State Architect (DSA).

##### 1.02 GENERAL CONDITIONS:

- A. Compliance with Title 24, for Parts 1-6 and 9.
- B. Title 24, Parts 1-5 must be kept on site during construction.
- C. If any conflicts or inconsistencies existing between the specifications and the drawings (including the general notes), the drawings and general notes shall take precedence.
- D. All addenda must be signed by Architect and approved by DSA (Section 4-338, Part 1).

##### 1.03 ADDITIONAL REQUIREMENTS:

- A. The Contractor shall maintain full compliance with the requirements specified in Parts 1 thru 5 and Part 9, Title 24, California Code of Regulations (CCR). Unless otherwise indicated or specified, work shall be performed in full conformance with the latest edition of applicable regulatory requirements. All work shall be performed in accordance with the rules and regulations, Title 24, Parts 1-5 and Part 9, California Code of Regulations, and the Office of Regulation Services, Division of the State Architect, and a copy of each code shall be kept on the job site at all times during construction. The codes adopted by the City, County, State and Federal agencies shall govern minimum requirements for this Project. The Contractor shall notify the District of any conflicts between the requirements of the Contract Documents and the requirements of this paragraph.
- B. In addition to the duties specified in the Contract Documents, the duties of the Contractor shall be in accordance with the requirements specified in CAC, Section 4-343 of Part 1, Title 24, California Code of Regulations (CCR).
- C. In addition to the duties specified in the Contract Documents, the duties of the Architect and the Architect's consultants shall be in accordance with the requirements specified in CAC, Section 4-341 of Part 1, Title 24, (CCR).
- D. Neither DSA, nor the decisions and instructions rendered by DSA are subject to arbitration proceedings.
- E. Construction work shall not commence and no contract shall be let until the School Board/District has applied for and obtained from DSA written approval of plans and specifications. CAC, Section 4-330 of Part 1, T24 (CCR).
- F. Architect shall notify DSA at start of construction in accordance with CAC, Section 4-331 of Part 1, Title 24, (CCR).

- G. All Addenda and Construction Change Documents (CCD) shall be stamped and signed by the Architect and delegated design professionals when applicable and submitted to DSA for review and approval. Substitutions changes that affect Structural, Fire Life Safety and Access to the Contract Documents shall be reviewed and approved by DSA, prior to fabrication or use. C.A.C., Section 4-338 of Part 1, Title 24, (CCR).
- H. Do not begin work under a written order until a Construction Change Document has been submitted to and approved by DSA in accordance with CAC, Section 4-338 of Part 1, Title 24, (CCR).
- I. Contractor shall submit verified reports in accordance with CAC, Sections 4-343(c) of Part 1, Title 24, (CCR) and construction oversight for DSA procedures. Architect shall submit verified reports in accordance with CAC, Sections 4-341(f) of Part 1, Title 24, (CCR).
- J. During construction, reconstruction, rehabilitation, repair, alteration of, or addition to any school building, DSA shall make site visits as in its judgment are necessary for proper enforcement of the Act and protection of the safety of the pupils, the teachers and the public in accordance with CAC, Section 4-334 of Part 1, Title 24, (CCR).
- K. Construction shall be observed by a full-time Project Inspector employed by the District, approved by the Architect, Structural Engineer and DSA in accordance with CAC, Section 4-333 and 4-342 of Part 1, Title 24, CCR.
- L. Testing requirements of District's Testing Laboratory shall be in accordance with CAC, Section 4-335 of Part 1, Title 24, (CCR).
- M. Special inspection of masonry construction, wood framing using timber connections, ready-mixed concrete, welding, and mechanical and electrical work shall be as required by CAC, Section 4-333(c) of Part 1, Title 24, (CCR). The costs of special inspection will be paid for by the District.
- N. The intent of these Contract Documents (Drawings and Specifications) is that the work of the construction, reconstruction, rehabilitation, repair, alteration of or any additions to any school building shall be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration or non-complying construction be discovered which is not covered by the Contract Documents wherein the finished work will not comply with Title 24, (CCR), a Construction Change Document (CCD), or separate set of plans and specifications, detailing and specifying the required work shall be submitted to and approved by DSA, prior to proceeding with the work.

PART 2 – PRODUCTS            Not applicable to this Section.

PART 3 – EXECUTION        Not applicable to this Section.

END OF SECTION

## SECTION 01030

### ALTERNATES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This section summarizes the alternate bids to be submitted to District. Alternate bids shall state the NET AMOUNT to be added to or deducted from the base bid price or the contract sum, as applicable.

- A. Acceptance or Rejection: Acceptance or rejection of each alternate bid is at the discretion of the District. Any, none or all of the alternate bids may be accepted or rejected in any sequence by the District.
- B. Costs: Include under each alternate bid the net amount of all changes in costs, whether additive or deductive, resulting to the work of all section affected by alternate bids.
- C. Extent of Alternate Bids: Bidders shall determine the full extent of work affected by each alternate bid and shall make full and proper allowance for such extent in the preparation of bids.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

## SECTION 01048

### CONTRACTOR'S REQUESTS FOR INFORMATION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section. This Section covers the general requirements for Contractor's Requests for Information and pertains to all portions of the contract documents.

##### A. Related work specified elsewhere:

1. Project meetings
2. Submittals
3. Substitutions

##### 1.02 DEFINITION:

- ##### A. Request for Information:
- A document submitted by the Contractor requesting clarification of a portion of the contract documents, hereinafter referred to as RFI.

##### 1.03 CONTRACTOR'S REQUESTS FOR INFORMATION:

- ##### A.
- When the Contractor is unable to determine from the contract documents, the exact material, process or system to be installed, the Architect shall be requested to make a clarification of the indeterminate item. 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.
- ##### B.
- 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 all requests as either submittals, substitutions or requests for change.
- ##### C.
- RFI's shall be submitted on a form provided by or approved by the Architect. Forms shall be completely filled in and if prepared by hand, shall be fully legible after copying by xerographic process. Each page of attachments to RFI's shall bear the RFI number in the upper right corner.
- ##### D.
- RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Architect.
- ##### 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 not be answered by the Architect.
- ##### F.
- In all 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 not be answered.

- 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 entail additional cost or credit.
  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 result in additional cost, Contractor shall not proceed with the work indicated by the RFI until a change order is prepared and approved. Answered RFI's shall not be construed as approval to perform extra work.
- I. Unanswered RFI's will be returned with a stamp or notification: Not Reviewed.
- J. Contractor shall prepare and maintain a log of RFI's and at any time requested by the Architect, and Owner. Contractor shall furnish copies of the log showing all outstanding RFI's. Contractor shall note all unanswered RFI's in the log.
- K. Contractor shall allow for 7 days review and response time for RFI's.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

End of Section

**REQUEST FOR INFORMATION**

RFI No.: \_\_\_\_\_

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

Project \_\_\_\_\_

No.: 180104

Project Name: Exterior Painting for Various Schools

DSA No.: \_\_\_\_\_

**To:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**From:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Refer to RFI procedures specified in Section 01048 – Contractor's Request for Information and the General Conditions. This RFI, when completed, is not authorization for change to the cost or duration of the project. Changes to cost and duration are authorized only by properly executed documents pursuant to the General Conditions.

**Subject:** \_\_\_\_\_

**Inspector Review and Initial:** **Prior to Architect submittal**

**Detail / Drawing Reference:** \_\_\_\_\_

**Specification Reference:** \_\_\_\_\_

**CONTRACTOR'S REQUEST FOR INFORMATION:**

[Empty box for Contractor's Request for Information]

Contractor Requests Response by: \_\_\_\_\_  
Architect response required within 7 calendar days.

**ARCHITECT / ENGINEER RESPONSE:**

Date of Receipt: \_\_\_\_\_

[Empty box for Architect / Engineer Response]

Architect / Engineer Signature:

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

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

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# Construction Request for Information

**RFI #**

**Project:** SHADE SHELTERS AT LAKELAND E.S., LAKEVIEW E.S., PADDISON E.S., AND STUDEE

**From (Contractor):** \_\_\_\_\_

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

Phone #: \_\_\_\_\_ Email or Fax #: \_\_\_\_\_

Trade: \_\_\_\_\_

Date Submitted: \_\_\_\_\_ Response Urgency: \_\_\_\_\_

Reference: (Please indicate the exact location in the plans or specs)

Sheet #: \_\_\_\_\_ Spec. #: \_\_\_\_\_

Dwg/Det. #: \_\_\_\_\_ Page #: \_\_\_\_\_

Note #: \_\_\_\_\_

**Reviewed by Inspector, prior to submittal:** \_\_\_\_\_

**Question:**

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**Proposed Solution:**

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**Cost Impact -** \_\_\_\_\_ **Potential Schedule Impact -** \_\_\_\_\_

**Response: By:** \_\_\_\_\_ **Date Returned:** \_\_\_\_\_

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**Questions must be emailed to: [jperez@ziembaprietoarch.com](mailto:jperez@ziembaprietoarch.com) or faxed to (818) 841-7782.**

SECTION 01050  
FIELD ENGINEERING

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide field engineering, complete.

- A. Work specified in this Section: Layout of the work.
- B. Related work specified elsewhere: Record drawings.

1.02 LAYOUT OF THE WORK:

Contractor shall lay out the work from the drawings and shall establish all additional benchmarks, monuments, lines and levels necessary for the construction covered by the contract.

1.03 UTILITIES SURVEY:

Contractor shall verify and confirm the exact locations of utility services where connections or extensions are required. Where trenches or excavations are required to determine locations, repair surface to match existing undisturbed condition.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01060

### REGULATORY REQUIREMENTS

#### PART 1 - GENERAL

1.01 DESCRIPTION: This Section covers the general requirements for regulatory requirements pertaining to the work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the contract documents.

1.02 REQUIREMENTS OF REGULATORY AGENCIES: All pertaining statutes, ordinances, laws, rules, codes, regulations, standards and the lawful orders of all public authorities having jurisdiction of the work are hereby incorporated into these contract documents the same as if repeated in full herein and such are intended where any reference is made in either the singular or plural to code or building code unless otherwise specified including, without limitation, those in the list below. Contractor shall make available at the site such copies of the listed documents applicable to the work as the Architect or Owner may request including mentioned portions of the California Building Code.

A. The list of applicable codes is shown on the drawings.

PART 2 – PRODUCTS            Not applicable to this Section.

PART 3 – EXECUTION        Not applicable to this Section.

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## SECTION 01091

### SOURCES FOR REFERENCED MATERIAL

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section. This Section covers the general information for obtaining referenced information, including standards, specifications, catalogs and other printed and electronic material pertaining to the work.

##### 1.02 REFERENCE AND STANDARD SPECIFICATIONS:

- A. Specifying by reference to a reference and standard specification document or to another portion of the contract documents shall be the same as if the referenced document or portion of the contract documents referred to were exactly repeated at the place where such reference is made. In case of a conflict between the requirements of regulatory agencies and the referenced reference and standard specification documents, Contractor shall conform to the most restrictive requirement if such conformance is legal.
- B. Reference or standard specification documents shall be the current issues in effect on the date bids are received, unless otherwise specified or unless codes or statutes make reference to earlier editions. Contractor shall make available at the site such copies of reference or standard specification documents as Architect or Owner may request.

##### 1.03 WEB SITES:

Because of the frequency of changes, web addresses are not given in the specifications. Contractor may contact specified manufacturers and trade associations by accessing 4specs.com (<http://www.4specs.com/>) and following the instructions for reaching the appropriate web site.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

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## SECTION 01092

### SPECIFICATION ABBREVIATIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers abbreviations for documents mentioned or referenced elsewhere in the contract documents, and language abbreviations used in the text of the Specifications. Abbreviations in drawings and specifications shall be interpreted according to recognized and well-known technical, industry or trade meanings.

##### 1.02 ORGANIZATION NAME ABBREVIATIONS:

These abbreviations include but are not limited to the following:

AA	The Aluminum Association, Inc.
AABC	Associated Air Balance Council
AAIEE	American Institute of Electrical and Electronics Engineers
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Traffic Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGA	American Gas Association
AGC	Associated General Contractors
AHA	American Hardwood Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute
APA	APA – The Engineered Wood Association
ARI	Air Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineers
ASTM	ASTM International (formerly American Society for Testing and Materials)
ATBCB	Architectural & Transportation Barriers Compliance Board
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
CBM	Certified Ballast Manufacturers
CCR	California Code of Regulations
CFPA	Certified Forest Products Council
CFR	Code of Federal Regulations
CLFMI	Chain Link Fence Manufacturers Institute

CISPI	Cast-Iron Soil Pipe Institute
CRA	California Redwood Association
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard, US Department of Commerce
CSFM	California State Fire Marshal
CSI	Construction Specifications Institute
CTI	Cooling Tower Institute
CTIOA	Ceramic Tile Institute of America
DHI	Door and Hardware Institute
DOD	Department of Defense
DSA	Division of the State Architect, Office of Regulation Services
EIA	Electronic Industries Association
EPA	United States Environmental Protection Agency
ETL	Electrical Testing Laboratories
Fed Spec	Federal Specification or Standard
FIA	Factory Insurance Association
FM	Factory Mutual
FS	Federal Specifications
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
HMMA	Hollow Metal Manufacturers Association
HPVA	Hardwood Plywood & Veneer Association
IAMPO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IGMA	Insulating Glass Manufacturers Association
IPCEA	Insulated Power Cable Engineers Association
ISAT	International Seismic Application Technology
ISO	International Organization for Standardization
MFMA	Maple Flooring Manufacturers Association
MIA	Masonry Institute of America
MLMA	Metal Lath Manufacturers Association
MLSFA	Metal Lath/Steel Framing Association
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health



NIST	National Institute of Standards and Technology
NLMA	National Lumber Manufacturers Association
NPDES	National Pollutant Discharge Elimination System
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NSWMA	National Solid Wastes Management Association
NUSIG	National Uniform Seismic Installation Guidelines
PCA	Portland Cement Association
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
PS	Product Standard, US Department of Commerce
RIS	Redwood Inspection Service
SAE	Society of Automotive Engineers
SCAQMD	South Coast Air Quality Management District
SDEI	Steel Deck Institute
SDI	Steel Door Institute
SFM	State Fire Marshal
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPR	Simplified Practice Recommendations, U.S. Dept. of Commerce
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America
UBC	Uniform Building Code
UBPPA	Uni-Bell PVC Pipe Association
UFAS	Uniform Federal Accessibility Standards
UL	Underwriters' Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association (formerly National Wood Window and Door Association)
WI	Woodwork Institute (formerly Woodwork Institute of California)
WWPA	Western Wood Products Association

### 1.03 TEXT ABBEVIATIONS:

Text abbreviations include but are not limited to the following:

ac	Alternating current
amp	ampere
BTU	British thermal unit
cfh	Cubic feet per hour
cfm	Cubic feet per minute
cm	Centimeter
Co.	Company
COP	Coefficient of performance
Corp.	Corporation
d	Penny

db.	Decibel
DB	Dry bulb
dc	Direct current
EER	Energy efficiency ratio
F	Degrees Fahrenheit
fpm	Feet per minute
ft	Foot or feet
gph	Gallons per hour
gpm	Gallons per minute
HP	Horsepower
HVAC	Heating, ventilating and air conditioning
Hz	Hertz
Inc.	Incorporated
KHz	Kilohertz
Kip	thousand pounds
Ksf	Thousand pounds per square foot
Ksi	Thousand pounds per square inch
Kv	Kilovolt
KVA	Kilovolt amperes
KW	Kilowatt
KWH	Kilowatt hour
LF	Linear foot
MPH	Miles per hour
lb	Pound
LED	Light emitting diode
MBH	1000 BTUs per hour
MHz	Mega hertz
mil	Thousandth of an inch
mm	Millimeter
mph	Miles per hour
oz.	Ounce
PCF	Pounds per cubic foot
pH	Acidity-alkalinity balance
psf	Pounds per square foot
psi	Pounds per square inch
psig	Pounds per square inch, gage
RF	Radio frequency
rpm	Revolutions per minute
SF	Square foot
SY	Square yard
V	Volt
WB	Wet bulb

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01094

### DEFINITIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers definitions supplementary to those given in the Conditions of the contract.

##### 1.02 DEFINITIONS:

- A. District or Owner: The term "District" or "Owner" refers to LITTLE LAKE CITY SCHOOL DISTRICT, 10515 Pioneer Blvd, Santa Fe Springs, CA 90670, or their authorized representative. The terms are used interchangeably.
- B. Architect: The term "Architect" refers to ZIEMBA + PRIETO ARCHITECTS, 601 South Glenoaks Boulevard, Suite 400, Burbank, CA 91502, or their authorized representative.
- C. References to Drawings: Words such as "shown", "indicated", "detailed", "scheduled", "noted", and words of similar meaning shall mean that reference is made to the information on the drawings unless stated otherwise.
- D. Actions of Architect: Such words as "directed", "designated", "selected", and words of similar meaning shall mean the direction, designation, selection, or similar action of the Architect is intended unless stated otherwise.
- E. Required: The word "required" and words of similar meaning shall mean "as required to complete the Work" and "required by the Architect", as is applicable to the context of the place where used, unless stated otherwise.
- F. Perform: The word "perform" shall mean that Contractor, at Contractor's expense, shall perform all the operations necessary to complete the Work or the mentioned portions of the Work, including furnishing and installing materials as are indicated, specified or required to complete such performance.
- G. Provide: The word "provide" shall mean that Contractor, at Contractor's expense, shall furnish and install the Work and mentioned portion of the Work, complete in place and ready for the intended use. These definitions apply the same to future, present and past tenses except "provided" may mean "contingent upon" where such is the context.
- H. Equal: Words such as "equal", "approved equal", "equivalent", and terms of similar meaning shall be understood to be followed by the phrase "in opinion of the Architect" unless stated otherwise.
- I. Approval: The words "approved", "approval", "acceptable", "acceptance" and other words of similar meaning shall mean that approval or acceptance of Architect, or similar meaning, is intended unless stated otherwise.

- J. Review: The word “review” and words of similar meaning shall mean the review and observation of the Architect is intended unless stated otherwise.
- K. Submit: The words “submit”, “submittal”, “submission”, and other terms of similar meaning shall include the meaning of the phrase “submit to the Architect for approval” unless otherwise stated.
- L. Expense: Such phrases as “at Contractor’s expense”, “at no extra cost to Owner”, “at no additional contract cost”, “with no extra compensation to Contractor”, or phrases of similar meaning shall mean that Contractor shall perform or provide the operation of work without increase in the contract price.
- M. Fees and Charges: District reimburses contractor for utility fees charged by jurisdictional agencies. Contractor is required to pay for all licenses and similar requirements that he must have in effect in order for him to accomplish his work.
- N. Language: Specifications are written in a modified brief style consistent with clarity. Words and phrases requiring an action or performance, such as “perform”, “provide”, “erect”, “install”, “furnish”, “connect”, “test”, “coordinate”, and words and phrases of similar meaning, shall be understood to be preceded by the phrase “The Contractor shall” unless otherwise stated. Requirements indicated and specified apply to all work of the same kind, class and type, even if the word “all” is not stated. The use of the singular number implies the plural, if more than one of an item or unit is required; likewise the use of the plural number implies the singular, if only one of an item or unit is required.
- O. Titling and Arrangement: Article, paragraph and subparagraph titles and other identifications of subject matter in the specifications are intended as an aid in locating and recognizing the various requirements in the specifications. Except where the titling forms a part of the text, such as beginning words of a sentence or where the title establishes the subject, the titles are subordinate to and do not define, limit or restrict the specification text. Underlining or capitalizing of any words in the text does not signify or mean that such words convey special or unique meanings having precedence over any other part of the contract documents. Specification text shall govern over titling and shall be understood to be and interpreted as a whole. The listings of various parts of work to be included or not included under various sections of the specifications are for convenience only and do not control the Contractor in dividing the work among the subcontractors or establish the extent of the work to be performed or provided by any subcontractor or trade. Contractor is solely responsible for providing the complete work without respect to where or how the various parts of the work may be indicated or specified. The sequence of articles, paragraphs, subparagraphs and sub-paragraphs in the specifications text is defined by the sequence 1.01A.1.a.(1)(a).

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01120

### ALTERATION PROCEDURES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

The requirements of all other sections of the specifications apply to this section. This Section covers the general requirements for special project procedures pertaining to the alteration of existing construction and is complementary to similar requirements indicated or specified.

A. Work In This Section: Principal items include:

1. Alterations and repairs to existing facilities as required to complete the work.
2. Relocation and reinstallation of existing construction and finish.
3. Storage and protection of existing items to be reinstalled.

##### 1.02 DESIGN INTENT:

The intent of the drawings and specifications is to perform all work in accordance with Title 24, California Code of Regulations. If any conditions develop which are not covered by the contract documents wherein the finished work would not comply with said Title 24, California Code of Regulations, a change order detailing and specifying the required work shall be submitted to and approved by the Architect and the District before proceeding with the work.

##### 1.03 SUBMITTALS:

- A. Manufacturer's Data: Submit complete product data, test reports and application instructions for materials.

##### 1.04 QUALITY ASSURANCE:

- A. Video Documentation: Refer to Division 1. Before starting work of this section, provide one video of existing conditions to be affected by the demolition work. Provide progress videos as the work progresses, at intervals as approved, illustrating substrates, connections, concealed conditions and other conditions which will benefit the Owner's permanent records.

##### 1.05 JOB CONDITIONS:

- A. General: Coordinate work of other sections and with the Owner to assure the correct sequence, limits, methods and times of performance. Arrange the work to impose minimum of hardship on operation and use of the facilities. Install protection for existing facilities, contents and new work against dust, dirt, weather, damage and vandalism, and maintain and relocate as work progresses.
- B. Access: Confine entrance and exit operations to access routes designated by the Owner.

- C. Existing Portable Items: Owner will remove portable equipment, furniture and supplies from involved existing areas prior to start of work therein. Cover and protect remaining items to remain.
- D. Verification of Conditions: Perform a detailed survey of existing site and building conditions pertaining to the work before starting work. Report to Architect discrepancies or conflicts between the drawings and actual conditions in writing for clarification and instructions and do not perform work where such discrepancies or conflicts occur prior to receipt of Architect's instructions.
- E. Building Security: Secure building entrances and exists with locking or another approved method in accordance with the Owner's instructions.
- F. Safeguarding of Owner's Property: Contractor shall assume care, custody and responsibility for safeguarding all of the Owner's property of every kind, whether fixed or portable, remaining in rooms and spaces vacated and turned over to the Contractor by the Owner for his exclusive use in performance of the work until the work therein or related thereto is completed and the rooms or spaces are reoccupied by Owner. Furnish all forms of security and protection necessary to protect the Owner's property. Regardless of cause, Contractor shall repair, replace or otherwise acceptably make good all of the Owner's property under the Contractor's care, custody and safeguarding that is damaged, injured, missing, lost or stolen from time each such room or space is turned over to the Contractor for the work until re-occupied by Owner, at Contractor's expense and as directed by Owner.
- G. Protection of Floors/Slabs: Use care to protect all floor surfaces and coverings from damage. Equip mobile equipment with pneumatic tires.

