CONTRA COSTA COMMUNITY COLLEGE DISTRICT
C-4016 NEW SCIENCE BUILDING – INCREMENT 1, SITE WORK
CONTRA COSTA COLLEGE, San Pablo, CA

Date: 12/27/18

NOTICE TO ALL CONTRACTORS

You are hereby notified of the following changes, clarifications and/or modifications to the original Contract Documents, Project Manual, Drawings, Specifications and/or previous Addenda. This Addendum shall supersede the original Contract Documents and previous Addenda wherein it contradicts the same, and shall take precedence over anything to the contrary therein. All other conditions remain unchanged.

This Addendum forms a part of the Contract Documents and modifies the original Contract Documents dated 10/17/18, and/or Addendum #1 dated 11/20/18, and/or Addendum #2 dated 12/6/18. Acknowledge receipt of this Addendum in space provided on the Bid Proposal Form. Failure to acknowledge may subject Bidder to disqualification.

A. Deletions, Additions, Changes, Revisions

SPECIFICATIONS

1. Item: Section 31 23 00 Excavation and Fill
   Delete: Existing Section 31 23 00 Excavation and Fill in its entirety and Replace with the attached Section 31 23 00 Excavation and Fill in its entirety.

2. Item: SECTION 31 50 00 Temporary Excavation Support and Protection
   Delete: Existing Section 31 50 00 Temporary Excavation Support and Protection in its entirety and Replace with the attached Section 31 50 00 Temporary Excavation Support and Protection in its entirety.

DRAWINGS

1. Sheet C1.00, Existing Site Plan
   Revisions: Section A was added, and a reference to the undocumented buttress area was also identified. Note 1 was added: “UNDOCUMENTED FILL BUTTRESS AREA COMPLETED AS PART OF THE INCREMENT 0 PACKAGE.”
Section A was revised to show approximately, where the undocumented buttress material was placed.

2. **Sheet C3.00, Rough Grading Plan**
   
   **Revisions:** Note 12 was added along with revisions to Details 1A, 1B and 2. Renumbered from C3.01 to C3.00 to emphasize the potential order of work for the contractor. However, the contractor shall excavate as a means and methods for the most efficient construction methods. Temporary shoring locations have been approximated as shown. Storm drain locations have been identified as shown.

3. **Sheet C3.01 Over-Excavation Plan**
   
   **Revisions:** More detail was added to the depths to over-excavate and compact. Renumbered from C3.00 to C3.01; ROUGH GRADING NOTES; Protect existing trees notes were revised. Temporary shoring locations have been approximated as shown. Storm drain locations have been identified as shown. Protect in place existing utilities or relocate as necessary.

4. **Sheet C3.03 Existing Site Plan for Reference Only**
   
   **Revisions:** Sheet was added to show the relationship of the existing structures to the fire access road to help quantify the areas of native soil and undocumented fill buttress areas that will have to be compacted by the Increment 1 Contractor. Additionally, the site plan was added for reference only to show the existing footprint of the building structures overlaid onto the proposed rough grading after Increment 0 is completed.

5. **Sheet C4.00 Utility Plan**
   
   **Revisions:** More information was added as it pertains to the location of electrical equipment and related utilities. Proposed electrical utility boxes shown on the plan in the approximate new locations.

B. **Bid Requests for Information (RFIs)**

1. Bid RFIs and applicable responses are attached.

C. **For questions regarding this Addendum, please contact:**

Ron Johnson, Critical Solutions, Inc. - Email: bids@csipm.com

**NOTE:**
- Copy “C-4016 New Science Building – Increment 1, Site Work” into email SUBJECT line.
- Questions (RFIs) must be submitted within the body of the email. Do not include attachments.
ADDENDUM #3

All other terms and conditions of BID are to remain the same.

