



# **ALTA MURRIETA ELEMENTARY SCHOOL**

PARKING LOT EXPANSION

MURRIETA VALLEY UNIFIED SCHOOL  
DISTRICT

Murrieta, California

BNds Project Number 16041-00

April 12, 2017





# **PROJECT MANUAL**

for the construction of

## **ALTA MURRIETA PARKING LOT EXPANSION**

for

MURRIETA VALLEY UNIFIED SCHOOL DISTRICT

Prepared by

**BakerNowicki Design Studio**

731 Ninth Avenue, Suite A

San Diego, CA 92101





# SIGNATURES

PROJECT

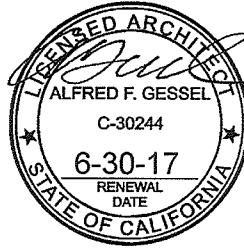
**Alta Murrieta Parking Lot Expansion**  
BNds Project No. 16041-00

OWNER

Murrieta Valley Unified School District  
Murrieta, California

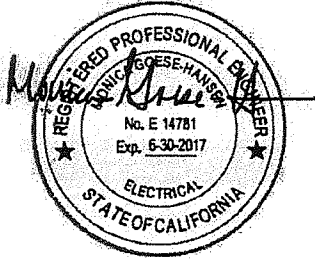
ARCHITECT

BakerNowicki Design Studio  
731 Ninth Avenue, Suite A  
San Diego, CA 92101  
(619) 795-2450



CONSULTANTS

**ELECTRICAL ENGINEER:**  
JOHNSON CONSULTING ENGINEERS  
12875 BROOKPRINTER PLACE, SUITE 300  
POWAY, CA 92064  
(858) 679-4030



**CIVIL ENGINEER:**  
EPIC ENGINEERS  
101 E. REDLANDS BLVD., STE. 146  
REDLANDS, CA 92373  
(909) 792-5969



DSA APPROVAL

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT

04 115979

ACS R FLS DT SS [Signature]

DATE 4/12/2017

ACS: R. MULLEN

FLS: D. TULLBINT

SSS: G. CHAN

Alta Murrieta Parking Lot Expansion  
Murrieta Valley Unified School District  
BNds #16041-00

SIGNATURES  
S-1



3

1911

# TABLE OF CONTENTS

## DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

NOT APPLICABLE

## DIVISION 01 - GENERAL REQUIREMENTS

SECTION 011000 - SUMMARY  
SECTION 011200 - MULTIPLE CONTRACT SUMMARY  
SECTION 012100 - ALLOWANCES  
SECTION 012200 - UNIT PRICES  
SECTION 012500 - SUBSTITUTION PROCEDURES  
SECTION 012600 - CONTRACT MODIFICATION PROCEDURES  
SECTION 012900 - PAYMENT PROCEDURES  
SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION  
SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION  
SECTION 013300 - SUBMITTAL PROCEDURES  
SECTION 014000 - QUALITY REQUIREMENTS  
SECTION 014200 - REFERENCES  
SECTION 014529 - TESTING LAB SERVICES  
SECTION 016000 - PRODUCT REQUIREMENTS  
SECTION 017300 - EXECUTION  
SECTION 017700 - CLOSEOUT PROCEDURES

## DIVISION 02 - EXISTING CONDITIONS

NOT APPLICABLE

## DIVISION 03 - CONCRETE

NOT APPLICABLE

## DIVISION 04 - MASONRY

NOT APPLICABLE

## DIVISION 05 - METALS

NOT APPLICABLE

## DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

NOT APPLICABLE

## DIVISION 07 - THERMAL AND MOISTURE PROTECTION

NOT APPLICABLE

DIVISION 08 - OPENINGS

NOT APPLICABLE

DIVISION 09 - FINISHES

NOT APPLICABLE

DIVISION 10 - SPECIALTIES

NOT APPLICABLE

DIVISION 11 - EQUIPMENT

NOT APPLICABLE

DIVISION 12 - FURNISHINGS

NOT APPLICABLE

DIVISION 13 - SPECIAL CONSTRUCTION

NOT APPLICABLE

DIVISION 14 - CONVEYING EQUIPMENT

NOT APPLICABLE

DIVISION 21 - FIRE SUPPRESSION

NOT APPLICABLE

DIVISION 22 - PLUMBING

NOT APPLICABLE

DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING(HVAC)

NOT APPLICABLE

DIVISION 26 - ELECTRICAL

SECTION 260100 - GENERAL PROVISIONS  
SECTION 260519 - POWER CONDUCTORS  
SECTION 260526 - GROUNDING  
SECTION 260533 - CONDUIT AND FITTINGS  
SECTION 260543 - UNDERGROUND PULL BOXES AND MANHOLES  
SECTION 265114 - LED LIGHTING FIXTURES AND LAMPS

SECTION 269090 - TESTING

DIVISION 27 - COMMUNICATIONS

NOT APPLICABLE

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

NOT APPLICABLE

DIVISION 31 - EARTHWORK

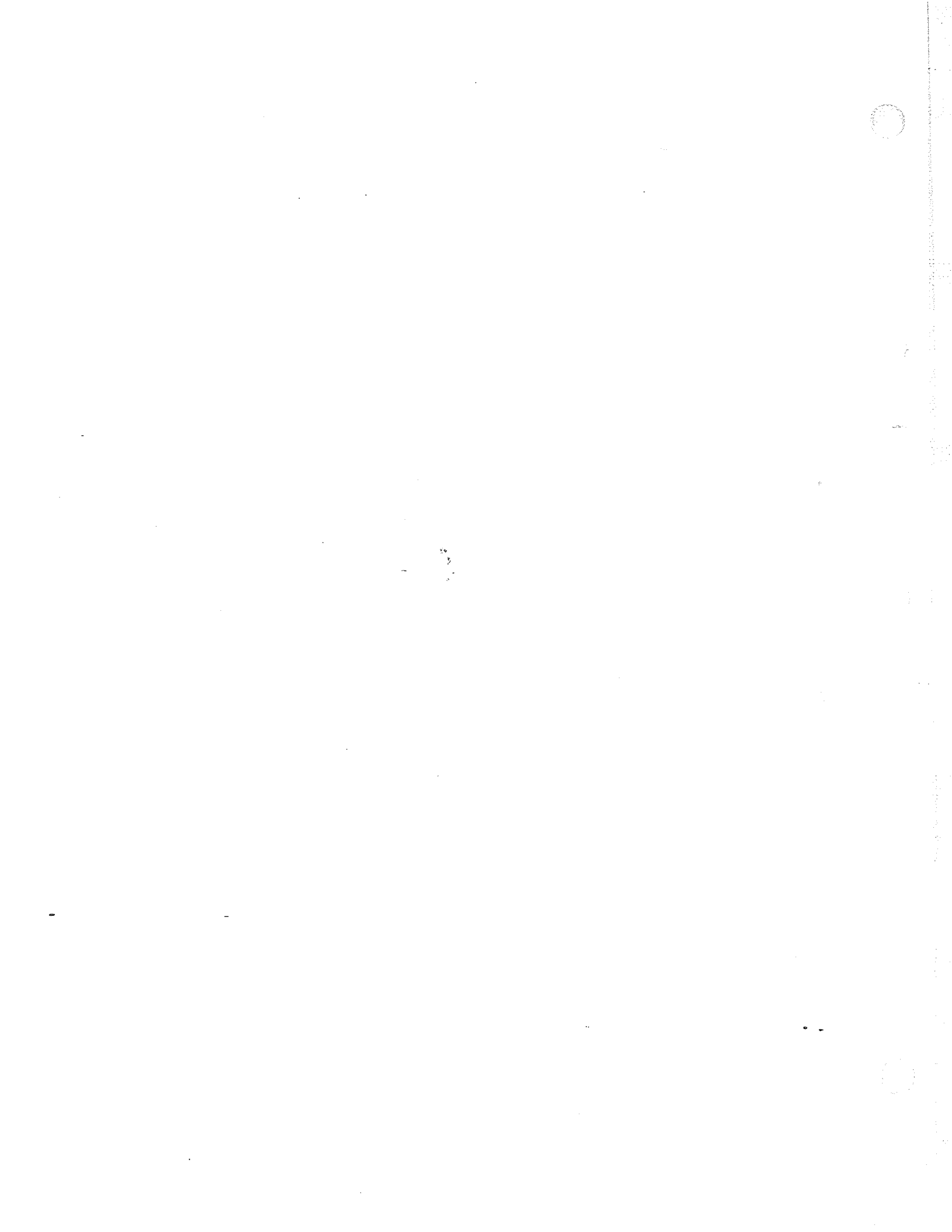
SECTION 311000 - SITE CLEARING  
SECTION 311123 - AGGREGATE BASE COURSE  
SECTION 312200 - GRADING  
SECTION 312316 - EXCAVATION  
SECTION 312316.13 - TRENCHING  
SECTION 312323 - FILL  
SECTION 313211 - SOIL SURFACE EROSION CONTROL

DIVISION 32 - EXTERIOR IMPROVEMENTS

SECTION 321216 - ASPHALT PAVING  
SECTION 321313 - CONCRETE PAVING  
SECTION 321713 - PARKING BUMPERS  
SECTION 321723 - PAVEMENT MARKINGS  
SECTION 323113 - CHAIN LINK FENCES

DIVISION 33 - UTILITIES

SECTION 334111 - SITE STORM DRAINAGE SYSTEM



# GENERAL CONDITIONS

## **ARTICLE 1 DEFINITIONS**

### **1.1 BASIC DEFINITIONS**

**NOTE:** The following shall not be construed as a comprehensive list of all definitions in the Contract Documents and there may be other definitions set forth in the Contract Documents. Additionally, any references to any DSA forms, documents or requirements shall be construed to incorporate any updates, supplements, or additions. The Contractor shall be required to meet the latest DSA requirements applicable to the Project.

1.1.1 Action of the Governing Board is a vote of a majority of the District's Governing Board.

1.1.2 Approval means written authorization through action of the Governing Board. The Governing board has delegated to the Assistant Superintendent the authority to approve certain modifications, Change Orders or Immediate Change Directives (Subject to the limits of the Delegation of Authority provided by the Board). In no case shall the Assistant Superintendent have authority to approve total Change Orders or Modifications to the Project exceeding 10% of the Contract Sum.

1.1.3 Architect means the architect, engineer, or other design professional engaged by the District to design and perform general observation of the work of construction and interpret the Drawings and Specifications for the Project. Also see Article 4.

1.1.4 As-Builts are a set of Plans and Specifications maintained by the Contractor clearly showing all changes, revisions, substitutions, field changes, final locations, and other significant features of the Project. The As-Builts shall be maintained continuously throughout the Work for the Project and is both a prerequisite to the issuance of Payment Application and a requirement for Contract Close-Out. See Article 3.17

1.1.5 Beneficial Occupancy is the point in time when a building or buildings are fit for occupancy is fit for occupancy and its intended use. Basic requirements are the building is safe, at or near Substantial Completion, and all fire/ life safety items are approved and operational. The fact that a building is occupied does not mean that the building is ready for Beneficial Occupancy if there are elements that are unsafe or if fire/ life safety items are not approved and operational. Taking occupancy on a structure that is under a fire watch is not considered beneficial occupancy. Further, taking of Beneficial Occupancy is not a point in time when retention is due unless the entire school has obtained a Certificate of Substantial Completion that meets the definition of 1.1.46.

1.1.6 Claims. A Claim is a request for payment, supported by back-up documentation which includes, invoices time sheets, or other documents substantiating legitimacy or entitlement that is submitted during the Project or immediately following the Project made prior to the Final Retention Payment Application and prior to Final Completion of the Project. A "Claim" means a separate demand by the Contractor for (1) time extension, (2) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the CONTRACT and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (3) and amount the payment of which is disputed by the District. See Article 4.6.

1.1.7 Change Order (CO). A CO is a written instrument prepared by the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, and the Architect, stating

## GENERAL CONDITIONS

their agreement upon (1) A description of a change in the Work, (2) The amount of the adjustment in the Contract Sum, if any; and (3) The extent of the adjustment in the Contract Time, if any. See Article 7.2.

1.1.8 Change Order Request (COR). A COR is a written request supported by backup documentation prepared by the Contractor requesting that the District and the Architect issue a CO based upon a proposed change, or a change that results in an adjustment in cost, time or both, or arising from an RFP, CCD or ICD. (See Article 7.6)

1.1.9 Close-Out means the process for Final Completion of the Project, but also includes the requirements for the DSA Certification that the Project is Complete (See DSA Certification Guide). See Article 9.9.

1.1.10 Construction Change Document (CCD). A Construction Change Document is a DSA term that is utilized to address changes to the DSA approved Plans and Specifications. There are two types of Construction Change Documents. (1) DSA approved CCD Category A (DSA Form 140) for work affecting structural, access or fire/ life safety of the Project which will require a DSA approval; and, (2) CCD Category B (DSA Form 141) for work NOT affecting structural safety, access compliance or fire/ life safety that will not require a DSA approval (except to confirm that no approval is required). See Article 7.3.

1.1.11 Complete/ Completion/ Final Completion means that all Work in the Contract Documents is finished, the requirements of the Contract Documents have been met, the Project has been Closed Out, and all Work has ceased on the Project; This may also be referred to as Final Completion. In most cases, the recording of a Notice of Completion shall represent Completion of the Project. Beneficial Occupancy does not mean the Work is Complete.

1.1.12 Completion Date is the date when all Work for the Project shall be Substantially Complete and is the date assigned at the end of the Contract Time for the Project. See Article 1.1.46.

1.1.13 Construction Manager. The Construction Manager is a consultant to the District contracted to assist in Project planning, management and construction of the Project. If there is a Construction Manager, they may assist in various aspects of the Project including, but not limited to Monitoring the progress of the construction, reviewing and monitoring the schedule, progress of work, monitoring pay requests, facilitating communications, advising the District and its Board of Education on various aspects of the construction process, monitoring the RFI, COR, CCD, ICD, RFP, Claims, Disputes and other Project related processes.

1.1.14 Contract or Agreement when the terms are used in these General Conditions shall be references to the Contract Documents as defined herein.

1.1.15 Contract Documents (sometimes referred to as Construction Documents) consist of the Agreement between District and Contractor (hereinafter the Agreement or Contract), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to bid, instructions to bidders, notice to bidders, and the requirements contained in the Bid Documents, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is a written amendment to the Contract signed by parties, a Change Order, a Construction Change Document, or a written order for a minor change in the Work issued by the Architect. The Contract Documents collectively form the Contract. The Contract represents the entire and integrated Agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a written Modification. The Contract



## GENERAL CONDITIONS

Documents shall not be construed to create a contractual relationship of any kind between the Architect and Contractor, between the District and any Subcontractor or Sub-subcontractor, or between any persons or entities other than the District and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

1.1.16 Contract Time is the time period specified in the Contract Documents in which the Project shall be completed. This is sometimes referred to a Contract Duration, or "time in which the Contractor has to complete the Project". See Article 8.1.1

1.1.17 Contractor, District, and Architect are those mentioned as such in the Agreement. They are treated throughout the Contract Documents as if they are of singular number and neuter gender. Any reference to "Owner" shall mean "District" or Murrieta Valley Unified School District.

1.1.18 Cure is the act of remedying a material failure to perform under the terms of the Contract Documents during the time provided to correct Contractor's Default. Specific time periods are provided to Cure and Correct a Contractor Default under Article 14 and for a Partial Default under Article 2.2 as well as elsewhere in the Contract Documents.

1.1.19 Days means calendar days unless otherwise specifically stated.

1.1.20 Default is a material breach of Contract. A Termination for Cause under Article 14 is a declaration of Default of the Contract and shall act as a demand upon the Surety to perform under the terms of the Performance Bond. Partial Defaults may also be tendered to the Surety at District's discretion. See Article 2.2.

1.1.21 Dispute. A dispute is a disagreement on terms or conditions of the Project where the Contractor's opinion of the Project, Payment, Change Order or Request for Proposal differs from that of the District or Architect. A dispute only rises to the level of a claim once the dispute is assembled with back-up documentation and presented for evaluation. See Article 4.6

1.1.22 District Representative is the person designated by the District to represent the District during the Construction for the Project. This District Representative shall have the delegated authority as further defined in Article 1.1.2. This District Representative may be an employee of the District who may have the delegated authority as set forth in Article 1.1.3, and may also include Construction Managers. In some cases, the District and its Board may be assisted by a Construction Manager. When a Construction Manager is assisting the District, the Contractor, Architect, and Inspector shall have a primary contact with the District's Construction Manager who will advise the District.

1.1.23 Drawings or Plans are graphic and pictorial portions of the Contract Documents prepared for the Project and approved changes thereto, wherever located and whenever issued, showing the design, location, and scope of the Work, generally including Plans, elevations, sections, details, schedules, and diagrams as drawn or approved by the Architect. Sometimes Drawings will also be included in Addenda, Change Orders, and Specifications.

1.1.24 DSA is the Division of State Architect. DSA is the agency that provides design and construction oversight for K-12 Schools, Community Colleges, and State Funded Charter School Projects. DSA is the responsible agency for this Project and Contractor has submitted a bid for the Project since Contractor is familiar with Contractor's responsibilities under the DSA requirements more thoroughly set forth at Title 24 of the California Code of Regulations. Contractor agrees to abide by the jurisdiction of

## GENERAL CONDITIONS

DSA and shall construct the Project to conform with the approved Plans, Specifications, Addenda, and Change Orders (inclusive of approved CCD's and ICD's issued by the District pending CCD approval). See DSA website.

1.1.25 Emergency shall be defined as a sudden, unexpected occurrence, involving a clear and imminent threat to the continuation of school classes, a critical path delay that will result in not being able to occupy the school when students arrive to use the facility, danger from the facility or from outside the facility, Act of God, or other action which requires immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services.

1.1.26 Float the total number of days an activity may be extended or delayed without delaying the Completion Date shown in the schedule. Float will fall into three categories: (1) Rain Days; (2) Governmental Delays; and, (3) Project Float. See Article 8.1.4.

1.1.27 Immediate Change Directive. (ICD) A written order prepared by the Architect and signed by the District and the Architect, directing a change in the Work where the Work must proceed immediately and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. See Article 7.3

1.1.28 Inspector of Record (IOR)/ Project Inspector (PI) is the individual retained by the District in accordance with Title 24 of the California Code of Regulations and who will be assigned to the Project

1.1.29 Notice of Non-Compliance (DSA Form 154) is a document issued by the Inspector if there is a deviation from the DSA approved Plans, Specifications, and Change Orders. See Article 7.1.2.

1.1.30 Payment Application or Certificate of Payment is the Contractor's certified representation of the actual level of Work performed on the Project. Payment Applications are sometimes also called "Certificate of Payment", "Request for Payment", "Payment Application", or similar terms, and shall follow the Schedule of Values that are approved by the Architect, Inspector and District. See Article 9.3.

1.1.31 Project is the complete construction of the Work performed in accordance with the Contract Documents.

1.1.32 Project Manual is the volume assembled for the Work which may include, without limitation, the bidding requirements, sample forms, Conditions of the Contract, and Specifications.

1.1.33 Provide shall include "provide complete in place," that is "furnish and install complete."

1.1.34 Punch List/ Punch Item/ Incomplete Punch Item is a list of minor repair items, prepared after the issuance of a Certificate of Substantial Completion, by the Inspector and Architect of Work required in order to complete the Contract Documents and ensure compliance with the DSA Approved Plans so the Project may be Closed Out. Issuance of the Retention Payment is dependent of the proper completion of the Punch List. See Article 9.9.

1.1.34.1 Contractor's List of Punch Items is a list of minor repair items the Contractor submits when the Contractor considers the Work Substantially Complete. Submission of this List of Incomplete Punch Items is the Contractor's representation that the Project is Substantially Complete. See Article 9.9.1

## GENERAL CONDITIONS

1.1.35 Request for Information (RFI) is a written request prepared by the Contractor requesting the Architect to provide additional information necessary to clarify or amplify an item which the Contractor believes is not clearly shown or called for in the Drawings or Specifications, or to address problems which have arisen under field conditions. See Article 7.4.

1.1.36 Request for Proposal (RFP) is a written request prepared by the Architect (and/or CM) requesting the Contractor to submit to an estimate of the effect of a proposed change on the Contract Price and (if applicable) the Contract Time. See Article 7.5.

1.1.37 Safety Orders are those issued by any city, county, state or federal agency having jurisdiction over the Project.

1.1.38 Schedule is the Contractor's view of the practical way in which the Work will be accomplished. In this Agreement there is a requirement for a Baseline Schedule and regular Schedule Updates that show all Work to be completed during the Contract Time and shall include all items listed under Article 8.3.2.9.1. See Article 8 of the General Conditions.

1.1.39 Schedule of Values is a detailed breakdown of the Contract Price for each Project, building, Phase of Work or Site as determined by the District. This Schedule of Values shall adequately detail the price for the Work so Progress Payments Applications can be meaningfully reviewed by the Inspector, Architect of Record, Engineer of Record, and District. (See Article 9.2)

1.1.40 Separate Contracts are Contracts that the District may have with other Contractors, vendors, suppliers, or entities to perform Work on the Project. This may include, but is not limited to Multi-Prime Trade Contractors, furniture installers, testing agencies, clean-up contractors, or network or low voltage contractors. Contractor shall plan for certain other contractors that may also be working on the Project site and address these other contractors in Contractor's Schedule. See Article 6.

1.1.41 Site refers to the grounds of the Project as defined in the Contract Documents and such adjacent lands as may be directly affected by the performance of the Work.

1.1.42 Specifications are that portion of the Contract Documents consisting of the written requirements for material, equipment, construction systems, instructions, quality assurance standards, workmanship, and performance of related services.

1.1.43 Standards, Rules, and Regulations referred to are recognized printed standards and shall be considered as one and a part of these Specifications within limits specified. Federal, state and local regulations are incorporated into the Contract Documents by reference.

1.1.44 Stop Work Order, or an Order to Comply, is issued when either (1) the Work proceeds without DSA approval; (2) the Work proceeds without a DSA Inspector of Record, or (3) where DSA determines that the Work is not being performed in accordance with applicable rules and regulations, and would compromise the structural integrity of the Project or would endanger lives. If a Stop Work Order is issued, the Work in the affected area shall cease until DSA withdraws the Stop Work Order. Pursuant to Education Code section 17307.5(b), the District shall not be held liable in any action filed against the District for any delays caused by compliance with the Stop Work Order

1.1.45 Subcontractor, as used herein, includes those having direct or indirect contracts with Contractor and ones who furnished labor, material or services for a special design according to Plans, Drawings, and Specifications of this Work.

## **GENERAL CONDITIONS**

1.1.46 Substantial Completion/ Substantially Complete(d) is not reached unless and until each of the following three (3) conditions have been met: (1) all contractually required items have been installed with the exception of only minor and Incomplete Punch List Items (See Article 9.9.1.1 ); (2) All Fire/Life Safety Systems have been installed, and are working and signed off on the DSA Form 152 Inspection Card, and all building systems including mechanical, electrical and plumbing are all functioning; and (3) the Project is fit for occupancy and its intended use. For the purposes of this Contract, any references to Completion Date means Substantial Completion Date.

1.1.47 Substitution is a change in product, material, equipment, or method of construction from those required by the Construction Documents proposed by the Contractor. For this Project, a Substitution is subject to the filing of a Construction Substitution Request Form at the time of bid and meeting the requirements of Article 3.10.

1.1.48 Supplementary Conditions/ Supplementary General Conditions/ Special Conditions are terms that are sometimes used interchangeably and refer to any additional requirements or changes to the General Conditions as noted.

1.1.49 Surety is the person, firm, or corporation that executes as a bid bond, Payment Bond or Performance Bond guarantor on the Contractor's Bid, Contractor's Performance on the Contract and Payment of the Contractor's Subcontractors, material suppliers, vendors and labor on the Project. The Surety is bound to the same extent as the Contractor is bound once a Default occurs. A default includes a Termination for Substantial Failure to Perform under Article 14, but also includes any breach of Contract and is subject to the requirements and responsibilities as set forth in the Performance Bond.

1.1.50 Work shall include all labor, materials, services and equipment necessary for the Contractor to fulfill all of its obligations pursuant to the Contract Documents. It shall include the initial obligation of any Contractor or Subcontractor who performs any portion of the Work, to visit the Site of the proposed Work (a continuing obligation after the commencement of the Work), to fully acquaint and familiarize itself with the conditions as they exist and the character of the operations to be carried out under the Contract Documents, and make such investigation as it may see fit so that it shall fully understand the facilities, physical conditions, and restrictions attending the Work under the Contract Documents. Each such Contractor or Subcontractor shall also thoroughly examine and become familiar with the Drawings, Specifications, and associated Contract Documents and bid documents before preparing and submitting any bid.

1.1.51 Workers include laborers, workers, and mechanics.

## **1.2 EXECUTION, CORRELATION AND INTENT**

### **1.2.1 Correlation and Intent**

1.2.1.1 *Documents Complementary and Inclusive.* The Contract Documents are complementary and are intended to include all items required for the proper execution and completion of the Work. All Contract Documents form the Contractor's Contract with the District. Any item of Work mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be provided by Contractor as if shown or mentioned in both. The Contractor is bound to provide the Work complete and is under a legal duty to carefully study Plans and schedule operations well ahead of time and identify inconsistencies with the Plans and Specifications and call such inconsistencies to the attention of the Architect or Registered Engineer through the Inspector under Section 4-343(b) of Title 24.

## GENERAL CONDITIONS

1.2.1.2 *Work to be Complete.* Contractor has thoroughly studied the Contract Documents and understands that the District contracted with Contractor to provide a complete Project which means complete systems and buildings. The entire set of Contract Documents shows a complete Project and Contractor agrees that there are multiple disciplines putting together a set of Contract Documents. Thus, if portions of a system are shown on some Drawings and not others, this does not mean the Contractor is to only provide part of a system. For example, if an air conditioning unit is shown on the mechanical Drawings, the plumbing for the air conditioning is shown on another Drawing, and the electrical shown on the electrical Drawings, the Contractor is to provide a complete and working air conditioning system. The only time when an item is supplied incomplete is if the system is shown specifically as incomplete since others will be completing the system. Work includes, but is not limited to materials, workmanship, and manufacture of fabrication of components for the Project.

1.2.1.3 *Coverage of the Drawings and Specifications.* The Drawings and Specifications generally describe the Work to be performed by Contractor. Generally, the Specifications describe Work which cannot be readily indicated on the Drawings and indicate types, qualities, and methods of installation of the various materials and equipment required for the Work. It is not intended to mention every item of Work in the Specifications, which can be adequately shown on the Drawings, or to show on the Drawings all items of Work described or required by the Specifications even if they are of such nature that they could have been shown. All materials or labor for Work, which is shown on either the Drawings or the Specifications (or is reasonably inferable therefrom as being necessary to complete the Work), shall be provided by the Contractor. The Contractor is responsible for the whole Project as contractually set forth as the Contract Documents. It is intended that the Work be of sound, quality construction, and the Contractor shall be responsible for the inclusion of adequate amounts to cover installation of all items indicated, described, or implied in the portion of the Work to be performed by them.

1.2.1.4 *Conflicts.* In the event there is a discrepancy between the various Contract Documents, it is intended that the more stringent, higher quality, and greater quantity of Work shall apply.

1.2.1.5 *Conformance with Laws.* Each and every provision of law required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein, even if through mistake or otherwise any such provision is not inserted, or is not correctly inserted.

Before commencing any portion of the Work, Contractor shall check and review the Drawings and Specifications for such portion for conformance and compliance with all laws, ordinances, codes, rules and regulations of all governmental authorities and public and municipal utilities affecting the construction and operation of the physical plant of the Project, all quasi-governmental and other regulations affecting the construction and operation of the physical plant of the Project, and other special requirements, if any, designated in the Contract Documents. Such checking shall include review of Title 24 of the California Code of Regulations, California Building Code, local utility, local water connection, local grading and all other applicable agencies. In the event Contractor observes any violation of any law, ordinance, code, rule or regulation, or inconsistency with the Contract Documents, Contractor shall, within five (5) days, notify the Inspector, Architect and District in writing of same and shall ensure that any such violation or inconsistency shall be corrected in the manner provided hereunder prior to the construction of that portion of the Project. (See Title 24 Section 4-343)

The Contractor shall bear all expenses of correcting Work done contrary to said laws, ordinances, rules, and regulations if the Contractor performed same (1) without first consulting the Architect for further instructions regarding said Work or (2) disregarded the Architect's instructions regarding said Work.

## GENERAL CONDITIONS

1.2.1.6 *Ambiguity and Inconsistency.* Before commencing any portion of the Work, Contractor shall carefully examine all Drawings and Specifications and other information given to Contractor as to materials and methods of construction and other Project requirements. Prior to commencing any portion of the Work, Contractor shall notify Architect and District in writing of any perceived or alleged error, inconsistency, conflict, ambiguity, or lack of detail or explanation in the Drawings and Specifications in the manner provided herein. If the Contractor or its Subcontractors, material or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any Work under the Contract Documents, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all costs arising therefrom including, without limitation, the cost of correction thereof without increase or adjustment to the Contract Price or the time for performance. Contractor shall maintain an adequate inspection system and perform personal observations and review work and pre-plan the project to ensure the Work performed under the Contract conforms to Contract requirements. Contractor shall maintain records of such review and observation to ensure strict compliance with the terms of the Contract.

1.2.1.7 *Typical Parts and Sections.* Whenever typical parts or sections of the Work are completely detailed on the Drawings, and other parts or sections which are of the same construction are shown in outline only, the complete or more detailed shall apply to the Work which is shown in outline.

1.2.1.8 *Dimensions.* Dimensions of Work shall not be determined by scale or rule. Figured dimensions shall be followed at all times. If figured dimensions are lacking on Drawings, Architect shall supply them on request. The Architect's decisions on matters relating to aesthetic effect will be final.

### 1.2.2 Addenda and Deferred Approvals

1.2.2.1 *Addenda* are the changes in Specifications, Drawings, Contract Documents, and Plans which have been authorized in writing by the District or Architect, and which alter, explain, or clarify the Contract Documents. Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda unless otherwise specified in the addenda.

1.2.2.2 *Deferred Approvals.* Deferred Approvals are Submittals that are reviewed by the Architect (or Engineer of Record) and submitted to DSA for approval based on thorough detailing of manufacturer and Project specific design. See Article 3.9.1 and 3.9.3. The Deferred Approval item cannot be fully detailed on the originally approved Drawings or Specifications because of variations in product design and manufacture. Contract Documents which require Deferred Approval items are meant to be for illustration purposes only. Approval of Plans for such a portion of the Work may be deferred until the material suppliers and Subcontractors are selected. All Deferred Approvals are noted in the Plans and Specifications. Contractor is responsible for all Deferred Approval requirements set forth in the Contract Documents. Contractor is responsible to comply with all laws, building codes, Title 24 and regulations necessary to obtain all necessary approvals, including those required from the Division of the State Architect ("DSA") and the State Fire Marshall. Contractor shall not be granted an extension of time for failure to plan, schedule for and obtain necessary approvals. Contractor shall Schedule all Deferred Approval items in the Baseline Schedule and Schedule Updates under Article 3.9.6

### 1.2.3 Specification Interpretation

1.2.3.1 *Titles.* The Specifications are separated into titled sections for convenience only and not to dictate or determine the trade or craft involved.

## GENERAL CONDITIONS

1.2.3.2 *As Shown, Etc.* Where “as shown,” “as indicated,” “as detailed,” or words of similar import are used, reference is made to the Drawings accompanying the Specifications unless otherwise stated. Where “as directed,” “as required,” “as permitted,” “as authorized,” “as accepted,” “as selected,” or words of similar import are used, the direction, requirement, permission, authorization, approval, acceptance, or selection by Architect is intended unless otherwise stated.

1.2.3.3 *General Conditions.* The General Conditions and Supplementary General Conditions are a part of the Contract Documents which further defines and refines the Contract entered between the Contractor and District.

1.2.3.4 *Abbreviations.* In the interest of brevity, the Specifications are written in an abbreviated form and may not include complete sentences. Omission of words or phrases such as “Contractor shall,” “shall be,” etc., are intentional. Nevertheless, the requirements of the Specifications are mandatory. Omitted words or phrases shall be supplied by inference in the same manner as they are when a “note” occurs on the Drawings. In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.2.3.5 *Plural.* Words in the singular shall include the plural whenever applicable or the context so indicates.

1.2.3.6 *Metric.* The Specifications may indicate metric units of measurement as a supplement to U.S. customary units. When indicated thus: 1” (25 mm), the U. S. customary unit is specific, and the metric unit is nonspecific. When not shown with parentheses, the unit is specific. The metric units correspond to the “International System of Units” (SI) and generally follow ASTM E 380, “Standard for Metric Practice.”

1.2.3.7 *Standard Specifications.* Any reference to standard specifications of any society, institute, association, or governmental authority is a reference to the organization’s standard specifications, which are in effect at the date of the Contractor’s proposal unless directed otherwise. If applicable specifications are revised prior to completion of any part of the Work, the Contractor may, if acceptable to Architect, perform such Work in accordance with the revised specifications. The standard specifications, except as modified in the Specifications for the Project, shall have full force and effect as though printed in the Specifications. Architect will furnish, upon request, information as to how copies of the standard specifications referred to may be obtained.

### 1.2.4 Rules of Document Interpretation

1.2.4.1 In the event of conflict within the Drawings, the following rules shall apply:

- a. General Notes, when identified as such, shall be incorporated into other portions of Drawings.
- b. Schedules, when identified as such, are complementary with other notes and other portions of Drawings including those identified as General Notes.
- c. Larger scale Drawings shall take precedence over smaller scale Drawings.

## GENERAL CONDITIONS

d. At no time shall the Contractor base construction on scaled Drawings.

1.2.4.2 Specifications shall govern as to materials, workmanship, and installation procedures.

1.2.4.3 If Contractor observes that Drawings and Specifications are in conflict, Contractor shall, prior to commencing work, notify the Architect in writing for the purposes of obtaining an interpretation of the Contact Documents.

1.2.4.4 In the case of conflict or inconsistencies, the order of precedence shall be as follows:

- a. General Conditions take precedence over Drawings and Specifications.
- b. Supplemental Conditions take precedence over General Conditions.
- c. The Agreement Form shall take precedence over the Supplemental Conditions.
- d. In the case of disagreement or conflict between or within Specifications, and Drawings, the more stringent, higher quality, and greater quantity of Work shall apply.
- e. Addenda shall take precedence over Drawings and Specifications.
- f. General Conditions shall take precedence over Addenda.
- g. Drawings and Specifications take precedence over the Soils Report.

### **1.3 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS**

The Drawings, Specifications, and other Contract Documents for the Project are the property of the District and/or Architect pursuant Contract requirements between the District and Architect. The Contractor may retain one Contract record set. Neither the Contractor nor any Subcontractor, or material or equipment supplier shall own or claim a Copyright in the Drawings, Specifications, and other documents prepared by the Architect. All copies except the Contractor's record set, shall be returned or properly accounted for upon completion of the Work. The Drawings, Specifications, and other documents prepared by the Architect, and copies thereof furnished to the Contractor are not to be used by the Contractor or any Subcontractor, Sub-subcontractor, or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work. The District and/or Architect hereby grants the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings, Specifications, and other documents prepared for the Project in the execution of their Work under the Contract Documents. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the District's property interest or other reserved right.



**GENERAL CONDITIONS**

**ARTICLE 2  
DISTRICT**

**2.1 INFORMATION AND SERVICES REQUIRED OF THE DISTRICT**

2.1.1 Site Survey

The District will furnish, at its expense, a legal description of the Site and a land survey showing the boundaries of the Site. Contractor shall be responsible for all surveys regarding location of construction, grading and site work.

2.1.2 Soils

When required by the scope of the Project, the District will furnish, at its expense, the services of geotechnical engineers or consultants when reasonably required and deemed necessary by the Architect or as required by local or state codes. Such services, with written reports and appropriate written professional recommendations, may include test boring, test pits, soil bearing values, percolation tests, air and water pollution tests, and ground corrosion and resistivity tests, including necessary operations for determining subsoil, air, and water conditions.

2.1.3 Soils Report Part of the Contract Documents: Contractor Reliance

A soils investigation report has been obtained from test holes at the Site, and such report is incorporated into this Contract and made available for the Contractor's use in preparing its bid and Work under this Contract. Where the Plans and Specifications are more specific and provide more significant structure, systems, reinforcing, thicknesses, or construction methods, the Drawings shall control over the soils report. The soils report is available at the Architect's office for review and it is Contractor's responsibility to ensure that Contractor has reviewed the soils investigation report. Any information obtained from such report or any other information given on Drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only. If, during the course of Work under this Contract, Contractor encounters subsurface conditions which differ materially from those indicated in the soils report, then Contractor shall notify the District within five (5) calendar days of discovery of the condition, and changes to the Contract Price may be made in accordance with Article 7 entitled "Changes in the Work." Contractor agrees that no claim against District will be made by Contractor for damages and hereby waives any rights to damages in the event the Contractor fails to notify District within the five-day period mentioned above.

**WARNING: DISTRICT DOES NOT WARRANT THE SOILS AT THE PROJECT SITE. CONTRACTOR HAS REVIEWED AND IS FAMILIAR WITH THE REQUIREMENTS OF THE SOILS INVESTIGATION REPORT. CONTRACTOR UNDERSTANDS THAT PLANS, DRAWINGS AND SPECIFICATIONS SUPERSEDE THE SOILS REPORT IF THERE ARE CONFLICTS. FURTHER, IN ADDITION TO THE INFORMATION IN THE SOILS REPORT, CONTRACTOR HAS CONDUCTED AN INDEPENDENT INVESTIGATION OF THE PROJECT SITE AND THE SOILS CONDITIONS OF THE SITE. DISTRICT DOES NOT WARRANT THE SOILS CONDITIONS OF THE SITE AND CONTRACTOR IS FULLY RESPONSIBLE TO ASCERTAIN SITE CONDITIONS FOR THE PURPOSES OF DETERMINING CONSTRUCTION MEANS AND METHODS PRIOR TO COMMENCING CONSTRUCTION.**

## GENERAL CONDITIONS

### 2.1.4 Utilities

2.1.4.1 *Location of Point of Connection.* The locations shown for the point of connection are approximate. It shall be the responsibility of the Contractor to determine the exact location of all service connections.

2.1.4.2 *Regional Notification Center.* Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) business days prior to commencing any excavation if the excavation will be conducted in an area or in a private easement which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. See Government Code section 4216.3. No excavation shall be commenced and carried out by the Contractor unless such an inquiry identification number has been assigned to the Contractor or any Subcontractor of the Contractor and the District has been given the identification number by the Contractor. Any damages arising from failure to make appropriate regional notification shall be at the sole risk of Contractor. Contractor shall solely be responsible for any fines, penalties or damages for violation of this Article and Government Code section 4216.6 or 4216.7. Any delays caused by failure to make appropriate regional notification shall be at the sole risk of Contractor and shall not be considered for extension of time pursuant to Article 8.4.

2.1.4.3 *Utilities - Removal and Restoration.* The District has endeavored to determine the existence of utilities at the Site of the Work from the records of the District of known utilities in the vicinity of the Work. The positions of these utilities as derived from such records are shown in the Contract Documents. Thus, the locations of the main or trunklines located on the Drawings are approximate locations and not exact.

No excavations were made to verify the locations shown for underground utilities. Other than the main or trunkline, which the District has endeavored to locate on the Plans, service connections or laterals to these utilities may not be shown on the Plans. It shall be the responsibility of the Contractor to determine the exact location of all service connections. The Contractor shall make its own investigations, including exploratory excavations, to determine the locations and type of service connections, prior to commencing work which could result in damage to such utilities. The Contractor shall immediately notify the District's representative as to any utility main or trunkline discovered by Contractor in a different position than provided by the Regional Notification Center. With respect to main or trunklines, Contractor is to immediately notify District if the location is substantially different than as shown in the Contract Documents.

Contractor shall coordinate its Work with all utilities, including, but not limited to electricity, water, gas and telephone and meet with said utilities prior to the start of any work. Contractor shall show timing of all utility coordination activities under the Scheduling requirements of Article 8.

2.1.4.4 *Other Utilities.* In case it should be necessary to remove, relocate, or temporarily maintain a utility because of interference with the Work, the work on the utility shall be performed and paid for as follows:

When it is necessary to remove, relocate or temporarily maintain a service connection, the cost of which is not required to be borne by the owner of the service connection, the Contractor shall bear all expenses incidental to the work on the service connection. The work on the service connection shall be done in a manner satisfactory to the owner thereof; it being understood that the owner

## GENERAL CONDITIONS

of the service connection has the option of doing such work with his own forces or permitting the work to be done by the Contractor.

When it is necessary to remove, relocate, or temporarily maintain a utility which is in the position shown on the Plans, the cost of which is not required to be borne by the owner thereof, the Contractor shall bear all expenses incidental to the work on the utility. The work on the utility shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the utility has the option of doing such work with his own forces or permitting the work to be done by the Contractor.

When it is necessary to remove, relocate, or temporarily maintain a utility which is not shown on the Plans or is in a position different from that shown on the Plans and were it in the position shown on the Plans would not need to be removed, relocated, or temporarily maintained, and the cost of which is not required to be borne by the owner thereof, the District will make arrangements with the owner of the utility for such work to be done at no cost to the Contractor, or will require the Contractor to do such work in accordance with Article 7 or will make changes in the alignment and grade of the Work to obviate the necessity to remove, relocate, or temporarily maintain the utility. Changes in alignment and grade will be ordered in accordance with Article 7 herein.

No representations are made that the obligations to move or temporarily maintain any utility and to pay the cost thereof is or is not required to be borne by the owner of such utility, and it shall be the responsibility of the Contractor to investigate to find out whether said cost is required to be borne by the owner of the utility.

The right is reserved to governmental agencies and to owners of utilities to enter at any time upon any street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work and for the purpose of maintaining and making repairs to their property.

### 2.1.5 Existing Utility Lines; Removal, Relocation

2.1.5.1 *Main or Trunkline Facilities.* If the Contractor while performing the Contract discovers utility facilities not identified in the Contract Documents, Contractor shall notify the District and utility in writing prior to commencing work.

The owner of the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

The Contractor shall exercise reasonable care and shall be compensated by the District for the actual verified field costs of locating, and removing, relocating, protecting or temporarily maintaining such main or trunkline utility facilities located in a substantially different location than in the Plans and Specifications, and for equipment in use on the project necessarily idled during such work. This Work shall be performed in accordance with Article 7 of these General Conditions.

2.1.5.2 *Assessment.* Nothing in these subparagraphs shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, or meter junction boxes on or adjacent to the Site and could be inferred from the Main or Trunkline shown on the Drawings.

## **GENERAL CONDITIONS**

2.1.5.3 *Notification.* If the Contractor, while performing Work under this Contract, discovers utility facilities not identified by the District in the Contract Documents. Contractor shall, within five (5) days, notify the District and the utility in writing. If Contractor fails to notify the District within forty eight hours after discovery of any utility facilities not identified by District in the Contract Documents, Contractor waives all rights to be compensated for any extra Work or damages resulting from such discovered utilities.

### 2.1.6 Easements

District shall secure and pay for easements for permanent structures or permanent changes in existing facilities, if any, unless otherwise specified in the Contract Documents.

## 2.2 **DISTRICT'S RIGHT TO CARRY OUT THE WORK DUE TO PARTIAL DEFAULT IN A SPECIFIC SEGREGATED AREA OF WORK (48 HOUR NOTICE TO CURE AND CORRECT)**

If the Contractor Defaults or neglects to carry out the Work in accordance with the Contract Documents, the District may provide forty-eight (48) hour written notice to cure (a shorter period of time in the case of Emergency or a critical path delay as defined in Article 2.2.1) Contractor's Partial Default in a specific segregated area of work. The District's right to issue a Partial Default of the Contractor's Work and take over that segregated area of Work includes, but is not limited to:

1. Failure to supply adequate workers on the entire Project or any part thereof;
2. Failure to supply a sufficient quantity of materials;
3. Failure to perform any provision of this Contract;
4. Failure to comply with safety requirements, or due to Contractor is creation of an unsafe condition;
5. Cases of bona fide emergency;
6. Failure to order materials in a timely manner;
7. Failure to prepare Deferred Approval items or Shop Drawings in a timely manner;
8. Failure to comply with Contractor's Baseline or Update Schedule, meet critical Milestones which would result in a delay to the critical path, or delay the Contract Time;
9. Failure to comply with the Subletting and Subcontracting Fair Practices, Public Contract Code section 4100, et seq.
10. Failure to meet the requirements of the Americans with Disabilities Act;
11. Failure to complete Punch List work;
12. Failure to proceed on an Immediate Change Directive
13. Failure to correct a Notice of Deviation

## GENERAL CONDITIONS

If during the forty eight (48) hour period, the Contractor fails to Cure and correct the deficiency noted in the 48 hour notice of Partial Default with diligence and promptness, the District may correct such deficiencies without prejudice to other remedies the District may have, including a Termination for Cause as set forth in Article 14. If there are inadequate funds remaining the Project balance or in the Retention Escrow to address at least 150% of the costs set forth in the Article 2.2 notice, the District may copy the Surety on the written notice of Partial Default. If a notice to the Surety is provided, except in the cases of emergency or critical path delay, the Surety has the option to take over and complete the Work described in the written notice if Surety personally delivers notice to District that it intends to perform such work. In the case where written notice has been provided, the District shall allow Surety seven (7) days to perform the Work.

### 2.2.1 Service of Notice of Partial Default with Right to Cure

A written notice of Partial Default and right to cure under Article 2.2 (“Article 2.2 Notice” or “Notice of Partial Default”) shall be served by e-mail (with a copy provided by regular mail) to the e-mail address provided on the Bid submitted and copied to the Project Superintendent.

### 2.2.2 Shortened Time for Partial Default in the Case of Emergencies.

In an Emergency situation, the District may correct any of the deficiencies described in Article 2.2 without prejudice to other remedies by providing service of written notice of Emergency requiring a shortened time for Partial Default specifying the time given to cure, if any.

### 2.2.3 Shortened Time for Partial Default in the Case of Critical Path Delay

In the case of critical path delay, the District may correct any of the deficiencies described in Article 2.2 without prejudice to other remedies providing service of written notice of critical path delay to the Contractor with a specific description of the critical path delay items noting the line item or area of Work that is on the critical path and prescribe the length of shortened time to cure, if any.

### 2.2.4 Written Notice of Partial Default to be Deducted by Deductive Change Order

The District shall have the right to determine the reasonable value of the Article 2.2 Partial Default Work, or if there is an actual value for the Work, shall use that value and issue a Deductive Change Orders under Article 7.7.4.

## GENERAL CONDITIONS

### ARTICLE 3 THE CONTRACTOR

#### 3.1 SUPERVISION AND CONSTRUCTION PROCEDURES

##### 3.1.1 Contractor

The Contractor shall continually supervise and direct the Work using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, procedures; and shall coordinate all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. The Contractor shall not perform the Work without utilizing the Contract Documents or, where required, approved Submittals, Shop Drawings, or samples for any such portion of the Work. If any of the Work is performed by contractors retained directly by the District, Contractor shall be responsible for the coordination and sequencing of the work of those other contractors so as to avoid any impact on the Project Schedule pursuant to the requirements of Article 6 and Article 8. Specific duties of the Contractor shall include those set out in Section 43 of Title 21 of the California Code of Regulations and Section 4-343 of Title 24 of the California Code of Regulations. These duties include, but are not limited to the following:

3.1.1.1 *Responsibilities.* It is the duty of the Contractor to complete the Work covered by his or her Contract in accordance with the approved Plans and Specifications. The Contractor in no way is relieved of any responsibility by the activities of the Architect, Engineer, Inspector or DSA in the performance of their duties.

3.1.1.2 *Performance of the Work.* The Contractor shall carefully study the approved Plans and Specifications and shall plan its schedule of operations well ahead of time. If at any time it is discovered that work is being done which is not in accordance with the approved Plans and Specifications, the Contractor shall correct the Work immediately.

##### 3.1.2 Contractor Responsibility to Study the Plans and Specifications

All inconsistencies or timing or sequences which appear to be in error in the Plans and Specifications shall promptly be called to the attention of the Architect or, Engineer, for interpretation or correction. Local conditions which may affect the structure shall be brought to the Architect's attention at once. In no case, shall the instruction of the Architect be construed to cause work to be done which is not in conformity with the approved Plans, Specifications, change orders, construction change documents, and as required by law. (See Title 24, Section 4-343)

##### 3.1.3 All Work Under the Direction of Inspector

Pursuant to Title 24 requirements, the Contractor shall not carry on Work except with the knowledge of the Inspector. (See Title 24 generally)

##### 3.1.4 Contractor to Establish Timing and Protocol with Inspector

Contractor shall establish a protocol for requesting inspection with Inspector so as to not delay the Work and provide adequate time for the Inspector to perform inspection. If such a protocol is not established ahead of time, Inspector may utilize the time criteria set by Title 24 of 48 hours in advance of submitting form DSA 156 for each new area. DSA requirements under PR 13-01 specifically gives the

## GENERAL CONDITIONS

Special Inspector fourteen (14) days to post to the DSA website. Contractor is responsible for delays and for failure to plan.

For some Projects, there may be a need to incrementally install certain assemblies. It is up to Contractor to identify areas and assemblies that may be constructed incrementally. Contractor must identify and establish incremental areas of construction and establish protocols with Inspector for DSA 152 approvals so they may be presented to DSA. See PR-13 item 1.17 for further discussion.

### 3.1.5 Verified Reports

The Contractor shall make and submit to the office from time to time, verified reports as required in Title 24 Section 4-366. As part of the Close-Out of the Project (see Article 9.9), Contractor shall be required to execute a Form 6-C as required under Title 24 Sections 4-343.

Contractor shall fully comply with any and all reporting requirements of Education Code sections 17315, et seq., in the manner prescribed by Title 24, as applicable.

### 3.1.6 Contractor Responsibility

The Contractor shall be responsible to the District for acts and omissions of the Contractor's employees, Subcontractors, material and equipment suppliers, and their agents, employees, invitees, and other persons performing portions of the Work under direct or indirect contract with the Contractor or any of its Subcontractors.

### 3.1.7 Obligations not Changed by Architect's Actions

The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract or by tests, inspections, or approvals required or performed by persons other than the Contractor.

### 3.1.8 Acceptance/Approval of Work

The Contractor shall be responsible to determine when any completed portions of the Work already performed under this Contract or provided pursuant to Article 6 are suitable to receive subsequent Work thereon.

## 3.2 SUPERVISION

### 3.2.1 Full Time Supervision

Unless personally present on the Project site where the Work is being performed, the Contractor shall keep on the Work at all times during its progress a competent, English speaking construction Superintendent satisfactory to the District. The Superintendent shall be present on a full-time basis, shall be dedicated exclusively to the Project and shall not share superintendency duties with another project or job. The Superintendent shall not be replaced except with written consent of the District. The Superintendent shall represent the Contractor in its absence and shall be fully authorized to receive and fulfill any instruction from the Architect, the Inspector, the District or any other District Representative (including CM in the cases where the District has a CM representative). All Requests for Information shall be originated by the Superintendent and responses thereto shall be given to the Superintendent. No Work

## GENERAL CONDITIONS

shall begin on any day by any Subcontractor or other person on the Project site until the Superintendent has arrived, or shall any Work continue during the day after the Superintendent has departed from the Project site. The Superintendent shall have authority to bind Contractor through the Superintendent's acts. The Superintendent shall represent the Contractor, and communications given to the Superintendent shall be binding on the Contractor. Before commencing the Work, Contractor shall give written notice to District (and CM representative) and Architect of the name and a Statement of Qualifications of such superintendent. Superintendent shall not be changed except with written consent of District, unless a superintendent proves to be unsatisfactory to Contractor and ceases to be in its employ, in which case, Contractor shall notify District and Architect in writing. Contractor shall provide a replacement superintendent approved by the District prior to performing additional work.

### 3.2.2 Staff

Notwithstanding other requirements of the Contract Documents, the Contractor and each Subcontractor shall: (1) furnish a competent and adequate staff as necessary for the proper administration, coordination, supervision, and superintendence of its portion of the Work; (2) organize the procurement of all materials and equipment so that the materials and equipment will be available at the time they are needed for the Work; and (3) keep an adequate force of skilled and fit workers on the job to complete the Work in accordance with all requirements of the Contract Documents.

### 3.2.3 Right to Remove

District shall have the right, but not the obligation, to require the removal from the Project of any superintendent, staff member, agent, or employee of any Contractor, Subcontractor, material or equipment supplier.

## 3.3 LABOR AND MATERIALS

### 3.3.1 Contractor to Provide

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, material, equipment, tools, construction equipment and machinery, water, heat, air conditioning, utilities, transportation, and other facilities, services and permits necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

### 3.3.2 Quality

Unless otherwise specified, all materials and equipment to be permanently installed in the Project shall be new and shall be of the highest quality or as specifically stated in the Contract Documents. The Contractor shall, if requested, furnish satisfactory evidence as to kind and quality of all materials and equipment within ten (10) days of a written request by the District, including furnishing the District with bona fide copies of invoices for materials or services provided on the Project. All labor shall be performed by workers skilled in their respective trades, and shall be of the same or higher quality as with the standards of other school construction.



## GENERAL CONDITIONS

### 3.3.3 Replacement

Any work, materials, or equipment, which do not conform to these requirements or the standards set forth in the Contract Documents, may be disapproved by the District, in which case, they shall be removed and replaced by the Contractor at no additional cost or extension of time to the District.

### 3.3.4 Discipline

The Contractor shall enforce strict discipline and good order among the Contractor's and Subcontractor's employees, and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. As used in this subsection, "unfit" includes any person who the District concludes is improperly skilled for the task assigned to that person, who fails to comply with the requirements of this article, or who creates safety hazards which jeopardize other persons and/or property.

### 3.3.5 Fingerprinting (Applicable at the time Project is Occupied and on all Projects where Workers will come in Contact with Pupils, such as Modernization Projects)

If applicable, Contractor shall comply with the applicable provisions of Education Code section 45125.1 in a method as determined by the District. Pursuant to Education Code section 45125.1, Contractor shall either conduct criminal background checks of all employees of Contractor assigned to the Project site, and shall certify that no employees who have been convicted of serious or violent felonies, as specified in Education Code section 45125.1, will have contact with pupils, by utilizing the Certification Regarding Background Checks and the corresponding Attachment "A" as found in the Contract Documents or shall be separated by a physical barrier from students.

If it is determined that Contractor must provide certification of employees, as part of such certification, Contractor must provide the District with a list of all employees providing services pursuant to this Agreement, and designate which sites such employees will be assigned. In performing the services set forth in this Agreement, Contractor shall not utilize any employees who are not included on the above-referenced list.

At District's sole discretion, District may make a finding, as authorized under Education Code section 45125.1, that Contractor's employees will have only "limited contact" with pupils. Contractor's failure to comply with this law shall be considered a material breach of this Agreement upon where this Agreement may be terminated, at District's sole discretion, without any further compensation to Contractor.

In the case of new construction Projects where there are no students, if the Project Schedule provides for Beneficial Occupancy or portions of the Project or if the Project should be delayed, then Contractor, at no additional costs, shall meet the requirements of either fingerprinting or providing a physical barrier as required by the District.

### 3.3.6 Noise, Drugs, Tobacco, and Alcohol

Contractor shall take all steps necessary to insure that employees of Contractor or any of its Subcontractors' employees do not use, consume, or work under the influence of any alcohol, tobacco or illegal drugs while on the Project. Contractor shall further prevent any of its employees or its Subcontractor employees from playing any recorded music devices or radios or wearing any radio headphone devices for entertainment while working on the Project. Likewise, Contractor shall prevent its employees or

## GENERAL CONDITIONS

Subcontractor's employees from bringing any animal onto the Project. Contractors shall not violate any written school policies.

### 3.3.7 Delivery of Material

Contractor shall place orders for materials or equipment so that the Work may be completed in accordance with the Construction schedule for the Work as set forth in Article 8 of this Agreement. Contractor shall, upon demand from the Architect, furnish to the Architect documentary evidence including, but not limited to purchase orders, invoices, bills of materials, work orders and bills of lading, showing that orders have been placed. Contractor shall have a system to receive materials and to ensure that the proper materials are being delivered, including in the case of critical materials to the Project, checking the delivery against Shop Drawings and ensuring that the materials meet the requirements of not only the Plans and Specifications, but also the approved Shop Drawings and Submittals and in conformance with Contractor's plan for delivery of materials (including but not limited to Contractor's representations in the Schedules for the Project and Contractor's equipment and materials schedule under Article 3.7.2.2). Contractor shall be responsible for all costs of accepting non-conforming materials delivered to the Project given Contractor's responsibilities and system for acceptance of deliveries. Contractor shall notify Inspector and District Representative (including CM) as early as possible, in writing, of the delivery of materials for the Project. The deliveries shall include documentation identifying the shipment sufficiently so that the Inspector, Architect or District Representative (including CM) may review the materials that are received. Under no circumstances shall materials be delivered to the Project site that are meant for another Project.

### 3.3.8 Liens and Other Security Interests of Subcontractors and Material Suppliers

No material, supplies, or equipment for the Work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with all improvements and appurtenances constructed or placed thereon by it, to District free from any claims, security interests, liens, or charges. Contractor further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any Work covered by this Contract shall have any right to place a lien upon the premises or any improvement or appurtenance thereof, except that Contractor may install metering devices or other equipment of a utility company or political subdivision, title to which is commonly retained by the utility company or political subdivision. In event of installation of any such metering device or equipment, Contractor shall advise District as to its owner within five (5) days of such installation in writing, prior to making the installation.

Contractor agrees to indemnify, defend and hold the District harmless from any liens, stop notices, or assertion of security interests, including judgments and levies. If after written notice Contractor fails to address the lien, stop notice, or other security interest, the District may proceed to address the lien, stop notice or claim and seek reimbursement from Contractor.

### 3.3.9 Title to Materials

The title to new materials or equipment for the Work of this Contract shall remain with Contractor until incorporated in the Work of this Contract until final acceptance of the Project; no part of said materials shall be removed from its place of storage, and Contractor shall keep an accurate inventory of all said materials and equipment in a manner satisfactory to the District or its authorized representative. Responsibility for materials remains with Contractor and Contractor shall replace materials in case of loss.

## GENERAL CONDITIONS

District similarly may pay for materials stored off site, but Contractor shall remain responsible for the materials that are stored off site.

### 3.3.10 Assemblies

For all material and equipment specified or indicated in the Drawings, the Contractor shall provide all labor, materials, equipment, and services necessary, (including engineering as specifically required with Shop Drawings or Deferred Approvals) for complete assemblies and complete working systems. Incidental items not indicated on the Drawings, nor mentioned in the Specifications, that can legitimately and reasonably be inferred to belong to the Work described, or be necessary in good practice to provide a complete assembly or system, shall be furnished as though itemized in the Contract Documents in every detail. In all instances, material and equipment shall be installed in strict accordance with each manufacturer's most recent published recommendations and Specifications.

### 3.3.11 Noise Control

The Contractor shall be responsible for the installation of noise reducing devices on construction equipment. Contractor shall comply with the requirements of the city and county having jurisdiction with regard to noise ordinances governing construction sites and activities. Construction equipment noise is subject to the control of the Environmental Protection Agency's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). If school is in session at any point during the progress of the Project, and, in the District's reasonable discretion, the noise from such Work disrupts or disturbs the students or faculty or the normal operation of the school, at the District's request, the Contractor shall schedule the performance of all such Work around normal school hours or make other arrangements so that the Work does not cause such disruption or disturbance. There are specific periods of testing at operational schools and it is critical that Contractor control noise during periods of testing. In no event shall Contractor have a right to receive additional compensation or an extension to the Contract time as a result of any such rescheduling or the making of such arrangements. These controls shall be implemented during site preparation and construction. All noise related issues, including school operations, and noise during testing should be detailed in the Schedule provided pursuant to Article 8

## 3.4 WARRANTY

The Contractor warrants to the District and Architect that material and equipment furnished under the Contract will be of the highest quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor's warranty to District includes, but is not limited to, the following representations:

3.4.1 In addition to any other warranties provided elsewhere, Contractor shall, and hereby does, warrant all Work after the date of Notice of Completion of Work by District and shall repair or replace any or all such Work, together with any other Work, which may be displaced in so doing that may prove defective in workmanship or materials within a one (1) year period from date of Final Completion which shall be no later than the final date of Punch List as noted at Article 9.11) without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.

3.4.2 In the event of failure of Contractor to comply with above mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired

## GENERAL CONDITIONS

and made good at expense of Contractor who hereby agrees to pay costs and charges therefore immediately on demand.

3.4.3 If, in the opinion of the District, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District, the District will attempt to give the notice required by this Article. If the Contractor cannot be contacted or does not comply with the District's requirements for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this article, proceed to make such correction or attention which shall be charged against Contractor. Such action by the District will not relieve the Contractor of the guarantee provided in this Article or elsewhere in this Contract.

3.4.4 This Article does not in any way limit the guarantee on any items for which a longer warranty is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish District all appropriate guarantee or warranty certificates upon completion of the project.

### 3.5 TAXES

Contractor will pay all applicable Federal, State, and local taxes on all materials, labor, or services furnished by it, and all taxes arising out of its operations under the Contract Documents. District is exempt from Federal Excise Tax, and a Certificate of Exemption shall be provided upon request.

### 3.6 PERMITS, FEES AND NOTICES

#### 3.6.1 Payment

The Contractor shall secure and pay for all permits and governmental fees, licenses, and inspections necessary for proper execution and completion of the Work which are necessary after execution of the Contract and are legally required by any authority having jurisdiction over the Project, except those required by the Division of the State Architect (DSA). District shall be responsible for all testing and inspection as required by the DSA on-site or within the distance limitations set forth in Article 13.5.2, unless a different mileage range is specified in the Supplemental Conditions.

3.6.1.1 *DSA Fees.* DSA policy is to charge CCD review fees for processing and approval of changes in the Plans and Specifications through the Construction Change Document process. Contractor is specifically directed to the current DSA IR A-30 which provides fee structure and charges that will be incurred for proceeding with respect to the CCD process, a process that must be followed for each change in the Plans and Specifications.

#### 3.6.2 Compliance

The Contractor shall comply with and give notices required by any law, ordinance, rule, regulation, and lawful order of public authorities bearing on performance of the Work. Specifically, the Division of State Architect provides State oversight of the Project and enforcement of Title 24 rules and regulations. Contractor is directed to the DSA website. There will be local governmental oversight from City, County or both. Finally, Regional Water Quality Control Board, State Fire Marshall, local fire marshal, Department of Industrial Relations, Department of Labor Standards Enforcement, and Air Quality Management District (Local and State) are some of the agencies that provide oversight and may require specific permits, fees, or provide oversight over the Project. Contractor represents understanding and specialized knowledge of the rules governing school districts and Contractor shall maintain compliance

## GENERAL CONDITIONS

over the applicable rules and will file all documents required in order to ensure compliance with State, local, and other rules that apply to the Project.

### 3.6.3 Responsibility

The Contractor shall perform all Work in conformance with every law, statute, ordinance, building code, rule or regulation. The Contractor shall assume full responsibility for such Work and shall bear the attributable cost of correction or project delay.

Pursuant to Title 24 Section 4-343(b):

“Contractor shall carefully study the approved Plans and Specifications and shall plan a schedule of operations well ahead of time.... All inconsistencies or items which appear to be in error in the Plans and Specifications shall be promptly called to the attention of the architect or registered engineer, through the inspector, for interpretation or correction.”

To help Contractor plan its operations, Contractor is directed to study the current version of the DSA 152 Inspection Card Manual identifying the exact steps the Inspector is to follow in the review and sign off process for the DSA 152. The DSA 152 Inspection Card Manual provides specific detail as to the order of operations, review items and compliance items beyond the Specifications and Plans which are reviewed for DSA compliance. The most current version of this manual is located on DSA’s website.

Contractor is also specifically directed to the time periods for posting of Special Inspection Reports and Inspector Notifications under DSA PR 13-01 since the timing of Inspection is not a Governmental Entity related delay.

### 3.7 SUBMITTALS REQUIRED AT THE COMMENCEMENT OF THE PROJECT

#### 3.7.1 Requirements Within Ten (10) Calendar Days

Within ten (10) calendar days after Notice to Proceed, Contractor shall submit the following:

- 3.7.1.1 Detailed Schedule of Values (See Article 9.2)
- 3.7.1.2 Submittal Listing and Schedule for Submittals
- 3.7.1.3 Critical Path Baseline Schedule (See Article 8)

#### 3.7.2 Requirements Within Thirty-Five (35) Calendar Days

Within thirty-five (35) calendar days after Notice to Proceed, Contractor shall submit the following:

3.7.2.1 *All Submittals for the Project* except those specifically agreed upon by District and Architect, in writing, and shall be specifically incorporated into the Submittal section of the Schedule so as to not delay the Work. The agreement to allow a later Submittal does not mean that Article 3.3.7 is waived. Contractor shall order materials and ensure prices are honored and secured for the Project.

- a. Structural Steel may be included as a later Submittal than 35 days if Structural Steel is a significant portion of the Work, at least one or some

## GENERAL CONDITIONS

of the Project is a structural steel structural system, or as specifically agreed upon by the Architect or District.

- b. It is specifically agreed that submissions of structural steel Submittals shall not be piecemeal (unless some portion is requested separately by the District or Architect), shall provide complete designs, shall be stamped by the structural steel Subcontractor, Contractor, and structural steel Subcontractor's structural engineer at time of submission and as further addressed in Article 3.9.
- c. In no case shall the submission of structural steel Drawings delay the critical path for the schedule. If a Milestone is provided for submission of complete structural steel Shop Drawings then the date shall be no later than as set forth in the Milestone

3.7.2.2 *Exceptions to Submittal Within Thirty-Five (35) Days by Written Agreement.* A written request detailing the specific reasons for a submission later than 35 days due to complexity of design or non-critical path status of the Submittal shall be submitted at the time the Baseline Schedule is submitted. The Baseline Schedule shall not include a delayed Submittal until written agreement is provided. In addition to the request for providing a Submittal after the thirty-five (35) day period, a copy of the Contract with the Subcontractor who shall be performing the Submittal, a written statement from the Subcontractor verifying that work has commenced on the Submittal and providing Subcontractor's own schedule of Milestones and completion dates, and a corresponding Submittal designation in the Schedule as required under Article 8. Approval of a delayed Submittal shall not result in any increase in the Contract Price or result in an extension of time for the completion of the Project.