#### 1.06 EXISTING CONDITIONS:

The intent of the drawings is to show existing site and building conditions with information developed from the original construction documents, field surveys and Owner's records, and to generally show the amount and types of demolition and removals required to prepare existing areas for new work. Contractor shall make a detailed survey of existing conditions pertaining to the work before commencing demolition. Report discrepancies between drawings and actual conditions to the Architect for instructions and do not perform any removal work where such discrepancies occur prior to receipt of the Architect's instructions.

PART 2 – PRODUCTS – Not applicable to this Section.

#### PART 3 – EXECUTION

##### 3.01 CUTTING AND PATCHING:

Execute cutting, including excavation, fitting and patching of work required to make the several parts fit properly, to remove and replace defective work, to remove and replace work not conforming to requirements of the contract documents, and to install specified work in existing construction.

- A. When directed by Architect, uncover work to provide for Architect's observation of covered work, remove samples of installed materials for testing and remove work to provide for alteration of existing work.
- B. Do not damage work by cutting or altering any part of it.
- C. Do not cut or alter work of separate contractors without written consent of Architect.
- D. If it is necessary to cut work which affects the structural safety of the project, or which affects the work of a separate contractor, submit written notice to Architect requesting consent to proceed with cutting. The request shall include the following items:
  - 1. Description of affected work and necessity for cutting it.
  - 2. Effect on other work and on the structural integrity of project.
  - 3. Description of proposed work, including scope of cutting and patching, trades which will execute the work, products and materials to be used, and refinishing methods and extent.
  - 4. Alternative methods, if any, to accomplish the work without cutting and patching.
  - 5. Cost estimate, if additional cost is anticipated.
  - 6. Notification of interruption of services, if applicable.
- E. If conditions of work or schedule indicate a change of materials or methods, submit written commendations to Architect, stating the conditions which affect the change, recommendations for alternative materials or methods. Provide submittals as specified for substitutions for all materials and methods proposed to be changed.
- F. Inspect all existing conditions of work, including elements subject to movement or damage during cutting and patching.
- G. Provide shoring, bracing and coverings as required to maintain structural integrity to provide protection of project and surrounding improvements.
- H. After uncovering work, inspect conditions affecting installation of new materials and products.
- I. Restore work which has been cut or removed, install new products to provide completed work in accordance with the contract documents.
- J. Refinish patched, new and existing surfaces to match adjacent, undisturbed construction.

### 3.02 ALTERATIONS AND REPAIRS:

- A. Basic Requirement: Restore and refinish all new and existing construction and improvements that are cut into, altered, damaged, relocated, reinstalled or left unfinished by removals to original condition or to match adjoining work and finishes unless otherwise shown, specified, directed or required. Workmanship and materials shall conform to applicable provisions of other Sections. Provide new fasteners, connectors, adhesives and other accessory materials as required to fully complete approved reinstallations and restorations. Where restorations and refinishing are defective or are otherwise not acceptable to Owner, remove all the defective or rejected materials and provide new acceptable materials and finish at no extra cost to Owner.
- B. Patching, Repairing and Finishing:
1. Openings to be Closed: Trim edges square and straight, and dampen and grout scrub or treat with an adhesive as specified above for cut concrete edges. Provide 3,000 psi concrete. Provide reinforcement as required to match existing concrete U.N.O. Where installation of concrete is impracticable, fill openings with dry-packed non-shrink grout. Finish to match adjoining surfaces.
  2. Metal Items: Grind cut edges to remain exposed smooth and rounded.
  3. Lath and Plaster: Where old plaster is removed, provide new metal lath or gypsum lath and plaster as specified in Division 9. Where old plaster is left in place, new plaster shall be applied over the old in accordance with one of the following methods:
    - a. Apply 3.4 pound self furring diamond mesh metal lath over old surface by nailing through into framing, using 2" long, 11 gage 7/16" head barbed shank galvanized roofing nails at 6" o.c. Wire tie side and end laps. Apply plaster in three coats, as specified for new work, except using wood fibered plaster for scratch coat.
    - c. Where patching of plaster over existing lath is feasible, renail all loose lath and install new lath to match to fill holes. Nail and renail at 6" centers. Where metal lath is used, lap new lath over existing 6" and tie at 6" centers. Restore paper backings as required, shingled in existing. Spray existing gypsum lath with water over a period of several hours to wet it thoroughly. Then apply a bonding coat to the cut edges of existing plaster and replaster as specified for new work. Cracking caused by failure to wet the lath properly will be considered defective work, and the lath and plaster shall be removed and replaced as specified above.
    - d. Patching of Holes, Cracks and Gouges: All existing holes, cracks, gouges, missing sections and other defects in existing work shall be patched. For holes over 1" in size, cut small sections of lath and place in opening, attached to existing material. Apply 3 coats of plaster. For holes 1" and smaller, apply bonding agent to existing surfaces and neatly fill hole with plaster, using several coats as necessary to fill to surface, eliminate cracks and match existing surface texture. Cracks, gouges and other defects shall be filled with plaster or spackle as applicable and neatly finished to match existing work.



### 3.03 PREPARATION OF EXISTING WORK:

- A. Filling, Patching and Grinding: Where existing surfaces are shown or required to receive new finish materials, and where such surfaces have cracks, holes, depressions, ridges, foreign materials or other conditions which preclude proper installation of the new finish materials, the existing surfaces shall be reconditioned. Holes, cracks and depressions shall be filled with patching compounds of suitable types compatible with new materials. Ridges and "high spots" shall be ground down. Areas of different planes shall be feathered out. Foreign materials shall be removed by use of solvents where approved, or by sandblasting as specified above. Any other reconditioning as may be required shall be performed to enable existing surfaces to receive new finish materials.

END OF SECTION

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## SECTION 01140

### WORK RESTRICTIONS

#### PART 1 - GENERAL

1.01 DESCRIPTION: All other sections of Division 1 apply to this Section. This Section covers the general requirements for work restrictions, and pertains to all portions of the contract documents.

1.02 WORK SCHEDULE: Perform work adjacent to existing facilities by methods as are approved by the District. Submit proposed schedules itemizing dates and hours that the various items of work at each area will be started and completed. The District reserves the rights to modify the proposed schedules to eliminate conflicts and ensure use of the existing facilities during the work. Exactly follow the schedule as finally approved by the District. Revise and resubmit schedules when timing or sequence changes occur or are ordered by the District.

#### 1.02 USE OF PREMISES

- A. Use of site: Limit use of premises to work areas indicated. Do not disturb portions of site beyond areas in which the work is indicated:
  - 1. Limits: Confine constructions operations to limit of work shown on documents.
  - 2. District Occupancy: Allow for District occupancy of site.
  - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to the District, the District's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
- B. Use of Existing Buildings: Maintain existing buildings in a weather tight condition throughout construction period. Repair damage caused by construction operations. from construction equipment on public streets. Sweep clean turning areas and pavement entrances as necessary.

#### 1.03 USE OF SITE:

- A. Do not block entrances. Where walkways to entrances are impeded, provide properly barricaded alternate entranceways. Do not use these areas for storage of materials.
- B. Provide temporary sign banners, from design and materials approved by the District, to identify areas during time that signage is removed and until signage is replaced.
- C. Keep the site clean and free from construction debris at all times. Provide trash containers, located where directed, and place trash in the containers as it is generated. Do not allow trash to accumulate on the site. Do not allow workers to leave lunch pails and debris on the site at any time.

- D. Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the work is indicated.
- E. Confine constructions operations to limit of work shown on documents.
- F. Driveways and Parking: Parking for Contractor's employees shall be limited to area of the work.
- G. Deliveries: District will designate one entrance and one location for delivery vehicles. Restrict access to areas so designated.
  - 1. Schedule deliveries to minimize use of driveways and entrances.
  - 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

#### 1.05 CONSTRUCTION STORAGE AREAS:

Storage of construction equipment and materials shall be limited to designated work areas. Store and service equipment at the designated areas where oil wastes shall be collected. Oily wastes shall not be allowed to flow on to the ground or to enter surface waters.

PART 2 – PRODUCTS            Not applicable to this Section.

PART 3 – EXECUTION        Not applicable to this Section.

END OF SECTION

## SECTION 01150

### ENVIRONMENTAL PROTECTION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section, and the requirements of this Section apply to all sections where the work involves the protection of the environment. During the progress of the work, the Contractor shall protect the environment, both on-site and off-site, throughout and upon completion of the construction project.

A. Related work specified in other sections:

1. Cleaning.
2. Field engineering.

##### 1.02 MITIGATION OF CONSTRUCTION IMPACTS:

A. Requirements: The Contractor's operations shall comply with all federal, state and local regulations pertaining to water, air, solid waste and noise pollution.

B. Definitions of Contaminants:

1. Sediment: Soil and other debris that has been eroded and transported by storm or well production runoff water.
2. Solid Waste: Rubbish, debris, garbage, vegetation and other discarded solid materials resulting from construction activities.
3. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalies, herbicides, pesticides, organic chemicals and inorganic wastes.
4. Sanitary Wastes:
  - a. Sewage: That which is considered as domestic sanitary sewage.
  - b. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing and consumption of food.

C. Contractor shall protect the existing water system during construction from contamination. Water shall be tested as required for purity during construction. It is the Contractor's responsibility to provide a testing policy for the full duration of the project. Provide a copy of the testing policy to the District.

### 1.03 PROTECTION OF NATURAL RESOURCES:

- A. General: It is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract be preserved in their existing and original condition or be restored to an equivalent or improved condition upon completion of the work. The Contractor shall confine the construction activities to areas defined by the public roads, easements and work area limits shown on the drawings and or as directed by the District.
  
- B. Temporary Construction: Remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction as directed by the Architect. Level all temporary roads, parking areas and any other areas that have become compacted or shaped. Any unpaved areas where vehicles are operated shall receive a suitable surface treatment or shall be periodically wetted down to prevent construction operations from producing dust damage and nuisance to persons and property, at no additional cost to the District. Keep haul roads clear at all times of any object which creates an unsafe condition. Promptly remove any contaminants or construction materials dropped from construction vehicles. Do not drop mud and debris from construction equipment on public streets. Sweep clean turning areas and pavement entrances as necessary.
  
- C. Land Resources: Do not remove, cut, deface, injure or destroy trees or shrubs outside the work area limits. Do not remove deface, injure or destroy trees within the work area without permission from the Architect. Such improvements shall be removed and replaced, if required, by the Contractor at his own expense.
  - 1. Protection: Protect trees that are located near the limits of the Contractor's work areas which may possibly be defaced, bruised or injured or otherwise damaged by the Contractor's operations. No ropes, cables or guys shall be fastened to or be attached to any existing nearby trees or shrubs for anchorages. No vehicles or equipment shall be parked within the extents of the canopy of any tree.
  - 2. Repair or Restoration: Repair or replace any trees or other landscape feature scarred or damaged by equipment or construction operations as specified below. The repair and/or restoration plan shall be reviewed and approved by the Architect prior to its initiation.
  
- D. Water Resources: Contractor shall investigate and comply with all applicable Federal, state and local regulations concerning the discharge (direct or indirect) of pollutants to the underground and natural waters. All work under this contract shall be performed in such a manner that any adverse environmental impacts are reduced to a level that is acceptable to the District and regulatory agencies.
  - 1. Oily substances: At all times, special measures shall be taken to prevent oily or other hazardous substances from entering the ground, drainage areas or local bodies of water in such quantities as to affect normal use, aesthetics or produce a measurable ecological impact on the area.

2. Mosquito Abatement: Construction activities shall be conducted such that ponding of stagnant water conducive to mosquito breeding habitat will not occur at any time.
- E. Dust Control, Air Pollution and Odor Control: Take measures to avoid the creation of dust, air pollution and odors.
1. Unpaved areas where vehicles are operated shall be periodically wetted down or given an equivalent form of treatment to eliminate dust formation.
  2. All volatile liquids, including fuels or solvents, shall be stored in closed containers.
  3. No open burning of debris, lumber or other scrap will be permitted.
  4. Equipment shall be properly maintained or reduce gaseous pollutant emissions.

#### 1.04 NOISE CONTROL:

Perform demolition and construction operations to minimize noise. Perform noise producing work in less sensitive hours of the day or week as directed by the Architect.

- A. Repetitive, high level impact noise will be permitted only between the hours of 8:00 AM and 6:00 PM, Monday through Friday. Repetitive impact noise on the property shall not exceed the following limitations:

Sound level (dB)	Duration of impact noise
70	12 minutes per hour
80	3 minutes per hour

- B. Provide equipment, sound-deadening devices and take noise abatement measures that are necessary to comply with these requirements.
- C. Maximum permissible construction equipment noise levels at 50 feet:
- |        |  |
|--------|--|
| 80 dB: | Scrapers, stationary pavers, rock drills, pneumatic tools. |
| 75 dB: | All other construction equipment.                          |
- D. Whenever work is being performed which exceeds 55 dB noise level, measure the sound level every 5 days to determine noise exposure to the construction. Use the A weighing network of a general purpose sound level meter at slow response. Take measurements not less than six feet in front of building faces. Submit records to Architect.

#### 1.05 CONSTRUCTION STORAGE AREAS:

Storage of construction equipment and materials shall be limited to designated work areas. Store and service equipment at the designated areas where oil wastes shall be collected. Oily wastes shall not be allowed to flow on to the ground or to enter surface waters.

#### 1.06 DISPOSAL OPERATIONS:

- A. Solid Waste Management: Supply storage containers. Remove all construction debris in a daily basis, such as spent air filters, oil cartridges, cans, bottles, combustibles and litter, etc. Convey contents only to a favorably reviewed sanitary landfill. Care shall be taken to prevent papers from blowing onto adjacent property. Personnel shall be encouraged to use refuse containers.
- B. Chemical Waste Management: Supply containers to store spent chemicals used during construction operations. Chemicals shall be disposed of in a favorably reviewed sanitary landfill.
- C. Garbage: Garbage shall be stored in covered containers, picked up daily and disposed of a favorably reviewed sanitary landfill.

#### 1.07 PRESERVATION OF MONUMENTS AND EXISTING FEATURES:

All monuments, bench marks or property line stakes disturbed by construction operations shall be promptly re-established by a registered land surveyor or civil engineer.

#### 1.08 SAFETY:

Comply with all rules and regulations of NIOSH, CAL/OSHA and local authorities concerning jobsite safety.

#### 1.09 EXISTING UTILITIES:

The Contractor shall coordinate construction activities with the government agencies, land owners and utility companies, and operations shall be planned to allow access to all property and utility owners.

#### 1.10 PROTECTION OF WORK:

The Contractor shall be responsible for the care of all work until its completion and final acceptance. Replace damaged or lost material and repair damaged parts of the work at no additional contract cost.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION



SECTION 01200  
PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers the general requirements for the project meetings.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 PROJECT MEETINGS:

- A. Attendees: Unless otherwise specified or required by the District, meetings shall be attended by the District, Architect, Contractor, Contractor's Superintendent and the Inspector of Record. Subcontractors may attend the meetings when involved in matters to be discussed or resolved but only when requested by the District, Architect or Contractor.
- B. Meeting Records: The Contractor will record minutes of each meeting and furnish copies within a reasonable time thereafter to the District, Architect, Inspector of Record and other attendees. Unless written objection to contents of the meeting minutes is received by Contractor within 3 days after presentation, it shall be understood and agreed that the minutes are a true and complete record of the meeting.
- C. Meeting Schedule: Dates, times and locations for various meetings shall be agreed upon and recorded at pre-construction meeting. Thereafter, changes to the meeting schedule shall be agreed between the District and the Contractor, with appropriate written notice to all parties involved.

3.02 PRE-CONSTRUCTION MEETING:

- A. General: Before issuance of Notice to Proceed, a pre-construction meeting shall be held at the location, date and time designated by District. In addition to attendees named herein, this meeting shall be attended by representatives of the regulatory agencies having jurisdiction, if required, and such other persons the District may designate.
- B. Agenda: The matters to be discussed or resolved and the instructions and information to be furnished to or given by the Contractor at the preconstruction conference include:
  - 1. Schedule of progress meetings.
  - 2. Progress schedule and schedule of values submitted by Contractor.
  - 3. Communication procedures between the parties.
  - 4. Names and titles of all persons authorized by Contractor to represent and execute documents for Contractor, with samples of all authorized signatures.

5. The names, addresses and telephone numbers of all those authorized to act for the Contractor in emergencies.
6. Construction permit requirements, procedures and posting.
7. Public notice of starting Work.
8. Forms and procedures for Contractor's submittals.
9. Change Order forms and procedures.
10. Payment application forms and procedures and revised progress schedule reports to accompany the applications.
11. Contractor's designation of his organization's accident prevention member and his qualifications if other than the Superintendent.
12. Contractor's provisions for barricades, traffic control, utilities, sanitary facilities and other temporary facilities and controls.
13. Consultants and professionals employed by District and their duties.
14. Construction surveyor and initiation of surveying services. (If required.)
15. Testing Laboratory or Agency and testing procedures.
16. Procedures for payroll and labor cost reporting by the Contractor.
17. Procedures to ensure nondiscrimination in employment.
18. Warranties and guarantees.
19. Long lead item status. (If applicable.)
20. Other administrative and general matters as needed.

### 3.03 CONSTRUCTION PROGRESS MEETINGS:

Progress meetings shall be held according to the agreed schedule. All matters bearing on progress and performance of the work since preceding progress meeting shall be discussed and resolved including, without limitation, any previously unresolved matters, deficiencies in the work or methods being employed for the work and problems, difficulties or delays which may be encountered.

### 3.04 PROGRESS MEETINGS:

Conduct progress meetings at the project site at regularly scheduled intervals. Notify the District and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

- A. Attendees: In addition to representatives of the District and Architect each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by personnel familiar with the project and authorized to conclude matters relating to progress.
- B. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project.
- C. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's construction schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss

whether schedule revisions are required to ensure that current and subsequent activities will be completed within the contract time.

- D. Look Ahead Schedule: Provide a 2 week "look ahead" schedule at each construction progress meeting. Look ahead schedule shall outline upcoming activities over the course of the upcoming 2 weeks. Schedule shall correlate with the project construction schedule and provide sufficient detail to outline all activities expected to be found on the job site.
- E. Review the present and future needs of each entity present, including such items as interface requirements, time, sequences, deliveries, off-site fabrication problems, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, quality and work standards, change orders, documentation of information for payment requests.
- F. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary of progress since the previous meeting and report.
- G. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

### 3.05 SPECIAL MEETINGS:

After notice to other parties, special meetings may be called by the District, Architect or Contractor. Special meetings shall be held where and when designated by the District. Other special meetings, such as the pre-roofing conference, shall be conducted as specified in the various sections of the specifications.

### 3.06 POST-CONSTRUCTION MEETING:

This meeting shall be held prior to the final inspection of the work to discuss and resolve all unsettled matters. Bonds and insurance to remain in force and the other documents required to be submitted by the Contractor will be reviewed and any deficiencies determined. Schedule and procedures for the final inspection and for final correction of defects and deficiencies shall be agreed.

END OF SECTION

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## SECTION 01300

### SUBMITTALS

#### PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. Provide shop drawings, product data, samples, certificates, and other required submittal, in accordance with procedures specified herein, complete.

- A. Work Specified in this Section:
  - 1. Submittal procedures for electronic and hard copy process.
  - 2. Proposed products list.
  - 3. Product data.
  - 4. Shop drawings.
  - 5. Samples.
  - 6. Design data.
  - 7. Test reports.
  - 8. Certificates.
  - 9. Manufacturer's instructions.
  - 10. Manufacturer's field reports.
  
- B. Contractor has the option of providing either hard copy or electronic sets of the following, all as specified hereafter:
  - 1. Proposed products list.
  - 2. Product data.
  - 3. Shop drawings.
  - 4. Design data.
  - 5. Test reports.
  - 6. Certificates.
  - 7. Manufacturer's instructions.
  - 8. Manufacturer's field reports.
  
- C. Submit for approval of Architect shop drawings, product data, and samples required by specification sections. Refer to General Conditions for additional requirements, including limitation of Architect's review responsibilities.
  
- D. Prepare and submit, with construction schedule, a separate schedule listing dates for submission and dates reviewed shop drawings, product data and samples will be needed for each product.
  
- E. Requests for substitutions of materials and processes shall not be submitted as part of the submittal process specified herein. All requests for substitutions shall be separately submitted as specified in Section 01630.
  
- F. Submittal shall not be made by use of RFI's. Submittals shall be separately made as specified herein.
  
- G. Processing Time: Allow sufficient time for submittal review, including re-submittal as required. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittal sufficiently in advance of the work to permit review and re-submittal if required. Times as noted below are minimum; increase as required to assure conformance with project schedule.

1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

2. Re-submittal Review: Allow 5 days for review of each re-submittal.

#### 1.02 SUBMITTAL PROCEDURES: GENERAL

- A. Transmit each submittal with Architect accepted form. Sequentially number transmittal forms. Mark revised submittals with original number and sequential numerical suffix.
- B. Identify project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- C. 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 requirements of the work and contract documents.
- D. Schedule submittals to expedite project, and deliver to Architect at business address, except for electronic submittal as specified hereafter. Coordinate submission of related items.
- E. When revised for resubmission, identify changes made since previous submission. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- F. Submittals not requested will not be recognized or processed.
- G. Submittals shall be made for each individual specification section. Do not combine.
- H. Submittals for each specification section shall be complete. Do not piecemeal submittals into more than one submittal for each section. Incomplete submittals will be returned without review.
- I. For items required to be of selected and approved colors, patterns, textures or other finish sufficient samples to show the range of shades, tones, values, patterns, texture, or other features corresponding to the instructions, shall be submitted. Submit color samples of field-applied paint materials as specified for painting work. Selection of colors will not be made until all related items requiring selection have been submitted.

#### 1.03 ELECTRONIC SUBMITTAL PROCEDURES:

- A. Shop drawing and product data submittals shall be transmitted to Architect in electronic (PDF) format using email and Dropbox (Architect's Folder).
- B. Submittal Preparation: Contractor may use either, or a combination, of the following options:
  - 1. Subcontractors and Suppliers provide electronic (PDF) submittals to Contractor.
  - 2. Subcontractors and Suppliers provide paper submittals to General Contractor, who electronically scans and converts to PDF format.
- C. Contractor shall review and apply electronic stamp certifying that the submittal complies with the requirements of the contract documents including verification of manufacturer, product, dimensions and coordination of information with other parts of the work.

- D. Contractor shall transmit each submittal to Architect using email or Dropbox. Dropbox submittals require an email notification to Architect.
- E. Architect review comments will be made available on Dropbox for downloading. Contractor will receive an email notice of completed review.
- F. Distribution of reviewed submittals to subcontractors and suppliers is the responsibility of the Contractor.

