



**LONG BEACH COMMUNITY COLLEGE DISTRICT
CONTRACTS MANAGEMENT DEPARTMENT
4901 EAST CARSON STREET
LONG BEACH, CA 90808
Ph. (562) 938-4843**

**BID NO. 23-005 BUILDING MM CONSTRUCTION TRADES 2 PROJECT
AT THE
PACIFIC COAST CAMPUS**

ADDENDUM NO. 1

September 26, 2022

This Addendum forms a part of the Contract Documents and modifies the original Contract Documents. Please acknowledge the inclusion of this and all addenda issued prior to the bid submission deadline to reflect the referenced changes, additions, revisions and/or clarifications. A space to acknowledge the addenda is provided on your bid submission document as well as electronically on the “Addenda” tab in PlanetBids. Your failure to comply with both requirements may result in your bid being deemed non-responsive.

Note: It is the responsibility of all bidders to notify all subcontractors from whom they request bids and from whom they accept bids of all changes contained in this addendum.

ADDENDUM NO. 1 CONTENTS

**I. REVISIONS TO DRAWINGS
II. REVISIONS TO SPECIFICATIONS
III. ATTACHMENTS**

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I. REVISIONS TO DRAWINGS

1. ***C1.400*** - Omit the previous version of sheet C1.400. Refer to the revised sheet with sanitary sewer adjustments, added sanitary sewer cleanouts, adjusted the P.O.C for the sanitary sewer inverts between Construction Trades I Project and Construction Trades II Project.
2. ***P1.001*** – Omit the previous version of sheet P1.001. Refer to the revised sheet with updated invert elevations between Construction Trades I Project and Construction Trades II Project.
3. ***FA1.001*** – Omit the previous version of sheet FA1.001. Updated site routing based on Construction Trades I Project and Construction Trades II Project.
4. ***T1.000*** – Omit the previous version of sheet T1.000. Removed stub-out for connection between IDF MM 127 to IDF MM 156, and between IDF MM 118 to IDF MM 156. Added pathway from IDF MM 118 to PB181212 for incoming network services to Construction Trades II Project.
5. ***T3.001*** – Omit the previous version of sheet T3.001. Updated Detail 1, Detail 2, Detail 3.

II. REVISIONS TO SPECIFICATIONS

1. The following specification sections are new or shall be replaced in their entirety.

- 011216 – *Phasing of the Work (NEW Specification Section)*
- 012600 – *Contract Modification Procedures (REPLACE ENTIRELY)*
- 012900 – *Payment Procedures (REPLACE ENTIRELY)*
- 012973 – *Schedules of Values (NEW Specification Section)*
- 013100 – *Project Management Coordination (REPLACE ENTIRELY)*
- 013119 – *Progress Meetings (NEW Specification Section)*
- 013130 – *PMIS (NEW Specification Section)*
- 013210 – *Construction Schedule + IM (NEW Specification Section)*
- 013233 – *Photographic Documentation (NEW Specification Section)*
- 013527 – *Site Safety (NEW Specification Section)*
- 014213 – *Abbreviations, Symbols, Acronyms (NEW Specification Section)*
- 014523 – *Testing and Inspection (NEW Specification Section)*
- 016010 – *Materials and Equipment (NEW Specification Section)*
- 017123 – *Field Engineering & Survey Control (NEW Specification Section)*
- 017417 – *Cleaning and Site Appearance (NEW Specification Section)*
- 017836 – *Warranties (NEW Specification Section)*
- 018620 – *Test and Balance (NEW Specification Section)*
- 024115 – *Selective Demolition (NEW Specification Section)*

III. ATTACHMENTS

1. SECTION I. – ADDENDUM 1 DRAWINGS – (5) Full Size Sheets
2. SECTION II. – ADDENDUM 1 SPECIFICATIONS – (18) 8 ½” x 11” Specification Sections.
3. SECTION III – ADDENDUM 1 Bid 23-005 Pre-Qualification Application – REVISED (REPLACE ENTIRELY)

*****END OF ADDENDUM NO. 1*****

LONG BEACH COMMUNITY COLLEGE DISTRICT



Mireille Hernandez
Interim Deputy Director, Purchasing and Contracts

P:\2020\200746 LBCC Construction Tech II Bldg 5 CAD\Sheets\200746 C1-400 UT.dwg, Jul 22, 2022 - 9:14am

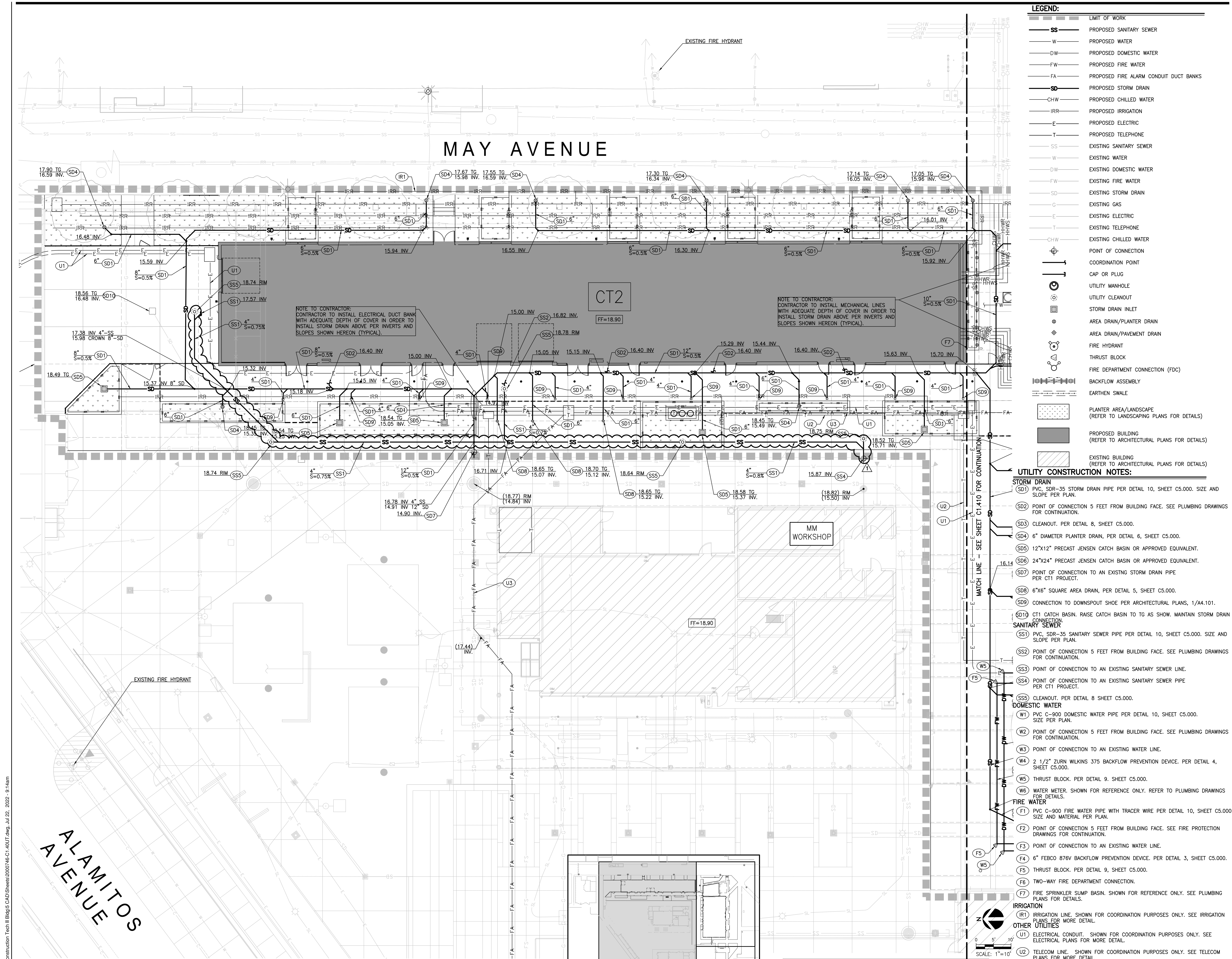
NOTE:
CONSTRUCTION TRADES I (CT1) - PREVIOUSLY APPROVED PERMIT SET FOR ADJACENT CONSTRUCTION.

NOTE:
ALL BMP'S PROPOSED AS A PART OF THIS PROJECT ARE TO BE INSPECTED BY THE ENGINEER OF RECORD AFTER INSTALLATION AND PRIOR TO OBTAINING A CERTIFICATE OF OCCUPANCY.

NOTE:
IRRIGATION WATER METER, LINES AND APPURTENANCES BY OTHERS.

KEYMAP
SCALE: 1"=100'

NOTE:
PRIOR TO THE INSTALLATION OF ALL STORM DRAIN AND SEWER MAIN LINE CONNECTIONS, THE CONTRACTOR SHALL POT HOLE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF THE MAIN LINE. IF CONDITIONS DIFFER FROM THOSE ON THE PLAN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITION HAS BEEN EVALUATED.



- LEGEND:**
- SS - PROPOSED SANITARY SEWER
 - W - PROPOSED WATER
 - DW - PROPOSED DOMESTIC WATER
 - FW - PROPOSED FIRE WATER
 - FA - PROPOSED FIRE ALARM CONDUIT DUCT BANKS
 - SD - PROPOSED STORM DRAIN
 - CHW - PROPOSED CHILLED WATER
 - IRR - PROPOSED IRRIGATION
 - E - PROPOSED ELECTRIC
 - T - PROPOSED TELEPHONE
 - SS - EXISTING SANITARY SEWER
 - W - EXISTING WATER
 - DW - EXISTING DOMESTIC WATER
 - FW - EXISTING FIRE WATER
 - SD - EXISTING STORM DRAIN
 - G - EXISTING GAS
 - E - EXISTING ELECTRIC
 - T - EXISTING TELEPHONE
 - CHW - EXISTING CHILLED WATER
 - POINT OF CONNECTION
 - COORDINATION POINT
 - CAP OR PLUG
 - UTILITY MANHOLE
 - UTILITY CLEANOUT
 - STORM DRAIN INLET
 - AREA DRAIN/PLANTER DRAIN
 - AREA DRAIN/PAVEMENT DRAIN
 - FIRE HYDRANT
 - THRUST BLOCK
 - FIRE DEPARTMENT CONNECTION (FDC)
 - BACKFLOW ASSEMBLY
 - EARTHEN SWALE
 - PLANTER AREA/LANDSCAPE (REFER TO LANDSCAPING PLANS FOR DETAILS)
 - PROPOSED BUILDING (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
 - EXISTING BUILDING (REFER TO ARCHITECTURAL PLANS FOR DETAILS)

- UTILITY CONSTRUCTION NOTES:**
- STORM DRAIN**
- (SD1) PVC, SDR-35 STORM DRAIN PIPE PER DETAIL 10, SHEET C5.000. SIZE AND SLOPE PER PLAN.
 - (SD2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.
 - (SD3) CLEANOUT. PER DETAIL 8, SHEET C5.000.
 - (SD4) 6" DIAMETER PLANTER DRAIN, PER DETAIL 6, SHEET C5.000.
 - (SD5) 12"x12" PRECAST JENSEN CATCH BASIN OR APPROVED EQUIVALENT.
 - (SD6) 24"x24" PRECAST JENSEN CATCH BASIN OR APPROVED EQUIVALENT.
 - (SD7) POINT OF CONNECTION TO AN EXISTING STORM DRAIN PIPE PER CT1 PROJECT.
 - (SD8) 6"x6" SQUARE AREA DRAIN, PER DETAIL 5, SHEET C5.000.
 - (SD9) CONNECTION TO DOWNSPOUT SHOE PER ARCHITECTURAL PLANS, 1/44.101.
 - (SD10) CT1 CATCH BASIN. RAISE CATCH BASIN TO TG AS SHOW. MAINTAIN STORM DRAIN CONNECTION.

SANITARY SEWER

 - (SS1) PVC, SDR-35 SANITARY SEWER PIPE PER DETAIL 10, SHEET C5.000. SIZE AND SLOPE PER PLAN.
 - (SS2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.
 - (SS3) POINT OF CONNECTION TO AN EXISTING SANITARY SEWER LINE.
 - (SS4) POINT OF CONNECTION TO AN EXISTING SANITARY SEWER PIPE PER CT1 PROJECT.
 - (SS5) CLEANOUT. PER DETAIL 8 SHEET C5.000.

DOMESTIC WATER

 - (W1) PVC C-900 DOMESTIC WATER PIPE PER DETAIL 10, SHEET C5.000. SIZE PER PLAN.
 - (W2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.
 - (W3) POINT OF CONNECTION TO AN EXISTING WATER LINE.
 - (W4) 2 1/2" ZURN WILKINS 375 BACKFLOW PREVENTION DEVICE. PER DETAIL 4, SHEET C5.000.
 - (W5) THRUST BLOCK. PER DETAIL 9. SHEET C5.000.
 - (W6) WATER METER. SHOWN FOR REFERENCE ONLY. REFER TO PLUMBING DRAWINGS FOR DETAILS.

FIRE WATER

 - (F1) PVC C-900 FIRE WATER PIPE WITH TRACER WIRE PER DETAIL 10, SHEET C5.000. SIZE AND MATERIAL PER PLAN.
 - (F2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE FIRE PROTECTION DRAWINGS FOR CONTINUATION.
 - (F3) POINT OF CONNECTION TO AN EXISTING WATER LINE.
 - (F4) 6" FEBCO 876V BACKFLOW PREVENTION DEVICE. PER DETAIL 3, SHEET C5.000.
 - (F5) THRUST BLOCK. PER DETAIL 9, SHEET C5.000.
 - (F6) TWO-WAY FIRE DEPARTMENT CONNECTION.
 - (F7) FIRE SPRINKLER SUMP BASIN. SHOWN FOR REFERENCE ONLY. SEE PLUMBING DRAWINGS FOR DETAILS.

IRRIGATION

 - (IR1) IRRIGATION LINE. SHOWN FOR COORDINATION PURPOSES ONLY. SEE IRRIGATION PLANS FOR MORE DETAIL.

OTHER UTILITIES

 - (U1) ELECTRICAL CONDUIT. SHOWN FOR COORDINATION PURPOSES ONLY. SEE ELECTRICAL PLANS FOR MORE DETAIL.
 - (U2) TELECOM LINE. SHOWN FOR COORDINATION PURPOSES ONLY. SEE TELECOM PLANS FOR MORE DETAIL.
 - (U3) FIRE ALARM LINE. SHOWN FOR COORDINATION PURPOSES ONLY. SEE FIRE ALARM PLANS FOR MORE DETAIL.
 - (U4) MECHANICAL LINE. SHOWN FOR COORDINATION PURPOSES ONLY. SEE PLUMBING PLANS FOR DETAILS.
 - (U5) STREET LIGHT. SHOWN FOR COORDINATION PURPOSES ONLY. SEE MEP PLANS FOR DETAILS.

FOR DSA USE ONLY

LONG BEACH CITY COLLEGE

BUILDING MM - CONSTRUCTION TRADES II

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Date	Description
08/02/2021	DSA SUBMISSION
01/10/2022	DSA BACK CHECK
1 09/26/2022	ADDENDUM 1

Seal / Signature

Project Name
BUILDING MM - CONSTRUCTION TRADES II

Project Number
2000746

Description
UTILITY PLAN

Scale

C1.400

2028

**BUILDING MM -
CONSTRUCTION
TRADES II**1305 EAST PACIFIC COAST HIGHWAY,
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p2sinc.com

△ Date	Description
08/02/2021	DSA SUBMISSION
01/10/2022	DSA BACK CHECK
1 09/26/2022	ADDENDUM 1

Seal / Signature



Project Name

**BUILDING MM -
CONSTRUCTION TRADES II**

Project Number

05.2882.000

Description

SITE PLAN

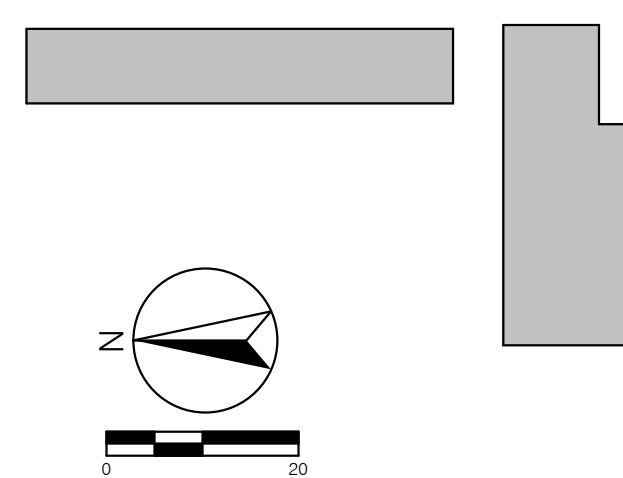
Scale

1" = 20'-0"

Ref North

P1.001**SHEET NOTES**

- 1 PIPING BELOW GRADE AT 5 FT OUTSIDE THE BUILDING. SEE CIVIL DRAWINGS FOR CONTINUATION.
- 2 OD DISCHARGE TO GRADE. TERMINATE THRU WALL WITH MIFAB R1960 HINGED TYPE DOWNSPOUT NOZZLE AT 18" ABOVE FINISH GRADE.
- 3 PRECAST CONCRETE SUMP BASIN 36" DIA X 60" DEEP COMPLETE WITH MANHOLE COVER. SEE DETAIL 2/P6-033.
- 4 CAP OR PLUG EXISTING GAS PIPING BELOW GRADE THAT SERVES EXISTING BLDG TO BE DEMOLISHED. POINT OF DISCONNECTION SHALL BE AS CLOSE AS POSSIBLE TO EXISTING TEE FITTINGS. EXISTING PIPE DOWNSTREAM OF POINT OF DISCONNECTION SHALL BE REMOVED OR ABANDONED IN PLACE. IF ABANDONED, CONTRACTOR SHALL PURGE THE EXISTING PIPING WITH NITROGEN TO EVACUATE ALL THE GAS THEN CAP END OF TERMINATION. COORDINATE EXTENT OF DEMOLITION WITH ARCHITECTURAL AND CIVIL DRAWINGS.
- 5 EXISTING GAS PIPING TO BE PROTECTED IN PLACE. CONTRACTOR TO VERIFY EXACT LOCATION IN FIELD PRIOR TO MASS EXCAVATION. CONTRACTOR SHALL COORDINATE WITH DEMOLITION CONTRACTOR TO PROVIDE MEANS OF PROTECTION FOR EXISTING GAS PIPING TO REMAIN.
- 6 SEE CIVIL DRAWINGS FOR CW PIPING ROUTING REQUIREMENTS BETWEEN BUILDINGS.

KEY PLAN



BUILDING MM -
CONSTRUCTION
TRADES II

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San Diego | San Jose

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1 09/26/2022	ADDENDUM 1

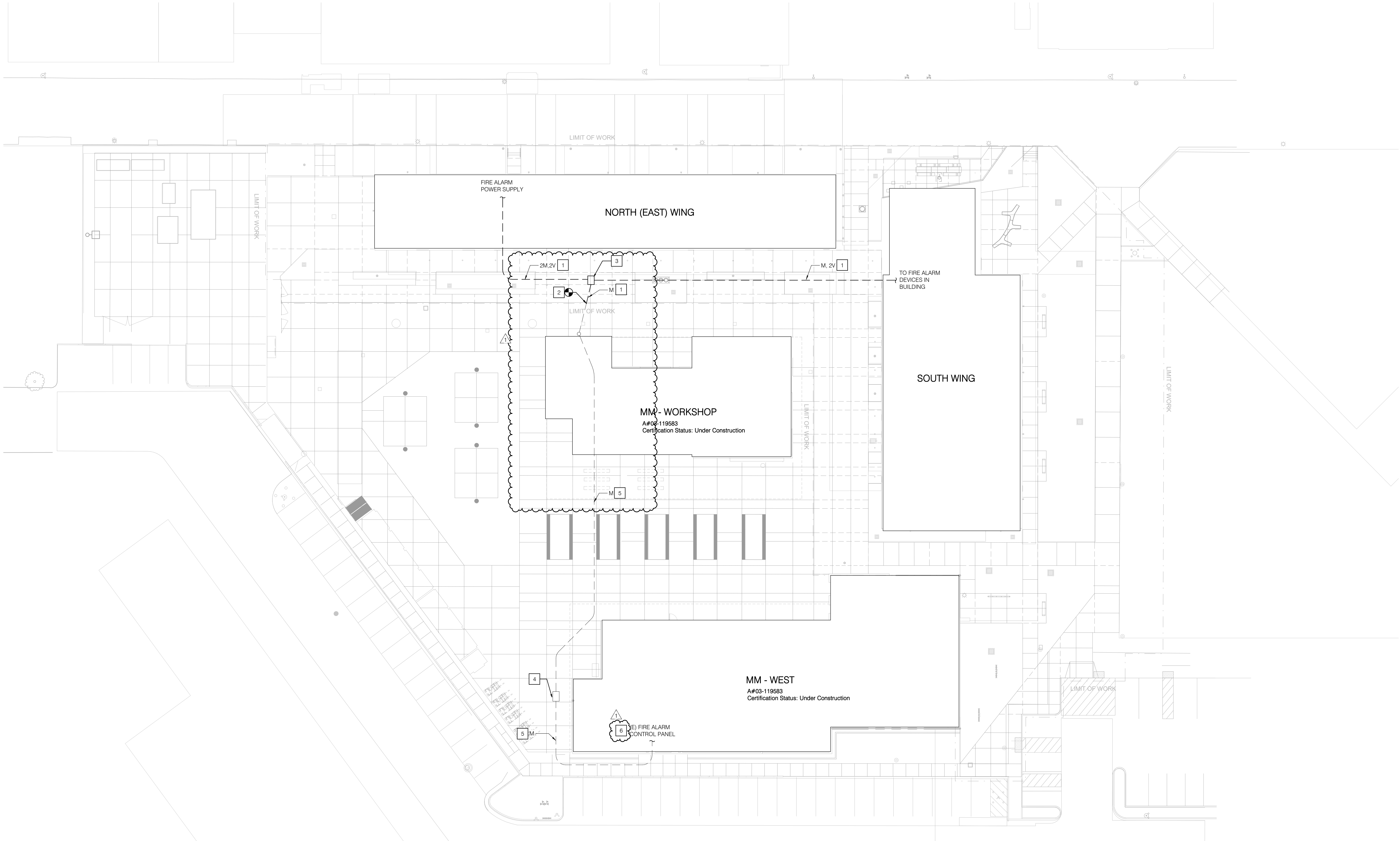
Seal / Signature



Project Name	BUILDING MM - CONSTRUCTION TRADES II
Project Number	05.2882.000
Description	SITE PLAN

Scale	1" = 20'-0"	Ref North
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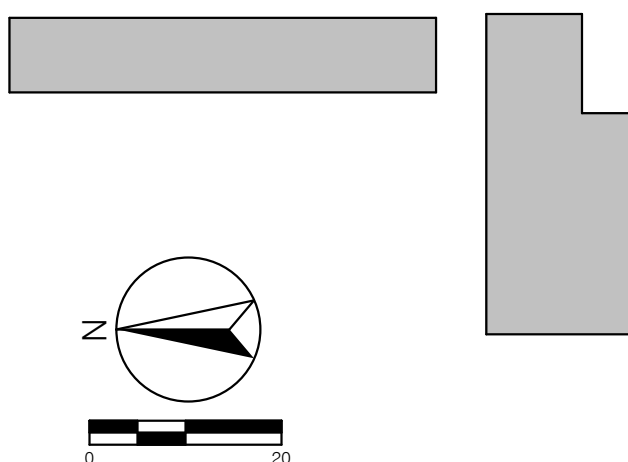
FA1.001



SHEET NOTES

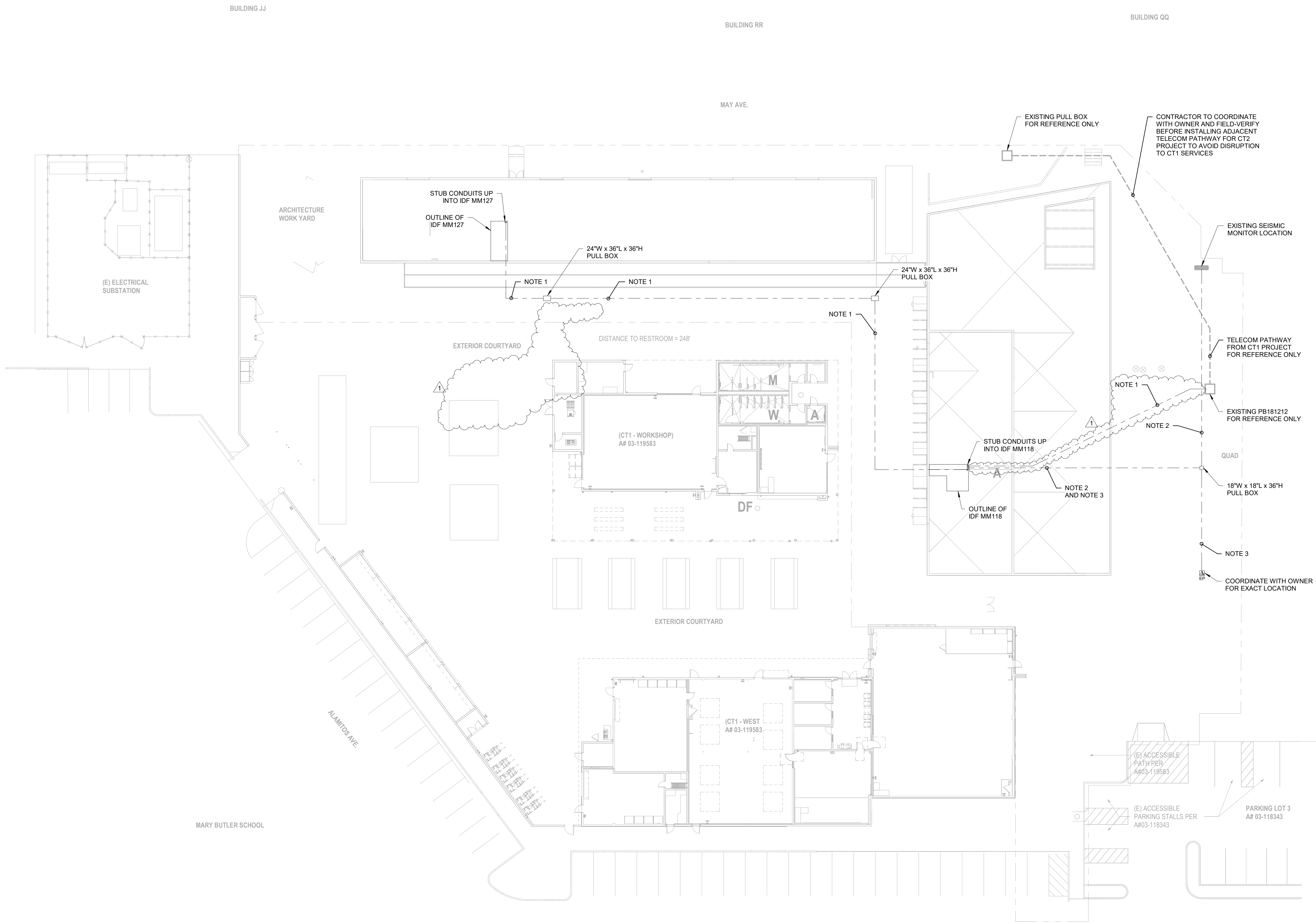
- 1 PROVIDE 1" C AND FIRE ALARM CABLE AS SHOWN.
- 2 PROVIDE 1" C TO INTERCEPT (E) CONDUIT TO TIE INTO (E) FIRE ALARM CONTROL PANEL.
- 3 PROVIDE FIRE ALARM 11" X 17" PULLBOX.
- 4 (E) FIRE ALARM 11" X 17" PULLBOX.
- 5 PROVIDE FIRE ALARM WIRING IN (E) CONDUIT BACK TO (E) FIRE ALARM CONTROL PANEL.
- 6 UPDATE BATTERY SIZE IN (E) FACP PER SHEET FA8.002

KEY PLAN



NOTES (THIS SHEET ONLY)

1. PVC CONDUITS IN CONCRETE ENCASED DUCT BANK FROM MANHOLE FOR INCOMING TELECOMMUNICATION SERVICES. PROVIDE TWO 4" CONDUITS WITH THREE PACKS MAXCELL 3" 3-CELL FABRIC INNERDUCTS IN EACH 4" CONDUIT. COORDINATE ROUTING AND TERMINATION LOCATIONS WITH OWNER AND ARCHITECT.
2. ONE 2" UNDERGROUND CONDUIT FOR EXISTING SEISMIC MONITOR (OWNER FURNISHED, OWNER INSTALLED CABLING). COORDINATE ROUTING AND TERMINATION LOCATIONS WITH OWNER AND ARCHITECT.
3. ONE 1.25" UNDERGROUND CONDUIT.