ATTACHMENTS

SECTION 31 23 00 Excavation and Fill
SECTION 31 50 00 Temporary Excavation Support and Protection
Drawing-C1.00 Existing Site Plan
Drawing-C3.00 Rough Grading Plan
Drawing-C3.01 Over-Excavation Plan
Drawing-C3.03 Existing Site Plan for Reference Only
Drawing-C4.00 Utility Plan
Bid RFI responses

SmithGroupJJR
301 Battery Street, 7th Floor
San Francisco, CA 94111

Division of the State Architect
1515 Clay Street, Suite 1201
Oakland, CA 94612

END OF ADDENDUM #3
PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes the requirements for earthwork operation, as shown on the Drawings and specified:

1. Excavation and/or embankment from existing ground to subgrade, including soil sterilant, for parking areas, walks, paths, and any other site improvements called for on the Plans.
   a. Aggregate base.
   b. Dispose off-site waste, excess or unsatisfactory material.

1.2 RELATED DOCUMENTS

A. Geotechnical Report: “Geotechnical Engineering Investigation Report, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California.” Kleinfelder Project No.: 20181569.001A, Dated: October 17, 2017, including:

1. Addendum Letters No. 1 and No. 2 dated March 2 and March 4, 2018, respectively.

B. Caltrans Standard Specifications:

1. Section 17, Watering.
2. Section 19, Earthwork.
3. Section 26, Aggregate Bases.

1.3 RELATED SECTIONS

A. Section 31 11 00 – Clearing and Grubbing

1.4 REGULATORY REQUIREMENTS

A. State of California, Department of Transportation (Caltrans), Standard Specifications

B. ASTM

1. D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
2. D1557-70 for testing in compaction.
3. D 1586, Method for Penetration Tests and Split-Barrel Sampling of Soils.
4. D 2487, Classification of Soils for Engineering Purposes.


D. CAL/OSHA, Title 8.

1.5 DEFINITIONS

A. Borrow: Approved soil material imported from off-site for use as Structural Fill or Backfill.

B. Excavation: Removal of material encountered above subgrade elevations.

   1. Authorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions as shown on plans or authorized by the District’s Representative.

   2. Unauthorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions without authorization by the District’s Representative. Unauthorized excavation shall be without additional compensation.

C. Structural Backfill: Soil materials approved by the District’s Representative and used to fill excavations resulting from removal of existing below grade facilities, including trees.

D. Structural Fill: Soil materials approved by the District’s Representative and used to raise existing grades.

E. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material §-cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2-inches.

F. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below grade.

G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below base or topsoil materials.

H. Unsuitable Material: Any soil material that is not suitable for a specific use on the Project. The District’s Representative will determine if a soil material is unsuitable.

I. Utilities: onsite underground pipes, conduits, ducts and cables.

1.6 SUBMITTALS

A. Submittal procedure shall be as outlined in Division 1 – General Requirements.
B. Submit material certificates signed by the material producer and the Contractor, certifying that each material item complies with, or exceeds the specified requirements.

1.7 QUALITY ASSURANCE

A. Conform all work and materials to the recommendations or requirements of the District’s Representative.

B. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

C. Excavate and backfill existing areas only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations. Backfill as necessary to achieve rough grade elevations as indicated per plan.

D. Perform excavation, filing, compaction and related earthwork under the observation of the District’s Representative. Materials placed without approval of the District’s Representative will be presumed to be defective and, at the discretion of the District’s Representative, shall be removed and replaced at no cost to the District. Notify the District’s Representative at least 24-hours prior to commencement of earthwork and at least 48 hours prior to testing.

E. The District’s Representative will perform observations and tests required to enable him to form an opinion of the acceptability of the Project earthwork. Correct earthwork that, in the opinion of the District’s Representative, does not meet the requirements of these Technical Specifications.

F. Upon completion of the construction work, certify that all compacted fills and foundations are in place at the correct locations, and have been constructed in accordance with sound construction practice. In addition, certify that the materials used are of the types, quality and quantity required by these Technical Specifications. The Contractor shall be responsible for the stability of all fills and backfills constructed by his forces and shall replace portions that in the opinion of the District’s Representative have been displaced or are otherwise unsatisfactory due to the Contractor’s operations.