#### 1.04 HARD COPY SUBMITTAL PROCEDURES:

- A. Transmittals: Submittal of submittals to the Architect shall be made by the Contractor with a dated transmittal form or letter (not by sub-contractor or supplier) at least 7 days before dates reviewed submittals will be needed.
- B. Provide shop drawings. Comments will be noted on the reproducible which will be returned to the Contractor. Contractor shall revise the documents and resubmit them in the same manner. When approved, the reproducible will be stamped and returned to the Contractor, who shall make distribution of copies as specified hereinafter.
- C. Number of Copies: Contractor shall submit copies and make distribution as follows:
  - 1. Initial Submittal: Reproducible and 3 copies to the Architect.
  - 2. Re-submittals: Reproducible of revised original and 3 copies to the Architect.
  - 3. Final Distribution: 3 copies to the Architect, and copies to those concerned.

#### 1.05 SHOP DRAWINGS AND SCHEDULES:

- A. Drawings and schedules shall be certified by the Contractor that they have been checked by him and conform to the Contract requirements. Drawings not dated, signed, certified, and/or completed by the Contractor will be returned unchecked.
- B. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings. Include signed and sealed calculations to support design. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction. Make revisions and provide additional information when required by authorities having jurisdiction. Make revisions and provide additional information when required by authorities having jurisdiction.
- C. When the Contractor's drawings indicate previously approved deviations or approved changes from the contract drawings and specifications, the Contractor shall clearly indicate in the drawings all other changes required to correlate the work, and shall state in writing, his assumption of the costs of all other related changed.
- D. Drawings shall include:
  - 1. Details of fabrication, assembly, erection and connection.
  - 2. Material used, including fasteners and attachments.
  - 3. Dimensions, including variations between dimensions shown on the contract drawings and actual conditions.
  - 4. Complete schedules, as applicable.

5. All protective coatings and factory finishes, fully described as to materials, number of coats, plated finishes, treatments, and similar information.

- E. No changes shall be made to re-submittal drawings and schedules except those corrections noted by the Architect unless the resubmitted drawings are accompanied by a separate written notice from the Contractor precisely setting forth such additional changes and stating his assumption of costs as specified for deviations; and/or such changes as are approved by the Architect.

#### 1.06 PROPOSED PRODUCT LIST:

- A. Within 10 days after notice to proceed, submit list of major products proposed to use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards

#### 1.07 PRODUCT DATA:

- A. A bound list of products to be used in the work shall be submitted according to the following procedure:
  1. Within 15 days after agreement between District and Contractor is executed, submit bound copies to the Architect.
  2. The Architect will notify the Contractor in writing of any disapproved items. Within 15 days after receipt of such notice, the Contractor shall submit proposed substitutions for disapproved items, number of copies, and distribution of the same as initial submittal for each re-submittal until approval is obtained for proposed substitutions. Re-submittals need not be bound, but the transmittal shall identify each disapproved item and the proposed substitute therefore. The Architect will notify the Contractor in writing of approved substitutions.
  3. Within 10 days after receipt of notice of approval, the Contractor shall submit corrected bound copies, 3 copies to the Architect, and copies to others concerned.
  4. In determination of acceptability, the Architect will consider the ready availability of maintenance and replacement parts and materials, the availability of manufacturer's technical representative, and such other factors that relate to the maintenance and repair of installed items without excessive inconvenience to the District, as well as determination of conformance with the Contract Documents.
  5. The Contractor shall provide those items included in the approved lists, without deviation, unless subsequently revised by change order procedure.
- B. Manufacturer's standard schematic drawings shall be modified delete information which is not applicable to project. Supplement the standard information to provide additional information applicable to project.
- C. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data.
  1. Clearly mark each copy to identify pertinent materials, products, or models. Show dimensions and clearances required. Show performance characteristics and capacities.



Show wiring diagrams and controls. Clearly show each option, color selection, and accessory to be furnished.

2. All items shall be neatly bound in a loose leaf binder with a project identification label and a table of contents.

#### 1.08 SAMPLES:

- A. Submittal of samples, where specified or directed, shall be made by Contractor with a dated transmittal for or letter, and not by subcontractor or supplier. Samples of manufactured or process materials and equipment will be submitted within 7 days after receipt of approved material list. Samples of field-applied paint materials and colors shall be submitted not less than 10 days prior to start of field painting work. Unless otherwise specified, samples shall be submitted in triplicate; two to the Architect and one to the District, with copy of letter of transmittal.
- B. Samples for selection as specified in product sections:
  1. Submit to Architect for aesthetic, color, or finish selection.
  2. Submit samples of finishes from full range of manufacturer's standard colors, textures, and patterns for Architect selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full project information.
- E. Submit number of samples specified in individual specifications sections; Architect will retain one sample.
- F. Reviewed samples which may be used in the work are indicated in individual specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in specification section.
- H. After review, produce duplicates and distribute in accordance with Submittal Procedures article and for record documents purposes described in Section 01720.
- I. Maintain one of each approved sample onsite.

#### 1.09 DESIGN DATA:

- A. Submit for Architect's knowledge as contract administrator or for District.

#### 1.10 TEST REPORTS:

- A. Submit for Architect's knowledge as contract administrator or for District.

#### 1.11 CERTIFICATES:

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect in quantities specified for production data.

- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- D. Submit electronically as specified above.

1.12 MANUFACTURER'S INSTRUCTIONS:

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Architect for delivery to District in quantities specified for product data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- C. Submit electronically as specified above.

1.13 MANUFACTURER'S FIELD REPORTS:

- A. Submit report within 30 days of observation to Architect for information.

1.14 ERECTION DRAWINGS:

- A. Data indicating inappropriate or unacceptable work may be subject to action by Architect or District.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

## SECTION 01310

### CONSTRUCTION SCHEDULES AND REPORTS

#### PART 1 - GENERAL

- 1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. This Section covers the general requirements for providing construction schedules and reports, and includes schedule and coordination requirements applicable to the entire work.
- 1.02 BAR CHART SCHEDULE: Prepare a schedule in the form of a horizontal bar chart. Provide separate horizontal bar columns for each trade of operation. Arrange the schedule in chronological order of beginning of each item of work. Identify each column by major specification section number, and by distinct graphic delineation. Provide a horizontal time scale showing each week of the construction process. The scale and spacing shall accommodate 2 parallel bars, one to show scheduled progress and one to show actual progress. Keep the schedule current at all times, by indicating actual progress on the lines provided. If the schedule becomes obsolete because of delay, changes or other job-related conditions, prepare a new schedule if directed by the Architect or District.
- 1.03 CONTENT OF SCHEDULES:
- A. Provide complete sequence of construction including decision dates by activity. Indicate equipment product procurement (lead times) and delivery dates. Show dates for beginning and completion of each element of construction, and each subcontractor's work.
  - B. Show projected percentage of completion of each item of work as of the first day of each month.
  - C. Provide subschedules to define critical portions of entire schedule.
  - D. Show dates when each submittal required by the specifications will be furnished to the Architect for review, and the dates when each submittal is required to be received by the Contractor, in order to avoid delaying the work. The schedule shall show at least 15 days for review of submittals by the Architect.
- 1.04 DISTRIBUTION:
- A. Following response to initial submittal, print and distribute copies to the District, Architect, subcontractors, Inspector of Record, and other parties required to comply with submittal dates indicated. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
  - B. Keep a copy of the schedule on the site at all times.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION:

3.01 SCHEDULE: Comply with the following specific mandatory coordination requirements:

A. Specific Mandatory Coordination Requirements:

1. Contractor shall coordinate with District prior to the placement of any temporary fencing for construction. All temporary fencing requirements shall be coordinated between the District and Contractor, but all final determination shall be by the District. No temporary fencing shall be placed in such a manner that it would isolate any faculty or students from having safe access to any occupied site area, occupied building space or egress from the project site. Contractor shall provide all temporary fencing for the project as required by coordination with the District at no additional cost to the District.
2. Contractor shall coordinate with all other District contractors that may be associated with the project. Failure by the Contractor to coordinate with other District contractors shall be the responsibility of the Contractor. Any additional cost associated with the Contractor not coordinating with other District contractors shall be the full responsibility of the Contractor. Any additional cost associated with this shall be the responsibility of the Contractor.
3. District shall make every attempt reasonable as determined by the District to ensure that timely move-ons and move-offs occur to facilitate the construction period. District shall coordinate with the Contractor as required to ensure as smooth as possible transition from project area to project area.
4. District shall make every reasonable attempt as determined by the District to ensure that construction activities are allowed to proceed during school activities. District shall coordinate with the Contractor as required to ensure that as much work as possible is able to proceed during school activities. Contractor shall understand that this is an occupied school site and that school shall remain in session throughout portions of the construction period.

END OF SECTION

## SECTION 01326

### APPLICATIONS FOR PAYMENT

#### PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. This Section covers the general requirements for applications for payment.

A. Related Work Specified Elsewhere:

1. Construction schedules and reports.
2. Schedule of values.

1.02 SUBMITTALS: Applications for payment shall be submitted as one original and 2 copies or as required by Owner. The Architect will review the application, will retain one copy, and will transmit the original and one copy to the Owner.

1.03 FORMAT: Applications for payment shall be submitted on AIA Documents G702 and G703, unless another format is approved. Computer generated applications may be submitted for approval, providing all information required by G702 and G703 is contained thereon.

A. Line items on the applications for payment shall match line items on the construction schedule, and on the schedule of values.

B. Applications shall be signed by an authorized representative of the contractor, shall be notarized, and shall be accompanied by the conditional releases of lien for all work for which payment is requested, together with final releases of lien for all previously paid applications.

1.04 PROGRESS PAYMENTS:

A. On or about the 25<sup>th</sup> of each month, provide a draft application for payment for review by Architect and Owner at the regularly scheduled construction meeting. This review is intended to ascertain that the proper form, procedure, schedule of values, percentages of completion and change orders are included, to prevent delays in processing the application.

B. Make all changes required as a result of the review, and submit the application on or about the last day of the month.

1.05 FINAL PAYMENT: The final application for payment will not be made until all project closeout requirements specified in Section 01700 are complete. The final application shall be accompanied by a complete release of lien for all work performed under the contract. In any case, final payment will not be made until 35 days following recording of the notice of completion.

1.06 LIEN RELEASES: An unconditional progress lien release must be submitted with each progress application in the amount of the previous payment, and with the final application for the amount of all previous payments. A conditional final lien release must be submitted within 10 days of the receipt of final payment. Releases will be required of all subcontractors, material suppliers and labor. Retention will not be paid until all lien releases are in order.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

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## SECTION 01327

### SCHEDULE OF VALUES

#### PART 1 - GENERAL

- 1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. This Section covers the general requirements for providing a detailed breakdown of the contract price showing values allocated to the various parts of the work.
- 1.02 QUALITY ASSURANCE: If required by Architect, provide copies of subcontracts or other data acceptable to the Architect, substantiating the prices listed.
- 1.03 SUBMITTALS:
- A. Within 3 days after award of the contract, submit a proposed schedule of values to the Architect and the District.
  - B. Meet with the Architect and the District and determine additional data, if any, required to be submitted.
  - C. Secure the Architect's and the District's approval of the schedule of values prior to submitting the first application for payment. The approved schedule shall serve as a basis for computing values for progress payments during construction.
- 1.04 FORM AND CONTENT:
- A. Submit in form, acceptable to the Architect and District, proposed for submitting breakdown of costs on applications for payment.
  - B. Identify the schedule with the name of the project, location and nature of work. Provide the name of the Architect, District and Contractor, and the date of submission.
  - C. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction. Line items shall be listed in the order indicated on the Table of Contents of the Project Manual, with subsections as proposed by Contractor, and approved by Architect, to delineate completely each portion of the work.
  - D. Each item shall include a proportional amount of the Contractor's overhead and profit.
  - E. Line items on schedule of values shall match line items on the construction schedule required under Section 01310, and line items on the applications for payment required by Section 01326, unless otherwise approved by the Architect.
  - F. Where payment will be requested for stored material, indicate the costs of the materials, including delivery, handling and taxes. Show as a separate item the cost of installation, including labor and equipment.
  - G. The sum of all values listed in the schedule shall equal the contract price.
  - H. Materials shall be stored in a bonded warehouse,

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION



## SECTION 01350

### RESOURCE CONSERVATION

#### PART 1 - GENERAL

1.01 SUMMARY: Provide conservation of resources, complete as shown and specified.

A. Work Specified in this Section:

1. Procedures for an environmental program at the project site.
2. Use of recycled, toxic-free, and environmentally sensitive materials, equipment, products, and procedures.
3. Recycling program for waste materials generated by demolition and construction.

1.02 DEFINITIONS RELATIVE TO THIS SECTION:

- A. Environmental pollution: The presence of chemical, physical, or biological elements which adversely impact human health or welfare, alter ecological balances of significance to human life or impact or alter the future viability of any species deemed to be of importance to human life or health.
- B. Inert fill: Non-liquid solid waste such as soil and concrete, free of hazardous wastes or soluble pollutants.
- C. Class III landfill: A landfill that accepts non-hazardous wastes such as household waste, industrial waste, construction waste and demolition waste.
- D. Inorganic Landfill: Non-reusable items such as solid wastes, such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair, and demolition repairs.
- E. Rubbish: Combustible and non-combustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans and bones.
- F. Debris: Combustible and non-combustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.
- G. Chemical waste: Substances such as petroleum products, bituminous materials, salts, acids, alkalis, herbicides, organic chemicals and inorganic wastes.
- H. Garbage: Refuse and scraps resulting from preparation, cooking, distribution, or consumption of food.
- I. Sewage: Domestic sanitary sewage.
- J. VOC: Volatile organic compounds.
- K. MSDS: Material Safety Data Sheets.

1.03 SUBMITTALS:

- A. Site Management Plan: Submit a plan for proposed solid waste management and environmental protection, including items such as the following:
  - 1. List of federal, state and local laws, regulations and permits concerning environmental protection, pollution control and abatement that are applicable to the work of the contract.
  - 2. Procedures to be implemented to provide the required environmental protection.
  - 3. The location of the solid waste disposal areas.
  - 4. Procedures for recycling and re-use program.
- B. Documentation: Submit documentation in the form of a summary of solid wastes generated by construction and demolition operations of the work. Include manifests, weight tickets, receipts, and invoices from recycling centers and landfills.

1.04 QUALITY ASSURANCE:

- A. Recycling Requirements: Implement a recycling program that includes separate collection of waste materials such as concrete, porcelain fixtures, ferrous and non-ferrous metals, wood, debris, glass and paper.
- B. Handling: Clean materials contaminated with dirt, adhesives, solvents and other substances deleterious to the recycling processes. Arrange for delivery to recycling centers or salvage yards.
- C. Environmental Controls:
  - 1. Comply with federal, state and local regulations for water, air, solid waste, chemical waste, sanitary waste and sediment pollution.
  - 2. Protection of Natural Resources: Preserve the natural resources within the project site. Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water in such quantities as to affect normal use, aesthetics, or produce a measurable ecological impact on the area.
- D. Project Site Administration:
  - 1. Post MSDS sheets on the project site. Discuss alternatives to minimize exposure to potentially harmful substances.
  - 2. Schedule work so that potentially harmful substances or VOC-releasing work is completed at least 72 hours prior to installation of materials or systems that may absorb these substances.

1.05 DELIVERY, STORAGE AND HANDLING: Recycle containers and packaging after delivery and uncrating.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION

- 3.01 EXCESS MATERIALS: Where excess materials, in excess of the minimum quantities specified for maintenance materials, remain unused after completion of the work, Contractor shall make such materials available to Owner, unless such materials can and will be returned to suppliers for their subsequent reuse. In no event shall such materials be discarded.

### 3.02 PACKAGING:

- A. Provide reusable or recycled packaging for project site delivered items such as operations and maintenance materials, furniture, equipment, large objects. Generally applies to items over 75 pounds or larger than 120 cubic feet.
- B. Polystyrene “peanuts” will be acceptable, provided they are collected and recycled.
- C. Plastic sheets or films will be acceptable if labeled with recycling symbol indicating type of plastic.
- D. Reusable packaging: Items such as blankets, skids and crates that will be returned to the manufacturer or transportation company for future reuse as packaging materials.
- E. Recyclable packaging: Items such as boxes, cardboard and paper that will be delivered to a recycling center.
- F. After packaging has been removed and prior to application for payment, provide documentation to substantiate that packaging materials have been reused or recycled, and that other requirements have been met.

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## SECTION 01380

### DIGITAL CONSTRUCTION PHOTOGRAPHS

#### PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. Provide digital construction photographs, complete.

1.02 SUBMITTALS:

- A. Digital Photographs: Maintain in project files and deliver to Architect and District as specified.

1.03 QUALITY ASSURANCE:

- A. Digital Camera Operator: May be a member of the Contractor's staff, such as the superintendent or one of his assistants. Digital camera operator shall be able to demonstrate familiarity with the equipment and an understanding of the ongoing construction process, so that digital camera images can be made of all significant operations.
- B. Associated Services: Cooperate with the digital photographer's work. Provide reasonable auxiliary services as requested, including access and use of temporary facilities including temporary lighting.
- B. Ownership: Digital photographs become the property of the District.

#### PART 2 – PRODUCTS

2.01 EQUIPMENT:

- A. Digital Camera: High resolution. Cell phone cameras may be used where the quality of the photographs is acceptable to Architect and District. Provide samples to review.
- B. Provide pdf software and provisions to enable digital camera images to be sent by email to District and Architect. Label each image or set of images with the following information:
  - 1. Name of the Project.
  - 2. Date or dates the digital photo was taken.
  - 3. Name of person taking the digital photo.
  - 4. Description of vantage points, in terms of location and direction (by compass point).

#### PART 3 – EXECUTION

3.01 PRE-CONSTRUCTION PHOTOGRAPHS: Before starting construction, take digital photographs of the site and surrounding properties from different points of view as directed.

Take digital photographs in sufficient number to show existing conditions adjacent to the property before starting work. Take photographs of existing buildings either on or adjoining the property in sufficient detail to record accurately the physical conditions at the start of construction.

**3.02 CONSTRUCTION RECORDS:**

- A. Provide an ongoing digital photographic record of construction progress. Provide photographs to indicate locations of buried utilities, concealed conditions within floors, walls and ceilings, and ongoing progress of the work.
- B. In addition, during each of the following construction phases take not less than 2 of the required shots from the same vantage point each time to create a time lapse sequence:
  - 1. Initial conditions, prior to start of work.
  - 2. Demolition, each phase or portion.
  - 3. Structural framing.
  - 4. Exterior building enclosure.
  - 5. Concealed anchors, blocking and framing for attachment of finish.
  - 6. Substrates prior to application of finish.
  - 7. Roofing and flashing, before and after installation.
  - 8. Completion of each area.
- C. When RFI's are submitted to Architect, when change order or field order conditions arise during the work, and at other times when action by the Architect is required for clarification of conditions, provide digital photographs together with written documentation required for each instance, to indicate and define applicable conditions.

**3.03 DELIVERY OF RECORDS:** Transmit digital construction photographs to Architect and District at monthly intervals, or more frequently as required. In addition, transmit images electronically whenever required for immediate consideration.

END OF SECTION

## SECTION 01400

### TESTS AND INSPECTIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers testing and inspection procedures.

##### A. Requirements not in this Section:

1. Specific test requirements are specified in each section where they occur.
2. Verification of conditions.
3. Tolerances nomenclature.

##### 1.02 PAYMENT FOR TESTING:

##### A. District will employ and pay for services of an independent testing laboratory approved by DSA to perform specified inspection and testing, including required continuous inspection. Contractor shall reimburse the District for excessive inspection costs incurred by the District because of the following:

1. Contractor's failure to complete entire work within the contract time stated in Agreement, and any previously authorized extensions thereof.
2. Claims between separate contractors.
3. Covering of work before required inspections or tests are performed.
4. Extra inspections for Contractor's correction of defective work.
5. Overtime costs for acceleration of work for Contractor's convenience.

##### B. Contractor shall pay cost of the following:

1. Additional tests necessitated if materials fail to meet contract requirements.
2. Tests required by Architect to substantiate proposed substitutions.
3. Tests required to determine code compliance.
4. Costs of concrete mix designs.

##### 1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

##### A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on the requirements of the contract documents.
2. Approve or accept portion of the work.
3. Perform any duties of the Contractor.
4. Stop work.

##### B. Work of the testing laboratory shall in no way limit Contractor's quality control procedures or relieve Contractor of his obligation to perform work in accordance with the contract documents.

1.04 ADDITIONAL TESTING:

- A. If the Architect determines that any work requires additional inspection, testing or approval, District will direct the Contractor to order such special inspection, testing or approval.
- B. If special inspection, testing or approval reveals a failure of the work to comply with the contract documents, the Contractor shall reimburse the District for the costs, including additional services made necessary by such failure.
- C. If special inspection, testing or approval indicates that the work complies with the contract documents, the District will bear the costs.

1.05 GENERAL QUALITY CONTROL REQUIREMENTS:

- A. General Test Requirements: Materials to be furnished under the Contract are subject to testing and inspection for compliance with the requirements of drawings and inspections.
- B. Testing laboratory: The licensed testing laboratory certified as meeting requirements of ASTM D3666, D3740, E329, E543 and E548, as applicable to work involved and approved by District, referred to hereafter as the testing laboratory. Perform testing under the supervision and control of a California registered professional engineer employed by testing laboratory.
- C. Disqualified Material: Material shipped or delivered to the site by Contractor from the source of supply prior to having satisfactorily passed the required testing and inspection, or prior to the receipt of a notice from the Architect that such testing and inspection will not be required, shall not be incorporated in the work.
- D. Notification of Field Tests: Architect and District reserve the right to be present at field testing as required by the contract documents. Contractor shall notify the Architect not less than 24 hours in advance of field testing.
- E. Disqualified Work: Work in place which fails to conform to test requirements shall be removed and replaced without cost to the District. Where feasible, and subject to the approval of the Architect, disqualified work may be repaired, strengthened or otherwise modified to bring it into conformance with test requirements.

1.06 TEST PROCEDURES:

- A. Materials to be furnished under the Contract shall be subject to testing for compliance with the contract documents. Tests will be made in accordance with the applicable standard methods of the ASTM, AASHTO or procedure herein specified.
- B. Materials so specified herein, including such others as the Architect may direct, shall be tested. The Contractor shall furnish samples of the materials prepared for tests as required to the testing laboratory providing adequate time for testing before need at the project. The materials represented by samples under tests shall not be incorporated in the work without the approval of the Architect.



- C. Test Procedures: Testing laboratory shall perform tests according to ASTM or other methods of test specified for various materials in other sections. If no procedure or test method is specified, testing shall conform to the material specification referenced except as otherwise directed. Testing laboratory shall tag, seal, label, record or otherwise adequately identify materials for testing and no such materials, shall be used or installed in the work until test result reports are submitted and approved, excepting only those materials specified to be placed or installed prior to testing.
- D. Test Repeating: Repeat applicable tests at specified intervals, whenever source of supply is changed, or whenever the characteristics of materials change or vary in the opinion of District or Architect.