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1 09/26/2022	ADDENDUM 1

Seal / Signature



Project Name
**BUILDING MM -
CONSTRUCTION TRADES II**

Project Number
05.2882.000

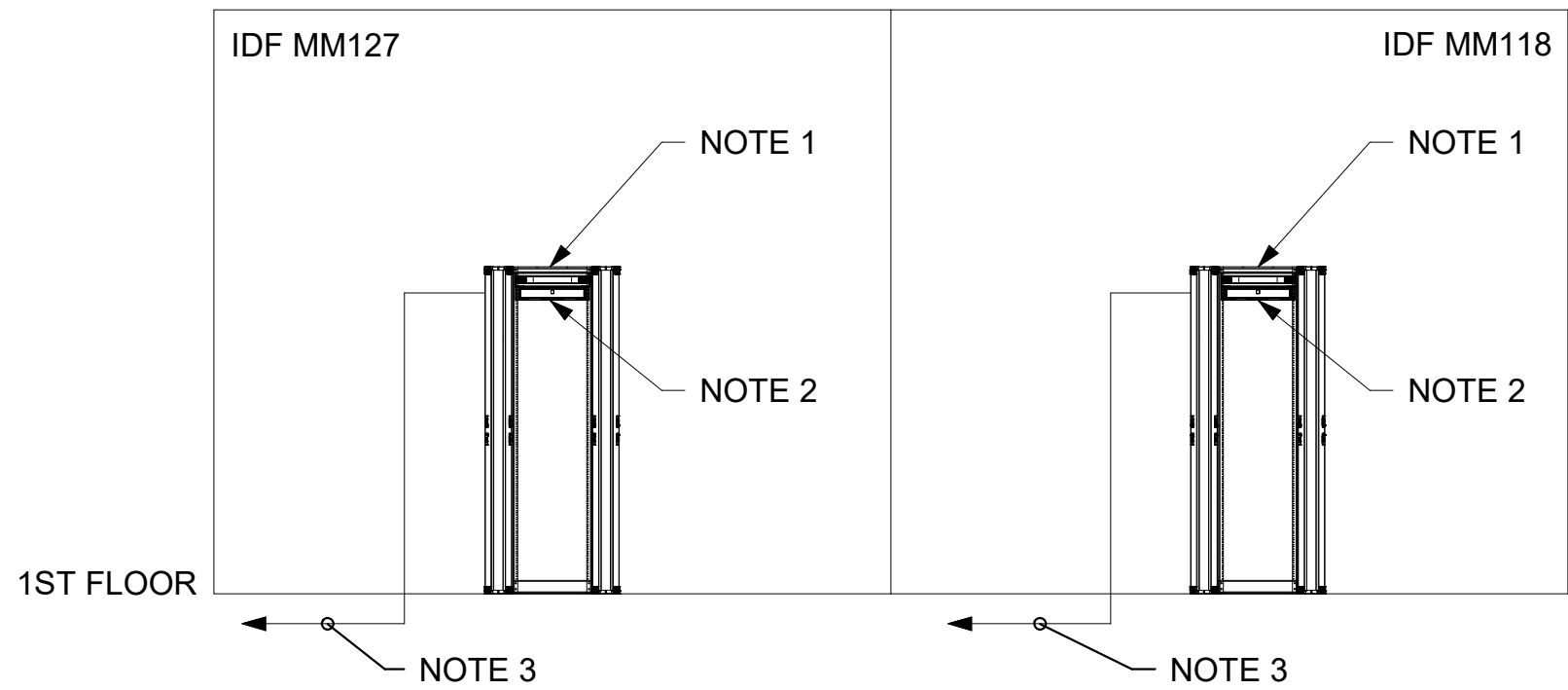
Description
TELECOM SITE PLAN

Scale
1" = 20'-0"

T1.000

NOTES (THIS DETAIL ONLY)

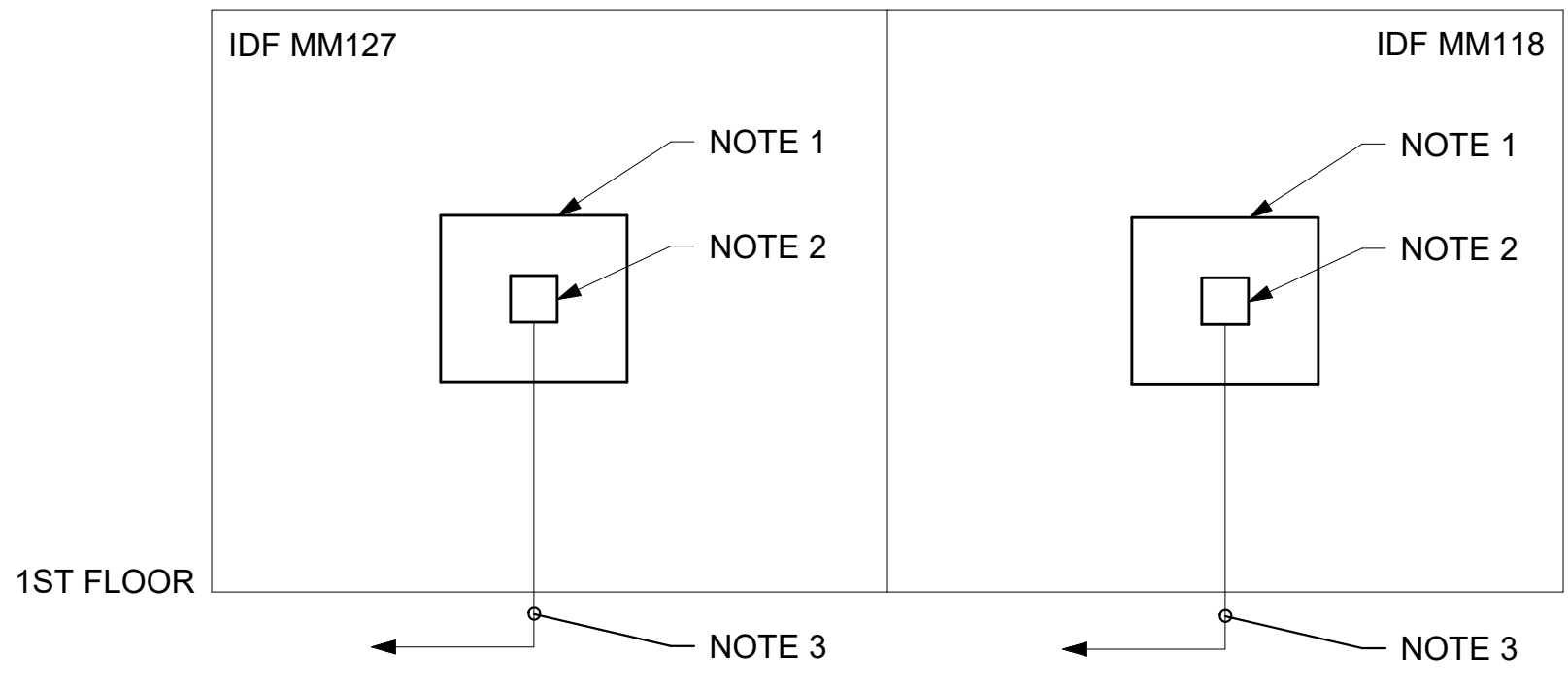
- TELECOMMUNICATION EQUIPMENT RACK. SEE T2.002 FOR INFORMATION.
- FIBER OPTIC PATCH PANEL. SEE T2.002 FOR INFORMATION.
- 24-STRAND SINGLEMODE OS2 INTERBUILDING FIBER. HOMERUN TO CAMPUS MDF. CONTRACTOR TO FIELD VERIFY LOCATION WITH OWNER.



1 FIBER OPTIC RISER DIAGRAM
NO SCALE

NOTES (THIS DETAIL ONLY)

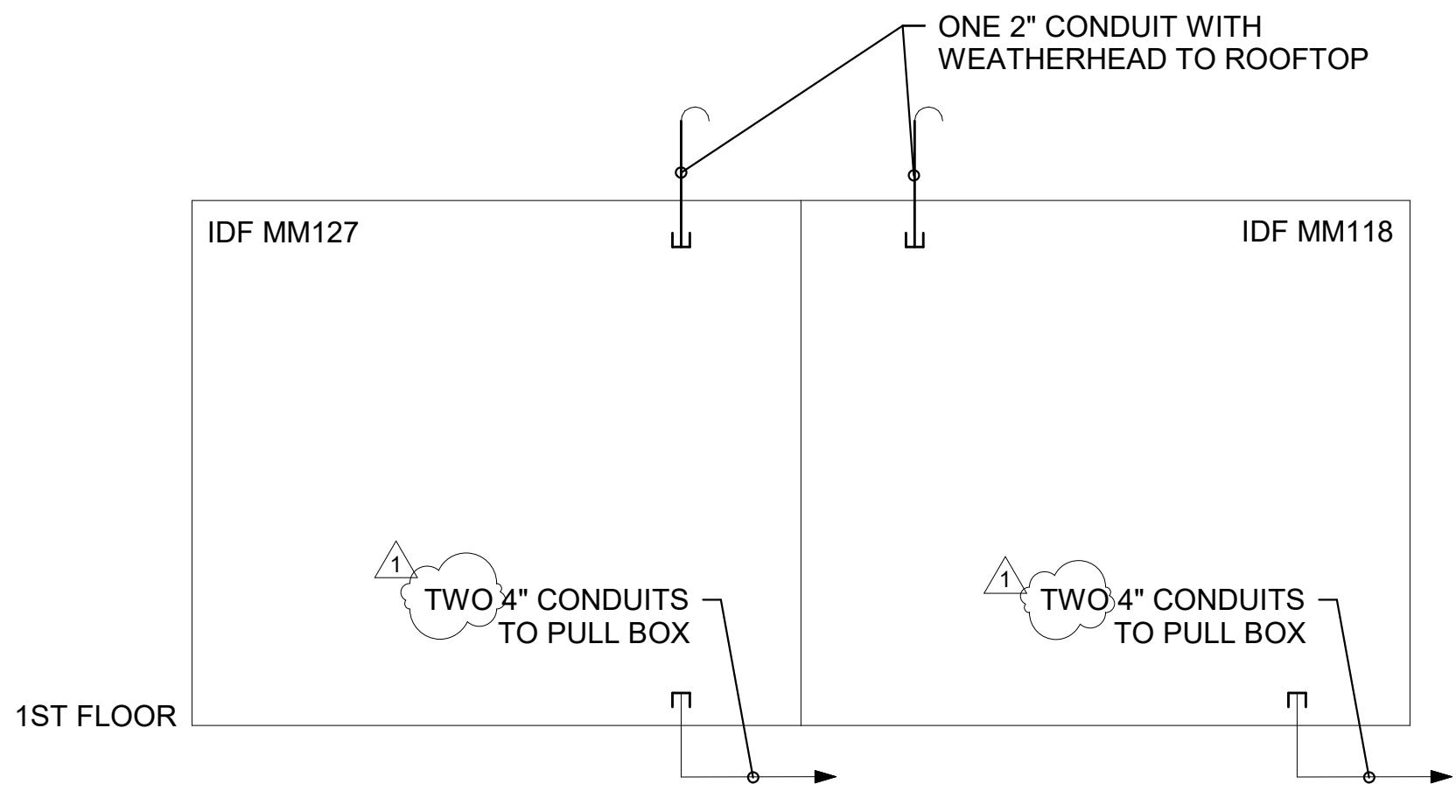
- TELECOMMUNICATION BACKBOARD. SEE T2.001 FOR INFORMATION.
- PRIMARY PROTECTION BLOCK.
- 25-PAIR INTERBUILDING VOICE CABLE. HOMERUN TO BUILDING YY NEAR SOUTH OF THE CAMPUS. CONTRACTOR TO FEILD VERIFY LOCATION WITH OWNER.



2 VOICE RISER DIAGRAM
NO SCALE

NOTES (THIS DETAIL ONLY)

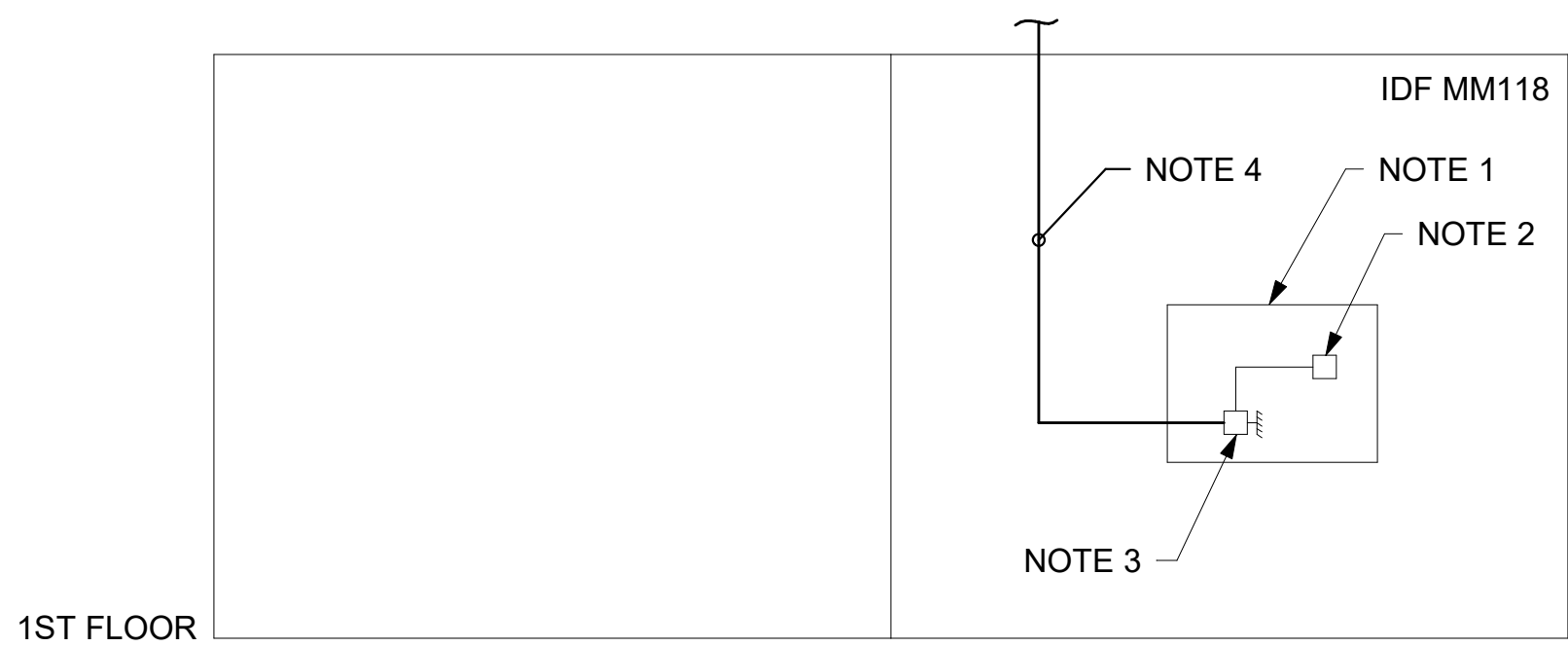
- THIS RISER SHOWN FOR FLOOR TO FLOOR CONNECTIVITY. SEE SITE AND FLOOR PLANS FOR SPECIFIC CONDUIT SIZING AND LOCATIONS.



3 CONDUIT RISER DIAGRAM
NO SCALE

NOTES (THIS DETAIL ONLY)

- TELECOMMUNICATION BACKBOARD. SEE T2.001 FOR INFORMATION.
- DIRECTIONAL COUPLER.
- GROUND BLOCK.
- EXTERIOR CATV INCOMING CABLE FROM CATV ANTENNA (BY OTHERS).



4 CATV RISER DIAGRAM
NO SCALE

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BUILDING MM -
CONSTRUCTION
TRADES II

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Date	Description
08/02/2021	DSA SUBMISSION
01/10/2022	DSA BACK CHECK
1 09/26/2022	ADDENDUM 1

Seal / Signature



Project Name

BUILDING MM -
CONSTRUCTION TRADES II

Project Number

05.2882.000

Description

TELECOM RISER DIAGRAMS

Scale

1/4" = 1'-0"

T3.001

SECTION 011216 – PHASING OF THE WORK

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Requirements for phasing of the Work include logistics, phasing, and completion of designated phases prior to commencement of subsequent phases.

1.02 RELATED SECTIONS

- A. Section 011100: Summary of Work
- B. Section 013100: Project Management and Coordination
- C. Section 013210: Construction Schedule
- D. Section 013300: Submittal Procedures
- E. Section 015000: Construction Facilities and Temporary Controls
- F. Section 017700: Closeout Procedures
- B.

1.03 SUBMITTALS

- A. Contractor shall submit a Project site logistics plans in accordance with and as required by this Section.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 LOGISTICS

- A. Prior to commencement of the Work, Contractor shall prepare and submit, **through Procore**, to the District Representative, a detailed Project site logistic plan, in the same size and scale of the Drawings, setting forth Contractor plan of the Work relative to the following, but not limited to, items:
 - 1. In accordance with local ordinances a truck access route to and from the Project
 - 2. The identification of any overhead wire restrictions for power, street lighting, signal, and/or cable.
 - 3. Local sidewalk access and street closure requirements.
 - 4. Protection of sidewalk pedestrians and vehicular traffic.
 - 5. Project site fencing and access gate locations.
 - 6. Construction parking.

7. Material staging and/or delivery areas.
8. Material storage areas.
9. Temporary trailer locations.
10. Temporary service location and proposed routing of all temporary utilities.
11. Location of temporary and/or accessible fire protection.
12. Trash removal and location of dumpsters.
13. Concrete pumping locations.
14. Crane locations.
15. Location of portable sanitary facilities.
16. Mixer truck wash out locations.
17. Traffic control signage.
18. Perimeter and site lighting.
19. Stockpile and/or lay down areas.
20. Emergency Vehicle Access Routes

- B. A revised Project site logistic plan may be required by the District Representative for separately identified phases of file Work as set forth in this Section.
- C. Contractor is responsible for securing and/or obtaining all approvals and permits from authorities having jurisdiction relative to logistic plan activities.

3.02 PHASING OF THE WORK:

- A. Project will be constructed in separate Milestone increments, as identified or as described in this Section and/or the Contract Documents. Phasing will also delineate Work to be completed in each designated phase. Unless otherwise approved or directed by the District Representative, each phase shall be completed according to the approved Construction Schedule prior to the commencement of the next subsequent phase. Contractor shall incorporate and coordinate the Work of Separate Work Contracts relative to this Project into the Phasing and Construction Schedule.
- B. Contractor shall install all necessary Work for phased Work before completion of the designated phase.

3.03 PHASING OF THE WORK – GENERAL:

- A. Contractor shall prepare the Milestone Schedule in order to complete the Work and related activities in accordance with the phasing plan. Contractor shall include all costs to complete all Work within the Milestones and/or Contract Time.
- B. Owner will be seriously damaged by not having all Work completed within the Milestones and/or Contract Time. It is mandatory the Work be complete within the Milestones and/or Contract Contractor shall install all necessary Work for phased Work before completion of the designated phase.

END OF SECTION 011216

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections:
 - 1. Division 1 Section "Section 012500 - Substitution Procedures" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 ADDENDA

- A. Addenda shall be signed by Architect and approved by DSA.

1.4 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.5 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: BMT will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. Request will be generated, and must be responded to, within Procore. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by BMT are not instructions either to stop work in progress or to execute the proposed change.
 - 2. **Within 10 days**, unless indicated otherwise, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the

Contract Time necessary to execute the change. Refer to the General Conditions for additional requirements.

- a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use CSI Form 13.6B "Proposal Worksheet Summary" and 13.6C "Proposal Worksheet Detail" or Contractor's comparable forms.
- B. Contractor Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to the BMT and Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 7. Proposal Request Form: Use CSI Form 13.6A "Change Order Request (Proposal)" with attachments CSI Form 13.6B "Proposal Worksheet Summary" and 13.6C "Proposal Worksheet Detail" or Contractor's comparable forms.

1.6 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: Refer to Division 1 Section "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.7 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, the BMT will issue a Change Order, through Procore, for signatures of Owner, Architect, and Contractor.
 - 1. Change Orders shall be signed by the Architect, Contractor, Owner and BMT.
 - 2. Previous change orders and change order execution status can be viewed within Procore

1.8 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: BMT may issue a Construction Change Directive, through Procore, to instruct the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

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 Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections:
 - 1. Division 1 Section "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Division 1 Section "Construction Schedule" for administrative requirements governing the preparation and submittal of Contractor's Contractor schedule.
 - 4. Division 1 Section "Submittal Procedures" for administrative requirements governing the preparation and submittal of submittal schedule.

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.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's Contractor schedule.
 - 1. Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Schedule of Values submittal to be sent through the Procore

- d. Items required to be indicated as separate activities in Contractor's Contractor schedule.
 2. Submit the schedule of values to the BMT at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 3. Sub-schedules for Phased Work: If at any time the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
 4. Sub-schedules for Separate Elements of Work: Where the Contractor's Contractor schedule defines separate elements of the Work; provide sub-schedules showing values correlated with each element.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Name of IOR.
 - d. Name of BMT.
 - e. Project Number.
 - f. Contractor's name and address.
 - g. Date of submittal.
 2. Arrange schedule of values consistent with format of AIA Document G703.
 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of Contract Sum.

- a. Include separate line items under Contractor and principal subcontracts for project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
10. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
11. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner. A history of each payment application may be viewed within Procore.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

1. Contractor shall provide a draft of the Payment Application on the 25th of the month proceeding the end of the period for review by BMT, the IOR and the Architect.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. BMT and Architect will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Materials previously stored and included in previous Applications for Payment.
 - b. Work completed for this Application utilizing previously stored materials.
 - c. Additional materials stored with this Application.
 - d. Total materials remaining stored, including materials with this Application.
- F. Transmittal: Submit four signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 1. Submit required waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of principal suppliers, fabricators, and subcontractors.
 2. Certified Schedule of Values.
 3. Contractor's Contractor schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Copies of building permits.
 6. Certificates of insurance and insurance policies.
 7. Performance and payment bonds.
 8. Data needed to acquire Owner's insurance.
 9. Construction Schedule
 10. Submittal Schedule (Design Schedule)
 11. Certified Payroll
 12. Storm Water Pollution Prevention Plan (SWPPP)
- I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Occupancy permits and similar approvals by authorities having jurisdiction over Work.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Updated final statement, accounting for final changes to the Contract Sum.
 5. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 6. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 7. AIA Document G707, "Consent of Surety to Final Payment."
 8. Evidence that claims have been settled.
 9. Removal of temporary facilities and services.
 10. Testing, adjusting and balance records.

11. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
12. Start-up performance reports.
13. District training and orientations.
14. Operating and maintenance instruction manuals.
15. Preliminary Warranties, guarantees and maintenance agreements
16. Delivery of extra materials, products and/or stock.
17. Final liquidated damages settlement statement.
18. Retention Escrow Deposit Request Form (if applicable)
19. Consent of Surety to Final Payment
20. Conditional Waiver and Release Upon Final Payment (Contractor/Subcontractor)
21. Unconditional Waiver and Release Upon Final Payment (Contractor/Subcontractor)
22. Notice of Project Completion & Recommendation of Acceptance (w/required attachments)
23. Final Punch List
24. Certification Re Insurance
25. Certification Re Satisfaction of Indebtedness
26. Guarantee Form
27. Asbestos and Other Hazardous Materials Certification
28. SWPPP and NPDES District Requirements for Maintenance.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 012973 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Submit to the Long Beach City College, one (1) copy of an accurate and realistic Schedule of Values (Schedule) allocated to the various portions of the work, at least 15 days prior to the date of the Contractor's first application for payment.
Submittal shall be completed through Procore.
- B. The Schedule of Values, unless objected to by the Long Beach City College, shall become the basis for the Contractor's application for payment.
 - 1. Upon request by the BMT, support values given with data that will substantiate their correctness.
 - 2. Payment for materials stored shall be limited to those materials approved by the BMT and is only at the Owners discretion.
- C. Related requirements specified elsewhere.
 - 1. Project General Requirements.
 - 2. Construction Schedule, Section 013210.

1.02 FORM OF SUBMITTAL

- A. Identify schedule with:
 - 1. Title of project and location.
 - 2. Specification number.
 - 3. Name and address of Contractor.
 - 4. Date of submission.
- B. Schedule shall list the value of the component parts of work in sufficient detail to serve as a basis for computing values for progress payments during construction.
- C. Use the Construction Schedule (Section 013210) of the project specifications as a basis for the format for listing component items.
- D. List sub-values of major products or operations for each line item. Additional sub-values may be requested by the BMT.
- E. Costs for the various portions of the work:
 - 1. Each item shall include a directly proportion amount of the Contractor's overhead and profit.
 - 2. For items on which progress payments will be requested for stored products, list the total installed value, including Contractor's overhead and profit.
- F. A similar detailed schedule, itemizing costs and/or credits in a form satisfactory to the BMT shall accompany all quotations for changes in the work or for extra work.

- G. Round off figures to nearest ten dollars whenever possible.
- H. The sum of all values listed in the schedule shall equal the total contract sum.
- I. **Schedule of Values submittal to be sent through the Procore**

1.03 REVIEW AND RESUBMITTAL

- A. After review by the BMT, revise and resubmit Schedule as required. Resubmit revised Schedule in same manner.
- B. Progress payments will not be made until Schedule has been approved.

END OF SECTION 012973

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Administrative and supervisory personnel.
 - 3. Coordination drawings.
 - 4. Requests for Information (RFIs).
 - 5. Project meetings.
- B. Related Sections:
 - 1. Division 1 Section "Construction Schedule" for preparing and submitting Contractor's construction schedule.
 - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.
 - 4. Division 1 Section "Electric Project Management Information System" for coordinating with District's Electronic Project Management Information System (PMIS).

1.3 DEFINITIONS

- A. RFI: Request from Owner, BMT, Architect, or Contractor seeking information from each other during construction.

1.4 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Pre-installation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.
 - 9. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if

coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Execution: The mechanical subcontractor shall prepare ductwork fabrication drawings and BIM model for review and coordination with the architect and other design consultants, the electrical, plumbing, sprinkler and other relative subcontractors. Drawings shall be in sufficient detail to show overall ductwork dimensions, clearances, and relative locations of work in allotted spaces. Ductwork routing and sectional elevations shall be provided for congested areas. The mechanical subcontractor will disseminate the ductwork drawings and will direct and expedite review by the various trades. Each trade shall indicate where conflicts or clearance problems exist for their work and subsequently seek resolution from the Architect/Engineer via General Contractor. Final coordinated drawings shall be produced by the mechanical subcontractor, who shall obtain approval for any changes to duct or pipe sizes and significant changes in routing. Electrical, sprinkler, and other relative subcontractors are required to participate in and cooperate fully with the coordination process.
 - a. The mechanical subcontractor to include the GC, Owner and Architect in BIM coordination meetings.
2. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Construction Manager and the Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.

2. Plenum Space: Indicate sub-framing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire protection, fire alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inch diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire alarm locations.
 - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
 - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Fire Protection System: Show the following:
 - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
9. Review: Construction Manager and Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Construction Manager and Architect determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Construction Manager and Architect will so inform the Contractor, who shall make changes as directed and resubmit.
10. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 1 Section "Submittal Procedures."

1.6 KEY PERSONNEL

- A. Key Personnel Names: Within **15 days** of starting construction operations, submit, **through Procore** a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.7 REQUESTS FOR INFORMATION OR INTERPRETATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
 2. **RFIs to be sent through Procore**
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of BMT
 6. Name of Architect.
 7. RFI number, numbered sequentially.
 8. RFI subject.
 9. Specification Section number and title and related paragraphs, as appropriate.
 10. Drawing number and detail references, as appropriate.
 11. Field dimensions and conditions, as appropriate.
 12. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 13. Contractor's signature.
 14. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716, CSI Form 13.2A, or Contractor's comparable form. The Contractor is to use **Procore** for all RFI coordination, See General Conditions.

- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify the BMT and Architect within seven days if Contractor disagrees with response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Use CSI Log Form 13.2B or Contractor's comparable form. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were dropped and not submitted.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify the BMT and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: The BMT will record significant conference discussions, agreements, and disagreements, including required corrective measures and actions. Distribute the meeting minutes to each party present, to parties who should have been present, and to other parties requiring information within three days of the meeting. **Historical meeting data will be available through Procore.**
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner, BMT and Architect.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner, BMT, Architect, and their consultants; Contractor and its superintendent; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of record documents.
 - m. Use of the premises and existing building(s).
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Construction waste management and recycling.
 - u. Parking availability.
 - v. Office, work, and storage areas.
 - w. Equipment deliveries and priorities.
 - x. First aid.
 - y. Security.
 - z. Progress cleaning.
 4. Minutes: The BMT will record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

Distribute the meeting minutes to each party present, to parties who should have been present, and to other parties requiring information of the meeting. **Historical meeting data will be available through Procore.**

- C. Pre-installation Conferences: The Contractor shall conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction, or prior to a new subcontractor is about to start on site, so their scope can be understood by all parties.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 3. Minutes: The Contractor is responsible for conducting meeting will record significant conference discussions, agreements, and disagreements, including required corrective measures and actions. Distribute the meeting minutes to each party present, to parties who should have been present, and to other parties requiring information within three days of the meeting. **Historical meeting data will be available through Procore.**

4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner, BMT, IOR and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing operations and maintenance data.
 - e. Requirements for demonstration and training.
 - f. Preparation of Contractor's punch list.
 - g. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - h. Submittal procedures.
 - i. Owner's partial occupancy requirements.
 - j. Installation of Owner's furniture, fixtures, and equipment.
 - k. Responsibility for removing temporary facilities and controls.
 4. Minutes: The BMT will record significant conference discussions, agreements, and disagreements, including required corrective measures and actions. Distribute the meeting minutes to each party present, to parties who should have been present, and to other parties requiring information. **Historical meeting data will be available through Procore.**
- E. Progress Meetings: The BMT will conduct progress meetings at weekly intervals or at intervals approved by Owner.
1. Contractor shall coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner, BMT, Project Inspector and Architect, each contractor, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Minutes: The BMT will record significant conference discussions, agreements, and disagreements, including required corrective measures and actions. Distribute the meeting minutes to each party present, to parties who should have been present, and to other parties requiring information of the meeting. **Historical meeting data will be available through Procore.**
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013119 - PROGRESS MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

Scheduling and administration of progress meetings.

1.02 RELATED REQUIREMENTS

- A. Instructions to Bidders
- B. Project General Requirements
- C. Construction Schedules
- D. Shop Drawings, Product Data and Samples
- E. Quality Control
- F. Temporary Facilities

1.03 PROGRESS MEETINGS

- A. The CONTRACTOR will schedule Construction Progress Meetings, coordination meetings and pre-installation conferences throughout the progress of work. BMT will be responsible for the administrating and distributing meeting minutes from the weekly site meetings with the CONTRACTOR, but the CONTRACTOR is responsible to minute and distribute all other weekly subcontractor coordination and pre-installation meeting minutes.
- B. The BMT will set dates and times, make physical arrangements, prepare agenda and distribute notice of each meeting to Contractor, Architect, and Inspector of Record (IOR) in advance of or at meetings. **Agenda, along with all historical meeting data, will be distributed through Procore.**
- C. The BMT will preside at the weekly construction meeting with the CONTRACTOR; record minutes and distribute copies to participants.
- D. Location of meetings: Project's field office, Construction Site, or BMT's office.
- E. Attendance: BMT, IOR, Contractor or his authorized representative, and job superintendent, CONTRACTOR Architect. Subcontractors, suppliers and others shall attend as appropriate to agenda; Design Engineers and others shall attend when appropriate.
- F. Minimum Agenda :
 - 1. Approval of minutes of previous meetings.