G. Do not mix or place cement treated base when the temperature is below 36 degrees F or when the ground is frozen.

H. Identify and protect existing utilities.

I. Finish soil grade tolerance at completion of grading:
   1. Paved areas: +0.05 feet.
   2. Other areas: ±0.10 feet.

1.8 PROJECT CONDITIONS

A. Promptly notify the District and the District’s Representative of surface or subsurface conditions differing from those disclosed in conformance with Division 1 General Requirements.

B. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
C. Prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

D. Temporarily stockpile fill material in an orderly and safe manner and in a location approved by the District.

E. Provide dust and noise control in conformance with Division 1 General Requirements.

F. Environmental Requirements: When unfavorable weather conditions necessitate interrupting earthwork operation, areas shall be prepared by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion. After interruption, compaction specified in last layer shall be re-established before resuming work.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from on-site excavations.

B. Obtain approval of on-site soil materials and borrow materials to be used for structural fill or structural backfill from the District’s Representative.

C. On-Site Structural Fill and Structural Backfill: Soil or soil-rock mixture from on site excavations, free from organic matter or other deleterious substances. On-site structural fill and backfill shall not contain rocks or rock fragments over 3 inches in greatest dimension.

D. Imported Structural Fill and Structural Backfill: Conform to the requirements of on-site structural fill. Material shall also be non-expansive with a plasticity index of 12 or less, has a liquid limit less than 30, and has an expansion index less than 20. Gradation should meet the criteria in the following table:

<table>
<thead>
<tr>
<th>Fill Requirement</th>
<th>Test Procedures</th>
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<tbody>
<tr>
<td></td>
<td>ASTM¹</td>
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<tr>
<td>Sieve Size</td>
<td></td>
</tr>
<tr>
<td>3 inch</td>
<td>100</td>
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<tr>
<td>¾ inch</td>
<td>70-100</td>
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<td>No. 200</td>
<td>20-50</td>
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<td></td>
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<tr>
<td>Liquid Limit</td>
<td>Plasticity Index</td>
</tr>
<tr>
<td>&lt;30</td>
<td>&lt;12</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>No visible organs</td>
<td>---</td>
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<tr>
<td>Expansion Potential</td>
<td></td>
</tr>
<tr>
<td>30 or less</td>
<td>D4829</td>
</tr>
<tr>
<td>Soluble Sulfates</td>
<td></td>
</tr>
<tr>
<td>Less than 1,000 ppm</td>
<td>---</td>
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<tr>
<td>Soluble Chloride</td>
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<tr>
<td>Less than 300 ppm</td>
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<tr>
<td>Resistivity</td>
<td></td>
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<tr>
<td>Greater than 2,000 ohm-cm</td>
<td>---</td>
</tr>
</tbody>
</table>

¹American Society for Testing and Materials Standards (latest edition)
²State of California, Department of Transportation, Standard Test Methods (latest edition)
2.2 SOIL STERILANT

A. Commercial chemical for weed control, registered by EPA. Provide granular, liquid or wet-able powder form.

2.3 AGGREGATE BASE

   1. Class 2, 1-1/2-inch Maximum: Section 26-1.02B.
   2. Class 2, 3/4-inch Maximum: Section 26-1.02B.
   3. Class 3: Section 26-1.02C.

PART 3 - EXECUTION

3.1 GENERAL

A. Conform to Section 19, Earthwork, Caltrans Standard Specifications as modified by the Contract Documents.

B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.

C. The use of explosives will not be permitted.

3.2 WET WEATHER CONDITIONS

A. Do not prepare subgrade, place or compact soil materials if above optimum moisture content.

B. If the District’s Representative allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the District’s Representative and the project Geotechnical Report.

3.3 EXCAVATION

A. Excavate earth and rock to lines and grades shown on drawings as prepared by a licensed professional engineer and to the neat dimensions indicated on the Plans, required herein or as required to satisfactorily compact backfill.