#### 1.07 COORDINATION AND COOPERATION:

The Contractor shall initiate and coordinate testing and inspections required by the contract documents and public authorities having jurisdiction of the work. Notify the testing laboratory sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but not limited to:

- A. Providing access to the work and furnishing incidental labor and facilities necessary for inspections and tests.
- B. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
- C. Providing facilities for storage and curing of test samples and delivery of samples to testing laboratories.
- D. Providing testing laboratory with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
- E. Security and protection of samples and test equipment at the project site.
- D. Furnish copies of mill test reports.

#### 1.08 TEST REPORTS:

- A. Reports shall be provided of tests. Such reports shall include tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of CBC and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.
- B. Furnish and deliver copies of each test report, signed and certified by the testing laboratory professional engineer, as follows:

No. of Copies:

1	District
1	Architect
2	Contractor

- C. Promptly notify the Architect of observed irregularities or deficiencies in the work or in products to be used in the work.
- D. Each report shall include:
1. Date issued.
  2. Project title and number.
  3. Testing laboratory name, address and telephone number.
  4. Name and signature of laboratory inspector.
  5. Date and time of sampling or inspection.
  6. Record of temperature and weather conditions.
  7. Date of test.
  8. Identification of product and specification section.
  9. Location of sample or test in the project.
  10. Type of inspection or test.
  11. Results of tests and compliance with contract documents.
  12. Interpretation of test results, when requested.

1.09 VERIFICATION OF TEST REPORTS:

Each testing agency shall submit to DSA a verified report in duplicate covering the tests which are required to be made by that agency during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering the tests.

1.10 REPORTING TEST FAILURES:

Immediately upon determination of a test failure, the laboratory will telephone the results of the test to the Architect. On the same day, the laboratory will send written test results to those named on the above distribution list.

1.11 AVAILABILITY OF SAMPLES:

- A. Contractor shall make materials available to the laboratory and assist in acquiring these materials as directed by the District's Inspector. The samples shall be taken under the immediate direction and supervision of the testing laboratory or inspector.
- B. If work which is required to be tested or inspected is covered up without prior notice or approval, such work may be uncovered at the discretion of the Architect at no additional cost to the District.
- C. Unless otherwise specified, the Contractor shall notify the testing laboratory a minimum to 10 working days in advance of required tests and a minimum of 2 working days in

advance of required inspections. Extra laboratory expenses resulting from a failure to notify the laboratory will be paid by the District and reimbursed by the Contractor.

- D. The Contractor shall give sufficient advance notice to the testing laboratory in the event of cancellation or time extension of a scheduled test or inspection. Charges due to insufficient advance notice of cancellations or time extension will be paid for by the District and reimbursed by the Contractor.

#### 1.12 REMOVAL OF MATERIALS:

Unless otherwise directed, materials not conforming to the requirements of the contract documents shall be promptly removed from the site.

#### 1.13 INSPECTOR - DISTRICT'S:

- A. A Project Inspector and special inspectors employed by the District, and approved by DSA, in accordance with the requirements of the current edition of the CBC will be assigned to the work.
- B. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this contract.

#### 1.14 SPECIAL INSPECTIONS:

- A. Special inspections shall be performed by an inspection agency approved by the code officials and paid for by the District. The special inspection agency shall be accredited, approved special inspection agency, in accordance with CBC. The special inspector shall be responsible to the EOR. Accreditation of the agency shall be as specified in ASTM E 329, unless code requires another means of accreditation.
- B. The special inspections shall be performed in accordance with documented methods and procedures which establish acceptance criteria. Instructions, standards, procedures and checklists relevant to the work shall be maintained continuously and kept available for use.
- C. Inspections or tests shall not be performed if the safety of the special inspector is in question because of job site conditions. Contractor is responsible for maintaining a safe work site at all times.
- D. Prior to the commencement of special inspections, the special inspector shall confer with and obtain approval of, the EOR regarding the inspection and testing procedures or specifications to be followed, including appropriate ASTM methods, code requirements, and project specification requirements.
- E. The special inspector shall observe the appropriate work for conformance with the contract drawings and specifications.

- F. The special inspector shall furnish daily reports to the Architect, the District and the building department at not more than weekly intervals. The reports shall include the following as a minimum:
1. Building name and address.
  2. Architect's name and address.
  3. District's name and address.
  4. Name of municipal building inspector, if available, and of the governing agency.
  5. Unique identification of the report and of each page.
  6. Description of the type of special inspection performed.
  7. Unresolved deviations, exclusions and additions to or from the approved drawings and specifications relevant to the specific inspection or test.
  8. Compliance findings and references.
  9. Description of the location where the inspection was performed within the project.
  10. Time and date of the inspection.
  11. Measurements, examinations and derived results supported by tables, graphs, sketches or photographs as appropriate.
  12. The name, title, signature and identification number, as appropriate, of the special inspector performing the inspection.
  13. Identification of subcontractors employed to carry out the tests or parts of tests.
- G. Discrepancies shall be brought to the immediate attention of the contractor for correction. The Architect and the EOR shall be notified of discrepancies which are not corrected.
- H. Upon completion of the portion of the work under inspection, the special inspector shall submit a final, signed report stating whether the work requiring special inspection was, to the best of the special inspector's knowledge, completed in conformance with the approved drawings and specifications and the applicable workmanship provisions of the building code.
- I. Approved Fabricators: Special inspections are not required when the work is performed on the premises of a fabricator registered and approved by the building department to perform such work without special inspection. The certificate of registration shall be subject to revocation by the building department if it is determined that the work done pursuant to the approval is in violation of the building code. The approved fabricator shall submit a certificate of compliance that the work was performed in accordance with the approved drawings and specifications. The certificate shall be submitted to the

Architect and the building department. The approved fabricator's qualifications shall be contingent on compliance with the following:

1. The fabricator has developed and submitted a detailed fabrication procedural manual reflecting key quality control procedures. The manual will provide a basis for inspection control of the fabrication plan and workmanship.
2. Verification of the fabricator's quality control procedures, capabilities, plan and personnel as outlined in the fabrication procedural manual shall be by an approved inspector or quality control agency.

1.15 REQUIRED TESTS AND INSPECTIONS: Tests and inspections, as set forth in the California Building Code (CBC) of the following will be required. (Where applicable.)

- A. EXTERIOR WALL COVERINGS – CBC CHAPTER 14
- B. SAFEGUARDS DURING CONSTRUCTION – CBC CHAPTER 33

TITLE 24, PART 2 VOLUME 2

A. CONCRETE CHAPTER 19A

1. MATERIALS
  - PORTLAND CEMENT 1705A3.1; 1913A.1
  - CONCRETE AGGREGATES 1705A.3 .1; 1903A.4
  - REINFORCING BARS 1705A.3 .1; 1913A.2
2. QUALITY
  - PROPORTIONS OF CONCRETE ACI 318-11, SEC. 5.2, 5.3, & 5.4
  - STRENGTH TESTS OF CONCRETE 1905A.1.1; ACI 318-11, SEC. 5.6
  - SPLITTING TENSILE TESTS
  - COMPOSITE CONSTRUCTION CORES 1913A.4
  - GYPSUM CONCRETE STRENGTH TEST 1911A; 1913A.6
3. INSPECTION
  - JOB SITE ACI318-11 SEC.5.7
  - BATCH PLANT 1705A.3.2
  - WAIVER OF BATCH PLANT 1705A.3.3
  - REINFORCING BAR WELDING 1903A.8; Table 1705A.2.1
  - POST-INSTALLED ANCHORS IN CONCRETE 1913A.7

B. LIGHT WEIGHT METALS – CBC CHAPTER 20

1. MATERIALS
  - ALLOYS 2002.1
  - IDENTIFICATION 2002.1
2. INSPECTION
  - WELDING 2003.1

C. MASONRY - CBC CHAPTER 21A

1. MATERIALS

- MASONRY UNITS 2103A.1
- PORTLAND CEMENT, LIME 2103A
- MORTAR AND GROUT AGGREGATES 2103A.9; 2103A.13; 2103A.13.3
- REINFORCING BARS 2103A.14

2. QUALITY

- PORTLAND CEMENT TESTS 1913A.1
- MORTAR AND GROUT TESTS 2105A.2.2.1.4
- MASONRY PRISM TESTS 2105A.2.2.2
- MASONRY CORE TESTS 2105A.4
- MASONRY UNIT TESTS 2105A.2.2.1
- REINFORCING BAR TESTS 1913A.2

3. INSPECTION

- REINFORCED MASONRY 1705A.4
- REINFORCED BAR WELDING 1705A.2.2.1.2; 1903A.8

D. STEEL – CBC CHAPTER 22A

1. MATERIALS

- STRUCTURAL STEEL 2205A.1
- COLD FORMED STEEL 2210A.1
- IDENTIFICATION 2203A.1

2. QUALITY

- TESTS OF STRUCTURAL AND COLD FORMED STEEL 221 IA.1
- TESTS OF HIGH STRENGTH BOLTS, NUTS WASHERS 2213A.1
- TESTS OF END WELDED STUDS 2213A.2
- STEEL JOISTS 2207 A; 1705A.2.2.3
- NON-DESTRUCTIVE WELD TESTS 1705A.2.2.1

3. INSPECTION

- SHOP FABRICATION 1704A.2.5; 1705A.2
- WELDING I 705A.2.2.1
- NELSON STUD WELDING 1705A.2.2
- HIGH STRENGTH BOLT INSTALLATION 1705A.2.2; Table 1705A.2.1

E. WOOD – CBC CHAPTER 23

1. MATERIALS

- LUMBER AND PLYWOOD 2303.1

2. INSPECTION

- TIMBER CONNECTORS 1705A.5.6

PART 2 – PRODUCTS Not applicable.

PART 3 – EXECUTION Not applicable.

END OF SECTION

SECTION 01412  
QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. The Contractor is responsible for implementing a Quality Control program that will ensure the timely and cost effective completion of this project.

1.02 RESPONSIBILITIES OF CONTRACTOR:

- A. Coordinate work of all subcontractors and of separate contracts, if any, assigned to this Contract.
- B. Cooperate with other contractors, if any, performing work on the site under separate contracts.
- C. Cooperate with the Owner in accommodating Owner-furnished material, furnishings, equipment and their installation.
- D. Establish onsite lines of authority and communication.
  - 1. Schedule and conduct progress meetings with Owner's representatives and the Architect.
  - 2. Utilize sequentially numbered and dated forms to document requests for information and clarification.
- E. Provide and maintain a competent staff of experienced construction, administrative and supervisory personnel in sufficient numbers to meet the contract completion date.
- F. Furnish detailed time schedule of operations for all work on the project. Monitor schedule as work progresses, and revise schedule at appropriate intervals to reflect actual progress.
- G. Furnish detailed breakdown of total contract amount organized by construction activity or Table of Contents in a timely manner.
- H. Verify that applications for permits, inspections, temporary facilities and permanent utilities are processed in a timely manner.
- I. Unless otherwise indicated or specified, perform the following items of work;
  - 1. Locate, identify, protect and maintain existing water, gas, sewer, irrigation and storm drain lines; lighting, power and telephone conduits and wires; and all other existing surface or subsurface structures.
  - 2. Do not disturb, disconnect or damage utilities during the progress of the work.

3. Maintain all existing plants and trees which are to remain.
  4. Repair or replace to satisfaction of Architect, all damage to existing improvements and to adjacent public or private property and rights-of-way, resulting directly or indirectly from operations under the contract.
- J. Coordinate furnishing and placing of embedded items, sleeves and blockouts with for formwork and reinforcing steel.
- K. Resolve conflicts that may develop among subcontractors and vendors over access to, and utilization of, the restricted spaces available for construction activities, materials and equipment.

1.03 VERIFICATION OF CONDITIONS: Prior to installing any portion of the work, inspect the work in place to receive the work to be installed and arrange for correction of defects in the existing workmanship, material, or conditions that may adversely affect work to be installed. Such inspections shall include test applications of the materials to be installed as required to establish the correct condition of surfaces involved. Installation of materials on work in place constitutes acceptance of such work in place as being in proper condition to receive the materials to be applied and waiver of claim that the work in place is defective as pertains to warranty requirements, excluding unascertainable or concealed conditions. Where the specifications require a material to be installed under the supervision or inspection of the material manufacturer or his representative, the manufacturer or his representative also shall inspect the work in place and issue a letter of approval to Architect.

1.04 TOLERANCES NOMENCLATURE:

- A. Tolerances and Numbers: Unless other tolerances are indicated or specified elsewhere, specified numbers such as gauges, weights, temperatures, and similar references, but specifically not including dimensions and time, will be acceptable if within formally established, written and recognized commercial tolerances established for the affected trade. In the absence of formally written and recognized commercial tolerances, plus or minus 1 percent will be acceptable. If a specified number cannot be obtained, the number shall be interpreted as the next larger, provided it meets other requirements of the contract documents including sufficient space being available as indicated on the drawings.
- B. Tolerances of Specified Words: Unless otherwise specified, the following words shall have the following meanings. Construction executed with these tolerances will be considered acceptable.
1. "Straight": Allowed deviations from an absolutely straight line of sight shall be plus or minus 1/16" in one foot, plus or minus 1/8" in 10 feet, and plus or minus 1/4" for the entire length of a particular construction. These deviations shall be non-accumulative. Straight lines or planes on drawings shall conform to these tolerances.
  2. "Flat": Allowed deviations from an absolutely flat plane shall be plus or minus 1/1000 inch in one square inch, within plus or minus 1/16 inch in one square foot, within plus or minus 1/8 inch in an area ten feet by ten feet, and within plus or



minus 1/4 inch for the entire area of a particular construction item. Flat planes on drawings shall conform to these tolerances.

3. "Level": Allowed deviation from an absolutely horizontal plane shall be 1/2 degree of angle. Horizontal lines or planes on drawings shall conform to this tolerance.
4. "Plumb": Allowed deviation from an absolutely vertical plane of plus or minus 1/2 degree of angle. Vertical lines or planes on drawings shall conform to this tolerance.
5. "Angle": Allowed deviation from an absolutely vertical plane of plus or minus 1/2 degree of specified degree of angle. Angled lines or planes on drawings shall conform to this tolerance.

PART 2 – PRODUCTS            Not applicable to this Section.

PART 3 – EXECUTION        Not applicable to this Section.

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## SECTION 01500

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Provide temporary facilities and controls, complete.

PART 2 – PRODUCTS – Not applicable to this Section.

#### PART 3 – EXECUTION

##### 3.01 TEMPORARY UTILITIES:

Except as otherwise specified below, District will furnish electrical power, water and gas from existing outlets designated by the District without charge to Contractor for quantities used for the work. Provide all temporary piping, fittings, wiring and lighting necessary to supply utilities in sufficient quantities at locations required by the work. Contractor shall carefully conserve utilities, and if, in the opinion of the District, the usage is excessive, Contractor may be required to provide separate services from serving utility companies.

A. Electrical Power for in the Building: Characteristics of current furnished by the District is limited to that existing and available; if current of other characteristics or quantity is required by Contractor, the Contractor shall supply the power as necessary at no extra cost to the District. Power for small tools and lighting may be taken from the existing 120-volt 60 Hz 1-phase convenience receptacles provided there is no disturbance to occupants and functions, cables and conductors do not prevent or interfere with closing of fire-labeled doors, and load connected to any single or duplex outlet does not exceed 12 amperes. Total load connected to any circuit shall not exceed 25% of circuit capacity as labeled in panelboard. Contractor shall repair and make good damage to existing electrical facilities caused by his use, as directed and approved, at no extra cost of the District.

1. Temporary Lighting: Provide lighting and outlets wherever necessary for proper performance and inspection of work. If operations are performed during hours of darkness and whenever natural lighting is deemed insufficient by Architect, provide adequate floodlights, clusters and spot illumination, as required to facilitate reading of drawings and specifications.

B. Water:

1. Construction Water: District will furnish water from such existing outlets as do not interfere with the normal operation of the facilities. In general, obtain water from outlets in janitor, mechanical and similar utility rooms. If used, do not run water hoses down corridors or across doorways in use by occupants. Provide temporary backflow prevention devices as required by Code or directed by the District.

2. Drinking Water: Maintain on the site at all times, adequate supply of drinking water. Provide bottled water, dispenser and disposable cups. Keep the equipment and the area around the equipment clean and dry at all times.

- C. Gas: Limit quantity used to the amount that causes no interference to existing gas-fired devices and equipment.

### 3.02 TEMPORARY HEAT AND VENTILATION:

Provide heat, fuel and services to protect the work against injury from dampness and cold until final acceptance of all work of the Contract.

- A. For not less than 7 days prior to plastering during application, setting and curing thereof, sufficient heat to maintain building temperature of not less than 55 degrees F while maintaining adequate ventilation for drying of plaster.

### 3.03 TEMPORARY TELEPHONE SERVICE:

Provide, maintain and pay for duration of work, two line telephone service (one for voice, one for FAX and data) in the Owner's and Architect's office for use of Owner and Architect only. Long distance calls will be paid by Owner. However, phone calls by Owner or Architect to Contractor, subcontractors or suppliers located in Los Angeles, San Bernardino and Orange Counties are not considered as long distance calls regardless of tolls, and Owner is not liable for additional payment for such phone calls. Provide separate telephone service for Contractor and subcontractor use.

### 3.04 TEMPORARY SANITARY FACILITIES:

- A. Provide and maintain temporary portable chemical toilet facilities for duration of operation. Properly proportion number of units for number of workers employed. Provide weathertight and floored structures, maintained in clean and sanitary condition acceptable to the District and Architect.
- B. Handwash Facility: Near each temporary toilet, provide hand sanitizer and paper towel dispenser, mounted at a convenient height and a minimum 50 gallon trash can. Keep dispensers filled, and trash can be emptied at frequent intervals.

### 3.05 TEMPORARY FIRE PROTECTION AND SAFETY REQUIREMENTS:

- A. The Contractor shall take necessary precautions to guard against and eliminate fire hazards and to prevent damage to construction work, building materials, equipment, temporary field offices, storage sheds and public and private property. The Contractor shall be responsible for providing, maintaining and enforcing the following conditions and requirements during the entire construction period. Comply with 2001 CFC Article 87 during all phases of the project.
  1. Fire Inspection: The Contractor's Superintendent shall inspect the entire project at least once each week to make certain that the conditions and requirements are being adhered to.

2. Hose: The number of outlets, supply of hose and proper hose size to protect the construction area shall be determined by the local Fire Marshal and provided by the Contractor.
  3. Fires: Employees shall not be allowed to start fires with gasoline or kerosene or other highly flammable materials. No open fires shall be allowed.
  4. Flammable Building Materials: Only a reasonable working supply of flammable building material shall be located inside of, or on the roof of, any storage facility.
  5. Combustible Waste Materials: Oil-soaked rags, papers and other highly combustible materials must be stored in closed metal containers at all times, and shall be removed from the site at the close of each day's work and more often where necessary, and placed in metal containers with tight hinged lids.
  6. Gasoline and other flammable or polluting liquids/materials shall not be poured into sewers, manholes or traps, but shall be disposed of, together with flammable or waste material subject to spontaneous combustion, in a safe manner meeting all applicable laws and ordinances. Make appropriate arrangements for storing these materials outside of the building.
  7. Provide and maintain fire extinguishers during construction, conveniently located for proper protection, one fire extinguisher for each 5,000 square feet of floor area or less, but not less than four extinguishers. Fire extinguishers shall be ten-pound ABC type. Extinguishers shall meet approval of Underwriters' Laboratory, and shall be inspected at regular intervals and recharged as necessary.
- B. All self-propelled construction equipment, except light service trucks, panels, pickups, station wagons, crawler type cranes, power shovels and draglines, whether moving alone or in combination, shall be equipped with a reverse signal alarm (hub-cap type).

### 3.06 TEMPORARY ELECTRONIC COMMUNICATIONS:

Contractor shall provide at the site, in the office, an experienced data processing and digital camera operator, and the following equipment for the use of the Contractor, Owner and Architect:

- A. CPU
1. Intel Core i5 processor
  2. 4 GB RAM
  3. 300 GB hard drive
  4. High Speed Internet Service Capable
  5. Ports for digital camera connection
  6. Read/write/DVD drive
  7. Battery backup system
  8. Windows 7
  9. Office 2013
- B. Digital Camera
1. 1152 x 864 minimum image resolution

2. Built in flash
3. Software to download images to on-site CPU
4. Software to optimize images for speedy e-mail transmission
5. Battery supply sufficient for continuous use of camera

C. Internet Service

1. E-mail address for use at the job site
2. Internet software installed for use by the Architect during site visits
3. High speed internet service.

3.08 TEMPORARY SCAFFOLDING, STAIRS AND HOISTS:

Provide and maintain for duration of work, in accordance with CAL-OSHA and applicable laws and ordinances, all required temporary standing scaffolding and temporary stairs, ladders, ramps, runways and hoists for use during construction, unless otherwise specified in contract documents.

3.09 TEMPORARY GUARDS, BARRICADES AND LIGHTS:

- A. Provide construction canopies, barricades, fences, guards, railings, lights and warning signs necessary and required by law, and take necessary precautions required to avoid injury or damage to any and all persons and property.
- C. Construction Site Fencing: Construct fence around construction site at exact location as indicated or directed, of chain link fence fabric not less than 6 feet high. Use 1-3/4" mesh not lighter than 9 gauge galvanized fabric with knuckled selvages. Use round posts, top tension wire and bottom tension wire, and bracing as required for rigidity. Provide steel gates and frames of not less than 1.90" OD, 0.120" minimum wall thickness galvanized tubing. Provide gates as required for access of vehicles and pedestrians. Equip swinging gates with galvanized hinges and latch. Provide change and double padlocks, arranged so that unlocking of either padlock will open the gate. Contractor provide on padlock for his use. District will provide the other padlock. Set posts for support of fences into sleeves or buried direct in ground. Hold posts aligned and plumb.

3.10 PROTECTION OF WORK AND FACILITIES:

- A. Protect all adjacent property, roads, streets, curbs, shrubbery, lawns, erosion control materials and planting during construction operations. All damaged material shall be replaced and/or repaired at the expense of the Contractor.
- B. Upon completion deliver the entire work to the Owner in proper, whole and unblemished condition.
  1. Parts of work in place that are subject to injury, because of operations being carried on adjacent thereto, shall be covered, boarded up, or substantially enclosed with adequate protection.
- C. The Contractor shall be responsible for preventing the overloading of any part of the facilities beyond their safe calculated carrying capacity by the placing of materials and/or equipment, tools, machinery, or any other items thereon.