2. Review of work progress.
3. Field observations, problems and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Review, maintenance, and adjustment of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.
14. Site safety.

END OF SECTION 013119

SECTION 013130 - ELECTRONIC PROJECT MANAGEMENT INFORMATION SYSTEM

PART 1 – GENERAL

1.1 DESCRIPTION

- A. This Section is in addition to the Contract General Conditions.
- B. The Contractor shall be required to use the District's Electronic Project Management Information System (PMIS), **Procore** for electronic construction management document control and communications between the District, Architect of Record, Inspector of Record, other project-related consultants, and Contractor. The system will be maintained and owned by the District but operated collaboratively by the Project Team.
- C. The PMIS will contain the following information available to the contractor and project team:
 - 1. Change Orders (CO) and Logs
 - 2. Construction Change Directives (CCD) and Logs
 - 3. Daily Reports
 - 4. Field Observations and Reports
 - 5. Final Completion
 - 6. Incident Reports and Logs
 - 7. Inspection Requests (IR) and Logs
 - 8. IOR Daily Reports
 - 9. Meeting Minutes
 - 10. Notices to Proceed (NTP)
 - 11. Payment Applications
 - 12. Potential Change Orders (PCO) and Logs
 - 13. Requests for Information (RFI) and Logs

14. Submittals and Logs

15. Substantial Completion

16. Project FTP Site

17. Electronic Drawings, Sketches, and Architect's Supplemental Instructions (ASI)

18. Other Documentation as determined by the District's Representative.

D. All Daily Reports, Incident Reports, IRs, PCOs, RFIs, and Submittals shall submit electronically, via the **Procore** Website. The District will NOT accept faxed and/or computer generated documentation and/or hand written documentation of these documents.

1. The Contractor shall be solely responsible for data entry via the **Procore** Website.
2. The Contractor shall be solely responsible for the scanning of sketches / drawings as necessary for the electronic submittal and attachment of required information.
3. The Contractor shall supply field personnel all necessary computer equipment required for electronic data entry.
4. Submittals shall be submitted via **Procore**, with hard copies provided per Section 013300 Submittal Procedures.

1.2 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor shall have sufficient computer(s) with capabilities to access the system at their on-site and off-site project offices. At the pre-construction meeting, the Contractor shall provide to the District's Representative the email address of **all** Contractor representative(s) that the Contractor designates to have access to the PMIS. This representative(s) shall have sufficient computer skills required to access the Internet, log on to the PMIS, and utilize the PMIS. The District shall provide technical support to the Contractor's personnel for use of the PMIS. The Contractor shall plan on an average of 4-hours training for the Contractor's representative(s) who will be using the system. **Each representative shall complete the Procore Certification: Project Manager at GC (Project Management), and provide a copy of the completion certificate to BMT, prior to utilizing the PMIS.** Having the above capability in place on-site is a condition precedent to processing the Contractor's first payment request.

1.3 OFFICIAL RECORDS

- A. The documentation and records maintained on the PMIS will be the "Official Records" for the project. This documentation shall be the records for the adjudication of any and all disputes.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013130

SECTION 013210 - CONSTRUCTION SCHEDULE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Required procedures, preparation, submittals, reviews, updates, and revisions to the cost/schedule integrated construction schedule. The purpose of this section is to:
 - 1. Ensure adequate planning and execution of the Work by CONTRACTOR.
 - 2. Establish a standard against which satisfactory completion of the Project can be measured by OWNER.
 - 3. Assist CONTRACTOR and the BMT in monitoring progress.
 - 4. Aid in assessing the impact of any changes to the Contract.
 - 5. Provide justification for progress payments.

1.02 RELATED SECTIONS

- A. General and Special Conditions
- B. Section 012900: Payment Procedures
- C. Section 013100: Project Management and Coordination
- D. Section 013300: Submittal Procedures
- E. Section 012973: Schedule of Values
- F. Section 014523: Testing and Inspection
- G. Section 015000: Construction Facilities And Temporary Controls
- H. Section 017700: Closeout Procedures

PART 2 – PRODUCTS

2.01 SCHEDULING SOFTWARE

- A. CONTRACTOR shall utilize Primavera P6 software (latest version) by Primavera Systems, Inc., or equivalent scheduling software to employ the Critical Path Method (CPM) in the development and maintenance of the construction schedule network using the Precedence Diagram Mode (PDM). The scheduling software shall be capable of being resource loaded with manpower, costs and

materials. It shall also be capable of generating time-scaled logic diagrams, resource histograms and profiles, bar charts, layouts and reports with any and/or all activity detail.

- B. All schedule calculation rules, auto cost rules and resource calculation rules shall be in a format acceptable to BMT. When schedule calculations are performed, the "Retained Logic" setting shall be used. CONTRACTOR shall use the zero (0) "Decimal Places" setting.

PART 3 – EXECUTION

3.01 SUBMITTALS

- A. CONTRACTOR shall retain a construction scheduler to work in enough capacity to perform all of the requirements outlined in this Section. CONTRACTOR shall submit, through Procore, a resume of the proposed Scheduler for review and acceptance prior to the preparation of any Schedule. The resume shall demonstrate the proposed scheduler's capability to plan, coordinate, execute, and monitor a cost/resource loaded CPM schedule as required for this Project and have a minimum of five (5) years direct experience using Primavera P6. Scheduler will cooperate with BMT and shall be available on site for monitoring, maintaining and updating schedules in a timely manner. BMT has the right to refuse to accept the Scheduler based upon a lack of experience as required by this Section or based on lack of performance and timeliness of schedule submittals/fragnets on past projects. If the BMT does not accept the proposed Scheduler, CONTRACTOR shall within one (1) week of disapproval, propose another scheduler who meets the experience requirements stated above.
- B. CONTRACTOR shall submit, through Procore, the Preliminary Construction Schedule within 10 days after Notice to Proceed (NTP).
- C. CONTRACTOR shall submit, through Procore, the Proposed Baseline Schedule as required by the date stipulated in Section 013210-3.04.
- D. CONTRACTOR shall submit the Monthly Schedule Updates, Four-Week Rolling Schedules, and Recovery Schedules as required.

3.02 PRELIMINARY CONSTRUCTION SCHEDULE

- A. The purpose of the cost-loaded Preliminary Construction Schedule is to provide a mechanism in which to measure performance on individual activities and to validate the CONTRACTOR'S monthly Application for Payment on work performed (starting with month 1) during the first three months of the job until the complete Baseline Schedule is approved by the BMT.
- B. CONTRACTOR shall develop and submit, through Procore, a cost loaded Preliminary Construction Schedule as required by this Section. It shall be submitted in computer generated network format and shall be organized by Activity Codes representing the CONTRACTOR'S intended sequencing of the

Work. CONTRATOR shall set dates and times for working meetings with BMT to review the Preliminary Construction Schedule. The Preliminary Construction Schedule shall include activities for the first 90 calendar days following the NTP such as mobilization, preparation of submittals, specified review periods, procurement items, fabrication items, milestones, and detailed construction activities.

- C. Upon BMT's acceptance of the Preliminary Construction Schedule, CONTRACTOR shall update the accepted Preliminary Construction Schedule each month (beginning with month 1) and submit these updates until CONTRACTOR'S Baseline Schedule is fully developed and accepted. Since updates to Preliminary Construction Schedule are the basis for payment to CONTRACTOR during the first three-month period, submittal and acceptance of such updates shall be a condition precedent to making of monthly payment, as referenced in General Conditions.
- D. Provide a written narrative describing CONTRACTOR'S approach to mobilization, procurement, and construction during the first 90 calendar days including crew sizes, equipment and material delivery, site access, submittals, and permits.
- E. Submit Bar Charts, Tabular Reports, a Cost flow Histogram, Electronic Data, and Plots in accordance with Section 013210.

3.03 SCHEDULE OF VALUES

- A. CONTRACTOR shall cost load activities in the Preliminary Construction Schedule and allocate costs to the cost accounts of all activities. The cost accounts shall match the CSI subsections listed in the Table of Contents of the Specifications. The format shall be coordinated with Article 8.3 (Progress Payment).
- B. Submit a computer-generated tabular report from the Preliminary Construction Schedule using the P6 scheduling software. The report shall contain the following data for each activity: Cost Account Number (by CSI subsection), Cost Account Description, Cost Account Budget, Cost to Date, Cost this Period, and Cost to complete. Total costs shall be organized and totaled by CSI subsection. This tabular report shall be the source of the data CONTRACTOR reports on the Schedule of Values.
- C. The cost loading associated with the activities shall be based on CONTRACTOR estimates of costs that CONTRACTOR will incur performing the specific activities. If BMT determines that the costs are front loaded and/or the distribution of costs is unreasonable, CONTRACTOR shall revise accordingly and resubmit the Schedule of Values within five (5) days for BMT's review.

3.04 BASELINE SCHEDULE CPM NETWORK

- A. Within thirty (30) days of the Notice to Proceed, CONTRACTOR shall submit, through Procore, a detailed Proposed Baseline Schedule that covers the entire

duration of the Project. This schedule shall convey CONTRACTOR'S plan for organizing, managing, and executing the Work.

- B. The Proposed Baseline Schedule shall include activity descriptions, sequencing, logic relationships, duration estimates, cost loading by CSI subsection, resource loading, and other information as set forth in this Section.
1. The Proposed Baseline Schedule shall include all Milestones stipulated in General Conditions, as well as all activities required to achieve timely completion of the Milestones.
 2. The Proposed Baseline Schedule shall include activities for: all construction activities, the NTP, Milestones, submittals, coordination drawings, re-submittals, procurement of materials and equipment, manufacturing, fabrication & delivery, owner furnished contractor installed items (OFCI), access restrictions, work restrictions, phased occupancy, testing, start-up, and contract closeout activities. The Proposed Baseline Schedule shall allow a period for BMT and ARCHITECT to review each submittal, as required by General Conditions Article 7.3 and other sections which require additional time for OWNER reviews and deferred submittal reviews by Division of State Architects (DSA).
 3. The Proposed Baseline Schedule shall include start and completion dates for: temporary facilities, construction of mock-ups, prototypes, samples, punch list, OWNER interfaces and furnishing of items, separate work contracts, regulatory agency approvals, and permits required for performance of the Work.
 4. The Proposed Baseline Schedule shall allow for all foreseeable factors and risks which affect performance of the Work. Include allowances for weather conditions, applicable laws, transportation, traffic, air quality, noise, or any other applicable regulatory requirements, regulations or collective bargaining agreements pertaining to labor.
 5. CONTRACTOR shall not use any float suppression techniques such as preferential sequencing or logic, special lead/lag constraints or unjustifiable over-estimating of activity durations in preparing the Proposed Baseline Schedule except that Finish No Later Than constraints are permitted for Milestones. No "Zero Free Float" constraints, No "Early" Constraints, and No "Mandatory Finish" constraints shall be utilized.
 6. The Proposed Baseline Schedule shall include activity durations based on the crew sizes and equipment utilization that CONTRACTOR will maintain during the Project. No activity durations shall exceed twenty (20) working days unless approved by the BMT. Non-construction activities such as procurement, fabrication, delivery, or submittal activities are exempted.

7. CONTRACTOR shall include with the Proposed Baseline Schedule a written narrative report sufficiently comprehensive to explain the rationale behind CONTRACTOR'S approach to the Work including but not limited to: activity durations, manpower flow, average crew sizes, equipment requirements, production rates, constraints, holidays and other non-work days, potential problem areas, permits, coordination with regulatory authorities, utilities, separate work contracts and other parties, and long lead delivery items requiring more than thirty (40) days from the date of order to delivery to the Project site.
- C. At the BMT request, furnish a detailed written explanation of CONTRACTOR'S basis for specific durations, logic, phasing, or other information. Such an explanation shall include CONTRACTOR'S rationale for selecting the number of crews, crew composition, number of shifts per day, number of hours in a shift, number of work days per week, construction equipment, and/or similar factors.
- D. The Proposed Baseline Schedule activities shall contain the following data:
 1. Activity ID numbers shall consist of no more than eight (8) alphanumeric characters. Following BMT acceptance of the Baseline Schedule, Activity ID numbers shall not be changed.
 2. Activity Descriptions shall provide adequate information that readily identifies each activity, work scope, and location.
 3. Activity codes specified in section 013210-3.04-G shall be applied to each activity.
 4. Cost accounts (in CSI subsection format) and Resource accounts shall be applied to each activity. They shall include lump sum costs, and man-hours/man-days (where applicable).
- E. At BMT's request, furnish a written explanation for each lead or lag relationship and each constrained date. Unjustifiable leads, lags, and constraints will result in BMT rejection of the Proposed Baseline Schedule.
- F. Calendar Identification: In the scheduling software, identify all activities that will require overtime shifts, double shifts, and work on weekends or holidays. Identify non-work days and holidays in the schedule calendar. All milestones stipulated in General Conditions shall be placed on a calendar with seven (7) days per week. No holiday or non-work-day restrictions are permitted on this calendar.
- G. Activity Codes: As a minimum, the Activity Codes shown in the Table 1 below shall be assigned to each activity and/or be identifiable in the schedule Work Breakdown Structure (WBS).

Table 1

Name	Length	Description
TYPE	2	Type of activity (mobilization, submittals, procurement/fabrication, construction, milestones, etc.)
AREA	2	Area and/or Building (General Conditions, Site, Basement, 1 st Floor, 2 nd Floor, Site Work, Elevators, Roof, etc.)
RESP	7	Responsible Party (subcontractor and/or trade)
SPEC	6	CSI Division and Specification number for Schedule of Values

The BMT may require additional coding of activities. The mandatory activity code requirements listed in Table 1 are not to be construed as setting limits on CONTRACTOR'S management and coordination responsibilities, but are intended to guide CONTRACTOR in the administration of its contractual responsibilities.

H. Milestones are designated dates as set forth in General Conditions in which Work or portions thereof are required to start and/or complete in accordance with the Contract Documents.

1. Where the term completion or similar terms are used in regards to a Milestone, it shall be construed to mean all portions of the Work in the indicated phase, area, and/or zone are complete and acceptable to BMT. Where the term start or similar terms are used in the designation of a Milestone, it shall be construed to mean a portion of the Work in the indicated phase, area, and/or zone is required to be commenced.
2. A Proposed Baseline Schedule extending beyond the Milestones and/or Contract Time will not be acceptable.
3. Finish Milestones shall be constrained with Late Finish (Finish No Later Than) type constraints in accordance with the dates stipulated in General Conditions.
4. In the scheduling software, in the "Project Overview" menu, assign the "Finish on or Before" date to match the Substantial Completion and Contract Completion Milestone dates stipulated in General Conditions.
5. A Proposed Baseline Schedule indicating Work completed in less time than the Milestones and/or Contract Time will not be acceptable. Rather, CONTRACTOR shall show any unused contract time as float.
6. Milestones shall be placed on a calendar with seven (7) days per week No Holiday or non-work-day restrictions are permitted on this calendar.
7. Schedule shall also include work milestone activities including, but not limited to: Demolition Complete, Foundation Complete, Sitework Complete, Elevator Complete, Building Weather Tight, Electrical Equipment Energized, Basement Complete,

- I. The Critical Path shall be clearly indicated on all schedules submitted. An activity is defined as critical when its Total Float is less than or equal to zero (0) days. The critical path is defined as the longest path.
- J. CONTRACTOR shall allow for inclement weather in the Proposed Baseline Schedule by incorporating an activity titled "Rain Day Impact Allowance" as the last activity prior to the Substantial Completion Milestone. No other activities may be concurrent with it. The duration of the Rain Day Impact Allowance activity will be based on Table #2 below, and will be calculated from the Notice to Proceed until the original date of Substantial Completion.

Table 2: Cumulative Calendar Days "Rain Day Impact Allowance": This Project will have a total of thirty (30) Rain days for the duration of the Construction.

When inclement weather at the Project site impacts Critical Path activities, CONTRACTOR may provide the BMT with a written request for a weather impact day describing the inclement weather delay on the Critical Path activities. The inclement weather delay must be clearly indicated by a 70% decrease in the field labor workforce hours on Critical Path activities on the day in question as indicated by CONTRACTOR'S Daily reports from the day in question and the scheduled work days prior to the day in question. Upon the BMT's independent confirmation of the amount of rainfall and impact, BMT will authorize CONTRACTOR to reduce the duration of the Rain Day Impact Allowance by one (1) day.

Inclement weather on non-scheduled workdays shall not be granted as weather impact days. If CONTRACTOR asks to work a specific weekend or holiday and gives BMT advanced, written notification of critical path work to be performed and a substantial amount of precipitation occurs that prevents the work from being performed, then that day can be claimed as a weather impact day. If the effects of inclement weather from a non-scheduled work day carry forward to a scheduled work day and impacts the Critical Path as noted above, then the scheduled work day will be considered impacted by weather. Any unused rain day allowance at the end of the project will be shown as available float to the Substantial Completion Milestone. Excusable, non-compensable time extensions will be granted for inclement weather to Substantial Completion milestone only after the weather impact area affecting the critical path work has exhausted the allotted cumulative Rain Day Impact Allowance.

K. Cost loaded Activities:

1. Each activity included in the Proposed Baseline Schedule shall be assigned the cost CONTRACTOR estimates it will incur performing that activity. Each activity's assigned cost will be inclusive of overhead and profit so CONTRACTOR'S total overhead and profit is distributed over all activities on a pro rata basis. The sum of the costs assigned to activities shall equal the total contract value. No activity costs shall be assigned to manufacturing or delivery activities unless approved by BMT. If the BMT finds that the costs are front loaded and the distribution of costs is unreasonable, CONTRACTOR shall re-distribute the costs and resubmit

the revised Schedule of Values within five (5) days for The BMT back check.

2. CONTRACTOR shall cost load activities in the Proposed Baseline Schedule and allocate costs to related resource/cost accounts associated with each activity. The cost accounts shall match the CSI subsections listed in the Table of Contents of the Specifications. All cost-loaded activities shall roll-up to their designated CSI subsections and shall be the basis for the data reported in the Schedule of Values.
 3. Submit computer generated tabular reports using the scheduling software which will be the basis for the approved Schedule of Values. The reports shall contain the following data for each activity: Cost/Resource Account Number (by CSI subsection), Cost/Resource Account Description, Cost/Resource Account Budget, Material Quantities and Unit Costs, Cumulative Quantities and Cost to Date, Material Quantities and Cost this Period, and Estimated Material Quantities and Cost at Completion. Total Material Quantities and Total Costs shall be organized and totaled by CSI subsection.
 4. Submit a Cost Flow Histogram in accordance with specification Section 013210, 3.04-L-3.
- L. CONTRACTOR shall submit computer generated reports and plots with the Proposed Baseline Schedule submittal package. Format shall display the following columns: Activity ID, Activity Description, Original Duration, Remaining Duration, Percent Complete, Early Start, Early Finish, Late Start, Late Finish, and Total Float.
1. Bar charts shall be generated separately for:
 - a. Milestones only.
 - b. All activities sorted by Early Start date and organized by Project, Area, Stage, & Sub-stage. (The network shall show continuous flow of all activities from left to right).
 - c. All activities sorted by Responsibility.
 - d. Summary level of all activities sorted by craft/trade and area.
 2. Tabular Reports:
 - a. Total Float sorted low to high.
 - b. Predecessors and Successors sorted by Activity ID.

3. Cost Flow Histogram

- a. Using the costs assigned to each activity, develop a Histogram that projects the estimated invoice amounts by month for the Project duration. The histogram shall be produced from the scheduling software on 11x17 size paper (landscape mode). It shall contain both a monthly bar histogram and a cumulative cost curve on the same graph. The Total Costs shall be based on the Early Dates option.

4. Man Power Histogram

- a. Submit a planned man-power graphic bar histogram produced from the scheduling software on 11x17 size paper (landscape mode) that displays total man-hours based on Early Dates. Show both a weekly bar histogram and a cumulative curve on same graph. Upon the Construction Manger request, provide manpower broken down by trade.

5. Provide a written narrative as required by Section 013210-3.04-B-7.

6. Electronic data: Provide electronic P6 files in ".XER" type format.

M. BMT will notify CONTRACTOR of any adjustments that are required for the Proposed Baseline Schedule to be accepted. CONTRACTOR shall perform any required adjustments to the Proposed Baseline Schedule and resubmit it for acceptance certifying in writing that all information contained therein complies with the Contract Documents. The BMT will review the Proposed Baseline Schedule for accuracy, reasonableness, and conformance with the Contract Documents and shall provide comments within ten (10) days of receipt. Within five (5) days after receiving BMT comments, CONTRACTOR shall both incorporate changes to address BMT concerns and resubmit the Proposed Baseline Schedule for BMT back-check. This process will continue until the Proposed Baseline Schedule is accepted as the Baseline Schedule. Once accepted by Construction Manger, the Baseline Schedule will be the basis upon which CONTRACTOR shall prepare updates that record and report actual performance and progress. The accepted Baseline Schedule and subsequent Monthly Updates (reference Section 013210 – 3.04 and 3.05 respectively) shall be the basis for consideration and analysis of requests for time extensions and CONTRACTOR progress payments.

N. BMT acceptance of the Baseline Schedule or CONTRACTOR'S failure to identify and/or include any element of the Contract, shall not release CONTRACTOR'S obligation to complete all required Work in accordance with the Contract Documents.

3.05 REQUIREMENTS FOR MONTHLY/WEEKLY SCHEDULE UPDATING

A. Once the Baseline Schedule is accepted by BMT, CONTRACTOR shall submit Monthly Schedule Updates beginning with month No. 1. The current month's

schedule update cannot be accepted until the previous Monthly Schedule Update has been accepted by BMT.

B. Monthly Schedule Update Format

1. Initially, the Contractor shall status a current Monthly Schedule Update with actual Work progress only. No logic ties shall be modified. Status all Actual Start and Finish dates, adjust Remaining Durations where needed, and update Percent Completion of cost and resource loaded activities. No activity Original Durations or Logic shall be changed unless authorized by BMT. No new activities shall be added unless authorized by the BMT.
2. Once the schedule is status in accordance with Section 013210-3.05-B1, CONTRACTOR shall print (and submit with Monthly Schedule Update) a report of "out-of-sequence" logic that results from the updating process. CONTRACTOR shall then correct all "out-of-sequence" logic to reflect CONTRACTOR'S actual Work sequence. If CONTRACTOR chooses to modify logic or add activities (other than out-of-sequence corrections), it shall be done in accordance with Section 013210-3.07 (Fragnets & Time Extensions Request).
3. During construction, CONTRACTOR may desire to break down specific activities into greater detail. If greater detail is necessary, then CONTRACTOR shall identify expanded activities such that the Baseline Schedule activities that the expanded activities originated from are readily apparent. CONTRACTOR shall not allow the aggregate duration of the expanded activities to exceed the duration assigned to the Baseline Schedule activity unless permitted by BMT in writing.
4. Autocost rules shall link Remaining Duration and Percent Complete.
5. The Data Date for the Monthly Schedule Updates shall be the last day of the month. At a minimum, three (3) days prior to the submission of the Monthly Schedule Update, CONTRACTOR shall meet in person with BMT to present the proposed Percentages of Completion and Actual Start and Actual Finish dates. Once percentages of completion and actual dates have been agreed to, they shall be the basis of the Monthly Schedule Update.
6. CONTRACTOR shall submit a Manpower Histogram that overlays a planned curve from the Baseline Schedule and a planned curve from the current Monthly Schedule Update.
7. Written Narrative Report: CONTRACTOR shall include a written report to explain the Monthly Schedule Update. The narrative shall, at a minimum include the following headings with appropriate discussions of each topic:
 - a. Introduction

- b. A Summary of Work which was on-going This Pay Period
 - c. Problem Areas and Proposed Solutions
 - d. Critical Path
 - e. Current and Anticipated Delays
 - f. Coordination of Work with Others
 - g. Milestone Status
8. In updating the Schedule, CONTRACTOR shall not modify Activity ID numbers, schedule calculation rules/criteria, or the Activity Coding Structure required.
 9. Submit bar charts, tabular reports, a cost flow histogram, man-power histogram, written narrative, electronic data, and plots in accordance with Specification Section 013210-3.04-L.
 10. Submit a cost-loaded report (progressed monthly) produced from the scheduling software that displays all of the activities organized by the CSI subsection cost/resource accounts. This report shall be in compliance with Section 013210-3.04-K, Section 012973 (Schedule of Values) and Section 012900 (Payment Procedures).
- C. Three-Week Look Ahead Schedule: At each Weekly Progress Meeting, CONTRACTOR shall present a Three-Week Schedule in Bar Chart format. It shall show one (1) week of actual and three (3) weeks of forecasted progress. The Three-Week Rolling Schedule shall be used as a basis for discussing progress and work planned during the three (3) weeks.
1. The Three-Week Look Ahead Schedule shall be based on the most recent BMT Accepted Monthly Schedule Update. It shall include weekly updates to all construction, submittal, fabrication/procurement, and separate work contract activities. CONTRACTOR shall ensure that it accurately reflects the current progress of the Work.
 2. CONTRACTOR shall discuss actual dates and any variances to critical or near critical activities.
 3. Upon request by Construction Manager, CONTRACTOR shall provide the Three-Week Look Ahead Schedule in electronic format.
 4. If the Three-Week Look Ahead Schedule indicates activities are behind schedule, CONTRACTOR shall provide a Recovery Schedule in accordance with Section 013210-3.06.

3.06 RECOVERY SCHEDULES

- A. If a Monthly Schedule Update indicates negative float greater than ten (10) days on a critical path as result of events not predicated by Article 7.4 of the General

Conditions CONTRACTOR shall prepare a Proposed Recovery Schedule demonstrating CONTRACTOR'S plan to regain the time lost. The Recovery Schedule shall be submitted either in advance of or concurrent with the Monthly Schedule Update and CONTRACTOR progress request. Both the Monthly Schedule Update and the Proposed Recovery Schedule shall be based on the same percentages of completion and actual dates accepted by BMT under Section 013210 – 3.05 B (Monthly Schedule Update Format).

- B. The Proposed Recovery Schedule shall be based on a copy of the Monthly Schedule Update for the calendar month during which the negative float first appears.
- C. The Proposed Recovery Schedule shall include a narrative that identifies the causes of the negative float on the critical path and provides CONTRACTOR'S proposed corrective action to ensure timely completion of all Milestones and the Substantial Completion Date. CONTRACTOR'S corrective actions shall include but are not limited to increasing concurrent operations, increasing labor, adding multiple shifts in a 24-hour period, and adding overtime.
- D. During any period of time when CONTRACTOR is found to be behind schedule by BMT, the Monthly Schedule Update described in Section 013210 – 3.05 shall become a weekly requirement to provide a greater degree of focus on the timely completion of the Work. These Updates shall be submitted to BMT every Monday morning. When CONTRACTOR is deemed by the BMT to be back on schedule, CONTRACTOR may revert to submitting the schedule monthly.
- E. CONTRACTOR'S progress payment may not be processed until the BMT accepts the Proposed Recovery Schedule. Following such an acceptance, the Proposed Recovery Schedule will be known as the Recovery Schedule and future Work will be performed by CONTRACTOR in accordance with it.

3.07 FRAGNETS & TIME EXTENSION REQUESTS

- A. Float is not for exclusive use or benefit of either OWNER or CONTRACTOR but is an expiring resource available to both parties on a non-discriminatory basis. If required to meet specified Milestones, either party may utilize float. Adjustments to Milestones and/or Contract Time will only be authorized by Change Order and only to the extent the claimed adjustments exceed total float along the most critical path of the current Monthly Schedule Update in effect at the time of the claimed adjustments. The claimed adjustments to the Milestones and/or Contract Time must also cause the Substantial Completion Date to exceed that currently indicated in the Monthly Schedule Update. CONTRACTOR claimed adjustments to an existing negative float path will not receive consideration until the activity with the highest negative float is driven even further negative.

Claimed adjustments to the Milestones and/or Contract Time will be administered in conjunction with those set forth in the General Conditions.

- B. Pursuant to the float sharing requirements of this Section, the use of float suppression techniques such as preferential sequencing or logic, special lead / lag logic restraints, and extended activity times or durations are prohibited. The use of float time disclosed or implied by the use of alternate float suppression

techniques shall be proportionally shared to benefit OWNER and CONTRACTOR. The use of any technique solely for the purpose of suppressing float will result in OWNER rejection of the submitted Monthly Schedule Update.

- C. In the event CONTRACTOR believes the Project has suffered an adverse impact arising from events predicated by Article 7.4 of the General Conditions, CONTRACTOR may prepare a Time Extension Request by submitting a Schedule Fragnet and a written narrative outlining the detail of the impact. A Schedule Fragnet must demonstrate a critical path delay. Such a delay must adversely impact the Substantial Completion Date for CONTRACTOR to receive a time extension. To demonstrate such an impact successfully, CONTRACTOR shall prepare a Schedule Fragnet based on a copy of OWNER accepted Monthly Schedule Update for the calendar month during which the adverse impact occurred. This "copy" of the OWNER accepted Monthly Schedule Update shall however first be updated (by OWNER and CONTRACTOR jointly) with both Percentages of Completion and Actual Dates up to the day the delay commenced. This process will provide the "pre-delay" project status. Once OWNER and CONTRACTOR have agreed to the "pre-delay" project status, CONTRACTOR should make a copy of this "pre-delay" schedule and this copy is to be the starting point for CONTRACTOR'S Schedule Fragnet development. OWNER will evaluate the activities, logic, durations, etc... in the Schedule Fragnet and will evaluate if the adverse impact arose from events described by Article 7.4 of the General Conditions. The Fragnet shall also include CONTRACTOR-caused delays that affect the critical or near critical path in the network and should be accounted for in the Time Impact Analysis if overlapped at any point in time with OWNER-caused delay. If rain impact days were granted between the Start and Finish of OWNER-caused delay period, they should be accounted for in the Time Impact Analysis as well. Provided OWNER determines such an impact occurred, CONTRACTOR may be due a time extension equal to the number of proportioned days of variance/delay that resulted to the Substantial Completion Date.
- D. All activities added into a Schedule Fragnet to demonstrate the impact of adverse event shall be assigned a unique activity code. The Schedule shall be organized by this unique activity code.
- E. The Schedule Fragnet shall incorporate logic that accurately ties reflective of the adverse event to pre-event predecessor activities and post event successor activities.
- F. The format and components of a Schedule Fragnet submittal shall be in accordance with Section 013210 and Article 7.4 of the General Conditions. It is crucial for the Fragnet to be submitted within the same month of discovery so it can be resolved during the monthly schedule update review. The notice shall be transmitted to BMT within the stipulations outlined in Article 9 of the General Conditions.
- G. If OWNER accepts CONTRACTOR'S Schedule Fragnet and an extension is granted, a Change Order will be prepared. OWNER will advise what change order number the time extension will become. When CONTRACTOR receives this Change Order number, all the activities added to the Schedule Fragnet shall be given Activity Identification Numbers that corresponds with the Change Order

number. CONTRACTOR shall cost load and resource-load the activities if required by OWNER. If resource loading is required, the resource loading shall include a breakdown of labor, material, and equipment quantities.