B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.

C. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.

D. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements. Refer to Section 31 50 00 – Temporary Excavation Support and Protection.
3.4 OVEREXCAVATION AND/OR REMOVAL OF EXISTING FILLS AND UNSUITABLE MATERIAL

A. Over-excavate areas of existing fills and other unsuitable material encountered during mass grading as directed by the District’s Representative.

B. Conform with Division 1 General Requirements.

C. Full removal of the temporary soil buttress should be performed prior to over-excavation for the building foundation. Removal limits of the temporary buttress are indicated on the project plans and should be verified by the District’s Representative prior to construction of the permanent slope.

D. After site clearing, over-excavate by excavating the soil/bedrock to the elevation shown on the over-excavation plan or a level at least four (4) feet below the lower floor slab over the entire building footprint, whichever is deeper. Scarify to a depth of 12 inches and uniformly moisture condition and recompact.

E. If the over-excavation bottom or subgrade surface consist of undisturbed bedrock, scarifying and re-compacting are not required.

F. The over-excavation should extend laterally to a minimum five (5) feet beyond the footprint of the new building, where physically possible.

G. Over-excavation and backfill shall occur prior to construction of utilities.

H. Final over-excavation depths shall be determined by Geotechnical Engineer during construction based on the exposed subsurface conditions. Additional over-excavations may be required.

I. Imported and/or native materials may be used to backfill the over-excavation, as long as it meets criteria set forth in Section 2.1 SOIL MATERIALS. Non-expansive soils should be placed in the upper 20-inches of the over-excavation under the building footprint. Exterior continuous footings should be keyed at least one (1) foot into non-expansive cohesive soils.

J. Depressions, voids, and holes (including excavations from removal of underground improvements) that extend below the proposed finished grades should be cleaned and backfilled with engineered fill compacted to the requirements given. All clearing and backfill work should be performed under the observation of the project Geotechnical Engineer.

3.5 GRADING

A. Uniformly grade the Project to meet existing conditions.

B. Finish ditches, gutters and swales to the sections, lines and grades indicated and to permit proper surface drainage.

C. Round tops and bottoms of slopes as indicated or to blend with existing contours.

D. Temporary cuts shall be no steeper than one (1) horizontal to one (1) vertical.
3.6 SUBGRADE PREPARATION

A. Prepare subgrades under structures, building slabs, of other surface facilities and areas to receive structural fill. Ultimately, a four (4) inch layer of three quarter (3/4) inch crushed rock or slab capillary break material shall be underlain with at least twenty (20) inches of “non-expansive” fill material for a total of 24 inches of non expansive material. However, the Increment 1 Contractor is NOT responsible for placing a four (4) inch layer of three quarter (3/4) inch crushed rock or slab capillary break material. The Increment 1 Contractor shall be responsible for placing the twenty (20) inches of “non-expansive” fill material to get the pad elevations as shown on the plans. The material shall be placed beneath exterior flatwork and extend at least five (5) feet beyond the slab edges. Slab subgrade soils will also need to be properly moisture-conditioned prior to the placement of the “non-expansive” material.

1. Scarify the top twelve (12) inches of underlying subgrade soils, moisture-conditioned to at least two (2) percent above optimum moisture content, and compacted to ninety (90) percent relative compaction per ASTM D1557.

B. Prepare subgrades for walks, paved areas, curbs and gutters by scarifying surface at least twelve (12) inches in one lift below final subgrade elevations and a minimum of two (2) feet beyond edge of pavement unless specified otherwise by the District’s Representative. Uniformly moisture condition to obtain optimum moisture contents. Break clods and condition surface by harrowing or dry rolling. Remove boulders, hard ribs and solid rock. Prepare earth uniform for full depth and width of subgrade. In a similar fashion, exterior concrete flatwork should be underlain by six (6) inches of “non-expansive” material along with proper moisture conditioning of the subgrade soil.