3.7.2.3 *Piecemeal Submissions of Submittals.* Piecemeal Submittals mean providing portions of Shop Drawings or Submittals as they are being completed. The submission of piecemeal Submittals results in the appearance of a submission when there is inadequate information for the Architect or Engineer to adequately review a submission. Piecemeal differs from submission of complete buildings or phases of buildings or complete assemblies. The Architect may agree to allow submission of single buildings or areas as long as the Submittals are complete. .

### **3.8 DOCUMENTS, SAMPLES, AND COMPUTER AT THE SITE**

The Contractor shall maintain at the Site for the District one current copy of the California Building Code, Titles 19 and 24 of the California Code of Regulations, any other document required by DSA, and one record copy of the Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to record changes and selections made during construction. In addition, the Contractor shall maintain at the Site approved Shop Drawings, Product Data, Samples, and similar required Submittals. These documents shall be available to the Architect and shall be delivered to the Architect for delivery to the District upon completion of the Work.

Contractor shall have an operational computer with internet access so Contractor can review and post documents as required for the Project, including but not limited to the filing and posting of DSA required documents for the Project.

Contractor shall be prepared to review documents posted to the DSA Project website.

## GENERAL CONDITIONS

### 3.9 SUBMITTALS INCLUDING SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

#### 3.9.1 Definitions

3.9.1.1 *Deferred Approvals.* Approval of certain aspects of the construction may be deferred until the construction Contract has been awarded. To facilitate the design process, DSA grants Deferred Approval to the design and detailing of certain elements of the Project at the request of the Architect or Engineer of Record. Design elements that may be deferred may include, but are not limited to access floors, bleachers, elevator guide rails and related elevator systems, exterior wall systems - precast concrete, glass fiber reinforced concrete, etc., skylights, window wall systems, storefronts, stage rigging, and other systems as noted in the Contract Documents. (Also see Article 1.2.2 and 3.9.3)

3.9.1.2 *Shop Drawings.* The term "Shop Drawings" as used herein means Drawings, diagrams, equipment or product schedules, and other data, which are prepared by Contractor, Subcontractors, manufacturers, suppliers, or distributors illustrating some portion of the Work, and includes: illustrations; fabrication, erection, layout and setting Drawings; manufacturer's standard Drawings; schedules; descriptive literature, instructions, catalogs, and brochures; performance and test data including charts; wiring and control diagrams; and all other Drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment, or systems and their position conform to the requirements of the Contract Documents.

3.9.1.3 *Manufactured* applies to standard units usually mass-produced, and "Fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements. Shop Drawings shall: establish the actual detail of all manufactured or Fabricated items, indicate proper relation to adjoining work, amplify design details of mechanical and electrical systems and equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions.

3.9.1.4 *Submittals* is a term used interchangeably and sometimes refers to Shop Drawings, Product Data, and samples since all Subcontractor submissions are tracked in a Submittal Log and may include any of the noted items. However, generally, a Submittal is a manufacturer's product information and Product Data including description, characteristics, size, physical characteristics, and requirements to prepare the jobsite for receiving of the particular manufactured item.

3.9.1.5 *Samples.* The term "samples" as used herein are physical examples furnished by Contractor to illustrate materials, equipment, or quality and includes natural materials, Fabricated items, equipment, devices, appliances, or parts thereof as called for in the Specifications, and any other samples as may be required by the Architect to determine whether the kind, quality, construction, finish, color, and other characteristics of the materials, etc., proposed by the Contractor conform to the required characteristics of the various parts of the Work. All Work shall be in accordance with the approved samples.

#### 3.9.2 Shop Drawings.

3.9.2.1 *When Shop Drawings Are Required.* Shop Drawings are required for prefabricated components and for installation and coordination of these prefabricated components into the Project. In addition, Shop Drawings, are prepared to address the actual size and installation of components from various Subcontractors and provides an opportunity for the Contractor to coordinate and address

## GENERAL CONDITIONS

conflicts between the subcontracting trades. In some cases, each Subcontractor or trade will provide Shop Drawings in a BIM format or other format as agreed by District.

3.9.2.2 *Purpose for Shop Drawings.* Shop Drawings are the Contractor's manufacturer, Subcontractor, supplier, vendor or the Contractor's detailed drawings showing particularized method for assembly, specifics to a manufacturer, manufacturer component installation requirements, specifics as to a manufactured item, alterations to a manufactured, a custom created item, or drawn version of more detailed information expanding on the Architect's design shown in the Contract Documents. The Shop Drawings address the appearance, performance, size, weight, characteristics and prescriptive descriptions associated with the Contractor or Contractor's Subcontractor's plan for installation or assembly based on the design in the Specifications and Contract Documents. The Shop Drawing often is more detailed than the information shown in the Contract Documents to give the Architect and Engineer the opportunity to review the fabricator's version of the product (along with particulars specific to that particular product), prior to fabrication. References to the Contract Documents, Construction Documents, Drawings, Plans, and Specifications assist the Architect and Engineer in their review of the Shop Drawings. Attachment of manufacturer's material Specifications, "catalog cut sheets," and other manufacturer's information may be provided to accompany Shop Drawings. Because Shop Drawings facilitate the Architect's and Engineer's approval of the system, they should be as clear and complete as possible so they may be reviewed by Architect or Engineer for the Project.

3.9.2.3 *Shop Drawing Requirements.* The Contractor shall obtain and submit with Shop Drawings all seismic and other calculations and all Product Data from equipment manufacturers. "Product Data" as used herein are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

3.9.2.4 *Not a Reproduction of Architectural or Engineering Drawings.* The Shop Drawings are not a reproduction of the architectural or engineering Drawings. Instead, they must show more detail than the Construction Documents and details the fabrication and/or installation of the items to the manufacturer's production crew or Contractor's installation crews.

3.9.2.5 *Shop Drawings Engineering Requirements:* Some Shop Drawings require an engineer stamp to be affixed on the Drawings and calculations. In such cases, a current and valid engineering stamp shall be affixed by a California registered engineer. No out of State engineers shall stamp Shop Drawings. (See DSA IR A-18). In most cases, an engineer means California registered mechanical, structural, electrical or plumbing engineer. California Registered Civil Engineers will not be accepted for structural details unless specifically approved by DSA.

3.9.2.6 *DSA Approvals Required Prior to Work.* No work on a Shop Drawing that requires DSA approval may proceed until DSA approval is received. Contractor has provided DSA approval time and allowed adequate time for corrections in Contractor's Schedule as required pursuant to Article 8.

3.9.2.7 *Shop Drawing Identification.* All Shop Drawings must be properly identified with the name of the Project and dated, and accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item clearly stating in narrative form, as well as "clouding" all qualifications, departures, or deviations from the Contract Documents. Shop Drawings, for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. All Subcontractor submissions shall be made through the Contractor. Each drawing shall have a clear space for the stamps of Architect and Contractor.



## GENERAL CONDITIONS

### 3.9.3 Deferred Approvals

Deferred approvals shall be submitted and processed to ensure all DSA and other governmental approvals are secured so as to not delay the Project. There may be additional requirements for Deferred Approvals at Division 1 of the Specifications. All Deferred Approvals shall be prepared by Contractor or Contractor's agent early enough so as to not delay the Project. Contractor is aware that Title 24 California Code of Regulations Section 4-317 have specific requirements for Deferred Approval as to governing agencies and as to the Architect and Engineer for the Project. As a result, any delay associated with the time for approval by applicable agencies or by the Architect or Architect's consultants shall be Contractor's. Contractor is required to comply with inclusion of Deferred Approvals in the Schedule as required under Article 3.9.6

3.9.3.1 *DSA Approvals Required Prior to Work.* No work on a Deferred Approval item may proceed on the components until DSA approval is received. Contractor has provided DSA approval time and allowed adequate time for any DSA revisions in Contractor's Schedule as required pursuant to Article 8.

### 3.9.4 Submittals and Samples

3.9.4.1 *Information Required With Submittals:* Manufacturer, trade name, model or type number and quantities: Information provided must be of sufficient detail to allow Architect and Engineer to compare the submitted item with the specified products and acceptable products listed, in the Specifications and addenda.

3.9.4.2 *Description of Use and Performance Characteristics:* Information should be furnished describing the normal use and expected performance of the product. The Architect and Contractor review this information to confirm that the product is appropriate for the intended use.

3.9.4.3 *Size and Physical Characteristics:* The size and physical characteristics, such as adjustment capabilities, which is reviewed by both the Contractor and Architect. The Contractor has the most available information for comparing adjoining materials and equipment. The Contractor also needs to know the size and weight of the equipment for lifting and handling considerations.

3.9.4.4 *Finish Characteristics:* The Architect reviews the available finishes and selects the appropriate finish, if the finish was not previously specified in the documents. The Contractor should confirm that finish requirements in the Specifications are being met by the product.

3.9.4.5 *Contractor Responsible for Jobsite Dimensions:* Some material is custom-fabricated to job conditions, requiring dimensions from the jobsite. These jobsite dimensions are provided by the Contractor as part of the Contractor's responsibilities for the Project and shall be provided prior to release of the product for manufacture. Contractor shall not rely on Architect or Engineers to provide jobsite dimensions.

3.9.4.6 *Full Range of Samples Required (When Specific Items Not Specified).* Except in cases where the exact color and type of item is specified since the District is utilizing items Standardized or pre-selected by District, the full range of color, graining, texture, or other characteristics are anticipated for review in finished products, a sufficient number of samples of the specified materials shall be furnished by the Contractor to indicate the full range of characteristics which will be present in the finished products. Products delivered or erected without Submittal and approval without providing a full

## GENERAL CONDITIONS

range of samples shall be subject to rejection. Except for range samples, and unless otherwise called for in the various sections of the Specifications or Specification Section 1, samples shall be submitted in duplicate.

3.9.4.7 *Labeling of Samples.* All samples shall be marked, tagged, or otherwise properly identified with the name of the submitting party, the name of the Project, the purpose for which the samples are submitted and the date.

3.9.4.8 *Transmittal letter.* All samples shall be accompanied by a letter of transmittal containing similar information, together with the Specification section number.

3.9.4.9 *Labels and Instructions.* All samples of materials shall be supplied with the manufacturer's descriptive labels and application instructions. Each tag or sticker shall have clear space for the review stamps of Contractor and Architect.

3.9.4.10 *Architect's Review.* The Architect will review and, if appropriate, approve submissions and will return them to the Contractor with the Architect's stamp and signature applied thereto, indicating the timing for review and appropriate action in compliance with the Architect's (or District's) standard procedures. In the cases where a CM is hired by the District, CM may be the party that receives and performance logging and initial processing of the Samples. CM may, in some cases, reject samples that are not in conformance with Contract requirements.

### 3.9.5 Submittal Submission Procedure

3.9.5.1 *Transmittal Letter and Other Requirements.* All Submittals must be properly identified with the name of the Project and dated, and each lot submitted must be accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item clearly stating in narrative form, as well as "clouding" on the submissions, all qualifications, departures, or deviations from the Contract Documents. Shop Drawings, for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. All Subcontractor submissions shall be made through the Contractor. Each drawing shall have a clear space for the stamps of Architect and Contractor. Refer to Division 1. In the case where a CM is hired on the Project, the CM may be designated to receive the Submittals for the Project, log the Submittals, and in some cases reject Submittals that do not conform to Contract requirements. Submittal Procedures for further information.

3.9.5.2 *Copies Required.* Each Submittal shall include one (1) legible, reproducible (if electronic is available, electronic copies shall also be provided) and five (5) legible prints of each drawing or schedule, table, cut sheet, etc., including fabrication, erection, layout and setting drawings, and such other drawings as required under the various sections of the Specifications, until final acceptance thereof is obtained. Subcontractor shall submit copies, in an amount as requested by the Contractor, of: (1) manufacturers' descriptive data for materials, equipment, and fixtures, including catalog sheets showing dimensions, performance, characteristics, and capacities; (2) wiring diagrams and controls; (3) schedules; (4) all seismic calculations and other calculations; and (5) other pertinent information as required by the District or Architect. See also Division 1.

3.9.5.3 *Corrections.* The Contractor shall make all corrections required by Architect, District or CM and shall resubmit, as required by Architect or CM, corrected copies of Shop Drawings or new samples until approved. Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections required by the Architect on previous

## GENERAL CONDITIONS

submissions. Professional services required for more than one (1) re-review of required Submittals of Shop Drawings, Product Data, or samples are subject to charge to the Contractor pursuant to Article 4.5.

3.9.5.4 *Approval Prior to Commencement of Work.* No portion of the Work requiring a Shop Drawing or sample submission or other Submittal shall be commenced until the submission has been reviewed by Contractor and Architect (and CM, if applicable) and approved by Architect (and CM where applicable) unless specifically directed in writing by the Architect. All such portions of the Work shall be in accordance with approved Shop Drawings and samples.

3.9.5.5 *District's Property.* All Submittals, Shop Drawings, computer disks, BIM modeling information, clash checks, schedules, annotated Specifications, samples and other Submittals shall become the District's property upon receipt by the District or Architect.

### 3.9.6 Schedule Requirements for Submittals

Contractor shall obtain and shall submit all required Submittals (i.e. Shop Drawings, Deferred Approvals, Samples, etc.), in accordance with Contractor's "Schedule for Submission of Shop Drawings and Samples" as required in the scheduling portion of the General Conditions at Articles 8 and the Specifications (as long as the Specifications do not conflict with General Conditions. In the case of conflict, the conflicting provision shall be controlled by the General Conditions and the remaining Specifications sections shall be interpreted as if the general conditions language is inserted) with such promptness as to cause no delay in its own Work or in that of any other contractor or subcontractor but in no event later than thirty five (35) days after the Notice to Proceed is issued except in the specific cases noted as an exception under Article 3.7.2.1. No extensions of time will be granted to Contractor or any Subcontractor because of its failure to have Shop Drawings and samples submitted in accordance with Division 1 and the Schedule. Each Subcontractor shall submit all Shop Drawings, samples, and manufacturer's descriptive data for the review of the District, the Contractor, and the Architect through the Contractor.

3.9.6.1 *Consideration of Schedule.* Contractor has considered lead times, DSA or other agency governmental review times, Architect or Engineer review times, manufacturing seasons, and specific long lead procurement concerns for all submittals for the Project.

### 3.9.7 General Submittal Requirements

3.9.7.1 *Contractor Submittal Representations and Coordination.* By submitting Shop Drawings, Product Data, samples, etc., the Contractor represents that it has determined and verified all materials, field measurements, catalog numbers, related field construction criteria, and other relevant data in connection with each such submission, and that it has checked, verified, and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents, including the construction schedule.

3.9.7.2 *Contractor Coordination.* Contractor shall stamp, sign, and date each Submittal indicating its representation that the Submittal meets all of the requirements of the Contract Documents and evidence Contractor's review through execution of the following stamp to be placed on each Shop Drawings:

"[Contractor] has reviewed and approved the field dimensions and the construction criteria, and has also made written notation regarding any information in the Shop Drawings and Submittals that does not conform to the Contract Documents. This Shop Drawing or

## GENERAL CONDITIONS

Submittal has been coordinated with all other Shop Drawings and Submittals received to date by me as Contractor and this duty of coordination has not been delegated to Subcontractors, material suppliers, the Architect, or the Engineers on this Project.

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Signature of Contractor and date

3.9.7.3 *No Deviation from Contract Documents.* The submission of the Shop Drawings, Product Data, samples, etc., shall not deviate from the *requirements* of the Contract Documents including detailing and design intent which is specifically outlined in Contract Documents except as specifically authorized by the Architect or through an accepted substitution pursuant to Article 3.10.4. All deviations from the Contract Documents shall be narratively described in a transmittal accompanying the Shop Drawings. However, Shop Drawings shall not be used as a means of requesting a substitution, the procedure for which is defined in Article 3.10.4, "Substitutions."

3.9.7.4 *Contractor Responsibility for Shop Drawings Conformance to Contract Documents.* Review by District and Architect shall not relieve the Contractor or any Subcontractor from its responsibility in preparing and submitting proper Shop Drawings in accordance with the Contract Documents.

3.9.7.5 *Incomplete Submittals.* Any submission, which in Architect's opinion is incomplete, contains errors, or has been checked superficially, will be returned not reviewed by the Architect for resubmission by the Contractor. Refer to Submittal Procedures of the Specifications for additional information. The Contractor shall be responsible for any related delays and shall not be the basis for any Claim.

3.9.7.6 *Shop Drawings and Submittals Shall Not Be Used as a Method to Make a Substitution.* Shop Drawings and Submittals shall not be used as a means of requesting a substitution or to make changes in the Contract Documents. If changes are made to the Contract Documents through the Shop Drawings, the Architect shall have the right to reject the Submittal. If the Architect does not note the deviation from the approved Plans and Specifications, the Contractor is still responsible for the change and the Architect or the District may require the Shop Drawings be revised to properly reflect the approved Contract Documents. The Architect or District may also require that the Contractor bear all costs under Article 4.5 and consequential damages associated with a CCD to revise Plans and Specifications to accommodate the deviation from approved Plans and Specifications.

3.9.7.7 Extent of Review. In reviewing Shop Drawings, the Architect will not verify dimensions and field conditions. The Architect will review and approve Shop Drawings, Product Data, samples, etc., for aesthetics and for conformance with the design concept of the Work and the information in the Contract Documents. The Architect's review shall neither be construed as a complete check which relieves the Contractor, Subcontractor, manufacturer, fabricator, or supplier from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents unless the Contractor has, in writing, called the Architect's attention to the deviations at the time of submission. The Architect's review shall not relieve the Contractor or Subcontractors from responsibility for errors of any sort in Shop Drawings or schedules, for proper fitting of the Work, coordination of the differing Subcontractor trades and Shop Drawings and Work which is not indicated on the Shop Drawings at the time of submission of Shop Drawings. Contractor and Subcontractors shall be solely responsible for any quantities which may be shown on the Submittals or Contract Documents.

## GENERAL CONDITIONS

### **3.10** SUBSTITUTIONS

#### 3.10.1 Definition

A Substitution is a change in product, material, equipment, or method of construction from those required by the Construction Documents proposed by the Contractor. For this Project, a Substitution is subject to the filing of a Construction Substitution Request Form at the time of bid and meeting the requirements of this Article.

#### 3.10.2 One Product Specified

Unless the Specifications state that no substitution is permitted, whenever the Contract Documents indicate any specific article, device, equipment, product, material, fixture, patented process, form, method, or type of construction or any specific name, make, trade name, or catalog number, with or without the words "or equal," such specification shall be deemed to be used for the purpose of facilitating description of the material, process, or article desired and shall be deemed to be followed by the words "or equal." Subject to the requirements of properly submitting a Substitution Request for as Addressed in Article 3.10.4, the Contractor may, unless otherwise stated, offer any material, process, article, etc., which shall be materially equal or better in every respect to that so indicated or specified ("Specified Item") and will completely accomplish the purpose of the Contract Documents.

#### 3.10.3 Products Specified Which Are Commercially Unavailable

If the Contractor fails to make a request for substitutions for products, prior to the submission of its bid, and such products subsequently become commercially unavailable, the Contractor may request a substitution for such commercially unavailable item. The decision to grant this request is solely at the District's discretion. The written approval of the District, consistent with the procedure for Change Orders, shall be required for the use of a proposed substitute material. The District may condition its approval of the substitution upon the delivery to District of an extended warranty or other assurances of adequate performance of the substitution as well as an equitable deduction in the Contract Price should the substituted item cost less than the Specified Item. All risks of delay due the approval of a requested substitution by the DSA, or any other governmental agency having jurisdiction, shall be on the requesting party. All additional costs, DSA review costs, all procurement and construction delays, and all costs for review by the Architect or its consultants shall be the responsibility of the Contractor and will be deducted from Contractor's pay request.

#### 3.10.4 Substitution Request Form

Requests for substitutions of products, materials, or processes in place of a Specified Item must be in writing on the District's Substitution Request Form ("Request Form") at the time of submitting bids to the District, except as provided for in Article 3.10.3.

The Request Form must be accompanied by evidence as to whether the proposed substitution:

- a. Is equal in quality/service/ability to the Specified Item;
- b. Will entail no changes in detail, construction, and scheduling of related work;
- c. Will be acceptable in consideration of the required design and artistic effect;

## GENERAL CONDITIONS

- d. Will provide no cost disadvantage to the District;
- e. Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
- f. Will required no change of the construction schedule.

In completing the Request Form, the bidder must state, with respect to each requested substitution, whether the bidder will agree to provide the Specified Item in the event that the District denies the bidder's request for such requested substitution. In the event that the bidder has agreed in the Request Form to provide the Specified Item and the District denies the bidder's requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District.

After bids are opened, the apparent lowest bidder shall provide, within five (5) days of opening such bids, any and all Drawing, Specifications, samples, performance data, calculations, and other information, as may be required to assist the Architect, CM and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

After the District's receipt of such evidence by the bidder, the District will make its final decision as to whether the bidder's request for substitution for any Specified Items will be granted. The decision as to whether a proposed request for substitution is equal to a Specified Item shall be at the sole discretion of the District. Any request for substitution that is granted by the District shall be documented and processed though a Change Order. Contractor must submit a complete Submittal of the requested substitution and a Shop Drawing showing configuration, dimensions, and other critical information associated with the substitution that meets the requirements of Article 3.9. The District may condition its approval of any substitution upon delivery to the District of an extended warranty or other assurances of adequate performance of the substitution. Any and all risks of delay due to approval by the DSA or any other governmental agency having jurisdiction shall be on the bidder.

If the Architect and District accept a proposed substitution, the Contractor agrees to pay for all DSA review costs, engineering and design services, including, without limitation, compensation to the Architect and affected engineers for their required time to process such substitution through the Division of the State Architect, if required, and to make all changes and adjustments in materials or the work of all trades directly or indirectly affected by the substituted item or items at no cost to the District.

### 3.10.5 Substitution Requests After Bid

The District, in its sole discretion, may accept a request for substitution by the Contractor or may request Contractor substitute a specified item. Any substitutions requested after bids are opened shall be subject to the same conditions and requirements set forth in Article 3.10.4 above. If any substitutions, that in the District or Architect's determination, results in a credit to the District, the credit amount shall be agreed upon in writing, otherwise, the request for substitution shall be deemed denied.

## 3.11 INTEGRATION OF WORK

### 3.11.1 Scope

The Contractor shall be responsible for cutting, fitting, or patching to complete the Work and to make all parts fit together properly. Contractor shall be responsible for ensuring that all trades are coordinated and scheduled so as to ensure the timely and proper execution of the work. When modifying

## GENERAL CONDITIONS

existing work or installing new Work adjacent to existing work, Contractor shall match, as closely as conditions of Site and materials will allow, the finishes, textures, and colors of the original work, refinishing existing work at no additional cost to District. All cost caused by defective or ill-timed work shall be borne by Contractor. Contractor shall be solely responsible for protecting existing work on adjacent properties and shall obtain all required permits for shoring and excavations near property lines.

### 3.11.2 Structural Members

New or existing structural members and elements, including reinforcing bars and seismic bracing, shall not be cut, bored, or drilled except by written authority of the Architect. Work done contrary to such authority is at the Contractor's risk and subject to replacement at its own expense without reimbursement under the Contract. Schedule delays resulting from Agency approvals for unauthorized work shall be the Contractor's responsibility.

### 3.11.3 Subsequent Removal

Permission to patch any areas or items of the Work shall not constitute a waiver of the District's or the Architect's right to require complete removal and replacement of the areas or items of the Work if, in the opinion of the Architect or the District, the patching does not satisfactorily restore quality and appearance of the Work or does not otherwise conform to the Contract Documents.

## 3.12 CLEANING UP

### 3.12.1 Contractor's Responsibility to Clean Up

Contractor at all times shall keep premises free from debris such as waste, dust, excess water, storm water runoffs, rubbish, and excess materials and equipment. Contractor shall not leave debris under, in, or about the premises, but shall promptly remove same from the premises and dispose of it in a lawful manner. Disposal receipts or dump tickets shall be furnished to the Architect within five (5) days of request.

Contractor shall remove rubbish and debris resulting from the Work on a daily basis. Contractor shall maintain the structures and Site in a clean and orderly condition at all times until acceptance of the Project by the District. Contractor shall keep its access driveways and adjacent streets, sidewalks, gutters and drains free of rubbish, debris and excess water by cleaning and removal each day. All concrete, sidewalks, and paths of travel shall be broom cleaned daily.

### 3.12.2 General Final Clean-Up

Upon completion of Work, Contractor shall employ experience workers or professional cleaners for final cleaning. Clean each surface to the condition expected in a normal, commercial, building cleaning and maintenance program.

- a. Clean interior and exterior of buildings, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected, so surfaces are free from foreign material or discoloration;

## GENERAL CONDITIONS

- b. Clean the Project site. The grounds should be cleared of any Contractor equipment, raked clean of debris and trash removed. Sweep paved areas broom clean.
- c. Repair or replace any damaged materials. Replace any chipped or broken glass.
- d. Remove any and all stains.
- e. Remove labels that aren't permanent labels.
- f. Clean and polish all glass, plumbing fixtures, equipment, finish hardware and similar finish surfaces. Remove any glazing compounds
- g. Remove temporary utilities, fencing, barricades, planking, sanitary facilities and similar temporary facilities from Site.
- h. Remove temporary film that remains on any hardware, doors or other surfaces.
- i. Seal the bottom and tops of all doors

### 3.12.3 Special Clean-Up.

In addition to the general cleaning, the following special cleaning shall be done at the completion of the Work in accordance with the Specifications including, but not limited to:

- a. Remove putty stains from glazing, then wash and polish glazing.
- b. Remove marks, stains, fingerprints and other soil or dirt from painted, stained or decorated work.
- c. Remove temporary protection and clean and polish floors and waxed surfaces.
- d. Clean and polish hardware and plumbing trim; remove stains, dust, dirt, plaster and paint
- e. Wipe surfaces of mechanical and electrical equipment.
- f. Remove spots, soil, plaster and paint from tile work, and wash tile.
- g. Clean all fixtures and equipment, remove excess lubrication, clean light fixtures and lamps, polish metal surfaces.
- h. Vacuum-clean carpeted surfaces.
- i. Remove debris from roofs, down spout and drainage system.

### 3.12.4 Failure to Cleanup



## **GENERAL CONDITIONS**

If the Contractor fails to clean up as provided in the Contract Documents, the District may do so, and the cost thereof shall be the responsibility of the Contractor pursuant to Article 2.2 and seek a Deductive Change Order.

### **3.13 ACCESS TO WORK**

The Contractor shall provide the District, the Architect, Engineers and the Inspector of Record, access to the Work in preparation and progress wherever located. Contractor shall provide safe and proper facilities for such access so that District's representatives may perform their functions.

CONTRACTOR IS AWARE THAT THIS CONTRACT MAY BE SPLIT INTO SEVERAL PHASES AS ADDRESSED IN ARTICLE 6.

#### **3.13.1 Special Inspection, Inspections or Tests Out of State, Out of Country or Remote from Project**

If Contractor has a Subcontractor or supplier that requires in plant or special inspections or inspections or tests that are out of the country, out of the state, or a distance of more than 200 miles from the Project site, the Special Inspector or Inspector shall be provided access so the special inspection or inspection may occur in the remote location. In some cases, the DSA Inspector may also require access in addition to Special Inspectors and individuals performing tests. Inspections/tests shall occur during normal work hours. See also Article 4.3.6.

### **3.14 ROYALTIES AND PATENTS**

#### **3.14.1 Payment and Indemnity for Infringement**

Contractor shall hold and save the District and its officers, agents, and employees, the Construction Manager, the Architect, and the Architect's consultants harmless from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the District, unless otherwise specifically provided in the Contract Documents, and unless such liability arises from the sole negligence, or active negligence, or willful misconduct of the District, the Architect, or the Architect's consultants.

#### **3.14.2 Review**

The review by the Architect of any method of construction, invention, appliance, process, article, device, or material of any kind shall be for its adequacy for the Work and shall not be an approval for the use by the Contractor in violation of any patent or other rights of any person or entity.

### **3.15 INDEMNIFICATION**

#### **3.15.1 Contractor**

See Agreement Form. Contractor shall ensure that its contract with each of its Subcontractors contains provisions requiring the Subcontractors to defend, indemnify and hold harmless the District, Architect, Inspector, the State of California to a minimum level as set forth in this Article and consistent with the indemnity and hold harmless language in the Agreement Form.

## GENERAL CONDITIONS

The Contractor's and Subcontractors' obligation to defend, indemnify and hold harmless the District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors hereunder shall include, without limitation, any and all claims, damages, and costs for the following: (1) any damages or injury to or death of any person, and damage or injury to, loss (including theft), or loss of use of, any property; (2) breach of any warranty, express or implied; (3) failure of the Contractor or Subcontractors to comply with any applicable governmental law, rule, regulation, or other requirement; (4) products installed in or used in connection with the Work; and (5) any claims of violation of the Americans with Disabilities Act ("ADA")

### **3.16 SUBMISSION OF DAILY REPORTS**

#### 3.16.1 General

By 10:00 a.m. on the following business day, the Contractor shall submit a Daily Report to the Inspector and copy the Architect for the previous day's Work. If there is a Construction Manager, the original Daily Report is to be provided to the Construction Manager and copies sent to the Architect and the Inspector. Daily Reports shall be prepared on forms approved by the District, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day. The District reserves the right to note inconsistencies or inaccuracies in the Daily Reports. In such cases, pertinent notes shall be entered by each party to explain points which cannot be resolved that day. Each party shall retain a signed copy of the report. Daily Reports by Subcontractors or others shall be submitted through the Contractor.

#### 3.16.2 Labor

The Daily Report shall show names of workers, classifications, hours worked and hourly rate. The locations where work occurred shall also be identified in the Daily Report. Project superintendent expenses are not allowed.

#### 3.16.3 Materials

The Daily Report required shall describe and list quantities of materials used and unit costs.

#### 3.16.4 Equipment

The Daily Report required shall show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable, and hourly/daily cost. Move-on and move-off fees shall be noted.

#### 3.16.5 Other Services and Expenditures

Other services and expenditures shall be described in the Daily Report in detail as the District requires.

#### 3.16.6 Failure to Submit Daily Report

If Contractor does not submit its Daily Report by 10 am the next business day, the Inspector of Record shall prepare a Daily Report addressing each of the above items. The cost for the Inspector's services to prepare the Daily Report shall be addressed through a Deductive Change Order under Article 7.7.4.

## GENERAL CONDITIONS

### 3.17 AS-BUILT DRAWINGS AND ANNOTATED SPECIFICATIONS

Throughout the duration of the Project, Contractor shall maintain on a current basis an accurate and complete set of As-Built Drawings (and Annotated Specifications) clearly showing all changes, revisions to Specifications and substitutions during construction, including, without limitation, field changes and the final location of all electrical and mechanical equipment, utility lines, ducts, outlets, structural members, walls, partitions, and other significant features. In case a Specification allows Contractor to elect one of several brands, makes, or types of material or equipment, the annotations shall show which of the allowable items the Contractor has furnished. The Contractor will update the As-Built Drawings and Annotated Specifications as often as necessary to keep them current, but no less often than weekly.

Contractor shall update As-Built Drawings with complete information on an area of Work at or near the time when the Work is being performed and prior to any DSA 152 sign off and prior to any Work being covered.

The As-Built Drawings and Annotated Specifications shall be kept at the Site and available for review and inspection by the District and the Architect. Failure to maintain and update the As-Built Drawings is a basis to withhold Progress Payments pursuant to Article 9.6.

#### 3.17.1 Upon Beneficial Occupancy

Contractor shall obtain and pay for reproducible Plans upon Beneficial Occupancy. Contractor shall deliver Plans to District Representative (Construction Manager if one is hired for the Project).

#### 3.17.2 As-Built at Completion of Work

Upon completion of the Work and prior to and as a condition precedent to Application for Retention Payment, the Contractor will provide one neatly prepared and complete set of As-Built Drawings and Annotated Specifications to the District. Contractor shall certify the As-Built as a complete and accurate reflection of the actual construction conditions of the Work by affixing a stamp indicating the Drawings are As-Built and certifying accuracy on the final set of As-Built. Failure to deliver a complete As-Built set of Drawings may result in significant withholdings to ensure Work is properly documented. See Article 9.9.1.

#### 3.17.3 Log of Control and Survey Documentation

Contractor shall complete and maintain an accurate log or all control and survey documentation for the Project as the Work progresses. All reference and control points shall be recorded on the As-Built Drawings. The basis of elevations shall be one of the established benchmarks that must be maintained on the As-Built.

#### 3.17.4 Record Coordinates for Key Items

Contractor shall record, by coordinates, all utilities on-site with top of pipe elevations, major grade and alignment changes, rim, grate or top of curb and flow line elevations of all drainage structures and sewer manholes. Contractor shall update record information at or near the time when work is occurring in an area and prior to DSA 152 sign off on any category of Work and prior to covering the Work.

## **GENERAL CONDITIONS**

### **3.17.5 BIM As-Built Drawings**

If BIM is utilized for the Project, then an electronic version of such As-Built Drawings and Annotated Specifications will be delivered to District (in an acceptable format to District).

### **3.18 EQUIPMENT MANUALS**

Contractor shall obtain and furnish three (3) complete sets of manuals containing the manufacturers' instructions for maintenance and operation of each item of equipment and apparatus furnished under the Contract Documents and any additional data specifically requested under the various sections of the Specifications for each division of the Work. The manuals shall be arranged in logical, sequential order, labeled, indexed, and placed in three-ring binders. At the completion of its Work, the Contractor shall certify, by endorsement thereon, that each of the manuals is complete, accurate, and covers all of its Work. Prior to submittal of Contractor's Application for Retention Payment, and as a further condition to its approval by the Architect, each Subcontractor shall deliver the manuals, arranged in logical, sequential order, labeled, indexed, endorsed, and placed in three-ring binders, to the Contractor, who shall assemble these manuals for all divisions of the Work, review them for completeness, and submit them to the District through the Architect.

## GENERAL CONDITIONS

### ARTICLE 4 ADMINISTRATION OF THE CONTRACT AND CLAIMS

#### 4.1 ARCHITECT

##### 4.1.1 Replacement of Architect

In the case of the termination of the Architect, the District may appoint an Architect or another construction professional or may perform such functions with its own licensed professional personnel. The status of the replacement Architect under the Contract Documents shall be the same as that of the former Architect.

#### 4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

##### 4.2.1 Status

Pursuant to Titles 2 of the California Code of Regulations and as required pursuant to the Field Act, Education Code 17280 et seq., the Architect will provide administration of the Contract Documents and the Work, and will be the District's representative during construction, as well as during the one (1) year period following the commencement of any warranties. The Architect will have authority to act on behalf of the District only to the extent provided in the Contract Documents.

##### 4.2.2 Site Visits

The Architect will visit the Site at intervals necessary in the judgment of the Architect to become generally familiar with the progress and quality of the Work and to determine in general if the Work is being performed in accordance with the Contract Documents and as otherwise required by DSA.

##### 4.2.3 Limitations of Construction Responsibility

The Architect, District and CM shall not have control over, charge of, or be responsible for construction means, methods, techniques, schedules, sequences or procedures, fabrication, procurement, shipment, delivery, receipt, installation, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility under the Contract Documents. The Architect, District and CM shall not be responsible for the Contractor's, Subcontractors', material or equipment suppliers', or any other person's schedules or failure to carry out the Work in accordance with the Contract Documents. The Architect, District and CM shall not have control over or charge of acts or omissions of the Contractor, Subcontractors, their agents or employees, or any other persons or entities performing or supplying portions of the Work. The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect, District or CM in the Architect, District or CM's administration of the Contract Documents, or by tests, inspections, or approvals required or performed by persons other than the Contractor.

##### 4.2.4 Communications Facilitating Contract Administration

Except where a CM is on the Project, or as otherwise provided in the Contract Documents or when direct communications are warranted by special circumstances, the District and the Contractor shall communicate through the Architect. In the cases where a CM is hired for the Project, all communication shall be through the CM (unless otherwise directed) with copies to the District, Architect

## GENERAL CONDITIONS

and Inspector. Where direct communication is necessary between the District and the Contractor, the District's communication shall be through the District's authorized designated person. The Architect and CM shall be promptly informed, and shall receive copies of all written communications. Contractor shall not rely upon any communications from the District that is not from the District's Representative. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material or equipment suppliers shall be through the Contractor. In the case where a CM is hired for the Project, the CM shall be the main point of contact for communication of information. Copies should be sent to the Architect, District Representative and Inspector.

### 4.2.5 Payment Applications

The Architect will review and make recommendations to the District regarding the amounts due the Contractor on the Certificates for Payment pursuant to Article 9.3.4 and subject to the Inspector's review, (CM review, if applicable) and Architect's observation. This review of Payment Applications is sometimes called a "Pencil Draft." Return of a Pencil Draft shall constitute the District's dispute of the Payment Application that has been submitted. Contractor shall promptly respond to Pencil Drafts or Contractor's Payment Applications may be delayed. Contractor's failure to promptly respond to a Pencil Draft shall qualify as a delay in the Prompt Payment of a Request for Payment or Request for Retention.

### 4.2.6 Rejection of Work

In addition to the rights, duties, and obligations of the Inspector under this Article, the Architect may recommend to the District that the District reject Work which does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable to achieve the intent of the Contract Documents, the Architect (and/or CM) may recommend to the District that the District require additional inspection or testing of the Work in accordance with Article 13.5, whether or not such Work is Fabricated, installed, or completed. District may have Non-conforming Work removed and replaced pursuant to Article 9.7. However, neither this authority of the Architect (or CM) nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect (or CM) to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

Contractor shall, without charge, replace or correct Work found by the District to not be in conformance to Contract requirements. Contractor shall promptly segregate and remove rejected materials from the Project site.

This section does not address a Notice of Non-Compliance and the remedies associated with a Notice of Non-Compliance which are addressed at Article 7.1.2.

### 4.2.7 Warranties upon Completion

The Architect (and where applicable CM), in conjunction with the Inspector will conduct field reviews of the Work to determine the date of Substantial Completion and of Final Completion, shall receive and forward to the District for the District's review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment when the Architect believes the Work has been completed in compliance with the requirements of the Contract Documents (See Article 9.11 for Close-Out). The handling by the Architect (or where applicable CM) of such warranties, maintenance manuals, or similar documents shall not diminish or transfer to the Architect any responsibilities or liabilities required by the Contract Documents of the Contractor or other entities, parties, or persons performing or supplying the Work.

## **GENERAL CONDITIONS**

On some Projects, the District will take a phased occupancy of the Project. In those cases, the District may commence the running of warranties on the buildings, or phases that are accepted after Punch List is completed and the District has accepted Completion of the separate phase. A separate Notice of Completion may be filed for the separate building or phase of work and warranties shall commence for the separate phase only to the extent that warranties do not require coordination or connection to other buildings or other parts of the site and only if the warranted item is completed to its entirety in the segregated building or phased area.

If written warranties are not provided at the time the Punch List is nearing completion, Architect (with recommendations from the CM and Inspector) shall determine the dollar value of the warranties and shall make recommendation for withholds necessary transfer such Warranty to the District for future use as part of the Punch List for the Project pursuant to Article 9.6.

Warranties are not commenced through utilizing of equipment for testing and operation as necessary to acclimate buildings or where necessary to test systems.

### 4.2.8 Interpretation

The Architect will interpret and decide matters concerning performance and requirements of the Contract Documents. Architect shall make clarifications as necessary to interpret the Contract Documents.

## 4.3 **PROJECT INSPECTOR**

### 4.3.1 General

One or more Project Inspectors employed by the District and approved by the Division of the State Architect will be assigned to the Work in accordance with the requirements of Title 24 of the California Code of Regulations. The Inspector(s) duties are as specifically defined in Title 24 Section 4-333 and 4-342 and in DSA IR A-8.

### 4.3.2 Inspector's Duties and DSA Noted Timelines for Inspection

All Work shall be under the observation of the Inspector. Contractor shall establish a protocol for requesting inspection with Inspector so as to not delay the Work and provide adequate time for the Inspector to perform inspection. If such a protocol is not established ahead of time, Inspector may utilize the time criteria set by Title 24 of 48 hours in advance of submitting form DSA 156 for each new area. The Inspector shall have free access to any or all parts of the Work at any time. The Contractor shall furnish the Inspector such information as may be necessary to keep the Inspector fully informed regarding progress and manner of Work and character of materials. Such observations shall not, in any way, relieve the Contractor from responsibility for full compliance with all terms and conditions of the Contract, or be construed to lessen to any degree the Contractor's responsibility for providing efficient and capable superintendence. The Inspector is not authorized to make changes in the Drawings or Specifications nor shall the Inspector's approval of the Work and methods relieve the Contractor of responsibility for the correction of subsequently discovered defects, or from its obligation to comply with the Contract Documents.

Inspector shall electronically post DSA required documents on the DSA electronic posting website. It is the Contractor's responsibility to determine the status of posting and determine if all the

## GENERAL CONDITIONS

criteria for sign off of a category of Work on the Project Inspection Card (Form DSA 152) as defined more thoroughly in the most current version of the DSA 152 manual posted on the DSA website.

Inspector may collaborate with Contractor about approval of areas that may be constructed and approved incrementally under the DSA 152 card pursuant to the guidelines of PR-13 at Article 1.17. Inspector shall work with Contractor to present incremental approval proposals to DSA.

### 4.3.3 Inspector's Authority to Reject or Stop Work

The Inspector shall have the authority to reject Work whenever provisions of the Contract Documents are not being complied with, and Contractor shall instruct its Subcontractors and employees accordingly. In addition, the Inspector may stop any Work that poses a probable risk of harm to persons or property. The Contractor shall instruct its employees, Subcontractors, material and equipment suppliers, etc., accordingly. The absence of any Stop Work Order or rejection of any portion of the Work shall not relieve the Contractor from any of its obligations pursuant to the Contract Documents.

### 4.3.4 Inspector's Facilities

Within seven (7) days after the notice to proceed, the Contractor shall provide the Inspector with the temporary facilities as required. More specific requirements for the Inspector facilities may be further described under Division 1 of the Specifications.

### 4.3.5 Testing Times

The District will provide inspection and testing at its cost during the normal eight (8) hour day Monday through Friday (except holidays). Work by the Contractor outside of the normal eight (8) hour day shall constitute an authorization from the Contractor to the District to provide inspection and testing as required outside of the normal eight (8) hour day. Contractor shall provide adequate time for inspections so as to not delay the Work. An advanced timing protocol may be established pursuant to Article 4.3.2. If the Contractor is behind Schedule then it is incumbent on the Contractor to provide advance forecast through look ahead of the anticipated date for inspection so the Inspector may plan their activities so as to not delay the Project. Contractor shall reimburse District for any additional costs associated with inspection and testing (including re-inspection and re-testing) outside the normal eight-hour day and for any retests caused by the Contractor.

It is the Contractor's responsibility to request special inspections with sufficient time so all testing may be timely completed and posted so work may proceed and the Inspector's signature is attached to the Project Inspection Card (Form 152). Specifically, timely request for special inspection under the DSA Verified Report Forms 291 (laboratory), DSA Verified Report Form 292 (Special Inspection), and DSA Verified Report 293 (geotechnical) since DSA requirements under PR 13-01 specifically gives the Special Inspections 14 days to post to the DSA website. Failure to plan and pay (if applicable) for quicker delivery of Special Inspections may be counted as Float, but is not considered Governmental Delay Float under Article 8.1.4.

### 4.3.6 Special Inspections, Inspections or Tests Out of State, Out of Country or Remote from Project

If Contractor has a Subcontractor or supplier that requires in plant or special inspections, inspections or tests that are out of the country, out of the state or a distance of more than 200 miles from the Project Site, the District shall provide the Special Inspector or individual performing tests time for



## **GENERAL CONDITIONS**

inspection and testing during normal work hours. Contractor, however, is responsible for the cost of travel, housing, food, out of area premiums that may be in the Inspector/Testing Agreement with District, or other expenses necessary to ensure proper inspection, special inspection or testing is provided by a DSA Certified Inspector, Special Inspector, or individual performing tests. In some cases all three (DSA Inspector, Special Inspector, and Tester) may be required. In addition, if the DSA Certified Inspector, Special Inspector, or individual performing test has contractual travel clauses or special rates for out of town inspection, Contractor is responsible for all costs associated with the contractual travel costs in addition to all other costs. Arrangements for inspection and/or testing shall be made far enough in advance so as to not delay the Work.

### **4.4 STOP WORK ORDER**

DSA may issue a Stop Work Order, or an Order to Comply, when either (1) the Work proceeds without DSA approval; (2) the Work proceeds without a DSA Inspector of Record, or (3) where DSA determines that the Work is not being performed in accordance with applicable rules and regulations, and would compromise the structural integrity of the Project or would endanger lives. If a Stop Work Order is issued, the Work in the affected area shall cease until DSA withdraws the Stop Work Order. Pursuant to Education Code section 17307.5(b), the District shall not be held liable in any action filed against the District for any delays caused by compliance with the Stop Work Order, except to the extent that an error or omission by the District is the basis for the issuance of the Stop Work Order.

Examples of Stop Work Orders that may be issued by DSA include DSA Bulletin 07-04 and Policy 10-01, the installation of automatic fire sprinkler systems without approved Plans, covering Work that has not been approved by Inspector on DSA Project Inspection Card (Form 152).

### **4.5 RESPONSIBILITY FOR ADDITIONAL CHARGES INCURRED BY THE DISTRICT FOR PROFESSIONAL SERVICES**

If at any time prior to the completion of the requirements under the Contract Documents, the District is required to provide or secure additional professional services (including CM, Inspection, Architect, Engineering and Special Consultant Services) for any reason by any act of the Contractor, the District may seek a Deductive Change Order for any costs incurred for any such additional services, which costs shall be deducted from the next progress payment. A Deductive Change Order shall be independent from any other District remedies and shall not be considered a waiver of any District rights or remedies. If payments then or thereafter due to the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the District. Additional services shall include, but shall not be limited to, the following:

- a. Services made necessary by the default of the Contractor (Article 14 or Article 2.2).
- b. Services made necessary due to the defects or deficiencies in the Work of the Contractor (Article 2.2 and Article 9.6).
- c. Spurious or frivolous RFI's issued that do not conform to the requirements of Article 7.4. Issuance of the same RFI after receiving an answer from the Architect or Engineer
- d. Review of Schedules that are provided by Contractor that do not Conform with the Requirements of Article 8.

## **GENERAL CONDITIONS**

- e. Preparation of a CCD or ICD to correct a Contractor Deficiency, or Contractor Caused Notice of Non-Compliance (Article 7.3).
- f. Review of Incomplete Shop Drawings or Submittals, including the submission of Piecemeal Shop Drawings or Submittals unless piecemeal Submittals are specifically agreed upon by District (Article 3.9)
- g. Services required by failure of the Contractor to perform according to any provision of the Contract Documents.
- h. Services in connection with evaluating substitutions of products, materials, equipment, Subcontractors' proposed by the Contractor, and making subsequent revisions to Drawings, Specifications, obtaining DSA approvals, DSA costs for review of CCD's, other governmental agency review costs, and providing other documentation required (except for the situation where the specified item is no longer manufactured or available). (Article 3.10)
- i. Services for evaluating and processing Claims or Disputes submitted by the Contractor in connection with the Work outside the established Change Order process.
- j. Services required by the failure of the Contractor to prosecute the Work in a timely manner in compliance within the specified time of completion.
- k. Services in conjunction with the testing, adjusting, balancing and start-up of equipment other than the normal amount customarily associated for the type of Work involved.
- l. Services in conjunction with more than one (1) re-review of Submittals of Shop Drawings, Product Data, samples, RFI's etc.

### **4.6 DISPUTES AND CLAIMS**

#### **4.6.1 Decision of Architect**

Disputes between District and Contractor involving money or time, including those alleging an error or omission by the Architect shall be referred initially to the Architect for action as provided in Article 4.6.2 within ten (10) days after Contractor's Article 7 request for Change is denied. If there is a CM, the CM shall receive the Dispute and may review and also assemble opinions and documents to assist the Architect. A decision by the Architect, as provided in Article 4.6.5, shall be required as a condition precedent to proceeding with remedies set forth in Article 4.6.9 as to all such matters arising prior to the date Retention Payment Application is due, regardless of whether such matters relate to execution and progress of the Work, or the extent to which the Work has reached Final Completion.

The condition precedent of an Architect decision shall be waived if: (1) the position of Architect is vacant; (2) the Architect has not received evidence or has failed to render a decision within agreed time limit; (3) the Architect has failed to take action required under Article 4.6.5 within thirty (30) days after the Claim is made, forty-five (45) days have passed after the Claim has been referred to the Architect; or (4) the Claim relates to a stop notice claim not arising from any extra Change Order or Immediate Change Directive for which approval has not been provided.

#### **4.6.2 Architect's Review**

## GENERAL CONDITIONS

The Architect (and CM) will review Disputes and take one or more of the following preliminary actions upon receipt of a Dispute: (1) request additional supporting data from the claimant; (2) submit a schedule to the parties indicating when the Architect expects to take action; (3) reject the Dispute in whole or in part, stating reasons for rejection; (4) recommend approval of the Claim; or (5) suggest a compromise. The Architect may also, but is not obligated to, notify the Surety, if any, of the nature and amount of the Claim.

4.6.2.1 *Architectural Immunity.* Architect review of Claims shall be impartial and meant to resolve Disputes. Pursuant to the case, Huber, Hunt & Nichols, Inc. v. Moore (1977) 67 Cal.App.3d 278, the Architect is provided a quasi-judicial immunity for interpreting and deciding Disputes between the District and Contractor.

### 4.6.3 Documentation if Resolved

If a Dispute has been resolved, the Architect (and/or CM) will prepare a Change Order or obtain appropriate documentation to document the terms for Board approval.

### 4.6.4 Actions if Not Resolved

If a Dispute has not been resolved and all documentation requested pursuant to Article 4.6.2 has been provided, the Contractor shall, within ten (10) days after the Architect's preliminary response, assemble all the documents involved in the Dispute including copies of all back-up documentation of costs and the basis for the Dispute and take one or more of the following actions: (1) modify the initial Dispute; (2) notify the Architect that the initial Dispute stands; or (3) supplement with additional supporting data and re-submit to the Architect under Article 4.6.2.

### 4.6.5 Architect's Written Decision

If a Dispute has not been resolved after consideration of the foregoing and of other evidence presented by the parties or requested by the Architect, the Architect (or Architect through CM) shall provide a written decision twenty (20) days after compliance with Article 4.6.4. Upon expiration of such time period, the Architect (or Architect through CM) will render to the parties its written decision relative to the Dispute, including any change in the Contract Sum or Contract Time or both.

The Architect may also request reasonable additional time to complete Architect's written decision.

If the resolution of the Dispute by the Architect is not satisfactory to the Contractor and copies of all back-up documentation of costs and the basis for the Dispute is fully articulated in a package of material that is complete, the Contractor may then submit a Claim to the District under Article 4.6.9

### 4.6.6 Continuing Contract Performance

Pending final resolution of a Dispute or Claim, including, negotiation, mediation, arbitration, or litigation, the Contractor shall proceed diligently with performance of the Contract, and the District shall continue to make any undisputed payments in accordance with the Contract (less any withholdings or offsets). If the Dispute or Claim is not resolved, Contractor agrees it will neither rescind the Contract nor stop the progress of the work, but Contractor's sole remedy shall be to submit such controversy to determination by a court of competent jurisdiction in the county where the Project is located, after the Project has been completed, and not before.

## GENERAL CONDITIONS

4.6.6.1 *District's Option to Submit Individual Disputes to Arbitration during Claims and Disputes Process.* At the District's sole option, in order to more efficiently resolve Claims during the Project and prior to the completion of the Claims Process, pursuant to Government Code section 9201, the District may submit individual Disputes or Claims for binding arbitration and Contractor agrees to the resolution of for each individual Dispute or Claim by an Arbitrator, including resolution of time and delays. If binding arbitration is utilized for individual disputes, such resolution is full and final as to that particular Dispute or Claim. THIS INDIVIDUAL DISPUTE ARBITRATION PROCESS IS NOT AN ARBITRATION CLAUSE AND SHALL NOT BE CONSTRUED AS AN AGREEMENT TO ARBITRATE. THIS INDIVIDUAL DISPUTES ARBITRATION PROCESS IS FOR THE SOLE PURPOSE OF STREAMLINING AND RESOLVING CLAIMS DURING CONSTRUCTION AND SHALL BE REQUESTED ON SPECIFIC INDIVIDUAL ITEMS BY THE DISTRICT PRIOR TO RETENTION PAYMENT (EVEN IF THERE ARE DEDUCTIONS MADE FROM RETENTION PAYMENT) WHICH REPRESENTS THE FINAL COMPLETION OF THE PROJECT.

- a. If there is no Retention remaining on the Project, individual Disputes initiated prior to Project Final Completion shall continue until a final disposition of the Arbitration or resolution of the individual Claim or Dispute.
- b. No Tolling. The Arbitration process shall not toll the Disputes, Claims, or Appeals process under Article 4.6 or the requirement to submit Claims to Court under Article 4.6.9.4.

### 4.6.7 Claims for Concealed Trenches or Excavations Greater Than Four Feet Below the Surface

When any excavation or trenching extends greater than four feet below the surface or if any condition involving hazardous substances are encountered:

- a. Immediately upon discovery, The Contractor shall promptly, and before the following conditions are disturbed, notify the District, by telephone and in writing, of the condition except:
  1. If such condition is a hazardous waste condition, Contractor's bid includes removal or disposal of hazardous substances. Material that the Contractor believes may be a material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law. In such case, the notice bulletin procedures of Article 7 apply.
  2. Subsurface or latent physical conditions at the Site differing from those indicated in the Drawings, Specifications, Soils Report, and from Contractor's own investigation under Article 2.1.
  3. Unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract.

## GENERAL CONDITIONS

- b. The District shall investigate the conditions, and if District finds that the conditions do materially so differ, do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work shall issue a Change Order or Construction Change Document under the procedures described in the Contract.
- c. In the event that a dispute arises between the public entity or District and the Contractor whether the conditions materially differ, involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled Completion Date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

### 4.6.8 Dispute Concerning Extension of Time.

If Contractor and District cannot agree upon an extension of time, whether compensable or not, then Contractor must have first completed the procedures set forth in Article 8.4. Upon completion of the procedures set forth under Article 8.4, Contractor must then comply with the requirements in this Article including those set forth under Article 4.6.9.

### 4.6.9 Claims Procedures

Pursuant to the remedies under Public Contract Code section 9201 and Government Code section 930.2, Contractor, through execution of this Agreement, also agrees to comply with the Claims requirements of Article 4.6 to quickly and efficiently resolve disputes. Further, to provide a level of accuracy to the records submitted, the District shall have the right to audit books and records pursuant to Article 13.11 based on the actual costs incurred and to reduce the uncertainty in resolving disputes with limited information.

#### 4.6.9.1 *Procedure Applicable to All Claims*

- a. Definition of Claim: A "Claim" is where a Dispute between the parties rises to the level where backup documentation is assembled and provided to the District as a separate demand by the Contractor for (1) time extension, (2) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (3) and amount the payment of which is disputed by the District. (If the Claim is for damages associated with a DSA Stop Work Order, the Contractor shall not be entitled to a request for Compensation, but shall be entitled to utilize Governmental Delay Float (See Article 8.1.5.1.))
- b. Filing Claim Is Not Basis to Discontinue Work: The Contractor shall promptly comply with Work under the Contract or Work requested by the District even though a written Claim has been filed. The Contractor and the District shall make good faith efforts to resolve any and all Claims that may arise during the performance of the Work covered by this Contract.

## GENERAL CONDITIONS

- c. Claim Notification: The Contractor shall within seven (7) calendar days after the written decision of the Architect, or if the time period for Architect's decision has passed under Article 4.6.1, submit a notification, in writing, with the District (and the District's CM) stating clearly the basis for the Claim. If the notification is not submitted within seven (7) days after the written decision of the Architect or the passage of time under Article 4.6.1, the Contractor shall be deemed to have waived all right to assert the Claim, and the Claim shall be denied. Claims submitted after the Retention Payment date shall also be considered null and void by the District. All Claims shall be reviewed pursuant to Articles 4.6.1 through 4.6.5.

The Formal Notification of Claim must be presented as follows:

- (1) The term "Claim" must be at the top of the page in no smaller than 20 point writing.
  - (2) All documentation submitted pursuant to Article 4.6 to the Architect shall be submitted with the "Claim."
  - (3) A stack of documents, copy of all Project documents, or the submission of random documents shall not constitute an adequate reference to supporting documentation
  - (4) Any additional or supporting documentation that Contractor believes is relevant should be submitted at this time.
- d. Formal Claim Appeal Submission: If the Contractor does not concur with the District's decision regarding the Claim Notification, the Contractor will issue a formal Claim Appeal within fourteen (14) days of receipt of the District's decision and all detailed information in support of the Claim Appeal within thirty (30) days. All appeals shall be submitted before Retention Payment. If the Claim Appeal is not submitted within fourteen (14) calendar days and detailed information within thirty (30) days, the Contractor shall be deemed to have waived its right to assert the Claim and the Claim shall be denied. Contractor's failure to submit any detailed information which is in the possession of Contractor shall render such information inadmissible by Contractor at trial, arbitration or other legal proceeding.
- e. Appeal Claim Format: The Contractor shall provide all written detailed documentation which supports the Claim, including but not limited to: arguments, justifications, cost, estimates, Schedule analysis and detailed documentation. The format of the Claim Appeal shall be as follows:
1. Cover letter.
  2. Summary of factual basis of Claim and amount of Claim.

## GENERAL CONDITIONS

3. Summary of the basis of the Claim, including the specific clause and section under the Contract under which the Claim is made.
4. Documents relating to the Claim, including:
  - a. Specifications sections in question.
  - b. Relevant portions of the Drawings
  - c. Applicable Clarifications (RFI's)
  - d. Other relevant information, including responses that were received.
  - e. Contractor Analysis of Claim merit.
    - (a) Contractor's analysis of any Subcontractor vendor Claims that are being passed through.
    - (b) Any analysis performed by outside consultants
    - (c) Any legal analysis that Contractor deems relevant
  - f. Break down of all costs associated with the Claim.
  - g. For Claims relating to time extensions, an analysis and supporting documentation evidencing any effect upon the critical path in conformance with the requirements of Article 8.4 chronology of events and related correspondence.
  - h. Applicable Daily Reports and logs.
    - (a) If the Daily Reports or Logs are not available, lost or destroyed, there shall be a presumption that the lost documentation was unfavorable to the Contractor. See California Civil Jury Instruction 204.
  - i. For Claims involving overhead, cost escalation, acceleration, disruption or increased costs, a full version of job costs reports organized by category of work or Schedule of Values with budget information tracked against actual costs. Any and all supporting back-up data, including the original bid (and associated original unaltered metadata).
    - (a) The meta data and bid information shall be provided confidentially and subject to a protective order to prevent dissemination to other contractors or to the public. However, the bid documentation should remain intact and available for review and inspection in case of this type of increased cost Claim.
    - (b) This data on the bid shall be made available to any District attorneys or experts and shall also be utilized as evidence for any legal proceedings.
    - (c) If the bid documentation is not available, lost or destroyed, there shall be a presumption that the lost bid documentation was unfavorable to the Contractor. See California Civil Jury Instruction 204.

## GENERAL CONDITIONS

- f. **Certification:** The Contractor (and Subcontractors, if applicable) shall submit with the Claim a certification under penalty of perjury:
1. That the Contractor has reviewed the Claim and that such Claim is made in good faith;
  2. Supporting data are accurate and complete to the best of the Contractor's knowledge and belief;
  3. The amount requested accurately reflects the amount of compensation for which the Contractor believes the District is liable.
  4. That the Contractor is familiar with Government Code sections 12650 et seq. and Penal Code section 72 and that false claims can lead to substantial fines and/or imprisonment.
- g. **Signature of Certification:** If the Contractor is not an individual, the certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.
- h. **Mandatory Claim Appeal Procedure:** The Contractor's Claim Appeal shall be denied if it fails to follow the requirements of this Article.

4.6.9.2 **District (through CM or District's Agent or Attorney) May Request Additional Information:** Within thirty (30) days of receipt of the Claim Appeal and the information under this Article, the District may request in writing any additional documentation supporting the Claim or documentation relating to defenses to the Claim which the District may assert. If additional documents are required, the time in which the Claim is evaluated may be extended by a reasonable time so the Claim and additional documents may be reviewed. *Claims Procedures in Addition to Government Code Claim.* Nothing in the Claims procedures set forth in this Article 4 of the General Conditions shall act to waive or relieve the Contractor from meeting the requirements set forth in Government Code section 900 et seq.

4.6.9.3 **Binding Arbitration of Individual Claim Issues.** To expedite resolution of Claims pursuant to Public Contract Code section 9201, at the District's sole option, the District may submit individual Claims to Arbitration prior to Retention Payment consistent with the requirements of Article 4.6.6.1.

4.6.9.4 **Resolution of Claims in Court of Competent Jurisdiction.** If Claims are not resolved under the procedure set forth and pursuant to Article 4.6.9, such Claim or controversy shall be submitted to a court in the County of the location of the Project after the Project has been completed, and not before.

4.6.9.5 **Warranties, Guarantees and Obligations.** The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by the General Conditions and amendments thereto; and all of the rights and remedies available to District and Architect thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations



**GENERAL CONDITIONS**

by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Article will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

## GENERAL CONDITIONS

### ARTICLE 5 SUBCONTRACTORS

#### 5.1 DEFINITIONS

##### 5.1.1 Subcontractual Relations Bound to Same Contract Terms at General Contractor

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the same obligations and responsibilities, assumed by Contractor pursuant to the Contract Documents. Each subcontract agreement shall preserve and protect the rights of the District and the Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound. Upon written request of the Subcontractor, the Contractor shall identify to the Subcontractor the terms and conditions of the proposed subcontract agreement, which may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

##### 5.1.2 Subcontractor Licenses

All Subcontractors shall be properly licensed by the California State Licensing Board.

##### 5.1.3 Substitution of Subcontractor

Substitution of Subcontractors shall be permitted only as authorized under Public Contract Code §§ 4107 et seq. Any substitutions of Subcontractors shall not result in any increase in the Contract Price or result in the granting of any extension of time for the completion of the Project.

##### 5.1.4 Contingent Assignment of Subcontracts and Other Contracts

Each subcontract, purchase order, vendor contract or agreement for any portion of the Work is hereby assigned by the Contractor to the District provided that:

- a. Such assignment is effective only after Termination of this Contract with the Contractor by the District as provided under Article 14 and only for those subcontracts and other contracts and agreements that the District accepts by notifying the Subcontractor or Materialman (as may be applicable) in writing; and
- b. Such assignment is subject to the prior rights of the Surety(ies) obligated under the Payment Bond and Performance Bond.
- c. The Contractor shall include adequate provisions for this contingent assignment of subcontracts and other contracts and agreements in each such document.

**GENERAL CONDITIONS**

**ARTICLE 6  
CONSTRUCTION BY DISTRICT OR BY SEPARATE CONTRACTORS**

**6.1 DISTRICT'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS**

**6.1.1 Separate Contracts.**

6.1.1.1 District reserves the right to let other contracts in connection with this Work. Contractor shall afford other contractors reasonable opportunity for (1) introduction and storage of their materials; (2) access to the Work; and (3) execution of their work. Contractor shall properly connect and coordinate its work with that of other Contractors.

6.1.1.2 If any part of Contractor's Work depends on proper execution or results of any other contractor, the Contractor shall inspect and within seven (7) days or less, report to Architect, in writing, any defects in such work that render it unsuitable for proper execution of Contractor's Work. Contractor will be held accountable for damages to District for that Work which it failed to inspect or should have inspected. Contractor's failure to inspect and report shall constitute its acceptance of other contractors' Work as fit and proper for reception of its Work, except as to defects which may develop in other contractors' work after execution of Contractor's work.

6.1.1.3 To ensure proper execution of its subsequent Work, Contractor shall measure and inspect Work already in place and shall at once report to the Architect in writing any discrepancy between executed Work as built and the Contract Documents.

6.1.1.4 Contractor shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by District in prosecution of the Project and the potential impact of such Work on the Baseline Schedule or Schedule updates.

6.1.1.5 Nothing herein contained shall be interpreted as granting to Contractor the exclusive occupancy at the site of Project. Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the Project Site. If execution of any contract by the District is likely to cause interference with Contractor's performance of this Contract, once Contractor provides District timely written notice and identifies the Schedule Conflict, District shall decide which contractor shall cease work temporarily and which contractor shall continue, or whether Work can be coordinated so that contractors may proceed simultaneously.

6.1.1.6 District shall not be responsible for any damages suffered or extra costs incurred by Contractor resulting directly or indirectly from award or performance or attempted performance of any other contract or contracts at the Project necessary for the performance of the Project (examples include Electrical Utility Contractor, separate offsite contractor, a separate grading contractor, furniture installation etc.)

**CONTRACTOR IS AWARE THAT THIS CONTRACT MAY BE SPLIT INTO SEVERAL PHASES BASED ON DOCUMENTATION PROVIDED WITH THIS BID OR DISCUSSED AT THE JOB WALK. CONTRACTOR HAS MADE ALLOWANCE FOR ANY DELAYS OR DAMAGES WHICH MAY ARISE FROM COORDINATION WITH CONTRACTORS REQUIRED FOR OTHER PHASES. IF ANY DELAYS SHOULD ARISE FROM ANOTHER CONTRACTOR**

## GENERAL CONDITIONS

**WORKING ON A DIFFERENT PHASE, CONTRACTOR'S SOLE REMEDY FOR DAMAGES, INCLUDING DELAY DAMAGES, SHALL BE AGAINST THE CONTRACTOR WHO CAUSED SUCH DAMAGE AND NOT THE DISTRICT. CONTRACTOR SHALL PROVIDE ACCESS TO OTHER CONTRACTORS FOR OTHER PHASES AS NECESSARY TO PREVENT DELAYS AND DAMAGES TO OTHER CONTRACTORS WORKING ON OTHER PHASES OF CONSTRUCTION.**

### 6.1.2 District's Right to Carry Out the Work

See Article 2.2.

### 6.1.3 Designation as Contractor

When separate contracts are awarded to contractors on the Project Site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate District/Contractor Agreement.