- D. The Owner may provide such watchman services deemed necessary to protect the Owner's interest, but any protection so provided by the Owner shall not relieve the Contractor of the responsibility for the safety and condition of the work and material until the completion and acceptance thereof. The Contractor shall employ such watchman services as he may deem necessary to properly protect and safeguard the work and material.

### 3.11 DUST CONTROL:

Throughout the entire Contract period, effectively dust-palliate the working area, roads and storage areas constructed under this Contract and involved portions of the site, except during such periods that other contractors may be performing work of separate contracts in these areas. Such application shall consist of intermittent watering and sprinkling of such frequency as will satisfactorily allay the dust during all hours that work is being performed. At no time shall water be allowed to pond or puddle. Ponds and puddles shall be removed immediately and steps taken to remove or dry the mud resulting from the ponds or puddles.

### 3.12 WATER CONTROL:

Surface or subsurface water or other fluid shall not be permitted to accumulate in excavations or under the structures. Should such conditions develop or be encountered, the water or other fluid shall be controlled and suitably disposed of by means of temporary pumps, piping, drainage lines and ditches, dams or other methods approved by the Architect.

### 3.13 PROJECT IDENTIFICATION:

Provide and maintain one sign only on the property at location as directed by Architect. Signboard shall contain information and be of size as detailed on the drawings. Small direction signs may be installed if specifically approved by Architect. Signs by subcontractors and material suppliers will not be permitted.

### 3.14 CONTRACTOR VEHICLES ON CAMPUS:

Contractor's vehicles shall be restricted to access routes established by the Owner. Parking of Contractor's employees vehicles will be limited to offsite parking areas as arranged by Contractor, not necessarily adjacent to the site.

### 3.15 REMOVAL OF TEMPORARY CONSTRUCTION:

Remove temporary office facilities, toilets, storage sheds, fences and other construction of temporary nature from site as soon as progress of work permits. Recondition and restore portions of site occupied by same to a condition acceptable to Architect.

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## SECTION 01630

### SUBSTITUTIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. This Section covers provisions for, and restrictions on, substitutions of material, equipment and processes.

1.02 DISTRICT STANDARDS: Wherever products are identified as being a "District Standard", the District has established that these products are required in order to accommodate maintenance, stocking of parts and training of personnel. Substitutions for these items will not be permitted.

##### 1.03 SUBSTITUTIONS:

- A. Wherever catalog numbers and specific brands or trade names, whether or not followed by the designation "or equal" are used in conjunction with a designated material, product, thing or service mentioned in these specifications, they are used to establish the standards of quality, utility and appearance required.
- B. Substitutions which are considered equal in quality, utility, performance and appearance to those specified will be reviewed, subject to the following provisions:
  - 1. All substitutions must be reviewed and approved by the Architect in writing prior to fabrication and installation.
  - 2. For this purpose, submit to the Architect 10 days prior to the bid due date, a typewritten list containing a description of each proposed substitute item, material or assembly.
  - 3. No substitutions will be allowed within 10 days of the bid date for review.
  - 4. Contractor shall comply with the General Conditions in regard to submittal of substitutions.
  - 5. Append to the list, a complete side-by-side comparison between the specified item and the substitute item; include sufficient data, drawings, samples, long lead status, literature, guranry, warranty, or other detailed information as will demonstrate to the Architect that the proposed substitute is equal or better in quality, utility, performance and appearance to the material specified.
  - 6. The Architect will approve, in writing, such proposed substitutions as are in the Architect's opinion, equal in quality, utility, performance and appearance to the items or material specified.

7. Such approval shall not relieve the Contractor from complying with the requirements of the drawings and specifications, and the Contractor's own expense for any changes resulting from the Contractor's proposed substitutions which affect other parts of the Contractor's own work or the work of others, time required to review the drawings and details.
  8. If such substitutions impact the design of the project, the Contractor shall reimburse the District for the cost of revisions of contract documents by the Architect.
- C. Failure of the Contractor to submit proposed substitutions for review and approval in the manner described above, and within the time prescribed, shall be sufficient cause for disapproval by the Architect of any substitutions otherwise proposed.
- D. If specified items are listed in the following format or similar format: "First manufacturer and model number, equivalent second manufacturer and model number, or equal" the Contractor wishing to submit any "equivalent named manufacturer" shall so do in accordance with this provision.
- E. Wherever catalog numbers and specific bands or trade names not followed by the designation "or equal" are used in conjunction with a designated material, product, assembly, thing or service mentioned in these Specifications, no substitutions will be approved.
- F. Contractor shall discuss at the time of bid if the product being supplied is per the plans and specifications or if it is intended to be and or equal substitution.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01650

### PRODUCT HANDLING AND PROTECTION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers the requirements for handling and protection of materials and equipment to be incorporated into the work.

- A. Transport, deliver, handle and store materials and equipment at the job site in such manner as to prevent damage, including damage which might result from the intrusions of foreign matter or moisture from any source. Comply with:
  - 1. Material and equipment manufacturer's instructions regarding temperature limitations.
  - 2. Other environmental conditions which are required to maintain the original quality of the materials and equipment.
  - 3. Handle materials to prevent damage to products and finishes.
- B. Packaging:
  - 1. Maintain packaged materials in manufacturer's original containers with seals unbroken and labels intact until they are incorporated into the work.
  - 2. Packaged material shall bear the name of the manufacturer, the product, including brand name, color, stock number and all other complete identifying information.
- C. Remove all damaged or otherwise unsuitable materials and equipment promptly from the job site.
- D. Storing:
  - 1. Locate storage piles, stacks or bins so as to avoid being disturbed. Provide barricades as required to protect storage from damage.
  - 2. Store all materials and equipment in accord with manufacturer's instructions, above grade and properly protected from weather and construction activities. Provide space heaters to prevent condensation where required.
- E. Protection:
  - 1. Protect all finished surfaces, including jambs and soffits of all openings used as passage-ways through which materials and equipment are handled.

2. Provide protection for all finished flooring surfaces in traffic areas before allowing any materials and equipment to be moved over those finished surfaces.
3. Maintain all finished surfaces clean, unmarred and suitably protected until occupied by Owner.
4. Consult individual Specification Sections for any additional specific product handling and protection requirements.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01700  
PROJECT COMPLETION

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Perform duties specified herein for project completion, complete.

1.02 SUBSTANTIAL COMPLETION:

- A. When the work is considered substantially complete, submit to Architect a written notice that the work, or designated portion thereof, is substantially complete, and a list of items to be completed or corrected.
- B. After receipt of such notice, Architect will make an inspection to determine the status of completion.
- C. If Architect determines that the work is not substantially complete, Architect will promptly notify the Contractor in writing, giving the reasons therefore. Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the Architect. Architect will revisit the work.
- D. When Architect concurs that the work is substantially complete, he will prepare a Certificate of Substantial Completion on AIA Form G704, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect. Architect will submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.03 FINAL COMPLETION:

- A. When the work is considered complete, submit written certification that:
  - 1. Contract Documents have been reviewed.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.
  - 4. Work is completed and ready for final inspection.
- B. Architect will make a visitation to verify the status of completion with reasonable promptness after receipt of such certification.
- C. If Architect considers that the work is incomplete or defective, he will promptly notify the Contractor in writing, listing the incomplete or defective work. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to Architect that the work is complete. Architect will reinspect the work.

- D. When the Architect finds that the work is acceptable to the requirements of the Contract Documents, he will request the Contractor to make closeout submittals.

#### 1.04 PROJECT CLOSEOUT:

The following items shall be completed and approved prior to the approval of the final certificate of payment.

- A. Warranties and Guarantees: Provide as specified in Section 01740. Unless otherwise provided elsewhere, warranties and guarantees shall commence with the date of final acceptance of the project. Verify date with the Architect, execute the forms and deliver to Architect for transmission to the Owner.
- B. Final cleaning: Perform final cleaning as specified in Section 01710, immediately prior to final inspection.
- C. Project Record Documents: Deliver to Architect record documents specified in Section 01720 at time of final inspection.
- H. Extra Materials: Deliver extra materials specified in the various sections to Owner's storage facility as directed.
- I. Provide all documentation required by CBC.
- J. Certificate of Insurance for Products and Completed Operations: Furnish to Owner at time of final inspection.

#### 1.05 OBSERVATION FEES:

Should Architect perform observation due to failure of work to comply with the claims of status of completion made by the Contractor:

- A. Owner will compensate Architect for such additional services.
- B. Owner will deduct the amount of such compensation from the final payment to the Contractor.

#### 1.06 FINAL ADJUSTMENT OF ACCOUNTS:

- A. Submit a final statement of accounting to Architect.
- B. Statement shall reflect all adjustments to the Contract Sum:
  - 1. The original Contract Sum.
  - 2. Additions and deductions resulting from:
    - a. Previous Change Orders.
    - b. Allowances.
    - c. Unit Prices.

- d. Deductions for uncorrected work.
  - e. Deductions for liquidated damages.
  - f. Deductions for reinspection payments.
  - g. Other adjustments.
3. Total Contract Sum, as adjusted.
  4. Previous payments.
  5. Sum remaining due.
- C. Architect will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.07 FINAL APPLICATION FOR PAYMENT:

Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

1.08 INSTRUCTIONS:

Instruct the Owner's operating and maintenance personnel in proper operation and maintenance of systems, equipment and similar items which were provided as part of the work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION– Not applicable to this Section.

END OF SECTION

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## SECTION 01710

### CLEANING

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. Provide cleaning, complete.

- A. Maintain premises and public properties from accumulations of waste, debris and rubbish caused by operations.
- B. At completion of work, remove waste materials rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces; leave project clean and ready for occupancy.

#### PART 2 – PRODUCTS

##### 2.01 MATERIALS:

- A. Use cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use each type of cleaning material on surfaces recommended by manufacturer.

#### PART 3 – EXECUTION

##### 3.01 DURING CONSTRUCTION:

- A. Execute cleaning to ensure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to prevent blowing dust.
- C. Daily during progress of work, clean construction site and utilized public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish. Provide for frequent emptying or pickup.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.
- F. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights; rather a closed chute shall be used.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

### 3.02 FINAL CLEANING:

- A. Employ experienced workers, or professional cleaners, for final cleaning. Clean all surfaces which have been replaced, remodeled or altered as part of the work. Clean for their entire extent, or to natural stopping point, as approved.
  
- B. Exterior: Clean surfaces of the construction and site including fixtures, walls, soffits, floors, hardware, roofs, window and opening ledges and sills, horizontal projections, steps and platforms, walkways, rails and similar surfaces, and adjoining private and public property to the extent soiled by the Contractor's operations.
  - 1. Fixtures and Equipment: Leave lighting fixtures free of dust, dirt, stains or waste material. Clean and service equipment and machinery, ready for use.
  - 2. Surfaces Not Mentioned: Clean according to the intent of this Section and as required for Architect's approval.

END OF SECTION

## SECTION 01720

### PROJECT RECORD DOCUMENTS

#### PART 1 - GENERAL

Provide project record documents, complete.

##### 1.01 MAINTENANCE OF DOCUMENTS:

- A. Maintain at job site at all times during construction and until final acceptance, one copy of:
  - 1. Contract drawings and specifications.
  - 2. Addenda, bulletins, change orders and construction change directives.
  - 3. Reviewed and approved shop and erection drawings.
  - 4. Samples, manufacturer's product data and installation instructions.
  - 5. Field test reports.
  - 6. Project correspondence and transmittals.
  - 7. Other documents relevant to work.
- B. These documents shall be latest current issue and shall bear, as applicable, all approvals and revisions.
- C. Store documents in temporary field office apart from documents used for construction. Provide files and racks for storage of documents. File documents in accordance with project filing format of CSI Masterformat. Maintain documents in clean, dry legible condition.
- D. Do not use record documents for construction purposes. Make documents available at all times for inspection.

##### 1.02 RECORD DRAWINGS:

- A. Record drawings are required for all construction. Record drawings shall conform to the following requirements.
  - 1. Maintain, and keep up to date, a complete record set of blue line prints which shall be corrected daily to show every change from the original contract drawings. In addition, the prints shall be marked to show the precise horizontal and vertical location of concealed work and equipment, including concealed or embedded piping and conduit. Prints for this purpose shall be obtained from the Owner at not cost to the Contractor for original issue. This shall not be construed as authorization for the Contractor to make changes in the layout or work without definite instructions in each case.
  - 2. At completion of the work, obtain from the Architect a set of transparent reproducible drawings. Enter the changes on one sheet and submit a print of that sheet to the Architect for review of the quality of the draftsmanship. The required quality is that

the record entries shall be equal to that of the original drawings. Following acceptance of the quality of work, record all changes neatly in ink on the reproducibles. Submit one set of corrected drawings to Architect for review, and following review, make corrections as required, stamp each sheet "Record Drawing", stamp Contractor's name, print and sign name of preparer, and date the drawings. Each sheet shall be signed by an authorized representative of the Contractor. Upon completion, deliver the set of drawings to the Architect for transmittal to the Owner. Submit 2 USB drives to the Architect with each contain the following:

1. Scanned record drawings in pdf format (Scan all final as-buits into 300 DPI minimum colored scans), each file named to the sheet name.
2. Scans and/or final copies of all CCD's and RFI's in pdf each file named per CCD or RFI.
3. PDF versions of the M&O's and Warranties and Guarantees.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION– Not applicable to this Section.

END OF SECTION

## SECTION 01730

### OPERATIONS AND MAINTENANCE MANUALS AND PARTS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers the general requirements for operations and maintenance manuals, spare parts and extra material.

##### 1.02 SUBMITTALS:

- A. Conform all submittals under this Section to applicable requirements of Section 01300.
- B. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of work. Architect will review draft and return one copy with comments.
- C. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- D. Submit 1 copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned, with Architect comments. Revise content of all document sets as required prior to final submission.
- E. Submit two sets of revised final volumes in final form within 10 days after final inspection.

##### 1.03 QUALITY ASSURANCE:

Prepare instructions and data by personnel experienced in maintenance and operation of described products.

##### 1.04 FORMAT:

- A. Prepare data in the form of instructional manuals.
- B. Binders: Commercial quality, 8-1/2 x 11 inch, three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of project; identify subject matter of contents.
- D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

- F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
  - G. Arrange content by systems under section numbers and sequence of table of contents of this project manual.
- 1.05 CONTENTS, EACH VOLUME:
- A. Table of Contents: Provide title of project; names, addresses and telephone numbers of Architect, subcontractors and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
  - B. For each Product of System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
  - C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
  - D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use project record documents as maintenance drawings.
  - E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
  - F. Warranties: As specified in Section 01740.
- 1.06 MANUAL FOR MATERIALS AND FINISHES:
- A. Building Products, Applied Materials and Finishes: Include product data, with catalog number, size, composition and color and texture designations. Provide information for re-ordering custom manufactured products.
  - B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
  - C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition and details of installation. Provide recommendations for inspections, maintenance and repair.
  - D. Additional Requirements: As specified in individual product specifications sections.
  - E. Provide a listing in table of contents for design data, with tabbed fly sheet and space for insertion of data.

#### 1.07 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications; typed or by label machine.
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures: Include start-up, break-in and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down and emergency instructions. Include summer, winter and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair and reassembly instructions; and alignment, adjusting, balancing and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices and recommended quantities to be maintained in storage.
- N. Include test and balancing reports as specified in Division 15.
- O. Additional Requirements: As specified in individual product specification sections.
- P. Provide a listing in table of contents for design data, with tabbed dividers and space for insertion of data.

#### 1.08 INSTRUCTION OF OWNER PERSONNEL:

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment and maintenance of products, equipment and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, perform instructions for other seasons within six months.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in operation and maintenance manual when need for such data becomes apparent during instruction.

PART 2 – PRODUCTS – Not applicable to this Section.

#### PART 3 – EXECUTION

##### 3.01 MAINTENANCE MATERIALS AND SPARE PARTS:

Furnish and deliver special tools, instruments, accessories, spare parts and maintenance materials required by the contract documents, and furnish and deliver the special tools, instruments, accessories, and the special lifting and handling devices shown in the instruction manuals approved above. Unless otherwise specified or directed, deliver the items to the Owner with the Contractor's written transmittal accompanying each shipment, in the manufacturer's original containers labeled to describe the contents and the equipment for which it is furnished. Deliver a copy of each transmittal to Architect for record purposes.

END OF SECTION



## SECTION 01740

### WARRANTIES AND GUARANTEES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This section specifies the general requirements for written warranties and guarantees required by the Contract Documents. Final payment under the contract will not be made until the warranties and guarantees have been submitted in acceptable form.

##### 1.02 WARRANTIES AND GUARANTEES:

- A. General: Provide all warranties and manufacturer's guarantees with Owner named as beneficiary. For equipment and products, or components thereof, bearing a manufacturer's warranty or guarantee that extends for a period of time beyond the Contractor's warranty and guarantee, so state in the warranty or guarantee.
- B. Specific Warranty and Guarantee Requirements: Refer to Divisions 2 through 16.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties shall not relieve the Contractor of warranty on the work that incorporates the products, nor shall they relieve suppliers, manufacturers and installers required to countersign special warranties with Contractor.
- D. Related Damages and Losses: When correcting warranted work that has been found defective, remove and replace other work that has been damaged as a result of such defect or that must be removed and replaced to provide access for correction of warranted work.
- E. Reinstatement of Warranty: When work covered by a warranty has been found defective and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to be original warranty with an equitable adjustment for depreciation.
- F. Replacement Cost: Upon determination that work covered by a warranty has been found to be defective, replace or reconstruct the work to a condition acceptable to Owner, complying with applicable requirements of the contract documents. Contractor shall be responsible for all costs for replacing or reconstructing defective work regardless of whether Owner has benefited for use of work through a portion of its anticipated useful service life.
- G. Owner's Recourse: Written warranties made to the owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.

- H. Rejection of Warranties: The Owner reserves the right to reject warranties and to disallow the use of products with warranties in conflict with contract document requirements.
  - I. Warranty as Condition of Acceptance: The Owner reserves the right to refuse to accept work for the project where a special warranty, certification or similar commitment is required until evidence is presented that those required to countersign such commitments are willing to do so.
- 1.03 PREPARATION OF WARRANTY AND GUARANTEE SUBMITTALS:
- A. Number of Copies: 2, unless otherwise specified, or directed.
  - B. Special Project Warranty and Manufacturer's Guarantee Forms: Forms for Special Project Warranties and for Manufacturer's Guarantees are included at the end of this Section. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or the Contractor and subcontractor, supplier or manufacturer. Submit a draft to the Owner through the Architect for approval prior to final execution.
    - 1. Refer to Divisions 1 through 16 for specific content requirements, and particular requirements for submittal of special project warranties.
    - 2. Prepare standard product warranties and product guarantees, excepting manufacturer's standard printed warranties and guarantees, on Contractor's subcontractor's material supplier's or manufacturer's own letterhead, addressed to Owner.
    - 3. Warranty and guarantee letters shall be signed by all responsible parties and by Contractor in every case, with modifications only as approved by Owner to suit the conditions pertaining to the warranty or guarantee.
  - C. Manufacturer's Guarantee Form: Manufacturer's guarantee forms may be used in lieu of special project forms included at the end of the Section. Manufacturer's guarantee forms shall contain appropriate terms and identification, ready for execution by the required parties.
    - 1. If proposed terms and conditions restrict guarantee coverage or require actions by Owner beyond those specified, submit draft of guarantee to Owner through Architect for review and acceptance before performance of the work.
    - 2. In other cases, submit draft of guarantee to Owner through Architect for approval prior to final execution of guarantee.
  - D. Signatures: By persons authorized to sign warranties and guarantees, on behalf of entity providing the warranty or guarantee. All signatures shall be notarized.
  - E. Co-Signature: All warranties, except manufacturer's printed guarantees, shall be co-signed by the Contractor.

#### 1.04 FORM OF WARRANTY SUBMITTALS:

- A. At final completion, compile 2 copies of each required warranty and guarantee properly executed by the Contractor, or by the Contractor and sub-contractor, supplier or manufacturer. Collect and assemble all written warranties and guarantees into binders and deliver binders to Architect for final review and acceptance.
- B. Prior to submission, verify that documents are in proper form, contain all required information and are properly signed.
- C. Organize the warranty documents into an orderly sequence based on the Table of Contents of the Project Manual.
- D. Include Table of Contents for the finder, neatly typed, following order and Section names and numbers of the Project Manual.
- E. Bind warranties and guarantees in heavy-duty, commercial quality, 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, with clear front and spine to receive inserts, and sized to receive 8-1/2" by 11" paper.
- F. Provide heavy paper dividers with celluloid or plastic covered tabs for each separate warranty. Mark tabs to identify products or installation, and Section number and title.
- G. Include on a separate typed sheet, if information is not contained in warranty or guarantee form, a description of the product or installation, and the name, address, telephone number and responsible person for applicable installer, supplier and manufacturer.
- H. Identify each binder on front and spine with typed or printed inserts with title "WARRANTIES AND GUARANTEES", the project title and the name of the Contractor. If more than one volume of warranties and guarantees is produced, identify volume number on binder.
- I. When operating and maintenance data manuals are required for warranted construction, include additional copies of each required warranty in each required manual. Coordinate with requirements specified in Section 01730.

#### 1.05 TIME OF WARRANTY AND GUARANTEE SUBMITTALS:

- A. Preliminary Submittal: Unless otherwise specified, obtain preliminary copies of warranties and guarantees within 10 days of completion of applicable item or work. Prepare and submit preliminary copies for review as specified herein.
- B. Final Submittal: Submit fully executed copies of warranties and guarantees within 10 days of date of substantial completion by not later than 3 days prior to date of application for final payment.
- C. Date of Warranties and Guarantees: Unless otherwise directed, the commencement date for warranty and guarantee periods shall be the date of substantial completion.

1. Warranties for work accepted in advance of date of substantial completion:  
Commencement date will be the date of acceptance of such work.
2. Warranties for work not accepted as of the date of substantial completion:  
Commencement date will be the date of acceptance of such work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

WARRANTY/GUARANTEE

FOR \_\_\_\_\_ WORK

We, the undersigned, do hereby warranty and guarantee that the parts of the Work described above which we have furnished and/or installed for:

Exterior Painting for Various Schools  
(Jersey E.S., Studebaker E.S., Lakeland E.S.)  
LITTLE LAKE CITY SCHOOL DISTRICT

is in accordance with the Contract Documents and that all said Work as installed will fulfill or exceed all of the Warranty and Guarantee requirements. We agree to repair or replace Work installed by us, together with any adjacent Work which is displaced or damaged by so doing, that proves to be defective in workmanship, material or operation with a period of \_\_\_\_\_( ) year(s) from the date of final acceptance by Owner or from the Date of Certificate of Substantial Completion, whichever is earlier, ordinary wear and tear and unusual neglect or abuse excepted.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time period determined by the Owner, after notification in writing, we, the undersigned, all collectively and separately, hereby authorize the Owner to have said defective Work repaired and/or replaced and made good, and agree to pay to the Owner upon demand all moneys that the Owner may expend in making good said defective Work, including all collection cost and reasonable attorney fees.