1. Scarify the top twelve (12) inches of underlying subgrade soils, moisture-conditioned to at least two (2) percent above optimum moisture content, and compacted to ninety (90) percent relative compaction per ASTM D1557. The upper 6-inches of pavement subgrade should be compacted to ninety-five (95) percent relative compaction.

C. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.

D. Obtain the District’s Representative’s approval of subgrades prior to placing pavement.

3.7 REUSE OF ONSITE MATERIALS

A. On-site clay soils encountered across the site are considered suitable for reuse as general engineered fill provided they are not placed within the upper two (2) feet of areas supporting improvements or permanent slopes or wall backfill unless chemically treated with sufficient high-calcium quicklime. Engineered fill consisting of native clayey soils placed deeper than two (2) feet from finished soil grades in permanent slopes or wall backfill should be compacted to between eighty-eight (88) and ninety-two (92) percent relative compaction at a moisture content at least three (3) percent above optimum. Native clayey soils supporting structural loads should be compacted to between ninety (90) and ninety-three (93) percent relative compaction at a moisture content at least two (2) percent above optimum.

B. If necessary, the native clayey soils may be placed in the upper two (2) feet of areas supporting improvements if they have been chemically treated. One approved chemical treatment is the use of lime at an application rate of four (4) to five (5) pounds of lime per cubic foot of soil treated or as determined by laboratory testing of
soil samples obtained from on-site borrow areas prior to construction by the contractor. Final lime application rates should be determined such that a stabilized fill material with an expansion index of less than twenty (20) (based on ASTM test method D4829) is achieved. The lime-stabilized soil should be compacted to at least ninety (90) percent relative compaction at a moisture content of at least two (2) percent above optimum, based on ASTM D1557. The upper 6 inches of subgrades supporting exterior slabs or pavements should be compacted to at least ninety-three (93) percent of the maximum dry density. Lime treatment should be performed by a specialty contractor experienced in this work and should be performed in accordance with Caltrans Standard Specifications Section 24-2. Lime-treated areas can have significantly elevated pH levels (pH over ten (10)) and may not be appropriate for use in landscaped areas. If used beneath improvements, appropriate corrosion protection should be provided.

3.8 PLACEMENT OF STRUCTURAL FILL

A. Obtain the District’s Representative’s approval of surface to receive structural fill prior to placement of structural fill material.

B. Place structural fill on prepared subgrade.

C. **Backfill over-excavation with competent on site soils, as determined by the District’s Representative, moisture-conditioned to at least two (2) percent above the optimum moisture content. Compact onsite soils to between ninety (90) and ninety-three (93) percent of the maximum dry density as determined by ASTM Test Method D 1557.**

D. **Fills greater than five (5) feet in depth shall be compacted to ninety-five (95) percent of the maximum dry density as determined by ASTM Test Method D 1557.**

E. Spread structural fill material placed in horizontal lifts less than eight (8) inches in loose thickness, and compact to between ninety (90) and ninety-three (93) percent of the maximum dry density.

F. **The uppermost six (6) inches of structural fill underneath exterior slabs and pavement where vehicular traffic is expected shall be compacted to a minimum of ninety-five (95) percent of the maximum dry density.**

G. Place structural fill material to suitable elevations above grade to provide for anticipated settlement and shrinkage.

H. Overbuild fill slopes, as required by the District’s Representative, to obtain required compaction. Remove excess material to lines and grades indicated. **Native soils used to construct permanent slopes or backfill shoring or retaining walls deeper than 2 feet should be moisture conditioned to at least three (3) percent above optimum and compacted to between eighty-eight (88) and ninety-two (92) percent of the maximum dry density.**

I. Do not drop fill on structures. Do not backfill around, against or upon concrete or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.