- H. If OWNER rejects CONTRACTOR'S Schedule Fragnet in part based on improper forecast logic or activity tasks then it shall be revised accordingly to conform to the OWNER'S review comments and resubmitted. If the forecast logic and activity tasks cannot be agreed to then the pre-delay schedule outlined in Section 013210-3.07-C shall be compared to the actual as-built data in the succeeding month of the encountering issue, event, condition, circumstance, and/or cause. The variance to the project between the pre-delay and post delay schedules shall be discussed in CONTRACTOR'S written narrative and proportioned between the different parties involved in the delay.
- I. If OWNER rejects CONTRACTOR'S Schedule Fragnet in whole then CONTRACTOR may follow the procedures set forth in Article 16 of the General Conditions.

3.08 PAYMENT FOR SCHEDULING

- A. The Work in Section 013210 will be included as part of the bid price.
- B. Preparation, revising, maintenance, and compliance with Section 013210 is an integral part of the Contract Documents and is specified to have a minimum value equal to 2% of the original Contract Amount or \$150,000, whichever is less. This amount shall be cost loaded into an activity titled "Construction Schedule" in both the Proposed Baseline Schedule and the Schedule of Values described in Section 012973.
 - 1. CONTRACTOR may bill twenty percent (20%) of the amount cost- loaded in the "Construction Schedule" activity when the BMT accepts the Proposed Baseline Schedule as the Baseline Schedule.
 - 2. The remaining eighty percent (80%) may be billed in equal monthly increments. The amount of those increments is determined by dividing the remainder of the amount cost-loaded in the "Construction Schedule" activity divided by the total number of months in the Contract Time. Payment of these incremental amounts is contingent upon BMT acceptance of CONTRACTOR Monthly Schedule Updates, Recovery Schedules, Three-Week Look Ahead Schedule and the updated Log of Required Submittals.

3.09 FAILURE TO COMPLY WITH REQUIREMENTS

- A. At any time during the project if CONTRACTOR fails to comply with the specified requirements, OWNER reserves the right to engage independent estimating and/or scheduling consultants to fulfill these requirements. Upon notice to CONTRACTOR, OWNER shall assess against CONTRACTOR, all incurred costs for these additional services.
- B. In such an event, OWNER will require, and CONTRACTOR shall participate and provide all requested and/or required information to ensure the resulting

Milestones Schedule accurately reflects CONTRACTOR plan to execute the Work in compliance with the Contract Documents. If it becomes necessary for OWNER to recommend logic and/or duration revisions as a result of CONTRACTOR failure to furnish acceptable data, and if CONTRACTOR has objections to the recommendations, CONTRACTOR shall provide notice to OWNER within three (3) days and CONTRACTOR shall provide an acceptable alternate plan. If CONTRACTOR fails to so note any objections and provide an acceptable alternate plan, or if CONTRACTOR implements the recommendations of OWNER without so noting any objections, CONTRACTOR will be deemed to have waived all objections and concurred with the recommended logic/duration revisions provided by ARCHITECT and/or OWNER.

- C. Submittal of any Monthly Schedule Updates is subject to review and acceptance by OWNER. OWNER retains the right, including, but not limited to Article 8 of the General Conditions, to withhold progress payments in whole or part until CONTRACTOR submits a Monthly Schedule Update acceptable to OWNER.

3.10 CONTRACTOR RESPONSIBILITY

- A. Nothing in this Section shall be construed to be a usurpation of CONTRACTOR authority, responsibility, and obligation to plan and schedule Work as CONTRACTOR deems necessary, subject to all other requirements of the Contract Documents.
- B. CONTRACTOR shall involve the subcontractors, manufacturers, and suppliers in the development and periodic updating of the schedule.

3.11 RECORD DOCUMENTS

- A. Prior to Contract Completion of the Work, CONTRACTOR shall submit, through Procore, an as-built time-scaled network diagram reflecting the actual dates of all activities.

END OF SECTION 013210

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SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Preconstruction videos.
 - 4. Periodic construction videos.
- B. Related Sections include the following:
 - 1. Division 1 Section "Submittal Procedures" for submitting photographic documentation.
 - 2. Division 2 Section "Selective Demolition" for photographic documentation before selective demolition operations commence.
 - 3. Division 1 Section "Demonstration and Training" for submitting videos of demonstration of equipment and training of Owner's personnel.

1.3 SUBMITTALS

- A. Construction Photographs: Submit two prints of each photographic view within seven days of taking photographs.
 - 1. Format: Submit a complete set of digital image electronic files with each submittal of prints on CD-ROM, or other electronic storage device. All photos shall be uploaded to Procore within the Contractor's Photographs folder. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, un-cropped. Pictures within the CD-ROM should have reference to the following information.
 - a. Name of Project.
 - b. Name of Construction Manager.

- c. Name of Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier.
- B. Digital Video: Submit two copies of each digital video with protective sleeve or case within seven days of recording. Remove safety tab to prevent accidental re-recording.
- 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name and address of photographer.
 - c. Name of Construction Manager.
 - d. Name of Architect.
 - e. Name of Contractor.
 - f. Date video was recorded.
 - g. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - h. Weather conditions at time of recording.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in uncompressed TIFF format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 pixels.
- B. Digital Video Format: Provide high-quality, high definition color digital video at an image resolution of not less than 1920 x 1080 pixels.
 - 1. Video quality shall be adequate to create photographic prints to be made from individual frames.

PART 3 - EXECUTION

3.1 GENERAL

- A. Contractor shall document preconstruction conditions using photographs or video, including condition of underground utilities, as required. All site documentation photos shall be uploaded to the Contractor's Site Documentation folder within Procore.
- B. Contractor may use photographs or video.

3.2 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in filename for each image.
 - 2. Field Office Images: Maintain one set of images on CD-ROM in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Architect.
- C. Preconstruction Photographs: Before commencement of excavation, commencement of demolition, and starting construction, take color, digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as necessary to document existing conditions.
 - 1. Flag excavation areas and construction limits before taking construction photographs.
 - 2. Take photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of Work.
 - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
 - 5. Show protection efforts by Contractor.
- D. Monthly Construction Photographs: Take color, digital photographs to show existing conditions uncovered as work progresses. Select vantage points to show status of construction and progress since last photographs were taken.

3.3 CONSTRUCTION VIDEOS

- A. Narration: Describe scenes on video by audio narration by microphone while video is recorded. Include description of items being viewed, recent events, and planned activities. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.
 - 1. Confirm date and time at beginning and end of recording.
 - 2. Begin each video with name of Project, Contractor's name, videographer's name, and Project location.
- B. Preconstruction Video: Before commencement of excavation, commencement of demolition, and starting construction, record video of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as necessary to document existing conditions.

1. Flag excavation areas and construction limits before recording construction videos.
 2. Show existing conditions adjacent to Project site before starting the Work.
 3. Show existing buildings either on or adjoining Project site to accurately record physical conditions at the start of Work.
 4. Record additional video as required to record settlement or cracking of adjacent structures, pavements, and improvements.
 5. Show protection efforts by Contractor.
- C. Monthly Construction Videos: Record video to show existing conditions uncovered as work progresses. Select vantage points to show existing construction or condition, status of construction and progress since last video was taken.

END OF SECTION 013233

SECTION 013527 - SITE SAFETY

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Requirements for compliance with OSHA, Cal-OSHA, and other safety requirements

1.02 JOBSITE SAFETY

- A. The Contractor shall be solely responsible for ensuring that all work performed under the Contract is performed in strict compliance with all applicable Federal, State and Local occupational safety regulations. The Contractor shall provide at its expense all safeguards, safety devices and protective equipment, and shall take any and all actions appropriate to providing a safe jobsite.
- B. A multi-employment worksite, as defined by Cal-OSHA, is one in which many employers occupy the same site. The Long Beach City College (LBCC) considers the Contractor to be the "controlling authority" for all work site safety and health of the sub-contractors.

1.03 PROJECT SAFETY OFFICIAL (PSO)

- A. The Contractor shall designate in writing a Project Safety Official (PSO). The PSO must be a competent person capable of identifying existing and predictable hazards in the surroundings of working conditions which are unsanitary, hazardous, or dangerous to employees and must have previous experience on similar types of projects. The PSO shall be thoroughly familiar with the Contractor's INJURY AND ILLNESS PREVENTION PROGRAM (IIPP). The PSO shall be available at the work site at all times work is in progress to promptly abate any potential safety hazards and shall have the authority and responsibility to shut down an operation, if necessary. Failure by the Contractor to provide the required PSO or grant the PSO due authority are grounds upon which the BMT Construction Manager (BMT.) may direct the cessation of all work activities and operations at no cost to LBCC until such time as the Contractor is in compliance.
- B. The Contractor through the PSO shall oversee and be responsible for the provision and maintenance of, including but not limited to the following:
 - 1. A log of safety inspections performed.
 - 2. A proper and adequate First Aid kit shall be maintained on site for one time treatment of minor cuts, scratches, burns, splinters and the like.
 - 3. All applicable Material Safety Data Sheets shall be on site prior to the use of said materials.
 - 4. Display in clear view of the on-site personnel all applicable Federal, State and local regulations dealing with safety including a map denoting the route to the nearest emergency care facility with emergency phone numbers.
 - 5. Maintain an adequate Fire Protection and Prevention plan.

- a. Fire fighting equipment must be well maintained and freely accessible on site in conspicuous locations at all times.
 - b. Fire extinguishers must comply with all applicable Cal - OSHA specification.
 - c. Work shall be carried out complying with the California Fire Code, latest edition as applicable to construction work.
6. Employee Safety Training including but not limited to:
 - a. All equipment operators must be trained and certified as per Contractors INJURY AND ILLNESS PREVENTION PROGRAM (IIPP):
 - b. Training in the use of fire extinguishers.
 - c. Flaggers must be trained.
 - d. Safe Scaffolding usage.
7. Lock-out and block-out procedures for machinery, equipment, electrical and tool related hazards.
8. Heavy equipment procedures and standards.
9. Excavation and trenching hazards.
10. Job site must be fenced adequately (see Section 015000-Construction Facilities and Temporary Controls) to protect Public, including gates to be kept secured at all times. In the rare cases when fences must be temporarily opened to public areas to facilitate construction or the work area can not be effectively fenced, Flaggers must be provided. Job site must be fully secured by the end of the workday with no remaining hazards or obstacles in the public areas.
 - a. Flaggers must be placed in locations so as to give effective warning.
 - b. Flaggers must wear orange or strong yellow-green warning garments, such as vests, jackets, shirts, or rainwear.
11. Electrical hazards and safe procedures.
12. Musculoskeletal hazards.
13. Hazards causing chronic illness, such as exposure to lead, asbestos, and other cancer-causing products.
14. A severe weather plan including ceasing or modifying on-site operations during high temperature, lightning, or high wind velocities, etc.
15. No damaged or hazardous tools will be tolerated on site including but not limited to frayed or damaged electric cords, any tools with missing or altered original safety devices or switches, ladders without proper slip-resistant feet, etc.

16. Any work done using ladders must conform to original proper use of said ladders and all OSHA guidelines. (i.e. including but not limited to top rung of a step ladder is not to be used as a step, extension ladders must extend three rungs above the proposed use height, etc.)
 17. All employees must wear proper Personal Protective Equipment (PPE) and abide by safety work ethics included but not limited to hard hat, proper shoes, long pants, and clothing including gloves, protective eyewear and respirators, no loose clothing, long hair must be restrained, etc.
- C. Provide a site-specific written review of potential or predictable Fall Protection Hazards from heights of six (6) feet or greater. The review should address the need for Fall Protection Systems to mitigate hazards and include equipment and methods employed, responsibilities, training requirements, and monitoring methods. The erection and dismantling operations of scaffolds as well as the fall zones around scaffolds must be included as well.
1. All Fall Protection systems must be properly implemented and maintained.
 2. Fall Protection Plan must be implemented when a Fall Protection System is required but cannot be used. A Fall Protection Plan must be written by a qualified person identified in the plan and actively responsible for the implementation.
- D. Job site safety practices found by County representatives to be in violation of any of Contractors INJURY AND ILLNESS PREVENTION PROGRAM (IIPP) or applicable Federal, State and local occupational safety regulations including any Cal-OSHA issued materials shall be grounds for LBCC to direct the cessation of all work activities and operations affected by this violation at no cost to LBCC until such time as the Contractor notifies LBCC in writing that the Contractor is in compliance.
- E. Safety Indemnification. To the extent allowed by law, the Contractor agrees to defend, indemnify and hold harmless LBCC and its officers, employees and agents including PI, AOR, AOR's consultants, and BMT from and against any and all investigations, complaints, citations, liability, expense (including defense costs and legal fees), claims and/or causes of action for damages of any nature whatsoever, including but not limited to injury or death to employees of the Contractor or its subcontractors or Agency, attributable to any alleged act or omission of the Contractor or its subcontractors which is in violation of any cal/OSHA regulation. The obligation to defend, indemnify and hold harmless includes all investigations and proceedings associated with purported violations of Section 336.10 of Title 8 of the California Code of Regulations pertaining to multi-employer work sites. The Agency may deduct from any payment otherwise due the Contractor any costs incurred or anticipated to be incurred by the Agency, including legal fees and staff costs, associated with any investigation or enforcement proceeding brought by cal/OSHA arising out of the Project.

END OF SECTION 013527

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SECTION 014213 - ABBREVIATIONS, SYMBOLS AND ACRONYMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. List of abbreviations, symbols and acronyms used in these Specifications.

1.02 ABBREVIATIONS:

OAR	Owner's Authorized Representative, i.e., Bond Management Team (BMT), Construction Manager, College Representative, Owner, Owner's representative.
AOR	Architect of Record
EOR	Engineer of Record
PM	Project Manager, OAR
IOR	Inspector of Record, Owner's Inspector, Inspector
ac	Alternating current
BTU	British thermal unit
cfh	Cubic feet per hour
cfm	Cubic feet per minute
cm	Centimeter
Co.	Company
COP	Coefficient of performance
Corp.	Corporation
d	Penny
db.	Decibel
DB	Dry bulb
dc	Direct current
EER	Energy efficiency ratio
F	Degrees Fahrenheit
fpm	Feet per minute
gph	Gallons per hour
gpm	Gallons per minute
HP	Horsepower
HVAC	Heating, ventilating and air conditioning
Hz	Hertz
Inc.	Incorporated
KHz	Kilohertz
lb	Pound
LED	Light emitting diode
MBH	1000 BTUs per hour
mfr	Manufacturer
MHz	Mega hertz
mil	Thousandth of an inch
mm	Millimeter
mph	Miles per hour
oz.	Ounce
pH	Acidity-alkalinity balance
psf	Pounds per square foot

psi	Pounds per square inch
psig	Pounds per square inch, gage
RF	Radio frequency
rpm	Revolutions per minute
V	Volt
WB	Wet bulb

1.03 SYMBOLS

#	Number
'	Foot/Feet
"	Inch(es)
%	Percent

1.04 ACRONYMS

AE	Architect and engineer(s)
ABMA	American Boiler Manufacturers Association
ABMS	American Bureau of Metal Statistics
ABPA	American Board Products Association
ACI	American Concrete Institute
AGA	American Gas Association
AHAM	Association of Heating and Air Conditioning Manufacturers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute
APA	American Plywood Association
AQMD	Air Quality Management District
ARI	Air-Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Institute of America
CCR	California Code of Regulations
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CQC	California Quality Control (CMA Standards)
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards, U.S. Department of Commerce

CTI	Ceramic Tile Institute
CTI	Cooling Tower Institute
DHI	Door and Hardware Institute
DSA	Division of the State Architect, Office of Regulation Services
DBE	Design-Build Entity, Design-Builder
FCC	Federal Communication Commission
FGMA	Flat Glass Marketing Association
FM	Factory Mutual
FS	Federal Specifications
HPMA	Hardwood Plywood Manufacturers Association
IACS	International Annealed Copper Standards
IAMPO	International Association of Plumbing and Mechanical Officials
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical & Electronic Engineers, Inc.
IES	Illuminating Engineering Society
IMI	International Masonry Institute
IRI	Industrial Risk Insurers
Mep	Mechanical, electrical, and plumbing
MIA	Marble Institute of America
MIA	Masonry Institute of America
MLSFA	Metal Lath/Steel Framing Association
MSS	Manufacturers Standardization Society of the Valve & Fittings Industry.
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NCMA	National Concrete Masonry Association
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NOFMA	National Oak Flooring Manufacturers Association
NPCA	National Paint and Coatings Association
NSF	National Sanitation Foundation
NTMA	National Terrazzo & Mosaic Association
NWMA	National Woodwork Manufacturers Association
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
PS	Product Standard, U.S. Department of Commerce
RIS	Redwood Inspection Service
RFCI	Resilient Floor Covering Institute

SCMA	Southern Cypress Manufacturers Association
SDI	Steel Deck Institute
SFPA	Southern Forest Products Association
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structure Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America
UBC	Uniform Building Code
UCI	Uniform Construction Index
UL	Underwriters' Laboratories, Inc.
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
WCLIB	West Coast Lumber Inspection Bureau
WI (WIC)	Woodwork Institute
WWPA	Western Wood Products Association

END OF SECTION 014213

SECTION 014523 - TESTING AND INSPECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. This Section includes the following:
 - 1. Testing and inspection services to meet requirements of the California Building Code (CBC), Title 24, Parts 1 and 2, as indicated in Contract Documents.
 - a. One or more DSA certified inspectors employed by the Owner in accordance with the requirements of California Building Standards Administrative Code will be assigned to the Work with their duties as specifically defined in Sections 4-333(b), 4-333(c), and 4-342.
 - 2. Test of materials are required by a DSA certified testing agency as set forth in Section 4-335 of the California Building Standards Administrative Code.
- B. Related Sections include the following:
 - 1. Division 1 Section "Construction Schedule".
 - 2. Division 1 Section "Submittal Procedures".
 - 3. Division 1 Section "Test and Balance".
 - 4. Division 1 Section "Construction Facilities and Temporary Controls".
 - 5. Division 1 Section "Execution Requirements".
 - 6. Division 2 Section "Selective Demolition".
 - 7. Division 1 Section "Closeout Procedures".

1.3 DEFINITIONS

- A. CBC: California Building Code.
- B. DSA: State of California, Division of the State Architect.
- C. OAR: Owner's Authorized Representative(s), BMT.
- D. BMT: Bond Management Team (Construction Manager)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TESTS

- A. Owner will select and provide an independent testing agency to conduct tests, sampling, and testing of materials. Selection of material to be tested shall be by the agency or the BMT and not by Contractor.
 - 1. Procedural and acceptance criteria shall be as set forth in Section 4-335 of the California Building Standards Administrative Code.
 - 2. As set forth in CBC Section 1705A.1.
- B. Owner will directly reimburse testing agency all costs for all DSA required tests and inspections, but may be reimbursed by Contractor for such costs as noted in related sections of the Contract Documents.
 - 1. Contractor will reimburse Owner or directly reimburse testing agency all costs for retesting required by failed tests as set forth in Sections 4-333(c) and 4-335(c) of the California Building Standards Administrative Code.
- C. Independent testing agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
- D. Independent testing agency shall not perform any duties of Contractor.
- E. Contractor shall notify the BMT a sufficient time in advance of the manufacture of material to be supplied by him under the Contract Documents, which must by terms of the Contract Documents be tested, in order that the Owner may arrange for the testing of same at the source of supply.
- F. Any material shipped by Contractor from source of supply prior to having satisfactorily passed such required testing and inspection or prior to receipt of notice from IOR such testing and inspection is not required shall not be incorporated into the Work.
- G. Contractor shall provide an insulated curing box with capacity for not less than twenty (20) concrete cylinders and relocate said box and cylinders as rapidly as required in order to provide for progress of the Work.

3.2 TEST REPORTS

- A. One copy of each test report shall be forwarded directly to DSA by the testing agency. Additional copies of each test report shall be forwarded directly to Owner, Architect, Contractor, Project Inspector, BMT, and Structural Engineer by the testing agency. Such reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be

reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of CBC, Title 24, Parts 1 and 2, and with the approved Contract Documents. Test reports shall show the specified design strength. Test reports shall also definitely state whether or not material or materials tested comply with the specified requirements.

1. As set forth in Section 4-335(d) of the California Building Standards Administrative Code.

3.3 VERIFICATION OF TEST REPORTS

- A. Testing agency shall submit to DSA a verified report, in duplicate, covering tests that were performed by that agency during the progress of the Work. Additional copies of each test report shall be forwarded directly to Owner, Architect, Contractor, Project Inspector, BMT, and structural engineer by the testing agency. Such report shall be furnished each time construction on the Work is suspended, covering tests up to that time, and prior to Final Completion of the Work, covering all tests.

1. As set forth in Sections 4-335(e) and 4-336 of the California Building Standards Administrative Code.

3.4 INSPECTION BY OWNER

- A. Owner, and BMT shall at all times have access, for purpose of inspection, to all parts of the Work and to all shops wherein the Work is in preparation. Contractor shall at all times maintain proper facilities and provide safe access for such inspection.
- B. Owner, and BMT shall have the right to reject materials and workmanship deemed defective Work, and to require their correction. Rejected workmanship shall be corrected in a satisfactory manner and rejected materials shall be removed from the premises and legally disposed of, all without charge to Owner. If Contractor does not correct such rejected Work within a reasonable time, fixed by written notice and in accordance with the terms and conditions of the Contract Documents, Owner may correct such rejected Work and proceed in accordance with related Articles of the Contract Documents.
- C. Should it be considered necessary or advisable by the Owner and BMT at any time prior to Final Acceptance of the entire Work to make an examination of the Work already completed by removing or tearing out the same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and materials. If such work is found to be defective in any respect due to the fault of the Contractor or any of his subcontractors, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of Contract Documents, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor.
- D. Contractor is responsible for compliance with all applicable local, state, and federal codes, regulations, ordinances, restrictions, and requirements.

3.5 PROJECT INSPECTOR

- A. Project inspector, employed by the Owner in accordance with requirements of California Code of Regulations, Title 24, will be assigned to the work.
 - 1. Project inspector shall be approved by Architect, Structural Engineer, and DSA.
 - 2. As set forth in Section 4-333(b) of the California Building Standards Administrative Code.
 - 3. Duties of project inspector are specifically defined in Section 4-342 of the California Building Standards Administrative Code.
- B. The work of construction in all stages of progress shall be subject to the personal continuous observation of the project inspector. He shall have free access to any or all parts of the Work at any time. The Contractor shall furnish the project inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the Work and the character of the materials.
- C. Inspection of Work shall not relieve Contractor from any obligation to fulfill all of the terms and conditions of the Contract Documents.
- D. Contractor shall be responsible for scheduling times of inspection, tests, sample taking, and similar activities of the Work.
 - 1. Contractor shall perform quality control inspection of work prior to filling out an inspection request to the inspector of record.

3.6 SPECIAL INSPECTOR

- A. Special Inspector:
 - 1. As set forth in Section 4-333(c) of the California Building Standards Administrative Code.
 - 2. As set forth in CBC Section 1701A.5, 1704A.1.

3.7 TESTS AND INSPECTIONS

- A. The following tests and inspection requirements are based on the 2013 California Building Code, Part 2 of the California Code of Regulations, Title 24, California Building Standards Code, (latest version of the International Building Code (IBC) with California Amendments).
- B. Required tests and inspections include but are not limited to the following.
 - 1. All required inspections, as applicable, shown in the California Building Code.
 - 2. All tests required per DSA 103 - Statement of Structural Tests and Special Inspections card .

3. Inspections listed within project specifications located within divisions 1 through 48.
- C. Excavations, Foundations and Retaining Walls: CBC, Chapter 18A.
 1. Inspection:
 - a. Inspection of Piles and Piers Installation: 1705A.7.1, 1810A.
- D. Concrete: CBC, Chapter 19A.
 1. Materials:
 - a. Concrete Materials: 1705A.3, 1904A.2.
 - b. Shotcrete Materials: 1705A.18, 1910A.
 - c. Portland Cement: 1903A.1, 1913A.1.
 - d. Concrete Aggregate: 1903A.6.
 - e. Shotcrete Aggregate: 1910A.3
 - f. Reinforcing Bars: 1903A.
 - g. Shotcrete Reinforcing Bars: 1910A.4.
 - h. Prestressing Steel and Anchorage: 1913A.3.
 - i. Fly Ash: 1903A.5.
 2. Quality:
 - a. Concrete Proportions: 1903A, 1904A.2.
 - b. Shotcrete Proportions: 1910A.
 - c. Concrete Testing: 1903A.
 - d. Shotcrete Testing: 1913A.5.
 - e. Mixing and Placing: 1903A.
 - f. Shotcrete Mixing and Placing: 1910A.
 - g. Curing: 1903A.
 - h. Shotcrete Curing: 1910A.9.
 - i. Cold Weather Requirements: ACI 318-11, SECTION 5.12.
 - j. Hot Weather Requirements: ACI 318-11, SECTION 5.13.
 - k. Composite Construction Cores: 1913A.4.
 - l. Gypsum Concrete Strength Tests: 1911A, 1913A.6.
 - m. Post-Installed Anchors in Concrete: 1913A.7.
 3. Inspection:
 - a. Project Site Inspection: 1903A.
 - b. Batch Plant Inspection: 1705A.3.2.
 - c. Waiver of Material Testing: 1705A.3.3.
 - d. Pre-stressed Concrete Inspection: 1705A.3.4.
 - e. Shotcrete Inspection: 1705A.18.
 - f. Reinforcing Bar Welding Inspection: 1705A.2.2.1.2.
- E. Lightweight Metal – CBC, Chapter 20A:
 1. Materials
 - a. Alloys: 2001.1

- b. Identification: 2002.1
 - 2. Inspection
 - a. Welding: 2003.1
- F. Aluminum: CBC, Chapter 20:
 - 1. Materials:
 - a. Aluminum Materials: 2002.1.
 - 2. Inspection:
 - a. Aluminum Inspection: 2003.1
- G. Masonry: CBC, Chapter 21A.
 - 1. Materials:
 - a. Masonry Units: 2103A.1, 2103A.2, 2103A.4, 2103A.5, 2103A.6.
 - b. Mortar: 2103A.9, 2103A.10.
 - c. Grout: 2103A.13.
 - d. Metal Reinforcement and Accessories: 2103A.14.
 - 2. Quality:
 - a. Portland Cement Tests: 1913A.1.
 - b. Mortar and Grout Tests: 2105A.2.2.1.4.
 - c. Masonry Prism Tests: 2105A.2.2.2.
 - d. Masonry Core Tests: 2105A.5.
 - e. Combination of Units: 2105A.3.
 - 3. Inspection:
 - a. Reinforced Masonry: 1705A.4.
 - b. Reinforcing Bar Welding Inspection: 1705A.2.2.1.2.
- H. Steel: CBC, Chapter 22A.
 - 1. Materials:
 - a. Structural Steel: 2205A.1
 - b. Material Identification: 2203A.1.
 - 2. Inspection and Tests:
 - a. Test of Structural Steel: 1705A.2.
 - 3. Quality:
 - a. Test of Structural and Cold Formed Steel: 1705A.2.

- b. Tests of High Strength Bolts, Nuts, and Washers: 2213A.1.
 - c. Tests of End Welded Studs: 2213A.2.
 - d. Tests of Beam-to-Column Moment Connections: 1705A.2.
 - 4. Inspection:
 - a. Steel Construction Inspection: 1705A.2.
 - b. Shop Fabrication Inspection: 1704A.2.5.
 - c. Steel Joist and Girder Inspection: 1705A.2.2.3.
 - d. Welding Inspection: 1705A.2.2.1.
 - e. High Strength Bolt Inspection: TABLE 1705A.2.1.
 - f. Post-Installed Anchors in Concrete: 1913A.7.
 - g. Spray applied fire resistance materials: 1705A.13.
- I. Wood: CBC, Chapter 23.
 - 1. Materials:
 - a. Sawn Lumber: 2303.1.1.
 - b. Prefabricated Wood I-Joists: 2303.1.2.
 - c. Structural Glued-Laminated Timbers: 2303.1.3.
 - d. Wood Structural Panels: 2303.1.4.
 - e. Preservative Treated Wood: 2303.1.8.
 - f. Moisture Content: 2303.1.8.2.
 - g. Fire-Retardant-Treated Wood: 2303.2.
 - h. Hardwood and Plywood: 2303.3.
 - i. Wood Trusses: 2303.4.
 - j. Joist Hangers and Connectors: 2303.5.
 - k. Nails and Staples: 2303.6.
 - 2. Inspection:
 - a. Wood Construction: 1705A.5.
 - b. Glue-Laminated Fabrication: 1705A.5.4.
 - c. Timber Connectors: 1705A.5.6.
 - d. Manufactured Trusses: 1705A.5.2.
- J. Exterior Wall Coverings: CBC, Chapter 14, 25.
 - 1. Materials:
 - a. Adhered Masonry Veneer: 1405.10.
 - b. Portland Cement Plaster: 2507.1, 2507.2.
 - 2. Inspection:
 - a. Adhered Masonry Veneer Inspection: 1705A.4.1.
 - b. Portland Cement Plaster Inspection: 2503.1, 2503.2.
 - c. Exterior Insulation and Finish System (EFIS): 1705A.15.
- K. Clay or Concrete Roof Tile: CBC Chapter 15.

1. Materials:
 - a. Clay or concrete tile: 1711A.2.

END OF SECTION 014523

SECTION 016010 - MATERIALS AND EQUIPMENT

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division I Specifications, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "References" specifies the applicability of industry standards to products specified.
 - 2. Division 1 Section "Submittal Procedures" and "Construction Schedule" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
 - 3. Division 1 Section "Substitution Procedures" specifies administrative procedures for handling requests for substitutions made after award of the Contract.