\_\_\_\_\_  
(Subcontractor, Subsubcontractor, Manufacturer or Supplier)

By \_\_\_\_\_

Title \_\_\_\_\_

State\_License\_No. \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
(Contractor)

By \_\_\_\_\_

State\_License\_No. \_\_\_\_\_ Date \_\_\_\_\_

Local\_Representative. For Maintenance, repair or replacement service, contact:

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

Address \_\_\_\_\_

Phone Number \_\_\_\_\_

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## SECTION 02050

### DEMOLITION

#### PART 1 - GENERAL

##### 1.01 SUMMARY:

- A. Work In This Section: Division 1 applies to this Section. Perform demolition and removals as indicated, specified and required:
1. Demolish and remove of ac paving, concrete paving, trees and shrubs as indicated on plans.
  2. Make all necessary arrangements and remove abandoned on-site utilities affected by work.
  3. Clean up and disposal of demolition and removal debris.
  4. Salvage as indicated on drawings and as directed by the District, including delivery to District's storage.
  5. Removal of abandoned utility piping, ducts and conduits.
- B. Related Work Specified Elsewhere:
1. Temporary facilities.
  2. Clean-up.
  3. Earthwork.

##### 1.02 SUBMITTALS:

Prepare and submit a detailed demolition plan of the work procedures proposed for use in the identification, demolition, handling, removal, transportation and salvage or disposal of removed materials. For each item to be salvaged and delivered to the District for future use, indicate proposed sizes, weights, handling, packaging and labeling methods. This requirement does not apply to items to be reinstalled under the contract.

##### 1.03 RECORD DRAWINGS:

Provide record drawings as specified in Division 1. Identify and accurately locate capped utilities and other subsurface structural, electrical or mechanical conditions affected by new construction.

##### 1.04 QUALITY ASSURANCE:

- A. Requirements of Regulatory Agencies: Secure and pay for demolition and removal permits required by public agencies having jurisdiction. Give notices and comply with requirements of SCAQMD rule 1403.

- B. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed demolition work similar to that indicated for this project.
- C. Public Utilities: Give all required notices, pay fees and charges, and arrange for disconnection and removal of abandoned public utilities and meters.
- D. Video Documentation: Refer to Division 1. Before starting work of this section, provide one video of existing conditions to be affected by the demolition work. Provide progress videos as the work of demolition progresses, at intervals as approved, illustrating substrates, connections, concealed conditions, and other conditions which will benefit subsequent work.

#### 1.05 DEFINITIONS:

The following terms have the meanings indicated when used in this Section and on related drawings.

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged or to remain the District's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the District's property. Remove, clean and pack or crate items to protect against damage. Identify contents of containers and deliver to District's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service and otherwise prepare them for reuse; store and protect against damage. Reinstall items in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during demolition and then cleaned and reinstalled in their original locations.

#### 1.06 MATERIALS OWNERSHIP:

District has first right of ownership. Except for items or materials indicated to be reused, salvaged or otherwise indicated to remain the District's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

#### 1.07 ENVIRONMENTAL CONDITIONS:

- A. Hazardous Materials: Prior to starting work, obtain from the District certification that hazardous materials have been removed under a separate contract. In the event additional material which is suspected to be friable asbestos or other regulated hazardous material is encountered during the demolition work, the Contractor shall stop work in such areas and notify the District. The material will be inspected and tested, if necessary, by the District. If the material is found to be friable asbestos or other hazardous material, the District will provide for its removal or encapsulation without delay at District's expense. After treatment the District will test and certify that the



contamination has been removed or controlled to within legal requirements and Contractor will be notified to proceed with the work in writing.

- B. Noise Control: Perform all work in a manner and at times which will keep production of objectionable noise to a minimum amount of noise. Instruct all workers in noise control procedures. Noise that adversely affects adjacent properties will not be tolerated. Such conditions shall be the District's determination.
- C. Dust Control: Take appropriate action to check the spread of dust, and to avoid the creation of a nuisance in the surrounding area. Do not use water if it results in hazardous or objectionable conditions, such as flooding or pollution. Comply with all dust regulations imposed by local air pollution agencies. Remove dust and dirt from work area at least daily or more frequently as needed or directed.

#### 1.08 PROJECT SITE AND BUILDING CONDITIONS:

- A. The intent of the drawings is to show existing site and building conditions with information developed from the original construction documents, field surveys and District's records, and to generally show the amount and types of demolition and removals required to prepare existing areas for new work. Contractor shall make a detailed survey of existing conditions pertaining to the work before commencing demolition. Report discrepancies between drawings and actual conditions to the Architect for instructions, and do not perform any demolition or removals where such discrepancies occur prior to receipt of the Architect's instructions.
- B. Extent: Perform removals to extent required plus such additional removals as are necessary for completion even though not indicated or specified. More or less of the existing construction may be removed if such variation will expedite the work and reduce cost to the District, subject to prior approval in each case.
- C. At completion of removal and demolition work, the Contractor shall compare existing conditions with drawings and with new construction to be attached to, aligned with or otherwise influenced by said existing conditions. In all cases where modifications may be required because of differences between existing conditions and assumed conditions shown or not shown on the drawings, the Contractor shall provide detailed information, dimensions, limitations and other documentation to enable the Architect to design the necessary modifications.

#### 1.09 PROTECTION:

- A. Existing Work: Protect existing work which is to remain in place, that is to be reused, or which is to remain the property of the District by temporary covers, shoring, bracing and supports. Items which are to remain and which are to be salvaged and which are damaged during performance of the work shall be repaired to original condition or replaced with new. Do not overload structural elements. Provide new supports or reinforcement for existing construction weakened by demolition or removal work.
- B. Weather Protection: For portions of the building to remain, protect building interior and all materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work have materials and workmen ready to provide

adequate and approved temporary covering of exposed areas. Damage at areas to be protected shall be replaced to the satisfaction of the District at the Contractor's expense. Temporary coverings shall be attended, as necessary, to insure effectiveness and to prevent displacement. Protect building interiors from damage by weather and vandalism when windows and doors are removed by use of rigidly constructed, weatherproof barriers.

- C. Trees: Protect trees within the project site, which might be damaged during demolition, and which are indicated to be left in place, by a 6-foot high fence. Erect fence a minimum of 5-feet from the trunks at the outer perimeter of branches of individual trees or follow the outer perimeter of branches of clumps of trees. Restore trees scarred or damaged by Contractor equipment or operations to the original condition or replace as determined by the Architect.
- D. Fire Protection: Maintain fully charged fire extinguishers and water hoses readily available during all demolition operations. Test electrical conductors for disconnections prior to removing.
- E. Precaution Against Movement: Provide shoring and bracing or other supports to prevent movement, settlement or collapse of facilities adjacent to areas of alteration and removal that are to remain.
- F. Overloading: Do not overload any part of the structures beyond the safe carrying capacity by placing of materials, equipment, tools, machinery, or any other item thereon.
- G. Building Security: Take appropriate measures, as approved, to protect the work from theft and vandalism.

#### 1.10 EXPLOSIVES:

Use of explosives will not be permitted.

#### 1.11 BURNING:

Burning will not be permitted.

### PART 2 – PRODUCTS

### PART 3 – EXECUTION

#### 3.01 EXAMINATION:

Verify that utilities have been disconnected and capped.

#### 3.02 PREPARATION:

Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks and other adjacent occupied and used facilities. Do not close or obstruct streets, walks or other adjacent occupied or used facilities without permission from the District and

authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

### 3.03 UTILITIES:

- A. Drain, purge, or otherwise remove, collect and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- B. Prior to demolition or in the event unrecorded utilities are encountered, notify the District or serving utility companies, as applicable, for work necessary and scheduled to be performed. Coordinate responsibility for limits of utility removals and be responsible for the removal of all utility installations both above and below grade except for those installations the utility companies agree to move. Use care to protect utility lines to remain in service, repair all damage which does occur, and remove those not to remain in service.
- C. Interruption of Service: In the event existing utility service requires interruption to accomplish the demolition work, obtain written approval by the District for interruption of service. Request approval not less than 48 hours prior to proposed scheduled interruption. State the exact services involved and the expected duration. Except in an emergency affecting life and limb, do not cause any interruption of utility service without written authorization from the District.
- D. Provide for protection of utility lines to remain in service. Repair damage done to these facilities as a result of the work of this Section, to the satisfaction of the District. Locations of existing utilities to remain shall be identified on record drawings, and their physical location shall be indicated by tags or stakes as applicable.
- E. Provide approved paths of travel around bracing, etc. School circulation shall be maintained at all times. Provide plates, bridges, protective barriers and guardrails as required to accomplish this.

### 3.04 WORKMANSHIP:

- A. Lowering material: Use hoists and chutes as required to lower removed material. Throwing, dropping or permitting the free fall of material and debris from the roof or from heights which would cause undue noise or nuisance or excessive dust, is prohibited.
- B. Protection of work to remain: Establish cut off points between work to be removed and work to remain.

### 3.05 REMOVAL OF PORTIONS OF BUILDINGS:

- A. Removals: Carefully remove work to be salvaged or reinstalled and store under cover.
- B. Fascias & framing: Remove by cutting down and not by tumbling, throwing or dropping.

- C. Masonry: Remove masonry carefully so as to prevent damage to surfaces to remain and to facilitate the installation of new work. Cut back to joint lines and remove old mortar. Allow space for repairs to backing where applicable. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as indicated or as specified for new work.
  - D. Miscellaneous metals: Shop-fabricated items and light-gauge metal items shall be disposed of by the Contractor.
  - E. Wood framing: Remove portions as indicated or as required to complete new work. Cut to neat straight lines at points of minimum stress, or provide supplementary supports as required.
  - F. Woodwork: Cut or remove to a joint or panel line.
  - G. Glass: Remove broken or damaged glass and clean glazing channels and stops of setting materials.
  - H. Plaster: Cut back to sound plaster, and back-bevel edges of remaining plaster. Trim existing lath and prepare for new lath. Tie lath together and use a liquid bonding agent.
  - I. Sealants: Removal of windows, door frames, panels and similar items, shall include the complete removal of perimeter sealants. Where such items are to remain, inspect the sealants, and if defective, remove the sealant and prepare surfaces for replacement of sealant as specified for new work.
  - J. Hangers: Where piping, ductwork, suspended ceilings and similar work are removed, completely remove all hanger wires and rods, suspension channels, tees and other devices. Inserts in slabs may remain.
  - K. Sleeves: Where holes in concrete, masonry or plaster are to be filled, remove sleeves.
  - L. Miscellaneous Items: Remove items not mentioned but required to be removed in such manner as minimizes damage to work to remain.
- 3.07 DEMOLITION OF ELECTRICAL EQUIPMENT AND FIXTURES:
- A. Wiring systems and components shall be removed. Primary, secondary, control, communication and signal circuits shall be disconnected at the point of attachment to their distribution system.
  - B. Fixtures: Electrical fixtures shall be removed, complete with lamps.
  - C. Electrical devices: Switches, receptacles, switchgear, transformers, regulators, meters, instruments, plates, circuit breakers, panelboards, outlet boxes, and similar items shall be removed.
  - D. Conductors, including insulated wire and nonmetallic sheathed and flexible armored cable, shall be removed. Conduit, except where embedded in concrete or masonry, shall be removed. Wiring ducts or troughs shall be removed.

3.09 SALVAGE AND DISPOSAL:

- A. General: Existing items the District intends to retain are indicated on drawings or will be designated by the District prior to start of work. Contractor shall carefully remove, salvage, box or bundle as approved, and deliver such items to storage as directed.
- B. Disposal: All removed material other than items to be salvaged or reused shall become Contactor's property and be removed from the District's property. Clean up and dispose of debris promptly and continuously as the work progresses, and do not allow to accumulate. Sprinkle water on the surface to prevent dust nuisance. Secure and pay for required hauling permits and pay dumping fees and charges.

END OF SECTION

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## SECTION 02210

### EARTHWORK

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. Provide and perform earthwork as required for new slabs, paving, foundations and utility trenches, complete.

A. Work In This Section: Principle items include:

1. Site clearing.
2. Excavation, filling, backfilling and compaction.
3. Imported fill material as required.
4. Subgrade preparation for aggregate concrete and AC paving.
5. Clean up and disposal.

B. Related Work Not In This Section:

1. Excavating and backfilling for underground utility systems.
2. Landscaping including planting fill and irrigation systems.

##### 1.02 QUALITY ASSURANCE:

- A. Source Quality Control: Obtain approval by the Inspector of imported fill material before material is brought to site, and same approval of excavated material for use in fills or backfills prior to placing. Imported material shall be tested for toxic substances by an independent testing laboratory approved by the District.
- B. Foundation Soils: Excavate for foundations to sizes indicated, clean, and leave in condition ready for concrete placement. Prior to placement of forms, reinforcing or concrete, obtain approval of Inspector for proper conditions and suitable bearing materials

##### 1.03 SUBMITTALS:

Provide certification, signed by an authorized representative of an approved testing laboratory, that proposed imported fill material and other earthwork materials to be brought to the site, are free from toxic substances, and are in conformance with applicable state and local regulations.

##### 1.04 JOB CONDITIONS:

- A. Protection: Provide and maintain protection to retain earth banks and to protect adjoining grades and structures from caving, sliding, erosion or other damage. Provide suitable protection against all bodily injury. Construct all bulkheads and shoring to requirements of State and Local codes and regulations. Shore vertical banks or slope banks back as required for stability and safety. Erect temporary barricades located at

least 5-feet away from the top of slopes and provide temporary berms as required to prevent slope erosion from water.

## PART 2 – PRODUCTS

### 2.01 MATERIALS:

Provide approved imported material as required if the quantity of approved site and excavated material is insufficient to complete the work.

- A. Earthwork Materials: Approved excavated or imported granular soil such as silty sand of the non-expansive type (that undergoes no undesirable volumetric change with changes in the moisture content) and containing not more than 20% by weight of material passing the No. 200 sieve, free from trash, roots, organic material, clay lumps and rocks over 6" size.
- B. Gravel Fill Material: From approved source, 90% to 100% passing a 3/4" sieve, 0% to 10% passing a No. 4 sieve and 0% to 3% passing a No. 100 sieve.

## PART 3 – EXECUTION

### 3.01 SITE CLEARING AND PREPARATION:

Before starting grading operations, remove trash and strip all vegetation on the site, including roots.

### 3.02 EXCAVATION:

Perform excavation to the dimensions and elevations indicated on Drawings, with additional space allowed as required for the installation and stripping of forms, and inspection of the various types of work, except where approval may be given to deposit certain miscellaneous concrete directly against earth banks. Avoid loosening of soils in bottoms or sides of excavations.

- A. Adverse Subsurface Conditions: Notify Architect should unsuitable bearing soil or other adverse subsurface conditions be found which are not indicated by the Drawings or Specifications.

### 3.03 SUBGRADE PREPARATION FOR CONCRETE:

Prepare subgrade for concrete items by excavating, filling, and grading as required, and bring to optimum moisture content. Finish the subgrade within 3/8 inch tolerance when tested along a 10-foot straightedge in any direction at any location. Compact to 90 percent of maximum dry density and maintain moisture content until concrete is placed. Refer to drawings for base materials where occurs.

### 3.04 COMPACTION:



Moisten or aerate all material to specified moisture content, then uniformly compact the fills and backfills in maximum 8" thick loose layers to 90% of the maximum dry density determined by ASTM D1557. Flooding or jetting is not allowed.

### 3.05 DISPOSAL:

Clean up and remove all trash, debris, waste and surplus and rejected earthwork materials from the site to a legal disposal area. Conform to pertaining laws, codes and regulations, obtain and pay for required hauling and dumping permits, and pay all dumping charges. Perform trucking and material handling in a careful manner to prevent spillage and dusting or damage to surfaces and structures. Remove planks used to protect surfaces subject to public traffic at finish of each day's operations. Maintain public streets and sidewalks in broom clean condition.

### 3.06 FIELD QUALITY CONTROL:

- A. Testing: Testing Laboratory will take test samples and perform materials, moisture content, compaction densities, and other tests to the extent and by the methods directed by Inspector.

END OF SECTION

## SECTION 02510

### ASPHALT CONCRETE PAVING

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. Provide asphalt concrete paving as indicated, specified and required.

##### A. Work Specified in this Section:

1. Patching and repair of existing pavement and new paving.
2. Fog seal coat with screenings over existing paved surfaces.

##### B. Related Work Not in this Section:

1. Earth subgrade preparation for asphaltic paving.
2. Pavement striping.

##### 1.02 PROTECTION OF EXISTING INSTALLATIONS:

- ##### A.
- Protect existing installations, and if any such installations are damaged or broken by operations of this Section, they shall be repaired or replaced to the satisfaction of the Architect.

##### 1.03 TESTING AND CONTROL OF MATERIALS:

All material shall meet the requirements specified herein. Laboratory tests of all materials will be required. Costs of such tests shall be paid by the Contractor.

##### 1.04 QUALITY ASSURANCE:

- ##### A. Reference Specifications:
- Conform to the "Standard Specifications for Public Works Construction", 2015 Edition, published by Building News Inc., Los Angeles, California, hereafter referred to as Green Book. The term "Engineer" in the reference specifications shall be understood to mean "Architect". Requirements for measurement or payment in reference specifications are hereby deleted; include Work of this Section under the Contract Sum for entire work.
- ##### B. Proportioning of Plant Mix:
- Determine the exact proportions of bituminous binder and mineral aggregate required to produce a mixture equal to mix quality specified.

#### PART 2 – PRODUCTS

##### 2.01 MATERIALS:

- ##### A. Tack Coat:
- Asphalt paint conforming to Section 203-8 of the GreenBook.
- ##### B. Prime Coat:
- Grade SC-250 liquid asphalt or Grade SC-70, as approved.

- C. Paving Asphalt: Conform to Section 203-1 of the Green Book, Grades AR 4000 or AR 8000 as appropriate for conditions and temperature of placement.
- D. Asphaltic Concrete Surface Course: Conform to Section 203-6 of the Green Book, asphalt type AR-4000 or AR-8000, aggregate graded as specified in Table 203-6.4.4, Type D-1 Open Fine, 1/2 inch mix.
- E. Fog Seal Coat: Conform to Section 203-9 Green Book.

### PART 3 – EXECUTION

#### 3.01 OVERLAYING OR PATCHING EXISTING PAVEMENT:

Where new paving joins existing, and where trenches are cut in existing paving, patch with asphalt concrete. Prior to patching, sawcut edges at least 6" back from all ragged edges and compact subgrade to a firm, unyielding subgrade.

- A. Asphalt Concrete: Conform to Green Book Subsection 302-5 including the requirements for smoothness and density. Smoothness shall be appropriate for school playgrounds and walking surfaces. Construct paving to minimum compacted thickness indicated.
  - 1. Where thickness of more than 2-inches is shown, install asphalt surface materials in two courses, leveling course and surface course, total compacted depth as scheduled.
- B. Field verify extent and location of paving scheduled for overlaying, replacement, repair and resurfacing. The work includes filling trenches in existing paving, where indicated or required because of utility construction.
- C. Coordinate junction of new and existing pavement. For patching, saw cut existing pavement to provide a uniform straight line transition. Meet existing surface levels and maintain drainage slopes. Feathering of transitions is not acceptable.
- D. Apply emulsion or hot liquid asphalt tack coat to the area to be overlayed or the sawcut edges prior to patching. Apply and compact asphalt concrete pavement making neat edges where new and existing join.

#### 3.04 CRACKS IN EXISTING PAVEMENT:

Clean cracks prior to and overlay area or repair area, remove weeds and dirt. Place herbicide in cleaned cracks. Fill cracks less than 1/4" with emulsion slurry and cracks 1/4" and larger with hot liquid asphalt.

#### 3.05 FOG SEAL COAT:

Apply to new and existing asphalt concrete paving within the contract area. Seal coat shall conform to State Standard Spec Section 37. Spray apply at rate of 0.05 to 0.10 gallons per square yard, the exact quantity as required to fully seal paving surface, as approved. Spread screenings immediately after application of emulsion at rate of 12 to 20 pounds per square yard. Cover and protect adjoining surfaces from staining.

#### 3.06 PROTECTION AND CLEANING:

- A. Protect newly placed material from traffic by barricades or other suitable methods acceptable to the Architect. Protect asphalt paving from construction and vehicular damage until project acceptance.
- B. Sweep asphalt paving and wash free of stains, discolorations, dirt and other foreign material immediately before project acceptance. If stains remain after cleaning, apply a coat of sealer.

### 3.07 CLEAN-UP:

Clean-up paved areas prior to acceptance of the Work. All dirt, spoil and debris of any nature shall be removed, and the entire site shall present a clean, workmanlike appearance. Damage to paint work from paving or seal-coating operations shall be corrected.

END OF SECTION

## SECTION 02520 SITE CONCRETE WORK

### PART 1 - GENERAL

1.01 DESCRIPTION: Division 1 applies to this Section. Provide on-site and off-site exterior concrete work, including curbs, walks, landings, and pavement, as indicated, specified, and required.

#### 1.02 SUBMITTALS:

A. Layout Drawings: Provide a layout drawing showing locations of each type of pavement and construction, and dimensioned locations of all expansion and control joints.

B. Product Data: Submit for expansion and control joint material.

C. Site Samples: Prepare samples at the site, cast in the directed locations and orientations. Samples are required to show match of new with existing. Approved samples may be part of permanent construction if meeting all other requirements shown and specified and are so approved.

#### 1.03 QUALITY ASSURANCE:

A. Conform to requirements specified on the drawings.

B. Fly ash may be used in the amount not to exceed 25 percent of the total cementitious materials in the mix.

C. Portland cement concrete paving shall have a medium salted (medium broom) finish on all surfaces sloped less than 6% and slip resistant (heavy broom finish) on all surfaces sloped greater than 6 percent.

#### 1.04 ENVIRONMENTAL REQUIREMENTS

A. Placing During Cold Weather: Do not place concrete when the air temperature is below 35 degrees F. Mixing water shall be heated as necessary to result in the temperature of the in-place concrete being between 50 and 85 degrees F. Covering and other means shall be provided for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing.

B. Placing During Warm Weather: The temperature of the concrete as placed shall not exceed 85 degrees F except where an approved retarder is used. The mixing water and/or aggregates shall be cooled, if necessary, to maintain a satisfactory placing temperature. The placing temperature shall not exceed 95 degrees F at any time.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS:

##### A. Concrete:

1. Portland cement: ASTM C150, Type II, low alkali.

2. Aggregates: ASTM C33, from approved source to insure uniform quality and grading. Deliver so that moisture content variations will not decrease production of reasonably uniform concrete. Do not use aggregates that are reactive with alkalis.