### 6.1.4 District Notice to the Contractor of Other Contractors

The Contractor shall have overall responsibility to reasonably coordinate and schedule Contractor's activities with the activities of the District's forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their construction schedules when:

- a. Notice is provided in the Contract Documents of other scope of Work,
- b. In the case where there is known Work to be performed by other Contractors
- c. For outside contractors hired by utilities
- d. Where the Contract Document provides "Work by Others" or "By Others"
- e. Where specifically noted during the Pre-Bid Conference
- f. Where specifically noted in the Mandatory Job Walk
- g. By CO or ICD,
- h. With respect to the installation of :
  1. Furniture,
  2. Electronics and networking equipment,
  3. Cabling,
  4. Low voltage,
  5. Off-site work,
  6. Grading (when by a separate contractor),
  7. Environmental remediation when excluded by the Contract Documents (i.e. asbestos, lead or other hazardous waste removal)
  8. Deep cleaning crews,

## **GENERAL CONDITIONS**

9. Commissioning and testing,
10. Keying and re-keying,
11. Programming

6.1.4.2 Exception where no Coordination is Required on the Part of the Contractor for Turn Key Operations. If the Contractor has specifically outlined a "Turn Key" or "Complete Delivery" of a final completed operational school in writing as part of the Baseline Schedule..

6.1.4.3 The Contractor shall make any revisions to the Baseline Schedule (or Schedule Update) and Contract Sum deemed necessary after a joint review and mutual agreement. The Baseline Schedule (or Schedule Update) shall then constitute the Schedules to be used by the Contractor, separate contractors, and the District until subsequently revised. Additionally, Contractor shall coordinate with Architect, District, and Inspector to ensure timely and proper progress of Work.

### **6.2 CONSTRUCTIVE OWNERSHIP OF PROJECT SITE AND MATERIAL**

Upon commencement of Work, the Contractor becomes the constructive owner of the entire site, improvements, material and equipment on Project site. Contractor must ensure proper safety and storage of all materials and assumes responsibility as if Contractor was the owner of the Project site. All risk of loss or damage shall be borne by Contractor during the Work until the date of Completion. As constructive owner of the Project site, Contractor must carry adequate insurance in case of calamity and is not entitled to rely on the insurance requirements as set forth in this Agreement as being adequate coverage in case of calamity.

### **6.3 DISTRICT'S RIGHT TO CLEAN UP**

If a dispute arises among the Contractor, separate contractors, and the District as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Article 3.12, the District may clean up and allocate the cost among those it deems responsible.

# GENERAL CONDITIONS

## ARTICLE 7 CHANGES IN THE WORK

### 7.1 CHANGES

#### 7.1.1 No Changes Without Authorization

There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order, Change Order Request, Immediate Change Directive, or order by the Architect for a minor change in the Work as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District's Governing Board or designated representative with delegated authority (subject to Board ratification) has authorized the same and the cost thereof approved in writing by Change Order or executed Construction Change Document. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted in writing in the Change Order. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications. Notwithstanding anything to the contrary in this Article 7, all Change Orders shall be prepared and issued by the Architect and shall become effective when executed by the District's Governing Board, the Architect, and the Contractor.

Should any Change Order result in an increase in the Contract Price, the cost of such Change Order shall be agreed to, in writing, in advance by Contractor and District and be subject to the monetary limitations set forth in Public Contract Code section 20118.4 (Please check with the District since there are different interpretations of the limitations of Public Contract Code section 20118.4 depending on the County the Project is located). In the event that Contractor proceeds with any change in Work without first notifying District and obtaining the Architect's and District's consent to a Change Order, Contractor waives any Claim of additional compensation for such additional work and Contractor takes the risk that a Notice of Non-Compliance may issue, a critical path Project delay may occur, and the Contractor will also be responsible for the cost of preparation and DSA CCD review fees for a corrective DSA approved Construction Change Document.

**CONTRACTOR UNDERSTANDS, ACKNOWLEDGES, AND AGREES THAT THE REASON FOR THIS NOTICE REQUIREMENT IS SO THAT DISTRICT MAY HAVE AN OPPORTUNITY TO ANALYZE THE WORK AND DECIDE WHETHER THE DISTRICT SHALL PROCEED WITH THE CHANGE ORDER OR ALTER THE PROJECT SO THAT SUCH CHANGE IN WORK BECOMES UNNECESSARY AND TO AVOID THE POSSIBLE DELAYS ASSOCIATED WITH THE ISSUANCE OF A NOTICE OF NON-COMPLIANCE.**

#### 7.1.2 Notices of Non-Compliance

Contractor deviation or changes from approved Plans and Specifications may result in the issuance of a Notice of Non-Compliance (See DSA Form 154). Contractor is specifically notified that deviations from the Plans and Specifications, whether major or minor, may result in the requirement to obtain a DSA Construction Change Document to correct the Notice of Non-Compliance. (See Article 7.3.1 for Definition of CCD). In some cases, the lack of a DSA approved CCD AND verification from the Inspector that a Notice of Non-Compliance has been corrected may result in a critical path delay to the next stage of Work on the Project. Specifically, a deviation from approved Plans and Specifications may prevent

## **GENERAL CONDITIONS**

approval of the category of Work listed in the DSA 152 Project Inspection Card. Any delays that are caused by the Contractor's deviation from approved Plans and Specifications shall be the Contractor's responsibility.

### **7.1.3 Architect Authority**

The Architect will have authority to order minor changes in the Work that do not involve DSA Approval not involving any adjustment in the Contract Sum, or an extension of the Contract Time.

## **7.2 CHANGE ORDERS ("CO")**

A CO is a written instrument prepared by the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, and the Architect stating their agreement upon all of the following:

- a. A description of a change in the Work;
- b. The amount of the adjustment in the Contract Sum, if any; and
- c. The extent of the adjustment in the Contract Time, if any.

A CO may be comprised of ICD's, Response to RFP's and COR's

## **7.3 CONSTRUCTION CHANGE DOCUMENT (CCD Category A, and CCD Category B) and IMMEDIATE CHANGE DIRECTIVE (ICD)**

### **7.3.1 Definitions**

7.3.1.1 *Construction Change Document (CCD)*. A Construction Change Document is a DSA term that is utilized to address changes to the DSA approved Plans and Specifications. There are two types of Construction Change Documents. (1) DSA approved CCD Category A (DSA Form 140) for Work affecting structural, access compliance or fire/ life safety of the Project which will require a DSA approval; and, (2) CCD Category B (DSA Form 141) for work NOT affecting structural safety, access compliance or fire/ life safety that will not require a DSA approval (except to confirm that no approval is required);

7.3.1.2 *Immediate Change Directive (ICD)*. An Immediate Change Directive is a written order to the Contractor prepared by the Architect and signed by the District (and CM if there is a CM on the Project) and the Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The District may by ICD, without invalidating the Contract, direct immediate changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions within. If applicable, the Contract Sum and Contract Time will be adjusted accordingly.

In the case of an Immediate Change Directive being issued, Contractor must commence Work immediately or delays from failure to perform the ICD shall be the responsibility of Contractor and the failure to move forward with Work immediately shall also be grounds for Termination under Article 14.

## GENERAL CONDITIONS

An ICD does not automatically trigger an Article 7.6 Dispute or Claim. Contractor must timely follow the procedures outlined at Article 7.6 and 4.6 where applicable.

Refer to Division 1 and Supplementary General Conditions for a copy of the proposed Immediate Change Directive form.

### 7.3.2 Use to Direct Change

An ICD shall be used to move work forward immediately and to avoid delay. In some cases, an ICD shall be issued in the absence of agreement on the terms of a CO, COR, or RFP. A copy of an ICD form is provided in the Supplementary General Conditions and Division 1. The anticipated not to exceed price for the Work will be inserted into the ICD. In the case of an ICD issued to correct Contractor Deficiencies or to correct a Contractor caused Notice of Non-Compliance, the ICD may be issued with \$0 and no additional time. Contractor may prepare a COR associated with the ICD pursuant to Article 7. However, Contractor shall proceed with all Work required under an Approved ICD immediately upon issuance. Failure to proceed with the Work under an ICD shall be grounds for Termination for Cause under Article 14 or take over the Work under Article 2.2.

If adequate time exists, an ICD may be subject of an RFP for pricing and determination if any time that may be required. However, if an RFP is not completed, Contractor shall immediately commence Work when an ICD is issued. If the RFP is incomplete, it may still be completed to be submitted for pricing purposes as long as the RFP is submitted within the timeline provided by the RFP, or within 10 days following issuance of the ICD.

### 7.3.3 ICD Issued Over a Notice of Non-Compliance or to Cover Work Subject to a DSA 152 Sign Off

In some cases, an ICD shall be for the purpose of proceeding with Work to keep the Project on Schedule and as an acknowledgement by the District that Contractor is proceeding with Work contrary to a Notice of Non-Compliance, prior to issuance of a DSA approved CCD Category A, or to direct the covering of Work which has not yet received a DSA 152 Inspection Approval to move forward.

7.3.3.1 *Contractor Compliance with all Aspects of an ICD.* Contractor is to undertake the ICD and comply with all aspects of the Work outlined in the ICD. Inspector is to inspect the Work pursuant to the ICD. Failure to follow the ICD may result in deduction of the ICD Work under Article 2.2 or Termination of the Contractor pursuant to Article 14.

7.3.3.2 *Exception in the Case of DSA Issued Stop Work Order.* Contractor must proceed with an ICD even if a CCD has not been approved by DSA except in the case of a DSA issued Stop Work Order. If a DSA Stop Work Order is issued, Contractor must stop work and wait further direction from the District.

7.3.3.3 *ICD Due to Contractor Deficiency or Contractor Caused Notice of Non-Compliance.* If an ICD is issued to correct a Contractor Deficiency or a Contractor caused notice of Non-Compliance, Contractor specifically acknowledges responsibility for all consequential damages associated with the Contractor Deficiency or Contractor caused Notice of Non-Compliance and all consequential damages and costs incurred to correct the deficiency under Article 4.5



## GENERAL CONDITIONS

### **7.4 REQUEST FOR INFORMATION ("RFI")**

#### **7.4.1 Definition**

A RFI is a written request prepared by the Contractor requesting the Architect to provide additional information necessary to clarify or amplify an item which the Contractor believes is not clearly shown or called for in the Drawings or Specifications, or to address problems which have arisen under field conditions.

7.4.1.1 A RFI shall not be used as a vehicle to generate time extensions.

7.4.1.2 Resubmission of the same or similar RFI is not acceptable. RFI's that are similar should be addressed in Project meetings where the requestor (Contractor, Subcontractor or vendor) is able to address the particular issue with the Architect or Engineer and a resolution addressed in the minutes.

7.4.1.3 A RFI response applicable to a specific area cannot be extended to other situations unless specifically addressed in writing within the RFI or in a separate RFI.

7.4.1.4 RFI's should provide a proposed solution and should adequately describe the problem that has arisen.

#### **7.4.2 Scope**

The RFI shall reference all the applicable Contract Documents including Specification section, detail, page numbers, Drawing numbers, and sheet numbers, etc. The Contractor shall make suggestions and interpretations of the issue raised by the RFI. An RFI cannot modify the Contract Cost, Contract Time, or the Contract Documents.

#### **7.4.3 Response Time**

The Architect must respond to a RFI within a reasonable time after receiving such request. If the Architect's response results in a change in the Work, then such change shall be effected by a written CO, COR RFP or ICD, if appropriate. If the Architect cannot respond to the RFI within a reasonable time, the Architect shall notify the Contractor, with a copy to the Inspector and the District, of the amount of time that will be required to respond.

#### **7.4.4 Costs Incurred**

The Contractor shall be responsible for any costs incurred for professional services as more fully set forth in Article 4.5, which shall be subject to a Deductive Change Order, if an RFI requests an interpretation or decision of a matter where the information sought is equally available to the party making such request. District, at its sole discretion, shall issue a Deductive Change Order to Contractor for all such professional services arising from this Article.

## GENERAL CONDITIONS

### 7.5 REQUEST FOR PROPOSAL ("RFP")

#### 7.5.1 Definition

A RFP is a written request prepared by the Architect (and/or CM) requesting the Contractor to submit to the District and the Architect an estimate of the effect of a proposed change on the Contract Price and (if applicable) the Contract Time. If Architect issues a Bulletin, the Changed items in the Bulletin shall be addressed as an RFP and all responses shall be prepared to a Bulletin as addressed in this Article 7.5. A form RFP is included in the Division 1 documents.

#### 7.5.2 Scope

A RFP shall contain adequate information, including any necessary Drawings and Specifications, to enable Contractor to provide the cost breakdowns required by Article 7.7. The Contractor shall not be entitled to any Additional Compensation for preparing a response to an RFP, whether ultimately accepted or not.

#### 7.5.3 Response Time

Contractor shall respond to an RFP within ten (10) days or the time period otherwise set forth in the RFP.

### 7.6 CHANGE ORDER REQUEST ("COR")

#### 7.6.1 Definition

A COR is a written request prepared by the Contractor supported by backup documentation requesting that the District and the Architect issue a CO based upon a proposed change, cost, time, or cost and time that may be incurred on the Project or arising from an RFP, ICD, or CCD.

#### 7.6.2 Changes in Price

A COR shall include breakdowns per Article 7.7 to validate any change in Contract Price due to proposed change or Claim.

#### 7.6.3 Changes in Time

A COR shall also include any additional time required to complete the Project only if the delay is a critical path delay. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in Article 8. A schedule fragnet showing the time delay must be submitted with the COR. Any changes in time will be granted only if there is an impact to the critical path. If Contractor fails to request a time extension in a COR, then the Contractor is thereafter precluded from requesting or claiming a delay.

### 7.7 COST OF CHANGE ORDERS

#### 7.7.1 Scope

Within ten (10) days after a request is made for a change that impacts the Contract Sum as defined in Article 9.1, the critical path, or the Contract Time as defined in Article 8.1.1, the Contractor shall

## GENERAL CONDITIONS

provide the District and the Architect, with a written estimate of the effect of the proposed CO upon the Contract Sum and the actual cost of construction, which shall include a complete itemized cost breakdown of all labor and material showing actual quantities, hours, unit prices, and wage rates required for the change, and the effect upon the Contract Time of such CO. Changes may be made by District by an appropriate written CO, or, at the District's option, such changes shall be implemented immediately upon the Contractor's receipt of an appropriate written Construction Change Document.

District may, as provided by law and without affecting the validity of this Agreement, order changes, modification, deletions and extra work by issuance of written CO or CCD from time to time during the progress of the Project, Contract Sum being adjusted accordingly. All such Work shall be executed under conditions of the original Agreement except that any extension of time caused thereby shall be adjusted at time of ordering such change. District has discretion to order changes on a "time and material" basis with adjustments to time made after Contractor has justified through documentation the impact on the critical path of the Project.

7.7.1.1 *Time and Material Charges.* If the District orders Work on a "time and material" basis, timesheets shall be signed daily by the Inspector or District Representative at or near the time the Work is actually undertaken and shall show the hours worked, and the Work actually completed. No time sheets shall be signed the next day. A copy shall be provided to the Person signing the document at the time the document is signed, but not before 10 am the following day.

### 7.7.2 Determination of Cost

The amount of the increase or decrease in the Contract Price from a CO or COR, if any, shall be determined in one or more of the following ways as applicable to a specific situation:

- a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation. If an agreement cannot be reached within fifteen (15) days after submission and negotiation of Contractor's proposal, Contractor may submit pursuant to Article 7.7.3. Submission of sums which have no basis in fact are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.);
  1. If the District objects to 7.7.2(a) as a method for submission due to inaccuracies in the submitted amount, overstatement of manpower or time required to perform the CO, or unreliability of the data provided, the District may either have the Architect or a professional estimator determine the cost for the CO, and the applicable time extension, or the Contractor shall utilize Article 7.7.2(d) or 7.7.3.
  2. Once the District provides a written objection to use of Article 7.7.2(a) due to unreliability of the estimated price, the Contractor shall no longer utilize mutual acceptance of a lump sum as a method for submission of CO's and shall provide a breakdown of estimated or actual costs pursuant to Article 7.7.2(d) or 7.7.3.
- b. By unit prices contained in Contractor's original bid and incorporated in the Project documents or fixed by subsequent agreement between District and Contractor;

## GENERAL CONDITIONS

- c. Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee. However, in the case of disagreement, Contractor must utilize the procedure under Article 7.7.3; or
- d. By cost of material and labor and percentage of overhead and profit. If the value is determined by this method the following requirements shall apply:

- 1. *Basis for Establishing Costs*

- (1) Labor will be the actual cost for wages prevailing locally for each craft or type of workers at the time the extra Work is done, plus employer payments of payroll taxes and workers compensation insurance (exclude insurance costs as part of the overhead and profit mark-up), health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. In no case shall the total labor costs exceed the applicable prevailing wage rate for that particular classification. The use of a labor classification which would increase the extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

- (2) Materials shall be at invoice or lowest current price at which such materials are locally available and delivered to the Site in the quantities involved, plus sales tax, freight, and delivery. The District reserves the right to approve materials and sources of supply or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the District.

- (3) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of \$250 or less.

Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental agencies or distributors at the time the Work is performed. Rates applied shall be appropriate based on actual equipment need and usage. Monthly, weekly or other extended use rates that results in the lowest cost shall be applied if equipment is used on site for extended periods.

The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.

Necessary loading and transportation costs for equipment used on the extra Work shall be included. If equipment is used intermittently and,

**GENERAL CONDITIONS**

when not in use, could be returned to its rental source at less expense to the District than holding it at the Work Site, it shall be returned unless the Contractor elects to keep it at the Work Site at no expense to the District.

All equipment shall be acceptable to the Inspector, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and modifications shall be used to classify equipment, and equipment shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

If tool and equipment charges are part of a Dispute, Claim, or Appeal, the District reserves the right to utilize actual costs for tools and equipment or a depreciation rate for equipment based on audit finding under Article 13.11 and deduct any rental charges that exceed actual or depreciated costs.

- e. Other Items. The District may authorize other items which may be required on the extra work. Such items include labor, services, material, and equipment which are different in their nature from those required by the Work, and which are of a type not ordinarily available from the Contractor or any of the Subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.
- f. Invoices. Vendors' invoices for material, equipment rental, and other expenditures shall be submitted with the COR. If the request for payment is not substantiated by invoices or other documentation, the District may establish the cost of the item involved at the lowest price which was current at the time of the Daily Report.
- g. Overhead. Overhead, including direct and indirect costs, shall be submitted with the COR and include: field overhead, home office overhead, off-site supervision, CO preparation/negotiation/research, time delays, Project interference and disruption, additional guaranty and warranty durations, on-site supervision, additional temporary protection, additional temporary utilities, additional material handling costs, liability and property damage insurance, and additional safety equipment costs.

7.7.3 Format for COR or CO's

The following format shall be used as applicable by the District and the Contractor to communicate proposed additions to the Contract. All costs submitted shall be actual costs and labor shall be unburdened labor. Refer to Division 1 for a copy of the Construction Change Order form.

	<u>EXTRA</u>	<u>CREDIT</u>
(a) Material (attach itemized quantity and unit cost plus sales tax)	_____	_____
(b) Labor (attach itemized hours and rates)	_____	_____
(c) Equipment (attach invoices)	_____	_____
(d) Subtotal	_____	_____

**GENERAL CONDITIONS**

EXTRA      CREDIT

(e) Social Security, and Unemployment Taxes, not to exceed as follows: FICA @ 6.2%- with a wage ceiling of \$84,900; Medicare @ 1.45%- no wage ceiling; FUTA @ .8%- with a wage ceiling of \$7,000; ETT and SUI @ 2.3%- with a wage ceiling of \$7,000; Workers' Compensation @ 5.94%; **Total not-to-exceed is 16.69%.** *(Note: Modifications to these percentages will be evaluated and possibly modified only on a case-by-case basis and only after proper proof of alternate percentages are documented and approved in advance. In addition, as wage ceilings are met, those corresponding percentages must drop from the "burden" calculations).*

(f) Subtotal \_\_\_\_\_

(g) Total Overhead and Profit (inclusive of Liability and Property Damage Insurance): Not to exceed fifteen percent (15%) of Item (f).

(h) Subtotal \_\_\_\_\_

(i) Bond not to exceed one percent (1%) of Item (f)

(k) TOTAL \_\_\_\_\_

(l) Time \_\_\_\_\_

The undersigned Contractor approves the foregoing Change Order or Immediate Change Directive as to the changes, if any, and the Contract price specified for each item and as to the extension of time allowed, if any, for completion of the entire Work on account of said Change Order or Immediate Change Directive, and agrees to furnish all labor, materials and service and perform all Work necessary to complete any additional Work specified therein, for the consideration stated herein. It is understood that said Change Order or Immediate Change Directive shall be effective when approved by the Governing Board of the District.

## GENERAL CONDITIONS

It is expressly understood that the value of such extra Work or changes, as determined by any of the aforementioned methods, expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages or time extensions not included are deemed waived.

The Contractor expressly acknowledges and agrees that any change in the Work performed shall not be deemed to constitute a delay or other basis for claiming additional compensation based on theories including, but not limited to, acceleration, suspension or disruption to the Project.

7.7.3.1 *Adjustment for Time and Compensable Delay.* A CO shall also include any additional time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in Article 8 of the General Contract. A schedule fragnet showing the time delay must be submitted with the CO. Any changes in time will be granted only if there is an impact to the critical path. If Contractor fails to request a time extension in a CO, then the Contractor is thereafter precluded from requesting or claiming a delay.

### 7.7.4 Deductive Change Orders

All Deductive Change Order(s) must be prepared utilizing the form under Article 7.7.3 (a) – (d) only, setting forth the actual costs incurred. Except in the case of an Article 2.2 or 9.6 Deductive Change Order where no mark-up shall be allowed, Contractor will be allowed a maximum of 5% total profit and overhead.

For unilateral Deductive Change Orders, or where credits are due from Contractor for Allowances, Deductive Items, Inspection, Damage, DSA CCD review costs, Architect or Inspector costs for after hours or corrective services, Work removed from the Agreement under Article 2.2 or Article 9.6, there shall be no mark-up.

District may, any time after a Deductive Change Order is presented to Contractor by District for items under Article 2.2 or Article 9.6 of if there is disagreement as to the Deductive Change Order, issue a unilateral Deductive Change Order on the Project and deduct the Deductive Change Order from a Progress Payment, Final Payment, or Retention.

### 7.7.5 Discounts, Rebates, and Refunds

For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to the Contractor, and the Contractor shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of the Contractor's cost in determining the actual cost of construction for purposes of any change, addition, or omissions in the Work as provided herein. All CO's are subject to Audit under Article 13.11 for discounts, rebates and refunds.

### 7.7.6 Accounting Records

With respect to portions of the Work performed by CO's and CCD's on a time-and-materials, unit-cost, or similar basis, the Contractor shall keep and maintain cost-accounting records in a format consistent with accepted accounting standards and satisfactory to the District, which shall be

## GENERAL CONDITIONS

available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents.

Any time and material charges shall require Inspector's signature on time and material cards showing the hours worked and the Work actually completed. See Article 7.7.1.1.

### 7.7.7 Notice Required

If the Contractor desires to initiate a Dispute for an increase in the Contract Price, or any extension in the Contract Time for completion, Contractor shall notify the applicable party responsible for addressing the Dispute or Claim pursuant to Article 4.6. No Claim or Dispute shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such Claim shall be authorized by a CO.

### 7.7.8 Applicability to Subcontractors

Any requirements under this Article 7 shall be equally applicable to CO's, COR's or ICD's issued to Subcontractors by the Contractor to the same extent required by the Contractor.

### 7.7.9 Alteration to Change Order Language

Contractor shall not alter or reserve time in COR's, CO's or ICD's. Contractor shall execute finalized CO's and proceed under Article 7.7.7 and Article 4.6 with proper notice. If Contractor intends to reserve time without an approved CPM schedule prepared pursuant to Article 8 or without submitting a fragnet showing delay to critical path, then Contractor may be prosecuted pursuant to the False Claim Act.



## GENERAL CONDITIONS

### **ARTICLE 8 TIME AND SCHEDULE**

#### **8.1 DEFINITIONS**

##### **8.1.1 Contract Time**

Contractor shall perform and reach Substantial Completion (See Article 1.1.46) within the time specified in the Agreement Form. Moreover, Contractor shall perform its Work in strict accordance with the Project Milestones in the Contract Documents and shall proceed on a properly developed and approved Baseline Schedule, which represents the Contractor's view of the practical way in which the Work will be accomplished. Note that Contract Time includes and incorporates all Float and other Baseline inclusions as noted in Article 8.3.2.1 and as otherwise specifically noted in Article 8.

##### **8.1.2 Notice to Proceed**

District may give a Notice to Proceed within ninety (90) days of the award of the bid by District. Once Contractor has received the notice to proceed, Contractor shall complete the Work in the period of time referenced in the Contract Documents.

In the event that District desires to postpone the giving of the Notice to Proceed beyond this three-month period, it is expressly understood that with reasonable notice to the Contractor, the giving of the date to proceed may be postponed by District. It is further expressly understood by Contractor, that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the giving of the notice to proceed

If the Contractor believes that a postponement will cause a hardship to Contractor, Contractor may terminate the Contract with written notice to District within 10 days after receipt by Contractor of District's notice of postponement. It is further understood by Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and the grounds for notification and hardship shall be subject to Audit pursuant to Article 13.11. Should Contractor terminate the Contract as a result of a notice of postponement, District may award the Contract to the next lowest responsible bidder.

##### **8.1.3 Computation of Time**

The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

##### **8.1.4 Float**

Float is time the total number of days an activity may be extended or delayed without delaying the Completion Date shown in the schedule. Float will fall into three categories: (1) Rain Days; (2) Governmental Delays; and, (3) Project Float. Project Float and Rain Days are owned by the Project and may be utilized as necessary for critical path delays once the days become available for consumption (i.e. the Rain Day arrives and is not utilized since rain did not occur or Work was performed on the interior of a building). However, Governmental Delay float shall not be utilized for purposes other than to address critical path delays that arise due to approvals, Inspector approvals or verifications on governmental forms.

## GENERAL CONDITIONS

8.1.4.1 *Governmental Delay Float.* It is anticipated that there will be governmental generated delays. Specific to DSA approvals, it is anticipated that no less than twenty-five (25) days per calendar year shall be set aside as Governmental Float to be utilized on critical path delays. A pro-rated number of days shall be calculated based on length of Contract Time. (For example, a two (2) year Contract Time shall require fifty (50) days of Governmental Float. If the Contract Time is 182 days, then the Contract Time shall require twelve and one half (12.5) days of Governmental Float) This Governmental Delay float must be incorporated into the schedule and should be incorporated in each critical activity as Contractor deems fit. Specifically, major categories of Work under the DSA 152 (Project Inspection Card) should be allocated Governmental Delay Float at the Contractor's discretion. Governmental Delay Float on the Project may exceed 25 days per one (1) year period, but Contractor is required to include not be less than 25 days of Governmental Delay Float during each one (1) year period.

Contractor's failure to establish a protocol for requesting inspections is not grounds to utilize Governmental Delay Float. As noted in Article 3.1.4, 48 hours advance notice of commencing Work on a new area is required after submitting form DSA 156 and under PR 13-01 Special Inspection reports are not required to be posted until at least 14 days after the Work was inspected. Failure to plan, and pay (if applicable) for quicker delivery of Special Inspections is not Governmental Delay Float under Article 8.1.4.1. If Governmental Delay Float is not utilized, this float is carried through to other DSA 152 categories of inspection and consumed over the course of the Project

Governmental Delay Float may be utilized for a DSA Stop Work Order regardless of fault as defined under Education Code section 17307.5(b).

8.1.4.2 *Inclement Weather (Rain Days).* The Contractor will only be allowed a time extension for unusually severe weather if it results in precipitation or other conditions which in the amount, frequency, or duration is in excess of the norm at the location and time of year in question as established by NOAA weather data. No less than 22 calendar days for each calendar year for Southern California will be allotted for in the Contractor's schedule for each winter weather period or carried at the end of the schedule as Rain Float. Float for weather days in other geographical regions shall be adjusted based on NOAA weather data for the geographical location. Contractor has anticipated all the days it takes to dry out and re-prepare areas that may be affected by weather delays which extend beyond the actual weather days. The weather days shall be shown on the schedule and if not used will become float for the Project's use. The Contractor will not be allowed a day-for-day weather delay for periods noted as float in the Schedule. The Contractor is expected to work seven (7) days per week (if necessary, irrespective of inclement weather), to maintain access, and to protect the Work under construction from the effects of inclement weather. Additional days beyond the NOAA shall be considered under the same criteria that weather days are granted below.

A Rain Day shall be granted by Architect or CM if the weather prevents the Contractor from beginning Work at the usual daily starting time, or prevents the Contractor from proceeding with seventy-five (75%) of the normal labor and equipment force towards completion of the day's current controlling item on the accepted schedule for a period of at least five hours, and the crew is dismissed as a result thereof, the Architect will designate such time as unavoidable delay and grant one (1) critical path activity calendar-day extension if there is no available float for the calendar year.

8.1.4.3 *Project Float.* The Contractor may determine some activities require a lesser duration than allocated and may set aside float in the Project Schedule. There shall be no early completion. Instead, to the extent float is either addressed at the end of the Project or throughout each category of critical path work, Project float may be used as necessary during the course of the Project and allocated on a first,

## **GENERAL CONDITIONS**

come first serve basis. However, the use of float does not extend to Governmental Delay Float, which shall only be used for Governmental Delays.

### **8.2 HOURS OF WORK**

#### **8.2.1 Sufficient Forces**

Contractors and Subcontractors shall continuously furnish sufficient forces to ensure the prosecution of the Work in accordance with the Construction Schedule.

#### **8.2.2 Performance During Working Hours**

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

#### **8.2.3 Costs for After Hours Inspections**

If the Work done after hours is required by the Contract Documents, a Recovery Schedule, or as a result of the Contractor's failure to plan, and inspection must be conducted outside the Inspector's regular working hours, the costs of any after hour inspections, shall be borne by the Contractor.

If the District allows the Contractor to do Work outside regular working hours for the Contractor's convenience, the costs of any inspections required outside regular working hours shall be invoiced to the Contractor by the District and a Deductive Change Order shall be issued from the next Progress Payment.

If the Contractor elects to perform Work outside the Inspector's regular working hours, costs of any inspections required outside regular working hours shall be invoiced to the Contractor by the District and a Deductive Change Order from the next Progress Payment as a Deductive Change Order.

### **8.3 PROGRESS AND COMPLETION**

#### **8.3.1 Time of the Essence**

Time limits stated in the Contract Documents are of the essence to the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

#### **8.3.2 Baseline Schedule Requirements**

8.3.2.1 *Timing:* Within ten (10) calendar days after Notice to Proceed, Contractor shall submit a practical schedule showing the order in which the Contractor proposes to perform the Work, and the dates on which the Contractor contemplates starting and completing the salient categories of the Work. This first schedule which outlines the Contractor's view of the practical way in which the Work will be accomplished is the Baseline Schedule. If the Contractor Fails to submit the Baseline Schedule within the ten (10) days noted, then District may withhold processing and approval of progress payments pursuant to Article 9.4 and 9.6.

## GENERAL CONDITIONS

8.3.2.2 *District Review and Approval:* District, Architect and CM will review both a paper and electronic copy of Baseline Schedule and may provide comments as noted in this Article and either approve or disapprove the Baseline Schedule. All Schedules shall be prepared using an electronic scheduling program acceptable to District. All Schedules shall be delivered in an electronic format usable by the District. All logic ties and electronic information shall be included in the electronic copy of the Baseline Schedule that is delivered to the District.

8.3.2.3 *Schedule Must Be Within the Given Contract Time.* The Baseline Schedule shall not exceed time limits set forth in the Contract Documents and shall comply with all of the scheduling requirements as set forth in the Specifications and Contract Documents.

8.3.2.4 *Submittals Must Be Incorporated (See Articles 3.7 and 3.9):* Contractor shall include Submittals as line items in the Baseline Schedule as required under Article 3.7.2 and 3.9.6. Submittals shall not delay the Work, Milestones, or the Completion Date. Failure to include Submittals in the Baseline Schedule shall be deemed a material breach by the Contractor.

8.3.2.5 *Float Must Be Incorporated.* The Baseline Schedule must indicate the beginning and completion of all phases of construction and shall use the "critical path method" (commonly called CPM) for the value reporting, planning and scheduling, of all Work required under the Contract Documents. The Baseline Schedule must incorporate all Milestones in the Project and apply Governmental Float at each Milestone in the Contractor's discretion. The Baseline Schedule shall incorporate any Schedule provided by the District as part of the bid and shall note durations that will not be adequate or should be shortened based on Contractor's review. These changes shall be identified and incorporated into Contractor's Baseline Schedule as long as requested changes are made within 10 days after the District chooses to move forward with the Project. Scheduling is necessary for the District's adequate monitoring of the progress of the Work and shall be prepared in accordance with the time frame described in this Article 8. The Architect may disapprove of any Schedule or require modification to it if, in the opinion of the Architect or District, adherence to the any Schedule prepared by the Contractor will not cause the Work to be completed in accordance with the Agreement.

8.3.2.6 *No Early Completion.* Contractor shall not submit any Schedule showing early completion without indicating float time through the date set for Project completion by District. Contractor's Baseline Schedule shall account for all days past early completion as float which belongs to the Project. Usage of float shall not entitle Contractor to any delay Claim or damages due to delay.

8.3.2.7 *Use of Schedule Provided in Bid Documents.* In some cases, the bid will include a preliminary schedule indicating Milestones and construction sequences for the Project along with general timing for the Project. The preliminary schedule is not intended to serve as the Baseline Schedule utilized for construction. It is up to the Contractor to study and develop a Baseline Schedule to address the actual durations and sequences of Work that is anticipated while maintaining the Milestones provided by the District. Contract shall obtain information from Contractor's Subcontractors and vendors on the planning, progress, delivery of equipment, coordination, and timing of availability of Subcontractors so a practical plan of Work is fully developed and represented in the Baseline Schedule.

8.3.2.8 *Incorrect Logic, Durations, Sequences, or Critical Path.* The District may reject or indicate durations, sequences, critical path or logic are not acceptable and request changes. The electronic copy of the Baseline Schedule shall have adequate information so logic ties, duration, sequences and critical path may be reviewed electronically. Contractor is to diligently rebuild and resubmit the Baseline Schedule to represent the Contractor's plan to complete the Work and maintain Milestones at the next progress meeting, or before the next progress meeting. If Contractor is not able to build a Baseline

## GENERAL CONDITIONS

Schedule that is acceptable to the District or Architect, the District reserves the right to utilize the unapproved originally submitted Baseline Schedule (See Article 8.3.2.12) and the comments submitted to hold Contractor accountable for timely delivery of Work and maintenance of Milestones. Furthermore, Contractor's representations in the Baseline Schedule, if unacceptable, may also be used as a basis for termination of the Contract under Article 14 if Contractor fails to adequately maintain the Schedule and falls significantly behind without undertaking the efforts to either submit and follow a Recovery Schedule or fail to submit a Recovery Schedule and make no effort toward recovery on the Project.

8.3.2.9 *Contractor Responsibility Even if Schedule Issues Are Not Discovered.* Failure on the Part of the District to discover errors or omissions in any Schedules submitted shall not be construed to be an approval of the error or omission and any flawed Schedule is not grounds for a time extension.

8.3.2.9.1 Inclusions in Baseline Schedule. In addition to scheduling requirements set forth at Article 8.3.2, Contractor is specifically directed to include (broken out separately) in Contractor's Baseline Schedule and all Schedule updates, the following items required pursuant to these General Conditions, including but not limited to:

1. Rain Day Float (excluding inclement weather) as required under Article 8.1.4.2. For example, if the NOAA provides 22 days of Rain Days, all 22 days must be incorporated and noted in the Baseline Schedule. Further, any days required to clean-up or dry out shall be included for operations that are likely to require a clean-up or dry out period. Days that are not utilized shall be considered float owned by the Project.
2. Governmental Delay Float under Article 8.1.4.1. This Governmental Delay Float shall only be utilized for Governmental Delays and shall not be considered available float owned by the Project. This float shall only be distributed to the Project upon the completion of the Project and shall be used to offset Liquidated Damages and shall not generate compensable delays.
3. Submittal and Shop Drawing schedule under Article 3.9.
4. Deferred Approvals under Article 3.9.
5. Time for separate contractors, including furniture installation and start up activities, under Article 6.1.
6. Coordination and timing of any Drawings, approvals, notifications, permitting, connection, and testing for all utilities for the Project. Article 2.1.4.
7. Testing, special events, or school activities

8.3.2.10 *Failure to include Mandatory Schedule Items.* District may withhold payment pursuant to Articles 9.3, 9.4 and 9.6. In lieu of withholding payment for failure to include Mandatory Schedule Items, after the District or Architect has notified the Contractor of failure to meet the Baseline Schedule or Updated Schedule requirements and provided a written notification of this failure and provided a written notice of Schedule preparation errors, and the Contractor fails to correct the noted deficiencies or

## GENERAL CONDITIONS

the Contractor does not provide an updated Baseline Schedule correcting the deficiencies, then Contractor shall not be granted an extension of time for failure to obtain necessary items and approvals under Article 8.3.2 and for the time required for failure to comply with laws, building codes, and other regulations (including Title 24 of the California Code of Regulations). Contractor shall maintain all required Article 8.3.2 Schedule items in the Baseline Schedule and indicate any days that have been used as allowed in Article 8. If Contractor fails to include all Article 8.3.2 items in its Baseline Schedule or Schedule Updates and the District either utilizes an Unapproved Schedule under Article 8.3.2.12 or does not object to the inclusion of required scheduling items, then all mandatory Schedule inclusions, including float, shall be utilized in the District's discretion. If the Contract Time is exceeded, then Contractor shall be subject to the assessment of Liquidated Damages pursuant to Article 8.4.

8.3.2.11 *Failure to Meet Requirements.* Failure of the Contractor to provide proper Schedules as required by this Article and Article 9 is a material breach of the Contract and grounds for Termination pursuant to Article 14. The District, at its sole discretion, may choose, instead, to withhold, in whole or in part, any Progress Payments or Retention amounts otherwise payable to the Contractor.

8.3.2.12 *Use of an Unapproved Baseline Schedule.* If the Baseline Schedule submitted by the Contractor is unacceptable to the District (i.e. failing to meet the requirements of Article 8.3.2) and Contractor does not incorporate or address the written comments to the Baseline Schedule and a Baseline Schedule is not approved, but due to extreme necessity, the District moves forward without an approved Baseline Schedule, Contractor shall diligently revise and meet Schedule update requirements of Article 8 and incorporate all Article 8.3.2 comments in all updates). However, for purposes of Termination pursuant to Article 14, the unapproved Baseline Schedule initially submitted shall be treated as the Baseline Schedule with durations shortened or revised to accommodate all float, all mandatory Schedule requirements under Article 8.3.2, any requirements in the Contract Documents, and all revisions by the District or Architect.

### 8.3.3 Update Schedules

8.3.3.1 *Updates Shall Be Based on Approved Baseline Schedule.* Except in the case where there has not been agreement as to a Baseline Schedule, the approved Baseline Schedule shall be used to build future Schedule updates. Schedule updates shall be a CPM based Schedule consistent with the Baseline Schedule requirements of 8.3.2.

In the case that no Baseline has been approved, Schedule updates shall be provided monthly and each update shall incorporate all comments and revisions noted as not complying with the requirements of Article 8.3.2. Contractor shall be held to the Article 8.3.2.12 unapproved Baseline Schedule, inclusive of all Milestones, float, comments and revisions by the District and Architect, all required Baseline Schedule Inclusions under Article 8.3.2, and any requirements in the Contract Documents.

8.3.3.2 *Schedule Updates.* Contractor shall update the approved Schedule each month to address actual start dates and durations, the percent complete on activities, actual completion dates, estimated remaining duration for the Work in progress, estimated start dates for Work scheduled to start at future times and changes in duration of Work items

8.3.3.3 *Listing of Items Causing Delays.* Schedule updates shall provide a listing of activities which are causing delay in the progress of Work and a narrative shall be provided showing a description of problem areas, anticipated delays, and impacts on the Construction Schedule. Simply stating "District Delay" or "Architect Delay" shall be an inadequate listing. Delays shall only be listed if they meet the requirements of Article 8.4.

## **GENERAL CONDITIONS**

8.3.3.4 *Recovery Schedule.* In addition to providing a schedule update every thirty (30) days, the Contractor, if requested by the Architect or District, shall take the steps necessary to improve Contractor's progress and demonstrate to the District and Architect that the Contractor has seriously considered how the lost time, the Completion Date, or the Milestones that are required to be met within the terms of the Contract. Contractor shall immediately provide a Recovery Schedule showing how Milestones and the Completion Date will be met. In no case, shall a Recovery Schedule be provided later than ten (10) days following the request for a Recovery Schedule from the Architect or District.

- a. Failure to Provide a Recovery Schedule. Shall subject Contractor to the assessment of Liquidated Damages for failure to meet the Contract Time. Refusal or failure to provide a Recovery Schedule shall be considered a substantial failure of performance and a material breach of Contract and may result in Termination of the Contract pursuant to Article 14.
- b. Recovery Schedule Acceleration without Additional Cost. The District may require Contractor prepare a Recovery Schedule showing how the Project shall be accelerated, without any additional cost to the District. The District may order, without additional cost, the following:
  1. Increase the number of shifts
  2. Utilize overtime to recover the approved Schedule
  3. Increase the days when Work occurs, including weekends, at the Project and at any manufacturer's plant.
- c. Recovery Schedule Acceleration without Additional Cost. If Contractor disputes that the Recovery Schedule acceleration shall be issued without additional costs, the Contractor shall submit concurrent with Recovery Schedule acceleration notice pursuant to Articles 8.4.3 and 8.4.4.

### **8.4 EXTENSIONS OF TIME - LIQUIDATED DAMAGES**

#### **8.4.1 Liquidated Damages**

CONTRACTOR AND DISTRICT HEREBY AGREE THAT THE EXACT AMOUNT OF DAMAGES FOR FAILURE TO COMPLETE THE WORK WITHIN THE TIME SPECIFIED IS EXTREMELY DIFFICULT OR IMPOSSIBLE TO DETERMINE. IF THE WORK IS NOT SUBSTANTIALLY COMPLETED IN THE TIME SET FORTH IN THE AGREEMENT, IT IS UNDERSTOOD THAT THE DISTRICT WILL SUFFER DAMAGES. IT BEING IMPRACTICAL AND UNFEASIBLE TO DETERMINE THE AMOUNT OF ACTUAL DAMAGE, IT IS AGREED THE CONTRACTOR SHALL PAY TO THE DISTRICT THE AMOUNT LIQUIDATED DAMAGES SET FORTH IN THE AGREEMENT, FOR EACH CALENDAR DAY OF DELAY IN REACHING SUBSTANTIAL COMPLETION (SEE ART 1.1.46). ANY LIQUIDATED DAMAGES RECOVERED BY THE DISTRICT SHALL NOT, HOWEVER, LIMIT THE DISTRICT'S RIGHT TO SEPARATELY RECOVER ANY ACTUAL OUT-OF-POCKET DAMAGES IT SUFFERS DUE TO CONTRACTOR'S DELAY. CONTRACTOR AND HIS SURETY SHALL BE LIABLE FOR THE AMOUNT THEREOF PURSUANT TO GOVERNMENT CODE SECTION 53069.85.

#### **8.4.2 Delay**

## GENERAL CONDITIONS

Except and only to the extent provided under Article 7 and Article 8, by signing the Agreement, Contractor agrees to bear the risk of delays to Completion of the Work and that Contractor's bid for the Project was made with full knowledge of this risk.

In agreeing to bear the risk of delays to complete the Work, Contractor understands that, except and only to the extent provided otherwise in Article 7 and 8, the occurrence of events that delay the Work shall not excuse Contractor from its obligation to achieve Completion of the Project within the Contract Time, and shall not entitle the Contractor to an adjustment to the Contract time.

### 8.4.3 Excusable Delay

Contractor shall not be charged for Liquidated Damages because of any delays in completion of Work which are not the fault or negligence of Contractor or its Subcontractors, arising from Rain Float or Project Float, including acts of God, as defined in Public Contract Code section 7105, acts of enemy, epidemics and quarantine restrictions. Contractor shall within five (5) calendar days of beginning of any such delay notify District in writing of causes of delay; thereupon District shall ascertain the facts and extent of delay and grant extension of time for completing Work when, in its judgment, the findings of fact justify such an extension. Extensions of time shall apply only to that portion of Work affected by delay, and shall not apply to other portions of Work not so affected. An extension of time may only be granted after proper compliance with Article 8.3 requiring preparation and submission of a properly prepared CPM schedule.

8.4.3.1 *Excusable Delay Is Not Compensable.* No extended overhead, general conditions costs, impact costs, out-of-sequence costs or any other type of compensation, by any name or characterization, shall be paid to the Contractor for any delay to any activity not designated as a critical path item on the latest approved Project schedule.

8.4.3.2 *Notification.* The Contractor shall notify the Architect in writing of any anticipated delay and its cause, in order that the Architect may take immediate steps to prevent, if possible, the occurrence or continuance of delay, and may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

8.4.3.3 *Extension Request.* In the event the Contractor requests an extension of Contract time for unavoidable delay, such request shall be submitted in accordance with the provisions in the Contract Documents governing changes in Work (See Article 7). When requesting time, i.e., extensions, for proposed Change Orders, they must be submitted with the proposed Change Order with full justification and documentation. If the Contractor fails to submit justification with the proposed Change Order it waives its right to a time extension at a later date. Such justification must be based on the official Contract schedule as updated at the time of occurrence of the delay or execution of Work related to any changes to the scope of Work. Blanket or general claims for extra days without specific detailed information as required herein or a blanket or general reservation of rights do not fulfill the requirements of this Article and shall be denied. The justification must include, but is not limited to, the following information:

- a. The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform these activities within the stated duration.
- b. Logical ties to the official Baseline Schedule or Approved Updated Schedule for the proposed changes and/or delay showing the activity/activities in the schedule



## GENERAL CONDITIONS

whose start or completion dates are affected by the change and/or delay. (A fragment of any delay of over ten (10) days must be provided.)

The Contractor and District understand and expressly agree that insofar as Public Contract Code section 7102 may apply to changes in the Work or delays under this Contract, the actual delays and damages, if any, and time extensions are intended to, and shall provide, the exclusive and full method of compensation for changes in the Work and construction delays.

### 8.4.4 Notice by Contractor Required

The Contractor shall within five (5) calendar days of beginning of any such delay notify the District in writing of causes of delay with justification and supporting documentation. In the case of a Recovery Schedule pursuant to Article 8.3.3.4, Contractor shall submit written notice concurrent with the Recovery Schedule. District will then ascertain the facts and extent of the delay and grant an extension of time for completing the Work when, in its judgment, the findings of fact justify such an extension. Extensions of time shall apply only to that portion of the Work affected by the delay and shall not apply to other portions of the Work not so affected.

Claims relating to time extensions shall be made in accordance with applicable provisions of Article 7.

8.4.4.1 *Adjustment for Compensable Delays.* The Schedule may be adjusted for a delay if, and only if, Contractor undertakes the following:

- a. Contractor submits a timely COR or CO pursuant to the requirements of Article 7.
- b. Contractor submits a fragnet showing the critical path delay caused by the COR, CO, Changed Condition, CCD, or ICD
- c. Contractor has addressed all required float days in the Fragnet.
- d. Contractor submits a complete breakdown of all costs incurred utilizing the format of Article 7.3.3

### 8.4.5 No Additional Compensation for Coordinating Governmental Submittals and the Resulting Work

CONTRACTOR HAS PLANNED ITS WORK AHEAD OF TIME AND IS AWARE THAT GOVERNMENTAL AGENCIES, SUCH AS THE GAS COMPANIES, ELECTRICAL UTILITY COMPANIES, WATER DISTRICTS AND OTHER AGENCIES MAY HAVE TO APPROVE CONTRACTOR PREPARED DRAWINGS OR APPROVE A PROPOSED INSTALLATION. CONTRACTOR HAS INCLUDED DELAYS AND DAMAGES WHICH MAY BE CAUSED BY SUCH AGENCIES IN CONTRACTOR'S BID AND HAS INCLUDED ADEQUATE TIME IN THE CONTRACTOR'S BASELINE SCHEDULE. FAILURE TO ADEQUATELY PLAN AND SCHEDULE IS NOT A BASIS TO USE GOVERNMENTAL DELAY FLOAT.

### 8.4.6 District Right to Accelerate the Work

## GENERAL CONDITIONS

The District may direct the Contractor to meet schedule requirements when the Work has been delayed. The District shall compensate the Contractor for the additional costs incurred by acceleration to the extent that such costs are directly attributable to the acceleration and are incurred through no fault or negligence of the Contractor.

8.4.6.1 *Management of Acceleration.* Contractor acceleration shall not include Work that is part of the scope of Work detailed in the Plans and Specifications. Instead, the acceleration costs shall be premium or overtime and quantifiable additional work added to the Project meant to accelerate the Project. Contractor is directed to keep consistent crews on the Project so time can be tracked. If crews are circulated off the Project or crews brought in only for overtime, the District may be charged for Contract Work and not accelerated time. In such case, the District may object to the costs submitted.

8.4.6.2 *Costs for Acceleration.* Cost for Acceleration shall be supported by backup documentation, and time sheets signed by the Inspector for each day work has been performed, at or near the time when the Work was performed. A listing on the time sheet shall document all labor, materials and services utilized that day and provide areas of work, and amount of work performed. Contractor shall comply with submission requirements of Article 7.7.

## GENERAL CONDITIONS

### ARTICLE 9 PAYMENTS AND COMPLETION

#### 9.1 CONTRACT SUM

The Contract Sum or Contract Price is stated in the Agreement and, including authorized adjustments, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents.

#### 9.2 COST BREAKDOWN

##### 9.2.1 Required Information

Contractor shall furnish the following:

- a. Within ten (10) days after Notice to Proceed, a detailed breakdown of the Contract Price (hereinafter "Schedule of Values") for each Project, Site, building, Milestone or other meaningful method to measure the level of Project Completion as determined by the District shall be submitted as a Submittal for the Project.;
- b. Within ten (10) days after the date of the Notice to Proceed, a schedule of estimated monthly payment requests due the Contractor showing the values and construction time of the various portions of the Work to be performed by it and by its Subcontractors or material and equipment suppliers containing such supporting evidence as to its correctness as the District may require;
- c. Within ten (10) days after the date of the Notice to Proceed, address, telephone number, telecopier number, California State Contractors License number, classification and monetary value of all subcontracts for parties furnishing labor, material, or equipment for completion of the Project.

##### 9.2.2 Information and Preparation of Schedule of Values

9.2.2.1 *Break Down of Schedule of Values.* Schedule of Values shall be broken down by Project, site, building, Milestone, or other meaningful method to measure the level of Project Completion as determined by the District.

9.2.2.2 *Based on Contractor Bid Costs.* The Schedule of Values shall be based on the costs from Contractor's bid to the District. However, the submission of the Schedule of Values shall not be front loaded so the Contractor is paid a greater value than the value of the Work actually performed and shall not shift funds from parts of the Project that are later to Work that is performed earlier.

9.2.2.3 Largest Dollar Value for Each Line Item. Identify Subcontractors and materials suppliers proposed to provide portions of Work equal to or greater than ten thousand dollars (\$10,000) or one-half of one percent (0.5%) of their Contract Price, whichever is less.

9.2.2.4 *Allowances.* Any Allowances provided for in the Contract shall be a line item in the Schedule of Values.

## GENERAL CONDITIONS

9.2.2.5 *Labor and Materials Shall Be Separate.* Labor and Materials shall be broken into two separate line items unless specifically agreed in writing by the District.

### 9.2.3 District Approval Required

The District shall review all submissions received pursuant to Article 9.2 in a timely manner. All submissions must be approved by the District before becoming the basis of any payment.

## 9.3 PROGRESS PAYMENTS

9.3.1 Payments to Contractor- unless there is a resolution indicating that the Work for the Project is substantially complex, within thirty (30) days after approval of the Request for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as certified by Architect and Inspector and verified by Contractor) up to the last day of the previous month, less the aggregate of previous payments. In the case of a Project designated substantially complex, the sum paid to the Contractor shall be equal to ninety percent (90%) of the value of the Work performed (as certified by the Architect and Inspector and verified by Contractor). The value of the Work completed shall be the Contractor's best estimate. Work completed as estimated shall be an approximation or estimate only and no mistake, inaccuracy, error or falsification in said any approved estimate shall operate to release the Contractor, or any Surety upon any bond, from damages arising from such Work, or from the District's enforcement of each and every provision of this Contract including but not limited to the Performance Bond and Payment Bond. The District shall have the right to subsequently to correct any mistake, inaccuracy, error or falsification made or otherwise set forth in any approved Request for Payment and such correction may occur in any future Payment Application or in the Retention Payment to the Contractor. No Surety upon any bond shall be relieved, released or exonerated of its obligations under this Contract or any applicable bond when the District is unable to correct an overpayment to the Contractor due to any abandonment by the Contractor or termination by the District.

The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for Work performed, so long as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

Notwithstanding anything to the contrary stated above, the Contractor may include in its Request for Payment the value of any structural steel, glue laminated beams, trusses, bleachers and other such custom-made materials prepared specifically for the Project and unique to the Project so long as all of the following requirements are satisfied:

- a. The aggregate cost of materials stored off-site shall not exceed Twenty Five Thousand Dollars (\$25,000) at any time or as otherwise agreed to be District in writing;
- b. Title to such materials shall be vested in the District as evidenced by documentation satisfactory in form and substance to the District, including, without limitation, recorded financing statements, UCC filings and UCC searches;
- c. With each Contractor Request for Payment, the Contractor shall submit to the District a written list identifying each location where materials are stored off-site (which must be a bonded warehouse) and the value of the materials at each location. The Contractor shall procure insurance satisfactory to the District (in its

## GENERAL CONDITIONS

- reasonable discretion) for materials stored off-site in an amount not less than the total value thereof;
- d. The consent of any Surety shall be obtained to the extent required prior to payment for any materials stored off-site;
  - e. Representatives of the District shall have the right to make inspections of the storage areas at any time; and
  - f. Such materials shall be: (1) protected from diversion, destruction, theft and damage to the reasonable satisfaction of the District; (2) specifically marked for use on the Project; and (3) segregated from other materials at the storage facility.

### 9.3.2 Purchase of Materials and Equipment and Cost Fluctuations

The Contractor is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from District to assure that there will be no delays. Contractor understands that materials fluctuate in value and shall have adequately addressed market fluctuations through agreements with Contractor vendors or by other means. Contractor further understands and incorporates into Contractor's bid cost any wage rate increases during the Project for the Contractor's labor force as well as all other Subcontractor and vendor labor forces. District shall not be responsible for market fluctuations in costs or labor rate increases during the Project. Contractor further has incorporated any and all cost increases in areas of Work where there may be schedule variations so that cost increases are not passed through to the District.

### 9.3.3 No Waiver

No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Contractor specifically understands that Title 24 Section 4-343 which states:

"It is the duty of the contractor to complete the work covered by his or her contract in accordance with the approved Plans and Specifications therefore. The contractor in no way is relieved of any responsibility by the activities of the Architect, Engineer, Inspector or DSA in the performance of such duties... In no case, however, shall the instruction of the Architect or registered Engineer be construed to cause work to be done with is not in conformity with the approved Plans, Specifications, and change orders..."

Notwithstanding any payment, the District may enforce each and every provision of this Contract which includes, but is not limited to, the Performance Bond and Payment Bond. The District may correct any error subsequent to any payment. In no event shall the Contractor or the Surety be released or exonerated from performance under this Contract when the District overpays the Contractor based upon any mistake, inaccuracy, error or falsification in any estimate that is included in any Request for Payment.

### 9.3.4 Issuance of Certificate of Payment

The Architect shall, within seven (7) days after receipt of the Contractor's Application for Payment, either approve such payment or notify the Contractor in writing of the Architect's reasons for withholding approval in whole or in part as provided in Article 9.6. The review of the Contractor's

## GENERAL CONDITIONS

Application for Payment by the Architect is based on the Architect's observations at the Project and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. In some cases, the Architect may act upon or rely on the evaluation of the Work by the Inspector. This review of Payment Applications is sometimes called a "Pencil Draft." District's return of a Pencil Draft shall constitute the District's dispute of the Payment Application that has been submitted. Contractor shall promptly respond to Pencil Drafts or Contractor's Payment Applications may be delayed. Contractor's failure to promptly respond to a Pencil Draft shall qualify as a delay in the prompt payment of a Request for Payment or Request for Retention. The foregoing representations are subject to: (1) an evaluation of the Work for conformance with the Contract Documents, (2) results of subsequent tests and inspections, (3) minor deviations from the Contract Documents correctable prior to completion, and (4) specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute the Contractor's verified representation that the Contractor is entitled to payment in the amount certified.

### 9.3.5 Payment of Undisputed Contract Payments

In accordance with Public Contract Code section 7100, payments by the District to the Contractor for any and all undisputed amounts (including all Progress Payments, Final Payments or Retention Payment) is contingent upon submission of a proper and accurate Payment Application and the Contractor furnishing the District with a release of all Claims against the District related to such undisputed amounts. Disputed Contract Claims in stated amounts may be specifically excluded by the Contractor from the operation of the release. If, however, the Contractor specifically excludes any Claims, the Contractor shall provide details such as a specific number of disputed days or costs of any such exclusion in accordance with Articles 4.6 and 7.7.

## 9.4 APPLICATIONS FOR PROGRESS PAYMENTS

### 9.4.1 Procedure

9.4.1.1 *Application for Progress.* On or before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the Architect an itemized Application for Progress Payment for operations completed. Such application shall be notarized, if required, and supported by the following or such portion thereof as Architect requires:

1. The amount paid to the date of the Payment Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;
2. The amount being requested under the Payment Application by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;
3. The balance that will be due to each of such entities after said payment is made;
4. A certification that the As-Built Drawings and Annotated Specifications are current;

## GENERAL CONDITIONS

5. Itemized breakdown of Work done for the purpose of requesting partial payment;
6. An updated or approved Baseline Schedule or other Schedule updates in conformance with Article 8;
7. Failure to submit an updated Schedule for the month or any previous month;
8. The additions to and subtractions from the Contract Price and Contract Time;
9. A summary of the Retention held;
10. Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;
11. The percentage of completion of the Contractor's Work by line item;
12. An updated Schedule of Values from the preceding Application for Payment;
13. Prerequisites for Progress Payments; and
14. Any other information or documents reasonably requested by the District, Architect, Inspector or CM (if applicable).

9.4.1.2 *First Payment Request.* The following items, if applicable, must be completed before the first payment request will be accepted for processing:

1. Installation of the Project sign;
2. Receipt by Architect of Submittals;
3. Installation of field office;
4. Installation of temporary facilities and fencing;
5. Submission of documents listed in the Article 9.2 relating to Contract Price breakdown;
6. Preliminary schedule analysis, due within 10 days after Notice to Proceed;
7. Contractor's Baseline Schedule (to be CPM based in conformance with Article 8);
8. Schedule of unit prices, if applicable;
9. Submittal Schedule;
10. Copies of necessary permits;

## GENERAL CONDITIONS

11. Copies of authorizations and licenses from governing authorities;
12. Initial progress report;
13. Surveyor qualifications;
14. Written acceptance of District's survey of rough grading, if applicable;
15. List of all Subcontractors, with names, license numbers, telephone numbers, and scope of work;
16. All bonds and insurance endorsements; and
17. Resumes of General Contractor's Project Manager, and if applicable, job site secretary, record documents recorder, and job site Superintendent.

9.4.1.3 *Second Payment Request.* The second payment request will not be processed until all Submittals and Shop Drawings have been accepted for review by the Architect.

9.4.1.4 *All Payment Requests.* No payment requests will be processed unless Contractor has submitted copies of the certified payroll records for the Work which correlates to the payment request and a proper CPM schedule pursuant to Article 8 is submitted.

9.4.1.5 *Final Payment Application (90% or 95%).* See Article 9.11.1

9.4.1.6 *Final Payment Application (100%).* See Article 9.11.3

### **9.5 STOP NOTICE CLAIMS AND WARRANTY OF TITLE**

The Contractor warrants title to all Work. The Contractor further warrants that all Work is free and clear of liens, claims, security interests, stop notices, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work. Failure to keep work free of liens, stop notices, claims, security interests or encumbrances is grounds to make a claim against Contractor's Payment and Performance Bond to immediately remedy and defend.

If a lien or stop notice of any nature should at any time be filed against the Work or any District property, by any entity which has supplied material or services at the request of the Contractor, Contractor and Contractor's Surety shall promptly, on demand by District and at Contractor's and Surety's own expense, take any and all action necessary to cause any such lien or stop notice to be released or discharged immediately therefrom.

If the Contractor fails to furnish to the District within ten (10) calendar days after written demand by the District, satisfactory evidence that a lien or stop notice has been so released, discharged, or secured, then District may discharge such indebtedness and deduct the amount required therefor, together with any and all losses, costs, damages, and attorney's fees and expense incurred or suffered by District from any sum payable to Contractor under the Contract. In addition, any liens, stop notices, claims, security interests or encumbrances shall trigger the indemnification requirements under Article 3.15 and the Agreement Form, and shall act as a trigger under Civil Code section 2778 and 2779 requiring reimbursement for any and all costs following the District's written demand has been made. Any withholdings by the District for



## GENERAL CONDITIONS

stop notices in accordance with Civil Code section 9358 shall not be a basis by the Contractor to make a Claim for interest penalties under Public Contract Code sections 7107 or 20104.50.

### **9.6 DECISIONS TO WITHHOLD PAYMENT**

#### **9.6.1 Reasons to Withhold Payment**

The District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required by Article 9.4 cannot be made. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to:

- a. Defective Work not remedied;
- b. Stop notices served upon the District;
- c. Liquidated Damages assessed against the Contractor;
- d. The cost of Completion of the Contract if there exists reasonable doubt that the Work can be Completed for the unpaid balance of any Contract Price or by the completion date;
- e. Damage to the District or other contractor;
- f. Unsatisfactory prosecution of the Work by the Contractor;
- g. Failure to store and properly secure materials;
- h. Failure of the Contractor to submit on a timely basis, proper and sufficient documentation required by the Contract Documents, including, without limitation, acceptable monthly progress schedules, Shop Drawings, Submittal schedules, Schedule of Values, Product Data and samples, proposed product lists, executed Change Order, Construction Change Documents, and verified reports;
- i. Failure of the Contractor to maintain As-Built Drawings;
- j. Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Payment Application;
- k. Unauthorized deviations from the Contract Documents (including but not limited to Unresolved Notices of Deviations (DSA Form 154));
- l. Failure of the Contractor to prosecute the Work in a timely manner in compliance with established progress schedules and completion dates.;
- m. Failure to properly pay prevailing wages as defined in Labor Code section 1720, et seq.;
- n. Failure to properly maintain or clean up the Site;

## GENERAL CONDITIONS

- o. Payments to indemnify, defend, or hold harmless the District;
- p. Any payments due to the District including but not limited to payments for failed tests, or utilities changes or permits;
- q. Failure to submit an acceptable Baseline Schedule or any Schedule or Schedule update in accordance with Article 8;
- r. Failure to pay Subcontractor or suppliers as required by Article 9.8.1;
- s. Failure to secure warranties, including the cost to pay for warranties;
- t. Failure to provide releases from material suppliers or Subcontractors when requested to do so;
- u. Items deducted pursuant to Article 2.2;
- v. Incomplete Punch List items under Article 9.9.1.2 which have gone through the Article 2.2 process; or
- w. Allowances that have not been used.

### 9.6.2 Reallocation of Withheld Amounts

District may, in its discretion, apply any withheld amount to payment of outstanding claims or obligations as defined in Article 9.6.1 and 9.5. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then such amount shall be considered as a payment made under Contract by District to Contractor and District shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of such funds disbursed on behalf of Contractor.

If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after ten (10) calendar days written notice to the Contractor and without prejudice to any other remedy make good such deficiencies. The District shall adjust the total Contract price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work which is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract Price (of at least 150% of the estimated reasonable value of the nonconforming Work) shall be made therefor.

### 9.6.3 Payment After Cure

When the grounds for declining approval are removed, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

## 9.7 NONCONFORMING WORK

Contractor shall promptly remove from premises all Work identified by District as failing to conform to the Contract whether incorporated or not. Contractor shall promptly replace and re-execute its

## GENERAL CONDITIONS

own Work to comply with the Contract without additional expense to District and shall bear the expense of making good all Work of other contractors destroyed or damaged by such removal or replacement.

If Contractor does not remove such Work which has been identified by District as failing to conform to the Contract Documents within a reasonable time, fixed by written notice, District may remove it and may store the material at Contractor's expense. If Contractor does not pay expenses of such removal within ten (10) calendar days' time thereafter, District may, upon ten (10) calendar days' written notice, sell such materials at auction or at private sale and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by Contractor.

### **9.8 SUBCONTRACTOR PAYMENTS**

#### **9.8.1 Payments to Subcontractors**

No later than ten (10) days after receipt, or pursuant to Business and Professions Code section 7108.5, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

#### **9.8.2 No Obligation of District for Subcontractor Payment**

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

#### **9.8.3 Payment Not Constituting Approval or Acceptance**

An approved Request for Payment, a progress payment, a Certificate of Substantial Completion, or partial or entire use or occupancy of the Project by the District shall not constitute acceptance of Work that is not in accordance with the Contract Documents.

#### **9.8.4 Joint Checks**

District shall have the right, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, any obligation from the District to such Subcontractor, or rights in such Subcontractor against the District. The District may choose to issue joint checks at District's sole discretion and only after all the requirements of that particular school district and county are specifically met. Some school districts cannot issue joint checks, so the ability to issue joint checks depends on the school district and the specific circumstances.

### **9.9 COMPLETION OF THE WORK**

#### **9.9.1 Close-Out Procedures**

9.9.1.1 *Incomplete Punch Items.* When the Contractor considers the Work Substantially Complete (See Article 1.1.46 for definition of Substantially Complete), the Contractor shall prepare and submit to the District a comprehensive list of minor items to be completed or corrected

## GENERAL CONDITIONS

(hereinafter "Incomplete Punch Items" or "Punch List"). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct the Incomplete Punch Items listed. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Contractor is aware that Title 24 Section 4-343(a) provides:

**"RESPONSIBILITIES. IT IS THE DUTY OF THE CONTRACTOR TO COMPLETE THE WORK COVERED BY HIS OR HER CONTRACT IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS THEREFOR. THE CONTRACTOR IN NO WAY IS RELIEVED OF ANY RESPONSIBILITY BY THE ACTIVITIES OF THE ARCHITECT, ENGINEER, INSPECTOR OR DSA IN THE PERFORMANCE OF SUCH DUTIES.**

9.9.1.2 *Punch List Is Prepared Only After the Project Is Substantially Complete.* If any of the conditions noted in Article 1.1.46 as defining Substantial Completion are not met, the Inspector, Architect or District may reject Contractor's Incomplete Punch Items as premature. If the Architect and Inspector commence review of Incomplete Punch Items, all rights are reserved until the Project actually meets the definition of Substantially Complete. Liquidated Damages, warranties, and other contractual rights are not affected by Incomplete Punch Items unless otherwise addressed in these General Conditions.