1.03 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
 - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - a. "Named Products" are items identified by the manufacture's product name, including make or model number or other designation, shown or listed in the manufacture's published product literature that is current as of the date of the Contract Documents.
 - 2. "Materials" are products substantially shaped, cut worked, mixed finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

3. "Equipment" is a product with operation parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.04 SUBMITTALS

- A. Product List: Verify the list showing products specified in tabular form shown in the specifications, by signing and returning the Submittal Register. Include the generic names of products required. Add the manufacturer's name and proprietary product names for each item listed.
 1. Coordinate product list with the Contractor's Construction Schedule.
 2. Form: Prepare product list with the information on each item tabulated under the following column headings:
 - a. Submittal number per the submittal register.
 - b. Proprietary name, model number, and similar designations.
 - c. Manufacturer's name.
 - d. Installer's name and address.
 4. Initial Submittal: Within 15 days of the first Notice to Proceed, submit **through Procore**, one electronic copy of all required submittals. Provide a written explanation for omissions of data and for known variations from Contract requirements.
 5. ARCHITECT Action: The Architect will respond in writing to Contractor within 3 weeks of receipt of the submittals. A review constitutes no objection to listed manufacturers or products but does not constitute a waiver of the requirements that products comply with Contract Documents.

1.05 QUALITY ASSURANCE

- A. Source Limitation: To the fullest extent possible, provide products of the same kind a single source.
 1. When specified product are available only from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner consult with the BMT and the Architect to determine the most important product qualities before proceeding. Qualities may include attributes, such as visual appearance, strength, durability or compatibility. When a determination has been made, select products from sources producing products that possess these qualities, to the fullest extent possible.
- B. Compatibility of Option: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be

compatible with products previously selected, even if previously selected products were also options.

1. Contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other the subcontractors.
2. If a dispute arises between subcontractors over concurrently selectable, but incompatible products, the Contractor will determine which products shall be retained and which are incompatible and must be replaced.

C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.

1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - a. Name of product and manufacturer
 - b. Model and serial number
 - c. Capacity
 - d. Speed
 - e. Ratings

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products according to the manufacture's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

PART 2 – PRODUCTS

2.01 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
1. Provide products completed with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.

2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selections Procedures: The Contract Documents and governing regulations govern product selection. Procedures governing product selections include the following:
1. Proprietary Specifications Requirements: Where Specifications name only a single product or manufacturer, and indicate "no substitutions" permitted, provide the product indicated. No substitutions will be permitted.
 2. Semi Proprietary Specifications Requirements: Where Specifications name two (2) or more products or manufacturers, provide one (1) of the products indicated. No substitutions will be provided.
 - a. Where Specifications specify products or manufacturers by name accompanied by the term "or equal" or "or approved equal," comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 3. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract Requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 4. Descriptive Specifications Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics. And otherwise complies with Contract requirements.
 5. Performance Specifications Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated.
 - a. Manufacturer's recommendations may be contained in published product literature or by manufacturer's certification of performance.
 6. Compliance with Standards, Codes, and Regulations: Where Specifications only required compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
 7. Visual Matching: Where Specifications required matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.

- a. Where no product available within the specified category matches satisfactorily and/or complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions," for selecting the matching product in another product category.
8. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern, and texture from the product line selection.

PART 3 - EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 016010

SECTION 017123 - FIELD ENGINEERING & SURVEY CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Surveying requirements for the Work.

1.02 RELATED SECTIONS

- A. Division 31: Earthwork
- B. Section 321216: Asphalt Pavement
- C. Section 334100: Storm Utility Drainage Piping
- D. Section 033000: Cast-in-Place Concrete
- E. Section 22 13 13: Sanitary Sewer

1.03 WORK INCLUDED

- A. Work by Contractor under this Section shall include, but may not be limited to the following.
 - 1. Establish and maintain additional horizontal and vertical control, lines and grades as required for construction layout survey.
 - 2. Survey and measurement necessary to establish design lines and grades shown on the Construction Documents.
 - 3. Document and field verify removal of foundations and other structures to the specified elevations.
 - 4. Document foundations and new and existing utilities to remain.
 - 5. Provide a certified as-built survey based upon the field measurements of all utilities and drainage work in accordance with the State of California Business and Professional Code Sec. 6735.6.
 - 6. All maps, plans, reports, descriptions or other documents issued by the Contractor's Licensed Land Surveyor shall be stamped and signed by the Registered Professional responsible for the work.
 - 7. Land Surveyor shall provide one (1) electronic copy and one (1) hard copy of the cut sheets upon completion of staking to the Owner.

1.04 SURVEY SERVICE

- A. Unless otherwise stated by the Architect or noted in the Special Provisions, the CONTRACTOR shall provide all surveying services.

- B. All surveying shall be performed by a State of California Licensed Land Surveyor or a Registered Civil Engineer authorized to practice Land Surveying in the State of California or under his/her direction in conformance with the requirements of the Professional Land Surveyors Act.

1.05 QUALITY CONTROL

- A. The Contractor shall maintain a complete and accurate log of all control and survey work as it progresses.
- B. The District, or their consultants, reserves the option to check the Contractor's field survey measurements and calculations. Whether the District exercises this option or not, the Contractor shall perform accurate survey work meeting recognized industry standards.

1.06 PAYMENT FOR SURVEYING

- A. The payment for surveying shall be included in respective items of work and shall include, but not to be limited to, construction staking, location and/or relocation of conflicting utilities, locating survey monuments, setting of survey monuments and center line ties, preparing and filing centerline tie sheets and Corner Records, locating Bench Marks and notifying the Office of the County Surveyor of same, professional office services and field calculations, and furnishing all labor, materials, tools, equipment and incidentals for doing all work involved. No additional compensation shall be allowed unless a separate bid item is provided.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 SUBMITTALS

- A. CONTRACTOR shall submit the name and address of the State of California licensed surveyor to BMT, ARCHITECT and OWNER including any changes as they may occur.
- B. CONTRACTOR shall submit to BMT, ARCHITECT and/or OWNER copies of cut sheets, coordinate plots, data collector printouts, and other documentation as available to verify completeness and/or accuracy of field surveying work.
- C. Statement of Compliance: CONTRACTOR shall submit a statement of certification signed and sealed by Surveyor, counter-signed by CONTRACTOR indicating compliance with grade elevations, slopes and tolerances.

3.02 LAYOUT OF THE WORK

- A. CONTRACTOR shall employ a State of California licensed surveyor to lay out the entire Work, set grades, lines, levels, control points, vertical and horizontal

control, elevations, grids and positions. Before the commencement of Work, surveyor shall, , locate all reference points and benchmarks, then lay out all lines, elevations, and measurements for the entire Work including but not limited to, buildings, grading, paving and utilities.

- B. All work under this contract shall be built in accordance with the lines and grades shown on the plans. Field survey for establishing these, and for the control of construction, shall be the responsibility of the Contractor. All such survey work including construction staking shall be done under the supervision of a California Licensed Land Surveyor or authorized Civil Engineer. Staking shall be done on all items ordinarily requiring grade and alignment, at intervals normally accepted by the agencies and trade involved.
- C. The CONTRACTOR shall be responsible for any errors in the finished work, and shall notify the District, in writing, within 24 hours, of any discrepancies, or design errors during the construction staking.
- D. Contractor shall immediately remediate any areas found not to meet specification requirements.

3.03 PERMANENT SURVEY MARKERS

- A. Prior to the start of construction, the Contractor's licensed Land Surveyor or qualified Civil Engineer shall, in conformance with Section 8771 of the California State Business and Professions Code, locate all monuments (both of record and not of record), bench marks, and centerline ties within the construction zone, i.e., within one hundred feet of the construction activity. Additional ties to monuments shall be set when ties are missing (min. 4 ties per monument). The Contractor's Surveyor or qualified Civil Engineer shall prepare and submit for review to the City Engineer separate tie sheets and Corner Record sheets (monuments not of record shall have only tie sheets prepared). Corner Records shall conform to the County Engineers' Association of California's "Guide to the Preparation of Records of Survey and Corner Records" document as provided by the County Surveyor's Office. Upon review by the City Engineer, the Land Surveyor shall file the Corner Records with the County Surveyor's Office. Certified Corner Records shall be filed with the City Engineer of the City that the work is being completed in.
- B. After construction and prior to final acceptance by the Owner of the construction project, the Contractor's land surveyor or qualified Civil Engineer shall re-survey all field monuments and centerline ties within the construction zone, prepare tie sheets and Corner Record sheets as indicated above, and file them with the City Engineer for review. After review by the City Engineer, the Land Surveyor shall file the Corner Records with the County Land Surveyors Office, and file certified copies of the Corner Records with the City Engineer.
- C. All survey monuments removed or altered as a result of construction shall be reset, Corner Records filed with the County Surveyor's Office, and approved final Corner Records filed with the City Engineer. Centerline ties removed as a result of construction shall be reset and tie sheets filed with the City Engineer.

- D. The Land Surveyor shall provide a letter of certification for all monuments having four or more existing ties which are within 0.02 ft plus or minus of the original City tie sheet records. When several monuments and ties appear on one tie sheet and one of the ties has changed the Land Surveyor shall re-measure all of the ties and re-file a new tie sheet with the City as required herein.
- E. County of Los Angeles permanent and temporary bench marks within the construction zone shall be located by the surveyor, and the Contractor's Land Surveyor shall send a written notification of impending construction to the County of Los Angeles Surveyor's Office two weeks prior to construction.

3.04 SURVEY REQUIREMENTS

- A. Utilize a minimum of two Record Control points on the Project site, remote from the building area, referenced to data established by the survey control points.
 - 1. Re-establish the basis of bearings and benchmark as shown on the approved plans.
 - 2. All control to be tied to the basis of bearings and benchmarks.
- B. Indicate the reference points on the project record drawings with the basis of elevation being the established benchmarks.
- C. Establish lines, grades, locations and dimensions by instrumentation. From time to time, verify the layout of all Work by the same methods.
- D. Provide grade stakes and elevations to construct over excavation and re-compaction, rough and final grades, paved areas, curbs, gutters, sidewalks, building pads, landscaped areas, and other areas as required.
- E. Calculate and layout proposed finished elevations and intermediate control as required to provide smooth transitions between the spot elevations indicated in the Contract Documents.
- F. Provide stakes and elevations for grading, fill, and topsoil placement.
- G. Provide adequate horizontal and vertical control to locate utility lines, including but not limited to, storm, sewers, water mains, gas, electric and signal and provide vertical control in proportion to the slope of the line as required for accurate construction. Dry utilities will be based upon adequate horizontal and vertical control layout. Prior to trench closure, survey and record invert and flow line elevations. Survey and record top of curb and flow line elevations on finished concrete or AC surfaces at key locations such as BC's, EC's, grade breaks, corners or angle points in sufficient number to demonstrate the Work complies with the intent of the Contract Documents.
- H. Provide horizontal and vertical control for batter boards for drainage, utility, and other on-site structures as required.
- I. Furnish building corner offsets as required to adequately locate building pads. Provide cut and fill stakes within the building pad perimeter adequate to control

both over excavation and re-compaction and the final sub-grade elevation of the building pad.

- J. Submit a certification, signed by the surveyor, confirming the elevations and locations of improvements are in conformance with the Contract Documents. The statement shall include survey notes for the finish floor and building pad, showing the actual measured elevations on the completed sub-grade, recorded to the nearest 0.01'. Building pad tolerance will be $\pm 0.10'$.

3.05 ESTABLISHMENT OF GRADES IN HARDSCAPE AREAS

- A. All work shall conform to the lines, elevations, and grades shown on the Grading Plans. Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the Contractor shall be responsible for any error in the grade of the finished work.
- B. Areas having drainage gradients of 2 percent or more shall have elevation stakes, set with instrument, at grid intervals of 25 feet. Intermediate stakes may be set by using a tightly-drawn string line over the tops of adjacent stakes. Grade stakes must be set at all grade breaks, grade changes, etc.
- C. Areas having drainage gradients of less than 2 percent shall have elevation stakes, set with instrument, at 10 foot intervals. Grade stakes must be set at all grade breaks, grade changes, etc.
- D. Protect and maintain stakes in place until their removal is approved by the Owner. Grade or location stakes lost or disturbed by Contractor, shall be reset by the Surveyor at the expense of Contractor.

3.06 STORM DRAIN & SANITARY SEWER PIPE INSTALLATION

- A. All storm drain pipelines, sanitary sewer pipelines, trench drains, catch basins, cleanouts and drain inlets shall be staked by a licensed surveyor if slope of grade is less than 2% and a complete set of cut sheets shall be supplied to the Inspector. All construction staking shall be installed and verified for grade and alignment prior to the start of construction.

3.07 UTILITY BACKFILL

- A. Prior to placing backfill, the Contractor shall perform as-built surveys based upon field measurements by the Land Surveyor to accurately record the installed depth, alignment, location of bends, valves, vaults, duct banks, manholes and all other items or conditions to provide an accurate record of all below-grade utilities. The field survey shall consist of Point number, Northing/Easting coordinates and Elevation (based on project datum), and limits of any structure, utility or other existing or new underground feature that will remain in place and be covered by the backfill.

3.08 RECORD DRAWINGS

- A. Upon Substantial Completion, CONTRACTOR shall obtain and pay for electronic copies (CADD and pdf) of the as built survey drawings. Deliver to BMT, ARCHITECT, final "record" drawings of the original drawings and completed Work within specified tolerances.
- B. Record drawings shall indicate locations by coordinate of all utilities onsite with top of pipe elevations at major grade and alignment changes, rim grate or top-of-curb and flow line elevations of all drainage structures and manholes.
- C. Completed record drawing shall be signed and certified as correct and within specified tolerances by the licensed surveyor.
- D. Contractor to provide one (1) hard copy and one (1) electronic CADD copy of the completed record drawings certified by the licensed surveyor.
- E. Attention is called to other sections of the Contract Documents requiring verification or measurements of installed Work by survey. Surveyor shall perform and certify all such surveys or verification are completed in accordance with the Contract Documents.

END OF SECTION 017123

SECTION 017417 - CLEANING AND SITE APPEARANCE

PART 1 – GENERAL

1.01 DESCRIPTION

A. Principal work in this Section:

1. Keep premises, adjacent private properties and public properties free from accumulations of waste, debris and rubbish caused by construction operations daily.
2. Maintain construction area in a neat and workmanlike manner. Keep all tools, equipment, and materials stored in an organized and secure fashion. Avoid layouts or methods that create a public eyesore.
3. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces.

1.02 SAFETY REQUIREMENTS

A. Standards: Maintain project in accord with State and local safety standards.

B. Hazard Control

1. Store volatile wastes in covered metal containers, and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.
4. Prevent accumulation of waste that may attract rodents, insects, or other pests.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not turn or bury rubbish and waste materials on project site.
2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains, or the Owner's waste containers. Store in containers with tight-fitting lids and remove to legal dump site.
3. Comply with the Los Angeles County, State of California, or City of Long Beach, which ever applies, Stormwater Pollution Control Requirements for Construction Sites which require implementation of the NPDES standards and SCAQMD requirements. The cost of implanting these standards and adhering to the Stormwater Pollution Control Requirements must be included in the lump sum bid for the Project.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Use cleaning materials which will not create hazardous to health or property and which will not damage materials. Use cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned. Use cleaning materials only on surfaces recommended by the cleaning materials manufacturer.

PART 3 – EXECUTION

3.01 CLEAN-UP DURING CONSTRUCTION

- A. Keep premises, adjacent properties and public properties free from accumulations of waste materials and rubbish. Remove debris and dirt from public property promptly: sweep sidewalks and adjacent streets daily when soiled by work performed under this Contract. Maintain the existing landscaped areas within the fenced area of the construction site, including but not limited to weekly mowing and irrigation as required.
- B. Remove or paint over, as appropriate to the substrate, graffiti on the site or surrounding fence daily.
- C. Wet down materials and rubbish to settle dust and prevent it from blowing.
- D. At least once a week, or more often if required, dispose of waste materials, debris and rubbish off the site in a legal manner. Remove combustible materials such as paper and cardboard daily. Bury no such waste material and debris on the site. Burning of trash and debris on the site will not be permitted. All containers must be emptied as soon as they reach 75% of capacity.
- E. Provide on-site containers for collection of waste materials, debris and rubbish. Provide a collection can at each location used as an eating area. Pick-up all garbage daily.
- F. At the conclusion of each work day, Contractor will walk the site and collect all debris and rubbish and store all loose materials.
- G. Remove waste materials, debris and rubbish from site and legally dispose of at legal public or private dumping areas off Owner's property. Location of dump for trash and debris and length of haul is to the Contractor's responsibility.
- H. Handle materials in a controlled manner with as few handlings as possible, do not drop or throw materials from heights.
- I. Owner's right to provide clean up at the Contractor's Expense.
 - 1. Should the Construction Manager, or IOR determine that the Contractor is failing to maintain the site in a properly clean and safe manner, they will notify the Contractor that corrective action must be taken. Should the Contractors fail to clean the site after sufficient notification, the Owner reserves the right to have the site cleaned at the Contractor's expense.
 - 2. In the case of public or safety hazard, the Owner reserves the right to have the hazard corrected immediately at the Contractor's expense.

J. Contaminated Earth:

1. Clean-up operations include the removal and disposal of earth contaminated or unsuitable for support of plant life in planting areas, and filling of resulting excavations with suitable soil.
2. Contaminated areas include those used for disposal of waste concrete, mortar, plaster, masonry, and similar materials, areas in which washing out of concrete and plaster mixers or washing of tools and like cleaning operations have been performed, and areas that have been oiled, paved, or chemically treated.
3. Do not dispose of waste oil, solvents, paint, solutions, mortar, concrete or any construction material or like penetrating material by depositing or burying on the Owner's property.

3.02 FINAL SITE CLEAN-UP:

- A. In preparation of Substantial Completion or Occupancy conduct a thorough cleaning of all work.
- B. Before final inspection and after all construction activity is essentially complete, thoroughly clean the buildings, utilizing professional building cleaners. Items to be cleaned include, but are not limited to: all glass, plastic, doors, opening frames, grilles, trim, exposed nonferrous metal surfaces, floor covering, light fixtures and plates, plumbing fixtures and trim, and all finish surfaces throughout the construction. Thoroughly remove ink trademarks from all surfaces, Vacuum clean the buildings (s) and remove all spots, smears, dust, debris, hand prints and defacements of every sort, including those of vandals. Follow the recommendations of the manufacturer of the materials and items to be cleaned for all cleaning, polishing, and treatment such as waxing.
- C. Repair, patch and touch-up marred surfaces to specified finish to match adjacent surfaces.
- D. Also, before final inspection, thoroughly clean the entire site and put it into a neat, acceptable condition. Remove from the entire site all construction waste and unused materials, rubbish, loose rock and stones, excess earth, roots, weeds, and all debris of any description resulting from the Work. Hose down and scrub where necessary all new concrete and asphalt pavement and walks dirtied as a result of the Work. Thoroughly remove mortar droppings from concrete walks and other pavements.
- E. Keep project clean until Final Acceptance by the Owner.
 1. Should the Construction Manager or IOR determine that the Contractor is failing to maintain the site in a properly clean and safe manner, they will notify the Contractor that corrective action must be taken. Should the Contractor fail to clean the site after sufficient notification, the Owner reserves the right to have the site cleaned at the Contractor's expense.
 2. In the case of public or safety hazard, the Owner reserves the right to have the hazard corrected immediately, at the Contractor's expense.

END OF SECTION 017417

SECTION 017836 - WARRANTIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers and/or installer's standard warranties on products and special product warranties.
 - 1. Refer to the General Conditions for terms of the guarantee period for the Work.

1.02 RELATED SECTIONS

- A. Section 016010: Materials and Equipment
- B. Section 017700: Closeout Procedures

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 WARRANTY REQUIREMENTS

- A. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties shall not relieve CONTRACTOR of the warranty of the Work incorporating such materials, products, and/or equipment. Manufacturer's disclaimers and limitations on warranties do not relieve suppliers, manufacturers, installers, and Subcontractors of the requirement to countersign special warranties with CONTRACTOR.
- B. Standard warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to OWNER.
- C. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for OWNER.
- D. Related Damages and Losses: When correcting failed or defective warranted Work, remove and replace Work that has been damaged as a result of such failure or which must be removed and replaced to provide access for correction of warranted Work.

- E. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement with the reinstated warranty equal to the original warranty.
- F. Replacement Cost: Upon determination the Work covered by a warranty has failed and/or is defective, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. CONTRACTOR is responsible for the cost of replacing or rebuilding defective Work regardless of whether OWNER has benefited from use of the Work through a portion of its anticipated useful service life.
- G. OWNER Recourse: Expressed warranties made to OWNER are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which OWNER can enforce such other duties, obligations, rights, or remedies.
- H. Rejection of Warranties: BMT reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- I. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, BMT reserves the right to refuse to accept the Work until CONTRACTOR presents evidence the entities required to countersign such commitments have done so.

3.02 SUBMITTALS

- A. Submit written preliminary warranties prior to Substantial Completion, and final warranties prior to Contract Completion. If the certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, submit written warranties as set forth in the certificate of Substantial Completion.
 - 1. When a designated portion of the Work is partially used and/or occupied by OWNER, submit properly executed warranties to ARCHITECT within fifteen (15) days of the Partial Use or Occupancy of the designated portion of the Work.
- B. When the Contract Documents require CONTRACTOR, or CONTRACTOR and a Subcontractor, installer, supplier or manufacturer to execute a special warranty, prepare a written document containing appropriate terms and identification, ready for execution by the required parties. Submit a draft to BMT, through the ARCHITECT, for approval prior to final execution.
 - 1. Refer to Divisions 02 through 32 for specific content requirements and particular requirements for submitting special warranties.
- C. Form of Submittal: Prior to Contract Completion, compile two copies of each required final warranty properly executed by CONTRACTOR, or by CONTRACTOR and Subcontractor, installer, supplier, or manufacturer.

Organize the warranty documents into an orderly sequence based on the Specifications.

- D. Once draft warranties are approved, provide an electronic copy, through Procore, of all warranties as well as one original "hard Copy" in a heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8½ by 11" (115 by 280 mm) paper.
1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the item or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the installer.
 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title and/or name, and name of CONTRACTOR.
 3. When warranted Work requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.
- E. Contractor to provide a directory in electronic excel format and hard copy with information sorted by specification to list the following information, at a minimum: Specification Section, Description of Specification Section, Actual System or Work Installed, Subcontractor, Subcontractor Contact Person, Subcontractor Contact Person Phone Number, Subcontractor Contact Person e-mail address

END OF SECTION 017836

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SECTION 018620 - TEST AND BALANCE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies the requirements for test and balance of HVAC and related systems.

1.02 RELATED SECTIONS

- A. Section 011000: Summary
- B. Section 013300: Submittal Procedures
- C. Section 013210: Construction Schedule
- D. Section 017700: Closeout Procedures
- E. Division 23 - Heating Ventilating and Air Conditioning

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 DEFINITIONS AND APPLICABLE PUBLICATIONS

- A. For the purposes of this Section definitions are as indicated in applicable publications of AABC, NEBB, TABB, ASHRAE, ANSI and SMACNA.
 - 1. TAB: Testing, Adjusting and Balancing.
 - 2. TABB: Testing, Adjusting and Balancing Bureau.
 - 3. AABC: Associated Air Balance Council
 - 4. NEBB: National Environmental Balancing Bureau.
 - 5. OAR: OWNER'S Authorized Representative, Bond Management Team (BMT)
 - 6. IOR: Inspector of Record

3.02 QUALITY ASSURANCE

- A. The test and balance agency shall be directly subcontracted to CONTRACTOR. The qualifications of the agency shall comply with Section 3.02, Quality

Assurance. The agency shall be responsible for furnishing labor, instruments, and tools required to test, adjust and balance the heating, ventilating and air conditioning (HVAC) systems and related plumbing systems, as described and/or as indicated in the Contract Documents.

- B. CONTRACTOR shall obtain services of an independent, qualified testing agency acceptable to Architect and Districts Commissioning Agent (if one is employed) to perform testing and balancing Work as specified and as follows:
 - 1. Agency shall be currently certified by either The Associated Air Balance Council (AABC), The National Environmental Balancing Bureau (NEBB) or Testing, Adjusting and Balancing Bureau (TABB). NEBB or TABB certification shall be for Air and Hydronic Testing, Adjusting and Balancing and Sound and Vibration Measurement.
 - 2. Work shall be in accordance with the latest edition of the AABC, NEBB or TABB National Standards. Where the requirements of the two standards are different, the more stringent requirements shall prevail. Also, if the Contract Documents impose a more stringent standard than the Contract Documents shall prevail.
- C. Performance Criteria: Work of this Section shall be performed in accordance with approved Testing, Adjusting and Balancing agenda.
- D. Test Equipment Criteria: Basic instrumentation requirements and accuracy/calibration required by Section Two of the AABC or Section II of the NEBB or TABB Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems.
- E. Verification: The Test and Balance Agency shall recheck ten percent (minimum ten) of the measurements listed in the report. The locations shall be selected by IOR/BMT. The recheck will be witnessed by IOR/BMT. If twenty percent of the measurements that are retested differ from the report and are also out of the specified range, an additional ten percent will be tested. If twenty percent fall outside the specified range, the report will be considered invalid and all test and balance work shall be repeated.
- F. Due to more stringent acoustical requirements in the educational environment, the Test and Balance Agency shall recheck the air systems where the sound level is higher than the specified requirements and demonstrate compliance with the methodology specified in this document with emphasis on fan speed adjustment and balancing for optimum acoustical performance. The recheck will be witnessed by IOR/BMT. When there are multiple air systems, a system selected by IOR/BMT shall be rechecked. If this system is found to be not in compliance, a second system shall be checked. If the second system is also found to be not in compliance, the report will be considered invalid and all test and balance work shall be repeated.

3.03 SUBMITTALS

- A. Submit name of agency to perform the Work. Include in the submittal the certified qualifications of all persons responsible for supervising and performing actual Work

of this Section. Agency shall submit a minimum of five (5) commercial or industrial HVAC system TAB projects of similar type, size, and degree of difficulty completed within the last two years. Agency shall provide name and telephone number of contact person for each listed project.

- B. Submit, for approval, 6 copies of the Agenda as indicated in Section 3.06 to test and balance all mechanical and relevant plumbing systems.
- C. Preliminary Report: Review the Contract Documents, examine Work installations and submit a written report to ARCHITECT and/or IOR/BMT indicating deficiencies in Work precluding proper testing and balancing of the Work.
- D. Final TAB Report: Submit the final TAB report for review by ARCHITECT and/or IOR/BMT outlining the conditions and Work completed on each HVAC system. All outlets, devices, HVAC equipment, etc. shall be identified, along with a numbering system corresponding to report unit identification.
- E. Submit an AABC "National Project Performance Guaranty" or "NEBB Quality Assurance Certification" assuring the Project systems were tested, adjusted and balanced in accordance with the Specifications and AABC, NEBB or TABB National Standards.
- F. CADD drawings: Submit single line, multi-color CADD drawings indicating outside return and supply air, volume control boxes, each outlet and inlet, room numbers, duct sizes at traverse locations, temperatures and pressures, systems balanced, components changed and CONTRACTOR installed access points. In addition, drawings shall identify controls, equipment settings, including manual damper quadrant positions, manual valve indicators, fan speed control levers, and similar controls and devices shall be marked on the drawings to show final settings. CADD files shall be submitted on CD-ROM upon final submittal of TAB report. Reports shall identify discrepancies between completed Work and the Contract Documents affecting the performance and longevity of the system.

3.04 GENERAL SCOPE OF WORK

- A. The general scope of Work shall include but not be limited to the following:
 - 1. Measure airflow rates of HVAC systems and make adjustments to achieve design airflow rates, tabulate results and submit reports.
 - 2. Measure water-flow rates of HVAC systems and make adjustments to achieve design water flow rates, tabulate results and submit reports.
 - 3. Measure flow velocities, temperatures, static pressures or head, rotational speed, and electrical power demand of fans, pumps and other related HVAC system components, tabulate results and submit reports.
 - 4. Measure sound levels in each conditioned space, tabulate results and submit reports.

5. Measure ambient sound levels of outdoor HVAC units and system components such as chillers and cooling towers, tabulate results and submit reports.
6. Reports shall contain sufficient data for the system designer to evaluate system performance and solve installation problems such as system pressure profiles and pressure drops across system components

3.05 SPECIFIC SCOPE OF WORK

A. The specific scope of Work shall include the following HVAC system components as indicated on the Drawings:

1. Air Handling Units
2. Air Conditioning Units
3. Heating and Ventilating Units
4. Heating and Cooling Coils
5. Supply, Return, Relief and Exhaust Fans
6. Outside Air and Return Air Plenums
7. Outside Air Intakes
8. All Supply and Return Ductwork
9. All associated Air Terminal Devices, i.e. Supply Diffusers, Return Registers, etc.
10. Mixing Boxes and Variable Air Volume (VAV) boxes
11. Reheat Coils (Electric or Hot Water)
12. Exhaust Duct Systems
13. Fire and Fire/Smoke Dampers
14. Kitchen Hoods
15. Heat Exchangers
16. Chillers
17. Boilers
18. Chilled water, heating hot water pumps

3.06 TESTING, ADJUSTING AND BALANCING AGENDA

- A. Provide proposed materials, methods, procedures, forms, diagrams and reports for test and balance Work.
- B. Agenda to be completed by the test and balance agency and submitted to ARCHITECT and IOR/BMT for review and approval.
- C. Agenda shall include one complete set of AABC, NEBB or TABB publications listed in Section 3.02, B, 2, applicable publications, or, in case of other test and balance agencies and or organizations, comparable publications to establish an approved, systematic and uniform set of procedures.
- D. Agenda shall also include the following detailed narrative procedures, system diagrams and forms for test results:
 - 1. Specific standard procedures required and proposed for each system of the Work.
 - 2. Specified test forms for recording each procedure and for recording sound and vibration measurements.
 - 3. Systems diagrams for each air, water and steam system. Diagrams may be single line.
- E. In addition to information recorded for standard AABC, NEBB or TABB procedures, the following information is required:
 - 1. Fan Data
 - 2. System number, Location, Manufacturer, Model and Serial Number
 - 3. Fan wheel type and size
 - 4. Motor horse power, type and rpm
 - 5. Drive size, type, number of grooves, and open turns on Variable Pitch Drives
 - 6. Number and size of belts, motor and fan shaft sizes, center-to-center of shafts in inches, and adjustment available motor data, including nameplate data, actual amps, rated and actual motor rpm, volts, phase, hp, kW, starter heater size, and capacity
 - 7. Fan design airflow and service (Supply, return, outdoor air or exhaust)
 - 8. Fan static pressure, suction/discharge, static profile and static control point.