J. **Permanent slopes should be constructed utilizing benching and subdrain collection pipes as indicated on the plans.**
3.9 AGGREGATE BASE

A. Watering, Spreading and Compacting: Section 26-1.03, of Caltrans Standard Specifications.

3.10 COMPACTION AND TESTING

A. Do not compact by ponding, flooding or jetting.

B. Aerate material if it is too wet. Add water to material if it is too dry. Thoroughly mix lifts before compaction to ensure uniform moisture distribution.

C. Perform compaction using rollers, pneumatic or vibratory compactors or other equipment and mechanical methods approved by the District’s Representative.

D. Compaction requirements:
   1. Compact structural fills less than five (5) feet thick to ninety (90) percent compaction.
   2. Compact structural fill five (5) feet thick or greater to ninety-five (95) percent compaction.
   3. Compact the upper six (6) inches of subgrade soils beneath pavements, curbs and gutters to ninety-five (95) percent compaction. Extend compaction two (2) feet beyond pavement edges unless specified otherwise by the District’s Representative.
   4. Compact the upper six (6) inches of subgrade soils under walks, structures and areas to receive structural fill to ninety (90) percent compaction.

3.11 SOIL STERILIZATION

A. Apply soil sterilant to areas indicated, such as beneath asphalt concrete pavement, brick pavement, concret pavement and at grade concrete slabs, including sidewalks, curbs and gutters. Also where indicated apply soil sterilant below expansion and control joints and at areas where pipes, ducts or other features penetrate slabs.

B. Apply soil sterilant uniformly and at the rates recommended by the manufacturer.

C. Apply soil sterilant to prepared subgrade, or after installation of aggregate base as recommended by the manufacturer.

3.12 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the District.

END OF SECTION
SECTION 31 50 00 - TEMPORARY EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes temporary excavation support and protection systems.

B. Temporary excavation support performance: Design, furnish, install, monitor, and maintain temporary excavation support and protection system capable of supporting temporary excavation sidewalls and of resisting soil, which will require a back drainage system as to eliminate hydrostatic pressures, and superimposed and construction loads.

1. Delegated Design: Design temporary excavation support and protection system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

2. Prevent surface water from entering temporary excavations by grading, dikes, or other means.

3. Install temporary excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to temporary excavation.


1.2 RELATED SECTIONS

A. Section 31 23 19: Dewatering

1.3 REGULATORY REQUIREMENTS

A. Geotechnical Report: "Geotechnical Engineering Investigation Report, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California." Kleinfelder Project No.: 20181569.001A, Dated: October 17, 2017, including:

B. Addendum Letters No. 1 and No. 2 dated March 2 and March 4, 2018, respectively.

C. Addendum Letter No 3 dated August 8, 2018.


1.4 SUBMITTALS

A. Shop Drawings: For temporary excavation support and protection system.

B. Delegated-Design Submittal: For temporary excavation support and protection system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Other Informational Submittals:

1. Record Drawings: Identifying and locating capped utilities and other subsurface structural, electrical, or mechanical conditions.
1.5 QUALITY ASSURANCE

A. Preinstallation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to temporary excavation support and protection system including, but not limited to, the following:
      a. Geotechnical report and addendums.
      b. Existing utilities and subsurface conditions.
      c. Proposed temporary excavations.
      d. Proposed equipment.
      e. Monitoring of temporary excavation support and protection system.
      f. Working area location and stability.
      g. Coordination with waterproofing.
      h. Abandonment or removal of temporary excavation support and protection system.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by the College or others unless permitted under Division 1.

B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer.
   1. Make additional test borings and conduct other exploratory operations necessary for temporary excavation support and protection.
   2. The geotechnical report and addendums are referenced elsewhere in the Project Manual.

C. Survey Work: Engage a land surveyor or professional engineer with a California license to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
   1. During installation of temporary excavation support and protection systems, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Furnish and install the following as specified herein and required to eliminate potential erosion and sedimentation during construction works.
1. Structural steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.
2. Steel sheet piling with continuous interlocks: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks
3. Wood Lagging: Preservative treated Lumber, mixed hardwood, nominal rough thickness of size and strength required for application
4. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.
5. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
6. Tiebacks: Steel bars, ASTM A 722/A 722M.
7. Tiebacks: Steel strand, ASTM A 416/A 416M.