Once the Inspector and the Architect determine the Project is Substantially Complete, a Certificate of Substantial Completion shall be issued. The Inspector and Architect shall prepare a Punch List of items which is an inspection report of the Work, if any, required in order to complete the Contract Documents and ensure compliance with the DSA Approved Plans so the Project may be Completed by the Contractor and a final DSA Close-Out is approved. When all Work for the Project is Complete, including Punch Lists and all Work complies with the approved Contract Documents and Change Orders, the Project has reached Final Completion.

9.9.1.3 *Time for Completion of Punch List.* Contractor shall only be given a period of no more than thirty (30) days to complete the Punch List for the Project. During the Punch List period, the Contractor's Superintendent and Project Manager shall remain engaged in the Project and shall not be removed or replaced. If the Punch List is not completed at the end of the Punch List time then Contractor shall issue a valued Punch List within 5 days after the date the Punch List time ends. If Contractor does not issue such a list, the District or Architect may issue a valued Punch List to the Contractor and withhold up to 150% of the value of the Punch List Work pursuant to Article 2.2 of this Agreement.

Failure to issue a timely written request for additional time to complete Punch List shall result in the deletion of the remaining Punch List Work pursuant to Article 2.2 and the issuance of a Deductive Change Order.

- a. Extension of Time to Complete Punch List. If Contractor cannot finish the Punch List Work during the time period allotted under Article 9.9.1.3, the Contractor may make a written request for a Non-Compensable Punch List time extension accompanied by an estimate of the number of additional days it will take to complete the Punch List Work for a written consent from the District to allow continued Punch List Work. Punch List time extensions are a maximum of thirty (30) days for each request and must be accompanied by an itemized valued Punch List.
- b. If there is no valued Punch List accompanying any request or if Contractor intends to undertake Punch List without the continued support and

## GENERAL CONDITIONS

supervision of its Superintendent and Project Manager (as required under Article 3.2), the District, Construction Manager or Architect may issue a valued Punch List, reject the Punch List Time Extension and deduct 150% of the valued Punch List pursuant to Article 2.2 and proceed to Close-Out the Project. Contractor shall cease work on the Project and proceed to complete Contractor's Retention Payment Application and complete the Work for the Project required pursuant to Article 9.11.3.

9.9.1.4 *District Rejection of Written Request for Punch List Time Extensions.* Following sixty (60) Days of Punch List under Article 9.9.1.3, the District has the option of rejecting Punch List Time Extension requests. The District may proceed under Article 2.2 and deduct the value of remaining Punch List Work pursuant to Article 2.2. If the District rejects the Punch List Time Extension request then Contractor shall cease Work on the Project and proceed to Final Inspection pursuant to Article 9.11.2.

9.9.1.5 *Punch List Liquidated Damages to Compensate for Added District Project Costs.* If the total time utilized for Punch List exceeds sixty (60) days [the thirty (30) day period under Article 9.9.1.3 plus an additional thirty (30) day period that has been requested in writing], and the District grants an additional written Punch List Time Extension that exceeds sixty (60) days of Punch List, then Contractor shall be charged Liquidated Damages of at least \$750 per day for continued Punch List Work to partially compensate the Inspector, Architect, and Construction Manager's extended time on the Project. This Punch List Liquidated Damage number is based on anticipated cost for an Inspector on site and additional costs for the Architect and Construction Manager to reinspect Punch List items and perform the administration of the Close-out.

Contractor received thirty (30) days without any charges for Punch List Liquidated Damages and is placed on notice pursuant to this Article 9.9.1.5 that \$750 is due for each day of Punch List that exceeds sixty (60) days at \$750, a cost much lower than typical (and actual) costs for Inspection, Architect and Construction Manager time required during Punch List. Starting at ninety (90) days of Punch List (an excessive number of days to complete Punch List), the District shall be entitled to adjust Punch List Liquidated Damages to an estimate of the actual costs incurred to oversee, monitor and inspect the Punch List. If costs exceed \$750 per day, the anticipated extended contract charges for Inspection, Architect, Construction Manager, and any other costs that will be incurred due to the extended Punch List shall be itemized and a daily rate of Punch List Liquidated Damages shall be presented in writing to the Contractor within five (5) days following the receipt of a written request for Punch List Time Extension by the Contractor that extends the Punch List time beyond ninety (90) days. This written notice of actual Punch List Liquidated Damages may be provided to the Contractor at any time following the first written request for Punch List Time extension requested under Article 9.9.1.3. The adjusted actual Punch List Liquidated Damage amount shall be applicable as Punch List Liquidated Damages commencing on the ninetieth (90<sup>th</sup>) day of Punch List.

### 9.9.2 Close-Out Requirements for Final Completion of the Project

- a. Utility Connections. Buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected
- b. As-Built Up to Date and Complete. The intent of this procedure is to obtain an exact "As-Built" record of the Work upon completion of the project. The following information shall be carefully and correctly drawn on the prints and all items shall

## GENERAL CONDITIONS

be accurately located and dimensioned from finished surfaces of building walls on all As-Built Drawings

1. The exact location and elevations of all covered utilities, including valves, cleanouts, etc. must be shown on As-Built Drawings
  2. Contractor is liable and responsible for inaccuracies in As-Built Drawings, even though they become evident at some future date.
  3. Upon completion of the Work and as a condition precedent to approval of Retention Payment, Contractor shall obtain the Inspector's approval of the "As-Built" information. When completed, Contractor shall deliver corrected sepias and/or a Diskette with an electronic file in a format acceptable to the District.
  4. District may withhold the cost to hire a draftsman and potholing and testing service to complete Record As-Built Drawings at substantial cost if the Contractor does not deliver a complete set of Record As-Built Drawings. This shall result in withholding of between \$10,000 to \$20,000 per building that does not have a corresponding Record As Built Drawing.
- c. Any Work not installed as originally indicated on Drawings
- d. All DSA Close-Out requirements (See DSA Certification Guide) Contractor is also specifically directed to Item 3.2 in the DSA Certification Guide and the applicable certificates for the DSA-311 form.
- e. Submission of Form 6-C. Contractor shall be required to execute a Form 6-C as required under Title 24 Sections 4-343. The Contractor understands that the filing with DSA of a Form 6-C is a requirement to obtain final DSA Approval of the construction by Contractor and utilized to verify under penalty of perjury that the Work performed by Contractor complies with the DSA approved Contract Documents. The failure to file a DSA Form 6C has two consequences. First, the Construction of the Project will not comply with the design immunity provisions of Government Code section 830.6 and exposes the District and the individual Board members to personal liability for injuries that occur on the Project.

Secondly, under DSA IR A-20, since the Project cannot be Certified by DSA, no future or further Projects will be authorized so Contractor will have essentially condemned the campus from any future modernization or addition of new classrooms through their failure to file the DSA Form 6C.

1. *Execution of the DSA Form 6-C is Mandatory.* Refusal to execute the Form 6-C, which is a Final DSA Verified Report that all Work performed complies with the DSA approved Contract Documents is a violation of Education Code section 17312 and shall be referred to the Attorney General for Prosecution.
2. *Referral to the District Attorney for Extortion.* If the Contractor's refusal to execute the DSA Form 6C is to leverage a Dispute, Claim or Litigation,

**GENERAL CONDITIONS**

then the matter shall also be referred to the District Attorney for prosecution for extortion.

3. *Contractor shall be Responsible for All Costs to Certify the Project.* The District may certify the Project complies with Approved Plans and Specifications by utilizing the procedures under the Project Certification Guide (located at the DSA website). All costs for professionals, inspection, and testing required for an alternate Project Certification shall be the Contractor's responsibility and the District reserves its right to institute legal action against the Contractor and Contractor's Surety for all costs to certify the Project and all costs to correct Non-Compliant Work that is discovered during the Alternate Certification Process.
  
- f. ADA Work that must be corrected to receive DSA certification. See Article 12.2.
  
- g. Maintenance Manuals. At least thirty (30) days prior to final inspection, three (3) copies of complete operations and maintenance manuals, repair parts lists, service instructions for all electrical and mechanical equipment, and equipment warranties shall be submitted. All installation, operating, and maintenance information and Drawings shall be bound in 8½" x 11" binders. Provide a table of contents in front and all items shall be indexed with tabs. Each manual shall also contain a list of Subcontractors, with their addresses and the names of persons to contact in cases of emergency. Identifying labels shall provide names of manufactures, their addresses, ratings, and capacities of equipment and machinery.
  1. Maintenance manuals shall also be delivered in electronic media for the Project. Any demonstration videos shall also be provided on electronic media.
  
- h. Inspection Requirements. Before calling for final inspection, Contractor shall determine that the following Work has been performed:
  1. The Work has been completed.
  2. All fire/ life safety items are completed and in working order.
  3. Mechanical and electrical Work complete, fixtures in place, connected and tested.
  4. Electrical circuits scheduled in panels and disconnect switches labeled.
  5. Painting and special finishes complete.
  6. Doors complete with hardware, cleaned of protective film relieved of sticking or binding and in working order.
  7. Tops and bottoms of doors sealed.
  8. Floors waxed and polished as specified.

## GENERAL CONDITIONS

9. Broken glass replaced and glass cleaned.
10. Grounds cleared of Contractor's equipment, raked clean of debris, and trash removed from Site.
11. Work cleaned, free of stains, scratches, and other foreign matter, replacement of damaged and broken material.
12. Finished and decorative work shall have marks, dirt and superfluous labels removed.
13. Final cleanup, as in Article 3.12.
14. All Work pursuant to Article 9.11.
15. Furnish a letter to District stating that the District's Representative or other designated person or persons have been instructed in working characteristics of mechanical and electrical equipment.

### 9.9.3 Costs of Multiple Inspections

More than two (2) requests of the District to make inspections required under Article 9.9.1 shall be considered an additional service of Architect, Inspector, Engineer or other consultants shall be the Contractor's responsibility pursuant to Article 4.5 and all subsequent costs will be prepared as a Deductive Change Order.

## 9.10 PARTIAL OCCUPANCY OR USE

### 9.10.1 District's Rights

The District may occupy or use any completed or partially completed portion of the Work at any stage. The District and the Contractor shall agree in writing to the responsibilities assigned to each of them for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents. If District and Contractor cannot agree as to responsibilities such disagreement shall be resolved pursuant to Article 4.6. When the Contractor considers a portion complete, the Contractor shall prepare and submit a Punch List to the District as provided under Article 9.9.1.

### 9.10.2 Inspection Prior to Occupancy or Use

Immediately prior to such partial occupancy or use, the District, the Contractor, and the Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

### 9.10.3 No Waiver

Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.



## GENERAL CONDITIONS

### 9.11 COMPLETION AND FINAL PAYMENT

#### 9.11.1 Final Payment (90% Billing if Substantially Complex Finding and 95% Billing If No Finding Is Made)

The following items must be completed before the Final Payment Application will be accepted for processing at Substantial Completion of the Project:

- a. Inspector sign-off of each item in the DSA 152 Project Inspection Card;
- b. The Project has reached the Punch List items under Article 9.9.1.2 and the Project has been determined to be Substantially Complete under Article 1.1.28;
- c. Removal of temporary facilities and services;
- d. Testing, adjusting and balance records are complete;
- e. Removal of surplus materials, rubbish, and similar elements;
- f. Changeover of door locks;
- g. Deductive items pursuant to Article 9.6 and Article 2.2; and
- h. Completion and submission of all final Change Orders for the Project.

#### 9.11.2 Final Inspection (Punch List Completion)

Contractor shall comply with Punch List procedures under Article 9.9.1.1, and maintain the presence of Project Superintendent and Project Manager (not replacement project superintendent or project manager) until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Contractor demobilize its forces prior to completion of the Punch List.

Upon completion of the Work under Article 9.9.1, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the Architect and the District finds the Work contained in Punch List acceptable under the Contract Documents and, therefore, the Work shall have reached Final Completion. Architect shall notify Contractor, who shall then submit to the Architect its Application for Retention Payment. This Application for Retention Payment shall contain any deductions under Article 9.6, including but not limited to incomplete Punch List items under Article 9.9.1.

Upon receipt and approval of Application for Retention Payment, the Architect shall issue a Form 6 stating that to the best of its knowledge, information, and belief, and on the basis of its observations, inspections, and all other data accumulated or received by the Architect in connection with the Work, such Work has been completed in accordance with the Contract Documents. The District shall thereupon inspect such Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete (which, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of payment from the District, pay the amounts due Subcontractors.

## GENERAL CONDITIONS

If the Architect and the District find that the Work contained in the Punch List is unacceptable, then Contractor shall issue a valued Punch List within 5 days after the date the Punch List time ends. If Contractor does not issue such a list, the District or Architect may issue a valued Punch List to the Contractor and withhold up to 150% of the value of the Punch List Work pursuant to Article 2.2 of this Agreement.

### 9.11.3 Retainage (100% Billing for the Entire Project)

The retainage, less any amounts disputed by the District or which the District has the right to withhold pursuant to the Contract Documents (including but not limited to incomplete Punch List items under Article 9.9.1), shall be paid after approval by the District of the Application for Retention Payment, after the satisfaction of the conditions set forth in Article 9, the Final Inspection under Article 9.11.2 is completed, and after thirty-five (35) days after the acceptance of the Work and recording of the Notice of Completion by District. No interest shall be paid on any retainage, or on any amounts withheld due to a failure of the Contractor to perform, in accordance with the terms and conditions of the Contract Documents, except as provided to the contrary in any escrow agreement between the District and the Contractor.

- a. Procedures for Application for Retention Payment. The following conditions must be fulfilled prior to release of Retention Payment:
1. A full and final waiver or release of all stop notices in connection with the Work shall be submitted by Contractor, including a release of stop notice in recordable form, together with (to the extent permitted by law) a copy of the full and final release of all Stop Notice rights.
  2. The Contractor shall have made all corrections, including all Punch List Items, to the Work which are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.
  3. Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, releases from the Surety and warranty bonds (if applicable) required by the Contract Documents for its portion of the Work.
  4. Contractor must have completed all requirements set forth in Article 9.9
  5. Contractor must have issued a Form 6C for the Project.
  6. The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents.
  7. The Contractor shall have completed final clean up as required by Article 3.12

## GENERAL CONDITIONS

8. Contractor shall have all deductive items under Article 9.6 and Article 2.2 submitted as part of the Retention Payment.

### 9.11.4 Recording of a Notice of Completion After Punch List Period and Final Inspection.

When the Work, or designated portion thereof, is complete or the District has completed the Article 9.6 and/or the Article 2.2 process, whichever occurs first, the District will file either a Notice of Completion or a Notice of Completion noting valued Punch List items. Valued Punch List items will be deducted from the Retention Payment.

During the time when Work is being performed on the Punch List, the Project does not meet the definition of "Complete" under Public Contract Code section 7107(c)(1) even if there is "beneficial occupancy" of the Project since that has been no "cessation of labor" on the Project. Completion of Punch List under this Article is not "testing, startup, or commissioning by the public entity or its agent." In other words, the continuing Punch List Work is Contractor labor on the Project until each and every item of Punch List Work is complete or the time periods under Article 9.9.1 have expired.

### 9.11.5 Warranties

Warranties required by the Contract Documents shall commence on the date of Completion of the entire Work. Warranty periods DO NOT commence at Substantial Completion or when a particular Subcontractor work is complete. No additional charges, extras, Change Orders, or Claims may be sought for warranties commencing from the Notice of Completion.

District shall have the right to utilize equipment, test, and operate as necessary for acclimation, or testing without voiding or starting warranties. Taking beneficial occupancy shall not start warranties except in the case where the District agrees, in writing, that warranties shall commence running or where the District is taking phased occupancy of specific buildings or areas and completes separate Punch Lists as further addressed in Article 4.2.7.

### 9.11.6 Time for Submission of Application for Final Payment and Retention Payment (Unilateral Processing of Final and Retention Payment Application).

If Contractor submits a Final Payment Application which fails to include deductive items under Article 9.6, the District or Architect shall note this defective request for Final Payment Application. The Contractor shall be notified that specific deductive items shall be included in the Final Payment Application. If Contractor either continues to submit the Final Payment Application without deductive items under Article 9.6, or a period of 14 calendar days passes after Contractor is provided written notice of deductive items for inclusion in Final Payment Application, then District may either alter the Final Payment Application and recalculate the math on the Final Payment Application to address the Article 9.6 deductive items or process a unilateral Final Payment Application.

### 9.11.7 Unilateral Release of Retention

After the recordation of the Notice of Completion, or within sixty (60) days following the completion of the Punch List or the expiration of the time for completion of Punch List under Article 9.9.1, if Contractor does not make an Application for Release of Retention, the District may unilaterally release retention less any deducts under Article 9.6 and/or Article 2.2, withholds due to stop notice, or other defective work on the Project. District may also choose to unilaterally release Retention after deduction of 150% of any disputed items, which may also include items under Article 9.6 and 2.2. If a deduction

**GENERAL CONDITIONS**

pursuant to Article 9.6 is made from Retention, a letter deducting specific valued items shall be considered a notice of Default under the terms of the Escrow Agreement.

**9.12 SUBSTITUTION OF SECURITIES**

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300 as set forth in the form contained in the Bid Documents.

**GENERAL CONDITIONS**

**ARTICLE 10  
PROTECTION OF PERSONS AND PROPERTY**

**10.1 SAFETY PRECAUTIONS AND PROGRAMS**

10.1.1 Contractor Responsibility

The Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Contract and shall take all necessary measures and be responsible for the proper care and protection of all materials delivered and Work performed until completion and final acceptance by the District. All Work shall be solely at the Contractor’s risk, with the exception of damage to the Work caused by “acts of God” as defined in Public Contract Code section 7105(b)(2).

Contractor shall take, and require Subcontractor to take, all necessary precautions for safety of workers on the Work and shall comply with all applicable federal, state, local and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment. In addition to meeting all requirements of OSHA, Cal-OSHA, state, and local codes, Contractor shall furnish, erect and properly maintain at all times, as directed by District or Architect or required by conditions and progress of Work, all necessary safety devices, safeguards, construction canopies, signs, audible devices for protection of the blind, safety rails, belts and nets, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created by such features in the course of construction. Contractor shall designate a responsible member of its organization on the Work, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety and health of workers. The name and position of person so designated shall be reported to District by Contractor. Contractor shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, such violation shall be corrected promptly.

10.1.2 Subcontractor Responsibility

Contractor shall require that Subcontractors participate in, and enforce, the safety and loss prevention programs established by the Contractor for the Project, which will cover all Work performed by the Contractor and its Subcontractors. Each Subcontractor shall designate a responsible member of its organization whose duties shall include loss and accident prevention, and who shall have the responsibility and full authority to enforce the program. This person shall attend meetings with the representatives of the various Subcontractors employed to ensure that all employees understand and comply with the programs.

10.1.3 Cooperation

All Subcontractors and material or equipment suppliers shall cooperate fully with Contractor, the District, and all insurance carriers and loss prevention engineers.

10.1.4 Accident Reports

## GENERAL CONDITIONS

Subcontractors shall immediately, within two (2) days, report in writing to the Contractor all accidents whatsoever arising out of, or in connection with, the performance of the Work, whether on or off the Site, which caused death, personal injury, or property damage, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported within four (4) days by telephone or messenger. Contractor shall thereafter immediately, within two (2) days, report the facts in writing to the District and the Architect giving full details of the accident.

### 10.1.5 First-Aid Supplies at Site

The Contractor will provide and maintain at the Site first-aid supplies which complies with the current Occupational Safety and Health Regulations.

### 10.1.6 Material Safety Data Sheets and Compliance with Proposition 65

Contractor is required to have material safety data sheets available in a readily accessible place at the job site for any material requiring a material safety data sheet per the Federal "hazard communication" standard, or employees' "right-to-know law." The Contractor is also required to properly label any substance brought into the job site, and require that any person working with the material, or within the general area of the material, is informed of the hazards of the substance and follows proper handling and protection procedures.

Contractor is required to comply with the provisions of California Health and Safety Code section 25249, et seq., which requires the posting and giving of notice to persons who may be exposed to any chemical known to the State of California to cause cancer. The Contractor agrees to familiarize itself with the provisions of this Section, and to comply fully with its requirements.

### 10.1.7 Non-Utilization of Asbestos Material

NO ASBESTOS OR ASBESTOS-CONTAINING PRODUCTS SHALL BE USED IN THIS CONSTRUCTION OR IN ANY TOOLS, DEVICES, CLOTHING, OR EQUIPMENT USED TO EFFECT THIS CONSTRUCTION.

Asbestos and/or asbestos-containing products shall be defined as all items containing, but not limited to, chrysotile, amosite, anthophyllite, tremolite, and antinolite.

Any or all material containing greater than one-tenth of one percent (>.1%) asbestos shall be defined as asbestos-containing material.

All Work or materials found to contain asbestos or Work or material installed with asbestos-containing equipment will be immediately rejected and this Work will be removed at no additional cost to the District.

Decontamination and removal of Work found to contain asbestos or Work installed with asbestos-containing equipment shall be done only under supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency.

The asbestos removal contractor shall be an EPA accredited contractor qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant, who shall have sole discretion and final determination in this matter.

## **GENERAL CONDITIONS**

The asbestos consultant shall be chosen and approved by the District, who shall have sole discretion and final determination in this matter.

The Work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

Interface of Work under this Contract with Work containing asbestos shall be executed by the Contractor at his risk and at his discretion, with full knowledge of the currently accepted standards, hazards, risks, and liabilities associated with asbestos work and asbestos-containing products. By execution of this Contract, the Contractor acknowledges the above and agrees to hold harmless District and its assigns for all asbestos liability which may be associated with this work and agrees to instruct his employees with respect to the above-mentioned standards, hazards, risks, and liabilities.

### **10.2 SAFETY OF PERSONS AND PROPERTY**

#### 10.2.1 The Contractor

The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:

- a. Employees on the Work and other persons who may be affected thereby;
- b. The Work, material, and equipment to be incorporated therein, whether in storage on or off the Site, under the care, custody, or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- c. Other property at the Site or adjacent thereto such as trees, shrubs, lawns, walks, pavement, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

Contractor is constructive owner of Project site as more fully discussed in Article 6.2.

#### 10.2.2 Contractor Notices

The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on the safety of persons or property or their protection from damage, injury, or loss.

#### 10.2.3 Safety Barriers and Safeguards

The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.

#### 10.2.4 Use or Storage of Hazardous Material

When use or storage of explosives, other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. The Contractor shall notify the District

## GENERAL CONDITIONS

any time that explosives or hazardous materials are expected to be stored on Site. Location of storage shall be coordinated with the District and local fire authorities.

### 10.2.5 Protection of Work

The Contractor and Subcontractors shall continuously protect the Work, the District's property, and the property of others, from damage, injury, or loss arising in connection with operations under the Contract Documents. The Contractor and Subcontractors, at their own expense, shall make good any such damage, injury, or loss, except such as may be solely due to, or caused by, agents or employees of the District.

The Contractor, at Contractor's expense, will remove all mud, water, or other elements as may be required for the proper protection and prosecution of its Work.

Contractor shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations. All permits, licenses, or inspection fees required for such repair Work shall be obtained and paid for by Contractor.

### 10.2.6 Requirements for Existing Sites

Contractor shall (unless waived by the District in writing):

- a. When performing construction on existing sites, become informed and take into specific account the maturity of the students on the Site; and perform Work which may interfere with school routine before or after school hours, enclose working area with a substantial barricade, and arrange Work to cause a minimum amount of inconvenience and danger to students and faculty in their regular school activities. The Contractor shall comply with Specifications and directives of the District regarding the timing of certain construction activities in order to avoid unnecessary interference with school functioning.
- b. Avoid performing any Work that will disturb students during testing.
- c. Provide substantial barricades around any shrubs or trees indicated to be preserved.
- d. Deliver materials to building area over route designated by Architect.
- e. Take preventive measures to eliminate objectionable dust, noise, or other disturbances.
- f. Confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits or directions of Architect; and not interfere with the Work or unreasonably encumber premises or overload any structure with materials; and enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking and require that all workers comply with all regulations while on the Project site.



## GENERAL CONDITIONS

- g. Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved land surveyor or civil engineer and all maps and records required therefrom shall be filed with county and local authorities, at no cost to the District. All filing and plan check fees shall be paid by Contractor.
- h. Provide District on request with Contractor's written safety program and safety plan for each site.

### 10.2.7 Shoring and Structural Loading

The Contractor shall not impose structural loading upon any part of the Work under construction or upon existing construction on or adjacent to the Site in excess of safe limits, or loading such as to result in damage to the structural, architectural, mechanical, electrical, or other components of the Work. The design of all temporary construction equipment and appliances used in construction of the Work and not a permanent part thereof, including, without limitation, hoisting equipment, cribbing, shoring, and temporary bracing of structural steel, is the sole responsibility of the Contractor. All such items shall conform with the requirements of governing codes and all laws, ordinances, rules, regulations, and orders of all authorities having jurisdiction. The Contractor shall take special precautions, such as shoring of masonry walls and temporary tie bracing of structural steel Work, to prevent possible wind damage during construction of the Work. The installation of such bracing or shoring shall not damage the Work in place or the Work installed by others. Any damage which does occur shall be promptly repaired by the Contractor at no cost to the District.

### 10.2.8 Conformance within Established Limits

The Contractor and Subcontractors shall confine their construction equipment, the storage of materials, and the operations of workers to the limits indicated by laws, ordinances, permits, and the limits established by the District or the Contractor, and shall not unreasonably encumber the premises with construction equipment or materials.

### 10.2.9 Subcontractor Enforcement of Rules

Subcontractors shall enforce the District's and the Contractor's instructions, laws, and regulations regarding signs, advertisements, fires, smoking, the presence of liquor, and the presence of firearms by any person at the Site.

### 10.2.10 Site Access

The Contractor and the Subcontractors shall use only those ingress and egress routes designated by the District, observe the boundaries of the Site designated by the District, park only in those areas designated by the District, which areas may be on or off the Site, and comply with any parking control program established by the District, such as furnishing license plate information and placing identifying stickers on vehicles.

### 10.2.11 Security Services.

The Contractor shall be responsible for providing security services for the Site as needed for the protection of the Site and as determined in the District's sole discretion.

## **GENERAL CONDITIONS**

### **10.3 EMERGENCIES**

#### 10.3.1 Emergency Action

In an emergency affecting the safety of persons or property, the Contractor shall take any action necessary, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 7.

#### 10.3.2 Accident Reports

The Contractor shall promptly report in writing to the District all accidents arising out of or in connection with the Work, which caused death, personal injury, or property damage, giving full details and statements of any witnesses in conformance with Article 10.1.4. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported in accordance with Article 10.1.4, immediately by telephone or messenger to the District.

### **10.4 HAZARDOUS MATERIALS**

#### 10.4.1 Discovery of Hazardous Materials

In the event the Contractor encounters or suspects the presence on the job site of material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), or any other material defined as being hazardous by § 25249.5 of the California Health and Safety Code, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the District and the Architect in writing, whether or not such material was generated by the Contractor or the District. The Work in the affected area shall not thereafter be resumed, except by written agreement of the District and the Contractor, if in fact the material is asbestos, polychlorinated biphenyl (PCB), or other hazardous material, and has not been rendered harmless. The Work in the affected area shall be resumed only in the absence of asbestos, polychlorinated biphenyl (PCB), or other hazardous material, or when it has been rendered harmless by written agreement of the District and the Contractor.

#### 10.4.2 Hazardous Material Work Limitations

In the event that the presence of hazardous materials is suspected or discovered on the Site (except in cases where asbestos and other hazardous material Work in the Contractor's responsibility), the District shall retain an independent testing laboratory to determine the nature of the material encountered and whether corrective measures or remedial action is required. The Contractor shall not be required pursuant to Article 7 to perform without consent any Work in the affected area of the Site relating to asbestos, polychlorinated biphenyl (PCB), or other hazardous material, until any known or suspected hazardous material has been removed, or rendered harmless, or determined to be harmless by District, as certified by an independent testing laboratory and approved by the appropriate government agency.

#### 10.4.3 Indemnification by Contractor for Hazardous Material Caused by Contractor

In the event the hazardous materials on the Project Site is caused by the Contractor, the Contractor shall pay for all costs of testing and remediation, if any, and shall compensate the District for any additional costs incurred as a result of Contractor's generation of hazardous material on the Project Site. In addition, the Contractor shall defend, indemnify and hold harmless District and its agents, officers,

**GENERAL CONDITIONS**

and employees from and against any and all claims, damages, losses, costs and expenses incurred in connection with, arising out of, or relating to, the presence of hazardous material on the Project Site.

10.4.4 Terms of Hazardous Material Provision

The terms of this Hazardous Material provision shall survive the completion of the Work and/or any termination of this Contract.

# GENERAL CONDITIONS

## **ARTICLE 11 INSURANCE AND BONDS**

### **11.1 CONTRACTOR'S LIABILITY INSURANCE**

#### **11.1.1 Insurance Requirements**

Before the commencement of the Work, the Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in California with a financial rating of at least an A-VIII status as rated in the most recent edition of Best's Insurance Reports or as amended by the Supplementary General Conditions, such insurance as will protect the District from claims set forth below, which may arise out of or result from the Contractor's Work under the Contract and for which the Contractor may be legally liable, whether such Work are by the Contractor, by a Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Any required insurance shall not contain any exclusion that applies to the type of work performed by the Contractor under the Contract Documents.

- a. Claims for damages because of bodily injury, sickness, disease, or death of any person District would require indemnification and coverage for employee claim;
- b. Claims for damages insured by usual personal injury liability coverage, which are sustained by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or by another person;
- c. Claims for damages because of injury or destruction of tangible property, including loss of use resulting therefrom, arising from operations under the Contract Documents;
- d. Claims for damages because of bodily injury, death of a person, or property damage arising out of the ownership, maintenance, or use of a motor vehicle, all mobile equipment, and vehicles moving under their own power and engaged in the Work;
- e. Claims involving contractual liability applicable to the Contractor's obligations under the Contract Documents, including liability assumed by and the indemnity and defense obligations of the Contractor and the Subcontractors; and
- f. Claims involving Completed Operations, Independent Contractors' coverage, and Broad Form property damage, without any exclusions for collapse, explosion, demolition, underground coverage, and excavating. (XCU)
- g. Claims involving sudden or accidental discharge of contaminants or pollutants.

#### **11.1.2 Specific Insurance Requirements**

Contractor shall take out and maintain and shall require all Subcontractors, if any, whether primary or secondary, to take out and maintain:

**GENERAL CONDITIONS**

Comprehensive General Liability Insurance with a combined single limit per occurrence of not less than \$2,000,000.00 or Commercial General Liability Insurance which provides limits of not less than:

- (a) Per occurrence (combined single limit) ..... \$2,000,000.00
- (b) Project Specific Aggregate (for this Project only) ..... \$2,000,000.00
- (c) Products and Completed Operations (aggregate) ..... \$2,000,000.00
- (d) Personal and Advertising Injury Limit ..... \$1,000,000.00

Insurance Covering Special Hazards

The following Special hazards shall be covered by riders or riders to above mentioned public liability insurance or property damage insurance policy or policies of insurance, in amounts as follows:

- (a) Automotive and truck where operated in amounts ..... \$1,000,000.00
- (b) Material Hoist where used in amounts ..... \$1,000,000.00
- (c) Explosion, Collapse and Underground (XCU coverage) ..... \$1,000,000.00
- (d) Hazardous Materials ..... \$1,000,000.00

In addition, provide Excess Liability Insurance coverage in the amount of Four Million Dollars (\$4,000,000.00).

11.1.3 Subcontractor Insurance Requirements

The Contractor shall require its Subcontractors to take out and maintain public liability insurance and property damage insurance required under Article 11.1 in like amounts. A “claims made” or modified “occurrence” policy shall not satisfy the requirements of Article 11.1 without prior written approval of the District.

11.1.4 Additional Insured Endorsement Requirements

The Contractor shall name, on any policy of insurance required under Article 11.1, the District, CM, Architect, Inspector, the State of California, their officers, employees, agents, volunteers and independent contractors as additional insureds. Subcontractors shall name the Contractor, the District,

## GENERAL CONDITIONS

Architect, Inspector, the State of California, their officers, employees, agents, volunteers and independent contractors as additional insureds. The Additional Insured Endorsement included on all such insurance policies shall be an ISO CG 20 10 (04/13), or an ISO CG 20 38 (04/13), or their equivalent as determined by the District in its sole discretion, and must state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the additional insureds have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The insurance provided by the Contractor pursuant to 11.1 must be designated in the policy as primary to any insurance obtained by the District. The amount of the insurer's liability shall not be reduced by the existence of such other insurance.

### **11.2 WORKERS' COMPENSATION INSURANCE**

During the term of this Contract, the Contractor shall provide workers' compensation and employer's liability insurance for all of the Contractor's employees engaged in Work under this Contract on or at the Site of the Project and, in case any of the Contractor's Work is subcontracted, the Contractor shall require the Subcontractor to provide workers' compensation insurance for all the Subcontractor's employees engaged in Work under the subcontract. Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by the Contractor's insurance. In case any class of employees engaged in Work under this Contract on or at the Site of the Project is not protected under the Workers' Compensation laws, the Contractor shall provide or cause a Subcontractor to provide insurance coverage for the protection of those employees not otherwise protected. The Contractor shall file with the District certificates of insurance as required under Article 11.6 and in compliance with Labor Code § 3700.

Workers' compensation limits as required by the Labor Code, but not less than \$1,000,000 and employers' liability limits of \$1,000,000 per accident for bodily injury or disease.

### **11.3 BUILDER'S RISK/ "ALL RISK" INSURANCE**

#### **11.3.1 Course-of-Construction Insurance Requirements**

The Contractor, during the progress of the Work and until final acceptance of the Work by District upon completion of the entire Contract, shall maintain Builder's Risk, Course of Construction or similar first party property coverage issued on a replacement cost value basis consistent with the total replacement cost of all insurable Work and the Project included within the Contract Documents. Coverage is to insure against all risks of accidental direct physical loss, and must include, by the basic grant of coverage or by endorsement, the perils of vandalism, malicious mischief (both without any limitation regarding vacancy or occupancy), fire, sprinkler leakage, civil authority, sonic boom, earthquake, flood, collapse, wind, lightning, smoke and riot. The coverage must include debris removal, demolition, increased costs due to enforcement of building ordinance and law in the repair and replacement of damage and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project which is the subject of the Contract Documents, including completed Work and Work in progress, to the full insurable value thereof. Such insurance shall include the District and the Architect as additional named insureds, and any other person with an insurable interest as designated by the District.

The Contractor shall submit to the District for its approval all items deemed to be uninsurable. The risk of the damage to the Work due to the perils covered by the "Builder's Risk/All Risk" Insurance, as well as any other hazard which might result in damage to the Work, is that of the Contractor and the Surety, and no Claims for such loss or damage shall be recognized by the District nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.

## **GENERAL CONDITIONS**

### **11.4 FIRE INSURANCE**

Before the commencement of the Work, the Contractor shall procure, maintain, and cause to be maintained at the Contractor's expense, fire insurance on all Work subject to loss or damage by fire. The amount of fire insurance shall be sufficient to protect the Project against loss or damage in full until the Work is accepted by the District. This requirement may be waived upon confirmation by the District that such coverage is provided under the Builder's Risk Insurance being provided.

### **11.5 AUTOMOBILE LIABILITY**

11.5.1 The District, Architect and Construction Manager, Inspectors, their directors, officers, employees, agents and volunteers shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Contractor or for which the Contractor is responsible. Such insurance coverage shall be primary and non-contributory insurance as respects the District, Architect, Construction Manager, Project Inspector, their directors, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Contractor's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, Architect, Construction Manager, Project Inspector, their directors, officers, employees, agents and volunteers shall be excess of the Contractor's insurance and shall not be called upon to contribute with it. The insurer shall agree to waive all rights of subrogation against the District, Architect, Construction Manager, Project Inspector, their directors, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy that arise from Work performed by the Contractor.

11.5.2 Insurance Services Office Business Auto Coverage Form Number CA 0001, Code 1 (any auto) is required. Comprehensive Automobile Liability insurance to include all autos, owned, non-owned, and hired, with limits of \$1,000,000 per accident for bodily injury and property damage.

### **11.6 OTHER INSURANCE**

The Contractor shall provide all other insurance required to be maintained under applicable laws, ordinances, rules, and regulations.

### **11.7 PROOF OF INSURANCE**

The Contractor shall not commence Work nor shall it allow any Subcontractor to commence Work under this Contract until all required insurance and certificates have been obtained and delivered in duplicate to the District for approval subject to the following requirements:

- a. Certificates and insurance policies shall include the following clause:

"This policy and any coverage shall not be suspended, voided, non-renewed, canceled, or reduced in required limits of liability or amounts of insurance or coverage until notice has been mailed via certified mail to the District. Date of cancellation or reduction may not be less than thirty (30) days after the date of mailing notice."

- b. Certificates of insurance shall state in particular those insured, the extent of insurance, location and operation to which the insurance applies, the expiration date, and cancellation and reduction notices.

## GENERAL CONDITIONS

- c. Certificates of insurance shall clearly state that the District and the Architect are named as additional insureds under the policy described and that such insurance policy shall be primary to any insurance or self-insurance maintained by District.
- d. The Contractor and its Subcontractors shall produce a certified copy of any insurance policy required under this Section upon written request of the District.

### **11.8 COMPLIANCE**

In the event of the failure of Contractor to furnish and maintain any insurance required by this Article 11, the Contractor shall be in default under the Contract. Compliance by Contractor with the requirement to carry insurance and furnish certificates or policies evidencing the same shall not relieve the Contractor from liability assumed under any provision of the Contract Documents, including, without limitation, the obligation to defend and indemnify the District and the Architect.

### **11.9 WAIVER OF SUBROGATION**

Contractor waives (to the extent permitted by law) any right to recover against the District for damages to the Work, any part thereof, or any and all claims arising by reason of any of the foregoing, but only to the extent that such damages and/or claims are covered by property insurance and only to the extent of such coverage (which shall exclude deductible amounts) by insurance actually carried by the District.

The provisions of this Article are intended to restrict each party to recovery against insurance carriers only to the extent of such coverage and waive fully and for the benefit of each, any rights and/or claims which might give rise to a right of subrogation in any insurance carrier. The District and the Contractor shall each obtain in all policies of insurance carried by either of them, a waiver by the insurance companies thereunder of all rights of recovery by way of subrogation for any damages or claims covered by the insurance.

### **11.10 PERFORMANCE AND PAYMENT BONDS**

#### **11.10.1 Bond Requirements**

Unless otherwise specified in the Supplemental Conditions, prior to commencing any portion of the Work, the Contractor shall furnish separate Payment and Performance Bonds for its portion of the Work which shall cover 100% faithful performance of and payment of all obligations arising under the Contract Documents and/or guaranteeing the payment in full of all claims for labor performed and materials supplied for the Work. All bonds shall be provided by a corporate Surety authorized and admitted to transact business in California as sureties.

To the extent, if any, that the Contract Price is increased in accordance with the Contract Documents, the Contractor shall, upon request of the District, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the District. To the extent available, the bonds shall further provide that no change or alteration of the Contract Documents (including, without limitation, an increase in the Contract Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor will release the Surety. If the Contractor fails to furnish the required bonds, the District may terminate the Contract for cause.

#### **11.10.2 Surety Qualification**



## GENERAL CONDITIONS

Only bonds executed by admitted Surety insurers as defined in Code of Civil Procedure § 995.120 shall be accepted. Surety must be a California-admitted Surety and listed by the U.S. Treasury with a bonding capacity in excess of the Project cost.

### 11.10.3 Alternate Surety Qualifications

If a California-admitted Surety insurer issuing bonds does not meet these requirements, the insurer will be considered qualified if it is in conformance with § 995.660 of the California Code of Civil Procedure and proof of such is provided to the District.

## GENERAL CONDITIONS

### **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

#### **12.1 COMPLIANCE WITH TITLE 24 INSTALLATION REQUIREMENTS**

Contractor is aware of the requirements governing Contractor's Work under title 24 Section 4-343 which provides, in pertinent part:

##### **4-343. Duties of the Contractor.**

(a) **Responsibilities.** It is the duty of the contractor to complete the Work covered by his or her contract in accordance with the approved Plans and Specifications therefore. The contractor in no way is relieved of any responsibility by the activities of the architect, engineer, Inspector or DSA in the performance of such duties.

(b) **Performance of the Work.** The contractor shall carefully study the approved Plans and Specifications and shall plan a schedule of operations well ahead of time. If at any time it is discovered that Work is being done which is not in accordance with the approved Plans and Specifications, the contractor shall correct the Work immediately. All inconsistencies or items which appear to be in error in the Plans and Specifications shall be promptly called to the attention of the architect or registered engineer, through the Inspector, for interpretation or correction. In no case, however, shall the instruction of the architect or registered engineer be construed to cause Work to be done which is not in conformity with the approved Plans, Specifications, and Change Orders. The contractor must notify the Project Inspector, in advance, of the commencement of construction of each and every aspect of the Work.

##### 12.1.1 Issuance of Notices of Non-Compliance

The Inspector may issue a Notice of Non-Compliance on the Project indicating deviation from Plans and Specifications. It is Contractor's responsibility to correct all deviations from the approved Plans and Specifications unless the District has issued an Immediate Change Directive. In such case, the Contractor shall proceed with the Work with the understandings of the District as set forth in the ICD and as specifically noted in Article 7.3.

#### **12.2 SPECIAL NOTICE OF AMERICAN'S WITH DISABILITIES ACT**

Some of the requirements in the Plans and Specifications are meant to comply with the Americans with Disabilities Act ("ADA"). The requirements of the ADA are technical in nature and may appear to be minor in nature (i.e. whether a walkway or ramp has a 2% cross-slope). Contractor is warned that even the slightest deviation from the specific requirements from the ADA is considered a Civil Rights violation and subjects the District to fines of three-times actual damages sustained by a handicap individual or up to \$4,000 per violation and attorney's fees required to enforce the ADA violation. As a result of the significant liability and exposure associated with ADA aspects of the Contract, Contractor shall take special care to meet all ADA requirements detailed in the Plans and Specifications. Failure to comply with ADA rules that results in a Notice of Non-Compliance shall be repaired to meet ADA requirements promptly. In addition, any ADA violations that are not identified by Inspector or Architect that are later identified shall be repaired and charged back to the Contractor through a Deductive Change Order.

## **GENERAL CONDITIONS**

### 12.2.1 Indemnification of ADA Claims

ADA claims arising from failure to comply with Plans and Specifications shall be indemnified, held harmless and defended by Contractor. Further, any withholdings for ADA violations under Article 9.6 shall include potential redesign costs and an accelerated repair costs due to the potential for ADA claims arising from DSA posting of ADA violations on the Project.

## **12.3 UNCOVERING OF WORK**

### 12.3.1 Uncovering Work for Required Inspections

Work shall not be covered without the Inspector's review and the Architect's knowledge that the Work conforms with the requirements of the approved Plans and Specifications (except in the case of an ICD under Article 7.3). Inspector must be timely notified of inspections and of new areas so Work can be inspected at least 48 hours before opening a new area (For example, see DSA Form 156 for Commencement/Completion of Work Notification which requires "at least 48 hour" advance notification of a new area). An Inspector must comply with DSA protocols for signing each category or phase of Work under DSA Form 152 (in compliance with the Form 152 Manual) or a Notice of Deviation (DSA Form 154) will be issued requiring the Work that was not inspected be uncovered for inspection. Thus, if a portion of the Work is covered without inspection or Architect approval, is subject to a Notice of Non-Compliance for being undertaken without inspection, or otherwise not in compliance with the Contract Documents, after issuance of a Written Notice of Non-Compliance (Form 154) or a written notice to uncover Work, Contractor shall promptly uncover all Work (which includes furnishing all necessary facilities, labor, and material) for the Inspector's or the Architect's observation and be replaced at the Contractor's expense without change in the Contract Sum or Time.

### 12.3.2 Costs for Inspections Not Required

If a portion of the Work has been covered is believed to be Non-Conforming to the Plans and Specifications, even if the Form 152 for the category of Work has been signed by the Inspector, the Inspector or the Architect may request to see such Work, and it shall be promptly uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncover and replacement shall, by appropriate Change Order and shall, be charged to the District. If such Work is not in accordance with Contract Documents, the Contractor shall be responsible for all costs to uncover the Work, delays incurred to uncover the Work, and Contractor shall pay all costs to correct the incorrectly construction condition unless the condition was caused by the District or a separate contractor, in which event the District shall be responsible for payment of such costs to the Contractor.

## **12.4 CORRECTION OF WORK**

### 12.4.1 Correction of Rejected Work

The Contractor shall promptly correct the Work rejected by the Inspector or the District upon recommendation of the Architect as failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not Fabricated, installed, or completed. The Contractor shall bear costs of correcting the rejected Work, including cost for delays that may be incurred by Contractor or Subcontractors, the cost for additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby (including costs for preparing a CCD, DSA CCD review fees, and additional inspection and special inspection costs).

## GENERAL CONDITIONS

### 12.4.2 One-Year Warranty Corrections

If, within one (1) year after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established under Article 9.9.1, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so unless the District has previously given the Contractor a written acceptance of such condition. This period of one (1) year shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation under this Article 12.4.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

### 12.4.3 District's Rights if Contractor Fails to Correct

If the Contractor fails to correct nonconforming Work within a reasonable time, the District may correct the Work and seek a Deductive Change Order, pursuant to Article 9.6 or Article 2.2.

**GENERAL CONDITIONS**

**ARTICLE 13  
MISCELLANEOUS PROVISIONS**

**13.1 GOVERNING LAW**

The Contract shall be governed by the law of the place where the Project is located.

**13.2 SUCCESSORS AND ASSIGNS**

The District and the Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

**13.3 WRITTEN NOTICE**

In the absence of specific notice requirements in the Contract Documents, written notice shall be deemed to have been duly served if delivered in person to the individual, member of the firm or entity, or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

**13.4 RIGHTS AND REMEDIES**

13.4.1 Duties and Obligations Cumulative

Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

13.4.2 No Waiver

No action or failure to act by the Inspector, the District, or the Architect shall constitute a waiver of a right or duty afforded them under the Contract Documents, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

**13.5 TESTS AND INSPECTIONS**

13.5.1 Compliance

Tests, inspections, and approvals of portions of the Work required by the Contract Documents will comply with Division 1, Title 24, and with all other laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction.

13.5.2 Independent Testing Laboratory

## GENERAL CONDITIONS

The District will select and pay an independent testing laboratory to conduct all tests and inspections. Selection of the materials required to be tested shall be made by the laboratory or the District's representative and not by the Contractor. See Articles 3.13.1 and 4.3.6 regarding costs or expenses of inspection or testing outside of the Project Site.

### 13.5.3 Advance Notice to Inspector

The Contractor shall notify the Inspector a sufficient time in advance of its readiness for required observation or inspection so that the Inspector may arrange for same. The Contractor shall notify the Inspector a sufficient time in advance of the manufacture of material to be supplied under the Contract Documents which must, by terms of the Contract Documents, be tested in order that the Inspector may arrange for the testing of the material at the source of supply.

### 13.5.4 Testing Off-Site

Any material shipped by the Contractor from the source of supply, prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said Inspector that such testing and inspection will not be required, shall not be incorporated in the Work.

### 13.5.5 Additional Testing or Inspection

If the Inspector, the Architect, the District, or public authority having jurisdiction determines that portions of the Work require additional testing, inspection, or approval not included under Article 13.5.1, the Inspector will, upon written-authorization from the District, make arrangements for such additional testing, inspection, or approval. The District shall bear such costs except as provided in Articles 13.5.6 and 13.5.7.

### 13.5.6 Costs for Retesting

If such procedures for testing, inspection, or approval under Articles 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs arising from such failure, including those of re-testing, re-inspection, or re-approval, including, but not limited to, compensation for the Architect's services and expenses. Any such costs shall be paid by the District, invoiced to the Contractor, and deducted from the next Progress Payment.

### 13.5.7 Costs for Premature Test

In the event the Contractor requests any test or inspection for the Project and is not completely ready for the inspection, the Contractor shall be invoiced by the District for all costs and expenses resulting from that testing or inspection, including, but not limited to, the Inspector's and Architect's fees and expenses, and the amount of the invoice shall be deducted from the next Progress Payment.

## 13.6 TRENCH EXCAVATION

### 13.6.1 Trenches Greater Than Five Feet

Pursuant to Labor Code section 6705, if the Contract Price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of

## **GENERAL CONDITIONS**

excavation, submit to the District or a registered civil or structural engineer employed by the District or Architect, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

### **13.6.2 Excavation Safety**

If such plan varies from the Shoring System Standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer, but in no case shall such plan be less effective than that required by the Construction Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by the District or by the person to whom authority to accept has been delegated by the District.

### **13.6.3 No Tort Liability of District**

Pursuant to Labor Code § 6705, nothing in this Article shall impose tort liability upon the District or any of its employees.

### **13.6.4 No Excavation without Permits**

The Contractor shall not commence any excavation Work until it has secured all necessary permits including the required CAL OSHA excavation/shoring permit. Any permits shall be prominently displayed on the Site prior to the commencement of any excavation.

## **13.7 WAGE RATES, TRAVEL, AND SUBSISTENCE**

### **13.7.1 Wage Rates**

Pursuant to the provisions of Article 2 (commencing at § 1720), Chapter 1, Part 7, Division 2, of the Labor Code, the District has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public works project is to be performed for each craft, classification, or type of worker needed for this Project from the Director of the Department of Industrial Relations ("Director"). These rates are on file at the administrative office of the District and are also available from the Director of the Department of Industrial Relations. Copies will be made available to any interested party on request. The Contractor shall post a copy of such wage rates at appropriate, conspicuous, weatherproof points at the Site.

Any worker employed to perform Work on the Project, but such Work is not covered by any classification listed in the published general prevailing wage rate determinations or per diem wages determined by the Director of the Department of Industrial Relations, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to the employment of such person in such classification.

### **13.7.2 Holiday and Overtime Pay**

Holiday and overtime work, when permitted by law, shall be paid for at the rate set forth in the prevailing wage rate determinations issued by the Director of the Department of Industrial Relations or at least one and one-half (1½) times the specified basic rate of per diem wages, plus employer payments, unless otherwise specified in the Contract Documents or authorized by law.

### **13.7.3 Wage Rates Not Affected by Subcontracts**

## GENERAL CONDITIONS

The Contractor shall pay and shall cause to be paid each worker engaged in the execution of the Work on the Project not less than the general prevailing rate of per diem wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such workers.

### 13.7.4 Per Diem Wages

The Contractor shall pay and shall cause to be paid to each worker needed to execute the Work on the Project per diem wages including, but not limited to, employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided for in Labor Code §1773.1.

### 13.7.5 Forfeiture and Payments

Pursuant to Labor Code §1775, the Contractor shall forfeit to the District, not more than Two Hundred Dollars (\$200.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing wages rates as determined by the Director of the Department of Industrial Relations, for the work or craft in which the worker is employed for any Work done under the Agreement by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commissioner and shall be based on consideration of: (1) whether the Contractor or Subcontractor's failure to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily correct upon being brought to the attention of the Contractor or Subcontractor; and (2) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations.

## 13.8 RECORDS OF WAGES PAID

### 13.8.1 Payroll Records

- a. Pursuant to §1776 of the Labor Code, each Contractor and Subcontractor shall keep an accurate payroll record showing the name, address, social security number, work classification and straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by him or her in connection with the Project.
- b. All payroll records shall be certified and submitted to the District with each application for payment, but shall not be submitted less than once per month. All payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:
  1. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
  2. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of District, the Division of Labor Standards Enforcement or the Division of Apprenticeship Standards of the Department of Industrial Relations.
  3. A certified copy of all payroll records shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through the District, the Division of



## GENERAL CONDITIONS

Apprenticeship Standards or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Paragraph (2) above, the requesting party shall, prior to being provided the records, reimburse the costs, according to law for the preparation by the Contractor, Subcontractor(s), and the entity through which the request was made. The public shall not be given access to such records at the principal office of the Contractor.

- c. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the Division of Labor Standards Enforcement.
- d. The Contractor or Subcontractor(s) shall file a certified copy of all payroll records with the entity that requested such records within 10 calendar days after receipt of a written request.
- e. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or the Subcontractor(s) performing the Contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (Section 175a of Title 29 of the United States Code) shall be marked or obliterated only to prevent disclosure of an individual's name and social security number. Notwithstanding any other provision of law, agencies that are included in the Joint Enforcement Strike Force on the Underground Economy established pursuant to Section 329 of the Unemployment Insurance Code and other law enforcement agencies investigating violations of law shall, upon request, be provided non-redacted copies of certified payroll records.
- f. The Contractor shall inform the District of the location of all payroll records, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
- g. The Contractor or Subcontractor(s) shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting payroll records. In the event that the Contractor or Subcontractor(s) fails to comply within the 10-day period, the Contractor or Subcontractor(s) shall, as a penalty to the District, forfeit One Hundred Dollars (\$100.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

Responsibility for compliance with this Article shall rest upon the Contractor.

### 13.8.2 Withholding of Contract Payments & Penalties

## GENERAL CONDITIONS

The District may withhold or delay contract payments to the Contractor and/or any Subcontractor if:

- a. The required prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations is not paid to all workers employed on the Project; or
- b. The Contractor or Subcontractor(s) fail to submit all required certified payroll records with each application for payment, but not less than once per month; or
- c. The Contractor or Subcontractor(s) submit incomplete or inadequate payroll records; or
- d. The Contractor or Subcontractor(s) fail to comply with the Labor Code requirements concerning apprentices; or
- e. The Contractor or Subcontractor(s) fail to comply with any applicable state laws governing workers on public works projects.

### 13.9 APPRENTICES

#### 13.9.1 Apprentice Wages and Definitions

All apprentices employed by the Contractor to perform services under the Contract shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which he or she is employed, and as determined by the Director of the Department of Industrial Relations, and shall be employed only at the craft or trade to which he or she is registered. Only apprentices, as defined in §3077 of the Labor Code, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprenticeship agreements under Chapter 4 (commencing with §3070) of Division 3, are eligible to be employed under this Contract. The employment and training of each apprentice shall be in accordance with the apprenticeship standards and apprentice agreements under which he or she is training, or in accordance with the rules and regulations of the California Apprenticeship Council.

#### 13.9.2 Employment of Apprentices

Contractor agrees to comply with the requirements of Labor Code §1777.5. The Contractor awarded the Project, or any Subcontractor under him or her, when performing any of the Work under the Contract or subcontract, employs workers in any apprenticeable craft or trade, the Contractor and Subcontractor shall employ apprentices in the ratio set forth in Labor Code §1777.5. The Contractor or any Subcontractor must apply to any apprenticeship program in the craft or trade that can provide apprentices to the Project site for a certificate approving the contractor or subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or Subcontractor upon the Contractor's or Subcontractor's request. "Apprenticeable craft or trade" as used in this Article means a craft or trade determined as an apprenticeable occupation in accordance with the rules and regulations prescribed by the California Apprenticeship Council. The ratio of work performed by apprentices to

## **GENERAL CONDITIONS**

journeyman employed in a particular craft or trade on the Project shall be in accordance with Labor Code §1777.5.

### 13.9.3 Submission of Contract Information

Prior to commencing Work on the Project, the Contractor and Subcontractors shall submit contract award information to the applicable apprenticeship program(s) that can supply apprentices to the Project and make the request for the dispatch of apprentices in accordance with the Labor Code. The information submitted shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the District if requested. Within 60 days after concluding Work on the Project, the Contractor and Subcontractors shall submit to the District, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the Project.

### 13.9.4 Apprentice Fund

The Contractor or any Subcontractor under him or her, who, in performing any of the Work under the Contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the Director determines is the prevailing amount of apprenticeship training contributions in the area of the Project. The Contractor and Subcontractors may take as a credit for payments to the California Apprenticeship Council any amounts paid by the Contractor or Subcontractor to an approved apprenticeship program that can supply apprentices to the Project. The Contractor and Subcontractors may add the amount of the contributions in computing his or her bid for the Contract.

### 13.9.5 Prime Contractor Compliance

The responsibility of compliance with Article 13 and §1777.5 of the Labor Code for all apprenticeable occupations is with the Prime Contractor. Any Contractor or Subcontractor that knowingly violates the provisions of this Article or Labor Code §1777.5 shall be subject to the penalties set forth in Labor Code §1777.7.

## **13.10 ASSIGNMENT OF ANTITRUST CLAIMS**

### 13.10.1 Application

Pursuant to Government Code § 4551, in entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act, (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 [commencing with § 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from the purchase of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders Retention Payment to the Contractor, without further acknowledgment by the parties. If the District receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Chapter 11 (commencing with § 4550) of Division 5 of Title 1 of the Government Code, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but

## GENERAL CONDITIONS

were not paid by the District as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

### 13.10.2 Assignment of Claim

Upon demand in writing by the assignor, the District shall, within one (1) year from such demand, reassign the cause of action assigned pursuant to this Article if the assignor has been or may have been injured by the violation of law for which the cause of action arose and the District has not been injured thereby or the District declines to file a court action for the cause of action.

### 13.11 STATE AND DISTRICT CONDUCTED AUDITS

Pursuant to and in accordance with the provisions of Government Code § 10532, or any amendments thereto, all books, records, and files of the District, the Contractor, or any Subcontractor connected with the performance of this Contract involving the expenditure of state funds in excess of Ten Thousand Dollars (\$10,000.00), including, but not limited to, the administration thereof, shall be subject to the examination and audit of the Office of the Auditor General of the State of California for a period of five (5) years after Retention Payment is made or a Notice of Completion is Recorded, whichever occurs first. Contractor shall preserve and cause to be preserved such books, records, hard drives, electronic media, and files for the audit period.

Pursuant to the remedies under Public Contract Code section 9201 and Government Code section 930.2, Contractor, through execution of this Agreement, also agrees the District shall have the right to review and audit, upon reasonable notice, the books and records of the Contractor concerning any monies associated with the Project. The purpose of this "Audit" is to quickly and efficiently resolve Disputes based on the actual costs incurred and to reduce the uncertainty in resolving Disputes with limited information. The District shall perform any audits at its own cost and any such audit shall be performed by an independent auditor, having no direct or indirect relationship with the functions or activities being audited or with the business conducted by the Contractor or District. In the event the independent auditor determines that Change Orders, response to Request for Proposals, Claims, Appeal of Claims, or other requests for payment are in error, or have has any other concerns or questions, the Auditor shall report the results of the Audit findings to the District and provide a copy to the Contractor after giving the District Board the opportunity for at least 10 days review. If the Contractor disputes the findings of the independent auditor, such dispute shall be handled in the manner set forth under Article 4.6.2 entitled Disputes.

If Contractor having agreed to the terms of this Contract fails to produce books or records requested by Auditor, such failure to produce books or records that were required to be preserved for audit, it shall be presumed that the information contained in the withheld books or records were unfavorable to the Contractor and the Auditor shall note this refusal in the results of the Audit findings for further evaluation by the District and the District's Board. The refusal to release records that are concerning monies associated with the Project may be used as a grounds to debar the Contractor under Article 15 for failure to preserve records under Article 13.11 and the failure to produce required audit records may also be used as a grounds for a negative finding against the Contractor depending on the significance of the records that are withheld by Contractor. Failure to produce job cost data tied to job cost categories and budgets shall be presumed an intentional failure to produce key audit records. Similarly, failure to produce Daily Reports (prepared at or near the time of the Work actually took place (See Article 3.16) shall be presumed an intentional failure to produce key audited records.

If Contractor is seeking costs for inefficiency, home office overhead, or unanticipated increased costs due to delays or acceleration, Contractor shall also produce copies of the original bid

## GENERAL CONDITIONS

tabulation utilized in submitting Contractor's bid for the Project. This document shall be considered confidential and shall not be subject to disclosure through a Public Records Act and shall not be distributed to anyone other than the District and the District's counsel. This bid tabulation shall only be used in litigation, arbitration, evaluation of Claims or Disputes, Audit, and trial. If the records for the bid tabulation are kept on a computer, the Contractor shall also produce all metadata (in native format) that accompanies the bid tabulation for inspection to prove the authenticity of the underlying bid tabulation. Failure to produce the bid tabulation for review of inefficiency, home office overhead, or unanticipated increased costs due to delays or accelerations shall be considered material evidence that the bid tabulation was not favorable to the Contractor. This evidence shall be entered as a jury instruction for trial that the bid tabulation was not produced and the bid tabulation information was unfavorable to the Contractor. The evidence may also be used in debarment proceedings, and noted as an exception to an Audit findings.

Upon notification of Contractor concerning the results of the audit and a reasonable time has passed for Contractor to respond to the Audit findings and if either there is no Dispute of the Audit findings under Article 4.6 or if the result after utilizing the Disputes Clause confirms the Audit findings, the District may seek reimbursement for overstated Claims, Change Orders, or Appeal of Claims and may also undertake debarment proceedings under Article 15 of these General Conditions.

### 13.12 STORM WATER POLLUTION PREVENTION

#### 13.12.1 Application

This Section addresses the preparation, implementation and monitoring of a Storm Water Pollution Prevention Plan (SWPPP) for the purpose of preventing the discharge of pollutants from the construction site. This includes the elimination of pollution discharges such as improper dumping, spills or leakage from storage tanks or transfer areas. The District will not issue a Notice to Proceed until Contractor has prepared by a qualified individual and obtained approval of the Permit Registration Documents ("PRDs") that include a Notice of Intent, Construction Risk Calculation, Site Map, SWPPP, Annual Fee and any additional required documents from all applicable Local Governing Agencies including the Regional Water Quality Control Board. The Contractor shall also secure a certification that the Project has met all of the conditions of the General Construction Activity Storm Water Permit (GCASP) and comply with all applicable local, state and federal regulations governing storm water pollution prevention.

#### 13.12.2 References and Materials

- California Stormwater Quality Association New Development and Redevelopment Best Management Practice Handbook
- 2009 California Stormwater Quality Association Construction BMP Handbook .
- State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbing Activities. Available on-line at:
- [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml).- Use materials of a class, grade and type needed to meet the performance described in the BMP Handbook.

#### 13.12.3 Preparation and Approval

## GENERAL CONDITIONS

The Contractor shall prepare by a qualified individual the PRDs that include a Notice of Intent, Construction Risk Calculation, Site Map, SWPPP, Annual Fee and any additional required documents. The Contractor's Qualified SWPPP Developer ("QSD") shall prepare the Storm Water Pollution Prevention Plan (SWPPP) as required to comply with storm water pollution regulations for project sites with storm water discharges associated with construction activity such as clearing or demolition, grading, excavation and other land disturbances. The SWPPP shall apply to all areas that are directly related to construction activity, including but not limited to staging areas, storage yards, material borrow areas, and access roads.

13.12.3.1 The Contractor shall prepare and submit to the Local Governing Agencies and the District the SWPPP for review and approval if the project sites, new or existing, with land disturbance of 1 or more acres (or less than 1 acres if part of a common plan of development); the construction activity that results in land surface disturbances of less than one acre is part of a larger common plan of development or sale of one or more acres of disturbed land surface; or the construction activity associated with Linear Underground/Overhead Projects ("LUPs") including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

13.12.3.2 The Contractor shall also pay annual renewal fee(s) until the contract is completed and make all such checks payable to the State Water Resources Control Board. The Notice of Intent must be submitted at least two weeks prior to the commencement of construction activities.

13.12.3.3 The Contractor shall prepare the SWPPP by following the format in Sections 2, 3, 4 and Appendices A through F of the California Stormwater BMP Handbook - Construction, January 2009 edition, published by the California Stormwater Quality Association. The publication is available from:

California Stormwater  
Quality Association  
P.O. Box 2105  
Menlo Park, CA 94026-2105  
Phone: (650) 366-1042  
E-mail: [info@casqa.org](mailto:info@casqa.org)

or

<https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx>

13.12.3.4 Where land disturbance is less than 1 acre, any BMPs indicated in the BMP Handbook needed to prevent or minimize storm water pollution shall be implemented at no extra cost to the District.

13.12.3.5 Within two weeks after Award of Contract by the District, the Contractor shall submit to the District's Civil Engineer one copy of the PRDs including the SWPPP for review. After the District's approval, the Contractor shall provide approved copies of the SWPPP as follows: one copy each

**GENERAL CONDITIONS**

to the District’s Construction Inspector, District’s Construction Manager, District Architect, Commissioned Architect and District’s Civil Engineer.

13.12.4 Implementation

The Contractor shall implement the Storm Water Pollution Prevention Plan by doing the following:

- a. Obtain a Waste Discharger Identification (WDID) number from the SWRCB before beginning construction. This number will be issued once your PRDs are administratively accepted and fee is received.
- b. Keep the SWPPP, REAPs, monitoring data on the construction site.
- c. Employ a Qualified SWPPP Practitioner (QSP) to implement the SWPPP during construction and develop Rain Event Action Plans ("REAPs").
- d. Install, inspect, maintain and monitor BMPs required by the General Permit.
- e. Install perimeter controls prior to starting other construction work at the site.
- f. Contain on-site storm water at the jobsite. Do not drain on-site water directly into the storm drain.
- g. Implement the SWPPP.
- h. Provide SWPPP and BMP implementation training for those responsible for implementing the SWPPP.
- i. Designate trained personnel for the proper implementation of the SWPPP.
- j. Conduct monitoring, as required, and assess compliance with the Numeric Action Levels (NALs) or Numeric Effluent Limitations (NELs) appropriate to your project.
- k. Report monitoring data:
  - 1. Maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed.
  - 2. Have a QSD revise the SWPPP as needed to reflect the phases of construction and to suit changing site conditions and instances when properly installed systems are ineffective.
  - 3. Assist the District with entering any necessary data or information into the Stormwater Multi-Application and Reporting System ("SMARTS") system.
- 1. At the end of Construction Contract:

## GENERAL CONDITIONS

1. Submit Notice of Termination (NOT) into the SMARTS when construction is complete and conditions of termination listed in the NOT have been satisfied. A copy of the NOT can be found at: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml).
2. Leave in place storm water pollution prevention controls needed for post-construction storm water management and remove those that are not needed as determined by the District. Thereafter, left-in-place controls will be maintained by the District.
3. Provide Site Monitoring Reports, SWPPP revisions, Compliance Certifications and related documents to the District. Post-construction storm water operation and management plan as mentioned in the compliance certifications are considered to be in place at the end of the Construction Contract.