- F. The following traverse data is required:
1. Traverse location, size of duct (inside dimensions), Area of duct in square feet
 2. Column for each hole traversed/lines for each reading
 3. Barometric pressure
 4. Temperature/Static Pressure in the duct
 5. Actual CFM corrected to SCFM
 6. Notes
- G. The following air distribution data is required:
1. Room identification
 2. Outlet or intake balance sequence number
 3. Size of outlet or inlet
 4. AK Factor
 5. Design and Actual FPM and CFM
 6. Notes
- H. The following hydronic coil data is required:
1. Air flow through the coil in CFM
 2. Dry bulb and wet bulb temperatures entering/leaving coil
 3. Enthalpy or total heat differences in BTU/lb.
 4. Capacity in BTU/hr at time of test
 5. Water temperature and pressure entering/leaving coil
 6. Flow (in GPM) through coil
 7. Air pressure drop across coil
 8. Water head drop across coil
 9. Notes
- I. The following DX coil data is required:
1. Air flow through the coil in CFM

2. Dry and wet bulb temperatures entering/leaving coil
 3. Enthalpy or total heat difference across coil in BTU/ lb.
 4. Capacity in BTU/hr at time of test
 5. Air pressure drop across coil
 6. Notes
- J. The following data is required for steam to water heat exchangers for heat and/or domestic generation:
1. Exchanger identification number
 2. Nameplate data; manufacturer, model and serial number
 3. Temperature entering/leaving unit
 4. Flow through unit in GPM
 5. Pressure drop through unit
 6. Entering steam pressure
 7. Notes
- K. The following electric heating coil data is required:
1. Heating coil identification number
 2. Nameplate data; manufacturer, model and serial number
 3. Amperage/Voltage on each phase
 4. Phase, kW and Stages
 5. Safety device installed
 6. Air pressure drop across coil
 7. Notes
- L. The following water-cooled chiller data is required:
1. Identification number
 2. Nameplate data; manufacturer, model and serial number
 3. Chilled water flow through evaporator in GPM
 4. Water temperature entering/leaving evaporator

5. Pressure drops through evaporator
6. Condenser water flow through
7. Pressure drops through condenser
8. Water temperature entering/leaving condenser
9. Motor data, amps, volts, rpm, starter type, overload protection type, phase, hertz, nameplate, and actual measured kW input
10. Type of refrigerant
11. Notes

M. The following cooling tower data is required:

1. Identification number
2. Nameplate data; manufacturer, model and serial number
3. Performance test results for rated capacity
4. Water flow through the tower in GPM
5. Water temperature entering/leaving tower
6. Outside Air dry and wet bulb temperatures
7. Motor data, amps, volts, phase, hertz, and kW input
8. Starter size and type and heater size and capacity
9. Water droplets leaving tower - yes/no
10. Water balanced across tower pans and basins
11. Airflow across the tower within design rating according to fan curves
12. Notes

N. The following boiler and domestic water heater data is required:

1. Performance test results for rated capacity
2. Boiler identification number
3. Nameplate data; manufacturer, model and serial number
4. Water temperature entering/leaving the boiler
5. Outside conditions: temperature, humidity, general cloud cover

6. Barometric pressure

O. The following air-cooled split system condensing unit data is required:

1. Performance test results for rated capacity
2. Unit identification number
3. Nameplate data, manufacturer, model and serial number.
4. Compressor nameplate and actual amps, volts, phase, and hertz
5. RPM of motors, where applicable
6. Refrigerant type
7. Suction/Discharge pressure when gauge installed
8. Number of stages
9. Low-pressure/High-pressure control setting
10. Condenser fan sequence stages
11. Crankcase heater watts (nameplate)
12. Hot gas bypass installed - yes/no
13. SCFM Air Flow Measurement vs. Design CFM

P. The following air-cooled split system heat pump data is required:

1. Performance test results for rated heating and cooling capacities
2. Unit identification number
3. Nameplate data, manufacturer, model and serial number.
4. Compressor nameplate and actual amps, volts, phase, and hertz
5. RPM of motors, where applicable
6. Refrigerant type
7. Suction/Discharge pressure for both heating and cooling modes when gauge installed
8. Number of stages
9. Low-pressure/High-pressure control setting
10. Condenser fan sequence stages

11. Crankcase heater watts (nameplate)
 12. Hot gas bypass installed - yes/no
 13. SCFM Air Flow Measurement vs. Design CFM
- Q. The following sound test data is required:
1. Area or location
 2. Sound level in dB(A) as specified in Section 3.19
 3. Sound level at the center band frequencies of eight non-weighted octaves with equipment on and off for 5 rooms selected by the BMT/IOR.
 4. Plot corrected sound-level reading on Noise Criteria (NC) curve for the measurements in Q 3 above.
- R. The following vibration test data is required:
1. Equipment identification number
 2. Vibration levels at all accessible bearings, motors, fans, pumps, casings, and isolators
 3. Measurements in mils deflection and velocity in inches per second as specified per section XIV of this document
 4. Each measurement taken in horizontal, vertical, and axial planes as accessible.
- S. The following mixing damper leakage test data is required:
1. Equipment identification number (unit, box, zone, etc.)
 2. Dry bulb temperature in the cold/hot (or bypass) deck
 3. Dry bulb temperature in the mixed air stream
 4. Calculated percent leakage
 5. Data above taken in the full cool and full heat (or bypass) mode
 6. Notes
- T. The following airflow station data is required:
1. Station identification number
 2. Nameplate data including effective area
 3. Differential test pressure or velocity

4. Calculated CFM
5. Actual CFM (From Pitot tube traverse form)
6. Read out CFM
7. Notes

U. The following unit heater data is required:

1. Equipment identification number
2. Nameplate data; manufacturer, model and serial number
3. Test CFM (use manufacturer rated CFM if not ducted)
4. Heat test data per applicable procedure (hot water, electric, etc.)
5. Notes

V. The following fan coil and unit ventilator data is required:

1. Equipment identification number
2. Nameplate data; manufacturer, model and serial number
3. Tested supply CFM or manufacturer rated CFM if not ducted
4. Tested outside air in CFM
5. Motor data and actual amps and volts
6. Cooling/Heating test data
7. Static pressure
8. Notes

W. The following kitchen hood data is required:

1. Hood identification number
2. Nameplate data; manufacturer, model and serial number
3. Pitot-tube traverse total air flow
4. Exhaust and supply (when part of hood) CFM
5. Exhaust and supply (when part of hood) test velocities shown on hood face diagram
6. Face velocities

7. Hood opening dimensions
 8. Notes (turbulence and flow patterns at the face and inside the hood)
- X. The following laboratory hood data is required:
1. Hood identification number
 2. Nameplate data; manufacturer, model and serial number
 3. Pitot-tube traverse total air flow
 4. Exhaust and supply (when part of hood) CFM
 5. Exhaust and supply (when part of hood) test velocities shown on hood face diagram
 6. Face velocities
 7. Hood opening dimensions
 8. Notes (turbulence and flow patterns at the face and inside the hood)
- Y. The following data for water-to-water heat exchangers for domestic and/or heating is required:
1. Exchanger identification number
 2. Nameplate data; manufacturer, model and serial number
 3. GPM and Pressure drop through each side
 4. Capacity of each side
 5. Notes
- Z. The following pump data, including but not limited to, chilled water, heating hot water, cooling tower water, boiler feed, domestic hot water booster, domestic hot water circulation, sewage ejectors, sump pumps and domestic hot water booster is required:
1. Pump number
 2. Nameplate data; manufacturer, model and serial number
 3. Motor data including nameplate data, actual amps, volts, RPM, horsepower, starter heater size and capacity
 4. Pump discharge and suction pressure along with total dynamic head in the following modes
 5. Shut-off head FT, Wide open Head FT and Final operating Head FT

6. Final GPM Test plotted on a pump curve
7. Notes

AA. The following water flow station data is required:

1. Station identification number
2. Nameplate data; manufacturer, model, and serial number
3. Design and actual GPM
4. Differential test pressure
5. Setting (open turns, degree, etc.) if required GPM
6. Notes

BB. The following terminal box data is required:

1. Box identification number
2. Node, address or designation on system
3. Box size
4. Cooling CFM
5. Minimum CFM (if applicable)
6. Heating CFM (if applicable)
7. Box fan amps and volts (if applicable)
8. For DDC controlled boxes, record computer readout maximum, minimum, and heat, along with box correction factor for calibrating to true CFM
9. Notes

3.07 PROCEDURES

- A. Schedule the Work of this Section in order for test and balance activities to be completed prior to the date of Substantial Completion. CONTRACTOR shall place all heating, ventilating, and air conditioning equipment into operation during each day and until all HVAC adjusting, balancing, testing, demonstrations, and instructions on systems are completed. Agency shall prepare and submit reports within ten (10) days from completion of the Work of this Section to allow sufficient time for corrective measures to be completed before Substantial Completion of the Work. When an individual building or portion thereof is ready for occupancy, all equipment relative to such portion of Work shall be put into service, tested and balanced.

- B. Prior to the date of Substantial Completion, and upon completion of test and balance Work, place all exhaust fans in operation, force all air handling units and air conditioning units into a 100% outdoor air economizer mode with heating and cooling locked out and flush the building continuously for a period of fourteen (14) days.
- C. Coordinate test and balance procedures with any phased Project requirements so test and balance procedures on each phased portion of the Work will be completed prior to completion of said designated phase.

3.08 FIELD EXAMINATION

- A. Before the commencement of test and balance Work, CONTRACTOR shall ascertain that following conditions are fulfilled:
 - 1. Ensure that all water heating and water cooling systems have been flushed, cleaned, filled and high points vented
 - 2. Boilers, steam and hot water, are filled
 - 3. Refrigerant systems are fully charged with specified refrigerant
 - 4. Over-voltage and current protection have been provided for motors
 - 5. Equipment has been labeled as required
 - 6. Curves and descriptive data on each piece of equipment to be tested and adjusted are available as required
 - 7. Operations and maintenance manuals have been supplied
 - 8. Controls manufacturer and boiler-burner representatives shall be available for consultation and supervision of adjustments during tests
 - 9. Verify that heating and cooling coil fins are cleaned and combed and air filters clean and installed
 - 10. Verify that duct systems are clean of debris and leakage is minimized, access doors are closed and duct end caps are in place, fire and volume dampers are in place and open
 - 11. Automatic control systems are completed and operating
 - 12. Start up and initial commissioning of all HVAC equipment except fans shall be by the manufacturer.
- B. In addition to the above, CONTRACTOR shall establish a specific, coordinated plan which details how each area of existing building will be balanced during the various phases of the Work. The evaluation shall address, at a minimum, the following concerns:
 - 1. OWNER operations

2. Building safety and security policies. Prior to any fire safety or security systems shutdown at any time during the Work, CONTRACTOR shall first advise and coordinate with OWNER to ensure all concerned parties are notified.
3. Protecting furniture, computers, photocopiers, and other office equipment.
4. Protecting classroom fixtures and equipment.
5. Concerns specific and unique to building related issues.
6. Downtime required for each AHU including projected time to return each portion of the building back to its normal occupancy temperature and humidity.
7. Shutdown and reactivation of the fire alarm system to avoid accidental alarms during test and balance and related Work.

3.09 TEST AND BALANCE

- A. For each heating, ventilating, or air conditioning system specific for the project in hand the following shall be performed, recorded and submitted in an approved format for review. Make, type, and model of unit, and location of each piece of equipment shall be included in the report. Readings shall include but not be limited to following:

1. Air Systems:
 - a. General
 - 1) Verify all ductwork, dampers, grilles, registers, and diffusers have been installed per design and set in the full open position. Agency shall perform the following TAB procedures in accordance with AABC or NEBB National Standards. Where the requirements of the two standards are different, the more stringent requirements shall prevail. Also, if the Contract Documents impose a more stringent standard then the Contract Documents shall prevail.
 - b. Zone, Branch and Main Ducts:
 - 1) Adjust ducts to within design CFM requirements by means of Pitot-tube duct traverse.
 - c. Supply Fans:
 - 1) Fan speeds: Test and adjust fan RPM to achieve maximum or design CFM. CONTRACTOR shall provide new belt pulleys when required.
 - 2) Current and Voltage: Test and record motor voltage and amperage, and compare data with the nameplate limits.

Ensure fan motor is not in or above the service factor as published by the motor manufacturer.

- 3) Pitot-Tube Traverse: Perform a Pitot-tube traverse of main supply and return ducts, record total CFM.
 - 4) Outside Air: Test and adjust the outside air using Pitot-tube traverse.
 - 5) Static Pressure: Test and record system static profile of each supply fan.
 - 6) Current and Voltage: Test and record motor voltage and amperage, and compare data with the nameplate limits. Ensure fan motor is not in or above the service factor as published by the motor manufacturer.
- d. Return, Relief and Exhaust Fans:
- 1) Fan speeds: Test and adjust fan RPM to achieve maximum or design CFM. CONTRACTOR shall provide new belt pulleys where required.
 - 2) Pitot-Tube Traverse: Perform a Pitot-tube traverse of the main return ducts to obtain total CFM.
 3. Static Pressure: Test and record system static profile of each fan.
- e. VAV Systems:
- 1) Set volume regulators on all terminal boxes to meet design maximum and minimum CFM requirements.
 - 2) Identification: Identify the type, location, and size of each terminal box. This information shall be recorded on terminal box data sheets.
- f. Diffusers, Registers and Grilles:
- 1) Tolerances: Test and balance each diffuser, grille, and register to within 5% of design requirements.
 - 2) Identification: Identify the type, location, and size of each grille, diffuser, and register. This information shall be recorded on air outlet data sheets.
- g. Coils: Air Temperature: Once airflow is set to acceptable limits, agency shall take wet bulb and dry bulb air temperatures on the entering and leaving side of each cooling coil. Dry-bulb temperature shall be taken on the entering and leaving side of each heating coil.

h. Duct Leakage Testing:

- 1) On existing ductwork, agency shall calculate duct leakage by traversing the unit and reading associated diffusers.
- 2) On new installations each and every section of the entire air distribution system (all supply, return, exhaust and relief ductwork) shall be tested at one and one-half times (1-1/2) design static pressure. All ducts shall demonstrate 5% leakage maximum (per CBC 2013 Sec 905.7.3.).

i. Air handling units:

- 1) Prepare pressure profile and show design and actual CFM (outside air, return air, and supply air).
- 2) Measure and record each mode (minimum OA and 100% OA) where economizer cycle is specified.
- 3) Record pressure drops of all components (coils, filters, sound attenuators, louvers, dampers, and fans) and compare with design values.
- 4) Pressure profile and component pressure drops are performance indicators and are not to be used for flow measurements.

j. System Pressure Profiles:

- 1) Prepare pressure profiles from fan (supply, return exhaust) or air handling unit to extremities of system.
- 2) As a minimum, show pressure at each floor, main branch, and airflow, measuring device.
- 3) Make pilot tube traverses of all trunk lines and major branch lines where required for analysis of distribution system. Airflow measuring devices installed in ductwork, if available, may be utilized.
- 4) Record residual pressures at inlets of volume controlled terminals at ends of system.
- 5) Show actual pressures at all static pressure control points utilized for constant or variable flow systems.

k. Fan speed adjustments and balancing for optimum acoustical performance:

- 1) As the very first step, the speed of all fans (supply, return, exhaust, inside packaged equipment or air handling units) shall be adjusted to deliver the required fan total air

quantity with all volume dampers and other flow rate control devices fully open. Adjustments shall be made with the outdoor air intake dampers, return air dampers and relief air dampers in the minimum outdoor air position. The adjustments shall be made again in the 100% outdoor air position in systems with 100% outdoor air economizers.

- 2) The above adjustment shall be done with wet cooling coils where cooling coils are provided.
- 3) The airflow rates at each branch duct shall be adjusted as the second step with air with all volume dampers and other flow rate control devices fully open.
- 4) The airflow rates at each air inlet and outlet shall be adjusted as the final step. The volume damper in the branch duct shall be used for balancing. Opposed blade dampers at air inlets and outlets where provided shall only be used for fine adjustments and shall not be closed beyond 60% open or when the dampers start to generate audible noise.
- 5) CONTRACTOR shall provide the labor and materials for all dampers, pulleys and belt changes required for balancing. The design documents indicate the worst-case scenario with safety factors in fan static pressures for contingency. Properly coordinated and installed air systems may require a lower static pressure and a reduction in fan speed.

2. Water Systems: CONTRACTOR shall confirm all equipment, piping, and coils have been filled and purged, strainers are clean and all balancing valves (except bypass valves) are set full open. Agency shall perform the following TAB procedures in accordance with the AABC, TABB or NEBB National Standards:

B. Pumps:

1. Test and adjust chilled water, hot water, and condenser water pumps to achieve maximum or design GPM.
2. Measure and record suction and discharge pressures.
3. Check pumps for proper operation. Pumps shall be free of vibration and cavitation.
4. Current and Voltage: agency shall test and record motor voltage and amperage, and compare data with the nameplate limits. Ensure pump motor is not in or above the service factor as published by the motor manufacturer.

5. Adjust pump flow by adjusting and setting balancing valves, to obtain amperage reading on a clamp-on ammeter, to correspond to amperage indicated on pump's curves for required flow.
 6. Verify that the motor is not drawing more current than indicated on motor plate rating. When actual flows of primary pumps are found by test to vary more than 5% from specified amount, system shall be re-balanced to regulate flow within this tolerance. When a flow indicating device(s) is in circuit, it shall be used to verify pump flows.
 7. When testing is completed, a pump capacity chart with pump number and location indicated shall be marked indicating operating point of pump on the curve. Chart shall then be included in the report.
- C. Chillers: (Start-up and initial commissioning by manufacturer only.)
1. Test and balance chiller water flows to achieve maximum or design GPM.
 2. Current and Voltage: Test and record motor voltage and amperage, and compare data with the nameplate limits. Ensure compressor motor is not in or above the service factor as published by the motor manufacturer.
 3. Test and record temperature and pressure profiles of chillers;
 - a. Inlet and outlet water temperature.
 - b. Inlet and outlet water pressure.
 - c. Evaporator temperature.
 - d. Condensing temperature pressure.
 - e. Purge pressure.
 - f. Oil temperature and pressure.
 4. Outside Climatic Conditions: Outside air DB, WB, atmospheric conditions, during temperature profile runs.
- D. Boilers: (Start-up and initial commissioning by manufacturer only.) Test and balance boilers only after test and balance of pumps have been completed. Boilers shall not be initially operated or tests performed with students or faculty on the Project site. Boilers shall be tested for the following:
1. Heating Hot Water Boilers and Domestic Hot Water Boilers:
 - a. Current and Voltage: Test and record motor voltage and amperage, and compare data with the nameplate limits. Ensure motor is not in or above the service factor.
 - b. Test and balance water flow through water boilers.

- c. Test and record temperature and pressure profiles of water and/or steam boilers.
 - d. Upon completion of tests, controls and devices shall be returned to their normal operating condition and boiler shall remain in service.
 - 2. Steam Boilers: Start-up and initial commissioning by manufacturer only.
- E. Heat Exchangers:
 - 1. Steam to Hot Water Heat Exchanger: Steam pressure, entering and leaving hot water temperatures, gpm flow, pressure drop, and control set point.
 - 2. Water to Water Heat Exchanger:
 - a. Primary Heating Water: Entering and leaving hot water temperatures, gpm flow, and pressure drop.
 - b. Secondary Heated Water: Entering and leaving hot water temperatures, gpm flow, pressure drop, and control set point.
- F. Coils:
 - 1. Tolerances: Test and balance all chilled-water and hot-water coils within 5% of design requirements.
 - 2. Verify the type, location, final pressure drop and GPM of each coil.
- G. System Mains and Branches including chilled water, heating hot water, cooling tower water, domestic hot water and domestic cold water:
 - 1. Balance water flow in pipes to achieve maximum or design GPM.
- H. Steam Heating Systems:
 - 1. Heating Coils: Steam pressure at coils, cfm, coil pressure drop, entering and leaving air DB temperatures.
 - 2. Boiler: Steam pressure, temperature and quantity of feed-water (see Testing and Adjusting procedures); boiler make, type, serial number and rated capacity; flue gas temperature at boiler outlet ahead of back-draft diverter; percent carbon dioxide in flue gas; condensate quantities and temperatures.
 - 3. Air Conditioning Units: (Start-up and initial commissioning by manufacturer only.)
 - a. Suction pressure and temperature.
 - b. Discharge pressure and temperature.

- c. Amps and volts.
 - d. Make, type, and model of unit, capacity rating.
 - e. Ambient temperature: WB, DB
 - f. Supply, return, relief and exhaust fans shall be balanced as indicated in Section 3.09, A, 1, Air Systems.
 - g. Proper operation of controls: Temperature controllers and safety devices shall be tested during operating tests, with all other controls and devices, except one under test, being by-passed.
 - h. Upon completion of tests, controls and devices shall be returned to their normal operating condition and boiler shall remain in service.
4. Condensing and Refrigerating Units: (Start-up and initial commissioning by manufacturer only.)
- a. Suction pressure and temperature.
 - b. Discharge pressure and temperature.
 - c. Amps and volts.
 - d. Make, type, and model of unit, capacity rating.
 - e. Ambient temperature: WB, DB
 - f. Proper operation of controls: Temperature controllers and safety devices shall be tested during operating tests, with all other controls and devices, except one under test, being by-passed.
 - g. Upon completion of tests, controls and devices shall be returned to their normal operating condition and boiler shall remain in service.
5. Split System Heat Pump Units: (Start-up and initial commissioning by manufacturer only.)
- a. Suction pressure and temperature.
 - b. Discharge pressure and temperature.
 - c. Amps and volts.
 - d. Make, type, and model of unit, capacity rating.
 - e. Ambient temperature: WB, DB
 - f. Supply, return, relief and exhaust fans shall be balanced as indicated in Section 3.09. A. 1. Air Systems.

- g. Proper operation of controls: Temperature controllers and safety devices shall be tested during operating tests, with all other controls and devices, except one under test, being by-passed.
- h. Upon completion of tests, controls and devices shall be returned to their normal operating condition and boiler shall remain in service.

6. MISCELLANEOUS:

- a. Electric Heaters:
 - 1. Amperage.
 - 2. Voltage.
 - 3. Make, type, model, and name plate capacity rating.

3.10 VERIFICATION OF HVAC CONTROLS

- A. Agency shall verify in conjunction with CONTRACTOR all control components are installed in accordance with the intent of the Contract Documents and are functioning according to the design intent, including all electrical interlocks, damper sequences, air and water resets, fire stat's, and other safety devices.
- B. CONTRACTOR shall verify all control components are calibrated and set for design operating conditions and intent.

3.11 TEMPERATURE TESTING

- A. To verify system control and operation, agency shall perform a series of three temperature tests taken at approximately two-hour intervals in each separately controlled zone. The resulting temperatures shall not vary more than two (2) degrees Fahrenheit from the thermostat or control set point during the tests. Outside temperature and humidity shall also be recorded during the testing periods.

3.12 KITCHEN HOOD TESTING

- A. Agency shall test and adjust hood total airflow by duct Pitot-tube traverse. If a Pitot-tube traverse is not practical, an explanation of why a traverse was not made must be made in writing to Architect and subsequently appear on the appropriate data sheet. Face velocities shall be tested under design operating conditions using a maximum of a one square foot grid pattern across the entire open face. CONTRACTOR shall set sash height on hoods to obtain face velocities within 20% of 100 feet per minute unless specified otherwise. Agency shall test and adjust exhaust airflows and make-up air flows to maintain design hood pressures and face velocities, and design room pressurization. Agency shall test for turbulence and proper air flow patterns at the face and inside the hoods using a hand-held smoke puffer or other approved smoke-emitting device.

3.14 BUILDING/ZONE PRESSURIZATION

- A. Agency shall test and adjust building/zone pressurization by setting the design flows to meet the required flow direction and pressure differentials. Positive/Negative area(s) supply air shall be set to design flow and exhaust air rates adjusted to obtain the required pressure differential(s).

3.15 FIRE AND SMOKE DAMPER TESTING

- A. This work is to be performed by OWNER and State Fire Marshall. Do not include in agency scope of work.

3.16 LIFE SAFETY CONTROLS TESTING

- A. This work is to be performed by OWNER and State Fire Marshall. Do not include in agency scope of Work.

3.17 FINAL TABULATION

- A. After heating, ventilating, and air conditioning components are satisfactorily tested and balanced, entire system shall be put into operation and all pressures, temperatures, gpm, cfm, velocities, etc., shall be recorded and checked against design schedules. Design requirements shall be listed on reports and final tabulation shall be within a tolerance of plus or minus 5% of design requirements.
- B. Readings at various locations as described herein will be made every hour for four (4) hours, during normal working hours for three (3) days. Boilers, forced air furnaces and chillers shall be started up far enough in advance to meet design conditions during period of testing.

3.18 VIBRATION TESTING

- A. Furnish instruments and perform vibration measurements if specified in Division 15. Provide measurements for all rotating HVAC equipment half horsepower and larger, including reciprocating/centrifugal/screw/scroll compressors, pumps, fans and motors.
- B. Record initial and final measurements for each unit of equipment on test forms. Where vibration readings exceed allowable tolerance and efforts to make corrections have proved unsuccessful, forward a separate report to ARCHITECT.

3.19 SOUND TESTING

- A. Perform and record sound measurements as specified in this section and if specified in Section 15070: Sound Vibration and Seismic Control. Take additional readings if required by ARCHITECT.
- B. Take measurements with a calibrated Type 1 sound level meter and octave band analyzer.
- C. Sound reference levels, formulae and coefficients shall be according to ASHRAE handbook, Current Systems Volume; Chapter: Sound and Vibration Control.

D. Determine compliance with the Contract Documents as follows:

1. Where sound pressure levels are specified as noise criteria or room criteria in Section 15070: Sound, Vibration and Seismic Control.
 - a. Reduce background noise as much as possible by shutting off unrelated audible equipment.
 - b. Measure octave band sound pressure levels with specified equipment "off".
 - c. Measure octave band sound pressure levels with specified equipment "on".
 - d. Use difference in corresponding readings to determine sound pressure due to equipment.

DIFF.:	0	1	2	3	4	5	9-10 or More
FACTOR:	10	7	4	3	2	1	0

Sound pressure level, due to equipment, equals sound pressure level with equipment "on" minus factor.

- e. Plot octave bands of sound pressure level due to equipment for typical rooms, on a graph, which also shows, noise criteria (NC) curves.
2. When sound power levels are specified:
 - a. Perform steps in Section 3.19, D, 1.a. through 1.d.
 - b. For indoor equipment: Determine room attenuating effect; i.e., difference between sound power level and sound pressure level. Determine sound power level will be sum of sound pressure level due to equipment, plus room attenuating effect.
 - c. For outdoor equipment: Use directivity factor and distance from noise source to determine distance factor, i.e., difference between sound power level and sound pressure level. Measured sound power level will be sum of sound pressure level due to equipment, plus distance factor.
3. Where sound pressure levels are specified in terms of dbA, measure sound levels using the "A" scale of meter. Single value readings will be used instead of octave band analysis.

E. Where measured sound levels exceed specified level, CONTRACTOR shall take all remedial action and necessary sound tests shall be repeated.

F. Measure and record sound levels in decibels at each diffuser, grille or register in occupied areas. Sound levels shall be measured approximately 5'-0" above floor on a line approximately 45 degrees to center of opening, on the "A" and "C" scales of a General Radio Company sound level meter, or similar instrument.

- G. Report shall also include ambient sound levels of rooms in which above openings are located, taken without air-handling equipment operating. A report shall also be made of any noise caused by mechanical vibration.

END OF SECTION 018620

SECTION 024115 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.
- B. Related Sections include the following:
 - 1. Division 1 Section "Summary" for use of premises, and phasing, and Owner-occupancy requirements.
 - 2. Division 1 Section "Photographic Documentation" for preconstruction photographs taken before selective demolition operations.
 - 3. Division 1 Section "Construction Facilities and Temporary Controls" for temporary construction and environmental-protection measures for selective demolition operations.
 - 4. Division 1 Section "Construction Waste Management" for disposal of demolished materials.
 - 5. Division 1 Section "Execution Requirements" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse. Contractor to coordinate these items with the BMT.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

- A. Qualification Data: For demolition firm, professional engineer, and refrigerant recovery technician.
- B. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
- C. Pre-demolition Photographs or Videos: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations. Comply with Division 1 Section "Photographic Documentation." Submit before Work begins.
- D. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
 - 1. Comply with submittal requirements in Division 1 Section "Construction Waste Management."

1.5 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to selective demolition including, but not limited to, the following:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.

1.6 PROJECT CONDITIONS

- A. Owner will occupy portions of site and buildings immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Comply with requirements specified in Division 1 Section "Summary."
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials may be encountered in the Work.
 - 1. Hazardous materials will be removed by the Contractor under this Contract before start of the Work.
 - 2. If materials suspected of containing hazardous materials are encountered that are not identified within the Contract Documents, do not disturb; immediately notify Architect, BMT and Owner. Contractor will remove hazardous materials under this contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.7 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.

- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or preconstruction videotapes.
 - 1. Comply with requirements specified in Division 1 Section "Photographic Documentation."
 - 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
 - 1. Comply with requirements for existing services/systems interruptions specified in Division 1 Section "Summary."
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
 - a. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Division 1 Section "Construction Facilities and Temporary Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 1 Section "Construction Facilities and Temporary Controls."
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents

of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.

5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly. Comply with requirements in Division 1 Section "Construction Waste Management."

B. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by BMT and the Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in Division 1 Section "Construction Waste Management."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024115



LONG BEACH COMMUNITY COLLEGE DISTRICT

CONTRACTOR PRE-QUALIFICATION PROGRAM

INTRODUCTION

Founded in 1927, the Long Beach City College District (District) is one of the 114 community colleges in California. The District encompasses the cities of Long Beach, Signal Hill, Avalon, and most of Lakewood. To assist in providing services to the public, the District enters into contracts with general contractors, trade contractors, and vendors.