3. Water: Clean, fresh and potable.

B. Strength: Minimum ultimate compressive strength of 3,000 psi. Refer to Division 1 for testing requirements.

C. Reinforcing:

1. Bars: ASTM A615, grade 60.

2. Wire: ASTM A82.

D. Expansion and Control Joints:

1. Expansion joints for slabs: Conform to GreenBook. Subsection 201-3, ASTM D 1751, premolded expansion joint filler, conforming to ASTM D 1751, 1/2 inch thick, unless otherwise indicated.

2. Expansion joints for curbs: Asphalt impregnated fiber filler material, 1/2 inch thick.

3. Control Joints: "Zip Strip" as distributed by S.C.A. Construction Supply, Santa Fe Springs, Calif., or equal.

E. Curing Compound: Conform to GreenBook. Subsection 201-4, white pigmented membrane-forming curing compound conforming to ASTM C 309, Type 2.

F. Polyethylene Film: Clear, minimum 6 mil thick. Provide compatible tape for sealing joints.

### PART 3 – EXECUTION

#### 3.01 ON-SITE CONCRETE WORK:

Construct all site concrete of 3,000 psi concrete unless otherwise indicated or specified. Provide reinforcing bars or mesh where indicated. Form accurately to profiles shown, using wood, metal or plastic forms as approved. Place and handle concrete in manner that will avoid segregation of ingredients. Refer to drawings for additional requirements.

#### 3.02 SUBGRADE PREPARATION: Refer to Section 02210.

A. General: Conform to GreenBook. Subsections 301-1.2 through 301 - 1.4, inclusive, performed under the supervision of the Soils Engineer.

B. Maintenance of subgrade: The subgrade shall be maintained in a smooth, compacted condition, in conformity with the required section and established grade until the concrete is placed.

#### 3.03 CONCRETE SLABS, PADS, WALKS, CURBS AND OTHER EXTERIOR CONCRETE FLATWORK:

- A. Form Setting: Conform to Green Book. Subsection 303-5.2.1. Concrete surfaces, where left exposed, shall be formed on all sides with plywood with taped joints to give a smooth, uniform straight finish.
- B. Reinforcing steel shall be securely tied in place. Do not use bars with kinks or bends not shown on drawings. Reinforcing steel shall be clean, free from rust, oil, scale, or any foreign material. Place all reinforcing as detailed and comply with typical detail for bends, splices, clearance, etc., and with requirements of the California Building Code.
- C. Placing Concrete: Conform to GreenBook Subsection 303-5.3 and Section 03300.
- D. Expansion Joints:
  - 1. Concrete Curbs: Provide 1/2" thick expansion joints at beginning and at end of curves, intersections, and 20-foot intervals between, set plumb, square, and to same profile as the curbs. Edge curb tops to 1/2" radius and vertical joints to 1/4" radius.
  - 2. Concrete Walks: Provide 1/2" expansion joints as specified for curbs and where walks abut rigid structures, aligned with joints in curbs where adjoining. Provide expansion joints at 20 foot intervals in concrete walks. Unless otherwise indicated.
- E. Control Joints: Control joints shall be a formed joint. Tops of joints shall be installed flush with the concrete surface. Depth of joint shall be a minimum of 1/4 the thickness of slab. Use control joints on all curbs, curbs and gutters, and cross gutters at maximum intervals of 20 feet on center. Sawed joints may be used in lieu of the above, providing they are at least one inch deep.

### 3.04 SLAB FINISHES:

- A. Description of Finishes: Produce finish slab surfaces level or sloped as shown with maximum deviation of 1/8" from a 10-foot straightedge. Keep surface moist with a fine fog spray of water as necessary. Dusting with dry cement or sand during finishing operations is not permitted. Finish all slab edges and joints with an edging tool. Match the approved sample panels. Apply the following finishes as indicated, specified, directed, and applicable.
  - 1. Monolithic Trowel Finish: After surface water disappears and floated surfaces are adequately hardened, steel trowel and retrowel concrete to a smooth surface. After concrete has set sufficiently to ring the steel trowel, retrowel twice to a smooth uniform finish free of trowel marks and blemishes. Avoid excessive retroweling that produces burnished areas.
  - 2. Broom Finish: Same as for monolithic steel trowel finish less the second retroweling. When ready, apply approved coarse texture finish by sliding a wire or stiff bristle broom in one direction along a straightedge guide set at right angles to the direction of traffic. At walking areas, smooth finish 1" wide at edges, expansion joints, and scoring.
- B. Locations of Finishes: Unless otherwise indicated, provide the following finishes on areas as specified:

1. Broom finishes:

- a. Fine broom finishes: On level sidewalks, pavement, stair treads and landings, curbs, and other flatwork, unless other finishes are indicated. Score walks in direction and pattern indicated or directed. Provide 3 inch wide trowelled finish at flow lines of gutters.
- b. Medium broom finishes: On ramps of slopes less than 6 percent. Perpendicular to the slope.
- c. Heavy broom finishes: On ramps of slopes 6 percent and greater. Perpendicular to the slope. Concrete paving and concrete finishes along accessible routes of travel to be at least as slip resistant as that described as a medium salted finish for slopes of less than 6%, and slip resistant at slopes of 6% or greater.

3.05 CURING: Concrete work shall be properly cured and protected against injury and defacement of any nature during construction operations. If weather is hot or surface has dried out, spray surface with fine mist of water, starting not later than 2 hours after final troweling. Surface of finish shall be kept continuously wet for at least 10 days. Wetting is considered emergency work and shall be performed on weekends and holidays if necessary.

- A. In lieu of water curing, within 24 hours after finishing, the concrete which is not to receive special finishes, may be cured with an approved clear liquid curing compound, applied in accordance with the manufacturer's recommendations.

3.06 BACKFILLING: After curing, debris shall be removed and the area adjoining the work shall be backfilled, graded, and compacted to conform to the surrounding area in accordance with lines and grades indicated.

3.07 PROTECTION: Completed work shall be protected from damage until accepted. The Contractor shall remove damaged concrete and clean concrete discolored during construction. Work that is damaged shall be removed and reconstructed for the entire length between regularly scheduled joints at no expense to the owner. Refinishing the damaged portion will not be acceptable. Removed damaged portions shall be disposed of as directed.

3.08 REMOVAL OF FORMS: Do not remove forms until the concrete has attained adequate strength to prevent damage. Take extreme care in stripping to avoid breaking off corners, marking concrete or defacing the finish surface in any way. Minimum stripping time at walls shall be 3 days.

3.09 CLEANING AND PATCHING: After stripping forms, clean all exposed concrete surfaces and all adjoining work stained by leakage of concrete. Remove all fins, burrs, and projections by grinding. Patch all voids, rock pockets, holes, cracks, etc., by chipping loose concrete and exposing clean sound aggregate. After inspection, dampen prepared recesses for 2 hours minimum and fill with drypack to within 1/4" of surface. Keep drypack damp for 2 days minimum. Apply mortar to final surface and keep patch damp for 5 days minimum. Entire surface of concrete to be sacked with neat cement and water after surface is cleaned and patched.



3.10 FLOOD TEST: All concrete gutters and concrete pavement shall be given a flood test. All concrete work where water ponds and does not run off in a reasonable amount of time, shall be removed to the nearest score or joint line and replaced to provide proper drainage.

3.11 DEFECTIVE CONCRETE:

- A. If concrete tests indicate that the strengths do not meet those specified, or if concrete has excessive pockets, or if reinforcing steel is exposed, or if concrete does not comply with the drawings and specifications, the defective concrete shall be removed and replaced as directed.
- B. Concrete paving that shows evidence of cracking prior to final acceptance of the project or during a 60-day period thereafter shall be replaced at no cost to the Owner. Such replacement shall include the entire panel of concrete in which the cracking occurs, to the nearest expansion or control joints, as approved.

END OF SECTION

## SECTION 02580 PAVEMENT MARKING

### PART 1 - GENERAL

1.01 DESCRIPTION: Division 1 applies to this Section. Provide pavement paint marking and striping, complete.

A. Related Work Not in this Section:

1. Truncated domes
2. Asphalt Concrete Paving

1.02 SUBMITTALS:

- A. Manufacturer's Data: Submit manufacturer's technical product data covering recommended preparation and application methods with paint coverage rates.
- B. Lay out markings in place on surface, and obtain approval of layout prior to commencement of striping. Notify Owner 72 hours in advance of time approval is required.
- C. Submit certification of compliance with regulations required below.

1.03 WEATHER LIMITATIONS: Apply paint to clean, dry surfaces, and unless otherwise approved, only when air and pavement temperatures are above 40 degrees F and less than 95 degrees F. Maintain paint temperature within these same limits.

### PART 2 - PRODUCTS

2.01 TRAFFIC PAINT: Manufactured for pavement line markings, conforming to Fed Spec TT-P-1952B and bearing approval of SCAOMD. Paint shall be slip resistant, having minimum static coefficient of friction of 0.6.

- A. Benjamin Moore Latex Safety Zone Marking M58-10
- B. Vista Paint Co. Traffic Line Paint 6800 On-Line Semi-gloss (2.5-3.5 mils OFT) or 6700 On-Line Flat.

2.02 COLORS: As selected by District. Allow for striping, and similar items to be in different colors for playground game courts.

### PART 3 - EXECUTION

3.01 PROTECTION: Protect surfaces including cars, planting, site improvements and all other surfaces not to be painted to avoid damage from overspray and wind-carried paint.

3.02 SURFACE PREPARATION:

A. General: All surfaces to be marked shall be thoroughly cleaned before application of the paint. Dust, dirt, and other granular surface deposits shall be removed by sweeping, blowing with compressed air, rinsing with water or a combination of these methods as required.

B. Layout: Game striping damaged or removed. Obtain from Owner the exact striping required, and layout all markings on the surface.

C. New pavement surfaces shall be allowed to cure for a period of not less than 30 days before application of marking materials.

D. Existing Pavement:

1. Rubber deposits, surface laitance, existing paint markings, and other coatings adhering to the pavement shall be completely removed with scrapers, wire brushes, sandblasting, approved chemicals, or mechanical abrasion as directed. If approved, and if demonstration of method is satisfactory, existing striping may be obliterated by use of paint matching surface color.
2. Where oil or grease are present on old pavements to be marked, affected areas shall be scrubbed with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinsed thoroughly after each application. After cleaning, oil-soaked areas shall be sealed with cut shellac to prevent bleeding through the new paint.
3. Obliteration of Existing Markings: Where existing markings are obliterated to provide new markings, the existing lines and other markings shall be painted with paint to match existing paving to remain. Paint color shall be adjusted as required to match. Provide not less than 2 coats, or additional as required for complete obliteration of existing marking. Blend edges of marking into existing paving.

3.03 APPLICATION- GENERAL: Paint shall be applied to clean, dry surfaces. Paint shall be applied pneumatically with approved equipment at rate of coverage specified herein. Provide guide lines and templates as necessary to control paint application. Special precautions shall be taken in marking numbers, letters, and symbols. Edges of markings shall be sharply outlined. Lines shall be straight, or curved as applicable, to within 1/4" in 15 feet. Greater deviations shall be removed or obliterated and lines reapplied. The maximum drying time requirements of the paint specifications will be strictly enforced, to prevent undue softening of bitumen, and pickup, displacement, or discoloration by tires of traffic. If there is a deficiency in drying of the markings, painting operations shall be discontinued until cause of the slow drying is determined and corrected.

3.04 RATE OF APPLICATION: 105 ± 6 square feet per gallon. Apply two coats minimum or more if required to obtain complete opacity. Dry film thickness shall be 10 mils minimum.

3.05 COMPLETION: Remove paint droppings and overspray, and repair all damaged or stained surfaces as approved.

END OF SECTION

SECTION 02830  
CHAIN LINK FENCE

PART 1 - GENERAL

1.01 DESCRIPTION: Division 1 applies to this Section. Provide galvanized chain link fence and gates, complete.

A. Work Specified In This Section:

1. Layout and staking of fence lines.
2. Excavation and backfill for post foundations.
3. Concrete post foundations.
4. Fence supports, fabric, gates, slats, and other accessories shown or required to complete the work.

1.02 QUALITY ASSURANCE:

- A. Reference Standards: Except as otherwise indicated or specified, conform to the CLFMI Product Manual, and to Standards for Chain Link Fence Installation; all as published by the Chain Link Fence Manufacturers Institute, 1776 Massachusetts Avenue N.W., Suite 500, Washington, D.C. 20036, (202) 659-3537 FAX (202) 857-1220 hereinafter referred to as CLFMI Standards.
- B. Gates in path of travel must comply with door requirements. CBC Section 11B-404.1.
- C. Hand-activated gate opening hardware, handles, pulls, latches, locks, and other operating devices on accessible gates shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. CBC Section 11B-404.2.7.
- D. The lever of lever actuated latches or locks shall be curved with a return to within 1/2" of the (face of) gate to prevent catching on the clothing or persons.
- E. The bottom 10" of an accessible gate shall have a smooth, uninterrupted surface on each side. The bottom of the gate shall be within 3" of the finish surface of the path of travel. The maximum effort to operate a gate shall not exceed 5 lbf (22.2 N). CBC Section 11B-404.2.9.

1.03 SUBMITTALS:

- A. Shop Drawings: Submit showing details of each typical installation. Indicate post spacing and location, location and size of bracing, connection details, and method of attachment of hardware.
- B. Product Data: Submit for approval, with manufacturer's catalog data.
- C. Samples: Submit samples on fence fabric and tubular framing shapes.

## PART 2 - PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS:

Acorn Fence and Construction  
2041 164th Street, Hammond IN  
(800) 293-4472

2.02 MATERIALS: All fencing, posts, rails, accessories and hardware except locks and closers, shall have minimum 2.0 ounce metallic zinc coating, Conform to CLFMI standards where recommended sizes and weights exceed those specified.

- A. Chain Link Fence Fabric: Provide fabric of sizes indicated for each condition, not lighter than 9 gauge, all fabric in one piece height. Fabric shall be metallic zinc coated conforming to ASTM A 392, Type II, Class 2, 2.0 oz./sq. ft. with zinc coating applied after weaving. Fabric shall be knuckled at both selvages.
- B. Posts and Rails: As indicated on drawings. Tie wires and fittings shall be zinc coated to match fencing.
  - 1. Type I Pipe: Steel pipe conforming to ASTM F 1083, plain ends, standard weight (Schedule 40) for posts, rails, etc.
  - 2. Swing Gate Posts: galvanized steel, ASTM A 120 or ASTM A 123.
  - 3. Top and Brace Rail: 1.66" diameter, 2.30 lbs./ft., plain end. Provide in manufacturer's longest lengths, with expansion type couplings, approximately 8 inches long, for each joint. Provide means for attaching top rail securely to each gate corner, pull and end post.
  - 4. Fittings: Comply with ASTM F 626 to suit manufacturer's standards.
- C. Tension Wire: 7 gauge thick high-carbon steel coil-spring wire, single strand, galvanized ..
- D. Tension Bar: 3/16" thick by 3/4" wide steel, not more than 2" shorter than fabric height, galvanized.
- E. Tension Strap: 1/8" thick galvanized steel.
- F. Tie Wire: 9 gauge galvanized steel wire.
- G. Post Tops: Provide ornamental post top of cast steel galvanized; sized to post diameter, set screw retainer. Provide hole in post top for passage of top rail.
- H. Swinging Gates: Construct as detailed. Provide hardware as shown.
- I. Gate Hardware: As detailed for accessible and non-accessible gates.
- J. Concrete for Setting Posts: Conform to ASTM C94, Normal Portland cement, 3,000 p.s.i. minimum strength at 28 days, 3" slump; 1" nominal sized coarse aggregate. Conform to requirements of Division 3.

## PART 3- EXECUTION

3.01 INSTALLATION: Conform to approved submittals and to CLFMI Standards unless more stringent requirements are specified.

- A. Clearing: Existing fencing shall be removed and post cut at concrete, unless noted otherwise. Smooth and fill as detailed. Where new fencing is installed, clear fence line of brush, and other obstacles to install fencing. Establish a graded, compacted fence line prior to fencing installation. Compact fill used to establish fence line.
- B. Install fence on prepared surfaces to line and grade indicated.
- C. Excavation: Drill or hand-excavate holes for footing posts at spacing indicated.
- D. Setting Posts: Set posts in concrete. Center and align posts as detailed. Check posts to insure that they are set level. Place concrete around posts and vibrate or tamp for consolidation. Extend concrete footings 2 inches above grade in grass areas and flush to grade in paved areas and smooth trowel to a crown to shed water. Allow concrete to cure a minimum of 72 hours before performing other work on posts.
- E. Fence Gate Frames: Secure fastening and hinge hardware in place to fence framework by peening or welding. Allow for proper operation of components. Coat peened or welded areas with a repair coating matching original coating. Install fence in accordance with fence manufacturer's written installation instructions except as detailed.
- F. Fabric: Place on side of posts as indicated. Pull fabric taut and secure fabric to top rail and bottom rail, close to both sides of each post and at maximum intervals of 24 inches on center. Secure fabric to posts using stretcher bars, ties or clips spaced 16 inches on center, or by integrally weaving to integral fastening loops of end, corner, pull, and gate posts for full length of each post. Install fabric so that bottom of fabric is 2 inches above ground level. Where tie wires are used, they shall be twisted at least 2 full turns. Bend ends of wires to eliminate sharp points.
- G. Gates: Allow clearance of gates of 1-1/2" at bottom and 1" at top. Construct gates set in sloping areas to conform to the grade. Provide an opening in each gate for access to locking device or padlock. Knuckle ends of fabric cut for opening to eliminate hazards. Install in accordance with CLFMI Standards and manufacturers' recommendations.
- H. Accessories: Install top rail, post caps, bottom tension wire, truss rods at end panels, and gates, all in accordance with CLFMI Standards.

3.02 FINISH TOUCH-UP: Touch up finish on fencing with material compatible to factory finish.

END OF SECTION

## SECTION 02920

### RESTORATION OF PLANTING AND IRRIGATION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTIONS:

Division 1 applies to this Section. Restore existing planting and irrigation systems affected by the work, complete. Irrigation alterations are by the contractor, coordinate activities.

##### 1.02 SUBMITTALS:

- A. Catalog data: Provide manufacturer's data on each type of plant, seed and soil amendment proposed for use.

#### PART 2 – PRODUCTS

##### 2.01 PLANTING MATERIALS:

- A. Commercial fertilizer: Shall bear the manufacturer's guaranteed analysis and shall meet the following minimum requirements; for soil conditioning, 5% nitrogen, 3% phosphoric acid, and 1% potash (Gro-Power Plus 5-3-1 or equivalent); for maintenance fertilization, BIDU Coarse Grade, 16% nitrogen, 6% phosphoric acid and 8% potash.
- B. Organic amendment: Nitrolized-mineralized fir bark (0.8-1.2% actual nitrogen), fine textured, having 75-100% passing #8 screen, and minimum 95-100% passing #4 (1/4") screen. Salinity shall be no higher than 3 milli-ohms/cm. at 25 deg. C. as measured by saturation extract conductivity. Organic content shall be minimum of 92% based on dry weight and determined by ash method.
- C. Plant Materials: Reuse existing shrubs, or furnish new shrubs of matching species and size. Quality of new plants shall conform to the California Standard Grading Code of nursery stock and shall be No. 1 Grade.
- D. Imported Topsoil: Fertile, agricultural sandy loam, typical for locality, capable of sustaining vigorous plant growth, taken from drained site, free of subsoil, clay, rocks, impurities, plants, weeds and roots; minimum pH value of 5.4 and maximum 7.0.
- E. Planting Tablets: Planting tablets shall be Agriform (20-10-5), or equal.
- F. Sod: League Master Sports Mix #3.
- G. Top Dressing: Kellogg's "Topper" kgp-3474.

##### 2.02 SPRINKLER SYSTEM MATERIALS:

- A. Plastic pipe shall match existing but not less than high impact rigid unplasticized polyvinyl chloride PVC 1220 (Type 1, Grade 1), conforming to ASTM D 1785.
  - 1. Use Schedule 40 PVC plastic pipe for installation on the discharge side of control valves and Class 315 PVC plastic pipe for continuously pressurized pipe on the supply side of control valves, unless otherwise indicated.
  - 2. Use Schedule 80 PVC plastic pipe when threaded joints are required.
- B. Fittings and couplings for plastic pipe shall be threaded adapters with socket pipe for connections to threaded pipe. Plastic pipe fittings and couplings shall be PVC I or PVC I/II material supplied in the same schedule and size specified for the pipe. Indicate the type of plastic material, schedule and size on each fitting or coupling.
- D. Sprinklers and spray nozzles:
  - 1. Types and sizes as required for complete coverage of revised areas, with brass, bronze or stainless steel nozzles.
  - 2. Provide fixed head sprinklers with a one-piece housing and with provisions for interior parts replacement. Pop-up sprinklers to rise at least 4 inches during operation. Make full or part circle sprinklers interchangeable in the same housing.
  - 3. Spray head shall be adjustable type from full flow to shut off.

## PART 3 – EXECUTION

### 3.01 SITE CLEARING:

Clean up and remove from the planting areas weed and grasses, including roots and accumulated debris and rubbish before commencing work.

### 3.02 PREPARATION:

- A. Excavation and Backfilling: Size trenches and other excavations to accommodate the irrigation system components, conduits and other required facilities. Provide additional space to assure proper installation and access for inspections. Compact backfilling to 85 percent in lawn and shrub areas. If settlement occurs and subsequent adjustments of pipes, valves, irrigation heads, planting areas, or other construction are necessary, the Contractor shall make required adjustments without additional cost.
- B. Installation of Sprinkler Piping:
  - 1. Install pipe fittings in accordance with the manufacturer's recommendations. Bed pipe in at least 2 inches of finely divided soil to provide a firm, uniform bearing. Surround the pipe with additional finely divided soil to at least 2 inches over the top of the pipe. During installation of pipe, fittings, valves, and other pipeline components, prevent foreign matter from entering the system. Temporarily cap or plug open ends at cessation of installation operations.