### 13.12.5 Monitoring

The Contractor shall conduct examination of storm water pollution prevention controls as required by the State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbing Activities. This includes properly qualified personnel performing all required monitoring, testing, inspections and monitoring. The Contractor shall also conduct examination of storm water pollution prevention controls, as well as before and after each storm event in compliance with the State Water Resources Control Board Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (General Permit) (SWRCB, 2009), and at least once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or BMP changes as soon as feasible. All maintenance related to a storm event should be completed within 48 hours of the storm event. The Contractor shall also prepare and maintain, at the jobsite, a log of each inspection using Site Monitoring Report forms.

### 13.12.6 Liabilities and Penalties

- a. Review of the SWPPP and inspection logs by the District shall not relieve the Contractor from liabilities arising from non-compliance with storm water pollution regulations.
- b. Payment of penalties for non-compliance by the Contractor shall be the sole responsibility of the Contractor and will not be reimbursed by the District.
- c. Compliance with the Clean Water Act pertaining to construction activity is the sole responsibility of the Contractor. For any fine(s) levied against the District due to non-compliance by the Contractor, the District will deduct from the final payment due the Contractor the total amount of the fine(s) levied on the District, plus legal and associated costs.



**GENERAL CONDITIONS**

- d. The Contractor shall submit to the District a completed NOI for change of information (Construction Site Information and Material Handling/Management Practices).

## GENERAL CONDITIONS

### **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

#### **14.1 TERMINATION BY THE CONTRACTOR FOR CAUSE**

##### 14.1.1 Grounds for Termination

The Contractor may terminate the Contract if the Work is stopped for a period of thirty (30) consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons performing portions of the Work for whom the Contractor is contractually responsible, for only the following reasons:

- a. Issuance of an order of a court or other public authority having jurisdiction; or
- b. An act of the United State or California government, such as a declaration of national emergency.

##### 14.1.2 Notice of Termination

If one of the above reasons exists, the Contractor may, upon written notice of seven (7) additional days to the District, terminate the Contract and recover from the District payment for Work executed and for reasonable costs verified by the Architect with respect to materials, equipment, tools, construction equipment, and machinery, including reasonable overhead, profit, and damages.

#### **14.2 TERMINATION BY THE DISTRICT FOR CAUSE**

##### 14.2.1 Grounds for Termination

The District may terminate the Contractor and/or this Contract for the following reasons:

- a. Persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- b. Persistently or repeatedly is absent, without excuse, from the job site;
- c. Fails to make payment to Subcontractors, suppliers, materialmen, etc.;
- d. Persistently disregards laws, ordinances, rules, regulations, or orders of a public authority having jurisdiction;
- e. Fails to provide a schedule or fails or refuses to update schedules required under the Contract;
- f. Falls behind on the Project and refuses or fails to undertake a Recovery Schedule;
- g. If the Contractor has been debarred from performing Work
- h. Becomes bankrupt or insolvent, including the filing of a general assignment for the benefit of creditors; or

## GENERAL CONDITIONS

- i. Otherwise is in substantial breach of a provision of the Contract Documents.

### 14.2.2 Notification of Termination

When any of the above reasons exist, the District may, without prejudice to any other rights or remedies of the District and after giving the Contractor and the Contractor's Surety written notice of seven (7) days, terminate the Contractor and/or this Contract and may, subject to any prior rights of the Surety:

- a. Take possession of the Project and of all material, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- b. Accept assignment of Subcontracts. Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to takeover completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept;
- c. Complete the Work by any reasonable method the District may deem expedient, including contracting with a replacement contractor or contractors; and,
- d. Agree to accept a takeover and completion arrangement with Surety that is acceptable to the District Board.

### 14.2.3 Takeover and Completion of Work after Termination for Cause

A Termination for Cause is an urgent matter which requires immediate radiation since Project Work is open and incomplete, the site is subject to vandalism and theft, the Project site is considered a public nuisance, and there is a possibility of injury and deterioration of the Project Work and materials. Thus, the District shall be entitled to enter a takeover contract to either remediate the unfinished condition or complete the Work for this Project.

### 14.2.4 Payments Withheld

If the District terminates the Contract for one of the reasons stated in Article 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is complete. All costs associated with the termination and completion of the Project shall be the responsibility of the Contractor and/or its Surety.

### 14.2.5 Payments upon Completion

If the unpaid balance of the Contract Sum exceeds costs of completing the Work, including compensation for professional services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor and its Surety shall pay the difference to the District. The amount to be paid to the Contractor, or District, as the case may be, shall be certified by the Architect upon application. This payment obligation shall survive completion of the Contract.

## GENERAL CONDITIONS

### 14.3 TERMINATION OF CONTRACT BY DISTRICT (CONTRACTOR NOT AT FAULT)

#### 14.3.1 Termination for Convenience

District may terminate the Contract upon fifteen (15) calendar days of written notice to the Contractor and use any reasonable method the District deems expedient to complete the Project, including contracting with replacement contractor or contractors, if it is found that reasons beyond the control of either the District or Contractor make it impossible or against the District's interest to complete the Project. In such a case, the Contractor shall have no Claims against the District except for: (1) the actual cost for approved labor, materials, and services performed in accordance with the Contract Documents which have not otherwise been previously paid for and which are supported and documented through timesheets, invoices, receipts, or otherwise; and (2) profit and overhead of ten percent (10%) of the approved costs in item (1); and (3) termination cost of five percent (5%) of the approved costs in item (1). Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to takeover completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept.

#### 14.3.2 Non-Appropriation of Funds/ Insufficient Funds

In the event that sufficient funds are not appropriated to complete the Project or the District determines that sufficient funds are not available to complete the Project, District may terminate or suspend the completion of the Project at any time by giving written notice to the Contractor. In the event that the District exercises this option, the District shall pay for any and all work and materials completed or delivered onto the site for which value is received, and the value of any and all work then in progress and orders actually placed which cannot be canceled up to the date of notice of termination. The value of work and materials paid for shall include a factor of fifteen percent (15%) for the Contractor's overhead and profit and there shall be no other costs or expenses paid to Contractor. All work, materials and orders paid for pursuant to this provision shall become the property of the District. District may, without cause, order Contractor in writing to suspend, delay or interrupt the Project in whole or in part for such period of time as District may determine. Adjustment shall be made for increases in the cost of performance of the Agreement caused by suspense, delay or interruption.

### 14.4 REMEDIES OTHER THAN TERMINATION

If a default occurs, the District may, without prejudice to any other right or remedy, including, without limitation, its right to terminate the Contract pursuant to Article 14.2, do any of the following:

- a. Permit the Contractor to continue under this Contract, but make good such deficiencies or complete the Contract by whatever method the District may deem expedient, and the cost and expense thereof shall be deducted from the Contract Price or paid by the Contractor to the District on demand;
- b. If the workmanship performed by the Contractor is faulty or defective materials are provided, erected or installed, then the District may order the Contractor to remove the faulty workmanship or defective materials and to replace the same with work or materials that conform to the Contract Documents, in which event the Contractor, at its sole costs and expense, shall proceed in accordance with the District's order and complete the same within the time period given by the District in its notice to the Contractor; or

**GENERAL CONDITIONS**

- c. Initiate procedures to declare the Contractor a non-responsible bidder for a period of two (2) to five (5) years thereafter.

All amounts expended by the District in connection with the exercise of its rights hereunder shall accrue interest from the date expended until paid to the District at the maximum legal rate. The District may retain or withhold any such amounts from the Contract Price. If the Contractor is ordered to replace any faulty workmanship or defective materials pursuant to Paragraph (b) above, the Contractor shall replace the same with new work or materials approved by the Architect and the District, and, at its own cost, shall repair or replace, in a manner and to the extent the Architect and the District shall direct, all Work or material that is damaged, injured or destroyed by the removal of said faulty workmanship or defective material, or by the replacement of the same with acceptable work or materials. In no event shall anything in this Article be deemed to constitute a waiver by the District of any other rights or remedies that it may have at law or in equity, it being acknowledged and agreed by the Contractor that the remedies set forth in this Article are in addition to, and not in lieu of, any other rights or remedies that the District may have at law or in equity.

## GENERAL CONDITIONS

### **ARTICLE 15 DEBARMENT**

#### **15.1 DEBARMENT MEANS THERE HAS BEEN A FINDING THAT THE CONTRACTOR IS NOT RESPONSIBLE.**

During the course of the Project, or if it is determined through Change Orders, Claims, or Audit that a Contractor is not responsible, the District may, in addition to other remedies provided in the Contract, debar the Contractor from bidding or proposing on, or being awarded, and/or performing work on District contracts for a specified period of time, which generally will not exceed five (5) years, but may exceed five (5) years or be permanent if the circumstances warrant such debarment. In addition to the debarment proceeding, a finding that a Contractor is to be debarred shall result in the termination of any or all existing Contracts the Contractor may have with the District.

#### **15.2 BOARD FINDING**

The District may debar a Contractor if the Board, or the Board's delegatee, in its discretion, finds the Contractor has done any of the following:

15.2.1 Intentionally or with reckless disregard, violated any term of the Contract with the District

15.2.2 Committed an acts or omission which reflects on the Contractor's quality, fitness or capacity to perform Work for the District;

15.2.3 Committed an act or offense which indicates a lack of business integrity or business honesty; or,

15.2.4 Made or submitted a false claim against the District or any other public entity.

#### **15.3 HEARING AND PRESENTATION OF EVIDENCE**

If there is evidence that the Contractor may be subject to debarment, the District shall notify the Contractor in writing of the evidence which is the basis for the proposed debarment and shall advise the Contractor of the scheduled date for a debarment hearing before the District Board or its delegated designee.

The District Board, or designee, shall conduct a hearing where evidence on the proposed debarment is presented. The Contractor or the Contractor's representative shall be given an opportunity to submit evidence at the hearing. The Contractor shall be provided an adequate amount of time to prepare and object to evidence presented. A tentative proposed decision shall be issued as a tentative decision and the District shall be entitled to modify, deny or adopt the proposed decision. The proposed decision shall contain a recommendation regarding whether the Contractor should be debarred, and, if so, the appropriate length of time of the debarment. The Contractor and the District shall be provided an opportunity to object to the tentative proposed decision for a period of 15 days. If additional evidence is presented, the District shall evaluate this evidence and either issue an amended ruling, issue the same ruling, or call a further hearing.

If a Contractor has been debarred for a period of longer than five (5) years, that Contractor may after the debarment has been in effect for at least five (5) years, submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The District may,

## GENERAL CONDITIONS

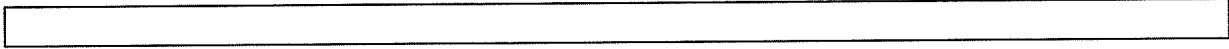
in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Contractor has adequately demonstrated one or more of the following: (1) elimination of the grounds for which the debarment was imposed; (2) a bona fide change in ownership or management; (3) material evidence discovered after debarment was imposed; or (4) any other reason that is in the best interests of the District.

The District will consider a request for review of a debarment determination only where: (1) the Contractor has been debarred for a period longer than five (5) years; (2) the debarment has been in effect for at least five (5) years; and (3) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment, and includes supporting documentation. Upon receiving an appropriate request, the District will provide notice of the hearing on the request. At the hearing, the District shall review evidence on the proposed reduction of debarment period. This hearing shall be conducted and the request for review decided by the District pursuant to the same procedures as for a debarment hearing.

The District's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment.

The terms shall also apply to Subcontractors of Contractor.

**SUPPLEMENTARY GENERAL CONDITIONS**





## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. All work shall conform to 2016, Title 24, California Building Code (CBC).
- B. Changes to the approved Drawings and Specifications shall be made by addenda or a construction change document (CCD) approved by the Division of the State Architect, Office of Regulation Services, as required by Section 4-338, Part 1, Title 24, California Building Code.

#### 1.3 CONTRACTOR-FURNISHED, OWNER-INSTALLED PRODUCTS

- A. Contractor-Furnished, Owner-Installed Products:
  - 1. Per the construction documents.

#### 1.4 ACCESS TO SITE

- A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

#### 1.5 WORK RESTRICTIONS

- A. On-Site Work Hours: When school is not in session, work shall be generally performed during normal business hours of 7:00 a.m. to 5:30 p.m., Monday through Friday. When school is in session, work shall be generally performed after school hours from 3:30 p.m. to 6:00 a.m., Monday through Friday. The District's school calendar is posted on the District's website and is updated periodically.
  - 1. Work Outside Regular Hours: Work outside regular working hours requires Owner approval and is subject to the following **restrictions**:
- B. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Obtain **Owner's** written permission before proceeding with disruptive operations.
- C. **Nonsmoking Building:** Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- D. **Employee Identification:** Contractor **will provide** identification tags for contractor personnel working on Project site. Require personnel to use identification tags at all times.
- E. **Employee Screening:** Comply with Owner's requirements for **drug and background** screening of Contractor personnel working on Project site.
  1. Maintain list of approved screened personnel with Owner's representative.

#### 1.6 SPECIFICATION AND DRAWING CONVENTIONS

- A. **Specification Content:** The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. **Division 01 General Requirements:** Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. **Drawing Coordination:** Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
  1. **Terminology:** Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. **Abbreviations:** Materials and products are identified by abbreviations **and are scheduled on Drawings.**
  3. **Keynoting:** Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

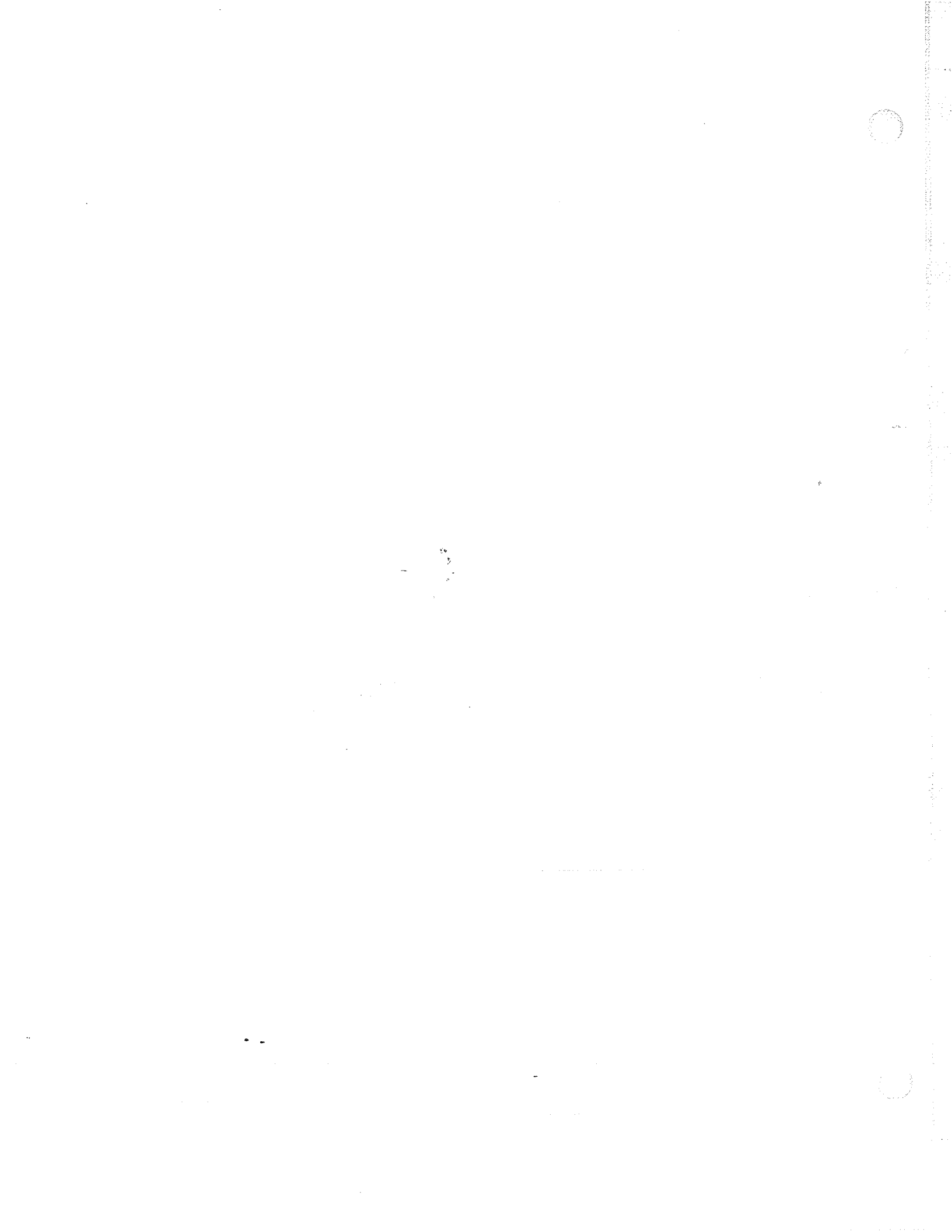
#### 1.7 INDEMNIFICATION

- A. Any contractor using or building these plans or using these specifications agrees to defend, indemnify and hold harmless Architect from any claim, demand, lawsuit, cost, fees (including attorney fees), and/or liability arising from or related to the use of these plans or specifications or the construction of the project depicted or described therein.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000



## SECTION 011200 - MULTIPLE CONTRACT SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.
- B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.

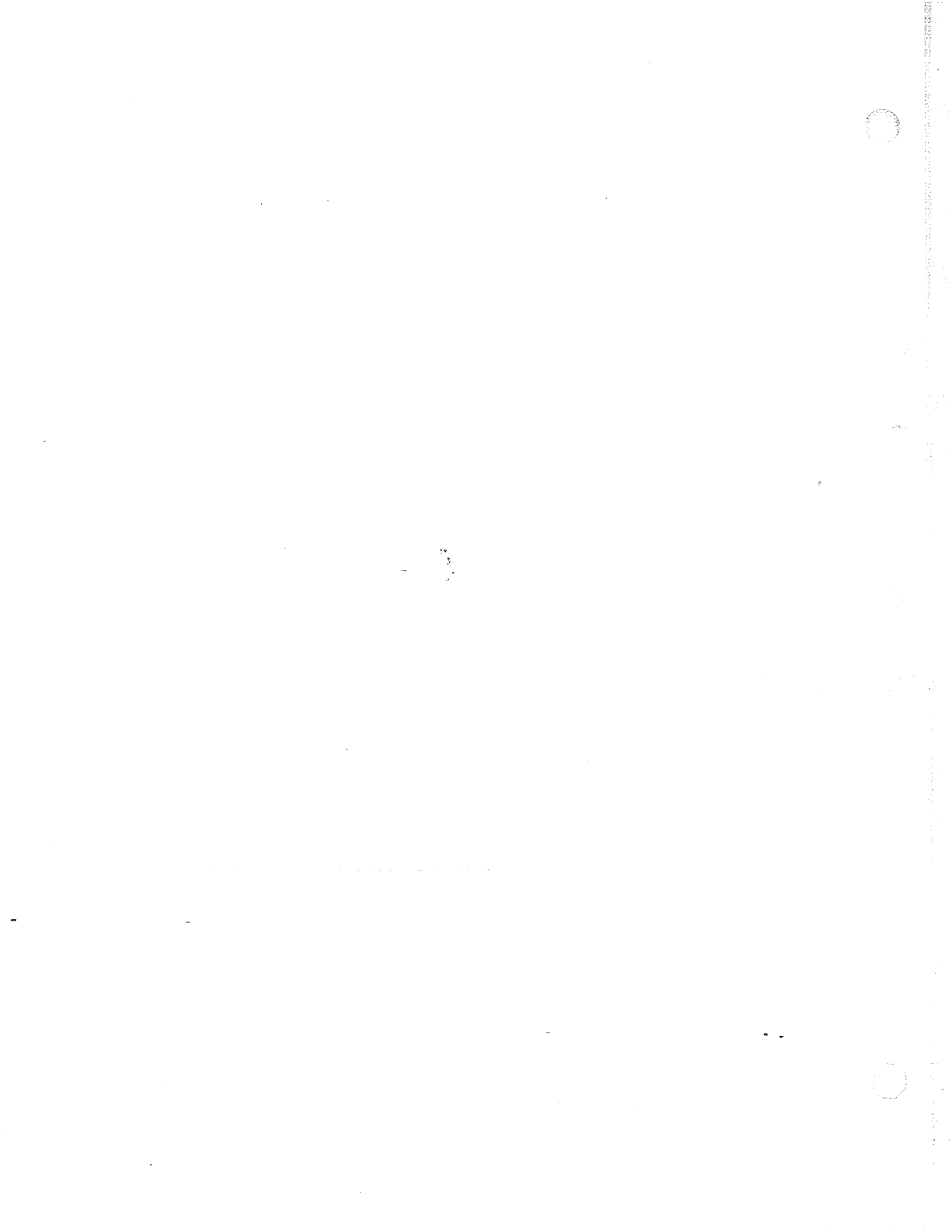
#### 1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, the condition at which roofing is insulated and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures equivalent in weather protection to permanent construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011200



## SECTION 012100 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

#### 1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

#### 1.4 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Contingency Allowance: Include a contingency allowance of \$25,000.00 for use according to Owner's written instructions.

END OF SECTION 012100



SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

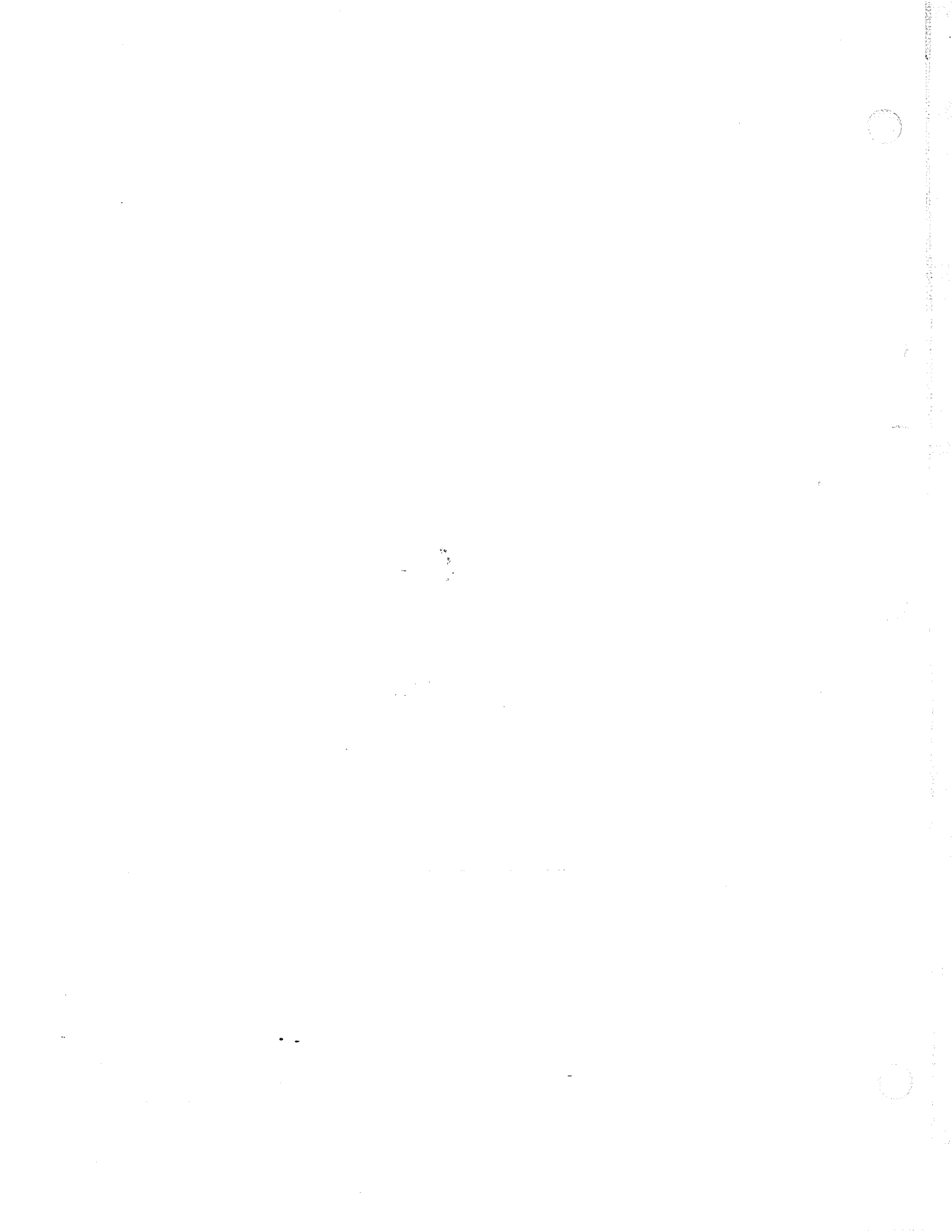
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.
  - 1. Unit of Measurement: Cubic yard of soil excavated, based on survey of volume removed.
- B. Unit Price No. 2: Rock excavation and replacement with satisfactory soil material.
  - 1. Unit of Measurement: Cubic yard of rock excavated, based on survey of volume removed.

END OF SECTION 012200



## SECTION 012500 - SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 012100 "Allowances" for products selected under an allowance.
  - 2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

#### 1.3 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

### PART 2 - PRODUCTS

#### 2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor. Submit requests for substitution immediately on discovery of need for change, but not later than 30 days prior to time required for preparation and review of related submittals.
  - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Substitution request is fully documented and properly submitted.
    - c. Requested substitution will not adversely affect Contractor's construction schedule.

- d. Requested substitution has been coordinated with other portions of the Work.

END OF SECTION 012500

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

#### 1.3 AGENCY REQUIREMENTS

- A. All addenda must be signed by the Architect and approved by DSA. (Section 4-338, Part1)

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION (Not Used)

END OF SECTION 012600



SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

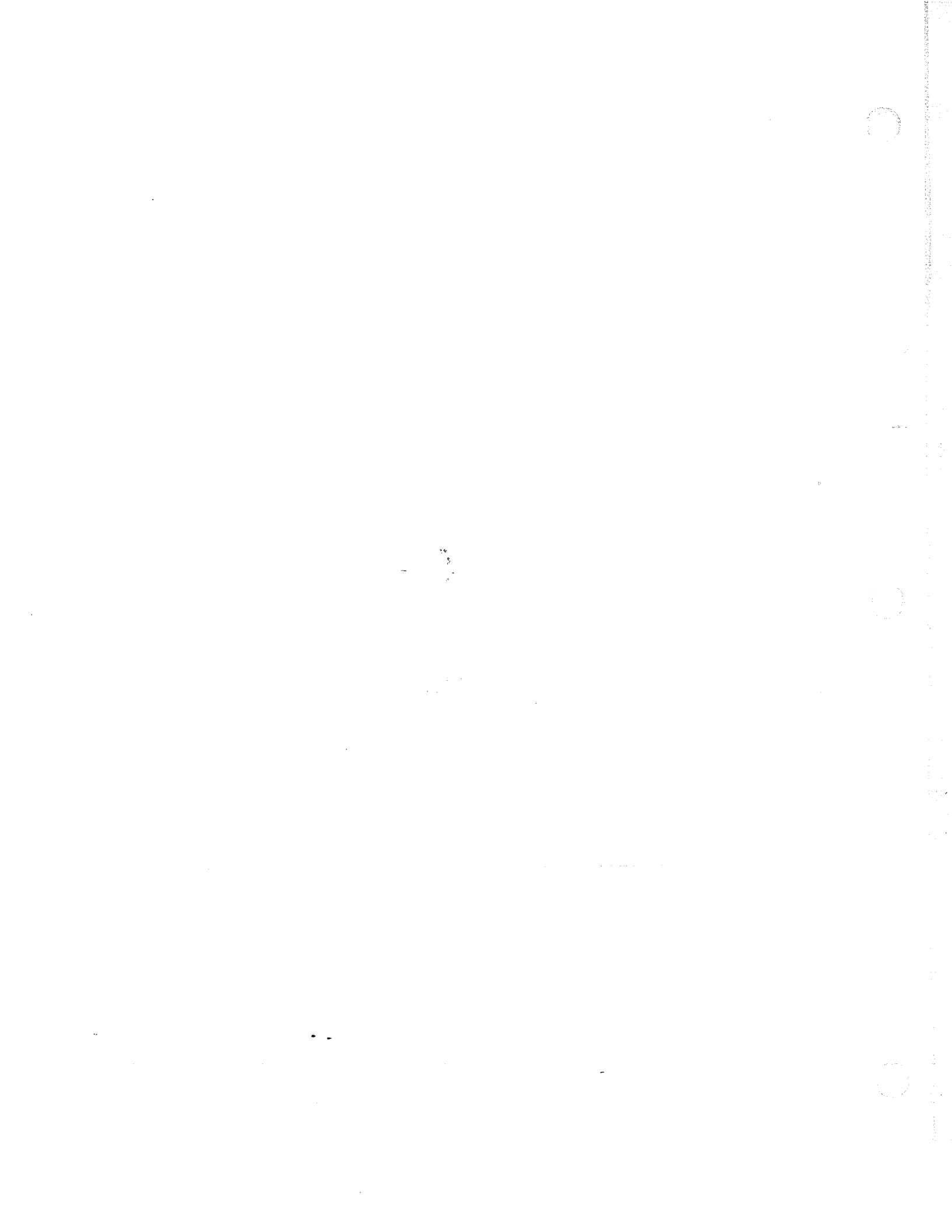
1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900





SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 AGENCY REQUIREMENTS

- A. Title 24 Parts 1-5 must be kept on site during construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100



## SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from entities involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

### PART 2 - PRODUCTS

### PART 3 - EXECUTION

END OF SECTION 013200



## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

#### 1.3 DEFINITIONS

- A. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- B. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

### PART 2 - PRODUCTS

#### 2.1 SUBMITTAL PROCEDURES

- A. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
  - 1. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.

#### 2.2 DEFERRED APPROVALS

- A. Where shown on the drawings and as specified in individual sections, submit documentation as required to obtain DSA approval of all deferred work.

- B. Architect will submit documents to DSA reviewing authority for review and comment. Architect will return documents to Contractor following DSA review.
- C. Where required, Contractor shall make all changes or corrections required by DSA reviewing authority. Contractor shall pay all fees and provide all coordination and management necessary to obtain approval, including all meeting, correspondence and communications. Once corrections are made, Contractor shall return to Architect for resubmittal.
- D. After receiving DSA final approval, Architect will furnish Contractor one complete set of DSA approved documents for Architects use in construction.
- E. Submit deferred approval documentation under the provisions of section 013300 and as specified in the respective Sections.
  - 1. Comply with the requirements of Section 4-317(g), Chapter 7, Part 1, title 24, CCR. All deferred approvals shall be stamped and sealed by the responsible engineer, licensed as specified. Architect will review and mark with notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the project.
  - 2. Submit documentation prepared under the supervision of a California licensed Engineer in the applicable discipline. All structural deferred approvals shall be prepared by California licensed Structural Engineer.
  - 3. Prove Deferred Approval Number and DSA Project Number and File number on the cover of each submittal.
  - 4. Provide document format with sufficient space for Architect and DSA agency review stamps.
  - 5. Clearly identify all deviations and proposed alternates to materials and systems shown on drawings and specified in the Project Manual.
  - 6. Drawings: Produce drawings on substantial bond paper using media of archive quality. Indicate dimensional locations of the various parts of the construction, sizes and type of members, connections, attachments, and openings.
  - 7. Structural Calculations: Produce calculations in booklet form, 8-1/2 x 11 inch size, minimum of 3 wet signed and sealed copies.
  - 8. Provide sufficient information with respect to design criteria, analysis methodology and material capacity to adequately evaluate documentation for compliance with applicable sections Title 24, CCR.
  - 9. Where required by Section 4-336, provide verified reports for work done under deferred approvals.

## PART 3 - EXECUTION

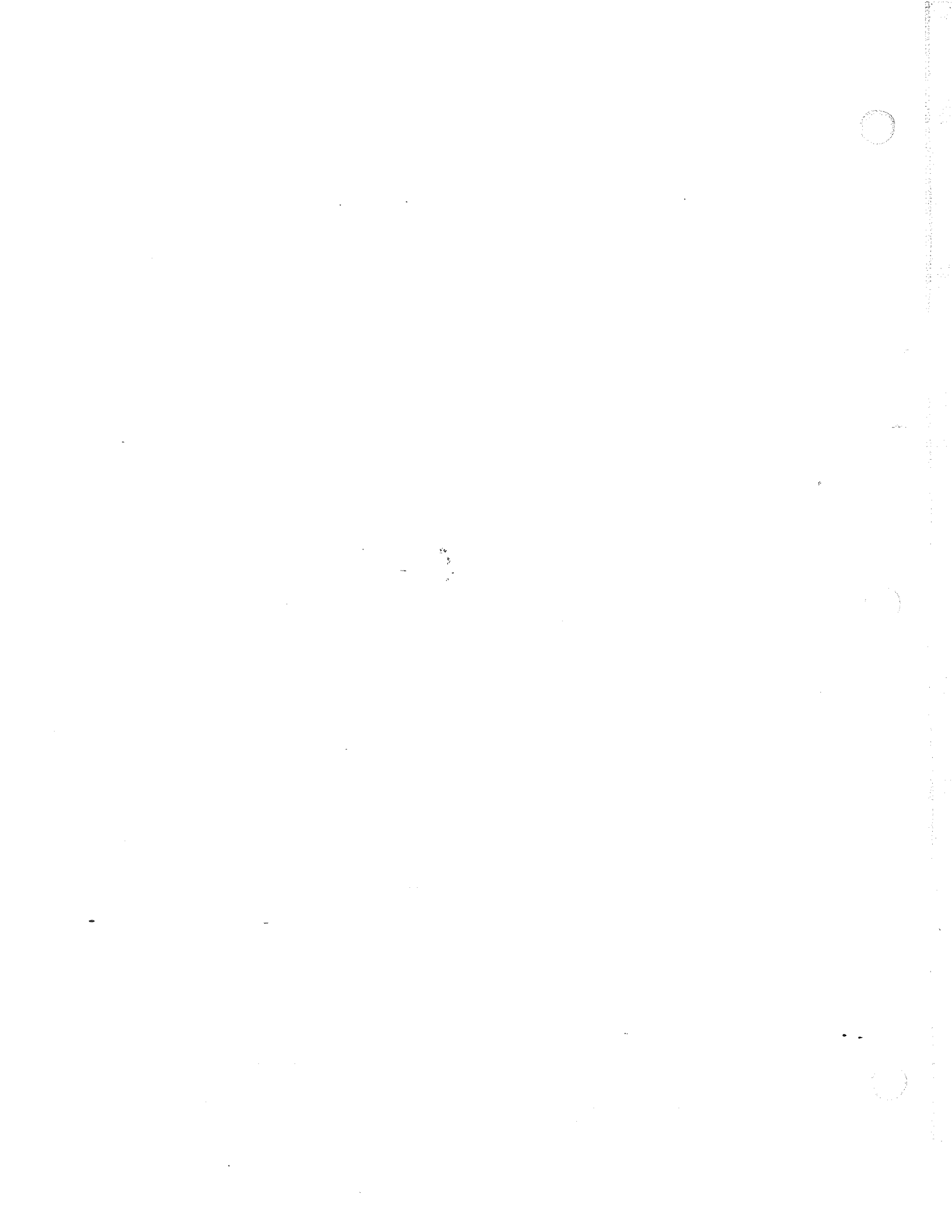
### 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect **and Construction Manager**.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

### 3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect **and Construction Manager**.
- B. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- C. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300





## SECTION 014000 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, **Commissioning Authority**, or authorities having jurisdiction are not limited by provisions of this Section.
  - 4. Specific test and inspection requirements are not specified in this Section.

#### 1.3 DEFINITIONS

- A. **Quality-Assurance Services:** Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. **Product Testing:** Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- C. **Source Quality-Control Testing:** Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- D. **Field Quality-Control Testing:** Tests and inspections that are performed on-site for installation of the Work and for completed Work.

- E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
  - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- G. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 AGENCY REQUIREMENTS

- A. Project inspector must be employed by the owner and approved by all of the following: Architect/Engineer of record, Structural Engineer and DSA.

#### 1.5 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

#### 1.6 REPORTS AND DOCUMENTS

- A. Manufacturer's Technical Representative's Field Reports: Prepare written information - documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
  - 1. Name, address, and telephone number of technical representative making report.
  - 2. Statement on condition of substrates and their acceptability for installation of product.
  - 3. Statement that products at Project site comply with requirements.

4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- B. **Factory-Authorized Service Representative's Reports:** Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement that equipment complies with requirements.
  3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  4. Statement whether conditions, products, and installation will affect warranty.
  5. Other required items indicated in individual Specification Sections.
- C. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## 1.7 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

- F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to **ASTM E 329**; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
  - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

#### 1.8 QUALITY CONTROL

- A. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- B. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
  - 1. Access to the Work.
  - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
  - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.

4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- E. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
  2. Description of the Work tested or inspected.
  3. Date test or inspection results were transmitted to Architect.
  4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's **and Construction Manager's** reference during normal working hours.

### 3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

## SECTION 014200 - REFERENCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

AA	Aluminum Association (The) www.aluminum.org	(703) 358-2960
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute www.concrete.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000

AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AHRI	Air-Conditioning, Heating, and Refrigeration Institute, The www.ahrinet.org	(703) 524-8800
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(405) 780-7372
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300



ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions www.atis.org	(202) 628-6380
AWCMA	American Window Covering Manufacturers Association (Now WCMA)	
AWCI	Association of the Wall and Ceiling Industry www.awci.org	(703) 534-8300
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association) www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI, Inc. www.bicsi.org	(800) 242-7405 (813) 979-1991
Alta Murrieta Parking Expansion Murrieta Valley Unified School District BakerNowicki Design Studio #16014-00		REFERENCES 014200 - 3

BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CEA	Consumer Electronics Association www.ce.org	(866) 858-1555 (703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CPA	Composite Panel Association www.pbmdf.com	(703) 724-1128
CRI	Carpet and Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200 (800) 328-6306

Alta Murrieta Parking Expansion  
Murrieta Valley Unified School District  
BakerNowicki Design Studio #16014-00

REFERENCES  
014200 - 4

CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CSA	Canadian Standards Association www.csa.ca	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
ECA	Electrical Components Association www.ec-central.org	(703)907-8024
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee <a href="http://content.asce.org/ejcdc/">http://content.asce.org/ejcdc/</a>	(703) 295-6000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA) www.intertek-etlsemko.com	(800) 967-5352
FIBA	Federation Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00

FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.ch	41 21 345 35 35
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridarroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(301) 277-8686
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Part of GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HI/GAMA	Hydronics Institute/Gas Appliance Manufacturers Association Division of Air-Conditioning, Heating, and Refrigeration Institute (AHRI) www.ahrinet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900

HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAPSC	International Association of Professional Security Consultants www.iapsc.org	(515) 282-8192
ICBO	International Conference of Building Officials www.iccsafe.org	(888) 422-7233
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
ICPA	International Cast Polymer Association www.icpa-hq.org	(703) 525-0320
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society of North America www.iesna.org	(703) 525-0320
IENT	Institute of Environmental Sciences and Technology www.ient.org	(847) 255-1561
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISA	Instrumentation, Systems, and Automation Society, The www.isa.org	(919) 549-8411
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (801) 341-7360
ITS	Intertek Testing Service NA (Now ETL SEMCO)	
ITU	International Telecommunication Union	41 22 730 51 11
Alta Murrieta Parking Expansion		REFERENCES
Murrieta Valley Unified School District		014200 - 7
BakerNowicki Design Studio #16014-00		

[www.itu.int/home](http://www.itu.int/home)

KCMA	Kitchen Cabinet Manufacturers Association <a href="http://www.kcma.org">www.kcma.org</a>	(703) 264-1690
LGSEA	Light Gauge Steel Engineers Association <a href="http://www.arcat.com">www.arcat.com</a>	(202) 263-4488
LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute <a href="http://www.lightning.org">www.lightning.org</a>	(800) 488-6864
MBMA	Metal Building Manufacturers Association <a href="http://www.mbma.com">www.mbma.com</a>	(216) 241-7333
MCA	Metal Construction Association <a href="http://www.metalconstruction.org">www.metalconstruction.org</a>	(847) 375-4718
MFMA	Maple Flooring Manufacturers Association, Inc. <a href="http://www.maplefloor.org">www.maplefloor.org</a>	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. <a href="http://www.metalframingmfg.org">www.metalframingmfg.org</a>	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America <a href="http://www.mhia.org">www.mhia.org</a>	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America <a href="http://www.marble-institute.com">www.marble-institute.com</a>	(440) 250-9222
MPI	Master Painters Institute <a href="http://www.paintinfo.com">www.paintinfo.com</a>	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. <a href="http://www.mss-hq.com">www.mss-hq.com</a>	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers <a href="http://www.naamm.org">www.naamm.org</a>	(630) 942-6591
NACE	NACE International (National Association of Corrosion Engineers International) <a href="http://www.nace.org">www.nace.org</a>	(800) 797-6223 (281) 228-6200
NADCA	National Air Duct Cleaners Association	(202) 737-2926
Alta Murrieta Parking Expansion		REFERENCES
Murrieta Valley Unified School District		014200 - 8
BakerNowicki Design Studio #16014-00		

	<a href="http://www.nadca.com">www.nadca.com</a>	
NAGWS	National Association for Girls and Women in Sport <a href="http://www.aahperd.org/nagws/">www.aahperd.org/nagws/</a>	(800) 213-7193, ext. 453
NAIMA	North American Insulation Manufacturers Association <a href="http://www.naima.org">www.naima.org</a>	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. <a href="http://www.nbgqa.com">www.nbgqa.com</a>	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) <a href="http://www.ncaa.org">www.ncaa.org</a>	(317) 917-6222
NCMA	National Concrete Masonry Association <a href="http://www.ncma.org">www.ncma.org</a>	(703) 713-1900
NCTA	National Cable & Telecommunications Association <a href="http://www.ncta.com">www.ncta.com</a>	(202) 222-2300
NEBB	National Environmental Balancing Bureau <a href="http://www.nebb.org">www.nebb.org</a>	(301) 977-3698
NECA	National Electrical Contractors Association <a href="http://www.necanet.org">www.necanet.org</a>	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association <a href="http://www.nelma.org">www.nelma.org</a>	(207) 829-6901
NEMA	National Electrical Manufacturers Association <a href="http://www.nema.org">www.nema.org</a>	(703) 841-3200
NETA	InterNational Electrical Testing Association <a href="http://www.netaworld.org">www.netaworld.org</a>	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations <a href="http://www.nfhs.org">www.nfhs.org</a>	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) <a href="http://www.nfpa.org">www.nfpa.org</a>	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council <a href="http://www.nfrc.org">www.nfrc.org</a>	(301) 589-1776
NGA	National Glass Association <a href="http://www.glass.org">www.glass.org</a>	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association	(800) 933-0318
Alta Murrieta Parking Expansion		REFERENCES
Murrieta Valley Unified School District		014200 - 9
BakerNowicki Design Studio #16014-00		

	<a href="http://www.natlhardwood.org">www.natlhardwood.org</a>	(901) 377-1818
NLGA	National Lumber Grades Authority <a href="http://www.nlga.org">www.nlga.org</a>	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) <a href="http://www.nofma.org">www.nofma.org</a>	(901) 526-5016
NOMMA	National Ornamental & Miscellaneous Metals Association <a href="http://www.nomma.org">www.nomma.org</a>	(888) 516-8585
NRCA	National Roofing Contractors Association <a href="http://www.nrca.net">www.nrca.net</a>	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association <a href="http://www.nrmca.org">www.nrmca.org</a>	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) <a href="http://www.nsf.org">www.nsf.org</a>	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association <a href="http://www.nssga.org">www.nssga.org</a>	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) <a href="http://www.ntma.com">www.ntma.com</a>	(800) 323-9736 (540) 751-0930
NWFA	National Wood Flooring Association <a href="http://www.nwfa.org">www.nwfa.org</a>	(800) 422-4556 (636) 519-9663
PCI	Precast/Prestressed Concrete Institute <a href="http://www.pci.org">www.pci.org</a>	(312) 786-0300
PDI	Plumbing & Drainage Institute <a href="http://www.pdionline.org">www.pdionline.org</a>	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute <a href="http://pgi-tp.cee.uiuc.edu">http://pgi-tp.cee.uiuc.edu</a>	(217) 333-3929
PTI	Post-Tensioning Institute <a href="http://www.post-tensioning.org">www.post-tensioning.org</a>	(248) 848-3180
RCSC	Research Council on Structural Connections <a href="http://www.boltcouncil.org">www.boltcouncil.org</a>	
RFCI	Resilient Floor Covering Institute <a href="http://www.rfci.com">www.rfci.com</a>	(706) 882-3833



RIS	Redwood Inspection Service www.redwoodinspection.com	(925) 935-1499
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SCAQMD	South Coast Air Quality Management District www.aqmd.com	(909) 396-2000
SCTE	Society of Cable Telecommunications Engineers www.scte.org	(800) 542-5040 (610) 363-6888
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpete.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry Alta Murrieta Parking Expansion Murrieta Valley Unified School District BakerNowicki Design Studio #16014-00	(781) 647-7026 REFERENCES 014200 - 11

	www.spri.org	
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWPA	Submersible Wastewater Pump Association www.swpa.org	(847) 681-1868
TCA	Tilt-Up Concrete Association www.tilt-up.org	(319) 895-6911
TCNA	Tile Council of North America, Inc. www.tileusa.com	(864) 646-8453
TEMA	Tubular Exchanger Manufacturers Association www.tema.org	(914) 332-0040
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrassod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tilerroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800

USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association www.wcmanet.org	(212) 297-2122
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (312) 321-6802
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930
DIN	Deutsches Institut für Normung e.V. www.din.de	49 30 2601-0
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
COE	Army Corps of Engineers www.usace.army.mil	(202) 761-0011

CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	(215) 697-6257
DOE	Department of Energy www.energy.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Buildings Service (See GSA)	
PHS	Office of Public Health and Science <a href="http://www.hhs.gov/ophs/">http://www.hhs.gov/ophs/</a>	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540

Alta Murrieta Parking Expansion  
Murrieta Valley Unified School District  
BakerNowicki Design Studio #16014-00

REFERENCES  
014200 - 14

SD	State Department <a href="http://www.state.gov">www.state.gov</a>	(202) 647-4000
TRB	Transportation Research Board <a href="http://gulliver.trb.org">http://gulliver.trb.org</a>	(202) 334-2934
USDA	Department of Agriculture <a href="http://www.usda.gov">www.usda.gov</a>	(202) 720-2791
USP	U.S. Pharmacopeia <a href="http://www.usp.org">www.usp.org</a>	(800) 227-8772
USPS	Postal Service <a href="http://www.usps.com">www.usps.com</a>	(202) 268-2000
ADAAG	Americans with Disabilities Act (ADA)  Architectural Barriers Act (ABA)  Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board <a href="http://www.access-board.gov">www.access-board.gov</a>	(800) 872-2253 (202) 272-0080
CFR	Code of Federal Regulations  Available from Government Printing Office  <a href="http://www.gpoaccess.gov/cfr/index.html">www.gpoaccess.gov/cfr/index.html</a>	(866) 512-1800 (202) 512-1800
DOD	Department of Defense Military Specifications and Standards  Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	(215) 697-2664
DSCC	Defense Supply Center Columbus (See FS)	
FED-STD	Federal Standard (See FS)	
FS	Federal Specification  Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil/">http://dodssp.daps.dla.mil/</a>  Available from Defense Standardization Program <a href="http://www.dsp.dla.mil">www.dsp.dla.mil</a>  Available from General Services Administration	(215) 697-2664     (202)
Alta Murrieta Parking Expansion Murrieta Valley Unified School District BakerNowicki Design Studio #16014-00		REFERENCES 014200 - 15

	<a href="http://www.gsa.gov">www.gsa.gov</a>	619-8925
	Available from National Institute of Building Sciences	(202) 289-7800
	<a href="http://www.wbdg.org/ccb">www.wbdg.org/ccb</a>	
FTMS	Federal Test Method Standard (See FS)	
MIL	(See MILSPEC)	
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards	(215) 697-2664
	Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	
UFAS	Uniform Federal Accessibility Standards	(800) 872-2253
	Available from Access Board	(202) 272-0080
	<a href="http://www.access-board.gov">www.access-board.gov</a>	
CBHF	State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation	(800) 952-5210
	<a href="http://www.dca.ca.gov/bhfti">www.dca.ca.gov/bhfti</a>	(916) 574-2041
CCR	California Code of Regulations	(916) 323-6815
	<a href="http://www.calregs.com">www.calregs.com</a>	
CDHS	California Department of Health Services	(916) 445-4171
	<a href="http://www.dhcs.ca.gov">www.dhcs.ca.gov</a>	
CDPH	California Department of Public Health, Indoor Air Quality Section	
	<a href="http://www.cal-iaq.org">www.cal-iaq.org</a>	
CPUC	California Public Utilities Commission	(415) 703-2782
	<a href="http://www.cpuc.ca.gov">www.cpuc.ca.gov</a>	
TFS	Texas Forest Service Forest Resource Development	(979) 458-6606
	<a href="http://txforests.service.tamu.edu">http://txforests.service.tamu.edu</a>	

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200





## SECTION 0145290 - TESTING LAB SERVICES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. SECTION INCLUDES

1. Selection and payment.
2. Contractor submittals.
3. Laboratory responsibilities.
4. Laboratory reports.
5. Limits on testing laboratory authority.
6. Contractor responsibilities.
7. Schedule of inspections and tests.

#### 1.2 REFERENCES

- A. Title 24, CCR.
- B. ASTM D 3740 - Practice for Evaluation of Agencies in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. ASTM E 329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

#### 1.3 SELECTION AND PAYMENT

- A. Owner will employ and pay for services of an independent testing laboratory, approved by DSA, to perform inspection and testing as specified in this Section.
  1. Unless specified as the Owner's responsibility, all other testing, mix design preparation and related quality control and certification requirements shall be paid by the Contractor at no additional cost to Owner.
  2. All concrete mix designs shall be prepared at Contractor's cost and in compliance with Section 033000//033300.
  3. All asphalt concrete mix designs shall be prepared at Contractor's cost and in compliance with Section 321216.

- B. Only DSA, local legally constituted public authorities having jurisdiction over the Work, the Architect, and the Owner or their designated representatives shall be authorized to direct testing and inspection to determine compliance or non-compliance to the requirements of the Work.
1. The Contractor shall reimburse the Owner, through Contract adjustment, for inspection and testing costs caused by the following Contractor actions:
    - a. All testing costs incurred after initial test established non-conformance with contract requirements.
    - b. Inspection costs caused by Contractor's scheduling of work requiring inspections of less than 4 hours duration.
    - c. Inspection costs caused by Contractor's failure to complete work requiring inspection within the scheduled duration period shown on Contractor's initial construction schedule.
    - d. Inspection costs caused by Contractor's failure to order sufficient or required quantity of material.
    - e. Inspection costs of items repaired following damage caused by Contractor.
    - f. Inspection costs caused by Contractor's substitution of material, system or process, where such inspection and testing is required by the Architect, Owner or jurisdictional authority to demonstrate compliance with specified criteria.
    - g. Inspection costs caused by Contractor's use of batch plant that does not comply with criteria waiving batch plant inspection.
    - h. Inspection costs caused by Contractor's use of a supplier or subcontractor requiring inspection services to be performed at a location exceeding a 100 mile radius of project site.
    - i. Inspection costs caused by Contractor's failure to complete work within normal hours and days, requiring overtime costs.

#### 1.4 QUALITY ASSURANCE

- A. Laboratory: Authorized to operate in State in which Project is located, and currently approved by DSA.
- B. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
- C. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.

- D. Welding Inspectors shall be certified in accordance with AWS QC1 Standard for AWS Certification of Welding Inspectors.

#### 1.5 LABORATORY RESPONSIBILITIES

- A. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- B. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- C. Promptly notify Architect of observed irregularities or non - conformance of Work or Products.
- D. Perform special inspections for areas of work as shown on drawings and specified in respective sections of the specifications in compliance with Section 4-333, Part 1, Title 24, CCR.
- E. Perform additional inspections and tests required by Architect.

#### 1.6 LABORATORY REPORTS

- A. After each inspection and test, promptly submit copies of laboratory report to Architect, Structural Engineer, Contractor, Owner, Project Inspector, DSA, and other parties as required by referenced sections and applicable regulations.
- B. Include:
  - 1. Date issued.
  - 2. Project title, BNds project number and DSA Application Number.
  - 3. Name of inspector.
  - 4. Date and time of sampling or inspection.
  - 5. Method of obtaining sample.
  - 6. Identification of product and Specifications section.
  - 7. Location in the Project.
  - 8. Type of inspection or test.
  - 9. Date of test.
  - 10. Results of tests.

11. Conformance with Contract Documents.
  12. Indicate samples taken but not tested.
- C. When requested by Architect, provide interpretation of test results.
- D. Testing agency shall provide a verified report in compliance with Chapter 4, Part 1, Section 4-336 DSA, of Title 24, CCR.
1. Provide such reports in duplicate, on approved form.
  2. Provide reports each time work on the project is suspended and at completion of project.
  3. Reports shall document actions taken, tests made, and other aspects of the construction operations for the period prescribed.
- E. In addition, Testing Agency shall provide semi-monthly reports as required by Section 4-337 DSA, Part 1, Title 24, CCR.

#### 1.7 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

#### 1.8 CONTRACTOR RESPONSIBILITIES

- A. Deliver or make available to laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
- B. Do not incorporate material or products requiring compliance with specified testing and inspection criteria without receiving documentation of compliance from approved agency.
- C. Cooperate with laboratory personnel, and provide access to the Work and to manufacturer's facilities.
- D. Provide incidental labor and facilities to provide access to Work to be tested, to assist testing laboratory in obtaining and handling samples, to obtain and handle samples at the site or at source of Products to be tested, to facilitate tests and inspections, storage and curing of test samples.

1. Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes.
  2. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
  3. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.
- E. Contractor shall prepare integrated schedule for the course of construction showing all required inspection and testing. Determine the time required for the laboratory to perform testing and to issue reports and findings. Provide all required testing and inspection time within the construction schedule.
1. Notify Architect, Project Inspector and laboratory minimum two working days prior to expected time for operations requiring inspection and testing services.
  2. Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
- F. Notify the Owner's representative a sufficient time in advance of the manufacture or material to be supplied by Owner under the Contract Documents, which must by terms of the Contract be tested, in order that the Owner may arrange for testing at the source of supply.
- 1.9 schedule of inspections and tests by Owner's testing agency
- A. Site Excavation, Fills and Foundation Preparation (Title 24, Part 2)
    1. All earthwork, including earth fill compaction – 1704A.7
    2. Inspection of Excavation/fill Installation – 1704A.7
  - B. Concrete (Title 24, Part 2, Chapter 19A)
    1. Materials
      - a. Portland Cement - 1704A.4.1, 1903A, 1916A.1
      - b. Concrete Aggregates - 1704A.4.1, 1903A, 1903A.5.
      - c. Reinforcing Bars - 1704A.4.1, 1903A.7, 1916A.2
      - d. Admixtures– 1903A, 1903A.4
    2. Concrete Quality

- a. Proportions of Concrete – 1904A; 1905A.1; 1905A.2 1905A.3, 1905A.4; 1905A.5
  - b. Strength Tests – 1905A.1.1, 1905A.6
3. Concrete Inspection
- a. Job Site Inspection – 1704A.4.5, 1704A.6 and 1905A.7
  - b. Batch Plant Inspection - 1704A.4.2
  - c. Waiver of Batch Plant Inspection 1704A.4.3
  - d. Reinforcing Bar Welding Inspection- 1704A.4.1, Drilled-in Expansion Anchors – 1916A.7
- C. Structural Steel (Title 24, Part 2, Chapter 22A)
- 1. Materials
    - a. Structural Steel - 2205A.1
    - b. Cold Formed Steel 2209A.1
    - c. Material Identification - 2203A.1
    - d. High Strength Bolts, Nuts & Washers – 2212A.1
    - e. End Welded Studs – 2212A.2
  - 2. Structural Steel Inspection
    - a. Shop Fabrication Inspection – 1704A.3.2.
    - b. High Strength Bolt Inspection – 1704A.3.3
    - c. Welding Inspection – 1704A.3.1
    - d. Nelson Stud Welding – 1704A.3.1.
- D. Miscellaneous Fasteners
- 1. Anchorage test methods as shown on drawings and specified in respective sections.
- E. Insulating Concrete Deck Fill
- 1. Materials: As specified in Section 035216.
  - 2. Inspection: 1704A.4

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 014529





## SECTION 016000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

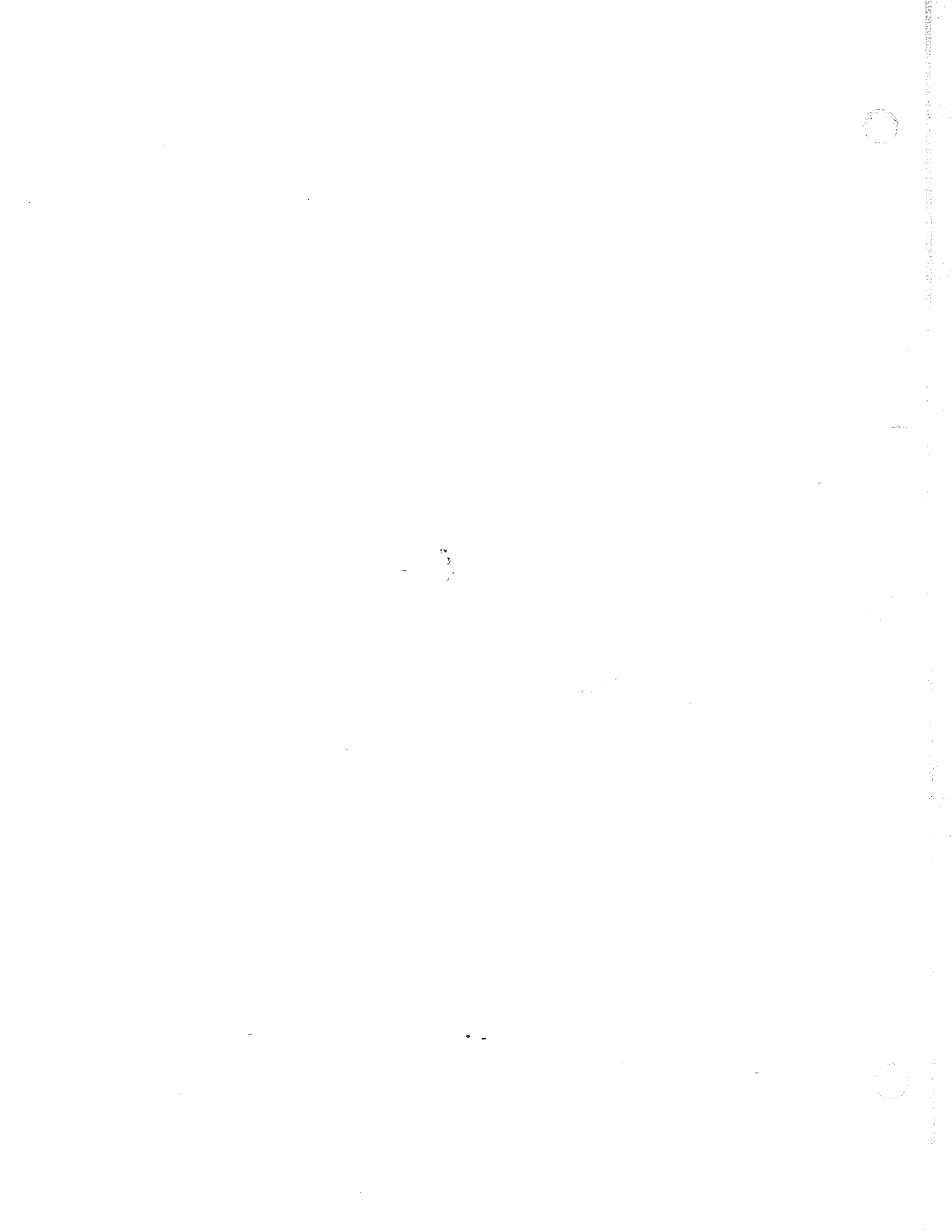
#### 1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.

### PART 2 - PRODUCTS

### PART 3 - EXECUTION (Not Used)

END OF SECTION 016000



## SECTION 017300 - EXECUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

#### 1.3 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  - 1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
    - a. Primary operational systems and equipment.
    - b. Fire separation assemblies.
    - c. Air or smoke barriers.
    - d. Fire-suppression systems.
    - e. Mechanical systems piping and ducts.
    - f. Control systems.
    - g. Communication systems.
    - h. Fire-detection and -alarm systems.
    - i. Conveying systems.
    - j. Electrical wiring systems.
    - k. Operating systems of special construction.
  - 2. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

- a. Water, moisture, or vapor barriers.
  - b. Membranes and flashings.
  - c. Exterior curtain-wall construction.
  - d. Sprayed fire-resistive material.
  - e. Equipment supports.
  - f. Piping, ductwork, vessels, and equipment.
  - g. Noise- and vibration-control elements and systems.
3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.

- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### 3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
  3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  1. Remove liquid spills promptly.
  2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- K. STARTING AND ADJUSTING Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- L. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- M. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- N. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

### 3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300



## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUBMITTAL OF PROJECT WARRANTIES

- A. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

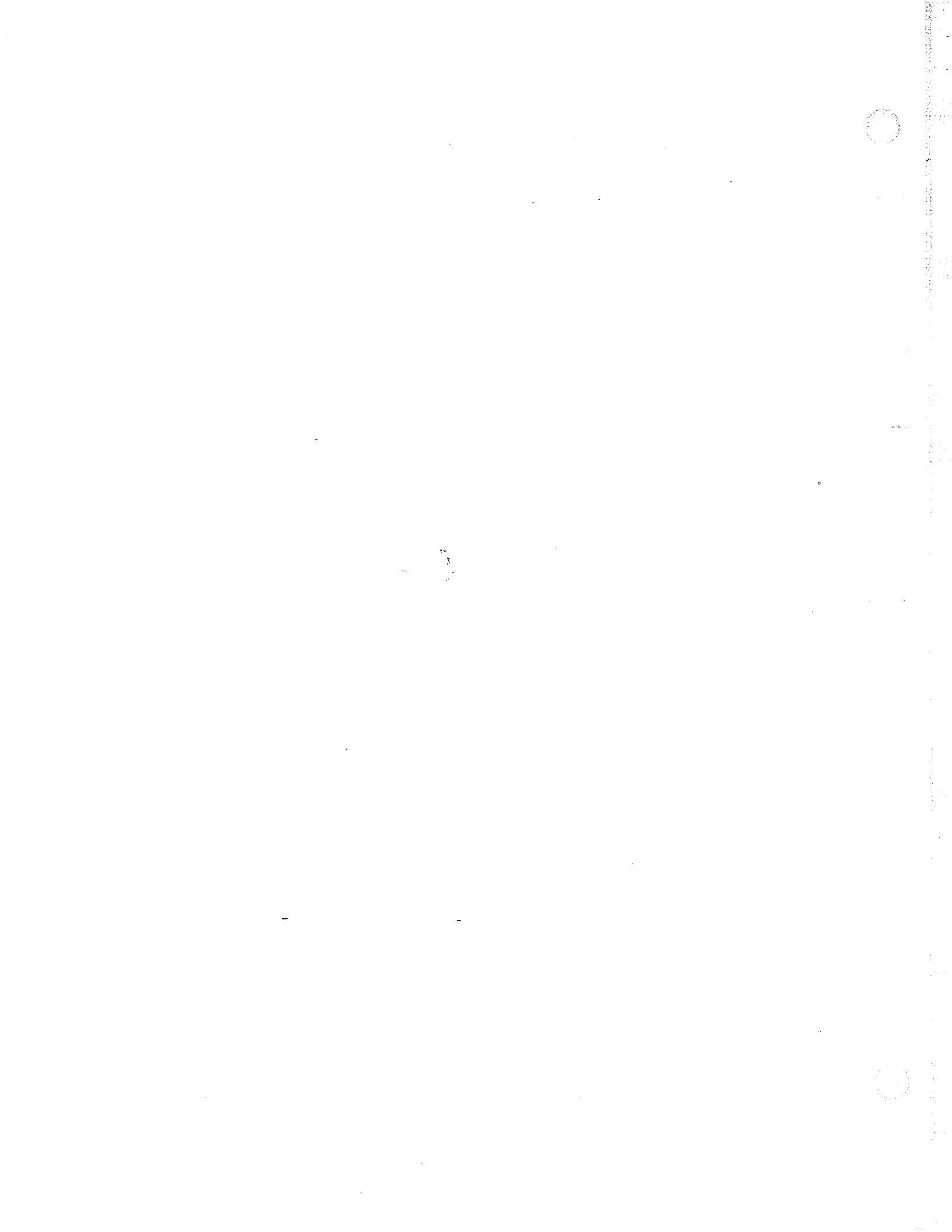
### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
  - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

### PART 3 - EXECUTION

END OF SECTION 017700



## SECTION 260100 - ELECTRICAL GENERAL PROVISIONS

### ARTICLE 1 SUMMARY

- 1.1 This Division of the specification outlines the provisions of the contract work to be performed under this Division.
- 1.2 This Section applies to and forms a part of each section of specifications in Division 26 and all work performed under the electrical and communications contracts.
- 1.3 In addition, work in this Division is governed by the provisions of the bidding requirements, contract forms, general conditions and all sections under general requirements.
- 1.4 These specifications contain statements which may be more definitive or more restrictive than those contained in the General Conditions. Where these statements occur, they shall take precedence over the General Conditions.
- 1.5 Where the words 'provide' or 'provision' are used, it shall be definitely interpreted as 'furnishing and installing complete in operating condition'. Where the words 'as indicated' or 'as shown' are used, it shall mean as shown on contract drawings.
- 1.6 Where items are specified in the singular, this Division shall provide the quantity as shown on drawings plus any spares or extras mentioned on drawings or specifications. All specified and supplied equipment shall be new.

### ARTICLE 2 CONTRACTOR QUALIFICATIONS

- 2.1 The Contractor shall have a current California C-10 Electrical Contractor's license and all individuals working on this project shall have passed the Department of Industrial Relations Division of apprenticeship Standards – "Electrician Certification Program."

### ARTICLE 3 CODES, PERMITS AND FEES

- 3.1 Comply with all applicable laws, ordinances, rules, regulations, codes, or rulings of governmental units having jurisdiction as well as standards of NFPA, and serving utility requirements.
- 3.2 Obtain permits, fees, inspections, meter and the like, associated with work in each section of this Division.
- 3.3 Installation procedures, methods and conditions shall comply with the latest requirements of the Federal Occupational Safety and Health Act (OSHA).