Pre-qualification is authorized by Public Contracts Code Section 20101 (for public agencies) and 20651.5 (for community colleges in particular), permitting the governing board to require each prospective bidder for a contract to complete and submit to the district a standardized questionnaire and financial statement in a form specified by the district, including a complete statement of the prospective bidder's financial ability and experience in performing public works.

To comply with this requirement, the District has developed a Pre-Qualification Application (Application), which must be completed in advance by all firms competing for contracts requiring pre-qualification. The Application requests firms to disclose information relating to certain areas, such as:

1. Experience;
2. Quality and timeliness of past performance;
3. Reliability and responsibility;
4. Compliance with equal employment requirements;
5. Compliance with wage, hours, and other fair labor standards;
6. Integrity and business ethics of the firm and its key personnel;
7. Gifts given, or contributions made to members or alternate members or employees of the District; and
8. Financial and operational capability.

All projects requiring prequalification will have a prequalification deadline. This deadline will be disclosed at the mandatory pre-bid meeting and in the bid documents. Any firms not prequalified for any reason by this date will not be eligible to bid. Applications require approximately 7 calendar days of review. Applications submitted less than 7 days before the deadline may or may not be fully reviewed by the deadline, resulting in ineligibility to bid.



WHO SHOULD COMPLETE THIS APPLICATION?

- Any general contractor or trade contractor wishing to bid on a bid or proposal, as a prime contractor, for projects advertised as requiring pre-qualification.
- Contractors that can meet the Essential Requirements (see Part III Essential Requirements, page 24.
- Subcontractors, vendors, or any other firms not bidding as a Direct general contractor do NOT have to complete this application but may need to complete a project specific validation form.

THE PRE-QUALIFICATION PROCESS

Overview

Any general contractor or trade contractor acting as a prime contractor (hereinafter "Applicant") wishing to do business with the District must be pre-qualified prior to the District's published prequalification deadline for the project in question.

All Invitation for Bid (IFB) and Requests for Proposal (RFP) packages for contracts requiring pre-qualification will contain a blank Pre-Qualification Program Application, a copy of the Program and a Validation Form. Please contact The Solís Group directly for the Pre-Qualification Program Application.

Preparation and Submittal of Application

A person who is knowledgeable and duly authorized to attest to the past and present operations of the Applicant and its policies must complete the Application. A Pre-Qualification Certification Form must be SIGNED by the preparer and by at least one general partner, owner, principal, or executive officer of the firm who is authorized to legally commit the firm. More than one certification page may be necessary.

All questions must be answered. Disclaimers, general statements with global qualifications, or notations of "Not Applicable" are not acceptable. Any pages containing supplemental information, and other documentation which the Applicant submits to ensure full disclosure, should be attached to the Application. Each page must contain the Applicant's name and tax identification number.

Applicants are encouraged to submit Applications as soon as possible to allow pre-qualification prior to submission of a bid or proposal. Applications received with the bid or proposal may not be processed in time for acceptance of the bid/proposal.

If you are unsure of your filing requirements, please contact the Pre-Qualification Administrators at (626) 685-6989 or send an email to mlutz@thesolisgroup.com

Applications should be mailed or delivered to:

The Solís Group, Attn: Pre-Qual
3452 E Foothill Blvd, Suite 200
Pasadena, CA 91107



Pre-Qualification Period and Renewal

Pre-Qualification is valid for a period of two years as specified on the approval notification letter, unless new information comes to light that may disqualify the Applicant, such as conviction for fraud or other crimes, or significant changes in the composition or financial status of the Applicant.

If a contractor is already pre-qualified and a new project is advertised for bids, that contractor may be required to complete a supplementary Validation Form that contains project-specific qualifying questions and information about the firm's bonding capacity.

Note: A contractor Pre-Qualified status expires after two (2) years. A previously approved contractor may need to resubmit an application, should it be necessary. Please check with The Solís Group for pre-qualification status.

Pre-Qualification Contracting Level

Applicants will be pre-qualified for contract award amounts not to exceed the value specified in the approval notification letter. This amount will be based on the amount of bonding capacity and the largest single completed project performed by the contractor within the last five years that provides a satisfactory reference in the pre-qualification process. Applicants may submit additional information regarding new bonding limits, financial conditions, or increased capacity with a request to reconsider the pre-qualified limit at any time.

Validation Form

All pre-qualified firms submitting on contracts requiring pre-qualification must submit a Validation Form to be reviewed by the prequalification deadline. On the Validation Form the pre-qualified firm must certify that the information contained in the most recently submitted Application has not changed and must list contact information for all current projects that affect the firm's aggregate bonding capacity at the time of the new bid. If it is determined that the firm's aggregate bonding capacity will be surpassed with the submittal of the new bid, the District may reject the firm's bid as non-responsive. Likewise, if the information has changed or the firm's ownership or financial status has changed, the firm must attach a separate sheet with a full explanation. Any new annual financial statements published since submittal of the most recently submitted Application must also be attached. A copy of the Validation Form is attached to these instructions. The District will require a validation form from major or specialty subcontractors. These will include Mechanical, Electrical, and Steel subcontractors, but may also include specialty contractors as needed by the project. Contractors may pre-qualify multiple subcontractors on each scope to facilitate competitive bidding between subcontractors.



What We Do With Your Application

Initial Screening

All Applications will be checked for completeness upon receipt. Applications found to be incomplete will be returned to the Applicant with a letter advising them of missing answers or documentation which must be resubmitted to be considered for pre-qualification. All Applications will also be checked to ensure the Applicant is not on any public agency list of debarred firms.

After this initial screening process is completed, the Application is evaluated to determine whether Pre-Qualification is approved or denied.

Verification

The verification process will include review of public databases and records check of references, financial analysis, and utilization of other investigative methods.

Evaluation

The Application contains Parts I through VII. Each part may contain questions that will be scored and/or questions that request background information on the Applicant. Applicants who meet the essential qualifications, receive an acceptable score, have the requisite financial wherewithal and bonding capacity will be approved for Pre-Qualification. The evaluation will include consideration of the following:

1. Does the Applicant have adequate financial capability to perform the contract in question or have the ability to obtain adequate financial resources in a timely manner?
2. Does the Applicant have sufficient bonding capacity and a record without high bonding premiums?
3. Does the Applicant have an acceptable past performance record?
4. Is the Applicant capable of performing or complying with the required delivery or performance schedules, considering all existing commercial and governmental business commitments?
5. Does the Applicant have an acceptable record of integrity and business ethics?
6. Does the Applicant have the necessary organization, experience, accounting and operational controls, and technical skills, or the ability to obtain them?
7. Does the Applicant have the necessary production, construction, and technical equipment and facilities, or the ability to obtain them?
8. Is the Applicant qualified and eligible to receive an award under applicable laws and regulations?
9. Has the Applicant been determined to be unqualified or ineligible to participate in public contracts?
10. Is the Applicant's Experience Modification Rate (EMR) below 1.25%?



Timeline

Phase 1: Pre-Qualification

1. All prospective prime contractors will be required to attend a pre-bid conference where the bidding process will be discussed, including pre-qualification. The validation form for this project and which subcontractors will be required to submit a validation form will be disclosed. The date of the pre-qualification deadline will be disclosed.
2. Prospective prime contractors that are not generally pre-qualified by the District will complete both the general pre-qualification form and project specific validation form and submit them to The Solis Group in both paper and electronic form. Prospective prime contractors that are already pre-qualified will be required to complete and submit only the validation form. These are due 7 days before the pre-qualification deadline for the project.
3. The Solis Group will evaluate applications in the order they are submitted. Firms will be informed if their applications lack any requirements. Firms will be deemed non-responsive and disqualified if they are unable to provide any requested information.
4. At the conclusion of the Pre-Qualification phase, the list of pre-qualified General Contractors for this specific project will be posted on the District's website at <https://www.lbcc.edu/pod/current-rfprfq-bid-opportunities>.

Phase 2: Bidding

1. If a prime contractor is not pre-qualified by this date they will not be able to bid on the project.
2. Pre-qualified firms will be able to submit bids and attend an in-person job walk(s) to be coordinated by the District or District's authorized representative.
3. Please refer to the Notice of Bid for actual bid date requirements.

Maximum possible points per application section:

Part I – Contact Information: Not Scored

Part II – Statement of Experience: Weighted

Part III – Essential Requirements

Part IV – Evaluation Criteria:

- **Contracting History:** 75 points (minimum points: 54)
(At least three (3) reference checks must score at least 18 points each, or contractor may be deemed not qualified. Any reference checks that yield fewer than 18 points will have the missed points deducted from the overall score. Only the best 3 references will be added to the score.)
- **Performance History:** 100 points (minimum points: 85)

Part V – Conflicts of Interest: Not Scored



Part VI – Financial Information: Weighted

Part VII – Additional Documentation: Not Scored, but failure to submit all required documentation will result in Applicant being deemed non-responsive.



Factors Leading to Denial of Pre-Qualification Status

The following can result in denial of Pre-Qualified status:

1. Failure to satisfy Essential Qualifications.
2. Failure to submit any material information required on the questionnaire.
3. Deliberate submission of false information.
4. Debarment or suspension (with finding) by any public entity.
5. Conviction of a crime or public offense.
6. Any combination of substantive factors such as, but not limited to, disregard for laws and regulations, history of failure to perform in other contracts, unresolved tax liens, excessive claims, patterns of serious OSHA violations, etc., which, in the sole discretion of the District, do not meet the standards of fitness or reliability expected from contractors wishing to do business with this agency;
7. Inability to meet financial qualifications.
8. Lack of bonding capacity.
9. Applicant's Experience Modification Rate (EMR) is at or above 1.25%; or
10. Reference interviews for Applicant's past projects are not commendable.



Notification of Pre-Qualification Status

Once the evaluation is complete, the Applicant will be notified by a letter whether the Pre-Qualification Application has been approved or denied. If an Applicant achieves Pre-Qualified status, the letter will also contain the term of the Pre-Qualification and the maximum dollar value of any contract that may be awarded to the firm.

Supplemental Information

Applicants who are not approved for Pre-Qualification will be given the opportunity to submit additional information within a predetermined timeframe. This supplemental information will be considered and evaluated along with the initial Application and a new score developed. Applicants who receive an acceptable score based on the initial and supplemental information will be approved for Pre-Qualification. Applicants who *do not* receive an acceptable score, based on deficiencies in the initial and supplemental information, may re-submit a Pre-Qualification Application once the application deficiencies have been corrected.

Debriefing Meeting

If the Pre-Qualification is denied, a debriefing meeting to discuss the rationale for the denial of a Pre-Qualification can be scheduled. In some cases, information obtained during such debriefings may assist a denied Applicant in planning a corrective action plan that could result in their approval on an Application re-submittal. The scheduling of such debriefings shall not extend the time for appeal.

Appeal of Denial

Any Applicant denied Pre-Qualification has a right to appeal the decision. The Applicant has ten (10) business days from the date of receipt of the Denial Notification to file a written appeal with the District to:

Long Beach Community College District
Deputy Director of Purchasing & Contracts – Mail Code G-4
4901 E. Carson, Long Beach, CA 90808

The District has established a Review Panel for appeals. Upon receipt of the written appeal, the Review Panel (Panel) will meet to address the appeal. The Panel may consult with District counsel during its review. The Panel will examine the appeal and the facts surrounding the determination before making a decision. The Panel's decision is the final decision of the District. There are no further administrative appeals.

NOTE: The District's formal contract protest procedure is not applicable or available in this appeals process. No Bid Opening or Proposal Process will be delayed or continued to accommodate a Contractor's appeal of the District's Pre- Qualification decision.



GENERAL CONDITIONS

1. The Applicant must provide current, accurate, and complete information. Incomplete or inaccurate documentation may result in denial of Pre-Qualification.
2. The District reserves the right to verify the information submitted by the Applicant, in any related documents, or by supplemental information or data, as necessary. If it is determined that false information or data was submitted in conjunction with the Application, the District may deny Pre-Qualification, revoke previously granted approval, or, if an award has been made, may terminate the contract.
3. All costs associated with completion of the Application shall be borne by the Applicant. The District shall not, in any event, be liable for any expense incurred by the Applicant in connection with the preparation, completion or submission of the Application.
4. The District reserves the right to extend the Application submission deadline if such action is determined to be in the best interest of the District.
5. The District's Contracts Management Office has access to all information provided on the Application, related documents, and supplemental data. Should information or data provided in the Application indicate possible fraud, collusion, or intentional submission of false information, the matter may be referred to the District's Legal Counsel for further review and possible investigation independent of the Pre-Qualification process.
6. If the Applicant displays a significant lack of cooperation in facilitating verification of its information or providing data, the District, at its sole discretion, may deny the firm Pre-Qualification approval and declare the Applicant's bid or proposal to be non-responsive for the specific procurement.
7. The Application responses and the financial information submitted in conjunction with the Applicant's Application shall not be deemed public records, shall not be open to public inspection and will be afforded protection by the District to the fullest extent permitted by law.



8. Any dispute arising out of this Application or relating to Pre-Qualification in general shall be heard and determined in the Superior Court of the State of California, County of Los Angeles, or in the United States District Court for the Central District of California. If an action is commenced against the District in jurisdictions other than the above courts, and the District is forced to compel compliance with this provision through court action, Applicant and its owners shall be liable for all expenses, including attorney's fees, incurred by the District in its effort to compel compliance.
9. The District reserves the right to revise the Application and instructions in whole or in part at any time.
10. The Pre-Qualification of a prospective Applicant shall neither limit nor preclude the District's subsequent consideration of a Pre-Qualified Applicant's responsibility on factors other than those considered in the Pre-Qualification process.

Definitions

Affiliate is defined as any one of the following: (1) any person other than Applicant which owns 25% or more of Applicant, such as parent companies or holding companies; (2) a subsidiary or a firm in which Applicant owns 25% or more; (3) a firm with which Applicant has or has had an unseverable business or professional identity; and (4) any permanent or temporary common business enterprise relationship in which the parties share operating responsibility and profits (such as or joint ventures).

Key Person is defined as any one of the following: (1) any person who owns 5% or more of the Applicant and/or those who make decisions with respect to its operations, finances, or policies, such as the President, CEO, CFO, COO, and in the case of partnerships, the General Partner(s); (2) Corporate Secretaries and Treasurers, as well as Directors, if they meet criteria #1, above; and (3) Division or Regional Business Managers who operate away and independently from the Applicant, but only if the division or regional office is bidding directly with the District.

Organizational Conflict of Interest means a situation in which performance of a previous or current contract with the District may provide the Applicant with an unfair competitive advantage, or the Applicant or any Affiliate has a relationship, which could adversely affect the Applicant's ability to fully perform the contract and concurrently to protect the best interests of the District.



Owners are defined as any person or other legal entity who owns 5% or more of the Applicant and who exercise a certain degree of control in the day-to-day operations, finances, or policies. For the purpose of this Application, shareholders of publicly traded companies are excluded, provided they do not participate in the day-to-day management of the firm.

Project Team Members are those employees of the firm who will be directly involved in the execution and management of the project.

Personal Conflict of Interest means a business or financial interest of any Key Person that could adversely affect the ability of the individual to fully perform the contract in a manner consistent with the best interests of the District.

Review this document carefully to ensure that all information to each question is complete and accurate. For questions and assistance call the District's Contractor Pre-Qualification Administrators, The Solís Group.

Direct Contact:

***Mason Lutz
The Solís Group
Phone: (949) 485-9597
mlutz@thesolisgroup.com***



Applicant: _____; Tax ID: _____

**DISTRICT CONTRACTOR AND VENDOR
PRE-QUALIFICATION APPLICATION**

If application is for a specific project/bid procurement:

Name of Procurement: _____

Procurement Number (If known): _____

Mandatory Pre-Bid Date: _____ Attendee from Firm: _____

Prequalification Deadline: _____ 7 Days before to ensure review: _____

Name of Applicant: _____

(As it appears on License)

Tax ID No. or SSN _____

Date Submitted: _____

Preparer's Name: _____

Note:

If this Application is being submitted in response to a Request for Proposal (RFP), Invitation for Bid (IFB), or other procurement action, please reference the RFP or IFB name and number in the spaces provided above.

Whether or not the Application is being submitted in response to a Request for Proposal (RFP), Invitation for Bid (IFB), or other procurement action, a successful Pre- Qualification will be valid for two (2) years, though additional projects requiring Pre- Qualification may require the submittal of supplementary information particular to that project.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

PART I. CONTACT INFORMATION

Firm Name: _____
(as it appears on license)

Check One:

Corporation ☐
Partnership ☐
Sole Prop. ☐

Address: _____

Phone: _____ Fax: _____ E-Mail: _____

Contact Person (Name/Title): _____

Address (if different): _____

Cell Phone: _____ Fax: _____ E-Mail: _____

If firm is a sole proprietor or partnership:

Owner(s) of Company _____

Contractor's License Classifications, License Numbers, and expiration dates:

PART II. STATEMENT OF EXPERIENCE

A. *Current Organization and Structure of the Business*

For Firms That Are Corporations:

- 1a. Date incorporated: _____
- 1b. Under the laws of what state: _____
- 1c. Provide all the following information for each person who is either (a) an officer of the corporation (president, vice president, secretary, treasurer), or (b) the owner of at least ten per cent of the corporation's stock.

Name	Position	Years with Co.	% Ownership	Social Security #



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

- 1d. Identify every construction firm that any person listed above has been associated with (as owner, general partner, limited partner, officer or RMO) at any time during the last five years.

NOTE: For this question, "owner" and "partner" refer to ownership of ten per cent or more of the business, or 10 per cent or more of its stock if the business is a corporation.

Person's Name	Construction Firm	% Ownership	Dates of Person's Participation with Firm

For Firms That Are Partnerships:

- 1a. Date of formation: _____
- 1b. Under the laws of what state: _____
- 1c. Provide all the following information for each partner who owns 10 per cent or more of the firm.

Name	Position	Years with Co.	% Ownership	Social Security #

- 1d. Identify every construction company that any partner has been associated with (as owner, general partner, limited partner, officer or RMO) at any time during the last five years.

NOTE: For this question, "owner" and "partner" refer to ownership of ten per cent or more of the business, or ten per cent or more of its stock if the business is a corporation.

Person's Name	Construction Firm	% Ownership	Dates of Person's Participation with Firm



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

For Firms That Are Sole Proprietorships:

- 1a. Date of commencement of business. _____
- 1b. Social security number of company owner. _____
- 1c. Identify every construction firm that the business owner has been associated with (as owner, general partner, limited partner, officer or RMO) at any time during the last five years.

NOTE: For this question, "owner" and "partner" refer to ownership of ten per cent or more of the business, or ten per cent or more of its stock if the business is a corporation.

Person's Name	Construction Company	% Ownership	Dates of Person's Participation with Company

For Firms That Intend to Make a Bid as Part of a Joint Venture:

- 1a. Date of commencement of joint venture. _____
- 1b. Provide all of the following information for each firm that is a member of the joint venture that expects to bid on one or more projects:

Name of firm	% Ownership of Joint Venture	Type of Entity (Corporation, Partnership, Sole

- 1c. For each firm identified in the Joint Venture, complete all organizational information under section A based as required for each type of entity.
- 1.d. For Joint Ventures, the phrase "your firm" refers to any entity with ownership interest.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

For All Firms

2a. Owners/Key Persons

List Owners and Key Persons of Applicant (See Definitions). For large publicly traded companies, list only Key Persons. Attach resumes (project titles).

Full Legal Name	Title	% of Ownership

[Use additional sheets if necessary]

2b. Related Entities (Affiliates, Subsidiaries, Joint Ventures)

List Affiliates, subsidiaries, holding companies, joint ventures, etc., of Applicant. If no affiliates, state "NONE." (N/A is not an acceptable answer.) Include the name of the Affiliate, address, telephone number, and percentage of ownership. Also, list the top executive of Affiliate. Provide organizational, geographical, or functional chart if it would assist in clarifying the line(s) of authority.

Affiliate Name & Address	Telephone	% Owned	Top Executive's Name	*Type of Relationship

*Type of Relationship: Joint Venture (JV); Parent Co (PC); Holding Co (HC); Subsidiary (S); or, Other (O). If Other, please explain.



Applicant: _____; Tax ID: _____

B. History of the Business and Organizational Performance

1. Has there been any change in ownership of the firm at any time during the last three years?

NOTE: A corporation whose shares are publicly traded is not required to answer this question.

☐ Yes ☐ No

If "yes," explain: _____

2. If your organization has conducted business under a name or name style different than your organization's present name, identify all prior name(s) or name-style(s):

3. How many years has your organization been in business in California as a contractor under your present business name and license number? _____ years

4. Was your firm in bankruptcy at any time during the last five years?

☐ Yes ☐ No

If "yes," please attach a copy of the bankruptcy petition, showing the case number and the date on which the petition was filed, and a copy of the Bankruptcy Court's discharge order, or of any other document that ended the case, if no discharge order was issued.

5. Your organization's Federal Tax Identification Number: _____

6. Applicant Annual Revenue: Complete the following. If the Applicant is engaged in business enterprises other than construction, responses to the following are limited to the Applicant's construction operations.

Calendar Year/ Fiscal Year	Annual Gross Revenue	Annual Net Revenue	Average Dollar Value of all Contracts	Dollar Value of Largest Contract

7. The Contractor has the following net worth, computed as total assets minus current liabilities:

Contractor's Total Assets: \$ _____

Contractor's Current Liabilities: \$ _____

Contractor's Net Worth: \$ _____



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

8. Bonding capacity: Provide documentation from your surety confirming your firm has sufficient bonding capacity for this Project and identifying the following:

Name of bonding company/surety: _____

Name of surety agent, address, and telephone number:

Aggregate bonding capacity:

9. List all other sureties (name and full address) that have written bonds for your firm during the last five years, including the dates during which each wrote the bonds:

10. Type of construction in which your firm specializes and trades/scope of work that you self-perform: _____

11. Are you currently prequalified with any other community college district or school district in California?

☐ Yes ☐ No

If yes, list the district(s) and dollar rating(s):

_____	\$ _____
_____	\$ _____
_____	\$ _____

C. Licenses

1. List all California construction license numbers, classifications and expiration dates of the California contractor licenses held by your firm:

2. If any of your firm's license(s) are held in the name of a corporation or partnership, list below the names of the qualifying individual(s) listed on the CSLB records who meet(s) the experience and examination requirements for each license.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

3. Has your firm changed names, license numbers or its Responsible Managing Employee (RME) or Responsible Managing Officer (RMO) in the past five years?

☐ Yes ☐ No

If "yes," identify each RME.RMO and the date and reason for the change: _____

4. Has any CSLB license held by your firm or its RME or RMO been suspended within the last five years?

☐ Yes ☐ No

If "yes," please explain: _____

D. *DIR Registration*

1. DIR Registration Verification Form. Each Contractor and Subcontractor must complete and submit with its Pre-Qualification Application the form of DIR Registration Verification. A Pre- Qualification Application submitted without the DIR Registration Verification duly completed and executed by the Contractor/Subcontractor will result in rejection of the Pre-Qualification Application as non-qualified.

E. *Disputes*

1. At any time in the last five years has your firm been assessed and paid liquidated damages after completion of a project under a construction contract with either a public or private owner?

☐ Yes ☐ No

If yes, explain on a separate signed page, identifying all such projects by owner, owner's address, the date of completion of the project, amount of liquidated damages assessed and all other information necessary to fully explain the assessment of liquidated damages.

2. In the last five years has your firm, or any firm with which any of your company's owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing, any government agency or public works project for any reason?

NOTE: "Associated with" refers to another construction firm in which an owner, partner or officer of your firm held a similar position, and which is listed in response to question 1c or 1d on this form.

☐ Yes ☐ No

If "yes," explain on a separate signed page. State whether the firm involved was the firm applying for pre-qualification here or another firm. Identify by name of the company, the name of the person within your firm who was associated with that company, the year of the event, the owner of the project, the project, and the basis for the action.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

3. In the last five years has your firm been denied an award of a public works contract based on a finding by a public agency that your company was not a responsible bidder?
☐ Yes ☐ No
If "yes," explain on a separate signed page. Identify the year of the event, the owner, the project, and the basis for the finding by the public agency.
4. In the past five (5) years, has your firm, or any Owner/Key Person currently with your firm, signed an agreement with an Owner, Developer, or public agency as part of a negotiated settlement agreement that precludes your firm from bidding on projects that are being financed in part or whole by that Owner, Developer, or public agency?
☐ Yes ☐ No
If "yes," explain any such agreement(s) on a separate signed page. Identify the owner/developer/agency, the date and duration of the agreement(s), and the name, contract date, and contract value of all projects (completed or not) that your firm has worked on for that owner/developer/agency in the last five (5) years.
- _____
- _____
- _____
5. Has your organization ever refused to sign a construction contract awarded to it?
☐ Yes ☐ No
6. Has your organization ever failed to complete or been precluded from completing a construction contract or been terminated for convenience?
☐ Yes ☐ No
If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of your failure to complete such contract.

NOTE: The following four questions refer only to disputes between your firm and the owner of a project. You need not include information about disputes between your firm and a supplier, another contractor, or subcontractor. You need not include information about "pass-through" disputes in which the actual dispute is between a sub-contractor and a project owner. Also, you may omit reference to all disputes about amounts of less than \$50,000.

7. In the past five years has your firm made any claim against a project owner concerning work on a project or payment for a contract and filed that claim in court or arbitration?
☐ Yes, Number of instances: _____. ☐ No
8. In the past five years has any claim against your firm concerning your firm's work on a construction project been filed in court or arbitration?
☐ Yes, Number of instances: _____. ☐ No



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

9. In the past five (5) years has any claim **against** your firm concerning your firm's work on a construction project been **filed in court or arbitration?**

☐ Yes ☐ No

If "yes," on separate signed sheets of paper identify the claim(s) by providing the project name, date of the claim, name of the claimant, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution).

10. In the past five years has your firm made any claim against a project owner concerning work on a project or payment for a contract and **filed that claim in court or arbitration?**

☐ Yes ☐ No

If "yes," on separate signed sheets of paper identify the claim by providing the project name, date of the claim, name of the entity (or entities) against whom the claim was filed, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending, or if resolved, a brief description of the resolution).

11. Are there any orders, decrees or arbitration awards pending, outstanding against your organization or any of the officers, directors, employees, or principals of your organization?

☐ Yes ☐ No

If "Yes," describe each such order, decree or arbitration award and the present status of the satisfaction or discharge thereof.

12. At any time during the past five years, has any surety company made any payments on your firm's behalf as a result of a default, to satisfy any claims made against a performance or payment bond issued on your firm's behalf, in connection with a construction project, either public or private?

☐ Yes ☐ No

If "yes," explain on a separate signed page the amount of each such claim, the name and telephone number of the claimant, the date of the claim, the grounds for the claim, the present status of the claim, the date of resolution of such claim if resolved, the method by which such was resolved if resolved, the nature of the resolution and the amount, if any, at which the claim was resolved.

13. In the last five years has any insurance carrier, for any form of insurance, refused to renew the insurance policy for your firm?

☐ Yes ☐ No

If "yes," explain on a separate signed page. Name the insurance carrier, the form of insurance and the year of the refusal.



Applicant: _____; Tax ID: _____

14. Within the last five years has there ever been a period when your firm had employees but was without workers' compensation insurance or state-approved self-insurance?

☐ Yes

☐ No

If "yes," please explain the reason for the absence of workers' compensation insurance on a separate signed page. If "No," please provide a statement by your current workers' compensation insurance carrier that verifies periods of workers' compensation insurance coverage for the last five years. (If your firm has been in the construction business for less than five years, provide a statement by your workers' compensation insurance carrier verifying continuous workers' compensation insurance coverage for the period that your firm has been in the construction business.)

F. *Criminal Matters and Related Civil Suits*

1. Has your firm or any of its owners, officers, partners, RMOs or RMEs ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?

☐ Yes

☐ No

If "yes," explain on a separate signed page, including identifying who was involved, the name of the public agency, the date of the investigation and the grounds for the finding.

2. Has your firm or any of its owners, officers, partners, RMOs or RMEs ever been convicted of a crime involving any federal, state, or local law related to construction?

☐ Yes

☐ No

If "yes," explain on a separate signed page, including identifying who was involved, the name of the public agency, the date of the conviction and the grounds for the conviction.

3. Has your firm or any of its owners, officers, partners, RMOs or RMEs ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?

☐ Yes

☐ No

If "yes," identify on a separate signed page the person or persons convicted, the court (the county if a state court, the district, or location of the federal court), the year and the criminal conduct.

G. *Bonding*

1. If your firm was required to pay a premium of more than .75 per cent for a performance and payment bond on any project(s) on which your firm worked at any time during the last three years, state the percentage that your firm was required to pay. Provide an explanation for a percentage rate higher than .75per cent.



Applicant: _____; Tax ID: _____

2. During the last five years, has your firm ever been denied bond coverage by a surety company, or has there ever been a period of time when your firm had no surety bond in place during a public construction project when one was required?

☐ Yes ☐ No

If yes, provide details on a separate signed sheet indicating the date when your firm was denied coverage and the name of the company or companies which denied coverage; and the period during which you had no surety bond in place.

H. *Compliance with Occupational Safety and Health Laws and with Other Labor Legislation Safety*

1. Has CAL OSHA cited and assessed penalties against your firm for any "serious" and "willful" or "repeat" violations of its safety or health regulations in the past five years?

NOTE: If you have filed an appeal of a citation, and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, you need not include information about it.

☐ Yes ☐ No

If "yes," attached a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was or were issued, the amount of penalty paid, if any. If the citation was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.

2. Has the federal Occupational Safety and Health Administration cited and assessed penalties against your firm in the past five years?

NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation.

☐ Yes ☐ No

If "yes," attach a separate signed page describing each citation.

3. Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either your firm or the owner of a project on which your firm was the contractor, in the past five years?

NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation.

☐ Yes ☐ No

If "yes," attach a separate signed page describing each citation.

4. How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a project? _____



Applicant: _____; Tax ID: _____

I. *Prevailing Wage and Apprenticeship Compliance Record*

1. Has there been more than one occasion during the last five years in which your firm was required to pay either back wages or penalties for your own firm's failure to comply with California's prevailing wage laws?