2. Join plastic pipe with socket type solvent welded fittings, threaded fitting, rubber ring fittings or by other means specified. Cut square, externally chamfer approximately 10-15 degrees and remove burrs and fins. Make solvent welded joints in accordance with ASTM D-2855. Use primer and solvent recommended by the pipe manufacturer.
  3. Install plastic pipe in accordance with ASTM D-2774 and the requirements herein. Exercise care in assembling pipelines with solvent welded joints so that stress on existing lines and previously made joints is avoided.
  4. Apply primer and solvent to pipe ends so that no materials is deposited on the interior surface of the pipe or extruded into the interior of the pipe during jointing. Wipe off excess cement on the exterior of the joint immediately after assembly. Do not expose the pipeline to water for 24 hours after the last solvent welded joint is made.
- C. Installation and Adjustment of Sprinkler Heads:
1. Flush and pressure test mains and laterals, including risers before installing irrigation heads, and before performing a water coverage test.
  2. Spacing of sprinkler heads shall be installed for head to head coverage. Do not exceed maximum spacing recommended by the manufacturer.
  3. Install lawn sprinklers 2 inches clear of adjacent walks, curbs, paving, headers and similar improvements. Irrigation heads shall be installed on pop-up sprinkler bodies with tops set flush to finished grade.
- D. Riser installation: Install risers perpendicular to finished grade to obtain optimum coverage of the area. Risers shall be Schedule 80 PVC plastic pipe. Riser assemblies shall be triple swing joint type with Schedule 80 PVC nipples and threaded fittings.
- E. Irrigation Head Adjustment:
1. When irrigation heads are installed and the irrigation system is operating, adjust and balance each section or unit with section control valves fully open to obtain uniform and adequate coverage.
  2. Adjust irrigation heads having adjustable pin nozzles, screws or orifices to provide adequate distribution of water over the coverage pattern. Without additional cost to the District, install larger or smaller nozzle cores in sprinkler heads and add or omit sprinkler heads as necessary to obtain head to head water coverage.
  3. Prevent the irrigation system from spraying water onto walks, roadways or structures.
- F. Flushing and Testing:

1. After completion and prior to the installation of terminal fittings, flush the new sections of the system to remove dirt, scale or other material.
2. Sprinkler Coverage Test: Demonstrate that the new sprinklers are balanced to provide uniform and adequate coverage of the areas serviced. Correct deficiencies in the system.

### 3.03 FINISH GRADING:

- A. Coordinate rough grade requirements (allowing for soil amendments and soil mixes) with the work specified in Section 02210.
- B. Finish grade planting areas to a smooth and even condition, eliminating water pockets and irregularities. Remove and dispose of foreign materials, clods and rock over 1" in diameter within 6" of the surface so that after conditioning and planting the grade in the shrub areas is 1" below and in lawn areas is 1/2" below the top of the curbs and lawn edging.

### 3.04 SOIL CONDITIONING:

- A. Grade planted areas to finish-grade, allowing for amendments, then broadcast, uniformly and incorporate into the top 6" of soil, the following for each 100 square feet of area:  
  
0.6 cu. Yard of organic amendments  
3 lbs. of commercial fertilizer.
- B. In areas where sod is to be applied, rake amendments to depth of 1" to 2" and water thoroughly. Roll, remove rocks, provide uniform grade.

### 3.05 SOD:

- A. Complete fine grading and all specified soil preparation before lawn installation.
- B. Sod or Roll Sod: Type, thickness, and areas of installation shall be in accordance with Drawings and Specifications.
- C. Remove roll sod netting prior to installation.
- D. Thickness of sod or roll sod shall be recommended thickness below finish grade. Complete soil conditioning and fine grading before installation. Do not operate heavy equipment over completed sub-grade. Sub-grade shall be moist when sod is installed. Install sod with closely fitted joints and stagger ends of strips. Plug opening with sod or topsoil.
- E. Lightly irrigate with two hours after installing sod and before rolling. Roll all seams and joints until sod is well bonded to sub-grade.
- F. Water area thoroughly to penetrate sub-grade at least 8 inches. Repeat watering as necessary to keep sod moist until rooted in sub-grade. Protect sod areas against foot traffic until sod is well established. Replace damaged areas with new sod..

3.06 MAINTENANCE – SHRUBS AND SOD AREAS:

- A. Begin maintenance operations immediately after each plant is planted and continue satisfactorily for 60 days after the time all items of work have been completed as specified herein, and to the satisfaction of the Architect.
- B. During the maintenance period specified above, keep all plants and planted areas well watered at all times; remove weeds and grass and dispose of; maintain and cultivate basing and depressions and keep well formed around trees and shrubs; maintain and repair the water system and the entire project shall be so cared for that a neat and clean condition will be presented at all times.

END OF SECTION

SECTION 03100  
CONCRETE FORMWORK

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide concrete formwork, complete.

A. Work In This Section: Principal items include:

1. Formwork.
2. Setting in forms, anchor bolts, metal inserts, sleeves, and similar items embedded in concrete.

B. Related Work Specified in Other Sections:

1. Screeds for slabs.
2. Furnishing inserts in concrete for work of other sections.

1.02 QUALITY ASSURANCE:

Construct forms conforming to tolerances specified in ACI 301, "Specifications for Structural Concrete for Buildings", as specified, unless exceeded by requirements of regulatory agencies or otherwise indicated or specified.

PART 2 – PRODUCTS

2.01 MATERIALS:

Furnish materials conforming to following requirements:

- A. Form lumber: WCLIB "Construction" grade or better, WWPA No. 1 or better, or equal.
- B. Form plywood: PS 1-95, Group I, Exterior Grade B-B Plyform or better, minimum 5-ply and 5/8" thickness, grade marked, not mill oiled. Plywood having medium or high density overlay is acceptable.
- C. Foam coating: Resin type coating free of oil, silicone, wax, and non-drying material, not grain-raising.

PART 3 – EXECUTION

3.01 WORKMANSHIP:

- A. Rigidly construct forms to prevent mortar leakage, sagging, displacement or bulging between studs. Use clean, sound, approved form material, coated with specified materials only, not oil. Provide backing on plywood joints. Sides of footings shall be

formed, unless permission of the Architect is obtained to place concrete directly against earth. Where this permission is granted, the footing dimension shall be increased 3". Remove formwork prior to backfilling operations.

- B. Foundation concrete may be placed directly into neat excavations provided the foundation trench walls are stable as determined by the Architect (Structural Engineer), subject to the approval of DSA in each case. The minimum formwork shown on the drawings is mandatory to insure clean excavations immediately to and during the placing of concrete.
- C. Reglets, Rebates and Chases: Form as indicated or required for work of other sections. Verify sizes and locations before forming.
- D. Sleeves: Clear space between sleeves shall be 3 times average sleeve or opening dimension, and not less than 6" center to center for small sleeves. Submit proposed location of sleeves in structural members for approval.
- E. Embedded Items: Coordinate work with related sections. For slabs on grade, provide 3" minimum above and below conduit. Do not place conduit below bottom layer of reinforcing bars. Verify sizes, locations, and other requirements for anchor bolts, inserts, and like items, and provide or obtain necessary templates corresponding to approved shop drawings. Accurately and securely place in forms to prevent displacement after removing any substances deleterious to bond.
- F. Forms shall accurately conform to the lines and dimensions of concrete as indicated on the drawings. They shall be tight and securely braced to prevent any possibilities of movement. Removal of forms and shoring shall conform to latest ACI Codes and government directives.
- G. Formwork shall be designed in accordance with ACI 318, parts 1-2-3, ACI 347, ACI SP-4, and ACI 301, and requirements of local authorities.
- H. Forms shall be thoroughly cleaned before reusing. Where form release compounds are used to facilitate removal of forms, they shall be types which will not stain or injure concrete, or finish material or cause injury to the bond of the final material to be applied.
- I. Wood formwork, including that used in void spaces, pockets and other similar places shall be removed.
- J. Tops of slabs shall not vary more than 1/4" from designated elevations.

### 3.02 PREPARATION FOR CONCRETE PLACING:

- A. Debris: Remove foreign matter in forms and rigidly close parts and openings left in formwork. No concrete shall be placed until forms are clean.
- B. Wetting: Wet wood forms sufficiently to tighten up cracks. Wet other materials sufficiently to reduce suction and maintain concrete workability.
- C. Equipment: Thoroughly clean tools before and after each use.

- D. Earth Sub-grade: Lightly dampen 24 hours in advance of concrete placing, but not muddied. Reroll where necessary for smoothness and remove loose material.

### 3.03 REMOVAL OF FORMS:

Conform to CBC 1906A.2.1.

- A. Remove forms only after concrete has developed sufficient strength such that it will not be damaged by form removal operations, and after concrete can safely sustain its own weight and superimposed loads, as determined by testing field-cured concrete cylinders, but not sooner than specified in ACI 347.
- B. Use care when removing forms that concrete surfaces are not marred or gouged, and corners are true, sharp and unbroken. Do not pry against concrete when removing forms.
- C. Cut off nails flush in concealed concrete surfaces. Cut back tie wires and nails in exposed concrete surfaces at least 1-1/2 inches. Remove rod and cone ties and separators or similar devices and pull inward away from finished surfaces.

END OF SECTION

## SECTION 03200

### CONCRETE REINFORCEMENT

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. Provide reinforcing steel, complete.

###### A. Work In This Section: Principal items include:

1. Reinforcing bars for cast-in-place concrete.
2. Accessories, including but not limited to, chairs and tie wires.
3. Furnishing and delivery of steel bar reinforcing for concrete masonry.

##### 1.02 QUALITY ASSURANCE:

###### A. Source Quality Control: Refer to Section 01400 for general testing requirements and to following paragraphs for specific procedures. Testing Laboratory shall perform following conformance testing, shall select test samples of bars, ties, and stirrups from the material at the site or from place of distribution, each sampling including at least two 18" long pieces, and perform the following tests according to ASTM A615.

1. Identified Bars: If samples are obtained from bundles as delivered from the mill, identified as to heat number, accompanied by mill analyses and mill test reports, and properly tagged with Identification Certificate so as to be readily identified, perform one tensile and one bend test of each size of bars. Submit mill reports when samples are selected.
2. Unidentified Bars: When positive identification of reinforcing bars cannot be made and when random samples are obtained, perform tests for each 2.5 tons or fraction thereof, one tensile and one bend test from each size of bars.

##### 1.03 MARKING AND SHIPPING:

Bundle bars, tag with identification, and transport and store so as not to damage any material. Use metal tags indicating size, length and other marking shown on placement drawings. Maintain tags after bundles are broken.

#### PART 2 – PRODUCTS

##### 2.01 MATERIALS:

- A. Reinforcing bars: ASTM A615, Grade 60 or A706, Grade 60, except Grade 40 for No. 3 bars.
- B. Tie wire: Annealed copper-bearing steel, 16 gage minimum.

- C. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting and fastening reinforcement in place.
  - 1. Use wire bar type supports complying with CRSI, Chapter 3 unless otherwise shown.
  - 2. For slabs on grade, use supports with sand plates, precast concrete blocks or horizontal runners where base material will not support chair legs.

## 2.02 FABRICATION OF REINFORCING BARS:

Fabricate bars of the indicated sizes and bend and form to required shapes and lengths by methods not injurious to materials. Do not heat reinforcement for bending. Bars with unscheduled kinks or bends are subject to rejection. Use only tested and approved bar materials.

## PART 3 – EXECUTION

### 3.01 WORKMANSHIP:

- A. Clean bars extending through construction joints of concrete while encrustations are soft, or sandblast.
- B. Additional Reinforcing Bars: Where reinforcement is interrupted by sleeves and openings, provide additional bars as shown or required to maintain total reinforcement.
- C. All reinforcing steel shall be thoroughly cleaned of rust, scale or other coating or foreign matter. Bars shall be accurately placed in position and secured in place by means of wire ties. Horizontal and vertical wall bars shall be securely wired together at each point of contact.
- D. Reinforcing bars shall be lapped as indicated on structural general notes, at all horizontal and vertical splices, and around all corners and intersections. All reinforcing bars shall dowel through all horizontal and vertical construction joints as indicated on structural drawings, and bars may be wired together at these locations.
- E. Provide a minimum of protective concrete coverings of reinforcing bars as follows: 3" on bottom and sides of footings placed directly on the ground; 2" for formed concrete exposed to earth; 1-1/2" for walls above grade.
- F. All slab and footing reinforcement shall be supported on precast concrete chairs or spacers of proper thickness to support the reinforcement. Blocks shall be spaced not to exceed 6'-0" o.c.
- G. Reinforcement shall be placed so that where temperature bars occur the temperature bars shall not be closer to the top of the slab than 1-1/2". Remove all tags from reinforcing bars after installation.



3.02 FIELD QUALITY CONTROL:

- A. Inspection: Obtain inspection and approval of reinforcing before concrete is placed.
- B. Welding Inspection: Whether welding is done in the shop or at the site, perform welding of reinforcing bars under inspection of the Testing Laboratory Welding Inspector who is specially qualified.

END OF SECTION

## SECTION 10440

### SIGNAGE

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this section. Provide signage, complete.

A. Work included: Required signage for disability access, including:

1. Metal signs for exterior and utility signage.

B. Related work specified elsewhere:

1. Painted signs and symbols on pavement.

##### 1.02 SUBMITTALS:

A. Manufacturer's Literature: Provide brochures showing signs, including general specifications, materials and construction.

B. Shop and Layout Drawings: Provide complete drawings showing details of fabrication and erection; color type and style of letters, background and frame, setting details and full size templates of lettering layouts.

C. Samples: Provide one full size sample of each type of accessibility, room and door sign, indicating construction, color, size, layout of letters and method of attachment.

D. Maintenance Instructions: Provide manufacturer's recommended procedures for care of finished surfaces.

E. Certificates: Manufacturer's certification that materials meet Specification requirements.

##### 1.03 QUALITY ASSURANCE:

A. Signage shall comply with CBC Section 1143A

B. All signs, unless otherwise specified, shall be products of one manufacturer.

##### 1.04 EXTENT OF SIGNAGE:

A. If signs are not indicated on drawings, obtain from District an exact list and lettering of signs required. In general, provide signs as indicated on drawings and as required by DSA for toilet rooms, occupancy, access and non-access and parking signs.

B. In addition, provide the following signage:

1. Tow-away signs at parking lot entrance.

2. Accessible parking signs, including van sign.

## PART 2 – PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS:

Sign manufacturer shall have local fabrication or distribution system, so that additional signs may be ordered as the need arises. Acceptable manufacturers include the following:

Gemini Incorporated  
103 Mensing Way  
Cannon Falls, MN 55009  
Phone: 800-538-8377 or 507-263-3957  
Fax: 800-421-1256 or 507-263-4887

Vomar Products, Inc.  
15850 Strathern Street  
Van Nuys, CA 91406  
(818) 894-7174

Architectural Signing, Inc.  
5849 Uplander Way  
Culver City, CA 90230  
(310) 645-1400  
FAX (310) 645-9877

Mohawk Sign Systems, Inc.  
P.O. Box 966  
Schenectady, NY 12301  
(518) 370-3433

### 2.02 BASIC MATERIALS:

#### A. Aluminum:

1. Extrusions: Alloy 6063-T5/ High-Grade, Aluminum 5052 Alloy, minimum thickness 1/8" profiles as indicated or as required for each condition.
2. Sheet: Alloy 5005-H5, minimum thickness 0.0090".

#### B. Galvanized sheet steel: ASTM A 570.

#### C. Steel tubing: ASTM A 500, Grade B, galvanized.

#### D. Steel pipe: ASTM A 53, Grade B, galvanized.

#### E. Acrylic sheet shall be Plexiglass or Lexan, with surface hardener, thicknesses as indicated or as required for size of sign. Acrylic sheet shall meet the flammability requirements of ASTM E 84 and shall conform to ASNI Z97.1.

#### F. Polycarbonate sheet shall conform to SAE AMS 3611.

#### G. Anchors and Fasteners:

1. Exposed anchor and fastener materials shall be compatible with metal to which applied and shall match in color and finish.

2. Sealant for application of signs to glass: GE Silicones SCS 2000 Series or Dow Corning 795.
3. Adhesive: Dow Corning N. 999-A silicone type. Adhesive shall be transparent, long aging, high tech formulation.

### 2.03 BRAILLE:

California Contracted Grade 2 Braille shall be provided wherever Braille symbols are required. Dots shall be 1/10 inch (2.54 mm) on center within each cell with 2/10 inch (5.08 mm) space between cells. Dots shall be raised 1/40 inch (0.635 mm) above background. Refer to CBC Section 11B-703.3 and 1143A.

### 2.04 COLORS:

As selected from manufacturer's standard colors, or as indicated on drawings.

### 2.05 METAL FINISHES:

Surface texture of signs shall be matte in accordance with ADA standards.

- A. Steel and Galvanized Steel Surfaces shall be cleaned, degreased, primed, and given a semi-gloss baked enamel or two-component acrylic polyurethane finish in accordance with NAAMM AMP 505 with total dry film thickness not less than 1.2 mils. Surface texture of signs shall be matte in accordance with ADA standards.

### 2.06 SHOP FABRICATION AND MANUFACTURE:

- A. Workmanship: Work shall be assembled in the shop, insofar as practicable, ready for installation at the site. Work that cannot be shop assembled shall be given a trial fit in the shop to ensure proper field assembly. Holes for bolts and screws shall be drilled or punched. Drilling and punching shall produce clean, true lines and surfaces. Exposed surfaces of work shall have a smooth finish and exposed riveting shall be flush. Fastenings shall be concealed where practicable. Items specified to be galvanized shall be by hot-dip process after fabrication if practicable. Galvanizing shall be in accordance with ASTM A 123 and ASTM A 525, as applicable. Joints exposed to the weather shall be formed to exclude water. Drainage and weep holes shall be included as required to prevent condensation buildup.
- B. Dissimilar Materials: Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, wet or pressure-treated wood, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of asphalt varnish or a coat of zinc-molybdate primer to prevent galvanic or corrosive action.
- C. Shop Painting: Surfaces of miscellaneous metal work, except nonferrous metal, and stainless steel shall be given one coat of zinc-molybdate primer or an approved rust-resisting treatment and metallic primer in accordance with manufacturer's standard practice. Surfaces of items to be embedded in concrete shall not be painted. Upon completion of work, damaged surfaces shall be recoated.

### 2.07 TYPES OF SIGNS:

- A. Post and Panel Signs:

1. Posts: One-piece galvanized steel posts shall be galvanized steel pipe or tubing, with minimum 0.125 inch wall thickness. Posts shall be designed to accept signage system described herein. Caps shall be provided for each post.
  2. Panels: Shall be double pan background formed from 16 gauge galvanized steel or 0.090 aluminum with a return edge on two sides and top. Panels shall wrap around support post with an 1/8 inch reveal between adjoining edges.
  3. Finish: Post finish shall be galvanized, unpainted. Metal signage finish shall be baked enamel or two-component acrylic polyurethane. Reflective enameled finish, blue background, white symbols and lettering as detailed. Reverse of sign shall be enameled in solid blue.
  4. Graphics: Message shall be applied to panel using the silkscreen process. Silk screened images shall be executed with photo screens prepared from original art. No handcut screens will be accepted. Original art shall be defined as artwork that is a first generation stencil of the original specified art. Edges and corners shall be clean. Rounded corners, cut or ragged edges, edge buildup, bleeding or surfaces pinholes will not be accepted.
- B. Sheet Metal Signs:
1. Sizes: As shown on drawings, or specified hereafter.
  2. Facing: Single sided.
  3. Fabrication: 16 gauge galvanized metal, formed to radius shown, with all corners and edges eased and ground smooth.
  4. Lettering: Helvetica medium, sizes as indicated or appropriate for each sign.
  5. Finish: Painted, color as indicated on the drawings.
  6. Design Standard: Custom designed sign as manufactured by Vomar Products, Inc.
- C. Plaque Signs:
1. Plaque signs for interior signage shall be a modular type signage system. Signs shall be fabricated of melamine acrylic plastic.
  2. Plaque signs shall consist of matte finish acrylic plastic, with silk screened images, thickness and size as shown and specified. Signs shall be frameless. Corners of signs shall be 3/8 inch radius.

## 2.08 SPECIFIC SIGN TYPES:

The following requirements apply to specific requirements apply to specific signs. Where a sign is required, but not listed herein, provide the equivalent type; i.e. plaque signs for interior signs, post and panel or sheet metal signs as applicable for exterior.

- A. Disabled Parking Sign: 12" x 18" x 0.80 aluminum sign, baked enamel finish. Blue and white international symbol of access reading "RESERVED" single face. Sign available from Safeway Sign Co., 321-4608; Zumar Industries, 233-8231; or Western Highway Products (213) 924-6831.

1. Support: 2" diameter galvanized steel pole, washed and primed for field painting.

B. Toilet Room Identification Signs:

1. Signage Types: Provide the following:
  - a. Disabled sign with wheelchair symbol.
  - b. Men's toilet room sign with upper case Helvetica lettering spelling the word "men" and silhouette symbol.
  - c. Women's toilet room sign with upper case Helvetica lettering spelling the word "women" and silhouette symbol.
  - d. Unisex toilet room sign with upper case Helvetica lettering and silhouette symbols as indicated.
2. Provide Braille tactile indicator at latch side of door, as required by CBC regulations.
3. Size: For MEN, WOMEN, BOYS, GIRLS: 2-1/2 inches high by 6 inches long, or as indicated.
4. Facing: Single sided.
5. Design Standard: 100 Series as manufactured by Vomar Products, Inc.

2.09 FASTENERS AND OTHER MATERIALS:

- A. Fastenings: Provide non-corrosive fasteners, hangers and mounting devices which are compatible with sign material and finish.
- B. Related Materials: Other materials, no specifically described but require for a complete and proper installation of signs, shall be as approved.

PART 3 – EXECUTION

3.01 INSPECTION:

- A. Substrate: Examine foundations, walls, doors, ceilings, and other area scheduled to receive signs for conditions that would affect quality and execution of work.
- B. Defects: Do not proceed with installation until defects are corrected.

3.02 INSTALLATION, PROTECTION AND CLEANING:

- A. General: Signs shall be installed in accordance with approved manufacturer's instructions at locations shown on the drawings. Signs shall be installed plumb and true at mounting heights indicated, and by method shown or specified. Signs on doors or other surfaces shall not be installed until finishes on such surfaces have been installed. Comply with ADA requirements for mounting heights of signs.
- B. Anchorage shall be in accordance with approved manufacturer's instructions. Anchorage not otherwise specified or indicated shall be theft resistant, and shall include slotted inserts,

- expansion shields, and power-driven fasteners when approved for concrete; toggle bolts and through bolts for masonry; machine carriage bolts for steel; lab bolts and screws for wood.
- C. Interior Signs: Locations shown on drawings are approximate. Verify exact mounting heights and locations of all signs. Attach door signs, toilet room signs and similar small signs with adhesive and mechanical fasteners. Attach large signs with adhesive and mechanical fasteners.
  - D. Post and Panel Signs: Drill foundation as detailed. Use concrete conforming to requirements of Section 03300, having compressive strength of 2,000 psi. Locate sign post vertically, all posts in alignment and height, and support until concrete has set. Dome concrete to shed water away from posts.
  - E. Fastening Signs: Install sign units and components at locations shown or scheduled, securely mounted with concealed theft-resistant fasteners, unless otherwise indicated. Attach signs to substrates in accordance with manufacturer's instructions, unless otherwise indicated. Attach signs on glass with specified silicone adhesive.
  - F. Installation: Install, level, plumb and at the proper height. Comply with ADA requirements for mounting heights of signs. Cooperate with work of other sections for installation of sign units to finish surfaces.
  - G. The work shall be protected against damage during construction. Hardware and electrical equipment shall be adjusted for proper operation. Glass, frames and other sign surfaces shall be cleaned in accordance with the manufacturer's instructions.

END OF SECTION