### ARTICLE 4 EXAMINATION OF PREMISES

- 4.1 Examine the construction drawings and premises prior to bidding. No allowances will be made for not being knowledgeable of existing conditions.

## ARTICLE 5 STANDARDS

- 5.1 The following standard publications of the latest editions enforced and supplements thereto shall form a part of these specifications. All electrical work must, as a minimum, be in accordance with these standards.
- 5.1.1 2013 California Electrical Code (CEC), Part 3 Title 24 CCR.
  - 5.1.2 National Fire Protection Association.
  - 5.1.3 Underwriters' Laboratories, Inc. (UL).
  - 5.1.4 Certified Ballast Manufacturers' Association (CBM).
  - 5.1.5 National Electrical Manufacturers' Association (NEMA).
  - 5.1.6 Institution of Electrical & Electronics Engineers (IEEE).
  - 5.1.7 American Society for Testing & Materials (ASTM).
  - 5.1.8 National Board of Fire Underwriters (NBFU).
  - 5.1.9 National Board of Standards (NBS).
  - 5.1.10 American National Standards Institute (ANSI).
  - 5.1.11 Insulated Power Cable Engineers Association (IPECS).
  - 5.1.12 Electrical Testing Laboratories (ETL).
  - 5.1.13 National Electrical Safety Code (NESC).
  - 5.1.14 2013 California Building Code (CBC), Part 2, Title 24 CCR.
  - 5.1.15 2013 California Fire Code (CFC), Part 9, Title 24, CCR.
  - 5.1.16 2013 NFPA 72 with California State Amendments
  - 5.1.17 National Electrical Testing Association (NETA), 2010 or most current

## ARTICLE 6 DEFINITIONS

- 6.1 Concealed: Hidden from sight, as in trenches, chases, hollow construction, or above furred spaces, hung ceilings - acoustical or plastic type, or exposed to view only in tunnels, attics, shafts, crawl spaces, unfinished spaces, or other areas solely for maintenance and repair.
- 6.2 Exposed, Non-Concealed, Unfinished Space: A room or space that is ordinarily accessible only to building maintenance personnel, a room noted on the 'finish schedule' with exposed and unpainted construction for walls, floors, or ceilings or specifically mentioned as 'unfinished'.
- 6.3 Finish Space: Any space ordinarily visible, including exterior areas.

## ARTICLE 7 WORK AND MATERIALS

- 7.1 Unless otherwise specified, all materials must be new and of the best quality. Materials previously incorporated into other projects, salvaged, or refurbished are not considered new. Perform all labor in a thorough and workmanlike manner.
- 7.2 All materials provided under the contract must bear the UL label where normally available. Note that this requirement may be repeated under equipment

specifications. In general, such devices as will void the label should be provided in separate enclosures and wired to the labeled unit in proper manner.

#### ARTICLE 8 SHOP DRAWINGS AND SUBMITTALS

- 8.1 Submit shop drawings and all data in accordance with Division 1 of these specifications and as noted below for all equipment provided under this Division.
- 8.2 Shop drawings submittals demonstrate to the Architect that the Contractor understands the design concept. The Contractor demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods of material and equipment he intends to use. If deviations, discrepancies, or conflicts between submittals and specifications are discovered either prior to or after submittals are processed, notify the Architect immediately.
- 8.3 Manufacturer's data and dimension sheets shall be submitted giving all pertinent physical and engineering data including weights, cross sections and maintenance instructions. Standard items of equipment such as receptacles, switches, plates, etc., which are cataloged items, shall be listed by manufacturer.
- 8.4 Index all submittals and reference them to these specifications. All submittal items shall be assembled and submitted, one for each specification section. (Multiple specification sections may be grouped together in one common submittal binder, as long as each individual section is clearly identified.) Partial or incomplete submittal sections will not be reviewed.

#### ARTICLE 9 EQUIPMENT PURCHASES

- 9.1 Arrange for purchase and delivery of all materials and equipment within 20 days after approval of submittals. All materials and equipment must be ordered in ample quantities for delivery at the proper time. If items are not on the project in time to expedite completion, the Owner may purchase said equipment and materials and deduct the cost from the contract sum.
- 9.2 Provide all materials of similar class or service by one manufacturer.

#### ARTICLE 10 COOPERATIVE WORK

- 10.1 Correct without charge any work requiring alteration due to lack of proper supervision or failure to make proper provision in time. Correct without charge any damage to adjacent work caused by the alteration.
- 10.2 Cooperative work includes: General supervision and responsibility for proper location and size of work related to this Division, but provided under the other sections of these specifications, and installation of sleeves, inserts, and anchor bolts for work under each section in this Division.

#### ARTICLE 11 VERIFICATION OF DIMENSIONS

- 11.1 Scaled and figured dimensions are approximate only. Before proceeding with work, carefully check and verify dimensions, etc., and be responsible for properly fitting equipment and materials together and to the structure in spaces provided.
- 11.2 Drawings are essentially diagrammatic, and many offsets, bends, pull boxes, special fittings, and exact locations are not indicated. Carefully study drawings and premises in order to determine best methods, exact location, routes, building obstructions, etc. and install apparatus and equipment in manner and locations to avoid obstructions, preserve headroom, keep openings and passageways clear, and maintain proper clearances.

#### ARTICLE 12 CUTTING AND PATCHING

- 12.1 All cutting and patching shall be in accordance with Division 1 of these specifications and as noted below.
- 12.2 Cut existing work and patch as necessary to properly install new work. As the work progresses, leave necessary openings, holes, chases, etc., in their correct location. If the required openings, holes, chases, etc., are not in their correct locations, make the necessary corrections at no cost to the Owner. Avoid excessive cutting and do not cut structural members including wall framing without the consent of the Architect.

#### ARTICLE 13 CLOSING-IN OF UNINSPECTED WORK

- 13.1 Cover no work until inspected, tested, and approved by the Architect. Where work is covered before inspection and test, uncover it and when inspected, tested, and approved, restore all work to original proper condition at no additional cost to Owner.

#### ARTICLE 14 EXCAVATION AND BACKFILL

- 14.1 All excavation and backfill shall be in accordance with Division 1 of these specifications and as noted below.
- 14.2 Perform all necessary excavation, shoring, and backfilling required for the proper laying of all conduits inside the building and premises, and outside as may be necessary.
- 14.3 Excavate all trenches open cut, keep trench banks as nearly vertical as practicable, and sheet and brace trenches where required for stability and safety. Excavate trenches true to line and make bottoms no wider than necessary to provide ample work room. Grade trench bottoms accurately. Machine grade only to the top line of the conduits, doing the remainder by hand. Do not cut any trench near or under footings without first consulting the Architect. All trenches shall be done in accordance with OSHA standards and regulations.

- 14.4 Backfilling shall be done with each layer compacted before another layer is added. No stones or coarse lumps shall be laid directly on a conduit or conduits.
- 14.5 Trenches shall be filled with the specified material. Sod, if any, shall be removed in cut sections and replaced in same manners.
- 14.6 Provide pumps and drainage of all open trenches for purposes of installing electrical duct and wiring.
- 14.7 Perform all backfilling in accordance with the requirements of and under the direction of the Geotechnical Engineer.
- 14.8 Where new underground trenching is required on sites or in any area where existing underground utilities exist, the Contractor shall provide an independent professional utility locating service to locate exact vertical and horizontal locations of all existing utilities. Where existing utilities are found the Contractor shall hand dig those areas to avoid disruption. The Contractor shall be responsible for immediate repairs to existing underground utilities damaged during construction. The Contractor shall repair all existing asphalt, concrete and landscape surfaces damaged or removed during construction to match their original conditions. Where trenching extends through public streets or roadways, the Contractor shall notify underground service alert in addition to the independent locating service 48 hours before start of construction to determine location of existing utilities by calling (800) 422-4133.

#### ARTICLE 15 CONCRETE

- 15.1 Where used for structures to be provided under the contract such as bases, etc., concrete work, and associated reinforcing shall be as specified under Division 3 of these specifications.
- 15.2 See other sections for additional requirements for underground vaults, cable ducts, etc.

#### ARTICLE 16 ACCESSIBILITY

- 16.1 Install all control devices or other specialties requiring reading, adjustment, inspection, repairs, removal, or replacement conveniently and accessibly throughout the finished building.
- 16.2 All required access doors or panels in walls and ceilings are to be furnished and installed as part of the work under this Section. Refer to Division 1 of these specifications and as noted below.
- 16.3 Where located in fire rated assemblies, provide doors which match the rating of the assembly and are approved by the jurisdictional authority.
- 16.4 Refer to 'finish schedule' for types of walls and ceilings in each area and the architectural drawings for rated wall construction.

- 16.5 Coordinate work of the various sections to locate specialties requiring accessibility with others to avoid unnecessary duplication of access doors.

#### ARTICLE 17 FLASHING

- 17.1 Flash and counter flash all conduits penetrating roofing membrane as shown on Architectural drawings. All work shall be in accordance with Division 7 of these specifications.

#### ARTICLE 18 IDENTIFICATION OF EQUIPMENT

- 18.1 All electrical equipment shall be labeled, tagged, stamped, or otherwise identified in accordance with the following schedules:

##### 18.1.1 General:

- 18.1.1.1 In general, the installed laminated nameplates as hereinafter called for shall also clearly indicate its use, areas served, circuit identification, voltage and any other useful data.
- 18.1.1.2 All auxiliary systems, including communications, shall be labeled to indicate function.

##### 18.1.2 Lighting and Local Panelboards:

- 18.1.2.1 Panel identification shall be with white and black micarta nameplates. Letters shall be no less than 3/8" high.
- 18.1.2.2 Circuit directory shall be two column typewritten card set under glass or glass equivalent. Each circuit shall be identified by the room number and/or number of unit and other pertinent data as required.

##### 18.1.3 Distribution Switchboards and Feeders Sections:

- 18.1.3.1 Identification shall be with 1" x 4" laminated white micarta nameplates with black lettering on each major component, each with name and/or number of unit and other pertinent data as required. Letters shall be no less than 3/8" high.
- 18.1.3.2 Circuit breakers and switches shall be identified by number and name with 3/8" x 1-1/2" laminated micarta nameplates with 3/16" high letters mounted adjacent to or on circuit breaker or switch.

##### 18.1.4 Disconnect Switches, Motor Starters and Transformers:

- 18.1.4.1 Identification shall be with white micarta laminated labels and 3/8" high black lettering.



18.1.5 All communication system terminal boxes including T.V., telephone/intercom, security, fire alarm, clock, and computer networking shall be provided with white micarta laminated labels and 3/8" high black lettering.

#### ARTICLE 19 CONSTRUCTION FACILITIES

19.1 Furnish and maintain from the beginning to the completion all lawful and necessary guards, railings, fences, canopies, lights, warning signs, etc. Take all necessary precautions required by City, State Laws, and OSHA to avoid injury or damage to any persons and property.

19.2 Temporary power and lighting for construction purposes shall be provided under this Section. All work shall be in accordance with Division 1 of these specifications.

#### ARTICLE 20 GUARANTEE

20.1 Guarantee all material, equipment and workmanship for all sections under this Division in writing to be free from defect of material and workmanship for one year from date of final acceptance, as outlined in the general conditions. Replace without charge any material or equipment proven defective during this period. The guarantee shall include performance of equipment under all site conditions, conditions of load, installing any additional items of control and/or protective devices, as required.

#### ARTICLE 21 PATENTS

21.1 Refer to the General Conditions for Contractor's responsibilities regarding patents.

#### ARTICLE 22 EQUIPMENT ROUGH-IN

22.1 Rough-in all equipment, fixtures, etc. as designed on the drawings and as specified herein. The drawings indicate only the approximate location of rough-ins. Mounting heights of all switches, receptacles, wall mounted fixtures and such equipment must be coordinated with the Architectural Designs. The Contractor shall obtain all rough-in information before progressing with any work for rough-in connections. Minor changes in the contract drawings shall be anticipated and provided for under this Division of the specifications to comply with rough-in requirements.

#### ARTICLE 23 OWNER FURNISHED AND OTHER EQUIPMENT

23.1 Rough-in and make final connections to all Owner furnished equipment shown on the drawings and specified, and all equipment furnished under other sections of the specifications.

#### ARTICLE 24 EQUIPMENT FINAL CONNECTIONS

24.1 Provide all final connections for the following:

24.1.1 All equipment furnished under this Division.

24.1.2 Electrical equipment furnished under other sections of the specification.

24.1.3 Owner furnished equipment as specified under this Division.

#### ARTICLE 25 INSERTS, ANCHORS, AND MOUNTING SLEEVES

25.1 Inserts and anchors must be:

25.1.1 Furnished and installed for support of work under this Division.

25.1.2 Mounting of equipment that is of such size as to be free standing and that equipment which cannot conveniently be located on walls, such as motor starters, etc., shall be rigidly supported on a framework of galvanized steel angle of Unistrut or B-line systems with all unfinished edges painted.

25.1.3 Furnish and install all sleeves as required for the installation of all work under all Sections of this Division and for all communication systems including any communication systems described in this Section which are bid to the General Contractor. Sleeves through floors, roof, and walls shall be as described in "Conduit and Fittings" Section 26 05 33.

#### ARTICLE 26 SEISMIC ANCHORING

26.1 All switchgear and other free standing electrical equipment or enclosures shall be anchored to the floor and braced at the top of the equipment to the structure. Where details have not been provided on the drawings, anchorage shall comply with CBC Section 1616A.1.12. The Contractor shall submit drawings signed by the Contractors registered structural Engineer indicating method of compliance prior installation.

26.2 All sound systems, communication, signal or data networking equipment or enclosures shall be anchored to the structure. Where details have not been provided on the drawings, anchorage shall comply with CBC Section 1616A.1.12. The Contractor shall submit drawings signed by the Contractors registered Structural Engineer indicating method of compliance prior to installation.

#### ARTICLE 27 RUST PROOFING

27.1 Rust proofing must be applied to all ferrous metals and shall be in accordance with Section 05500 of these specifications and as noted below.

27.1.1 Hot-dipped galvanized shall be applied and after forming of angle-iron, bolts, anchors, etc.

27.1.2 Hot-dipped galvanized coating shall be applied after fabrication for junction boxes and pull boxes cast in concrete.

#### ARTICLE 28 GENERAL WIRING

- 28.1 Where located adjacent in walls, outlet boxes shall not be placed back to back, nor shall extension rings be used in place of double boxes, all to limit sound transmission between rooms. Provide short horizontal nipple between adjacent outlet boxes, which shall have depth sufficient to maintain wall coverage in rear by masonry wall.
- 28.2 In those instances where outlet boxes, recessed terminal boxes, or recessed equipment enclosures are installed in a fire rated assembly, provide "Flamesafe FSD 1077" fire stopping pads or approved equal, over the outlet or box.
- 28.3 Complete rough-in requirements of all equipment to be wired under the contract are not indicated. Coordinate with respective trades furnishing equipment or with the Architect as the case may be for complete and accurate requirements to result in a neat, workmanlike installation.

#### ARTICLE 29 SEPARATE CONDUIT SYSTEMS

- 29.1 Each electrical and signal system shall be contained in a separate conduit system as shown on the drawings and as specified herein. This includes each power system, each lighting system, each signal system of whatever nature, telephone, standby system, sound system, control system, fire alarm system, etc.
- 29.2 Further, each item of building equipment must have its own run of power wiring. Control wiring may be included in properly sized conduit for equipment feeders of #6 AWG and smaller, having separate conduit for larger sizes.

#### ARTICLE 30 CLEANUP

- 30.1 In addition to cleanup specified under other sections, thoroughly clean all parts of the equipment. Where exposed parts are to be painted, thoroughly clean off any spattered construction materials and remove all oil and grease spots. Wipe the surface carefully and scrape out all cracks and corners.
- 30.2 Use steel brushes on exposed metal work to carefully remove rust, etc., and leave smooth and clean.
- 30.3 During the progress of the work, keep the premises clean and free of debris.

#### ARTICLE 31 PAINTING

- 31.1 Paint all unfinished metal as required in accordance with Division 1 of these specifications. (Galvanized and factory painted equipment shall be considered as having a sub-base finish.)

## ARTICLE 32 GENERAL DEMOLITION REQUIREMENTS

- 32.1 Remove existing work and items which are required to be removed in such manner that minimum damage and disturbance is caused to adjacent and connection work scheduled to remain. Repair or replace existing work schedule.
- 32.2 Include preparation of existing areas to receive new materials and removal of materials and equipment to alter or repair the existing building as indicated and as specified.
- 32.3 Perform demolition exercising proper care to prevent injury to the public, workmen and adjoining property.
- 32.4 Perform the removal, cutting, drilling of existing work with extreme care and use small tools in order not to jeopardize the structural integrity of the building.
- 32.5 Rebuild to existing condition or better, existing work which has to be removed to allow the installation of new work as required.
- 32.6 Remove, protect and reinstall existing items as indicated. Replace materials scheduled for reuse which are damaged by the Contractor to the extent that they cannot be reused, with equal quality material, and installation.
- 32.7 Do not reuse in this project materials and items removed from existing site or building, except with specific written approval by the Architect in each case, unless such removed material or item is specifically indicated or specified to be reused.
- 32.8 Remove materials and equipment indicated to be salvaged for reinstallation and store to prevent damage, and reinstall as the work progresses. Do not reuse in this project, other materials and equipment removed from existing site or building, except with specific written approval by the Architect in each case.
- 32.9 Patch areas requiring patching, including damage caused by removing, relocating or adding fixtures and equipment, damages caused by demolition at adjacent materials.
- 32.10 Do not stockpile debris in the existing building, without the approval of the Architect. Remove debris as it accumulates from removal operations to a legal disposal area.
- 32.11 Contractor to assume existing oil filled and dry transformers, oil switches, ballasts, lamps, wooden poles, cross arms, computers, computer monitors, and conductor insulation containing materials considered hazardous. Comply with local, state and federal regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution. Contractor shall be responsible for removal of the above hazardous materials where encountered. Include all costs for such removal as part of this contract.

- 32.12 All fluorescent, compact fluorescent, high intensity discharge, metal halide, mercury vapor, high and low pressure sodium, and neon lamps are to be disposed of as required by the California Waste Rule Regulations as described in the California Code of Regulations, Title 22, Division 4.5 and Chapter 23.
- 32.13 **Communication System:** Where new communication systems, (including telephone, intercom, clock, security, fire alarm, data, multimedia, CATV or lighting controls) are installed to replace existing systems, unless where otherwise directed the existing systems shall remain fully operational until the new system has been installed and tested. Demolition of the existing systems shall include removal of all equipment and associated wiring and exposed conduits and providing new blank covers for all abandoned device locations.
- 32.14 **Salvage Power Equipment:** The Contractor shall carefully remove all existing switchboards, panelboards, transformers, and confirm in writing which items the Owner wishes to keep. These items shall be transported to the Owner's maintenance facilities by the Contractor. All remaining items shall be disposed of by the Contractor.
- 32.15 **Salvage Lighting Equipment:** The Contractor shall confirm in writing which items the Owner wishes to keep. These items shall be transported to the Owner's maintenance facilities by the Contractor. All remaining items shall be disposed of by the Contractor.
- 32.16 **Salvage Communication Equipment:** The Contractor shall carefully remove all communication devices (telephone, intercom, clock, security, fire alarm, data, multimedia, CATV or lighting controls) and box each type of devices separately. The Contractor shall deliver all items to the Owner's maintenance facility.

#### ARTICLE 33 PROJECT CLOSEOUT

- 33.1 Prior to completion of project, compile a complete equipment maintenance manual for all equipment supplied under sections of this Division, in accordance with Division 1 of these specifications and as described below.
- 33.2 Equipment Lists and Maintenance Manuals:
- 33.2.1 Prior to completion of job, Contractor shall compile a complete equipment list and maintenance manuals. The equipment list shall include the following items for every piece of material equipment supplied under this Section of the specifications:
- 33.2.1.1 Name, model, and manufacturer.
- 33.2.1.2 Complete parts drawings and lists.
- 33.2.1.3 Local supply for parts and replacement and telephone number.

33.2.1.4 All tags, inspection slips, instruction packages, etc., removed from equipment as shipped from the factory, properly identified as to the piece of equipment it was taken from.

33.3 Maintenance manuals shall be furnished for each applicable section of the specifications and shall be suitably bound with hard covers and shall include all available manufacturers' operating and maintenance instructions, together with "as-built" drawings to properly operate and maintain the equipment. The equipment lists and maintenance manuals shall be submitted in duplicate to the Architect for approval not less than 10 days prior to the completion of the job. The maintenance manuals shall also include the name, address, and phone numbers of all subcontractors involved in any of the work specified herein. Four copies of the maintenance manuals bound in single volumes shall be provided.

#### ARTICLE 34 RECORD DRAWINGS

34.1 The Division 26 Contractor shall maintain record drawings as specified in accordance with Division 1 of these specifications, and as noted below.

34.2 Drawings shall show locations of all concealed underground conduit runs, giving the number and size of conduit and wires. Underground ducts shall be shown with cross section elevations and shall be dimensioned in relation to permanent structures to indicate their exact location. Drawing changes shall not be identified only with referencing CORs and RFIs, the drawings shall reflect all of the actual additions or changes made. All as-built drawing information shall be prepared by the contractor in AutoCAD, updating the contract computer files as needed to reflect actual installed conditions for all site plans, lighting, power, communication, networking, audio visual, security or fire alarms systems included in the scope of work for this project.

34.3 One set of these record drawings shall be delivered to the Architect. The engineer will review documents for completeness, and will not be responsible for editing contractor computer files.

#### ARTICLE 35 CHANGES AND EXTRA WORK

35.1 When **changes** in work are requested, the Division 26 Contractor shall provide unit prices for the work involved in accordance with Division 1 of these specifications, and the following:

35.1.1 The material Costs shall **not exceed** the latest edition of the "Trade Service" end column "C" price list. The materials prices may be higher only where the Contractor can produce invoices to substantiate higher material costs. The Contractor shall submit a print out copy of the trade service sheets with the change order to substantiate these values.

35.1.2 The labor Costs shall **not exceed** the latest edition of the "NECA Manual of Labor Units" **normal column**.

35.2 When **credits** in work are requested, the Division 26 Contractor shall provide unit prices for the work involved in accordance with Division 1 of these specifications, and the following:

35.2.1 The Material Costs shall **not be less than 80% of** the latest edition of the "Trade Service" end column price list. The materials prices may be lower only where the Contractor can produce invoices to substantiate lower material costs. Restocking fees may also be included in this amount where applicable.

35.2.2 The Labor Costs shall **not be less than 80% of** the latest edition of the "NECA Manual of Labor Units" **normal column**.

35.3 Conduit pricing for conduits of all types sized 3" or smaller.

When changes in the scope of work require the Contractor to estimate conduit Installations, they shall **NOT include labor values (only material cost may be included)** for any of the below items. The labor values for conduit installation represented in the NECA manual are inflated to a point where additional labor for the below items can not be justified.

35.3.1 Couplings.

35.3.2 Set Screw or Compression Fittings, locknuts, Bushings and washers.

35.3.3 Conduit straps and associated screws or nails.

35.3.4 LB fittings or other specialty fittings or specialty mounting hardware may be included where needed.

35.4 Wire pricing for all types and sizes.

When changes in the scope of work require the Contractor to estimate wire installations they shall **NOT include labor values (only material cost may be included)** for any of the below items. The labor values for wire installation represented in the NECA manual are inflated to a point where additional labor for the below items can not be justified.

35.4.1 Locknuts, Bushings, tape, wire markers.

35.5 When changes in the scope of work require other equipment installations such as lighting fixtures, panelboards, switchboards, wiring devices, communications equipment etc. the Contractor shall **NOT include labor values (only material cost may be included)** for any of the below items. The labor values for these equipment items represented in the NECA manual are inflated to a point where additional labor for the below items can not be justified.

35.5.1 Associated screws, nails, bolts, anchors or supports.

35.5.2 Locknuts, washers, tape.

35.6 The total labor hours for extra work will be required to be calculated as follows:

35.6.1 Change orders with 1 to 30 total labor hours

General Laborer	10%	of total labor hours
Journeyman	10%	of total labor hours
Foreman	80%	of total labor hours

35.6.2 Change orders with 31 to 100 total labor hours

General Laborer	20%	of total labor hours
Journeyman	40%	of total labor hours
Foreman	40%	of total labor hours

35.6.3 Change orders with over 100 total labor hours

General Laborer	30%	of total labor hours
Journeyman	50%	of total labor hours
Foreman	20%	of total labor hours

35.7 When change orders are issued which allow the work to be completed in the normal sequence of construction, the labor rates shall be based on the most current "Prevailing Wage" – straight time total hourly rate. When change orders require the Contractor to work out of sequence the "Prevailing Wage" – daily overtime hourly rate shall apply. Special condition situations shall be reviewed on an individual basis for alternate hourly rate schedules.

35.8 Costs **will not** be permitted for additional supervision on site or office time for processing any change order other than the 10% overhead allowance as described in Division 1. Cost for special equipment required to install items for an individual change order are permitted and must be individually identified. Lump Sum cost for small tools or any other cost not specifically required for the change order are **not** permitted.

35.9 Contractor estimates shall be formatted to clearly identify each of the following:

35.9.1 Line item description of each type of material or labor item.

35.9.2 Description of quantity for each item.

35.9.3 Description of (material cost per / quantity).

35.9.4 Description of (labor cost per / quantity).

35.9.5 Description of total labor hour breakdown per Foreman, Journeyman or General Laborer as described above.

## ARTICLE 36 ELECTRONIC FILES



- 36.1 The Contractor shall make a written request directly to Johnson Consulting Engineers for electronic drawing files. As a part of the written request, please include the following information:
- 36.1.1 Clearly indicate each drawing sheet needed (i.e., E1.1, E2.1, etc.).
  - 36.1.2 Identify the name, phone number, mailing address and e-mail address of the person to receive the files.
  - 36.1.3 Provide written confirmation and agreement with the requirements described for payment of computer files, as described below.
- 36.2 Detail or riser diagram sheets, or any other drawings other than floor plans or site plans, will not be made available to the Contractor.
- 36.3 Files will only be provided in the AutoCAD format in which they were created.
- 36.4 Requests for files will be processed as soon as possible; a minimum of 7 working days should be the normal processing time. The Contractor shall be completely responsible for requesting the files in time for their use.

END OF SECTION



## SECTION 260519 - POWER CONDUCTORS

### PART 1 – GENERAL

- 1.1 Furnish and install wire and cable for branch circuits and feeders specified herein and as shown on the electrical drawings.
- 1.2 Submittals: Submit manufacturers' data for the following items:
  - 1.2.1 All cables and terminations
- 1.3 **Common submittal mistakes which will result in the submittals being rejected:**
  - 1.3.1 Not including all items listed in the above itemized description.
  - 1.3.2 Including catalog cut sheets which have several items on a page, and not clearly identifying by highlighting, underlining, or clouding the items to be reviewed, or crossing out the items which are not applicable.
  - 1.3.3 Not including actual manufacturer's catalog information of proposed products.
  - 1.3.4 Do not include multiple manufacturers for similar products and do not indicate "or approved equal" statements, or "to be determined later" statements. The products being submitted must be the products installed

### PART 2 – PRODUCTS

- 2.1 Wire and cable Rated 120 volt to 600 volt.
  - 2.1.1 All wire and cable shall be new, 600 volt insulated copper, of types specified below for each application. All wire and cable shall bear the UL label and shall be brought to the job in unbroken packages. Wire insulation shall be the color as specified herein and shall be type THWN-2. Insulated conductors shall be installed in all exterior exposed raceways. Conductors for branch circuit lighting, receptacle, power and miscellaneous systems shall be a minimum of No. 12 AWG. Increase conductor size to No. 10 AWG for 120 volt circuits greater than 100 feet from the panel to the load and for 277 volt circuits greater than 200 feet from the panel to the load. Circuit home-runs indicated to be larger than No. 12 must be increased the entire length of the circuit, including equipment grounding conductor. Wire sizes No. 14 through No. 10 shall be solid. No. 8 and larger shall be stranded.
- 2.2 Wire and cable for systems below 120 volts.

- 2.2.1 All low voltage and communications systems cables routed underground shall be provided with a moisture resistant outer jacket, West Penn "Aquaseal" or equal, unless otherwise specified.

### PART 3 - EXECUTION

- 3.1 Wire and cable shall be pulled into conduits without strain using powdered soapstone, mineralac, or other approved lubricant. In no case shall wire be repulled if same has been pulled out of a conduit run for any purpose. No conductor shall be pulled into conduit until conduit system is complete, including junction boxes, pull boxes, etc.
- 3.2 All connections of wires shall be made as noted below:
  - 3.2.1 Connections to outlets and switches: Wire formed around binding post of screw.
  - 3.2.2 No. 10 wire and smaller: Circuit wiring connections to lighting fixtures and other hard wired equipment shall be made with pressure type solderless connectors, Buchanan, Scotchlock, Wing Nut, or approved equal. Alternate "WAGO" #773 series or "IDEAL" #32, 33, 34 and 39 series push wire style connectors are also acceptable.
- 3.3 All wiring shall be continuous without splicing unless where specifically noted on the drawings or where permitted below.
  - 3.3.1 No. 10 wire and smaller above grade: Quantities as needed, connection made with pressure type solderless connectors, Scotchlock or equal.
  - 3.3.2 No. 10 wire and smaller below grade: Quantities as needed, connection made with 'Raychem' long barrel compression terminals with crimping tool and quantity of crimps as recommended by manufacturer, provide 'Raychem' WCSM-S series in-line heat shrink, sealant coated splice kit. Alternate products must be UL listed for direct burial/submersible and rated to (1000V).
  - 3.3.3 No. 8 wire and larger above grade: Quantities only where indicated, 'Raychem' long barrel compression terminals with crimping tool and quantity of crimps as recommended by manufacturer, provide 'Raychem' WCSM-S series in-line heat shrink, sealant coated splice kit. Alternate products must be UL listed for direct burial/submersible and rated to (1000V).
  - 3.3.4 No. 8 wire and larger below grade: Quantities only where indicated, 'Raychem' long barrel compression terminals with crimping tool and quantity of crimps as recommended by manufacturer, provide 'Raychem' WCSM-S series in-line heat shrink, sealant coated splice kit. Alternate

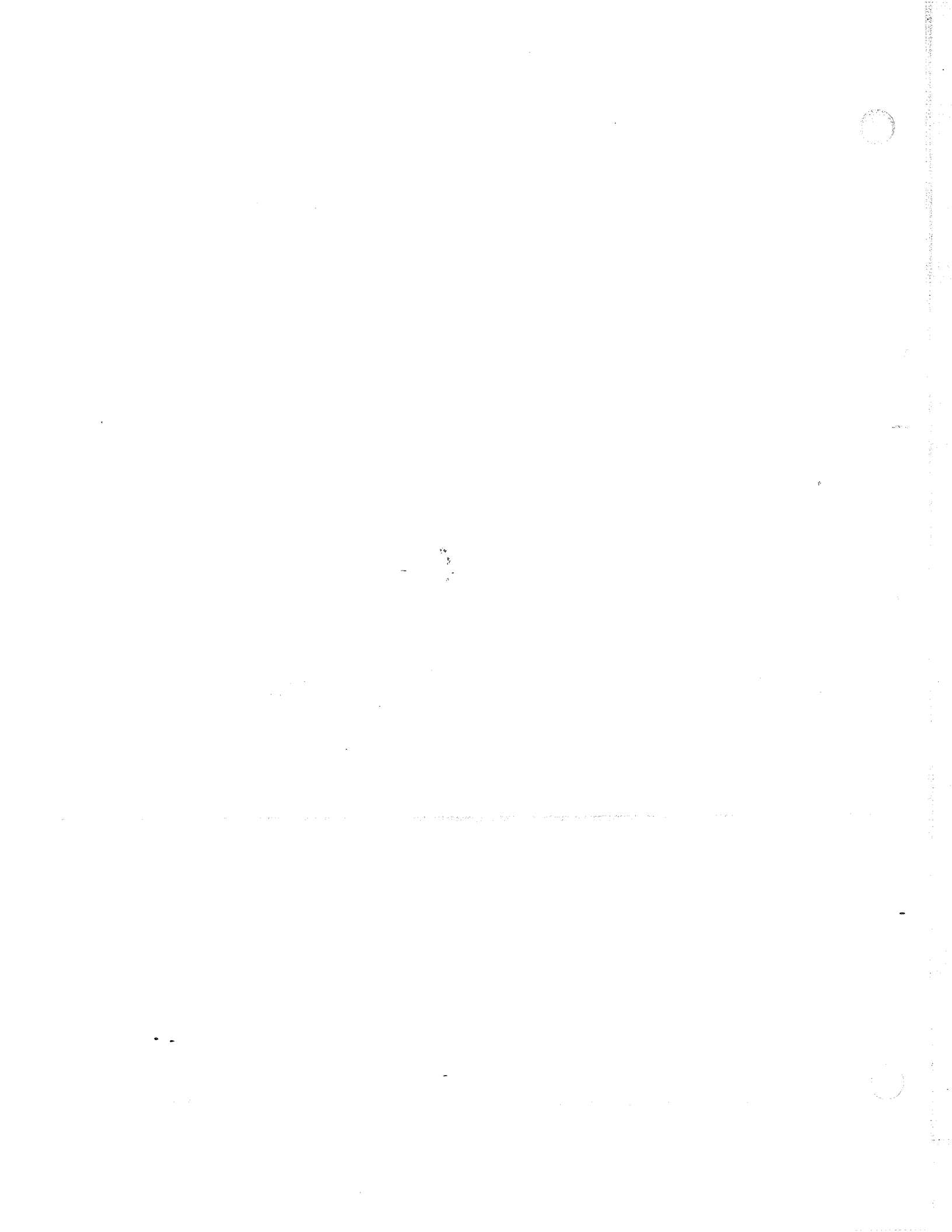
products must be UL listed for direct burial/submersible and rated to (1000V).

3.4 All wiring throughout shall be color coded as follows:

	<u>480 volt system</u>	<u>208 or 240 volt system</u>
A Phase	Brown	Black
B Phase	Orange	Red
C Phase	Yellow	Blue
Neutral	Grey	White
Ground	Green	Green

- 3.5 Wiring must be color coded throughout its entire length, except feeders may have color coded plastic tape at both ends and any other accessible point.
- 3.6 All control wiring in a circuit shall be color coded, each phase leg having a separate color, and with all segments of the control circuit, whether in apparatus or conduit, utilizing the same color coding.
- 3.7 At all terminations of control wiring, the wiring shall have a numbered T&B or Brady plastic wire marker.
- 3.8 Cables when installed are to be properly trained in junction boxes, etc., and in such a manner as to prevent any forces on the cable which might damage the cable.
- 3.9 All conductors to be installed into a common raceway, shall be pulled into the raceway at the same time.
- 3.10 All conductors shall be installed in such a manner as to not exceed the manufacturers' recommended pulling tension and bending radius. The equipment used for pulling must be specifically designed for the purpose. Motorized vehicles such as pickup trucks, are not acceptable.

END OF SECTION



## SECTION 260526 - GROUNDING

### PART 1 – GENERAL

- 1.1 Furnish and install grounding and grounding conductors and electrodes as specified herein and as shown on the drawings.
- 1.2 Submit catalog data for all components.
- 1.3 **Common submittal mistakes which will result in the submittals being rejected:**
  - 1.3.1 Not including all items listed in the above itemized description.
  - 1.3.2 Including catalog cut sheets which have several items on a page, and not clearly identifying by highlighting, underlining or clouding the items to be reviewed, or crossing out the items which are not applicable.
  - 1.3.3 Not including actual manufacturer's catalog information of proposed products.
  - 1.3.4 Do not include multiple manufacturers for similar products and do not indicate "or approved equal" statements, or "to be determined later" statements. The products being submitted must be the products installed.

### PART 2 – EXECUTION

- 2.1 Grounding
  - 2.1.1 All panelboard cabinets, equipment, enclosures, and complete conduit system shall be grounded securely in accordance with pertinent sections of CEC Article 250. Conductors shall be copper. All electrically operated equipment shall be bonded to the grounded conduit system. All non-current carrying conductive surfaces that are likely to become energized and subject to personal contact shall be grounded by one or more of the methods detailed in CEC Article 250. All ground connections shall have clean contact surfaces. Install all grounding conductors in conduit and make connections readily accessible for inspection.
  - 2.1.2 Provide an insulated equipment grounding conductor in all branch circuit and feeder raceway systems, sized in accordance with CEC 250-1122.
  - 2.1.3 Provide an additional individual insulated grounding conductor for each circuit which contains an isolated ground receptacle or surge suppression receptacle.
  - 2.1.4 Grounding of metal raceways shall be assured by means of provisions of grounding bushings on feeder conduit terminations at the panelboard,

and by means of insulated continuous stranded copper grounding wire extended from the ground bus in the panelboard to the conduit grounding bushings.

2.1.5 Except for connections which access for periodic testing is required, make grounding connections which are buried or otherwise inaccessible by exothermite type process.

2.1.6 The following ohmic values shall be test certified for each item listed. A written report signed and witnessed by the project IOR shall be provided to the engineer. If the ohmic value listed cannot be obtained additional grounding shall be installed to reach the value listed.

2.1.6.1 Service.....10 ohms.

2.1.6.2 Step down transformers and non-current carrying metal parts  
..... 25 ohms.

2.1.6.3 Manholes, handholes, etc.  
..... 10 ohms.

END OF SECTION



## SECTION 260533 - CONDUIT AND FITTINGS

### PART 1 – GENERAL

- 1.1 Furnish and install conduit and fittings as shown on the drawings and as specified herein.
- 1.2 Submit Manufacturer's data on the following:
  - 1.2.1 Conduit.
  - 1.2.2 Fittings
  - 1.2.3 Fire stopping Material.
- 1.3 **Common submittal mistakes which will result in the submittals being rejected:**
  - 1.3.1 Not including all items listed in the above itemized description.
  - 1.3.2 Including catalog cut sheets which have several items on a page, and not clearly identifying by highlighting, underlining or clouding the items to be reviewed, or crossing out the items which are not applicable.
  - 1.3.3 Not including actual manufacturer's catalog information of proposed products.
  - 1.3.4 Do not include multiple manufacturers for similar products and do not indicate "or approved equal" statements, or "to be determined later" statements. The products being submitted must be the products installed.

### PART 2 – PRODUCTS

- 2.1 Rigid steel conduit, intermediate metal conduit (IMC), electrical metallic tubing (EMT) and flexible metallic conduit shall be steel, hot dipped galvanized after fabrication.
- 2.2 PVC conduit shall be Carlon or approved equal.
- 2.3 Liquid tight flexible metal conduit shall be Anaconda Sealtite type UA or approved equal. Fittings shall be Appleton, Crouse-Hinds, Steel City, T&B, or equivalent.
- 2.4 Fire stopping material shall provide an effective seal against fire, heat, smoke and fire gases. Fire stopping material shall be tested to comply with ASTM E 814 and UL 1479. The submittal for this product shall include the UL listed system number and installation requirements for each type of penetration seal required for this project.

- 2.5 Each length of conduit shall be stamped with the name or trademark of the manufacturer and shall bear the UL label.
- 2.6 All plastic conduit shall be rigid, schedule 40, heavy wall PVC. All PVC conduit shall be UL listed. Underground utility company conduits shall comply with local utility co. requirements.
- 2.7 Plastic conduit shall be stored on a flat surface, and protected from the direct rays of the sun.

### PART 3 – FITTINGS

- 3.1 All metallic fittings, including those for EMT, flexible conduit, or malleable iron. Die cast fittings of any other material are not permitted.
- 3.2 Locknuts shall be steel or malleable iron with sharp clean cut threads.
- 3.3 Entrance seals shall be 0.Z. type FSK or equivalent.
- 3.4 Bushings and locknuts: Where conduits enter boxes, panels, cabinets, etc., they shall be rigidly clamped to the box by locknuts on the outside, and a lock nut and plastic bushing on the inside of the box. All conduits shall enter the box squarely.
- 3.5 Furnish and install insulated bushings as per CEC article No. 300 - 4 (F) on all conduits. The use of insulated bushings does not exclude the use of double locknuts to fasten conduit to the box.
- 3.6 Transition from plastic to steel conduits shall be with PVC female threaded adaptors.
- 3.7 Couplings and connectors for rigid steel or IMC conduit must be threaded, or compression type (set screw fittings are not permitted).
- 3.8 Couplings and connectors for EMT shall be compression, watertight. Set screw connectors are not acceptable, except for systems below 120 volts.
- 3.9 Connectors for flexible metal conduit shall be steel or malleable iron with screw provided to clinch the conduit into the adapter body. For sizes up to  $\frac{3}{4}$ " a screw-in, "Jake type," fitting may be used.
- 3.10 Install approved expansion fittings, or liquid tight flex conduit with a minimum 6" slack for conduits passing through all expansion and seismic joints.

### PART 4 - EXECUTION

- 4.1 All branch circuits shall be installed concealed in walls or above ceilings or in concrete floor slabs. PVC conduits installed in concrete floor slabs shall

transition to PVC coated rigid steel where conduits penetrate above finished grade or finished floor.

- 4.2. Conduit sizes for various numbers and sizes of wire shall be as required by the CEC, but not smaller than ½" for power wiring and ¾" for communications and fire alarm systems unless otherwise noted. Conduit in slab or below grade shall be ¾" minimum trade size, unless otherwise identified.
- 4.3. Conduit size shall be such that the required number and sizes of wires can be easily pulled in and the Contractor shall be responsible for the selection of the conduit sizes to facilitate the ease of pulling. Conduit sizes shown on the drawings are minimum sizes in accordance with appropriate tables in the CEC. If because of bends or elbows a larger conduit size is required, the Contractor shall so furnish without further cost to the Owner.
- 4.4. The Contractor shall be entirely responsible for the proper protection of this work from the other trades on the job. When conduit becomes bent or holes are punched through same, or outlets moved after being roughed-in, the Contractor shall replace same, without additional cost to the Owner.
- 4.5. Rigid steel conduit or IMC shall be used as follows:
  - 4.5.1 Exposed exterior locations.
  - 4.5.2 Exposed interior locations below eight feet above floor, except in electrical rooms and closets.
  - 4.5.3 In hazardous or classified areas as required by CEC.
- 4.6. EMT conduit shall be used for areas as follows:
  - 4.6.1 All interior communications, signal, and data networking systems.
  - 4.6.2 All interior power wiring systems where not required to be in rigid steel, IMC or flexible conduit.
- 4.7. Flexible conduit shall be used for areas as follows:
  - 4.7.1 To connect motors, transformers, and other equipment subjected to vibration or where specifically detailed on the drawings.
  - 4.7.2 Flexible conduit shall not be used to replace EMT in other locations where the conduit will be exposed.
  - 4.7.3 Flexible metal conduit shall be ferrous. Installation shall be such that considerable slack is realized. The conduit shall contain separate code sized grounding conductor.

- 4.7.4 Liquid tight flexible conduit shall be used in conformance with CEC in lengths not to exceed 4'. For equipment connections, route the conduit at 90 degrees to the adjacent path for point of connection. The conduit shall contain separate code sized grounding conductor. Use liquid tight flexible conduit for all equipment connections exposed in possible wet, corrosive or oil contaminated areas, e.g., shops and outside areas.
- 4.8 Plastic conduit shall be used for all exterior underground, in slab, and below slab on grade conduit installations. Install bell ends at all conduit terminations in manholes and pull boxes. Where plastic conduit transitions from below grade to above grade, no plastic conduit shall extend above finished exterior grade, or above interior finished floor level.
- 4.9 Plastic conduit joints shall be made up in accordance with the manufacturer's recommendations for the particular conduit and coupling selected. Conduit joint couplings shall be made watertight. Plastic conduit joints shall be made up by brushing a plastic solvent cement on the inside of a plastic fitting and on the outside of the conduit ends. The conduit and fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly.
- 4.10 All underground conduit depths shall be as detailed on the drawings or a minimum of 30" below finished grade (when not specifically detailed otherwise), for all exterior underground conduits. Where concrete slurry or concrete encasement is provided, include "Red" color dye in mixture.
- 4.11 All underground conduits for power systems (600v and higher), shall be concrete encased and a minimum of 48" below grade or as detailed on the drawings. Where concrete slurry or concrete encasement is provided, include "Red" color dye in mixture.
- 4.12 Conduit shall be continuous from outlet to outlet, cabinet or junction box, and shall be so arranged that wire may be pulled in with the minimum practical number of junction boxes.
- 4.13 All conduits shall be concealed wherever possible. All conduit runs may be exposed in mechanical equipment rooms, electrical equipment rooms, electrical closets, and in existing or unfinished spaces. No conduit shall be run exposed in finished areas without the specific approval of the Architect.
- 4.14 All raceways which are not buried or embedded in concrete shall be supported by straps, clamps, or hangers to provide a rigid installation. Exposed conduit shall be run in straight lines at right angles to or parallel with walls, beams, or columns. In no case shall conduit be supported or fastened to other pipes or installed to prevent the ready removal of other trades piping. Wire shall not be used to support conduit.
- 4.15 It shall be the responsibility of the Contractor to consult the other trades before installing conduit and boxes. Any conflict between the location of conduit and

boxes, piping, duct work, or structural steel supports, shall be adjusted before installation. In general, large pipe mains, waste, drain, and steam lines shall be given priority.

- 4.16 Conduits above lay-in grid type ceilings shall be installed in such a manner that they do not interfere with the "lift-out" feature of the ceiling system. Conduit runs shall be installed to maintain the following minimum spacing wherever practical.
  - 4.16.1 Water and waste piping not less than 3".
  - 4.16.2 Steam and steam condensate lines not less than 12".
  - 4.16.3 Radiation and reheat lines not less than 6".
- 4.17 Provide all necessary sleeves and chases required where conduits pass through floors or walls as part of the work of this section. Core drilling will only be permitted where approved by the Architect.
- 4.18 All empty conduits and surface mounted raceways shall be provided with a ¼" polypropylene plastic pull cord and threaded plastic or metal plugs over the ends. Fasten plastic "Dymo" tape label to exposed spare conduit to identify "power" or "communication" system, and to where it goes.
- 4.19 The ends of all conduits shall be securely plugged, and all boxes temporarily covered to prevent foreign material from entering the conduits during construction. All conduit shall be thoroughly swabbed out with a dry swab to remove moisture and debris before conductors are drawn into place.
- 4.20 Bending: Changes in direction shall be made by bends in the conduit. These shall be made smooth and even without flattening the pipe or flaking the finish. Bends shall be of as long a radius as possible, and in no case smaller than CEC requirements.
  - 4.20.1 For power conduits for conductors (600v and below), provide minimum 36" radius (vertical) and 72" radius (horizontal) bends.
  - 4.20.2 For power conduits for conductors (greater than 600v), provide minimum 72" radius (vertical) and 72" radius (horizontal) bends.
- 4.21 Supports: Conduit shall be supported at intervals as required by the California Electrical Code. Where conduits are run individually, they shall be supported by approved conduit straps or beam clamps. Straps shall be secured by means of toggle bolts on hollow masonry, machine screws or bolts on metal surfaces, and wood screws on wood construction. **[No perforated straps or wire hangers of any kind will be permitted. Where individual conduits are routed, or above ceilings, they shall be supported by hanger rods and hangers.]** Conduits installed exposed in damp locations shall be provided with clamp backs under each conduit clamp, to prevent accumulation of moisture around the conduits.

- 4.22 Where a number of conduits are to be run exposed and parallel, one with another, they shall be grouped and supported by trapeze hangers. Hanger rods shall be fastened to structural steel members with suitable beam clamps or to concrete inserts set flush with surface. A reinforced rod shall be installed through the opening provided in the concrete inserts. Beam clamps shall be suitable for structural members and conditions. Rods shall be galvanized steel 3/8" diameter minimum. Each conduit shall be clamped to the trapeze hanger with conduit clamps.
- 4.23 All concrete inserts and pipe clamps shall be galvanized. All steel bolts, nuts, washers, and screws shall be galvanized or cadmium plated. Individual hangers, trapeze hangers and rods shall be prime-coated.
- 4.24 Openings through fire rated floors/walls and/or smoke walls through which conduits pass shall be sealed by Fire stopping material to comply with Division 1 to seal off flame, heat, smoke and fire gases. Sleeves shall be provided for power or communication system cables which are not installed in conduits, and shall be sealed inside and out to comply with manufacturers UL system design details. Where multiple conduits and/or cable tray systems pass thru fire-rated walls at one location, the Contractor shall submit copies of the manufacturers UL system design details proposed for use on this project. All Fire stopping material shall have an hourly fire-rating equal to or higher than the fire rating of the floor or wall through which the conduit, cables, or cable trays pass.
- 4.25 Provide cap or other sealing type fitting on all spare conduits. Conduits stubbed into buildings from underground where cable only extends to equipment, the conduit/cable end shall be sealed to prevent moisture from entering the room or space.
- 4.26 All conduits which are part of a paralleled feeder or branch circuit shall be installed underground.
- 4.27 All conduits which are required as a part of systems specified in Divisions 27 or 28, or any other low voltage communication systems, shall be furnished and installed by the Division 26 Contractor.
- 4.27.1 The Contractor shall coordinate all conduit requirements with each system supplier prior to bid to determine special conduit system requirements.
- 4.27.2 The Contractor shall provide a pull rope in all conduits for these systems.
- 4.27.3 The Contractor shall provide conduit sleeves for all open cable installations thru rated walls or block walls. Provide conduit from each building main termination cabinet or backboard to the nearest accessible ceiling for access into all electrical or communications rooms.

- 4.28 In addition to the above requirements, the following requirements shall apply to all data networking conduits:
- 4.28.1 Flexible metal conduit may only be used where required at building seismic and/or expansion joints.
  - 4.28.2 All underground conduits shall be provided with minimum 24" radius elbows (vertical) and 60" (horizontal).
  - 4.28.3 No length of conduit above grade shall be installed to exceed 150 feet between pull boxes, or points of connection, unless where specifically detailed on the drawings.
  - 4.28.4 No length of conduit shall be installed to exceed two 90 degree bends between pull boxes, or points of connection, unless where specifically detailed on the drawings.
- 4.29 It shall be the responsibility of the Contractor installing the raceway to coordinate the installation of raceway device plates and inserts with the communications or data contractors.

END OF SECTION





## SECTION 260543 - UNDERGROUND PULL BOXES AND MANHOLES

### PART 1 – GENERAL

- 1.1 Furnish and install electrical underground pullboxes and manholes as specified and as shown on the electrical drawings.
- 1.2 Submit manufacturer's data for all items.
- 1.3 **Common submittal mistakes which will result in the submittals being rejected:**
  - 1.3.1 Not including all items listed in the above itemized description.
  - 1.3.2 Including catalog cut sheets which have several items on a page, and not clearly identifying by highlighting, underlining or clouding the items to be reviewed, or crossing out the items which are not applicable.
  - 1.3.3 Not including actual manufacturer's catalog information of proposed products.
  - 1.3.4 Do not include multiple manufacturers for similar products and do not indicate "or approved equal" statements or "to be determined later" statements. The products being submitted must be the products installed.

### PART 2 – PRODUCTS

- 2.1 The concrete for pull boxes and manholes shall be class 5500 psi or as noted on the drawings. All pullboxes and manholes and covers located in parking lots, driveways, roads, or any other driveable areas shall be traffic rated.
- 2.2 Each manhole shall be provided with a fiberglass ladder and ground rod. Ground rods shall be copper or a copper-clad steel 3/4" diameter by 10-foot long. All non-current carrying metallic components shall be grounded to the ground rods with minimum #6 copper wire.
- 2.3 All underground pullboxes shall be provided with steel bolt down type covers. Bolts shall be bronze or brass. All communication or signal system pullboxes shall be sized to comply with CEC Article 370 unless where other sizes are specifically noted on the drawings.
- 2.4 All underground pullbox and manhole covers shall be provided with either "electrical" or "telephone" or "fire alarm" markings. The telephone marking shall be used to identify telephone, T.V., clock or any other types of communication systems.
- 2.5 All power and communication systems shall be provided with separate pullboxes or manholes. Fire alarm circuits shall also be provided with separate pullboxes from any other type of communication systems.

PART 3 – INSTALLATION

- 3.1 Shoring of the excavation shall be in accordance with all federal, state and local regulations.
- 3.2 Provide sealing material for the joints between sections per manufacturer's instructions.
- 3.3 The contractor shall make the top and access assembly or lid flush with surrounding areas where installed in driveable or normal walking areas.

END OF SECTION

## SECTION 265114 - LED LIGHTING FIXTURES AND LAMPS

### PART 1 – GENERAL

- 1.1 Furnish and install all lighting fixtures with lamps as specified and as shown on the drawings. Fixtures shall be complete including canopies, hanger, diffusers, ballasts, etc.
- 1.2 Submit manufacturer's data for each fixture type including the following:
  - 1.2.1 Lighting fixture catalog data and photometry.
  - 1.2.2 Lamp catalog data for each fixture type.
  - 1.2.3 Driver catalog data for each fixture type.
  - 1.2.4 Fixture warranty.
- 1.3 **Common submittal mistakes which will result in the submittal being rejected:**
  - 1.3.1 Not including lamp and driver information for each fixture type.
  - 1.3.2 Not including all items listed in the above itemized description.
  - 1.3.3 Including catalog cut sheets which have several items on a page, and not clearly identifying by highlighting, underlining or clouding the items to be reviewed, or crossing out the items which are not applicable.
  - 1.3.4 Not including actual manufacturer's catalog information of proposed products.
  - 1.3.5 Do not include multiple manufacturers for similar products and do not indicate "or approved equal" statements, or "to be determined later" statements. The products being submitted must be the products installed.

### PRODUCT SUBSTITUTION

- 1.4 All substitutions or alternate fixtures to those indicated on the project fixture schedule shall be submitted for approval (7) business days prior to the project bid date. Approvals when accepted will be issued in the form of an addendum. No consideration for substitutions will be provided after the award of the contract.
  - 1.4.1 The substitution request must include a statement indicating the difference in price of both the specified and alternate product, both contractor and list price. The substitution request must include a comparison of the total fixture wattage, total fixture lumens, fixture efficiency and warranty comparison.
  - 1.4.2 When proposing to substitute lighting fixture and/or fixture retrofit, a point by point photometric calculation of a typical application as used in this project shall be included. A calculation of the specified and the proposed alternate shall be included.

## PART 2 – PRODUCTS

- 2.1 All catalog numbers are given for manufacturer's identification and shall not relieve Contractor from responsibility of full conformance to all applicable written description requirements governing material and fabrication, either in the general or specific sections. Where catalog numbers are indicated as modified, no modification will be required if the standard unit fully conforms to descriptive requirements in the Specifications and matches specified ceiling.
- 2.2 All fixtures of the same type shall be of one manufacturer and of identical finish and appearance. All fixtures and component parts shall bear the UL label.
- 2.3 All steel parts shall be phosphate treated in multistage power spray system for corrosion resistance and paint adhesion. Final finish shall be electrostatically applied baked white enamel of not less than 87 pct. reflectance on reflecting surfaces.
- 2.4 Each fixture shall have a continuous light-seal gasket seated in such manner as to prevent any light leak through any portion or around any edge of the trim frame.
- 2.5 Diffusers shall be framed in a hinged, continuous assembly. Diffuser frame latches shall be spring-loaded or cam-operated.
- 2.6 All recessed fixtures shall be provided with frames appropriate for the type of ceiling involved. No fixtures shall be ordered until the ceiling construction has been verified by the Contractor.

## MINIMUM LUMINARY REQUIREMENTS

- 2.7 Electrical Components, Devices and Accessories: Listed and labeled as defined in NFPA 70 by a qualified testing agency, and marked for intended location and application.
- 2.8 Recessed Fixtures: Comply with NEMA LE 4.
- 2.9 CRI of **minimum 80 CCT of 4100 K.**
- 2.10 Rated lamp life of 50,000 hours minimum.
- 2.11 Lamps dimmable from 100 percent to 0 percent of maximum light output.
- 2.12 Nominal Operating Voltage: **120 V / 277 V ac**

## PART 3 – EXECUTION

- 3.1 All lighting fixtures shall be supported as follows:
  - 3.1.1 From the outlet box by means of a metal strap where its weight is less than five pounds.

- 3.1.2 From its outlet box by means of a hickey or other threaded connection where its weight is from five to fifty pounds.
- 3.1.3 Directly from the structural slab or joists where its weight exceeds fifty pounds.
- 3.1.4 Lighting fixtures shall be supported independent of the ceiling system or additional ceiling support must be added to carry the weight of the lighting fixtures. Recessed lighting fixtures supported from ceiling grid tees shall be furnished with hold down clips in conformance with CEC 410 - 16, spring clips will not be permitted. All fixtures which the manufacturer has not provided UL approved clips, must be attached to the fixture and ceiling grid by metal screws.
- 3.2 Furnish and install supplementary blocking and support as required to support fixture from structural members. Contractor shall submit proposed blocking method for all suspended lighting fixtures for approval prior to rough in.
- 3.3 Suspended and/or pendant mounted fixtures shall be provided with four aircraft safety cables extending in opposite directions, attached to the fixture, and supported from a structural member. The contractor shall submit proposed fixture mounting and aircraft cable attachment methods for approval prior to fixture rough in.
- 3.4 Class 1 wiring to the fixture must be installed in conduit. No open wiring shall be permitted.
- 3.5 Chain suspension may be used only where specifically permitted on the drawings. Chain shall be heavy duty, nickel or cadmium plated, suitable for weight of specific fixture.
- 3.6 Shop drawings shall be furnished for each fixture type. Catalog cuts, illustrating conformance with specifications, will be acceptable for standard units. Shop drawings shall indicate materials, assembly, finish and dimensions.
- 3.7 Photometric data shall be furnished for any fixture substituted for those listed on the schedule.
- 3.8 Any driver which produces a greater than normal amount of noise shall be replaced by the contractor. Normal will be determined by the level of sound produced by other similar fixtures operating in the area.

END OF SECTION



## SECTION 269090 - TESTING

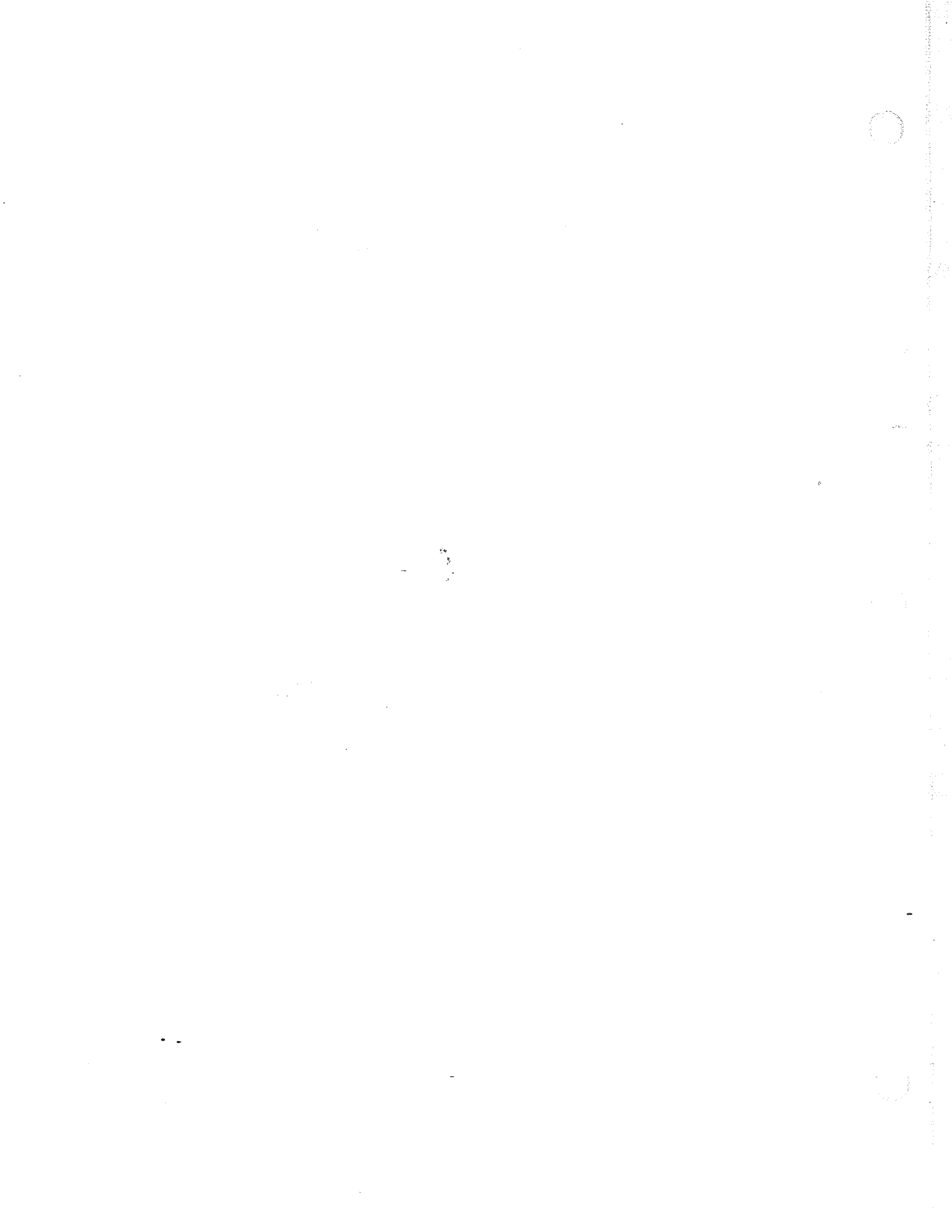
### PART 1 – GENERAL

- 1.1 Upon completion of the electrical work, the entire installation shall be tested by the Contractor, and demonstrated to be operating satisfactorily to the Architect, Engineer, Inspector and Owner.
- 1.2 All testing and corrections shall be made prior to demonstration of operation to the Architect, Engineer, Inspector and Owner.
- 1.3 In addition to the demonstration of operation, the Contractor is also required to review the content and quality of instructions provided on items demonstrated with the Architect, Engineer, Inspector and Owner.

### PART 2 – EXECUTION

- 2.1 Wiring shall be tested for continuity, short circuits and/or accidental grounds. All systems shall be entirely free from “grounds,” “short circuits,” and any or all defects.
- 2.2 Motors shall be operating in proper rotations, and control devices functioning properly. Check all motor controllers to determine that properly sized overload devices are installed, and all other electrical equipment for proper operation.
- 2.3 Tests and adjustments shall be made prior to acceptance of the electrical installation by the Architect, and a certificate of inspection and acceptance of the electrical installation by local inspection authorities shall be provided.
- 2.4 All equipment or wiring provided which tests prove to be defective or operating improperly shall be corrected or replaced promptly, at no additional cost to the Owner.
- 2.5 Test all motor and feeder circuits with a “megger” tester to determine that insulation values conform to Section 110-20, California Electrical Code (CED). Test reports must be submitted and approved by the engineer before final acceptance.
- 2.6 Test all grounding electrode connections to assure a resistance of no more than 10 ohms is achieved. Augment grounding until the ohmic value stated above is achieved. Provide certified test results to the Architect, Engineer and Inspector.

END OF SECTION





## SECTION 311000- SITE CLEARING

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Clearing and protection of vegetation.
- B. Grubbing of root systems of trees and shrubs, abandoned utility lines and structures and other below grade obstructions and debris.
- C. Removal of existing debris.

#### 1.2 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Section 01 57 13 - Temporary Erosion and Sediment Control.
- D. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.
- E. Section 02 41 00 - Demolition: Removal of built elements and utilities.
  - 1. Removal of paving and removal if indicated of abandoned utilities.
  - 2. Within building footprint, removal of designated walls, partitions, and other elements; capping and identifying utilities; and removal of concrete foundations.
  - 3. Sitework (Area of Work), removal of designated fences, walls, and other elements; capping and identifying utilities; landscape paving, and removal of concrete foundations.
- F. Section 31 23 16 - Excavation: Site preparation for structure and paving.
- G. Section 31 23 23 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.
- H. Section 32 93 00 - Plants: Relocation of existing trees, shrubs, and other plants.

#### 1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
  - 1. Areas for temporary construction and field offices.

#### 1.4 QUALITY ASSURANCE

- A. Clearing Firm: Company specializing in the type of work required.
  - 1. Minimum of five years of documented experience.

## PART 2- PRODUCTS

### 2.2 MATERIALS

- A. Fill Material: As specified in Section 31 23 23 - Fill and Backfill

## PART 3- EXECUTION

### 3.1 SITE CLEARING

- A. Comply with other requirements specified in Section 01 70 00.
- B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

### 3.2 SURVEY STAKING IN UNCLEARED EASEMENTS

- A. Flag centerline of utility lines prior to clearing. Contractor shall set offsets for clearing limits to suit the Work.
- B. When the clearing is completed, survey for utility construction in accordance with requirements specified in Section 01 70 00 - Execution and Closeout Requirements.
- C. Contractor shall replace all controls and stakes damaged or destroyed, at no change in Contract Time or Contract Price.

### 3.3 EXISTING UTILITIES AND BUILT ELEMENTS

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Protect existing structures and other elements that are not to be removed.

### 3.4 CLEARING

- A. Perform clearing Work within confines of Project area indicated on Drawings or specified elsewhere herein and with strict adherence to the Contract Documents and Geotechnical recommendations.

### 3.5 VEGETATION

- A. Scope: Remove trees, shrubs, brush, and stumps in areas to be covered by building structure, paving, lawns, and planting beds.
- B. Do not begin clearing until vegetation to be relocated has been removed.
- C. Do not remove or damage vegetation beyond the limits indicated on drawings.
- D. Install substantial, highly visible fences at least 3 feet (1 m) high to prevent inadvertent damage to vegetation to remain:
  - 1. At vegetation removal limits.
- E. Remove only trees within area to be cleared that have been marked for removal. Confirm trees to be removed with Owner and Architect before beginning removal process.
  - 1. Cut trunks close and parallel to ground.

2. Remove roots where under or within five feet of proposed structures.
  3. Neither remove nor prune trees and shrubbery in public rights-of-way except by written approval of authorities having jurisdiction.
- F. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.
- G. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
  2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches (450 mm).
  3. Existing Stumps: Treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches (450 mm).
  4. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.
- H. Dead Wood: Remove all dead trees (standing or down), limbs, and dry brush on entire site; treat as specified for vegetation removed.
- I. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

### 3.6 GRUBBING

- A. At pipelines, remove all trees or stumps within five feet of the pipeline.
- B. Perform grubbing where indicated on Drawings or as specified herein. Grubbing shall include removal from the ground of all stumps, roots, buried logs and other vegetation not otherwise indicated to remain, and removal and disposal of resulting refuse.
- C. Completely grub areas where unsuitable surface material is to be removed.