NOTE: This question refers only to your own firm's violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor.

☐ Yes ☐ No

If "yes," attach a separate signed page or pages, describing the nature of each violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed; the number of employees who were initially underpaid and the amount of back wages and/or penalties that you were required to pay.

2. During the last five years, has there been more than one occasion in which your own firm has been penalized or required to pay back wages for failure to comply with the **federal** Davis-Bacon prevailing wage requirements?

☐ Yes ☐ No

If "yes," attach a separate signed page or pages describing the nature of the violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed; the number of employees who were initially underpaid, the amount of back wages you were required to pay along with the amount of any penalty paid.

3. Provide the **name, address and telephone number** of the apprenticeship program (approved by the California Apprenticeship Council) from whom you intend to request the dispatch of apprentices to your company for use on any public work project for which you are awarded a contract.

4. If your firm operates its own State-approved apprenticeship program:

- (a) Identify the craft or crafts in which your firm provided apprenticeship training in the past year and state the year in which each such apprenticeship program was approved. Attach evidence of the most recent California Apprenticeship Council approval(s) of your apprenticeship program(s).



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

- (b) State the number of individuals who were employed by your firm as apprentices at any time during the past three years in each apprenticeship and the number of persons who, during the past three years, completed apprenticeships in each craft while employed by your firm.

5. At any time during the last five years, has your firm been found to have violated any provision of California apprenticeship laws or regulations, or the laws pertaining to use of apprentices on public works?

☐ Yes ☐ No

If "yes," provide the date(s) of such findings and attach copies of the Department's final decision(s).



Applicant: _____; Tax ID: _____

PART III: ESSENTIAL REQUIREMENTS FOR CONTRACTOR PRE-QUALIFICATION

Note: Contractor will be immediately disqualified if the answer to any of questions 1 through 5 is "no." Contractor will be immediately disqualified if the answer to any of questions 6 through 16 is "yes."

1. Does Contractor possess a valid and current California Contractor's license in the Classification required for the Project for which it intends to submit a bid?
☐ Yes ☐ No, not qualified.
2. Does Contractor have a liability insurance policy with a policy limit of at least \$2,000,000 per occurrence and \$3,000,000 aggregate from an insurer with an A.M. Best rated A- or better; A.M. Best Financial Size Category VII or higher; authorized under California law to transact business in the State of California and authorized to issue insurance policies in the State of California?
☐ Yes ☐ No, not qualified.
3. Does Contractor have current workers' compensation insurance as required by the Labor Code?
☐ Yes ☐ No, not qualified.

☐ No; Contractor is exempt from this requirement, as it has no employees.
4. Have you attached a notarized statement from an admitted surety insurer (approved by the California Department of Insurance) authorized to issue bonds in the State of California having an A.M. Best rating of A- or better which states: (a) your single-project bonding capacity; (b) your total bonding capacity; and (c) your current available bonding capacity?
NOTE: Notarized statement must be from the surety company, not an agent or broker.
☐ Yes ☐ No, not qualified.
5. Have you attached your latest copy of a reviewed or audited financial statement with accompanying notes and supplemental information?
☐ Yes ☐ No, not qualified.
6. Has your contractor's license been revoked at any time in the last five years?
☐ Yes, not qualified. ☐ No
7. Has a surety firm completed a contract on your behalf, or paid for completion because your firm was terminated for cause or default by the project owner within the last five (5) years?
☐ Yes, not qualified. ☐ No



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

-
8. At the time of submitting this Pre-Qualification form, is your firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either Labor Code section 1777.1 or Labor Code section 1777.7?
☐ Yes, not qualified. ☐ No
9. At any time during the last five years, has your firm or any of its owners, partners, officers or RMOs been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?
☐ Yes, not qualified. ☐ No
10. Has any CSLB license held by your firm or its Responsible Managing Employee (RME) or Responsible Managing Officer (RMO) been suspended within the last five years?
☐ Yes, not qualified. ☐ No
11. In the last five years has your firm, or any firm with which any of your company's owners, officers, partners or RMOs was associated, been debarred, disqualified, removed or otherwise prevented from bidding on any government agency or public works project for any reason?
NOTE: "Associated with" refers to another construction firm in which an owner, partner or officer of your firm held a similar position, and which is listed in response to question 1c or 1d on this form.
☐ Yes, not qualified. ☐ No
12. Is your firm currently the debtor in a bankruptcy case?
☐ Yes, not qualified. ☐ No
13. At any time during the last five years, has your firm or any of its owners, officers, partners or RMOs ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?
☐ Yes, not qualified. ☐ No
14. Does your firm, its principals and/or its RMO/RME have any unpaid outstanding judgments against them?
☐ Yes, not qualified. ☐ No
15. In the last 5 years, has your firm been denied an award of a public works project based on a finding by a public agency that your company was not a responsible bidder?
☐ Yes, not qualified. ☐ No
16. Has your firm or any of its owners, officers, partners or RMOs ever been convicted of a crime involving any federal, state, or local law related to construction?
☐ Yes, not qualified. ☐ No



PART IV: EVALUATION CRITERIA

1. CONTRACTING HISTORY

Using the form attached hereto (Attachment 1), Contractor shall provide the following information:

- a. Contractor shall identify and provide information about its three (3) most recently completed public works projects and its three largest completed private projects within the last five (5) years valued over \$1 M in construction costs for this project. Names and references must be current and verifiable. (If contractor has not performed three private projects, please indicate this.)
- b. If not already covered by a), Contractor shall identify and provide information about its largest completed project within the last five (5) years. Names and references must be current and verifiable.

Note: As the majority of companies have staff working remotely due to the current pandemic, please provide at least two cell phone contacts for each of listed references.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

***CONTRACTOR PERFORMANCE: ATTACHMENT 1
CONSTRUCTION PROJECTS COMPLETED***

(Duplicate Form as Required for Each Completed Project)

Contractor must attach the first approved baseline schedule and "Signed" Substantial Completion Form from the awarding body on each completed project. Forms without these attached documents will be rejected as incomplete and resubmittal with full documentation will be required to be considered for pre-qualification.

Contractor Name: _____

Project Name: _____

Location: _____

Owner: _____

Owner Contact (name, address, current phone number and e-mail address):

Project Type: ☐ New Construction ☐ Modernization/Infrastructure

Procurement Type: ☐ General Contractor Design-Bid-Build ☐ Multi-Prime

☐ Lease/Leaseback ☐ Design-Build ☐ Other: _____

Contractor's Role: ☐ General ☐ Prime Contractor Trade: _____

☐ Subcontractor. Trade: _____ Tier: _____

☐ Indicate here if project was subject to review, approval, and inspection by the California Department of General Services, Division of State Architect.

Architect or Engineer (name, company name, current cell & office phone number and e-mail address):

Construction Manager (name, company name, current cell & office phone number and e-mail address):

Description of Project, Scope of Work Performed:

Project Original Contract Price	
Project Total Adjusted Contract Price	
Contractor's Original Contract Price (for Prime and/or Subcontractors)	
Contractor's Total Adjusted Contract Price (for Prime and/or Subcontractors)	
Start Date and Planned Completion Date	/ / / /
Date of Actual Completion	
Time Extensions Granted (no. of days) / LDs Assessed in Dollars	\$



Applicant: _____; Tax ID: _____

2. **PERFORMANCE HISTORY (100 Possible Points)**

1. How many years has your organization been in business in California as a contractor under your present business name and license number? ____years
5 points for 6 years or more **4 points for 5 years**
3 points for 4 years **2 points for 3 years or less**

2. Was your firm or any predecessor to your firm, or any of its owners, officers, or partners at any time during the last five years in bankruptcy? (This question refers only to a bankruptcy action that was not described in answer to question 14 in Part III, above)
☐ Yes ☐ No
If "yes," please attach a copy of the bankruptcy petition, showing the case number and the date on which the petition was filed, and a copy of the Bankruptcy Court's discharge order, or of any other document that ended the case, if no discharge order was issued.
10 points for "No"
0 points for "Yes"

3. At any time in the last five years has your firm been assessed and paid liquidated damages after completion of a project under a construction contract with either a public or private owner?
☐ Yes ☐ No
If yes, explain on a separate signed page, identifying all such projects by owner, owner's address, the date of completion of the project, amount of liquidated damages assessed and all other information necessary to fully explain the assessment of liquidated damages.
10 points for "No"
0 points for "Yes" indicating one project with liquidated damages of more than \$50,000
0 points for "Yes" indicating two or more projects with liquidated damages of more than \$50,000 **0 points for any other answer**

4. Has your firm had insurance terminated by a carrier in the past 5 years due to an excessive claims history and/or nonpayment of premium?
☐ Yes ☐ No
10 points for "No"
0 points for "Yes"

5. In the last five years has any insurance carrier, for any form of insurance, refused to renew the insurance policy for your firm?
☐ Yes ☐ No
5 points for "No"
3 points for "Yes" indicating 1 such instance
0 points for "Yes" or if 2 or more such instances



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

6. Has the Applicant been the subject of a tax lien by federal, state or any other tax authority?

☐ Yes ☐ No

If "Yes", describe each such lien and the present status of the satisfaction or discharge thereof.

10 points for "No"

0 points for "Yes"

7. Has your firm or any of its owners, officers or partners ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?

☐ Yes ☐ No

10 points for "No"

0 points for "Yes"

8. Was your firm required to pay a premium of more than .75 percent for a performance and payment bond on any project(s) on which your firm worked at any time during the last three years, state the percentage that your firm was required to pay.

☐ Yes Bond Premium Paid: _____ ☐ No

10 points if the rate is no more than .75 percent

5 points if the rate is more than .75 percent

0 points if rate is more than 1 percent

9. During the last five years, has a claim or other demand been made against your organization's California Contractors License Bond?

☐ Yes ☐ No

5 points for "No"

0 points for "Yes"

10. During the last five years, has a complaint been filed against your organization's California Contractors License with the California Contractors State License Board?

☐ Yes ☐ No

5 points for "No"

0 points for "Yes"



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

11. Has there been any occasion during the last five years in which your firm was required to pay either back wages or penalties for your own firm's failure to comply with the **state's** prevailing wage laws or with the **federal** Davis-Bacon prevailing wage requirements?

NOTE: This question refers only to your own firm's violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor.

☐ Yes ☐ No

If "yes," attach a separate signed page or pages, describing the nature of each violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed; the number of employees who were initially underpaid and the amount of back wages and penalties that you were required to pay.

10 points for "No"

4 Points for "Yes" indicating no more than 1 such instance

3 points for "Yes" indicating no more than 2 such instances

2 points for "Yes" indicating no more than 3 such instances

0 points for "Yes" indicating 4 or more such instances

12. List your firm's Experience Modification Rate (EMR) (California workers' compensation insurance) for each of the past three premium years:

NOTE: An Experience Modification Rate is issued to your firm annually by your workers' compensation insurance carrier.

Current year: _____

Previous year: _____

Year prior to previous year: _____

If your EMR for any of these three years is or was 1.00 or higher you may, if you wish, attach a letter of explanation. A Contractor with an EMR of 1.25% or more may be denied pre-qualification status.

10 points for three-year average EMR of .95 or less

7 points for three-year average of EMR of more than .95 but no more than 1.10

3 points for three-year average of EMR of more than 1.10 but no more than 1.25

0 points for any other EMR

* * * * *



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; **Tax ID:** _____

The individual executing this Prequalification Application on behalf of the Contractor is duly and fully authorized to execute this Prequalification Application and hereby certifies and declares:

I have read all of the responses to this Prequalification Application and the supporting documentation attached hereto and know their contents. The matters stated in the Prequalification Application responses and supporting documentation are true of my own knowledge and belief, except as to those matters stated on information and belief, and as to those matters, I believe them to be true. I declare under penalty of perjury under the laws of the State of California, that the foregoing is correct.

Dated: _____, 20____

(Name)

(Title)



Applicant: _____; Tax ID: _____

PART V: CONFLICTS OF INTEREST

Contractors with conflicts of interest or the appearance of a conflict of interest, in violation of California Government Code shall be disqualified.

- a. Does the Applicant or any of its Key Persons have any existing relationships that could be construed as either personal or organizational conflicts of interest, or which would give rise to a conflict if Applicant should be a recipient of a contract with the District?

☐ No

☐ Yes

- b. Has any Owner, Key Person or Project Team member of Applicant ever:

1. Been an employee of the District, or served as a Member of the District Board of Trustees or as an Alternate?

☐ No

☐ Yes

2. Been related by blood or marriage to a District employee, District Board Member or Alternate?

☐ No

☐ Yes



Applicant: _____; Tax ID: _____

PART VI: FINANCIAL INFORMATION

1. Financial Statement: Submit the appropriate financial statement with this completed application. A Compilation is not acceptable.
2. Accountant's Certificate of Audit/Review of Financial Statement: Your accountant must complete and sign one of the following certificates on page 37 of this packet, depending on the type of financial statement you are submitting with this application. Include the certificate with your completed application.
3. Accountant's Release Letter: Please complete the form on page 38 of this packet to permit the District to contact your accountant to verify that the financial statement you have submitted is the most recent one. *(Must be original wet signed signature – copies are not acceptable)*
4. Financial Institution Release Letter: Please complete the form on page 38 of this packet to permit the District to contact the financial institution that provided a Letter of Credit for this application. You only need to complete this form if you have submitted a Letter of Credit with your application.
5. General Letter of Credit: If you wish the District to consider your letter of credit as part of its calculation of your financial capacity, you must submit a Letter of Credit from your financial institution with your application. The financial institution may use the form on page 38 of this packet or it may use its own form as long as it certifies the credit amount and agrees that the credit will not be withdrawn or reduced without 45 days prior written notice to the District.

FINANCIAL STATEMENT / ACCOUNTANT'S RELEASE LETTER

The certificate of a licensed Certified Public Accountant will be required in all cases. A suggested form of a certificate for both an audit and a review is attached hereto. One of these may be used if appropriate. It will be acceptable for the accountant to submit a certificate in the accountant's own words. However, such qualifications shall not be so extensive as to nullify the value of the statement or its usefulness to the District.

Accountant's Release Letter will be required. Long Beach Community College District will verify financial statement validity with responsible accountant.

Term of Financial Statements. A Contractor's financial information shall be valid until the date shown is more than one year old from the time the prequalification application is approved. Statements will be held on file until the financial information is fifteen (15) months old at which time it will be destroyed. All applicable portions of the form should be completed with schedules attached if the space provided does not suffice.



Applicant: _____; Tax ID: _____

FINANCIAL INFORMATION

COMPLETE THIS CERTIFICATE FOR AN AUDIT OF FINANCIAL STATEMENT:

STATE OF: _____

We have examined the Financial Statement of _____ as of _____, a copy of which is attached hereto. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying financial statement included on pages _____ to _____ inclusive, sets forth fairly the financial condition of _____ as of _____, in conformity with generally accepted accounting principles.

Type Name of Firm

Accountant must sign here

Telephone No.

License No.

COMPLETE THIS CERTIFICATE FOR A REVIEW ONLY OF FINANCIAL STATEMENT:

I (we) have reviewed the accompanying financial statement of _____ as of _____, a copy of which is attached hereto. The information included in the financial statement is the representation of the management of the above firm.

Based on my (our) review with the exception of the matter(s) described in the following paragraphs(s), I am (we are) not aware of any material modifications that should be made to the accompanying financial statements in order for them to be in conformity with generally accepted accounting principles.

Type Name of Firm

Accountant must sign here

Telephone No.

License No.

(Note this review consists principally of inquiries of management and appropriate analytical procedures applied to this financial data. It is substantially less in scope than an examination in accordance with generally accepted auditing standards, the objective of which is the expression of opinion regarding the financial statements taken as a whole. Accordingly, we have not expressed such an opinion.)

Special note to Accountant:

The above Certificates of Accountant shall not be made by any individual who is in the regular employ of the individual, partnership or corporation submitting the statement; or by any individual who is a member of the firm with more than a ten percent financial interest.



Applicant: _____; **Tax ID:** _____

ACCOUNTANT'S RELEASE LETTER

By signing the form below, I authorize Long Beach Community College District and/or The Solis Group to contact our company's licensed accounting firm to verify our most recent audited or reviewed financial statement. I understand the financial statement is confidential information and is not open to public inspection.

Name

Title

***Company
Name***

Date

Verified by Long Beach Community College District

Name

Date



Applicant: _____; Tax ID: _____

PART VII - ADDITIONAL DOCUMENTATION REQUIRED

Please attach the following information:

- ☐ 1. Applicant's current business licenses and contractor's license.
- ☐ 2. DIR Registration Certification
- ☐ 3. Contractor Performance: Attachment 1 Public Construction Projects Completed
- ☐ 4. A statement by your current workers' compensation insurance carrier that verifies periods of workers' compensation insurance coverage for the last five years. If your firm has been in the construction business for less than five years, provide a statement by your workers' compensation insurance carrier verifying continuous workers' compensation insurance coverage for the period that your firm has been in the construction business.
- ☐ 5. Applicant's Financial Statements (referenced above and specific additional requirements below):
 - a. Publicly traded companies: annual reports for the most recent three (3) years.
 - b. Non-publicly traded companies with audited or reviewed financial statements: statements, including balance sheet, statement of earnings and retained income, with footnotes, for the most recent three years.
 - c. Non-publicly traded companies without audited or reviewed financial statements: company generated financial statements, including balance sheet, statement of earnings and retained income for the last three years signed by the CEO or President.
 - d. Sole proprietorships: the last three years of the owner's financial statements for corresponding period signed by the owner.
- ☐ 6. Pre-Qualification Certification Form
- ☐ 7. Notarized statement from an admitted surety insurer (approved by the California Department of Insurance) authorized to issue bonds in the State of California having an A.M. Best rating of A- or better which states: (a) your total bonding capacity; and (b) your current bonding capacity sufficient for the project for which you seek pre-qualification if you are seeking pre-qualification for a single project; or (if you are seeking pre-qualification valid for a year) (c) your current available bonding capacity?



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

DIR REGISTRATION VERIFICATION

I am the _____ of _____
(Title/Position) (Bidder Name)

("Bidder") submitting the accompanying Prequalification Application for Long Beach Community College District public works projects.

1. Bidder is currently registered as a contractor with the Department of Industrial Relations ("DIR").
2. Bidder's DIR Registration Number is: _____. The expiration date of the Bidder's DIR Registration is June 30, 20_____.
3. If Bidder is awarded the Contract for the Work and the expiration date of the Bidder's DIR Registration will occur: (i) prior to expiration of the Contract Time for the Work; or (ii) prior to the Bidder completing all obligations under the Contract for the Work, the Bidder will take all measures necessary to renew the Bidder's DIR Registration so that there is no lapse in the Bidder's DIR Registration while performing Work under the Contract.
4. Bidder, if awarded a Contract for Work, will remain a DIR registered contractor for the entire duration of the Work.
5. The Bidder acknowledges that it shall be required to independently verify that each Subcontractor identified in the Subcontractors List submitted with the Bid Proposal of the Bidder is currently a DIR registered contractor.
6. Bidder has provided the DIR Registration Number for each subcontractor identified in Bidder's Subcontractors' List or within twenty-four (24) hours of the opening of Bid Proposals for the Work, the Bidder will provide the District with the DIR Registration Number for each subcontractor identified in Bidder's Subcontractors List.
7. Bidder's solicitation of subcontractor bids shall include notice to prospective subcontractors that:
(i) all sub-tier subcontractors must be DIR registered contractors at all times during performance of the Work; and (ii) prospective subcontractors may only solicit sub-bids from and contract with lower-tier subcontractors who are DIR registered contractors.
8. If any of the statements herein are false or omit material facts rendering a statement to be false or misleading, Bidder may be deemed not qualified and its Bid Proposal may be deemed non-responsive.

I have personal first-hand knowledge of all of the foregoing. I declare under penalty of perjury under California law that the foregoing is true and correct.

Executed this _____ day of _____, 20_____ at _____.
(City and State)

(Signature)

(Name, typed or printed)



Applicant: _____; Tax ID: _____

PROJECT SPECIFIC PRE-QUALIFICATION VALIDATION FORM

GENERAL CONTRACTOR

This Validation Form must be submitted for each bid or proposal and be completed and signed by at least one General Partner, Owner, Principal or Officer authorized to legally commit the Applicant. It may contain supplemental questions regarding project-specific qualifications to bid on a particular project.

This Validation Form must be submitted to be reviewed prior to the prequalification date. The pre-qualified firm must certify that the information contained in the most recently submitted Application has not changed and must list contact information for all current projects that are affecting their aggregate bonding capacity at the time of the new bid. If it determined that the firm's aggregate bonding capacity will be surpassed with the submittal of the new bid, the District may reject the firm's bid. Likewise, if the Application information has changed an evaluation of the new information could result in the change in Pre-Qualification status of the Applicant. If the Pre-Qualification status is denied, bidder or proposer will be considered non-responsive.

ALL VALIDATION FORMS IN THIS PACKET ARE SAMPLES AND WILL BE UPDATED TO REFLECT PROJECT SPECIFIC INFORMATION AND QUESTIONS.

RFP or IFB Name and Number

I, (printed full name) _____, hereby declare that I am the
(position or title) _____ of
(APPLICANT) _____, and that I am duly authorized to
execute this Validation Statement on behalf of this entity. I have personal knowledge of the facts
set forth below, and if called upon to testify, I could and would competently testify thereto.

1. I further declare that:

☐ The Pre-Qualification Application dated _____ on file with District is
correct and current as submitted.

OR

☐ The Pre-Qualification Application dated _____ on file with District is
correct and current as submitted, except as modified by the attached changed pages
and/or attachments to said Application. (Applicant may attach additional sheets to
describe changes). Attach recent financial statements if previous are more than one year
old.

2. I acknowledge that any false, deceptive, or fraudulent statements on this validation will
result in denial of Pre-Qualification.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

3. Please state your firm's aggregate bonding capacity: _____
4. The below listed construction projects are the only projects that affect the firm's aggregate bonding capacity at this time:

Agency/Owner	Agency/Owner Contact Person & Cell Phone Number plus alternate phone	Project Name / Contract #	Description of Services Provided	Prime (P) or Subcon tractor (S)	Start Date / Compl etion Date	Contract Amount

5. Provide resumes for 5 potential project managers that have been employed by your company for at least 3 years, one of whom will be utilized as your project manager for this project.
6. Does your firm have experience working on an active campus during construction?
☐ Yes ☐ No, not qualified.
7. Does your firm have a minimum of three (3) years' experience in public school/community college construction as a prime general contractor?
☐ Yes ☐ No, not qualified.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

8. Has your firm completed three (3) public works projects that were subject to review, approval, and inspection by the California Department of the General Services, Division of State Architect within the last ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

9. Has your firm completed a project that occurred in an actively occupied building in the past ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

Signature of Person Certifying for Applicant/Bidder

Date



Applicant: _____; Tax ID: _____

PROJECT SPECIFIC PRE-QUALIFICATION VALIDATION FORM

MECHANICAL SUBCONTRACTOR

This Validation Form must be submitted for each bid or proposal and be completed and signed by at least one General Partner, Owner, Principal or Officer authorized to legally commit the Applicant. It may contain supplemental questions regarding project-specific qualifications to bid on a particular project.

This Validation Form must be submitted to be reviewed prior to the prequalification date. The pre-qualified firm must certify that the information contained in the most recently submitted Application has not changed and must list contact information for all current projects that are affecting their aggregate bonding capacity at the time of the new bid. If it determined that the firm's aggregate bonding capacity will be surpassed with the submittal of the new bid, the District may reject the firm's bid. Likewise, if the Application information has changed an evaluation of the new information could result in the change in Pre-Qualification status of the Applicant. If the Pre-Qualification status is denied, bidder or proposer will be considered non-responsive.

RFP or IFB Name and Number

I, (printed full name) _____, hereby declare that I am the
(position or title) _____ of
(APPLICANT) _____, and that I am duly authorized to
execute this Validation Statement on behalf of this entity. I have personal knowledge of the facts
set forth below, and if called upon to testify, I could and would competently testify thereto.

1. I acknowledge that any false, deceptive, or fraudulent statements on this
validation will result in denial of Pre-Qualification.
2. Does your firm have experience working on an active campus during
construction?
☐ Yes ☐ No, not qualified.
3. Does your firm have a minimum of three (3) years' experience in public
school/community college construction as a subcontractor?
☐ Yes ☐ No, not qualified.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

4. Has your firm completed three (3) public works projects that were subject to review, approval, and inspection by the California Department of the General Services, Division of State Architect within the last ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

5. Has your firm completed a project that occurred in an actively occupied building in the past ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

Signature of Person Certifying for Applicant/Bidder

Date



Applicant: _____; Tax ID: _____

PROJECT SPECIFIC PRE-QUALIFICATION VALIDATION FORM

ELECTRICAL SUBCONTRACTOR

This Validation Form must be submitted for each bid or proposal and be completed and signed by at least one General Partner, Owner, Principal or Officer authorized to legally commit the Applicant. It may contain supplemental questions regarding project-specific qualifications to bid on a particular project.

This Validation Form must be submitted to be reviewed prior to the prequalification date. The pre-qualified firm must certify that the information contained in the most recently submitted Application has not changed and must list contact information for all current projects that are affecting their aggregate bonding capacity at the time of the new bid. If it determined that the firm's aggregate bonding capacity will be surpassed with the submittal of the new bid, the District may reject the firm's bid. Likewise, if the Application information has changed an evaluation of the new information could result in the change in Pre-Qualification status of the Applicant. If the Pre-Qualification status is denied, bidder or proposer will be considered non-responsive.

RFP or IFB Name and Number

I, (printed full name) _____, hereby declare that I am the
(position or title) _____ of
(APPLICANT) _____, and that I am duly authorized to
execute this Validation Statement on behalf of this entity. I have personal knowledge of the facts
set forth below, and if called upon to testify, I could and would competently testify thereto.

1. I acknowledge that any false, deceptive, or fraudulent statements on this
validation will result in denial of Pre-Qualification.
2. Does your firm have experience working on an active campus during
construction?
☐ Yes ☐ No, not qualified.
3. Does your firm have a minimum of three (3) years' experience in public
school/community college construction as a subcontractor?
☐ Yes ☐ No, not qualified.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

4. Has your firm completed three (3) public works projects that were subject to review, approval, and inspection by the California Department of the General Services, Division of State Architect within the last ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

5. Has your firm completed a project that occurred in an actively occupied building in the past ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

Signature of Person Certifying for Applicant/Bidder

Date



Applicant: _____; Tax ID: _____

PROJECT SPECIFIC PRE-QUALIFICATION VALIDATION FORM

STEEL SUBCONTRACTOR

This Validation Form must be submitted for each bid or proposal and be completed and signed by at least one General Partner, Owner, Principal or Officer authorized to legally commit the Applicant. It may contain supplemental questions regarding project-specific qualifications to bid on a particular project.

This Validation Form must be submitted to be prior to the prequalification date. The pre-qualified firm must certify that the information contained in the most recently submitted Application has not changed and must list contact information for all current projects that are affecting their aggregate bonding capacity at the time of the new bid. If it determined that the firm's aggregate bonding capacity will be surpassed with the submittal of the new bid, the District may reject the firm's bid. Likewise, if the Application information has changed an evaluation of the new information could result in the change in Pre-Qualification status of the Applicant. If the Pre-Qualification status is denied, bidder or proposer will be considered non-responsive.

RFP or IFB Name and Number

I, (printed full name) _____, hereby declare that I am the
(position or title) _____ of
(APPLICANT) _____, and that I am duly authorized to
execute this Validation Statement on behalf of this entity. I have personal knowledge of the facts
set forth below, and if called upon to testify, I could and would competently testify thereto.

1. I acknowledge that any false, deceptive, or fraudulent statements on this
validation will result in denial of Pre-Qualification.
2. Does your firm have experience working on an active campus during
construction?
☐ Yes ☐ No, not qualified.
3. Does your firm have a minimum of three (3) years' experience in public
school/community college construction as a subcontractor?
☐ Yes ☐ No, not qualified.



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

4. Has your firm completed three (3) public works projects that were subject to review, approval, and inspection by the California Department of the General Services, Division of State Architect within the last ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

5. Has your firm completed a project that occurred in an actively occupied building in the past ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

Signature of Person Certifying for Applicant/Bidder

Date



Applicant: _____; Tax ID: _____

PROJECT SPECIFIC PRE-QUALIFICATION VALIDATION FORM

SPECIALTY SUBCONTRACTOR: ABATEMENT/HAZARDOUS MATERIALS

This Validation Form must be submitted for each bid or proposal and be completed and signed by at least one General Partner, Owner, Principal or Officer authorized to legally commit the Applicant. It may contain supplemental questions regarding project-specific qualifications to bid on a particular project.

This Validation Form must be submitted to be reviewed prior to the prequalification date. The pre-qualified firm must certify that the information contained in the most recently submitted Application has not changed and must list contact information for all current projects that are affecting their aggregate bonding capacity at the time of the new bid. If it determined that the firm's aggregate bonding capacity will be surpassed with the submittal of the new bid, the District may reject the firm's bid. Likewise, if the Application information has changed an evaluation of the new information could result in the change in Pre-Qualification status of the Applicant. If the Pre-Qualification status is denied, bidder or proposer will be considered non-responsive.

RFP or IFB Name and Number

I, (printed full name) _____, hereby declare that I am the
(position or title) _____ of
(APPLICANT) _____, and that I am duly authorized to
execute this Validation Statement on behalf of this entity. I have personal knowledge of the facts
set forth below, and if called upon to testify, I could and would competently testify thereto.

1. I acknowledge that any false, deceptive, or fraudulent statements on this validation will
result in denial of Pre-Qualification.

2. Does your firm have experience working on an active campus during
construction?

☐ Yes ☐ No, not qualified.

3. Has your firm completed projects including the material Polychlorinated Biphenyls
(PCB) in the past 10 years?

☐ Yes ☐ No, not qualified.

Please list up to three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				



**Long Beach Community College District
Contractor Pre-Qualification Program**

Applicant: _____; Tax ID: _____

3. Has your firm completed a project that occurred in an actively occupied building in the past ten (10) years?

☐ Yes ☐ No, not qualified.

List your three (3) most applicable projects (or all such projects in the last ten (10) years):

	Owner	Project Name	Start/End Dates	Construction Value
1.				
2.				
3.				

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

Signature of Person Certifying for Applicant/Bidder

Date