2.2 LEED REQUIREMENTS
A. Provide documentation necessary to satisfy the LEED requirements for Construction Activity Pollution Prevention Plan which will be part of the SWPPP.

PART 3 - EXECUTION

3.1 PREPARATION
A. Contractor to engage surveyor or engineer to survey adjacent existing structures and site improvements before and regularly during installation of temporary excavation support and protection system.
B. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during temporary excavation support and protection system operations.
   1. Shore, support, and protect utilities encountered.
C. Install temporary excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the College and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
D. Contractor shall protect in place the existing roadways, sidewalks and structures adjacent to the project area.
E. Locate temporary excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.
F. Monitor temporary excavation support and protection systems daily during temporary excavation progress and for as long as temporary excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that temporary excavation support and protection systems remain stable.
G. Promptly repair damages to adjacent facilities caused by installing temporary excavation support and protection systems.
3.2 SOLDIER PILES AND LAGGING

A. Install steel soldier piles before starting temporary excavation. Extend soldier piles below temporary excavation grade level to depths adequate to prevent lateral movement. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging. Accurately align exposed faces of flanges to vary not more than tolerances as specified by a qualified professional engineer.

B. Install wood lagging within flanges of soldier piles as temporary excavation proceeds. Trim temporary excavation as required to install lagging. Fill voids behind lagging with soil, and compact.

C. Install wales horizontally at locations indicated on Drawings as prepared by a qualified professional engineer and secure to soldier piles.

3.3 SHEET PILING

A. Before starting temporary excavation, install one-piece sheet piling lengths and tightly interlock to form a continuous barrier. Accurately place the piling, using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to tolerances as specified by a qualified professional engineer. Accurately align exposed faces of sheet piling to vary not more than tolerances as specified by a qualified professional engineer. Cut tops of sheet piling to uniform elevation at top of temporary excavation.

3.4 BRACING

A. Bracing: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.

1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.

2. Install internal bracing, if required, to prevent spreading or distortion of braced frames.

3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and a backdrainage system is in place as to eliminate hydrostatic pressures.

3.5 REMOVAL AND REPAIRS

A. Remove temporary excavation support and protection systems when construction has progressed sufficiently to support temporary excavation and bear soil and a backdrainage system is in place as to eliminate hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

1. Remove temporary excavation support and protection systems to a minimum depth below overlying construction and abandon remainder as shown on the plans. Leave temporary excavation support and protection systems permanently in place to elevations as shown on the plans.

2. Fill voids immediately with approved backfill compacted to density specified in Section 31 23 00 Excavation and Fill.*

3. Repair or replace, as approved by the District, adjacent work damaged or displaced by
removing temporary excavation support and protection systems.

3.6 DISPOSAL
A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the College.

3.7 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
A. General: Comply with General Contractor's Waste Management Plan and Division 1.
B. To the greatest extent possible, separate reusable and recyclable products from contaminated waste and debris in accordance with the General Contractor’s Waste Management Plan. Place recyclable and reusable products in designated containers and protect from moisture and contamination.

END OF SECTION
REQUESTS FOR INFORMATION

C-4016 NEW SCIENCE BUILDING – INCREMENT 1, SITE WORK

Contra Costa College, 2600 Mission Bell Dr, San Pablo, CA 94806

1) **Question:** Per Spec Section 600, Item 9, Builder’s Risk/ “All Risk” Insurance, Contractor shall maintain Builder’s Risk/Course of Construction coverage for the duration of the contract. Earthquake and flood coverage are mentioned as in this section. Are earthquake and flood insurance required?

**Response:** Yes. Considering the scope of Increment 1 includes some demolition, existing temporary fencing/lighting, shoring, over-excavation/compaction; and some new utilities, the cost of said policy should be relatively minor to the overall cost of the work.