### 3.7 DAMAGED VEGETATION

- A. Neatly prune damaged branches and severed roots.
- B. Apply wound paint to above-ground cuts and abrasions.
- C. If trees and shrubs indicated to remain are damaged excessively, as determined by Construction Manager, Architect or authorities having jurisdiction, remove and replace damaged plants with comparable plants.

### 3.8 DEBRIS

- A. Remove debris, junk, and trash from site.
- B. Remove logs, rocks and other debris.
- C. Dispose of Debris resulting from clearing and thoroughly clean rights-of-way.
- D. Leave site in clean condition, ready for subsequent work.
- E. Clean up spillage and wind-blown debris from public and private lands.

### 3.9 DISPOSAL

- A. Debris Disposal: Dispose of all cleared and grubbed materials in a legal manner off site.

B. Hazardous Materials:

1. Immediately notify the Construction Manager should hazardous materials or suspected hazardous materials be encountered.
2. Dispose of such materials in accordance with all applicable laws and regulations and as directed by authorities having jurisdiction.
3. Unforeseen conditions will be resolved in accordance with the Conditions of the Contract.

C. Saleable Materials:

1. Unless otherwise indicated, all felled trees from which merchantable lumber or firewood can be produced shall become the property of the Contractor.
2. Unless otherwise indicated, all metallic debris of salvageable value shall become the property of the Contractor.
3. The Contractor shall remove all saleable materials from the site in a timely manner.
4. Sale of salvaged and merchantable materials shall be done on site only with prior approval of the Owner.

D. Stockpiling Vegetation: Only if specified or indicated under landscape work, stockpile vegetation for subsequent mulching.

E. Burial and Burning: Debris shall not be buried or burned on site.

3.10 DUST CONTROL

A. Refer to requirements of:

1. Section 01 50 00 - Temporary Construction Facilities and Controls.
2. Section 31 22 00 - Grading.

B. Minimize dust during clearing and grubbing to protect adjoining property and vehicles parked in the vicinity.

C. Clean-up: Keep public thoroughfares clear of dust and debris by periodic sweeping and washing down, at least daily at the end of working hours.

END OF SECTION 311000

## SECTION 321123- AGGREGATE BASE COURSES

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Aggregate base course.
- B. Paving aggregates.
- C. Soil sterilization.

#### 1.2 RELATED REQUIREMENTS

- A. Section 31 22 00 - Grading: Preparation of site for base course
- B. Section 31 23 16.13 - Trenching: Compacted fill over utility trenches under base course.
- C. Section 31 23 23 - Fill: Topsoil fill at areas adjacent to aggregate base course.
- D. Section 31 23 23 - Fill: Compacted fill under base course.
- E. Section 31 23 16.13 - Trenching: Compacted fill over utility trenches under base course.
- F. Section 32 11 23.43 - Aggregate Base Course for Synthetic Turf: Aggregate base for athletic synthetic turf.
- G. Section 32 12 16 - Asphalt Paving: Binder and finish asphalt courses.
- H. Section 32 13 13 - Concrete Paving: Finish concrete surface course.
- I. Section 32 17 13 - Parking Bumpers: Concrete bumpers.
- J. Section 33 46 00 - Subdrainage: Filter aggregate and filter fabric for foundation drainage systems.

#### 1.3 REFERENCE STANDARDS

- A. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.
- B. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN m/m<sup>3</sup>)); 2012.
- C. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.
- D. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.

- E. Standard Specifications for Public Works Construction, Riverside County, latest edition.
  - 1. Standard Specifications shall be as amended and adopted by authorities having jurisdiction, including the Riverside County.
  - 2. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications, as amended and adopted by the authorities having jurisdiction.
  - 3. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean Owner for purposes of the Contract.
  - 4. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect for purposes of the Contract.

#### 1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Samples: 10 lb (4.5 kg) sample of each type of aggregate; submit in air-tight containers to testing laboratory.
- C. Materials Sources: Submit name of imported materials source.
- D. Certificates of Conformance: Aggregate and sterilant materials.
- E. Aggregate Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- F. Compaction Density Test Reports.

#### 1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Where reference is made to Standard Specifications, the following shall apply.
  - 1. Perform off-site Work in public rights-of-way in accordance with requirements of authorities having jurisdiction, including Standard Specifications for Public Works Construction, as amended and adopted by those authorities. For conditions not indicated otherwise on Contract Drawings, conform to Standard Details adopted by authorities having jurisdiction, including Standard Details for Public Works Construction, as amended and adopted by those authorities.
  - 2. Perform on-site Work as indicated and referenced on Contract Drawings and as specified herein.
- B. The quantity of volatile organic compounds (VOC) used in weed killer, tack coat, primer and other materials shall not exceed limits permitted under current regulations of:
  - 1. South Coast Air Quality Management District (AQMD).
- C. Source Quality Control: Obtain materials from one source throughout.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. Aggregate Storage, General:
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.

2. Prevent contamination.
3. Protect stockpiles from erosion and deterioration of materials.

## PART 2- PRODUCTS

### 2.1 MATERIALS

- A. Sub-Base Material: Existing or imported materials as recommended in geotechnical report. Refer to Document 00 31 00 - Available Project Information.
- B. Aggregate: Coarse or crushed aggregate, conforming to County of Riverside Public Works Department standard.
  1. Green Book Standard Specifications 200-2.2.
- C. Coarse Aggregate: Angular crushed stone; free of shale, clay, friable material and debris.
  1. Graded in accordance with ASTM D2487 Group Symbol GW.
- D. Blended Aggregate: Pit run washed stone; free of shale, clay, friable material and debris.
  1. Graded in accordance with ASTM D2487 Group Symbol GW.
- E. Medium Aggregate: Natural stone, pea gravel; washed, free of clay, shale, organic matter.
  1. Grade in accordance with ASTM D2487 Group Symbol GM.
- F. Fine Aggregate: Sand; conforming to County of Riverside Public Works Department standard.
- G. Herbicide: Comply with all applicable environmental protection and hazardous materials laws and regulations.
  1. Monobor-Chlorate non-selective weed and grass killer, by J.R. Simplot Co., Lathrop, CA;
  2. Poly-Bor Chlorate or Mono-Bor-Chlorate by United States Borax;
  3. Monobar-Chlorate by Occidental Chemical;
  4. Casoron 50W by Uniroyal Chemical Co., Inc.
  5. Substitutions: See Section 01 60 00 - Product Requirements.
- H. Geotextile Fabric: Non-biodegradable, non-woven.

### 2.2 SOURCE QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of aggregate materials.
- B. Where aggregate materials are specified using ASTM D2487 classification, testing of samples for compliance shall be provided before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials of each type from same source throughout the Work.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.
- B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

### 3.2 PREPARATION

- A. Stockpiling:
  - 1. Clear and level storage sites prior to stockpiling of material.
  - 2. Stockpile all materials, including approved material available from excavation and grading, in the manner and at the locations designated.
  - 3. Aggregates shall be stockpiled on the cleared and leveled areas designated by the Construction Manager to prevent segregation.
  - 4. Materials obtained from different sources shall be stockpiled separately.
- B. Soil Sterilant: Sterilize soil areas to receive paving. Apply soil sterilant in accordance with manufacturer's instructions and applicable environmental regulations. Take care to confine application to the areas to be paved.
- C. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- D. Do not place aggregate on soft, muddy, or frozen surfaces.

### 3.3 INSTALLATION

- A. Place and compact aggregate base material in accordance with Standard Specifications, Subsection 301-2. Place aggregate base below curbs and gutters and paving also, compacted to 95 percent at vehicular traffic and 90 percent at pedestrian-only traffic.
- B. Under Bituminous Concrete Paving:
  - 1. Compact to 95 percent of maximum dry density and 90 percent at pedestrian-only traffic.
- C. Under Portland Cement Concrete Paving:
  - 1. Compact to 95 percent of maximum dry density and 90 percent at pedestrian-only traffic.
- D. Place aggregate in maximum 4 inch (100 mm) layers and roller compact to specified density.
- E. Level and contour surfaces to elevations and gradients indicated.
- F. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- G. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- H. Use mechanical tamping equipment in areas inaccessible to compaction equipment.
- I. Apply herbicide to finished surface.



3.4 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch (6.4 mm) measured with 10 foot (3 m) straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch (6.4 mm).
- C. Variation From Design Elevation: Within 1/2 inch (12.8 mm).

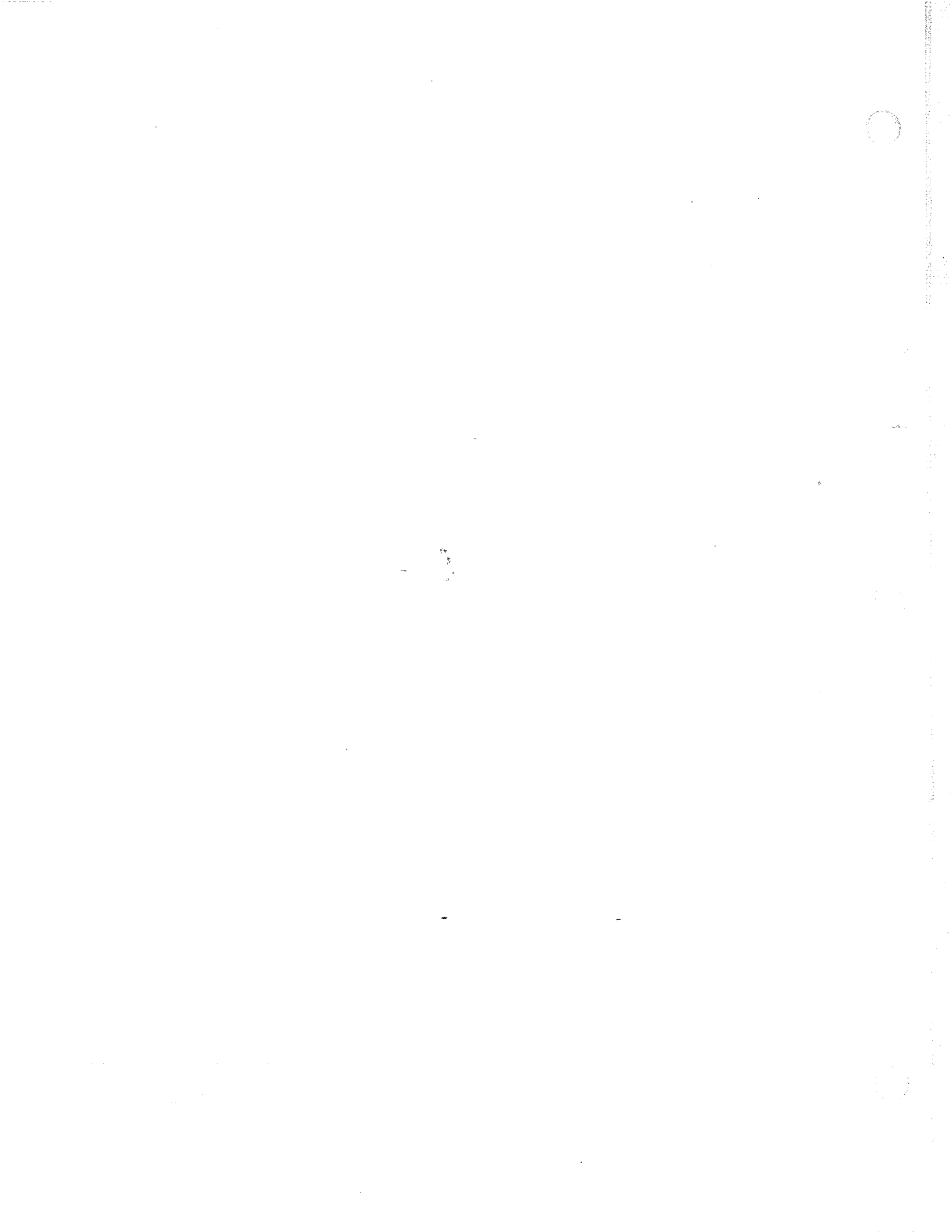
3.5 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.
- B. Compaction density testing shall be performed on compacted aggregate base course in accordance with ASTM D1556 or ASTM D6938.
- C. Results will be evaluated in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D1557 ("modified Proctor").
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- E. Proof roll compacted aggregate at surfaces that are under slabs-on-grade and paving.

3.6 CLEANING

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION 311123



## SECTION 312200-GRADING

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. This Section compliments and shall be coordinated with Civil Drawing specifications / requirements. The most stringent requirements shall be utilized.
- B. Removal and storage of topsoil.
- C. Rough grading and consolidation/compaction the site for site structures, building pads, and related site work.
  - 1. Preparation for excavation, trenching, backfilling and compacting Work.
- D. Excavation of subsoil, stockpiling for later reuse, and removal of excess from the site.
- E. Preparing of subgrade for walks, pavements and site retaining walls.
- F. Excavating, backfilling and compaction for wet utility lines.
- G. Finish grading.

#### 1.2 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements.
- B. Section 01 45 33 - Code Required Special Inspections and Procedures.
- C. Section 01 70 00 - Execution and Closeout Requirements.
- D. Section 00 31 00 - Available Project Information: Subsurface Investigations.
- E. Section 31 10 00 - Site Clearing.
- F. Section 31 23 16 - Excavation.
- G. Section 31 23 16.13 - Trenching: Trenching and backfilling for utilities.
- H. Section 31 23 23 - Fill: Filling and compaction.
- I. Section 32 12 16 - Asphalt Paving.
- J. Section 32 13 13 - Concrete Paving.
- K. Section 32 93 00 - Plants: Topsoil in beds and pits.

#### 1.3 SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.
  - 1. Accurately record location of all changes in finish elevations and gradients which materially affect drainage.

#### 1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: For conditions not covered in this Section, refer to applicable provisions of the California Building Code (CBC), Chapter 18A - Soils and Foundations, as amended and adopted by authorities having jurisdiction.
- B. Perform Work in accordance with local of, Public Works Department standards.
  - 1. Maintain one copy on site.

## 1.5 PROTECTION

- A. Dust Control: Comply with requirements specified in Section 01 50 00 - Temporary Facilities and Controls.
- B. Protection:
  - 1. Comply with general requirements specified in Section 01 50 00 - Temporary Facilities and Controls.
  - 2. Provide protection for walks, curbs, drains, and trees and boxing around corners of existing buildings to prevent damage.
  - 3. Keep adjacent roads, streets and drives clear of dirt and debris from earthwork operations.
- C. Underground Utilities:
  - 1. Buried utility lines may exist.
  - 2. If such are encountered, notify Construction Manager, Architect and Owner and for directions to be followed for preservation, relocation or demolition of utilities.

## PART 2- PRODUCTS

### 2.1 MATERIALS

- A. Topsoil: See Section 31 23 23.
- B. Subsoil: Excavated material, graded free of lumps larger than 3-inches, rocks larger than 6-inches, and debris; or in accordance with trench backfill requirements.
- C. Other Fill Materials: See Section 31 23 23.
- D. Shoring and Bracing: Provide all materials and services necessary to properly engineer and construct shoring for excavations. Selection of materials and design of shoring, underpinning and bracing of new and existing structures shall be solely the responsibility of the Contractor.
  - 1. Shoring design shall comply with State of California Trenching and Shoring Manual issued by Offices of Structure Construction; 2011.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.
- B. The Drawings do not purport to show all below-grade conditions and objects on the site. Refer to Section 02 32 00 - Geotechnical Data.
- C. Upon discovery of unknown utility or concealed conditions, discontinue affected Work and notify Construction Manager, Architect and Owner for direction. Unforeseen conditions shall be resolved in accordance with the General Conditions.

### 3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum. See requirements specified in Section 01 70 00 - Execution.
- B. Stake and flag locations of known utilities.

- C. Locate, identify, and protect from damage above- and below-grade utilities to remain.
  - 1. Maintain and protect existing utilities remaining which pass through Project area.
- D. Notify utility company to remove and relocate utilities, as required.
- E. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.
- F. Protect trees to remain by providing substantial fencing around entire tree at the outer tips of its branches; no grading is to be performed inside this line.
- G. Protect plants, lawns, and other features to remain as a portion of final landscaping.

### 3.3 ROUGH GRADING

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- D. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- E. When excavating through roots, perform work by hand and cut roots with sharp axe.
- F. See Section 31 23 23 for filling procedures.
- G. Benching Slopes: Horizontally bench existing slopes greater than 5:1 (H:V) to key fill material to slope for firm bearing.
- H. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

### 3.4 SOIL REMOVAL AND STOCKPILING

- A. Topsoil Excavation:
  - 1. Stockpile topsoil to be re-used on site; remove remainder from site.
  - 2. Do not excavate wet topsoil.
- B. Subsoil Excavation:
  - 1. Excavate subsoil from areas to be filled with topsoil, to construct foundations, footings, slabs on grade, paving and to achieve final finish grades.
  - 2. Stockpile subsoil to be re-used on site; remove remainder from site.
  - 3. Do not excavate wet subsoil.
  - 4. Over-excavate to working elevations for backfilling and compaction operations.
  - 5. Over-excavate to provide suitable space and access for Work. Do not excavate into normal 45-degree influence line of bearing of footings without written direction from Architect. Generally, footings require additional depth and other provisions to avoid interference.
  - 6. Underpin adjacent structures, paving and other existing features which may be damaged by excavation Work, including utilities and pipe chases.
  - 7. Remove all lumped subsoil, boulders and rock in excess of 6 inch (150 mm) in greatest dimension.

8. Stockpile subsoil on site for backfill, if soil is appropriate. Stockpile subsoil to depth not exceeding 8-feet. Remove from the site excess subsoil not to be reused.
  9. When excavation through roots is necessary, perform work by hand and cut roots with a sharp axe.
  10. Grade top perimeter of excavations to prevent surface water from draining into excavation. Provide dewatering of excavations as required to ensure suitable conditions for concrete and backfilling operations.
  11. Hand trim excavations to accurate configurations and depths. Remove loose matter.
  12. Machine slope banks of excavations to minimum 1 to 1 ratio horizontal to vertical or angle of repose, if less, until shored. Slope must comply with local codes, ordinances and requirements of agencies having jurisdiction. See Section 00 31 00 - Available Project Information for Subsurface Investigations by Owner.
  13. Where excavations are made to a depth greater than that indicated, such additional depth shall be filled with concrete having the same compressive strength as specified for the footing. Correct unauthorized and erroneous excavation at no change in Contract Time or Contract Sum.
  14. Protect excavations from cave-in and from loose soil and other matter from falling in. Comply with all applicable industrial safety regulations.
  15. All permanent cut or fill slopes shall have a maximum slope of 2:1 (H:V) ratio, horizontal to vertical and shall comply with applicable requirements of the California Building Code (CBC).
- C. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet (2.5 m); cover to protect from erosion.

### 3.5 GRADING

- A. Uniformly grade areas as shown on Drawings to tolerances specified below. Evenly grade between points where elevations are shown or between points of Work and existing grades.
- B. Slope grade away from building perimeter at gradient indicated.
  1. Slope shall be not less 1/4 inch per foot or 2 percent in unpaved areas.
- C. Make grade changes gradual. Blend slopes into level areas.

### 3.6 FINISH GRADING

- A. Before Finish Grading:
  1. Verify building and trench backfilling have been inspected.
  2. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, branches, stones, in excess of 1/2 inch (13 mm) in size. Remove soil contaminated with petroleum products.
- C. Where topsoil is to be placed, scarify surface to depth of 3 inches (75 mm).
- D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches (150 mm).
- E. Place topsoil in areas indicated.
- F. Place topsoil where required to level finish grade.

- G. Place topsoil to thickness as scheduled.
- H. Place topsoil during dry weather.
- I. Remove roots, weeds, rocks, and foreign material while spreading.
- J. Near plants spread topsoil manually to prevent damage.
- K. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- L. Lightly compact placed topsoil.

### 3.7 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) (30 mm) from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch) (13 mm).
- C. Top Surface Under Paving: Plus or minus 1/2-inch (0.05-foot) from required elevation.
- D. Top Surface Under Footings and Foundations: Plus 0, minus 0.2 foot.
- E. Top Surface Under Slabs on Grade: Plus 0, minus 1/2-inch (0.05-foot).

### 3.8 REPAIR AND RESTORATION

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Architect as to remedy.
- C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

### 3.9 FIELD QUALITY CONTROL

- A. See Section 31 23 23 for compaction density testing.
- B. Field Quality Control: Field inspections and testing shall be performed in accordance with requirements specified in Section 01 40 00 - Quality Requirements. Make required quality control submittals in accordance with requirements specified.
- C. Non-compliance: Should grade elevations, tests of fill or backfill indicate non-compliance with required elevations or density, Contractor shall over-excavate, recompact and retest until specified grade or density is obtained.
  - 1. Costs and Time associated with remedial Work and retesting shall be in accordance with provisions of the General Conditions.
  - 2. Retesting to demonstrate compliance shall be by a testing laboratory acceptable to Owner and shall be at Contractor's expense.

### 3.10 CLEANING

- A. Remove unused stockpiled topsoil and subsoil. Grade stockpile area to prevent standing water.
- B. Leave site clean and raked, ready to receive landscaping.

3.11 PROTECTION

- A. Protect completed grading from erosion from weather and traffic.
- B. Over-excavate and recompact areas damaged by construction activities and weather.

END OF SECTION 312200



## SECTION 312316- EXCAVATION

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Excavating for building volume below grade, footings, slabs-on-grade, paving, site structures, and utilities within the building.
- B. Trenching for utilities outside the building to utility main connections.

#### 1.2 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Control: Inspection of bearing surfaces.
- B. Section 01 50 00 - Temporary Construction Facilities and Controls: Dewatering excavations and water control.
- C. Section 01 57 13 - Temporary Erosion and Sedimentation Control: Slope protection and erosion control.
- D. Section 01 70 00 - Execution and Closeout Requirements: General requirements for dewatering of excavations and water control.
- E. Section 02 41 00 - Demolition: Shoring and underpinning.
- F. Section 31 22 00 - Grading: Soil removal from surface of site.
- G. Section 31 22 00 - Grading: Grading.
- H. Section 31 23 16.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.
- I. Section 31 23 16.26 - Rock Removal: Removal of rock during excavating.
- J. Section 31 23 23 - Fill: Fill materials, filling, and compacting.
- K. Section 33 46 00 - Subdrainage: Filter aggregate and filter fabric for foundation drainage systems.

#### 1.3 PROJECT CONDITIONS

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.

#### 1.4 COORDINATION OF SPECIFICATION REQUIREMENTS

- A. Coordinate these Specification Section requirements with specifications included on Drawings. Comply with more stringent requirements and with those requirements of authorities having jurisdiction.
- B. Comply in full with the direction (recommendations) given in the Geotechnical Report.

### PART 2- PRODUCTS - NOT USED

### PART 3- EXECUTION

#### 3.1 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the work are as indicated.

### 3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 22 00 for additional requirements.

### 3.3 EXCAVATING

- A. Underpin adjacent structures that could be damaged by excavating work.
- B. Excavate to accommodate new structures, construction operations, and paving/site structures.
- C. Shoring and Bracing: Provide all materials and services necessary to properly engineer and construct shoring for excavations. Selection of materials and design of shoring, underpinning and bracing of new and existing structures shall be solely the responsibility of the Contractor.
  - 1. Shoring design shall comply with State of California Trenching and Shoring Manual issued by Offices of Structure Construction; 2011.
- D. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- E. Slope banks of excavations deeper than 4 feet (1.2 meters) to angle of repose or less until shored, per CalOSHA requirements for Type C Soil.
  - 1. Machine slope banks to angle of repose or less, until shored.
- F. Do not interfere with 45 degree bearing splay of foundations.
- G. Cut utility trenches wide enough to allow inspection of installed utilities.
- H. Hand trim excavations. Cut through tree roots with a sharp axe. Remove loose matter.
- I. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd (0.25 cu m) measured by volume. See Section 31 23 16.26 for removal of larger material.
- J. At no additional cost, correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 23 23.
- K. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- L. Remove excavated material that is unsuitable for re-use from site.
- M. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 22 00.
- N. Remove excess excavated material from site.

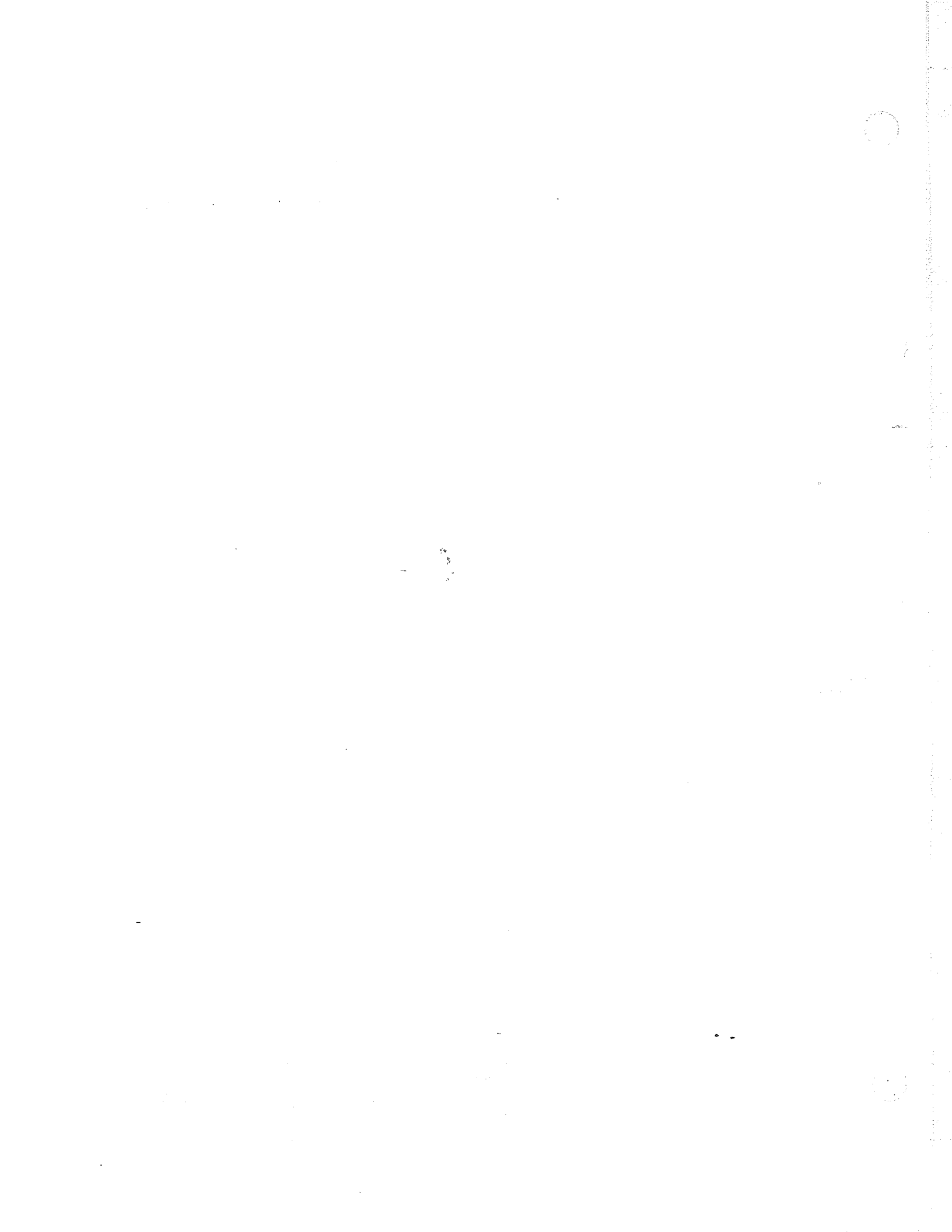
### 3.4 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.
- B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.
- C. Scarification, over excavation and all other excavations will be subject to the approval of the Soils Engineer.

3.5 PROTECTION

- A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

END OF SECTION 312316



## SECTION 312316\_13- TRENCHING

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Backfilling and compacting for utilities from 5 FEET outside the building to utility main connections.

#### 1.2 RELATED REQUIREMENTS

- A. Section 02 32 00 - Subsurface Investigations: Geotechnical report; bore hole locations and findings of subsurface materials.
- B. Section 31 22 00 - Grading: Site grading.
- C. Section 31 23 16 - Excavation: Building and foundation excavating.
- D. Section 31 23 23 - Fill: Backfilling at building and foundations.
- E. Section 33 11 16 - Site Water Distribution Piping: Potable Water Systems.
- F. Section 33 31 11 - Site Sanitary Sewerage Systems: Sewer piping from building to municipal sewer.
- G. Section 33 41 11 - Site Storm Drainage System: Storm drainage piping from building to municipal storm drain system.
- H. Section 33 51 11 - Site Natural Gas Distribution.

#### 1.3 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.
- B. Subgrade Elevations: Indicated on drawings.

#### 1.4 REFERENCES

- A. Code Compliance: See Section 01 41 00 - Regulatory Requirements
- B. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010
- C. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013 is current; use 2003 as indicated in 2013 CBC Referenced Standards.
- D. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2014.
- E. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.
- F. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN m/m<sup>3</sup>)); 2012.
- G. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.
- H. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010

## 1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Comply with the requirements listed in Section 31 23 23 - Fill.
- C. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- D. Compaction Density Test Reports.

## 1.6 COORDINATION OF SPECIFICATION REQUIREMENTS

- A. Coordinate these Specification Section requirements with specifications included on Drawings. Comply with more stringent requirements and with those requirements of the authorities having jurisdiction.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where designated.
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.

## PART 2- PRODUCTS

### 2.1 FILL MATERIALS

- A. For fill materials see Section 31 23 23 - Fill.
- B. For bed materials see Section 31 23 23 - Fill.
- C. General Fill: Subsoil excavated on-site.
- D. Structural Fill: Subsoil excavated on-site.
- E. Concrete for Fill: As specified in Section 03 30 00; compressive strength of 2500 psi (17.235 MPa).
- F. Granular Fill - Gravel: Pit run washed stone; free of shale, clay, friable material and debris.
  - 1. Graded in accordance with ASTM C136, within the following limits:
    - a. 3/4 inch (19 mm) sieve: 95 to 100 percent passing.
- G. Granular Fill - Pea Gravel: Natural stone; washed, free of clay, shale, organic matter.
  - 1. Grade in accordance with ASTM D2487 Group Symbol GM.
- H. Sand: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter.
  - 1. Grade in accordance with ASTM D2487 Group Symbol SW.
- I. Topsoil: Topsoil excavated on-site.
  - 1. Select.
  - 2. Graded.

3. Free of roots, rocks larger than 1/2 inch (12 mm), subsoil, debris, large weeds and foreign matter.
4. Acidity range (pH) of 5.5 to 7.5.
5. Containing a minimum of 4 percent and a maximum of 25 percent inorganic matter.
6. Conforming to ASTM D2487 Group Symbol OH.

## 2.2 SOURCE QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of soil material.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials of each type from same source throughout the Work.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.

### 3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 22 00 for additional requirements.

### 3.3 TRENCHING

- A. Excavate subsoil required for conduits, storm drain, sanitary sewer, water and gas piping to municipal utilities.
- B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Slope banks of excavations deeper than 4 feet (1.2 meters) to angle of repose or less until shored.
- D. Do not interfere with 45 degree bearing splay of foundations.
- E. Cut trenches wide enough to allow inspection of installed utilities.
- F. Hand trim excavations. Remove loose matter.
  1. Hand trim for bell and spigot pipe joints.
- G. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
- H. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd (0.25 cu m) measured by volume.
- I. Remove excavated material that is unsuitable for re-use from site.
- J. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 22 00.
- K. Remove excess excavated material from site.

### 3.4 PREPARATION FOR UTILITY PLACEMENT

- A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.
- D. Support pipe and conduit during placement and compaction of bedding fill.

### 3.5 BACKFILLING

- A. Backfill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage installed piping and conduits, or other work.
- D. Systematically fill and compact as as to achieve 90 percent relative compaction without damaging conduit or pipe. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches (150 mm) compacted depth.
- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches (200 mm) compacted depth or as directed by the Geotechnical Report.
- H. Slope grade away from building minimum 2 inches in 10 ft (50 mm in 3 m), unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Correct areas that are over-excavated.
  - 1. Thrust bearing surfaces: Fill with concrete.
  - 2. Other areas: Use general fill, flush to required elevation, compacted to minimum 90 or 95 percent of maximum dry density as applicable for the fill area.
- J. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
  - 2. At other locations: 90 percent of maximum dry density.
- K. Reshape and re-compact fills subjected to vehicular traffic.

### 3.6 BEDDING AND FILL AT SPECIFIC LOCATIONS

- A. Use general fill unless otherwise specified or indicated.
- B. Utility Piping, Conduits, and Duct Bank:
  - 1. Bedding: Use Fill Type SP or SW (ASTM D2487) or SM with sand equivalent of 30 or greater per ASTM D2419, 3 inches thick, compacted to 90 percent..
  - 2. Cover with Fill Type SP, SW, SM, GM per ASTM D2487.
  - 3. Fill up to subgrade elevation.



4. Compact in maximum 8 inch (200 mm) lifts to 95 percent of maximum dry density.
  5. Gas Piping: As required by the Gas Company.
- C. Power Conduits Beyond Power Co. Transformer:
1. Bedding: Use Fill Type SP or SW (ASTM D2487) or SM with sand equivalent of 30 or greater per ASTM D2419, 3 inches thick, compacted to 90 percent.
  2. Cover with Fill Type SP, SW, SM, GM per ASTM D2487.
  3. Fill up to subgrade elevation.
  4. Compact in maximum 8 inch (200 mm) lifts to 95 percent of maximum dry density.
- D. Over Subdrainage Piping at Foundation Perimeter and Under Slabs:
1. Drainage fill and geotextile fabric: Section 33 46 00.
  2. Cover drainage fill with general fill.
  3. Compact to 95 percent of maximum dry density.

### 3.7 TOLERANCES

- A. Top Surface of General Backfilling: Plus or minus 1.2 inch (30 mm) from required elevations.
- B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1.2 inch (30 mm) from required elevations.

### 3.8 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Control, for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556 or ASTM D6938.
- C. See Section 31 23 23 for compaction density testing.
- D. Correct unauthorized excavation at no cost to Owner.
- E. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 1557 ("modified Proctor") or AASHTO T 180.
- F. If tests indicate work does not meet specified requirements, remove work, replace and retest at no additional cost to Owner.
- G. Correct areas over excavated by error in accordance with Section 31 23 23 - Fill.
- H. Frequency of Tests: See Section 31 22 00 - Grading.

### 3.9 CLEANING

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.10 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01 50 00 - Temporary Construction Facilities and Controls.
- B. Recompact fills subjected to vehicular traffic.

END OF SECTION 312316\_13

## SECTION 312323-FILL

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Filling, backfilling, and compacting for building volume below grade, footings, slabs-on-grade, paving, and site structures.
- B. Backfilling and compacting for utilities outside the building to utility main connections.
- C. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

#### 1.2 RELATED REQUIREMENTS

- A. Document 00 31 00 - Available Project Information: Geotechnical report; bore hole locations and findings of subsurface materials.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 31 22 00 - Grading: Site grading.
- D. Section 31 23 16 - Excavation: Removal and handling of soil to be re-used.
- E. Section 31 23 16.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.
- F. Section 31 23 16.26 - Rock Removal: Removal of rock during excavating.

#### 1.3 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.
- B. Subgrade Elevations: Indicated on drawings.

#### 1.4 REFERENCE STANDARDS

- A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010
- B. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013 is current; use 2003 as indicated in 2013 CBC Referenced Standards.
- C. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.
- D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN m/m<sup>3</sup>)); 2012.
- E. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.
- F. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.
- G. Geotechnical Report.

#### 1.5 SUBMITTALS

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

- B. Samples: 10 lb (4.5 kg) sample of each type of fill; submit in air-tight containers to testing laboratory.
  - 1. Submit samples directly to Geotechnical Engineer for testing and analysis copy transmittals to Architect and Owner.
- C. Materials Sources: Submit name of imported materials source.
- D. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- E. Compaction Density Test Reports.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where agreed to.
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.

### PART 2- PRODUCTS

#### 2.1 FILL MATERIALS

- A. All fill materials shall be in conformance with the approved Soils Report, addenda and geotechnical data indicated in Section 00 31 00 - Available Project Information.
- B. General Fill: Subsoil excavated on-site.
  - 1. Graded.
  - 2. Free of lumps larger than 3 inches (75 mm), rocks larger than 6 inches (150 mm), and debris.
  - 3. Conforming to ASTM D2487 Group Symbol SP, SW, SM, or GM.
- C. Structural Fill: Subsoil excavated on-site.
  - 1. Graded.
  - 2. Free of organic matter, debris, and lumps larger than 3 inches (75 mm), rocks larger than 6 inches (150 mm). Fill shall contain at least fifty percent of material smaller than 1/4-inch in size.
  - 3. Imported fill materials: The soil shall be tested for potential contamination in accordance with DTSC protocols.
  - 4. On-site soils should only be used as specified in the Soils Report.
  - 5. Conforming to ASTM D2487 Group Symbol SP, SW, SM, or GM.
  - 6. Fill (SP, SW per ASTM D2487) may be used for structural backfill at the Contractor's option. However, sand shall not be placed within one foot of finished surface elevation. Material shall be free of perishable or spongy matter, trash, and all other vegetation.

- D. Concrete for Fill: As specified in Section 03 30 00; compressive strength of 2500 psi (17.235 MPa); except concrete used under footings and foundations to correct over-excavation shall be same as for footings and foundation..
- E. Granular Fill - Gravel - Fill Type GM, GW: Angular crushed washed stone; free of shale, clay, friable material and debris.
  - 1. Class 2 Aggregate base per CT202 and Section 26-1.02B.
  - 2. Graded in accordance with ASTM D2487 Group Symbol GM or GW.
- F. Granular Fill - Pea Gravel: No. 84 or 89 stone per ASTM C33.
- G. Sand: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter.
  - 1. Grade in accordance with ASTM D2487 Group Symbol SP or SW.
- H. Topsoil: Topsoil excavated on-site.
  - 1. Select.
    - a. The soil shall be tested for potential contamination in accordance with DTSC protocols.
  - 2. Graded.
  - 3. Free of roots, rocks larger than 1/2 inch (12 mm), subsoil, debris, large weeds and foreign matter.
  - 4. Acidity range (pH) of 5.5 to 7.5.
  - 5. Containing a minimum of 4 percent and a maximum of 25 percent inorganic matter.
  - 6. Conforming to ASTM D2487 Group Symbol OH.
  - 7. Limit decaying matter to 5 percent of total content by volume.
- I. Blended Material: Conforming to type II material per the Uniform Standard Specifications for Public Works Construction, Off-Site Improvements.
- J. Select Fill: Excavated granular materials with not more than 10% passing the No. 200 sieve; free from lumps, clay, organic materials and rocks greater than 3 inches..
- K. Type F - Subsoil: Reused, free of rocks larger than 3 inch size, and debris.

## 2.2 SOURCE QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of soil material.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials of each type from same source throughout the Work.
- E. Comply with EPA/DTSC requirements.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Verify structural or other backfill materials to be reused or imported are acceptable to the satisfaction of the Geotechnical Engineer. Approval shall be obtained in advance of re-use or importation onto the site.
  - 1. The soil shall be tested for potential contamination in accordance with DTSC protocols.
  - 2. Imported fill materials shall be compatible with on-site soils in addition to being suitable for its intended use.
  - 3. Imported fill soil shall contain no rocks larger than 6 inch (150 mm) maximum dimension or as allowed by the Geotechnical Report and shall be predominantly granular in nature.
- B. Verify that survey bench marks and intended elevations for the Work are as indicated.
- C. Identify required lines, levels, contours, and datum locations.
- D. See Section 31 22 00 for additional requirements.
- E. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.
- F. Verify structural ability of unsupported walls to support imposed loads by the fill.
- G. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

### 3.2 PREPARATION

- A. Scarify subgrade surface to a depth of 6 inches (150 mm) to identify soft spots.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with Type II (Greenbook) or concrete fill and compact to density equal to or greater than requirements for subsequent backfill material.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Prior to placement of aggregate base course material at paved areas, compact subsoil to 95 percent of its maximum dry density in accordance with ANSI/ASTM D1557.
- E. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

### 3.3 FILLING

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
  - 1. Do not disturb or damage foundation perimeter drainage and foundation waterproofing and protective cover utilities in trenches.
- D. Systematically fill and compact per geotechnical report. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.

- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches (150 mm) compacted depth.
- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches (200 mm) compacted depth.
- H. Slope grade away from building minimum 2 inches in 10 ft (50 mm in 3 m), unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Correct areas that are over-excavated.
  - 1. Load-bearing foundation surfaces: Fill with concrete.
  - 2. Other areas: Use general fill, flush to required elevation, compacted to minimum 90 or 95 percent of maximum dry density in subgrade zone.
- J. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
  - 2. At other locations: 90 percent of maximum dry density.
- K. Reshape and re-compact fills subjected to vehicular traffic.
- L. Remove surplus fill and backfill materials from site.

#### 3.4 FILL AT SPECIFIC LOCATIONS

- A. Use general fill unless otherwise specified or indicated.
- B. Structural Fill:
  - 1. Use general fill.
  - 2. Fill up to subgrade elevations.
  - 3. Maximum depth per lift: 6 inches (150 mm), compacted.
  - 4. Compact to minimum 95 percent of maximum dry density.
- C. Under Interior Slabs-On-Grade:
  - 1. Use granular fill. Type A or B.
  - 2. Depth: 4 inches (100 mm) deep.
  - 3. Compact to 95 percent of maximum dry density.
  - 4. Cover with sand.
    - a. Depth: 2 inches (50 mm).
    - b. Compact to 95 percent of maximum dry density.
- D. At Footings:
  - 1. Use general fill.
  - 2. Fill up to subgrade elevation.
  - 3. Compact each lift to 90 percent of maximum dry density.
  - 4. Do not backfill against unsupported foundation walls.
  - 5. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
- E. Over Buried Utility Piping, Conduits, and Duct Bank in Trenches:
  - 1. Bedding: Use general fill.

2. Cover with general fill.
  3. Fill up to subgrade elevation.
  4. Compact in maximum 8 inch (200 mm) lifts to 95 percent of maximum dry density.
- F. At Lawn Areas:
1. Use general fill.
  2. Compact to 90 percent of maximum dry density.
  3. See Section 31 22 00 for topsoil placement.
- G. At Planting Areas Other Than Lawns:
1. Use general fill.
  2. Compact to 90 percent of maximum dry density.
  3. See Section 31 22 00 for topsoil placement.
- H. Under Monolithic Paving:
1. Compact subsoil to 95 percent of its maximum dry density before placing fill.
  2. Use general fill.
  3. Fill up to subgrade elevation.
  4. Compact to 95 percent of maximum dry density.
  5. See Section 32 11 23 for aggregate base course placed over fill.

### 3.5 TOLERANCES

- A. Top Surface of General Filling: Plus or minus 1 inch (25 mm) from required elevations.
- B. Top Surface of Filling Under Paved Areas: Plus or minus 1/2 inch (12 mm) from required elevations.

### 3.6 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556 or ASTM D6938.
  1. Field inspections and testing shall be performed and submitted in accordance with requirements specified in Section 01 40 00 - Quality Requirements.
- C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 1557 ("modified Proctor") or AASHTO T 180.
- D. Laboratory Tests and Analyses: Where backfill is required to be compacted to a specified density, tests for compliance shall be made in accordance with requirements specified in Section 01 40 00 - Quality Requirements.
- E. Density Test Method: Density tests shall be in accordance with ASTM D1556 (Sand Cone Method) procedures. Allow testing service to inspect and approve each subgrade and fill layer before further fill, backfill or construction Work is performed.
- F. Alternate Density Test Method: Field density tests may also be performed by the nuclear method in accordance with ASTM D6938, providing that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D1556.



1. In conjunction with each density calibration check, check the calibration curves furnished with the moisture gages in accordance with ASTM D6938.
  2. If field tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of Work, on each different type of material encountered, and at intervals as directed by Architect or Owner's testing and inspection agency.
- G. Non-compliance: If tests indicate work does not meet specified requirements, remove work, replace and retest.
- H. Should tests of fill or backfill indicate non-compliance with required density, Contractor shall overexcavate, recompact and retest until specified density is obtained.
1. Costs and Time associated with remedial Work and retesting shall be in accordance with provisions of the General Conditions.
    - a. Retesting to demonstrate compliance shall be by a testing laboratory acceptable to Owner and shall be at Contractor's expense.
- I. Frequency of Tests:
1. Footing Subgrade Testing: For each strata of soil on which footings will be placed, perform at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata when acceptable to Geotechnical Engineer.
  2. Paved Areas and Building Slab Subgrade Testing:
    - a. Perform at least one field density test of subgrade for every 2,000 sf of paved area or building slab, but in no case fewer than three tests.
    - b. In each compacted fill layer, perform one field density test for every 2,000 sf of overlaying building slab or paved area, but in no case fewer than three tests.
- J. Proof roll compacted fill at surfaces that will be under slabs-on-grade.

### 3.7 CLEANING

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION 312323



## SECTION 313211- SOIL SURFACE EROSION CONTROL

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Liquid applied soil erosion control system.
- B. Mulch for erosion control.
- C. Hydraulic seeding and mulch for erosion control.

#### 1.2 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Contract descriptions, description of alterations work, work by others, future work, occupancy conditions, use of site and premises, work sequence.
- B. Section 01 20 00 - Price and Payment Procedures: Applications for payment, Schedule of Values, modifications procedures, closeout procedures.

#### 1.3 REFERENCE STANDARDS

- A. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)); 2012.
- B. ASTM D1560 - Resistance to Deformation and Cohesion of Bituminous Mixtures by Means of Hveem Apparatus; 2009a.
- C. ASTM D2844/D2844M - Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils; 2013.
- D. ASTM D4972 - Standard Test Method for pH of Soils; 2001 (Reapproved 2007).
- E. ASTM D5268 - Standard Specification for Topsoil Used for Landscaping Purposes; 2007.
- F. ASTM D5852 - Standard Test Method for Erodibility Determination of Soil in the Field or in the Laboratory by the Jet Index Method; 2000 (Reapproved 2007).
- G. ASTM D6629 - Standard Guide for Selection of Methods for Estimating Soil Loss by Erosion; 2001 (Reapproved 2012)e1
- H. USDA - UNITED STATES DEPARTMENT OF AGRICULTURE
  1. AMS Seed Act (1940; R 1988; R 1998) Federal Seed Act.

#### 1.4 SYSTEM DESCRIPTION

- A. The work consists of furnishing and installing temporary and permanent soil surface erosion control materials to prevent the pollution of air, water, and land, including fine grading, blanketing, stapling, mulching, vegetative measures, and miscellaneous related work, within project limits and in areas outside the project limits where the soil surface is disturbed from work under this contract at the designated locations. This work includes all necessary materials, labor, supervision and equipment for installation of a complete system.
  1. Coordinate this section with the requirements of:
    - a. Section 31 10 00 - Site Clearing and Grubbing
    - b. Section 31 22 00 - Rough Grading.

## 1.5 SUBMITTALS

### A. Preconstruction Submittals

1. Work sequence schedule.
2. Erosion control plan.

### B. Shop Drawings

1. Layout;
2. Obstructions Below Ground;
3. Erosion Control;
  - a. Scale drawings defining areas to receive recommended materials as required by federal, state or local regulations.
4. Seed Establishment Period
  - a. Calendar time period for the seed establishment period. When there is more than one seed establishment period, the boundaries of the seeded area covered for each period shall be described.
5. Maintenance Record
  - a. Record of maintenance work performed, of measurements and findings for product failure, recommendations for repair, and products replaced.

### C. Product Data

1. Biobased Materials Documentation indicating type of biobased material in product and biobased content. Indicate relative dollar value of biobased content products to total dollar value of products included in project.
2. Geosynthetic Binders
3. Wood Cellulose Fiber;
4. Paper Fiber;
5. Mulch Control Netting and Filter Fabric;
6. Hydraulic Mulch;
7. Aggregate;
8. Manufacturer's literature including physical characteristics, application and installation instructions.
9. Documentation indicating percentage of post-industrial and post-consumer recycled content per unit of product. Indicate relative dollar value of recycled content products to total dollar value of products included in project.
10. Equipment
  - a. A listing of equipment to be used for the application of erosion control materials.
11. Finished Grade
12. Erosion Control Blankets
  - a. Condition of finish grade status prior to installation; location of underground utilities and facilities.

### D. Samples

1. Materials

- a. Geosynthetic and synthetic binding material; 1.13 L(1 quart).
- b. Standard mulch; 0.74 k(2 pounds).
- c. Hydraulic mulch; 0.74 k(2 pounds).

E. Test Reports

- 1. Geosynthetic Binders
- 2. Hydraulic Mulch
  - a. Certified reports of inspections and laboratory tests, prepared by an independent testing agency, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.
  - b. Sand
  - c. Gravel
  - d. Sieve test results. Sand shall be uniformly graded.

F. Certificates

- 1. Fill Material
- 2. Mulch
  - a. Hydraulic Mulch
    - 1) Prior to delivery of materials, certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include the following.
    - 2) For items listed in this section:
      - (a) Certification of recycled content or,
      - (b) Statement of recycled content.
      - (c) Certification of origin including the name, address and telephone number of manufacturer.
- 3. Geosynthetic Binders
  - a. Synthetic Soil Binders
    - 1) Certification for binders showing EPA registered uses, toxicity levels, and application hazards.
  - b. Installer's Qualification
    - 1) The installer's company name and address; training and experience and or certification.
- 4. Seed
  - a. Classification, botanical name, common name, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, and date tested.
- 5. Wood By-Products
  - a. Composition, source, and particle size. Products shall be free from toxic chemicals or hazardous material.
- 6. Wood Cellulose Fiber
  - a. Certification stating that wood components were obtained from managed forests.

G. Operation and Maintenance Data

1. Maintenance Instructions
  - a. Instruction for year-round care of installed material. The Contractor shall include manufacturer supplied spare parts.

H. Closeout Submittals

1.6 QUALITY ASSURANCE

A. Installer's Qualification

1. The installer shall be certified by the manufacturer for training and experience installing the material.

B. Erosion Potential

1. Assess potential effects of soil management practices on soil loss in accordance with ASTM D 6629. Assess erodibility of soil with dominant soil structure less than 70 to 80 mm( 2.8 to 3.1 inches) in accordance with ASTM D 5852.

C. Substitutions

1. Substitutions will not be allowed without written request and approval from the Architect.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials in designated areas and as recommended by the manufacturer protected from the elements, direct exposure, and damage. Do not drop containers from trucks. Material shall be free of defects that would void required performance or warranty. Deliver geosynthetic binders and synthetic soil binders in the manufacturer's original sealed containers and stored in a secure area.

1. Inspect seed upon arrival at the jobsite for conformity to species and quality. Seed that is wet, moldy, or bears a test date five months or older, shall be rejected.

1.8 WARRANTY

- A. Erosion control material shall have a warranty for use and durable condition for project specific installations. Temporary erosion control materials shall carry a minimum eighteen month warranty. Permanent erosion control materials shall carry a minimum three year warranty.

PART 2- PRODUCTS

2.1 BINDERS

A. Synthetic Soil Binders

1. Calcium chloride, or other standard manufacturer's spray on adhesives designed for dust suppression.

2. BASE BID MANUFACTURER

- a. Soilworks LLC; [www.soilworks.com](http://www.soilworks.com) Model Durasoil; [www.durasoil.com](http://www.durasoil.com).
- b. Other Acceptable Manufacturers:
  - 1) none identified.
  - 2) Substitutions: See Section 01 60 00 - Product Requirements.

B. Geosynthetic Binders

1. Geosynthetic binders shall be manufactured in accordance with ASTM D 1560, ASTM D 2844; and shall be referred to as products manufactured for use as modified emulsions for the purpose of erosion control and soil stabilization. Emulsions shall be manufactured from all natural materials and provide a hard durable finish.
2. BASE BID MANUFACTURER
  - a. Soilworks LLC; www.soilworks.com Model Gorilla Snot; www.gorillasnot.com.
  - b. Other Acceptable Manufacturers:
    - 1) none identified.
    - 2) Substitutions: See Section 01 60 00 - Product Requirements.

## 2.2 MULCH

- A. Mulch shall be free from weeds, mold, and other deleterious materials. Mulch materials shall be native to the region.
- B. Straw:
  1. Straw shall be stalks from oats, wheat, rye, barley, or rice, furnished in air-dry condition and with a consistency for placing with commercial mulch-blowing equipment.
- C. Hay
  1. Hay shall be native hay, sudan-grass hay, broomsedge hay, or other herbaceous mowings, furnished in an air-dry condition suitable for placing with commercial mulch-blowing equipment.
- D. Wood Cellulose Fiber
  1. Wood cellulose fiber shall be 100 percent recycled material and shall not contain any growth or germination-inhibiting factors and shall be dyed with non-toxic, biodegradable dye an appropriate color to facilitate placement during application. Composition on air-dry weight basis: a minimum 9 to a maximum 15 percent moisture, and between a minimum 4.5 to a maximum 6.0 pH.
    - a. Wood cellulose fiber shall not contain environmentally hazardous levels of heavy metals. Materials may be bulk tested or tested by toxicity characteristic leaching procedure (TCLP).
- E. Paper Fiber
  1. Paper fiber mulch shall be 100 percent post-consumer recycled news print that is shredded for the purpose of mulching seed.
- F. Shredded Bark
  1. Locally shredded material shall be treated to retard the growth of mold and fungi.
- G. Wood By-Products
  1. Wood locally chipped or ground bark shall be treated to retard the growth of mold and fungi. Gradation: A maximum 50 mm( 2 inch) wide by 100 mm( 4 inch) long.
- H. Coir
  1. Coir shall be manufactured from 100 percent coconut fiber cured in fresh water for a minimum of 6 months.

1. Mulch control netting and filter fabric may be constructed of lightweight recycled plastic, cotton, or paper or organic fiber. The recycled plastic shall be a woven or nonwoven polypropylene, nylon, or polyester containing stabilizers and/or inhibitors to make the fabric resistant to deterioration from UV, and with the following properties:
  - a. Minimum grab tensile strength (TF 25 #1/ASTM D 4632), 0.8 kN( 180 pounds).
  - b. Minimum Puncture (TF 25 #4/ASTM D 3787), 0.52 MPa( 75 psi) in the weakest direction.
  - c. Apparent opening sieve size of a minimum 40 and maximum 80 (U.S. Sieve Size).
  - d. Minimum Trapezoidal tear strength (TF 25 #2/ASTM D 4533), 0.22 kN( 50 pounds).

J. Hydraulic Mulch

1. Hydraulic mulch shall be made of 100 percent [recycled material][virgin aspen wood fibers]. Wood shall be naturally air-dried to a moisture content of 10.0 percent, plus or minus 3.0 percent. A minimum of 50 percent of the fibers shall be equal to or greater than 5 mm( 0.15 inch) in length and a minimum of 75 percent of the fibers shall be retained on a 28 mesh screen.[ No reprocessed paper fibers shall be included in the hydraulic mulch.] Hydraulic mulch shall have the following mixture characteristics:

CHARACTERISTIC	(typical)VALUE
pH	5.4 + 0.1
Organic Matter (oven dried basis), percent	99.3 within + 0.2
Inorganic Ash (oven dried basis), percent	0.7 within + 0.2
Water Holding Capacity, percent	1,401

K. Dye

1. Dye shall be a water-activated, green color. Pre-package dye in water dissolvable packets in the hydraulic mulch.

2.3 AGGREGATE

- A. Aggregate shall be onsite or offsite material generated from grading and demolition operations, as available. Recycled crushed concrete shall be free of steel, free-draining and graded between a minimum 19 mm( 3/4 inch) and a maximum 38 mm( 1.5 inches). Crushed rock shall be crushed run between a minimum 19 mm( 3/4 inch) and a maximum 38 mm( 1.5 inches). Gravel shall be river run between a minimum 19 mm( 3/4 inch) and a maximum 38 mm( 1.5 inches). Submit sieve test results for both gravel and sand.

2.4 WATER

- A. Unless otherwise directed, water is the responsibility of the Contractor. Water shall be collected rainwater, greywater, potable, supplied by an existing irrigation system or local water purveyor.



## PART 3- EXECUTION

### 3.1 WEATHER CONDITIONS

- A. Perform erosion control operations under favorable weather conditions; when excessive moisture, frozen ground or other unsatisfactory conditions prevail, the work shall be stopped as directed. When special conditions warrant a variance to earthwork operations, submit a revised construction schedule for approval. Do not apply erosion control materials in adverse weather conditions which could affect their performance.
- B. Finished Grade
  - 1. Verify that finished grades are as indicated on the drawings; complete finish grading and compaction in accordance with Division 31 Section - Rough Grading, prior to the commencement of the work. Verify and mark the location of underground utilities and facilities in the area of the work. Repair damage to underground utilities and facilities at the Contractor's expense.

### 3.2 SITE PREPARATION

- A. Soil Test
  - 1. Test soil in accordance with ASTM D 5268 and ASTM D 4972 for determining the particle size and mechanical analysis. Sample collection onsite shall be random over the entire site. The test shall determine the soil particle size as compatible for the specified material.
- B. Protecting Existing Vegetation
  - 1. When there are established lawns in the work area, the turf shall be covered and/or protected or replaced after construction operations. Identify existing trees, shrubs, plant beds, and landscape features that are to be preserved on site by appropriate tags and barricade with reusable, high-visibility fencing along the dripline. Mitigate damage to existing trees at no additional cost to the Government. Damage shall be assessed by a state certified arborist or other approved professional using the National Arborist Association's tree valuation guideline.
- C. Obstructions Below Ground
  - 1. When obstructions below ground affect the work, submit shop drawings showing proposed adjustments to placement of erosion control material for approval.

### 3.3 INSTALLATION

- A. Immediately stabilize exposed soil using stabilizer, mulch, compost, and seed. Stabilize areas for construction access immediately. Install principal sediment basins and traps before any major site grading takes place. Provide additional sediment traps and sediment fences as grading progresses. Provide inlet and outlet protection at the ends of new drainage systems. Remove temporary erosion control measures at the end of construction.
- B. Synthetic Binders
  - 1. Apply synthetic binders heaviest at edges of areas and at crests of ridges and banks to prevent displacement. Apply binders to the remainder of the area evenly at the rate as recommended by the manufacturer.
- C. Seeding

1. When seeding is required prior to installing mulch on synthetic grid systems verify that seeding will be completed in accordance with Sections 31 2200 GRADING.

D. Mulch Installation

1. Install mulch in the areas indicated. Apply mulch evenly at the rate of \_\_\_\_\_ Square per meter (yard).

E. Mulch Control Netting

1. Netting may be stapled over mulch according to manufacturer's recommendations.

F. Mechanical Anchor

1. Mechanical anchor shall be a V-type-wheel land packer; a scalloped-disk land packer designed to force mulch into the soil surface; or other suitable equipment.

G. Wood Cellulose Fiber, Paper Fiber, and Recycled Paper

1. Apply wood cellulose fiber, paper fiber, or recycled paper as part of the hydraulic mulch operation.

H. Hydraulic Mulch Application

1. Unseeded Area

- a. Install hydraulic mulch as indicated and in accordance with manufacturer's recommendations. Mix hydraulic mulch with water at the rate recommended by the manufacturer for the area to be covered. Mixing shall be done in equipment manufactured specifically for hydraulic mulching work, including an agitator in the mixing tank to keep the mulch evenly disbursed.

2. Seeded Area

- a. For drill or broadcast seeded areas, apply hydraulic mulch evenly at the rate of \_\_\_\_\_ per square meter( yard). For hydraulic seeded areas, apply mulch at the rate of \_\_\_\_\_ per square meter( yard) with the seed and fertilizer, and at the rate of \_\_\_\_\_ per square meter( yard) in a second application of mulch only.

I. Sediment Fencing

1. Install posts at the spacing indicated on drawings and at an angle between 2 degrees and 20 degrees towards the potential silt load area. Sediment fence height shall be approximately 406 mm( 16 inches). Do not attach filter fabric to existing trees. Secure filter fabric to the post and wire fabric using staples, tie wire, or hog rings. Imbed the filter fabric into the ground as indicated on drawings. Splice filter fabric at support pole using a 152 mm( 6 inches) overlap and securely seal.

3.4 CLEAN-UP

- A. Dispose of excess material, debris, and waste materials offsite at an approved landfill or recycling center. Clear adjacent paved areas. Immediately upon completion of the installation in an area, protect the area against traffic or other use by erecting barricades and providing signage as required, or as directed.

3.5 WATERING SEED

- A. Start watering immediately after installing erosion control blanket type XI (revegetation mat). Apply water to supplement rainfall at a sufficient rate to ensure moist soil conditions to a minimum 25 mm( 1 inch) depth. Prevent run-off and puddling. Do not drive watering trucks over turf areas, unless otherwise directed. Prevent watering of other adjacent areas or plant material.

3.6 MAINTENANCE RECORD

- A. Furnish a record describing the maintenance work performed, record of measurements and findings for product failure, recommendations for repair, and products replaced.
- B. Maintenance
  - 1. Maintenance shall include eradicating weeds; protecting embankments and ditches from surface erosion; maintaining the performance of the erosion control materials and mulch; protecting installed areas from traffic.
- C. Maintenance Instructions
  - 1. Furnish written instructions containing drawings and other necessary information, describing the care of the installed material; including, when and where maintenance should occur, and the procedures for material replacement.

END OF SECTION 313211



## SECTION 321216- ASPHALT PAVING

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Single course bituminous concrete paving.
- B. Double course bituminous concrete paving.
- C. Surface sealer.
- D. This section compliments and shall be coordinated with Civil Drawing specifications / requirements. The most stringent requirements shall be utilized.
- E. Asphaltic concrete paving for vehicular traffic and curbs, including necessary patching and repair of damaged new and existing paving.
- F. Patching and repair of existing asphaltic concrete paving for previous damage, for underground utility work and where damaged by new construction.

#### 1.2 RELATED REQUIREMENTS

- A. Section 31 22 00 - Grading: Preparation of site for paving and base.
- B. Section 31 23 23 - Fill: Compacted subgrade for paving.
- C. Section 32 11 23 - Aggregate Base Courses: Aggregate base course.
- D. Section 32 13 13 - Concrete Paving: Concrete curbs.
- E. Section 32 17 13 - Parking Bumpers: Concrete bumpers.
- F. Section 32 17 23.13 - Painted Pavement Markings: Concrete bumpers.
  1. Parking and Traffic Control Pavement Markings.
- G. Section 33 05 13 - Manholes and Structures: Manholes, including frames; gutter drainage grilles, covers, and frames for placement by this section.

#### 1.3 REFERENCE STANDARDS

- A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types; The Asphalt Institute; 1997.
- B. AI MS-19 - A Basic Asphalt Emulsion Manual; The Asphalt Institute; Fourth Edition.
- C. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction; 2009a.
- D. Standard Specifications for Public Works Construction, Riverside County, latest edition.
  1. Standard Specifications shall be as amended and adopted by authorities having jurisdiction, including the Riverside County.
  2. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications, as amended and adopted by the authorities having jurisdiction.
  3. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean Owner for purposes of the Contract.
  4. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect for purposes of the Contract.

#### 1.4 SUBMITTALS

- A. Materials List: List source and quality standard for all asphaltic concrete materials.
- B. Weighmaster's Certificates or certified delivery tickets for each truckload of bituminous material delivered to site.
- C. Certificates of Conformance: Asphalt, aggregate and sterilant materials.
- D. Mix Designs: Submit designs for asphaltic concrete prepared by a materials laboratory under direct supervision of a Civil Engineer licensed in the State of California or a standard mix design proven in actual performance.

#### 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Local Public Works Standards.
- B. Mixing Plant: Conform to Local Public Work Standards.
- C. Testing and analysis of granular base material and asphaltic concrete paving mix shall be performed under provisions of Division 1.
- D. Obtain materials from same source throughout.

#### 1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for paving work on public property.
- B. Where reference is made to Standard Specifications, the following shall apply.
  - 1. Perform off-site Work in public rights-of-way in accordance with requirements of authorities having jurisdiction.
    - a. Including Standard Specifications for Public Works Construction, as amended and adopted by those authorities.
    - b. For conditions not indicated otherwise on Contract Drawings, conform to Standard Details adopted by authorities having jurisdiction, including Standard Details for Public Works Construction, as amended and adopted by those authorities.
  - 2. Perform on-site Work as indicated and referenced on Contract Drawings and as specified herein.
- C. The quantity of volatile organic compounds (VOC) used in weed killer, tack coat, primer and other materials shall not exceed limits permitted under current regulations of South Coast Air Quality Management District (AQMD).

#### 1.7 FIELD CONDITIONS

- A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F (4 degrees C), or surface is wet or frozen; or when rain is imminent.
- B. Place bitumen mixture when temperature is not more than 15 F degrees (8 C degrees) below bitumen supplier's bill of lading and not more than maximum specified temperature.

## PART 2- PRODUCTS

### 2.1 MATERIALS

- A. General: Aggregate base, prime coat paint binder, bituminous surface course and other materials shall be as noted on the Contract Drawings and shall comply with requirements of authorities having jurisdiction.
- B. Asphalt Cement: ASTM D 946.
- C. Aggregate for Base Course: Angular crushed washed stone; free of shale, clay, friable material and debris.
  - 1. Graded in accordance with ASTM D2487 Group Symbol GW.
  - 2. Crushed Aggregate Base in accordance with Standard Specifications, Subsection 200-2.2.
- D. Asphalt Concrete Materials: Standard Specifications (Green Book), Subsection 203-6.
- E. Aggregate for Binder Course: Angular crushed washed stone; free of shale, clay, friable material and debris.
  - 1. Graded in accordance with ASTM D2487 Group Symbol GW.
- F. Aggregate for Wearing Course: Angular crushed washed stone; free of shale, clay, friable material and debris.
  - 1. Graded in accordance with ASTM D2487 Group Symbol GW.
- G. Fine Aggregate: Sand.
- H. Mineral Filler: Finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter.
- I. Primer: Homogeneous, medium curing, liquid asphalt.
- J. Tack Coat: Emulsified asphalt.
- K. Seal Coat: AI MS-19, slurry type.
  - 1. Guard Top by Industrial Asphalt Inc., Irwindale, CA.
  - 2. Satin Seal by Blue Diamond Co., Long Beach, CA.
  - 3. Over-Kote by Diversified Asphalt Products, Anaheim, CA.
  - 4. Substitutions: See Section 01 60 00 - Product Requirements.

### 2.2 ASPHALT PAVING MIXES AND MIX DESIGN

- A. Asphalt Paving Mix:
  - 1. Standard Specifications, PG-64-10.
  - 2. Standard Specifications, C2-AR-4000.
- B. Use dry material to avoid foaming. Mix uniformly.
- C. Base Course: 3.0 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.
- D. Binder Course: 4.5 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.
- E. Wearing Course: 5 to 7 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

## 2.3 SOURCE QUALITY CONTROL

- A. Test mix design and samples in accordance with AI MS-2.

## 2.4 ACCESSORIES

- A. Headers and Stakes: 2 x 6 inch (50 x 305 mm) nominal preservative treated douglas fir (PTDF), except at curves provide laminated 1 x 6 inch (25 x 305 mm) nominal preservative treated douglas fir. Stakes, 2 x 3 x 18 inch (50 x 150 x 457 mm) long PTDF at 48 inch (1219 mm) on center maximum. Use hot dipped galvanized nails only.
- B. Pavement Reinforcing Fabric: Petromat by Amoco Fabrics and Fibers Co., Austell, GA (800) 445-7732, or approved equal. Non-woven polypropylene fabric conforming to Standard Specifications, Subsection 213-1.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Refer to geotechnical report referenced in section 00 31 00 - Available Project Information, provided under separate cover, notes on Contract Drawings, and requirements of authorities having jurisdiction.
- B. Verify that compacted subgrade and granular base is dry and ready to support paving and imposed loads.
- C. Verify gradients and elevations of base are correct.
- D. Fine grading, checking, shaping, and compacting of subgrade shall be complete before start of asphaltic concrete Work.
- E. Soil Sterilant: Sterilize soil areas to receive asphaltic concrete paving. Apply soil sterilant in accordance with manufacturer's instructions and applicable environmental regulations. Take care to confine application to the areas to be paved. See Section 32 11 23 - Aggregate Base Courses for product information.
- F. Curbs and Gutters: Gutters shall be in place and cured prior to start of asphaltic concrete Work. Provide lumber ramping at all locations where rolling equipment or vehicles cross new concrete paving, curbs and gutters.
- G. Headers: Place headers with tops flush with finish asphaltic concrete surfaces. Back headers with stakes.

### 3.2 BASE COURSE

- A. Place and compact base course.

### 3.3 PREPARATION - PRIMER

- A. Apply primer in accordance with Local Municipality Public Work's Standards.
- B. Apply primer on aggregate base or subbase at uniform rate of 0.25 gal/sq yd (0.80 L/sq m).
- C. Apply primer to contact surfaces of curbs, gutters.
- D. Use clean sand to blot excess primer.

### 3.4 PREPARATION - TACK COAT

- A. Apply tack coat in accordance with manufacturer's instructions.



- B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 0.10 gal/sq yd (0.32 L/sq m).
- C. Apply tack coat to contact surfaces of curbs, gutters and previously placed or existing paving.
- D. Coat surfaces of manhole frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.
- E. Joining Pavement: Expose, cut and clean edges of existing pavement to straight, vertical surfaces for full depth of existing pavement. Paint edge with asphalt emulsion before placing new asphaltic concrete. Joints in new paving shall be in accordance with Standard Specifications.

### 3.5 PLACING ASPHALT PAVEMENT - SINGLE COURSE

- A. Install Work in accordance with Municipality of Riverside County Public Work's standards.
- B. Place asphalt within 24 hours of applying primer or tack coat.
- C. Place thickness as indicated on Civil Drawings to minimum 2 inch (51 mm) compacted thickness.
- D. Install gutter drainage grilles and frames and manhole frames in correct position and elevation.
- E. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position.
  - 1. Compact (roll) asphaltic concrete in accordance with Standard Specifications, Subsection 302-5.6, using machine rollers.
    - a. Compaction by vehicular traffic is prohibited.
    - b. Compact areas inaccessible to rolling equipment with machine-powered tamper.
- F. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

### 3.6 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

- A. Install Work in accordance with Standard Specifications, Subsection 302-5.
- B. Place asphalt binder course within 24 hours of applying primer or tack coat.
- C. Place binder course to thickness as indicated on Civil Drawings, minimum 2 inch (51 mm) compacted thickness.
- D. Place wearing course within two hours of placing and compacting binder course.
- E. Place wearing course to thickness as indicated on Civil Drawings, minimum 2 inch (51 mm) compacted thickness.
- F. Install gutter drainage grilles and frames and manhole frames in correct position and elevation.
- G. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position.
  - 1. Compact (roll) asphaltic concrete in accordance with Standard Specifications, Subsection 302-5.6, using machine rollers.
    - a. Compaction by vehicular traffic is prohibited.

- b. Compact areas inaccessible to rolling equipment with machine-powered tamper.
  - H. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.
- 3.7 CURBS
  - A. Install extruded asphalt curbs of standard profile as indicated.
- 3.8 SEAL COAT
  - A. Apply seal coat after surface course application, in accordance with manufacturer's recommendations.
  - B. Apply seal coat to surface course and asphalt curbs in accordance with Standard Specifications (Green Book), Subsection 302-8.2.
  - C. Add water to specified seal coat material. When air temperatures of 90 degrees F or more are encountered during application, consult manufacturer for recommendations.
  - D. If pavement surface exhibits imperfections of roller marks, rock pockets, ridges or depressions as determined by the Architect, the addition of sand aggregate to seal coat, and amounts thereof, shall be as recommended by the manufacturer.
  - E. A second application shall be made after first coat has dried to the touch. When sand is added to the first seal coat, two additional coats without extra sand shall be applied.
  - F. Allow seal coat to dry before permitting traffic or striping.
- 3.9 PAVEMENT REPAIR AND PAVING
  - A. Preparation of existing pavement: Where indicated, remove loose asphaltic concrete, cleanout "pot holes" and cracks, remove dirt, oil and other foreign materials.
  - B. Repair holes with full paving section as specified. Repair "alligatoring" with asphalt "skin-patch". Fill all cracks larger than 1/4 inch (6 mm) wide with asphalt emulsion slurry.
  - C. Tack Coat: Apply asphalt oil AR-4000 or AR-8000, as required for jobsite condition, at metered application rate of no less than a range from .2 to .3 gallons per square yard of fabric or as directed by manufacturer and to provide 100 percent fabric saturation and ample bonding for paving section.
  - D. Fabric Reinforcement: Place fabric smooth side up in tack coat with 2 to 4 inch overlap. Hand-broom to remove wrinkles. Apply additional tack coat to joints and between overlapped fabric layers.
  - E. Overlay Asphalt: Place single course asphalt, 1-1/2 inch (38 mm) compacted thickness, in conformance with specified standards in this section.
- 3.10 TOLERANCES
  - A. Flatness: Maximum variation of 1/4 inch (6 mm) measured with 10 foot (3 m) straight edge.
  - B. Compacted Thickness: Within 1/4 inch (6 mm) of specified or indicated thickness.
  - C. Variation from True Elevation: Within 1/2 inch (12 mm).

3.11 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for quality control.
- B. Provide field inspection and testing. Take samples and perform tests in accordance with AI MS-2.
- C. Test: Flood test all paving to demonstrate positive drainage. No standing water shall remain 1 hour after test.

3.12 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury for 2 days or until surface temperature is less than 140 degrees F (60 degrees C).
  - 1. After final rolling, prohibit all traffic on asphaltic concrete until mix has fully cooled and set. Minimum time, in all cases shall be 6 hours.

3.13 CLEANING

- A. After completion of paving operations, clean all existing and new improvements that have been soiled, especially by oil tracking from asphalt tanks or placement in general.
- B. For Substantial Completion review, broom clean and wash paving with hoses. Clean residue from landscaping installation.

END OF SECTION 321216



## SECTION 321313- CONCRETE PAVING

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Concrete sidewalks, integral curbs, and gutters.
- B. Integrally colored Portland cement concrete paving.

#### 1.2 RELATED REQUIREMENTS

- A. Section 31 22 00 - Grading: Preparation of site for paving and base.
- B. Section 31 23 23 - Fill: Compacted subbase for paving.
- C. Section 32 17 26 - Tactile Warning Surfacing: Plastic tactile and detectable warning tiles for pedestrian walking surfaces.
- D. Section 32 17 23.13 - Painted Pavement Markings: Pavement markings.

#### 1.3 REFERENCE STANDARDS

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- B. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010 (Errata 2012).
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- D. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.
- E. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 2010.
- F. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2014 is current; use 2004a as indicated in 2013 CBC Referenced Standards.
- G. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2011a is current; use 2003 as indicated in 2013 CBC Referenced Standards.
- H. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2014.
- I. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2014 is current; use 2004a as indicated in 2013 CBC Referenced Standards.
- J. ASTM C150/C150M - Standard Specification for Portland Cement; 2012 is current; use 2007 as indicated in 2013 CBC Referenced Standards.
- K. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.
- L. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- M. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); 2004 (Reapproved 2013).

- N. ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction; 2004a (Reapproved 2013).
- O. Standard Specifications for Public Works Construction, Riverside County, latest edition.
  - 1. Standard Specifications shall be as amended and adopted by authorities having jurisdiction, including the Riverside County.
  - 2. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications, as amended and adopted by the authorities having jurisdiction.
  - 3. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean Owner for purposes of the Contract.
  - 4. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect for purposes of the Contract.

#### 1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Mix Design: Design mixes for each concrete mix.
- C. Product Data: Provide data on joint filler, admixtures, and curing compound.
  - 1. Material Certificates signed by manufacturers for each of the following:
    - a. Cementitious materials and aggregates.
    - b. Steel reinforcement and reinforcement accessories.
    - c. Admixtures.
    - d. Curing compounds.
    - e. Joint fillers.
  - 2. Colored concrete product data and color selections.
- D. Samples: Submit two sample panels, 12 x 12 inch (300 x 300 mm) in size illustrating exposed aggregate finish.
- E. Shop drawings: For pattern layout and verification.

#### 1.5 QUALITY ASSURANCE

- A. Industry Standard: Perform concrete paving Work in accordance with ACI 301.
- B. Regulatory Requirements: Where reference is made to Standard Specifications, the following shall apply.
  - 1. Where reference is made to Standard Specifications, the following shall apply:
    - a. Perform off-site Work in public rights-of-way as indicated on the Contract Drawings and in accordance with requirements of authorities having jurisdiction, including Standard Specifications for Public Works Construction, as amended and adopted those authorities.
      - 1) For conditions not indicated otherwise on Contract Drawings, conform to Standard Details adopted by authorities having jurisdiction, including Standard Details for Public Works Construction, as amended and adopted those authorities.
    - b. Perform on-site Work as indicated and referenced on the Contract Drawings and as specified herein.

2. Conform to Standard Specifications for Public Works Construction.
  3. Conform to California Code of Regulations (CCR), Volume 2, Part 2, Chapters 18A and 19A.
  4. Conform to California Building Code (CBC), Chapter 11B and ADAAG for accessibility requirements.
    - a. Concrete paving and concrete finishes along accessible routes of travel shall 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; CBC 11B-403.2.
  5. Comply with OSHA and Cal-OSHA requirements.
  6. Continuous surfaces, including walks and sidewalks, shall have a continuous common surface, not interrupted by steps or by abrupt changes in level exceeding 1/4 inch (3 mm) vertical (CBC 11B-303.2), or beveled at 1:2 slope to a maximum height of 1/2 inch (12 mm) (CBC 11B-303.3) and shall have a minimum width of 48 inches (1219 mm); CBC 11B-403.5.1.
  7. Surface cross slopes shall not exceed 2 percent on any accessible path of travel.
- C. Source Quality Control: Obtain like materials from one source throughout.
- D. Lines and Levels: Established by State of California licensed Surveyor or registered Civil Engineer. Costs of surveying services shall be included in the Contract Sum.

#### 1.6 MOCK-UP

- A. Install minimum 48 x 48 inch (1219 x 1219 mm) mock-up of concrete flatwork for each texture or color specified.
- B. Install mock-up one month prior to installation, located where directed by Architect.
- C. Use identical forming system, subgrade type, reinforcing, expansion joints, score joints, finishing and edge trim as specified for installation.
- D. Architect approval required prior to proceeding with finish installation. Acceptable sample shall serve as quality basis for evaluating subsequent work.
  1. Refinish mock-up area as required to produce acceptable work.
  2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
- E. Mock-up may not be used in final installation. Remove mock-up materials from site and dispose of legally.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Delivery, Storage and Handling: Comply with requirements specified for regular concrete in Section 03 30 00 - Cast in Place Concrete.

### PART 2- PRODUCTS

#### 2.1 PAVING ASSEMBLIES

- A. Comply with applicable requirements of ACI 301.
- B. Concrete Sidewalks: 3,250 psi (17.2 MPa) 28 day concrete, thickness as indicated on Drawings, minimum 4 inches (100 mm), natural grey color Portland cement.

- C. Parking Area Pavement: 3,250 psi (20.7 MPa) 28 day concrete, thickness as indicated on Civil Drawings thick, #4 reinforcing bars, 18 inches on center, each direction at the mid-height of the slab, finish as indicated on Drawings.

## 2.2 FORM MATERIALS

- A. Wood form material, profiled to suit conditions.
- B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D 1751) or sponge rubber or cork (ASTM D 1752).
  - 1. Thickness: 1/2 inch (12 mm).

## 2.3 REINFORCEMENT

- A. General: As indicated on Drawings and specified following. Reinforcement for portland cement concrete paving in public rights-of-way shall comply with all applicable requirements in the Standard Specifications for Public Works Construction and Standard Details, as adopted by local authorities having jurisdiction.
- B. Reinforcing Steel: ASTM A615/A615M Grade 60 (420); deformed billet steel bars; unfinished finish.
  - 1. Unless detailed otherwise on Drawings, provide number 4 reinforcing bars at 24 inches (610 mm) on center, each way.
- C. Tie Wires: 18 gage minimum, black annealed steel.
- D. Construction Joint Reinforcing:
  - 1. Dowels: ASTM A615/A615M, Grade 60 - 60,000 psi (420 MPa) yield strength; deformed billet steel bars; unfinished finish.

## 2.4 PERFORMANCE REQUIREMENTS

- A. Albedo reflectance of finish concrete shall be minimum 0.30.

## 2.5 CONCRETE MATERIALS

- A. Obtain cementitious materials from same source throughout.
- B. Cement: ASTM C150/C150M Sulfate Resistant - Type V portland type, grey color.
- C. Fine and Coarse Mix Aggregates: ASTM C33/C33M.
- D. Water: Clean, and not detrimental to concrete.
- E. Color Additives: Pure, concentrated mineral pigments specifically intended for mixing into concrete and complying with ASTM C979.
  - 1. Concentration: Base dosage rates on weight of Portland cement, fly ash, silica fume, and other cementitious materials but not aggregate or sand.
  - 2. Packaging: If pigments are to be added to mix at site, furnish pigments in premeasured disintegrating bags to minimize job site waste.
  - 3. Color(s): As selected by Architect from manufacturer's full range.
    - a. Allow for three different pigment colors.
  - 4. Products:
    - a. BRICKFORM; BRICKFORM Liquid Integral Color: [www.brickform.com](http://www.brickform.com).
    - b. Butterfield Color: [www.butterfieldcolor.com](http://www.butterfieldcolor.com).



- c. Davis Colors: [www.daviscolors.com](http://www.daviscolors.com).
  - d. Lambert Corporation: [www.lambertusa.com](http://www.lambertusa.com).
  - e. L.M. Scofield Company: [www.scofield.com](http://www.scofield.com).
  - f. Solomon Colors: [www.solomoncolors.com](http://www.solomoncolors.com).
  - g. Substitutions: See Section 01 60 00 - Product Requirements.
- F. Chemical Admixtures: ASTM C494/C494M, Type A - Water Reducing, Type B - Retarding, Type D - Water Reducing and Retarding, Type F - Water Reducing, High Range, and Type G - Water Reducing, High Range and Retarding.
- 1. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- 2.6 ACCESSORIES
- A. Liquid Curing Compound: ASTM C 309, Type 1, Class A. Comply with all applicable air pollution requirements.
  - B. Liquid Surface Sealer:
    - 1. High solids, acrylic curing and sealing compound: Minimum 30% non-yellowing, acrylic solids curing compound; shall conform to ASTM C 309 and ASTM C 1315, Type I, Class A, VOC compliant.
      - a. Acceptable Products:
        - 1) L&M Construction Chemicals, Inc.; Dress & Seal WB: [www.lmcc.com](http://www.lmcc.com).
        - 2) L.M. Scofield Company; Cureseal-W: [www.scofield.com](http://www.scofield.com).
        - 3) W. R. Meadows Company; Decra-Seal W/B: [www.wrmeadows.com](http://www.wrmeadows.com).
        - 4) Substitutions: See Section 01 60 00 - Product Requirements.
  - C. Surface Retarder:
    - 1. Color: As selected by Architect from manufacturer's custom range.
    - 2. Acceptable Products:
      - a. Preco EAC-S, manufactured by Fosroc, Inc., Georgetown, KY, or approved equal.
      - b. WR Grace; Grace Top Cast: [www.graceconstruction.com](http://www.graceconstruction.com)
      - c. Substitutions: See Section 01 60 00 - Product Requirements.
  - D. Tactile Warning Surfaces: See Section 32 17 26.
  - E. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C920, Class 25, Uses T, I, M and A; single component.
    - 1. Color: Gray.
    - 2. Applications: Use for:
      - a. Joints in sidewalks and vehicular paving.
    - 3. Products:
      - a. Pecora Corporation; NR-201 Self-Leveling Traffic and Loop Sealant: [www.pecora.com](http://www.pecora.com).
      - b. BASF Construction Chemicals-Building Systems: [www.buildingsystems.basf.com](http://www.buildingsystems.basf.com).
      - c. Sherwin-Williams Company; Stampede 1SL Polyurethane Sealant: [www.sherwin-williams.com](http://www.sherwin-williams.com).

- d. Substitutions: See Section 01 60 00 - Product Requirements.
  - F. Soil Sterilant: As specified in Standard Specifications for Public Works Construction. Soil sterilant shall comply with all applicable environmental protection and hazardous materials laws and regulations.
    - 1. See Section 32 11 23 - Aggregate Base Course for product.
  - G. Headers and Stakes: Pressure preservative treated douglas fir, 2 x 6 inch (50 x 150 mm) nominal size except at curves provide laminated 1 x 6 inch (25 x 150 mm). Use hot dipped galvanized nails only.
  - H. Expansion Joint Filler: ASTM D1751, premolded, compressible 1/2 inch (12 mm) thick non-extruding bituminous type resilient filler, compatible with joint backing and sealing products.
- 2.7 PATTERN STAMPED CONCRETE:
- A. Stamping Patterns: Lithotex Pavecrafters by L.M. Scofield Company, Los Angeles, CA (800/800-9900); www.scofield.com.
    - 1. Alternate Manufacturers:
      - a. The Bomanite Company; www.bomanite.com
    - 2. Substitutions: See Section 01 60 00 - Product Requirements.
  - B. Pattern-matched interlocking tools, manufacturer's rigid design.
  - C. Pattern as indicated.
    - 1. Provide custom pattern where indicated or not included in manufacturer's standard selections.

2.8 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Mix for Pedestrian (Sidewalk) Pavements, Natural Color, unless indicated otherwise: Standard Specification for Public Works Construction, Section 201-1.1.2 - Class 520-B-3000, with minimum slump of 4-inches, except concrete paving in public rights of way shall be as required authorities having jurisdiction.
- C. Concrete Mix for Trash Enclosure and other Exterior Slabs on Grade: ASTM C94 - Ready-Mixed Concrete, Alternative No. 2, minimum 28 day compressive strength as indicated on Drawings or, if not indicated, 3,000 psi.
- D. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
  - 1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
- E. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
  - 1. Use accelerating admixtures in cold weather or set retarding admixtures in hot weather only when approved by Architect. Do not use calcium chloride.
- F. Colored Concrete: Add pigments in strict accordance with manufacturer's instructions to achieve consistent color from batch to batch.
- G. Concrete Properties:

1. Compressive strength, when tested in accordance with ASTM C39/C39M at 28 days; As scheduled.
2. Water-Cement Ratio: Maximum 40 percent by weight.
3. Maximum Slump: 4 inches (100 mm).

## 2.9 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Verify compacted stabilized soil is acceptable and ready to support paving and imposed loads.
  1. Provide as indicated on Civil Drawings, as specified in Earthwork Sections and as recommended in geotechnical report reference in Section 02 32 00 - Geotechnical Data.
- B. Fine grading, checking, shaping, and compacting of subgrade shall be complete before start of concrete paving Work.
- C. Verify gradients and elevations of base are correct.

### 3.2 SUBBASE

- A. See Section 32 11 23 Aggregate Base Course for construction of base course for work of this Section.
- B. For pavement subject to vehicular traffic, provide sub-base and aggregate base material specified in Section 32 11 23 - Aggregate Base Courses and as indicated on the Drawings.
- C. Aggregate base is not required under Portland cement concrete paving subject only to pedestrian traffic in normal use.

### 3.3 PREPARATION

- A. Project Conditions:
  1. Water and Dust Control: Maintain control of concrete dust and water at all times. Do not allow adjacent planting areas to be contaminated.
  2. Do not place pavement when base surface or ambient temperature is less than 40 degrees F (4 degrees C) or if base surface is wet or frozen.
  3. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Moisten base to minimize absorption of water from fresh concrete. Do not place concrete on standing water.
- C. Coat surfaces of manhole frames with oil to prevent bond with concrete pavement.
- D. Notify Architect minimum 24 hours prior to commencement of concreting operations.

- E. Curbs and Gutters: Schedule portland cement concrete curbs and gutters to be in place and cured prior to start of adjoining asphaltic concrete and portland cement concrete paving Work.

### 3.4 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.
  - 1. Surfaces and Edges: Except where special finishes and tooled edges are indicated, provide all exposed finish surfaces of dense concrete with sharp arises and outside corners.
  - 2. Recesses and Openings: As indicated on Drawings or as directed.
- B. Concrete Formwork:
  - 1. Construct formwork accurately and to configurations and dimensions indicated for finish concrete Work.
  - 2. Formwork shall be substantial, mortar-tight and braced to maintain position and shape during placement of reinforcing and concrete.
  - 3. Hold forms rigidly in place by stakes, clamps, spreaders and braces where required to ensure rigidity.
  - 4. Curbs:
    - a. Construct curb forms with smooth side placed next to exposed concrete face.
    - b. Curb forms shall have true, smooth upper edge.
    - c. Depth of curb forms at back of curbs shall be equal to full depth of curb.
    - d. Depth of face forms shall be equal to full face height of curb.
    - e. Benders or thin plank forms may be used to form curves and at grade changes and curb returns.
    - f. Back forms for curb returns may be made of 1/2 inch (12 mm) thick benders cleated together for full depth of the curb.
  - 5. Formwork shall not deviate more than 1/4 inch (6 mm) maximum from required positions and levels.
  - 6. Verify formwork alignment and levels as Work proceeds, promptly making adjustments and adding bracing as necessary.
- C. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
  - 1. Remove the form on the front of curbs in not less than one hour nor more than 6 hours after the concrete has been placed.
  - 2. Remove side forms for sidewalks, gutter depressions, island paving and driveways, not less than 12 hours after the finishing has been completed.
- D. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

### 3.5 REINFORCEMENT

- A. Place reinforcement at midheight of slabs-on-grade.
- B. Reinforcement Placement, General: Locate reinforcement as indicated on Drawings or in Standard Specifications, whichever is more stringent.

1. Locate reinforcement to provide required cover by concrete. If not otherwise indicated on Drawings or in Standard Specifications, provide concrete cover in compliance with ACI 318, Table 3.3.2.3.
  2. Place, support and secure reinforcement against displacement.
- C. Reinforcement Spacing: Space reinforcement as indicated on Drawings or in Standard Specifications, whichever is more stringent. If not indicated, maintain clear spacing of two times bar diameter but not less than 1-1/2 inch (38 mm) nor less than 1-1/3 times maximum size aggregate.
- D. Coordination: Locate reinforcement to accommodate embedded products and formed openings and recesses.
- E. Reinforcement Supports: Provide load bearing pads under supports or provide precast concrete block bar supports.
- F. Interrupt reinforcement at contraction and expansion joints.
- G. Place dowels to achieve pavement and curb alignment as detailed.
1. Secure tie dowels in place before depositing concrete. Provide No. 3 bars, 18 inch (457 mm) long at 24 inches (610 mm) O.C. for securing dowels where no other reinforcement is provided.

### 3.6 COLD AND HOT WEATHER CONCRETING

- A. Follow recommendations of ACI 305R when concreting during hot weather.
- B. Follow recommendations of ACI 306R when concreting during cold weather.
- C. Do not place concrete when base surface temperature is less than 40 degrees F (4 degrees C), or surface is wet or frozen.

### 3.7 PLACING CONCRETE

- A. Mixing: If batch plant is within travel time not exceeding maximum limits, transit mix concrete in accordance with ASTM C94. If travel time exceeds limits, provide alternative means for mixing and submit for review and approval.
- B. Colored Concrete: Add pigments in strict accordance with manufacturer's instructions to achieve consistent color from batch to batch.
- C. Place concrete in accordance with ACI 304R.
- D. Do not place concrete when base surface is wet.
- E. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.
- F. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
- G. Use internal vibration to consolidate concrete around reinforcing per industry guidelines.
- H. Place concrete to pattern indicated.

### 3.8 JOINTS

- A. Align curb, gutter, and sidewalk joints.
- B. Place 1/2 inch (12 mm) wide expansion joints as indicated on Drawings (if not indicated provide at 20 foot (6 m) intervals) and to separate paving from vertical surfaces and other components and in pattern indicated.

1. Place in all concrete walks, other exterior flatwork and concrete curbs and gutters.
  2. If expansion joints are not indicated, comply with standard details and specifications of authorities having jurisdiction, including Standard Details for Public Works Construction and Standard Specification for Public Works Construction, as applicable.
  3. Place expansion control filler to correct elevation and profile. Form joints with joint filler extending from bottom of pavement to within 1/2 inch (13 mm) of finished surface.
  4. Secure to resist movement by wet concrete.
  5. Coordinate locations to align expansion joints in adjoining concrete walks, curbs, gutters and other exterior flatwork.
  6. Provide expansion joints also at beginning and end of all curved segments.
  7. Provide expansion joints also at intersections of concrete curbs and gutters and building footing.
  8. Provide expansion joints also at intersections of concrete paving and building footing.
  9. Lay out expansion joint locations to occur where possible at penetrations such as handrail posts and columns.
  10. Place expansion control filler to correct elevation and profile.
- C. Provide scored joints:
1. As indicated on Drawings. If not indicated, locate joints in compliance with Standard Details and as indicated below.
  2. Evenly spaced at maximum 5 feet (1.5 m) intervals for vehicular paving and 5 feet (1.5 m) for pedestrian paving.
  3. Between sidewalks and curbs.
  4. Between curbs and pavement.
  5. Lay out control joint locations to occur at penetrations such as handrail posts and columns and where shown on Drawings.
  6. Refer to Architectural, Landscape and Civil Drawings for additional information and joint locations.
- D. Provide keyed joints as indicated.
- E. Saw cut contraction joints 1/8 inch (3 mm) wide at an optimum time after finishing. Cut 1/3 into depth of slab.

### 3.9 EXPOSED AGGREGATE

- A. Wash scheduled concrete surfaces with acid etch solution exposing aggregate to match sample panel.
- B. Decorative Scoring at Exposed Aggregate Flatwork: Pattern as indicated.
1. Use saw-cuts 1/8-inch wide by one-fourth of slab depth, unless otherwise indicated. Commence work as soon as possible after concrete placement as recommended by Soff-Cut International, Corona, CA (800/776-3328).

### 3.10 FINISHING

- A. Concrete Paving Finish: ACI 301, two-step trowel finish, followed after surface has achieved initial set by flooding of surface and light rubbing with bristle brush so that concrete fines are exposed slightly.
  - 1. Finish surface less than 6 percent shall receive medium broom finish resembling medium grit sandpaper. CBC 11B-403 and 11B-302.1.
  - 2. Finish surface greater than 6 percent shall receive heavy broom finish. CBC 11B-403 and 11B-302.1.
  - 3. Surfaces shall have static coefficients of friction of 1.3 to 1.6 (dry) and 1.2 to 1.4 (wet) when field tested in accordance with ASTM C1028.
- B. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/8 inch (3 mm) radius.
  - 1. Broomed: Pull broom across freshly floated concrete to produce medium texture in straight lines perpendicular to main line of traffic. Do not dampen brooms.
  - 2. Tooled Joints: 1-inch deep by 3/16-inch wide tooled joints with 1/8-inch radius corners.
- C. Enhanced Sidewalk Paving: Light sandblast look finish using surface retarder.
  - 1. Apply surface retarder in strict compliance with manufacturer's specifications and instructions.
  - 2. Surface retarder shall be applied after concrete surface has been finished and while concrete is still moist.
    - a. Apply with a Hudson type sprayer with an adjustable or fan type nozzle with a 3-.5 gpm flow rate.
      - 1) Apply at the rate of 175-350 sf/gal.
    - b. Once surface retarder is applied, protect per manufacturer's specifications.
    - c. Begin washing surface retarder off surface of concrete after 12 to 16 hours.
      - 1) Wash with a power washer with 1500 psi and a 25 degree fan nozzle.
      - 2) Keep power washer tip 6 to 10 inches away from surface of concrete to avoid deep scour marks.
      - 3) A stiff bristle brush may be used to help achieve the desired finish.
      - 4) Wash until clear water runs off the surface of the concrete paving.
    - d. Allow concrete to dry and cure before applying sealer.
    - e. Apply sealer per sealer manufacturer's specifications.
- D. Curbs and Gutters: Comply with Standard Specifications.
- E. Specific Finishes:
  - 1. Salt Finish (Rock Salt):
    - a. Tamp concrete sufficiently to bring fines to surface. Bring to required grade with wood floats and steel trowel smooth.
    - b. Apply heavy textured salt finish, composed of particles 1/4-inch to 3/8-inch in size on approximately 80 percent of each square foot of concrete surface.
      - 1) Sprinkle salt on concrete and press into surface leaving only tops of salt grains exposed.
    - c. After 24 hours, wash salt away with water and brush.
    - d. Allow surface and impressions to dry before applying curing compound.

- e. Match approved mock-up sample panel.
2. Trowel: Precautions should be taken to ensure that the surface is uniformly troweled so that it is not slippery. Do not over-trowel or burnish the surface.

F. Curing and Sealing:

1. Place sealer on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.
2. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 Plastic Shrinkage Cracking published by the National Ready Mixed Concrete Association.
3. Do not cover concrete with plastic sheeting.

3.11 JOINT SEALING

- A. See Section 07 92 00 - Joint Sealants for joint sealer requirements.

3.12 TOLERANCES

- A. ACI 301, Class B, except paving in public rights-of-way shall comply with the Standard Specifications.
- B. Maximum Variation of Surface Flatness: 1/4 inch (6 mm) in 10 ft (3 m).
- C. Maximum Variation From True Position: 1/4 inch (6 mm).

3.13 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
  1. Provide free access to concrete operations at project site and cooperate with appointed firm.
  2. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
  3. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- B. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 75 cu yd (57 cu m) or less of each class of concrete placed each day.
  1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
  2. Perform one slump test for each set of test cylinders taken.
- C. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

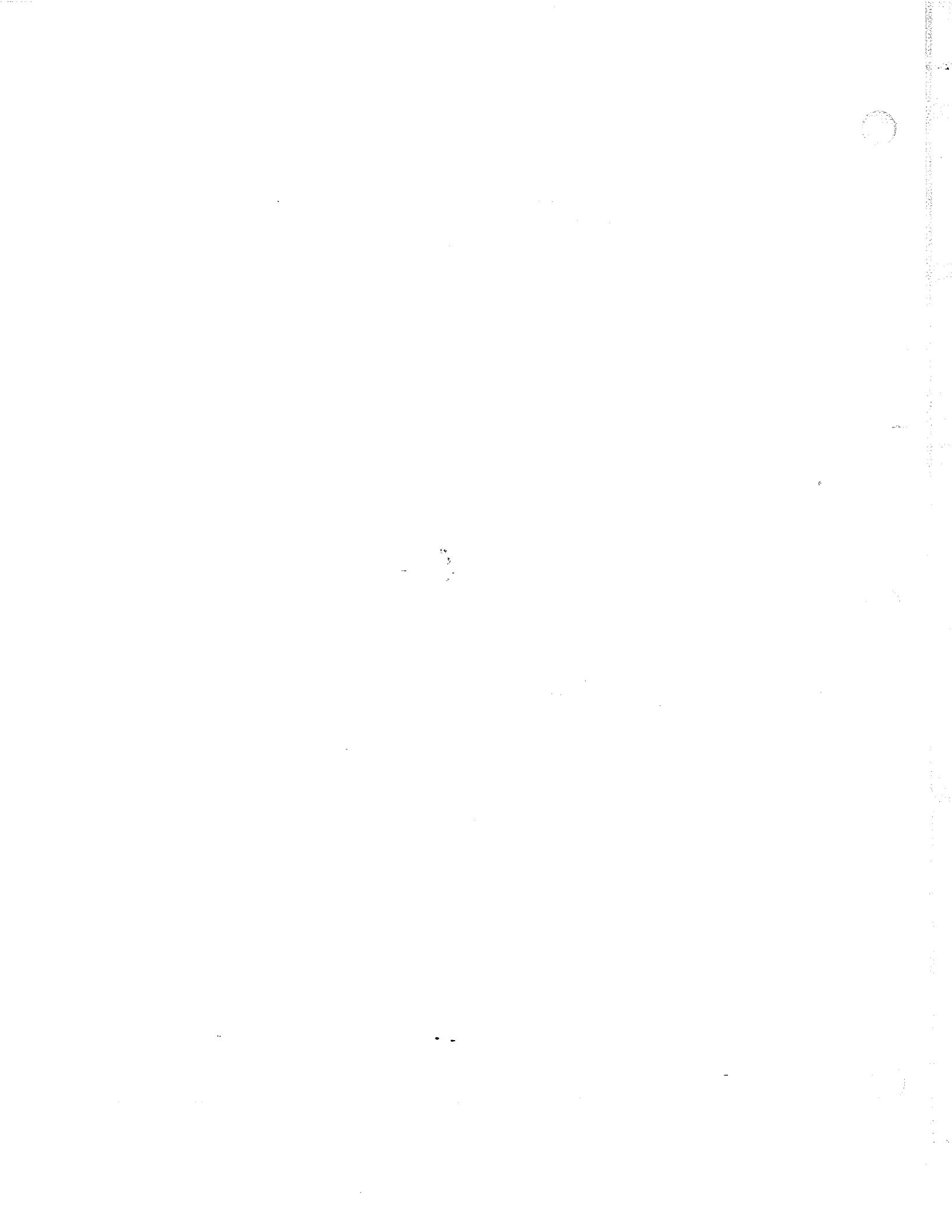
3.14 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian or vehicular traffic over pavement until 75 percent design strength of concrete has been achieved.



- C. Prohibit all vehicular traffic across pedestrian paving unless suitable base and reinforcement have been added.
- D. Provide lumber ramping and plywood covering where curbs and gutters are subject to vehicular and equipment traffic during construction.
- E. Provide protection of colored concrete in accordance with colored concrete manufacturer's instructions and recommendations.

END OF SECTION 321313



## SECTION 321713-PARKING BUMPERS

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Precast concrete parking bumpers and anchorage.

#### 1.2 REFERENCE STANDARDS

- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2014.
- B. ASTM C150/C150M - Standard Specification for Portland Cement; 2012.
- C. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.
- D. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2014.

#### 1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide unit configuration, dimensions.

### PART 2- PRODUCTS

#### 2.1 MATERIALS

- A. Parking Bumpers: Precast concrete, conforming to the following:

PART 1 - 1. Cement: ASTM C150, Portland Type I - Normal; white color.

PART 2 - 2. Concrete Materials: ASTM C330/C330M aggregate, water, and sand.

PART 3 - 3. Reinforcing Steel: ASTM A615/A615M, deformed steel bars; unfinished, strength and size commensurate with precast unit design.

PART 4 - 4. Air Entrainment Admixture: ASTM C260/C260M.

PART 5 - 5. Concrete Mix: Minimum 5,000 psi (34 MPa) compressive strength after 28 days, air entrained to 5 to 7 percent.

PART 6 - 6. Use rigid molds, constructed to maintain precast units uniform in shape, size and finish. Maintain consistent quality during manufacture.

PART 7 - 7. Embed reinforcing steel, and drill or sleeve for two dowels.

PART 8 - 8. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.

PART 9 - 9. Minor patching in plant is acceptable, providing appearance of units is not impaired.

- B. Dowels: Cut reinforcing steel, 1/2 inch (12 mm) diameter, 18 inch (460 mm) long, pointed tip.
- C. Adhesive: Epoxy type.

PART 3- EXECUTION

3.01 INSTALLATION

- A. Install units without damage to shape or finish. Replace or repair damaged units.
- B. Install units in alignment with adjacent work.
- C. Fasten units in place with 2 dowels per unit.

END OF SECTION

## SECTION 321723 - PAVEMENT MARKINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes painted markings applied to asphalt and concrete pavement.
- B. Pavement marking for pedestrian markings.
- C. Product Data: For each type of product.
  - 1. Include technical data and tested physical and performance properties.
- D. Shop Drawings: For pavement markings.
  - 1. Indicate pavement markings, colors, lane separations, defined parking spaces, and dimensions to adjacent work.
  - 2. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities.

#### 1.3 REGULATORY REQUIREMENTS

- A. Accessible parking spaces serving a particular building or facility shall be located, and dispersed if serving more than one accessible entrance, on the shortest accessible route to an entrance or to multiple accessible entrances. CBC Sections 11B-208.3.1.
- B. Accessible parking spaces in a parking facility not serving a particular building or facility shall be located on the shortest accessible route to an accessible pedestrian entrance of the parking facility. CBC Sections 11B-208.3.1.
- C. Minimum number of required accessible parking spaces shall be provided in accordance with CBC Table 11B-208.2 for each parking facility provided.
- D. For every six or fraction of six accessible parking spaces, at least one shall be an accessible van parking space. CBC Section 11B-208.2.4.
- E. Accessible parking spaces and access aisles shall comply with CBC Section 11B-502 and shall be dimensioned to the centerline of the marked lines as follows:

1. Parking spaces and access aisles shall be marked according to CBC Figures 11B502.2, 11B-502.3, and 11B-502.3.3. Their surfaces shall comply with CBC Section 11B-302 and shall be at the same level with slopes not steeper than 1:48 in any direction. CBC Section 11B-502.4
  2. Parking spaces shall be 9'x18' minimum and van parking spaces shall be 12'x18' minimum with an adjacent access aisle of 5'x18' minimum. Access aisles shall be placed on either side of the parking spaces except be located on the passenger side for van parking spaces. Van parking spaces shall be permitted to be 9'x18' minimum where the access aisle is 8'x18' minimum.
  3. Access aisles shall be marked by a blue painted borderline around their perimeter. The area within the blue borderlines shall be marked with hatched lines a maximum of 36" on center in a color contrasting with that of the aisle surface, preferably blue or white. Access aisle markings may extend beyond the minimum required length. CBC Section 11B-502.3.3.
  4. Access aisles (parking spaces as well - similar application) shall not overlap the vehicular way. CBC Section 11B-502.3.4.
  5. A vertical clearance of 8'-2" minimum shall be provided for accessible parking spaces, access aisles, and vehicular routes serving them. CBC Section 11B-502.5.
- F. At least one passenger loading zone shall be provided in every continuous 100 linear feet of loading zone space, or fraction thereof, complying with CBC Sections 11B-209 and 11B-503 as follows:
1. Vehicle pull-up spaces shall be 8'x20' minimum. Access aisles shall be 5'x20' minimum and shall be adjacent and parallel to the vehicular pull-up spaces. They shall be at the same level with slopes not steeper than 1:48 in any direction. CBC Section 11B-503.4.
  2. Access aisles for passenger drop-off and loading zone shall be marked with a painted borderline around their perimeter. The area within the borderlines shall be marked with hatched lines a maximum of 36" on center in a color contrasting with that of the aisle surface. CBC Section 11B-503.3.
  3. A vertical clearance of 9'-6" minimum shall be provided for vehicle pull-up spaces, access aisles, and a vehicular route serving them connecting a vehicular entrance and a vehicular exit. CBC Section 11B-503.5.

## PART 2 - PRODUCTS

### 2.1 PAVEMENT-MARKING PAINT

- A. Provide paint specifically formulated for use as pavement marking in automobile, pedestrian traffic and play court areas, and as required by jurisdictional authority.
- B. Provide striping in size and multiple colors as selected by Architect, and as follows:
  1. At all pavement markings associated with accessibility for the disabled, provide Federal Blue 15090 per FS 595C color as defined in Title 24, Part 2, CCR, 4 inch width. Provide accessible aisle markings as shown in drawings.

2. Provide white striping at parking space markings, 4 inch width.
  3. Provide directional arrows, white color, size as shown on drawings.
- C. Paint products shall comply with Section 210-1.6 of the "Standard Specifications," //Section 91, CalTrans Standard Specifications, for "rapid-dry" type paints. Paint manufacturer shall provide written certification of conformance to standard.
- D. Reflectorized beading not required, except where required at public improvements.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify that pavement is dry and in suitable condition to begin pavement marking according to manufacturer's written instructions.
- B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Secure the Architect's approval of graphics design and layout prior to start of application, including compliance with accessibility standards of Title 24.
- B. Secure Fire Marshal approval of all striping and marking of curbs, pavement, and related signage.
- C. Accessible parking spaces shall be marked according to CBC Section 11B-502.3.
- D. Verify that concrete curing compound and asphalt seal coat compound has become completely inert prior to painting. Remove by approved means for those areas where compound is still active.

#### 3.3 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for a minimum of 10 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Using proper masking, stencils, and application equipment recommended for the purpose by the manufacturer of the approved paint, apply the approved paint in strict accordance with its manufacturer's recommendations and Section 310-5.6 //Section XX, CalTrans Standard Specifications, of the "Standard Specifications".

- E. Provide minimum of two coats of paint at all striping, curbing, and related markings, in dry mil thickness as defined in Section 310-5.6. //Section XX, CalTrans Standard Specifications, // Vary color of first coat slightly.
- F. Coatings installed on asphalt paving shall be applied in thin, light coats to avoid peeling.
- G. Repaint markings damaged by construction traffic.
- H. Install fire lane curb markings at locations required by Fire Marshal or at 20 feet on center, whichever is more restrictive.
- I. Install markings within 1/2 inch tolerance. Maintain width to a tolerance of plus/minus 1/4 inch.

#### 3.4 PROTECTING AND CLEANING

- A. Protect pavement markings from damage and wear during remainder of construction period.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 321723



## SECTION 323113 - CHAIN LINK FENCES AND GATES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Chain-link fences.
  - 2. Gates: swing.

#### 1.3 ACTION SUBMITTALS

- ?. Product Data: For each type of product indicated.
  - 1. Fence and gate posts, rails, and fittings.
  - 2. Gates and hardware.
- A. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show accessories, hardware, gate operation, and operational clearances.

#### 1.4 PROJECT CONDITIONS

- A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

### PART 2 - PRODUCTS

#### 2.1 FENCE FRAMING

- A. Posts and Rails: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 or ASTM F 1083 based on the following:
  - 1. Fence Height: 96 inches.

2. Light Industrial Strength: Material Group IC-L, round steel pipe, electric-resistance-welded pipe.
  - a. Line Post: 2.375 inches in diameter.
  - b. End, Corner and Pull Post: 2.875 inches.
3. Horizontal Framework Members: top and bottom rails complying with ASTM F 1043.
  - a. Top Rail: 1.66 inches in diameter.
4. Brace Rails: Comply with ASTM F 1043.
5. Metallic Coating for Steel Framing:
  - a. Type A, consisting of not less than minimum 2.0-oz./sq. ft. average zinc coating per ASTM A 123/A 123M or 4.0-oz./sq. ft. zinc coating per ASTM A 653/A 653M.
  - b. Type B, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film.
  - c. External, Type B, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film. Internal, Type D, consisting of 81 percent, not less than 0.3-mil- thick; zinc-pigmented coating.
  - d. Type C, Zn-5-Al-MM alloy, consisting of not less than 1.8-oz./sq. ft. coating.
  - e. Coatings: Any coating above.

## 2.2 SWING GATES

- A. General: Comply with ASTM F 900 for gate posts and double swing gate types.
  1. Gate Leaf Width: 120 inches.
- B. Pipe and Tubing:
  1. Zinc-Coated Steel: Comply with ASTM F 1043 and ASTM F 1083; manufacturer's standard protective coating and finish.
- C. Frame Corner Construction: Welded or assembled with corner fittings.
- D. Hardware:
  1. Hinges: 180-degree inward swing.
  2. Latches permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.

## 2.3 FITTINGS

- A. General: Comply with ASTM F 626.
- B. Post Caps: Provide for each post.
  - 1. Provide line post caps with loop to receive tension wire or top rail.
- C. Rail and Brace Ends: For each gate, corner, pull, and end post.
- D. Rail Fittings: Provide the following:
  - 1. Top Rail Sleeves: Pressed-steel or round-steel tubing not less than 6 inches long.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.
  - 1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

### 3.3 INSTALLATION, GENERAL

- A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.

### 3.4 CHAIN-LINK FENCE INSTALLATION

- A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

- B. Post Setting: Set posts by mechanically driving into soil at indicated spacing into firm, undisturbed soil.
  - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
  - 2. Mechanically Driven Posts: Drive into soil to depth of 36 inches. Protect post top to prevent distortion.
- C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.
- D. Line Posts: Space line posts uniformly at 120 inches o.c.
- E. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.
  - 1. Locate horizontal braces at midheight of fence height or higher, on fences with top rail and at two-third fence height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.
- F. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.
- G. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

### 3.5 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Lubricate hardware and other moving parts.

END OF SECTION 323113

## SECTION 334111- SITE STORM DRAINAGE SYSTEM

### PART 1- GENERAL

#### 1.1 SECTION INCLUDES

- A. Storm drainage piping, fittings, and accessories.
- B. Connection of drainage system to municipal sewers.
- C. Catch basins, Trench drains, Plant area drains, Paved area drainage, Site surface drainage, Detention tank, and Detention basin.

#### 1.2 RELATED REQUIREMENTS

- A. Section 02 32 00- Subsurface Investigations.
- B. Section 03 30 00 - Cast-in-Place Concrete: Concrete for cleanout base pad construction.
- C. Section 31 22 00 - Grading.
- D. Section 31 23 16 - Excavation: Excavating of trenches.
- E. Section 31 23 16.13 - Trenching: Excavating, bedding, and backfilling.
- F. Section 31 23 23 - Fill: Bedding and backfilling.
- G. Section 33 05 13 - Manholes and Structures.
- H. Section 33 46 50 - Athletic Field Subdrainage System

#### 1.3 DEFINITIONS

- A. Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

#### 1.4 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. ASTM A536 - Standard Specification for Ductile Iron Castings; 1984 (Reapproved 2014).
- D. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe; 2014.
- E. ASTM C76M - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe [Metric]; 2014.
- F. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets; 2012.
- G. ASTM C443M - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric); 2011.
- H. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds; 2011.

- I. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2011.
- J. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2011.
- K. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2014.
- L. ASTM D3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals; 2007 (Reapproved 2013).
- M. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe; 2014.
- N. ASTM F2787 - Standard Practice for Structural Design of Thermoplastic Corrugated Wall Stormwater Collection Chambers; 2013.
- O. ASTM F2922 - Standard Specification for Polyethylene (PE) Corrugated Wall Stormwater Collection Chambers; 2013e1.
- P. DIN 19580 - Drainage Channels for Vehicular and Pedestrian Areas - Durability, Mass per Unit Area and Evaluation of Conformity; 2010.
- Q. Greenbook: Standard Specifications for Public Works Construction; Latest edition as adopted by local jurisdiction.

#### 1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the installation of storm drainage with size, location and installation of service utilities.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- C. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

#### 1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating pipe, pipe accessories.
- C. Shop Drawings:
  - 1. For pre-cast concrete manholes, including frames and covers.
  - 2. For cast-in-place concrete or field-erected masonry sanitary manholes, including frames and covers.
  - 3. Coordination profile drawings showing drainage system piping in elevation. Draw profiles at a horizontal scale of not less than 1 inch equals 50 feet and vertical scale of not less than 1 inch equals 5 feet. Indicate pipe and underground structures. Show types, sizes, materials, and elevations of other utilities crossing drainage system piping.
  - 4. Detention Tank:
    - a. Provide product data and shop drawings indicating the design capacity, layout, per the manufacturer's product design manual and ASTM F2787.
    - b. Indicate: Depth of perimeter stone above, below, and around chamber,

- c. A structural evaluation by a registered structural engineer that demonstrates that the load factors specified in the AASHTO LRFD Bridge Design Specifications, Section 12.12 are met.
    - 1) The 50-year creep modulus data specified in ASTM F2922 must be used as a part of the AASHTO structural evaluation to verify long-term performance.
  - d. All design specifications for chambers shall be in accordance with the manufacturer's latest design manual.
- D. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- E. Project Record Documents:
- 1. Submit documents under provisions of Section 01 78 00 - Closeout Submittals.
  - 2. Record location of pipe runs, connections, catch basins, cleanouts, and invert elevations.
  - 3. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

#### 1.7 REGULATORY REQUIREMENTS

- A. Conform to applicable code for materials and installation of the Work of this section.
- B. Comply with requirements of California Plumbing Code and Authorities Having Jurisdiction.
- C. Utility Compliance: Comply with local utility regulations and standards pertaining to storm drainage systems.
- D. Environmental Compliance: Comply with applicable portions of local environmental agency regulations pertaining to storm drainage systems.

#### 1.8 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations. Verify that storm drainage system piping may be installed in compliance with original design and referenced standards.
  - 1. Locate existing storm drainage system piping and structures that are to be abandoned and closed.

#### 1.9 SEQUENCING AND SCHEDULING

- A. Coordinate connection to public storm sewer with utility company.
- B. Coordinate with interior building storm drainage piping.
- C. Coordinate with other utility work.

### PART 2- PRODUCTS

#### 2.1 DRAINAGE PIPE MATERIALS

- A. Provide products that comply with applicable code(s).

- B. Concrete Pipe: Reinforced, ASTM C76 (ASTM C76M), Class IV with Wall type A; mesh reinforcement; inside nominal diameter of 18 to 24 inches (460 to 610 mm), bell and spigot end joints.
- C. Reinforced Concrete Pipe Joint Device: ASTM C443 (ASTM C443M) rubber compression gasket joint.
- D. Plastic Pipe: ASTM D3034, SDR 35, Type PSM, Poly Vinyl Chloride (PVC) material; inside nominal diameter of 4-15 inches (100 to 380 mm), bell and spigot style solvent sealed joint end.
  - 1. Bell and spigot style, push on joints and molded rubber gaskets
  - 2. Maximum pipe length 20 feet.
- E. Plastic Pipe: ASTM D 3034, Type PSM, SDR 35 Poly(Vinyl Chloride) (PVC) material; inside nominal diameter of 4 to 15 inches (100 to 380 mm).
  - 1. Bell and spigot style, push on joints and molded rubber gaskets
  - 2. Maximum pipe length 20'.
- F. Plastic Pipe: ASTM D 679, Poly(Vinyl Chloride) (PVC) material; inside nominal diameter of 18 to 27 inches (457 to 686 mm).
  - 1. Bell and spigot style, push on joints and molded rubber gaskets
  - 2. Maximum pipe length 20 feet.
- G. Refer to Drawings for additional information.

## 2.2 PIPE ACCESSORIES

- A. Pipe Joints: Mechanical clamp ring type, stainless steel expanding and contracting sleeve, neoprene ribbed gasket for positive seal.
- B. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required wyees, bends, cleanouts, reducers, traps and other configurations required.
- C. Filter Fabric: Non-biodegradable, woven. Provide 315ST manufactured by Advanced Drainage Systems, Inc.: [www.ads-pipe.com](http://www.ads-pipe.com).
- D. Trace Wire: Magnetic detectable conductor, clear plastic covering, imprinted with " Storm Drain " in large letters.

## 2.3 CATCH BASIN, TRENCH DRAIN, CLEANOUT, AND AREA DRAIN COMPONENTS

- A. Reinforced cast-in-place concrete, nominal shaft dimension as indicated on Drawings.
- B. Lids and Drain Covers: Cast iron, hinged to cast iron frame.
  - 1. Catch Basin:
    - a. Lid Design: Linear grill.
    - b. Nominal Lid and Frame Size: As indicated on Drawings.
  - 2. Cleanout:
    - a. Lid Design: Checkerboard grill.
    - b. Nominal Lid and Frame Size: As indicated on Drawings.
  - 3. Area Drain:
    - a. Lid Design: Linear grill.



- b. Nominal Lid and Frame Size: As indicated on Drawings.
- C. Sediment Filter: Provide sediment filter compliant with BMP practice for NPDES II, as indicated on Drawings.
  - 1. Product: Storm Water Sediment Control Grate Insert manufactured by Transpo Industries, Inc.: [www.transpo.com](http://www.transpo.com)
- D. Drain Basin for Drainage Retention System:
  - 1. General
    - a. PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications.
    - b. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer.
    - c. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.
  - 2. Materials
    - a. Drain Basins: PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration.
    - b. Drainage Pipe Connection Stubs: PVC pipe stock and formed to provide a watertight connection with the specified pipe system.
    - c. Joints: Conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals.
      - 1) The flexible elastomeric seals shall conform to ASTM F477.
      - 2) The pipe bell spigot shall be joined to the main body of the drain basin or catch basin.
    - d. Surface Drainage Inlets Main Body and Pipe Stubs: Conform to ASTM D1784 cell class 12454.
    - e. The grates and frames furnished for all surface drainage inlets shall be ductile iron.
      - 1) Fabricate specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet.
      - 2) Grates for drain basins shall be capable of supporting various wheel or live loads as indicated by location.
        - (a) H-20.
      - 3) 12 inch (300 mm) and 15 inch (380 mm) square grates will be hinged to the frame using pins.
      - 4) Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05.
      - 5) Grates and covers shall be provided painted black.
- E. Trench Drain System: Trench drain system assembled from factory fabricated, polymer concrete castings in standard lengths and variable depths, with integral joint flanges and integral grating support rails; includes joint gaskets and grating.
  - 1. Basis of Design: ACO Polymer Products, Inc., KlassikDrain; Model as indicated on Drawings: [www.aco-online.com](http://www.aco-online.com).
  - 2. Load Class: DIN 19580, Class E.
  - 3. Grating Material and Style: ADA Standards compliant ductile iron.

4. Basis of Design: ACO Polymer Products, Inc., SlabDrain; Model as indicated on Drawings: [www.aco-online.com](http://www.aco-online.com).
5. Load Class: DIN 19580, Class A.
6. Grating Material and Style: ADA Standards compliant ductile iron.
7. Basis of Design: ACO Polymer Products, Inc., FlowDrain; Model as indicated on Drawings: [www.aco-online.com](http://www.aco-online.com).
8. Load Class: DIN 19580, Class A.
9. ADA Standards compliant.
10. Grating Material and Style: ADA Standards compliant slotted ductile iron.
11. Basis of Design: ACO Polymer Products, Inc., PowerDrain; Model as indicated on Drawings: [www.aco-online.com](http://www.aco-online.com).
12. Load Class: DIN 19580, Class D.
13. Grating Material and Style: ADA Standards compliant slotted ductile iron.
14. Basis of Design: ACO Polymer Products, Inc., Aco Sport; Model System 3000 - Track Trench Drainage: [www.aco-online.com](http://www.aco-online.com).
15. Load Class: DIN 19580, Class A.
16. ADA Compliant.
17. Grating Material and Style: ADA compliant slotted ductile iron.
18. Top Finish: Synthetic Surface, see Section 32 1823.33 - Synthetic Track Surfacing.
19. ADA Compliant.
20. Trench Width: As indicated on Drawings.
21. Trench Section Length: 39 inches (1 m), and 19-1/2 inches (500 mm).
22. Grating Support Rail: Stainless steel.
23. Accessories:
  - a. Oval to round pipe connection.
  - b. Vertical outlet strainer.

#### 2.4 DETENTION TANK / RETENTION BASIN

- A. Storm water/drainage retention chambers are designed to control storm water runoff.
- B. As a subsurface retention system, storm water/drainage retention chambers retain and allow effective infiltration of water into the soil.
- C. As a subsurface detention system, storm water/drainage retention chambers hold and allow for the metered flow of water to an outfall.
- D. Arch shaped underground storm water storage chamber in a gravel pit:
  1. Manufacturer: Stormtech: [www.stormtech.com](http://www.stormtech.com)
    - a. Model: SC-740.
    - b. Size (L x W x H): 85.4 x 51.0 x 30.0 inches (2170 x 1295 x 762 mm).
    - c. Chamber Storage / Maximum Installed Storage\*: 45.9 / 74.9 cu.ft. (1.3 / 2.12 cu.m)

\*Assumes 6 inch (150 mm) stone above, below and between chambers and 40% stone porosity. The nominal storage volume of all storm water/drainage retention chambers includes the volume of the clean, crushed, angular stone.

- d. Provide matching end cap.
2. Live Load Rating: AASHTO LRFD HS-20.
3. The structural design of the chambers, the structural backfill and the installation requirements shall ensure that the load factors specified in the AASHTO LRFD Bridge Design Specifications, Section 12.12 are met for:
  - a. Long-Duration Dead Loads; and
  - b. Short-duration live loads, based on the AASHTO design truck with consideration for impact and multiple vehicle presence.
  - c. Design shall consider earth and live loads as appropriate for the minimum to maximum specified depth of fill.
4. Chamber Construction:
  - a. The chamber shall be injection molded of an impact modified polypropylene per ASTM F2418 or polyethylene copolymer per ASTM F2922 to maintain adequate stiffness through higher temperatures experienced during installation and service.
  - b. Chambers shall be designed in accordance with ASTM F2787.
  - c. Chambers shall be designed in accordance with ASTM F2418.
  - d. The chamber shall have a continuously curved section profile.
  - e. The chamber shall be open-bottomed.
  - f. The chamber shall incorporate an overlapping corrugation joint system to allow chamber rows of almost any length to be created.
    - 1) The overlapping corrugation joint system shall be effective while allowing a chamber to be trimmed to shorten its overall length.
  - g. Chamber rows shall provide continuous, unobstructed internal space with no internal support panels.
  - h. Chambers shall have forty-eight orifices penetrating the sidewalls to allow for lateral conveyance of water.
  - i. Chamber shall have two orifices near its top to allow for equalization of air pressure between its interior and exterior.
  - j. Chamber shall have both of its ends open to allow for unimpeded hydraulic flows and visual inspections down a row's entire length.
  - k. Chamber shall have 14 corrugations.
  - l. Provide on the top of the chamber a 4 inch (100 mm) diameter inspection port to grade.
    - 1) Product: Nyloplast 12 inch (300 mm) inline drain body with 12 inch (300 mm) solid hinged cover and frame, with concrete collar ( 4 inch (100 mm) 4 inch (100 mm) thick by minimum 36" cross dimension) with 4 inch (100 mm) schedule 40 screw-in cap. Provide 4 inch (100 mm) schedule 40 PVC pipe into chamber.
5. End Cap Construction

- a. End cap to fit into any corrugation of a chamber, allowing capping of a chamber that has its length trimmed; segmenting rows into storage basins of various lengths.
  - b. Provide saw guides for cutting for various diameters of pipe used to inlet the system.
    - 1) End cap shall have structural capacity to allow cutting an orifice of any size at any invert elevation.
  - c. Curve primary face of each end cap outward to resist horizontal loads generated near the edges of beds.
- E. Geotextile Filter Fabric: Non-biodegradable, non-woven, AASHTO M288 Class 2. Provide Geosynthetics 601T manufactured by ADS Advanced Drainage Systems, Inc.; www.ads-pipe.com.

## 2.5 BEDDING AND COVER MATERIALS

- A. Bedding: As specified in Section 31 23 16.13.
- B. Cover: As specified in Section 31 23 23.

## PART 3- EXECUTION

### 3.1 TRENCHING

- A. See Section 31 23 16.13 - Trenching for additional requirements.
- B. Hand trim excavation for accurate placement of pipe to elevations indicated.
  - 1. Correct over excavation in accordance with Section 31 22 00 - Grading.
  - 2. Remove large stones or other hard matter which could damage pipe or impede consistent backfilling or compaction.
- C. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.
- D. Bedding:
  - 1. Excavate pipe trench in accordance with Section 31 23 16.13 for work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated.
  - 2. Place bedding material at trench bottom, level materials in continuous layer not exceeding 6 inch (150 mm) compacted depth, compact to 90 percent.
  - 3. Maintain optimum moisture content of bedding material to attain required compaction density.

### 3.2 PREPARATION

- A. Prior to placement of geosynthetic fabric for drainage basin:
  - 1. Bottom of drainage tank basin shall be granular well-graded soil/aggregate mixtures. less than 35% fines, compacted in maximum 6 inch (150 mm) lifts to 95% Standard Proctor density. Fill material shall comply with manufacturer's design guidelines.

### 3.3 EXAMINATION

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.
- B. Inspect piping before installation to detect apparent defects. Mark defective materials with white paint and promptly remove from site.

### 3.4 INSTALLATION, GENERAL

- A. General Locations and Arrangements: Drawings (plans and details) indicate the general location and arrangement of the underground drainage system piping. Location and arrangement of piping layout take into account many design considerations. Install the piping as indicated, to the extent practical.
  - 1. Install in accordance with Standard Specifications for Public Works Construction (Greenbook), local standards and soils report.
  - 2. Install pipe, fittings and accessories in accordance with ASTM D3034 and manufacturer's instructions. Seal joints watertight.
- B. Install piping beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's recommendations for use of lubricants, cements, and other installation requirements.
- C. Use fittings for branch connections, except where direct tap into existing sewer or manhole is indicated.
- D. Use proper size increasers and couplings, where different size or material of pipes and fittings are connected. Reduction of the size of piping in the direction of flow is prohibited.
- E. Install piping pitched down in direction of flow, at minimum slope of 2 percent, except where indicated otherwise.
  - 1. Place bell ends of piping facing upstream.
- F. Tunneling: Install pipe under streets or other obstructions that cannot be disturbed, by tunneling, jacking, or a combination of both.

### 3.5 INSTALLATION - PIPE

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.
- B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal watertight.
  - 1. Plastic Pipe: Also comply with ASTM D2321.
- C. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch (3 mm) in 10 feet (3 m).
- D. Connect to building storm drainage system, foundation drainage system, and utility/municipal sewer system.
- E. Make connections through walls through sleeved openings, where provided.
- F. Install continuous trace wire 6 inches (150 mm) above top of pipe; coordinate with Section 31 23 16.13.

### 3.6 INSTALLATION - CATCH BASINS, TRENCH DRAINS AND CLEANOUTS

- A. Install cleanouts and extension from storm sewer drain pipe to cleanout at grade as indicated. Set cleanout frame and cover in concrete block 18 by 18 by 12 inches deep, except where location is in concrete paving. Set top of cleanout 1 inch above surrounding earth grade or flush with grade when installing in paving.
  - 1. Provide as shown on plans or as required by UPC.
- B. Form bottom of excavation clean and smooth to correct elevation.
- C. Form and place cast-in-place concrete base pad, with provision for drainage pipe end sections.
- D. Level top surface of base pad; sleeve concrete shaft sections to receive drainage pipe sections.
- E. Establish elevations and pipe inverts for inlets and outlets as indicated.
- F. Mount lid and frame level in grout, secured to top cone section to elevation indicated.
- G. Drain Basin:
  - 1. Install per manufacturer's instructions and detail for H-20 traffic Rating
  - 2. The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures.
  - 3. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1 or class 2 material as defined in ASTM D2321.
  - 4. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321.
  - 5. The drain basin body will be cut at the time of the final grade.
  - 6. No brick, stone or concrete block will be required to set the grate to the final grade height.
  - 7. For load rated installations, a concrete slab shall be poured under and around the grate and frame.
  - 8. The concrete slab must be installed taking into consideration local soil conditions, traffic loading, and other applicable design factors.

### 3.7 INSTALLATION - DRAINAGE RETENTION TANK (CHAMBER)

- A. The installation of chambers shall be in accordance with the manufacturer's latest installation instructions.

### 3.8 TAP CONNECTIONS

- A. Make connections to existing piping and underground structures so that finished work will conform as nearly as practicable to the requirements specified for new work.
- B. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye fitting plus 6-inch overlap, with not less than 6 inches of 3000 psi 28-day compressive-strength concrete.
- C. Protect existing piping and structures to prevent concrete or debris from entering while making tap connections. Remove debris, concrete, or other extraneous material that may accumulate.

### 3.9 CLOSING ABANDONED STORM DRAINAGE SYSTEM

- A. Abandoned Piping: Close open ends of abandoned underground piping that is indicated to remain in place. Provide sufficiently strong closures to withstand hydrostatic or earth pressure that may result after ends of abandoned utilities have been closed.
  - 1. Close open ends of concrete or masonry utilities with not less than 8-inch-thick brick masonry bulkheads.
  - 2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Wood plugs are not acceptable.
- B. Abandoned Structures: Remove structure and close open ends of the remaining piping, or remove top of structure down to not less than 3 feet below final grade; fill structure with stone, rubble, gravel, or compacted dirt, to within 1 foot of top of structure remaining and fill concrete.

### 3.10 CLEANING

- A. Cleaning: Clear interior of piping and structures of dirt and other superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed.
  - 1. Place plugs in ends of uncompleted pipe at end of day or whenever work stops.
  - 2. Flush piping between manholes, if required by local authority, to remove collected debris.

### 3.11 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with Section 01 40 00.
  - 1. Perform testing of completed site piping in accordance with the Uniform Plumbing Code using water or air pressure test.
- B. Interior Inspection: Inspect piping to determine whether line displacement or other damage has occurred.
  - 1. Make inspections after pipe between manholes and manhole locations has been installed and approximately 2 feet of backfill is in place, and again at completion of project.
  - 2. If inspection indicates poor alignment, debris, displaced pipe, infiltration or other defects correct such defects, and reinspect.
  - 3. Perform video inspection of all piping prior to final acceptance of work.
    - a. All video operations shall be recorded digitally for playback if required.
    - b. All video inspections will include a detailed narrative identifying exact locations of the installed lines and limits of areas to be re-installed.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

3.12 PROTECTION

- A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION 334111





